

The Fish Passage Center Annual Report of Accomplishments 2012



Salmon River Smolt Monitoring Program Trap

Submitted To
The Fish Passage Center Oversight Board
December 30, 2012

Profile

The Fish Passage Center (Center) was first established in 1984 by agreement of the Columbia River Intertribal Fish Commission and the National Marine Fisheries Service on behalf of the Basins tribes and the Columbia Basin Fish and Wildlife Council¹. The Center originally housed two Water Budget managers and provided them with administrative support. The two Water Budget managers were a component of the Water Budget measures included in the Northwest Power Planning Council's first Fish and Wildlife Program adopted in 1982. One Water Budget Manager represented the basin's tribes and the other represented the state and federal fish and wildlife managers.

Since 1982, the Fish and Wildlife Program has directed that BPA provide funding for the functions carried out by the Fish Passage Center. The Center serves a large number of significant data gathering and analytical functions including the design and oversight of the implementation of the Smolt Monitoring Program, the Gas Bubble Trauma Monitoring Program, and the Comparative Survival Study. The Center provides a non-federal pool of expertise in assessing the effects of dam operations of Columbia Basin salmon, including analysis of juvenile salmon survival related to flow, spill, gas super saturation and passage routes. Tribal and states' fishery managers rely heavily on this expertise and have managed their own staffs accordingly. The Center provides a wide range of data and information through its website, including daily fish passage data, historical data and an archive of relevant documents.



Innaha River Smolt Monitoring Trap

¹ At the time the four Columbia River Treaty tribes were not members of the Columbia Basin Fish and Wildlife Council. Subsequently the Columbia Basin Fish and Wildlife Council was dissolved and the Columbia Basin Fish and Wildlife Authority was established which included expanded membership including the Basin tribes.

In 2009 the Northwest Power Conservation Council completed an amendment process and adopted a new the Fish and Wildlife Program. These amendments reaffirmed the primary purpose of the Center as the provision of technical assistance and information to the fish and wildlife agencies and tribes in particular and the public in general on matters related to juvenile and adult salmon and steelhead passage through the main stem hydro system. The 2009 Program amendments describe the duties of the Center including the responsibility to:

- Assemble, organize, make publicly available, and maintain the primary archive of the smolt monitoring program data
- Participate in the development of the annual smolt monitoring program implementation plan, and assist in the implementation of the program
- Assemble, organize and make publicly accessible, data from other primary sources, and conduct analyses as requested, to meet the information needs of the fish and wildlife agencies, tribes, and public with respect to water management, spill, and fish passage
- Provide technical information necessary to assist the agencies and tribes in formulating in-season flow and spill requests that implement the measures in the Council's Program, while also assisting the agencies and tribes in making sure that operating criteria for storage reservoirs are satisfied
- Provide the technical assistance necessary to coordinate recommendations for storage reservoir and river operations that, to the extent possible, avoid potential conflicts between anadromous and resident fish, and
- Archive and make publicly accessible the data used in developing all analytical results, associating the specific data with the respective analyses

In 2010 the Fish Passage Center Oversight Board established a process and guidelines for implementation of the 2009 Fish and Wildlife Program measures regarding Independent Scientific Advisory Board review of FPC products. The Oversight Board agreed that the first priority is the review of the FPC Annual Report and the Comparative Survival Study Annual Report. The Oversight Board agreed to implement a process and guidelines for review of FPC products in 2011. The Oversight Board agreed that the guidelines would be reviewed after implementation in 2011, to determine if they required modification. The FPC was directed to keep a record of staff time spent responding to ISAB reviews.

On May 2, 2008 the Fish Accords Memorandum of Agreements were completed between the Confederated Tribes and Bands of the Yakama Indian Nation, the Confederated Tribes and Bands of the Umatilla Reservation and the Confederated Tribes of the Warm Springs Reservation of Oregon and the Bonneville Power Administration.

The Memorandum of Agreement included the Fish Passage Center project specifying the same services, products and tasks that have been carried out by the Fish Passage Center historically. In 2009 the FPC operated under the terms and auspices of the Fish Accords Memorandum of Agreement in addition to the Northwest Power Conservation Council Fish and Wildlife Program. The Fish Accords establish annual out year budget levels as part of the agreement. The 2011 FPC budget was developed according to Tribal Accord Agreement guidelines.

The Year in Review

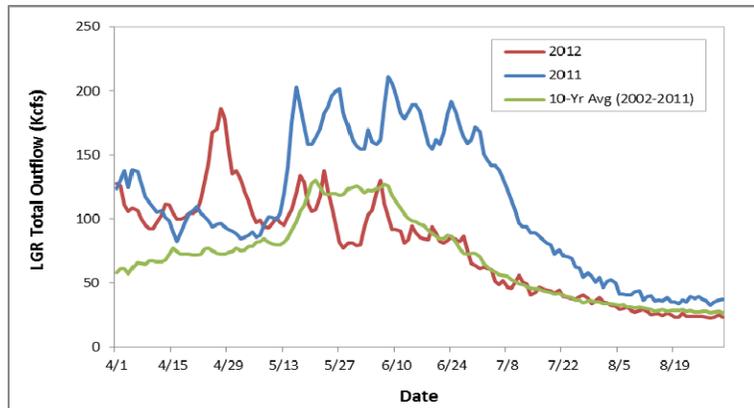
Funding level for the FPC project in 2012 was established by the terms of the Fish Accords



Memorandum parties. The terms of the Agreement also establish future funding levels which included 2012. The implementation of the agreements among the Accord parties simplified and streamlined the budgeting and contracting process for the FPC. This allowed the FPC staff to concentrate efforts on improvements to the mainstem passage monitoring program and public data access through the FPC website and improved data display. The Comparative Survival study Annual Review meeting held in April 2012 provided a successful opportunity to present consolidated

analyses that were prepared for publication by CSS Oversight Committee members. A long time series of migration passage data and adult return data were presented to the regional audience. Life cycle analyses were presented that related juvenile passage history to adult return rates for the Columbia and Snake River basins. These analyses incorporated fresh water and ocean conditions and the effect on smolt to adult return rates. The presentations from the CSS Annual Review meeting are available on the FPC website.

Runoff volume forecasts in 2012 were slightly above average. The high runoff volumes resulted in high flow conditions throughout the spring migration period. Seasonal average Biological Opinion flow targets were established at 100 kcfs at Lower Granite Dam, 135 kcfs at Priest Rapids Dam and 260 Kcfs at McNary Dam for the spring migration period.



Biological Opinion summer flow targets were established at 200 Kcfs at McNary Dam and 52 Kcfs at Lower Granite Dam for the summer fish migration period. For the majority of the spring migration period the Biological Opinion flow target was met at Lower Granite and McNary dams on a daily average flow basis. However summer migration flow targets were not met for most of the summer period at Lower Granite Dam. Summer migration flow targets were met at McNary Dam for most of the summer migration period excluding the last part of August. High flow conditions resulted in uncontrolled spill at several of the federal hydro-electric projects that, in turn, resulted in Total Dissolved Gas levels that were well above the TDG waiver levels.

Juvenile fish passage characteristics such as survival, and travel time will be documented in the FPC Annual Reports of the Smolt Monitoring Program for 2012. The contract completion date for that Annual Report is August 31, 2013. Smolt to adult return, effect of environmental and river conditions and effects of route of passage are documented annually in the Comparative Survival Study Annual Report, completed November 30, 2012 and posted on the FPC web site.

The Smolt Monitoring Program

The Smolt Monitoring Program (SMP) was successfully implemented according to the plan agreed upon by the state, federal and tribal fishery agencies. The objective of the SMP is to provide a consistent, long term database for short term in-season fish passage management and for long term mitigation decisions. In consultation with the US Fish and Wildlife Service (USFWS) and the Fish Passage Advisory Committee (FPAC), the Smolt Monitoring Program was modified to accommodate collection of data on juvenile and larval lamprey in 2011. These modifications included: 1) adopting a standardized approach to juvenile (and potentially adult) lamprey identification based on methods that the USFWS developed, 2) assigning a sample rate to juvenile lamprey that were sampled at SMP sites (as opposed to handling lamprey as “incidental species” whose counts were not associated with sample rates), and 3) implementing a pilot study of condition monitoring. In 2012 again as the result of requests from USFWS and FPAC, Lamprey condition monitoring was added to the Smolt Monitoring Program at McNary and Bonneville Dam, in addition to Lamprey condition monitoring which was established at the

John Day smolt monitoring site in 2011. The FPC32.net data entry program was modified in winter 2011 to accommodate these changes in 2012 monitoring.

In November 2012, FPC staff provided a report of the 2012 lamprey data to the Lamprey Technical Work Group (LTWG) with questions for guidance for the 2013 SMP season. FPC staff attended the LTWG meeting in December 2012 to present results from this report. Subsequent to this meeting, the LTWG recommended that the 2013 SMP Lamprey monitoring be conducted consistent with 2012 monitoring without any changes to the sampling program or protocol.

Major modifications were completed to the FPC32.net remote data entry program to accommodate Lamprey monitoring. Additional major modifications to the remote data entry program were not required in 2012.



Grande Ronde River Smolt Monitoring Trap

The FPC staff provides daily oversight and technical support for the eleven remote sites implementing the SMP. Final data and analyses of the SMP data are reported in the Fish Passage Center Annual Report. Data validation and verification and data analysis occur throughout the fall and winter and are presented in the FPC Annual Report the following year. SMP data collection continues from March through October 31 at most in river trap and main stem sites. The quality control data verification report was completed and distributed to the remote sites on November 15, 2012, completing the data review process. Annual Report for the 2011 passage season was completed after providing a draft for regional review. It was distributed and posted

on the FPC website, on July 31, 2012, according to contract deliverable dates, along with previous year's reports. In accordance with the Fish and Wildlife Program measures, the Independent Scientific Advisory Board reviewed the FPC Annual Report, and provided comments. The FPC staff responded to the comments, addressed them in the completion of the final draft and posted the comments and the responses on the FPC web site. The comments and the response to comments were also appended to the annual report.

Annual GBT Monitoring and Reporting

Oversight requirement of the gas bubble trauma monitoring for Oregon Department of Environmental Quality waiver issued for implementation of the NOAA Biological Opinion spill for fish passage measures. The FPC provides a separate report; an annual summary of GBT data to the US Army Corps of Engineers and to NOAA Fisheries to fulfill states' issued dissolved gas waiver permits. This annual report summary was completed and provided to the agencies in November for incorporation into their 2012 passage season report requirements. Dissolved gas bubble trauma monitoring data is updated daily on the FPC web site and is reported in the FPC Annual Report.



Gas Bubble Trauma monitoring Lower Monumental Dam

Planning for 2013

In 2012, The FPC developed responses to questions and comments by the NPCC Independent Scientific Advisory Board on CSS and SMP reports. These reviews, comments and recommendations are taken into consideration in planning SMP and CSS activities and analyses in future years. The development of the plan for implementation, the work statements and the budgets for the Smolt Monitoring Program for 2013, the Comparative Survival Study and the Fish Passage Center projects were discussed with the states, tribal and federal fishery managers, the Bonneville Power Administration and the Pacific States Marine Fisheries Commission. A key concern in 2012 was the 10%-15% budget reductions requested by the Bonneville Power Administration. Although the budgets and work statements for these projects were developed within the Accord Memorandum terms and the Pisces work statements because the project contracts are part of the larger group of PSMFC projects, they were included in discussions of across agency PSMFC 10 -15% budget reductions requested by BPA. The budgets, work statements, tagging coordination and logistics for implementation of the Comparative Survival Study and the Fish Passage Center project were completed in November 2012.

Discussion of and finalizing the Smolt Monitoring Program works statement and budgets will continue through December, because the Smolt Monitoring Program has a March 1 through February 28 contracted period. There were no proposals to modify the SMP for 2013. Because the SMP is managed as a Tribal Accord project the 2013 budget for this project is agreed upon in advance for 2013 as part of the Accord agreement. The budgets and work statements for the 2013 SMP were submitted through the Pisces system on fill in the dates.

Endangered Species Act Section 10 Permit and State Endangered Species Act Permit Requirements

The FPC is responsible for application, accounting and reporting for federal and state ESA sampling and monitoring permits for the Smolt Monitoring Program and the Comparative Survival Study. Estimated numbers of endangered and or threatened species to be handled are submitted to the permitting authority. Permit applications and reporting were completed. Application, accounting and reporting for state ESA permits was also accomplished. All ESA permit requirements were met in 2012. State permits from both Washington and Oregon were obtained for sampling under state mandated requirements. State permits from both Washington and Oregon were obtained for sampling under state mandated requirements. .

Comparative Survival Study

The Comparative Survival Study (CSS) is a jointly developed and sponsored program of the state, tribal and federal fishery management agencies. A CSS Oversight Committee comprised of state, federal and tribal fishery management agencies has been established to provide technical direction for data collection, analysis and preparation of annual status reports. The NPCC Independent Scientific Advisory Board reviews of the CSS Annual Reports for previous years have contributed to the determination of specific analyses and activities conducted for the CSS in 2012. .



Juvenile Bull Trout Grande Ronde River SMP Trap

The CSS has had a history of collaboration and is currently cooperating with several other agencies including: the Lower Snake River Compensation Plan, Idaho Fish and Game, Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, Idaho Power Company (IPC), and Smolt Monitoring Project (SMP). This project incorporates the long-term PIT tag marking and recovery of groups of wild and hatchery Chinook juveniles and steelhead. We continued our coordination towards the marking of hatchery Chinook groups from Imnaha, Catherine Creek, McCall, Rapid River, Dworshak, Clearwater, Pahsimeroi and Sawtooth facilities, hatchery steelhead groups from Dworshak, Clearwater, Magic Valley, Hagerman, Niagara Springs, and Irrigon hatcheries, and wild Chinook and steelhead from tributary tagging programs in the Clearwater and Snake River basin. These PIT tag groups will also be an important component of the regional Smolt Monitoring Program.

In addition to the historic data time series analyses included in the CSS, additional analyses were added in 2012. In 2012 a manuscript entitled, “Assessing Freshwater and Marine Environmental Influences on Life-Stage-Specific Survival Rates of Snake River Spring–Summer Chinook Salmon and Steelhead”, was published in the Transactions of the American Fisheries Society. The analyses are based upon the CSS data time series for Chinook and steelhead. The analyses and manuscript was developed by the FPC staff in collaboration with CSS Oversight Committee representatives. The life cycle analysis incorporates fresh water and ocean condition variables and their impact on smolt to adult return rates.

In 2012 the FPC staff continued modifications to the bootstrap program utilized in CSS analyses. We use our own software that is developed in house to generate many of the base metrics provided by the CSS. The development of our update to this software began in 2011 and continued through 2012. We have migrated the core programming from FoxPro to C# and streamlined the user interface to increase efficiency and provide more flexibility. We have performed much of the preliminary testing for this software. The current version is what we consider a ‘beta’ or early version of the software. Further development is needed before this is able to replace the existing software used to generate CSS reports. The final program should eventually supplant the previous versions and will require fewer user hours to operate and include many other user friendly features. In particular, the ability to run multiple iterations of

the program without stopping for user input will streamline the initial data analysis for the report. The multiple runs feature will include extension logging information that is recorded to track each individual run and allow for easy interpretation of the output by the user. Future and ongoing modifications to the bootstrap program will include incorporation of fall Chinook data sets. Bull Trout juvenile Grande Ronde SMP Trap

In April 2012 the CSS Oversight Committee and the FPC organized and conducted the third Comparative Survival Study Annual Review. The objective of the public review meeting is the presentation of the annual CSS analyses by the agencies and tribes representatives on the CSS Oversight Committee, and the FPC. The Annual Review meeting was held at the Airport Embassy Suites in Portland, Oregon and was well attended by the fishery management agencies and tribal representatives. The presentations from the Annual Review meeting are available on the Fish Passage Center web site. CSS Life cycle analyses incorporating freshwater and ocean conditions were presented at the Annual Review. In addition CSS data analyses addressing age at maturity were presented. The CSS Annual Review received many positive responses from the fishery management agencies. The Annual review meeting is a beneficial in that it provides the opportunity for fishery managers to view a succinct, condensed report of the results of the CSS life cycle monitoring program annually.



Rock Island Dam

Adult Facilities Inspection Program

The state and federal fishery management agencies provide funding for the FPC Adult Fish Passage Facilities Inspection Program. FPC staff manages the agencies adult facilities inspection program and writes the annual report of the inspection program. The FPC staff trains and coordinates fish facilities inspections at federal and Public Utility main stem Columbia and Snake rivers dams. Inspections are conducted monthly and are often accompanied by FPC staff. Monthly reports are provided to the FPC. Monthly reports are posted on the FPC web site for regional access. Facility issues that arise as the result of inspections are raised to the project operators by the FPC for discussion and resolution and are reported to the Fish Passage Advisory Committee of Columbia Basin Fish and Wildlife Authority (CBFWA). In 2012 inspections were conducted at all 13 dams. A total of 88 adult facility inspections were conducted in 2012.

In addition emergency passage facility events are coordinated by the hydro project operators and regulators through the FPC facilities inspection program staff who assures communication with the Fish Passage Advisory Committee. FPC produces an Annual Adult Facilities Inspection report. All inspections and reports were successfully implemented in 2012. The Annual Adult Facilities Inspection Report for 2011 was completed in 2012 and is posted on the FPC website with previous years' reports. The draft 2012 report will be completed by April 15 and posted on the FPC web site for a 45 day public review period. The final report will be completed by June 1, 2013 and posted on the FPC web site.

Data Acquisition, Storage, Analysis and Distribution

The NPCC Program Amendment specifically requires the FPC to "Gather, organize, analyze, house, and make widely available monitoring and research information related to juvenile and adult passage and to the implementation of water management and passage measures that are a part of the Council's program". The FPC Data System is comprised of several databases that are maintained and updated hourly, daily, weekly, monthly and annually. These databases are utilized by the state, tribal, and federal fisheries agencies for in-season management deliberations and decisions so they must be accurate with the most recent information available. The data bases are the foundation of FPC analysis and technical support for the fishery managers. Smolt passage data, flow, spill, and adult counts are updated daily. The hatchery release database is continually updated through daily discussions between FPC staff and hatchery managers and hatchery staff to assure that hatchery release data are up to date and reflect any last minute changes in hatchery release data. All of the FPC databases were successfully maintained and updated without lapse in 2012. In 2012, several upgrades, improvements, and modifications were made to the FPC data system. Analytical tools were developed to deliver data for our users, improve database stability, and improve data presentation to facilitate meeting the needs of the agencies, tribes, and the public at large. Website improvements were made to enhance user navigation, ease of use, and data access. A major planned improvement for the operation of the FPC website was the installation of fiber optic line to improve speed and capacity for the website and data access from the website by the region. Logistical issues raised by the building landlord have created an obstacle to installation of the fiber optic line in 2012. This is a priority for 2013.

Hardware / OS Software Upgrades

- Built a three new webservers for webfarm
- Setup a web farm using windows load balancing to distribute the traffic among three webservers. Each of the webservers is identical copies of the others. A fourth server handles the load balancing software and traffic distribution.
- Built and setup a new employee workstation
- Built five new servers to run the CSS bootstrapping programs
- Built a new backup database server to serve as a mirror for SQL-Main4
- Performed regular maintenance on SMP site lab touchscreens PC and office PCs running the FPC32.net software.
- Visited SMP sites replacing touchscreen and performing maintenance on SMP site computers
- Built and setup a new website development workstation
- Reprogrammed router to balance out the internet traffic between the two T1 lines

Software Development

- Development, testing and implementation of the 2012 update of the FPC32.net remote data entry program were carried out during the first quarter of 2012. The updates of the FPC32.net program involved adding an additional lamprey species code and some other miscellaneous feature updates (i.e. changing the system settings to allow separate directories for the input files and the output batch files). Adding the additional lamprey code required changes to the touch screen, the catch detail tab and the batch reports. Specifically:
 - FPC32.NET. Lamprey condition sampling at JDA, BON and MCN.
 - Build a second tally box for tallying Tank B counts for MCN only
 - Add new species code to Catch Detail – LU – lamprey Sp (Unid)
 - Incorporate new Lamprey species code into Daily Summary Report on FPC32.Net and SMP batch posting program
 - New adult fish counting schedule at TDA and MCN
 - Nez Perce Windows 7 and SQL Server 2005 authentication issues
 - Assisted SMP staff with updating their 2012 SMP site-specific tools to incorporate the new lamprey data into the on-site databases.
 - RSS feeds usable with Windows 7 gadgets or any RSS readers
 - Adult Counts
 - SMP32.NET batch posting
 - and GBT Batch Posting
 - New Windows 7 version application to collect hits from Web Log Files and clean images and csv's files on Web Server after web server activities
 - Researching use of cube data structure features for several FPC SQL databases
 - Developed new schema to auto generate web images for water temperature aspx pages from different sources
 - New dynamic images have been added to Water Temperature Graph http://www.fpc.org/tempgraphssl/NETFullYear_tempgraph.aspx page.
 - Water temperature thermometer
 - Silverlight area map component

- New application for posting Bonneville Ops data into SQL Server was developed as part of ConsoleImportTdg_spill.exe to update the flow, spill and TDG databases.

Documentation and Training

- FPC staff coordinated a pre-season meeting with SMP staff from various sites to demonstrate new version of FPC32.net data entry program, refresh site personnel on SMP protocol, and retrain site personnel on identification of lamprey juveniles.
- The FPC staff updated the following documents, provided copies to each of the SMP sites and posted the documents on the website.
 - SMP Sampling Protocol
 - Condition Sampling Protocol
 - Smolt Monitoring Program Protocol and FPC32.net Data Entry Program Manual User's Manual (2012)
- Trained backup FPC staff to:
 - Receive and check daily batches from SMP sites
 - Run the daily SMP reports
 - Run the daily Tri-Cities daily report

Website, Daily Reports and Data Updates

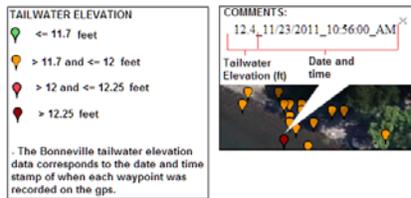
- The end of year and beginning of year website maintenance was completed. This included updating web scripts, pages and graphs for 2012.
- Updated Spawning Redd map webpages to include 2011 chum spawning maps
- Preliminary hatchery release data for 2012 releases were gathered from agencies and entered into hatchery release database. FPC staff continues to update these records as releases occur and data become available.
- Daily SMP reports and scripts were updated to include the new lamprey data. The following reports were updated to incorporate lamprey juvenile data:
 - Weekly Fish Condition Report
 - Weekly SMP Mortality Report by Site
- Updated CSS queries and graphs to incorporate data from CSS 2011 Annual report including:
 - CSS Estimated Population of Smolts and Number of Returning per Study Category, CSS Returning Adults Age Composition, CSS SARS by Study Category, CSS SR, TIR and D and CSS Overall Annual SARS for the Snake and Columbia Rivers
- FPC updated online queries and graphs to incorporate new lamprey species (lu) including:
 - 2012 Daily Passage Data for the Smolt Monitoring Project
 - 2012 Daily Passage Graph for the Smolt Monitoring Project
 - Historic Daily Passage Data for the Smolt Monitoring Project
 - Historic Daily Passage Graph for the Smolt Monitoring Project
 - SMP Site Daily Juvenile Mortalities
- Added all five lamprey species and an all lamprey species option to the fish condition graph and the detailed fish condition graph, since lamprey condition sampling is occurring at BON, JDA and MCN
- FPC staff updated 2011 CSS release and tagging sites location and release data. Maps were developed for a presentation at the CSS Annual Meeting
- Updated hatchery release maps and adult maps for the 2011 annual report.

- 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)
- Regular database maintenance and update, including developing new database queries and views to automate some of the change date functions that need to occur at the beginning of each year)
- Researched new technologies for potential inclusion in website upgrade including:
 - Extjs JavaScript toolkit
 - Dojo JavaScript toolkit
 - Geoext / Openlayers
 - Highcharts JavaScript chart library
 - JQuery tools including qtip2 and jtipmap
- Developed some preliminary queries using the above listed technologies and a framework model for updating existing queries using these technologies
- Began development on linking some of our data to our hatchery maps. For instance linking SARs to CSS release sites, including redd count data on the maps, etc....
- Gas Bubble Trauma Monitoring for 2012 was concluded at all sites on August 31st.
- SMP sampling for 2012 was concluded at the following sites: 1) Rock Island Dam (August 31st), 2) John Day Dam (September 15th), 3) McNary Dam (September 30th), and 4) Lower Monumental Dam (September 30th). Regular website and database maintenance and updates.
- Created some maps on average hatchery releases for subbasins and salmonid distribution for a NPPC data request.
- Setup new development server for website:
 - Installed software needed for site including new technologies;
 - Set webserver settings to run IIS and Apache to run contiguously, setup developer security
- Installed preliminary queries and updated hatchery maps on development server and tested them
 - Copied over website webpages
 - Setup and copied over local spatial databases
 - Setup database access to FPC network databases and local spatial databases
- Developed a preliminary time mapping web component for total hatchery releases at release sites by year a selected salmon species. Users can use a time slider to see how the releases change at locations, size and year.
- Updated preliminary queries to be able to run on Internet Explorer including the older versions.
 - Created CSS templates to size datagrids components specifically for internet explorer versions; removing any automatic
 - Created CSS templates for graph components specifically for IE versions
- Presented preliminary queries and map queries (developed using new technologies dojo, extjs, geoext/openlayers, highcharts and miscellaneous jquery components) at the OSGIS 2012 conference.
- Began testing the preliminary queries, map queries and updated hatchery map on the development server to assure it runs under windows 2008 64 bit edition.
- Began testing the preliminary queries, map queries and updated hatchery map on the development server to assure it runs under windows 2008 64 bit edition. Testing web applications using various security settings on the server.
- Began development on preliminary templates for an update to the FPC website including:
 - Several navigation templates

- Front Page templates
- Font/ background / color template
- Developed a preliminary choropleth time mapping web component for adult returns to watersheds by selected salmon species. Users can use time slider to how the returns change in each watershed for each year.
- Began updating CSS queries and graphs to incorporate data from CSS 2012 Annual report
- An application for posting Bonneville Ops data into SQL Server has been developed as single application to collect historical data for Power House 1 and 2. The source data for 2003-2005; 2011-2012 was downloaded and processed.
- New procedure to speed cube rebuild for Web Log table were developed
- A New layout to create application to process new PITagis data collection system was designed.

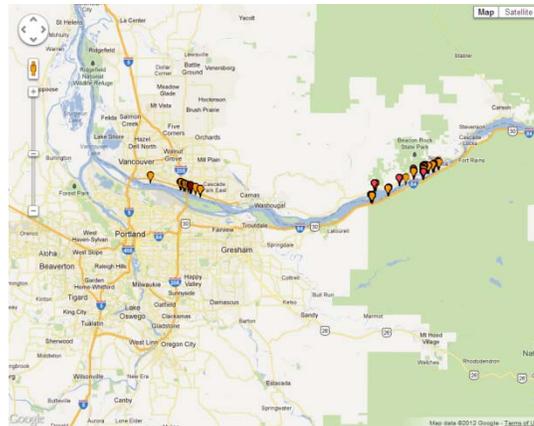
2011 WDFW Chum Redds Survey Markers

LEGEND:



NOTES:

- Original points were brought into ArcGis and defined with the datum NAD83.
- The points were reprojected to the projection used by Google map services - WGS 84 Web Mercator (WM) coordinate system.



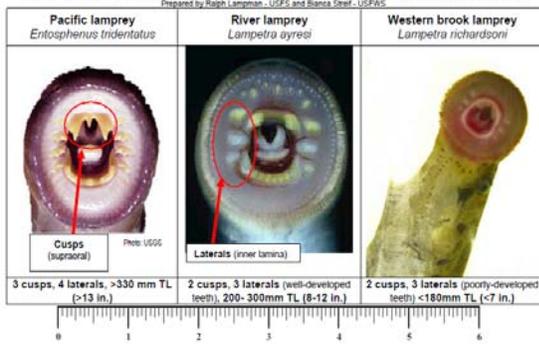
2011 Chum Spawning Red Maps

Ives Island Redd Areas Overview Map



2011 Chum Spawning Red Maps (contd)

Adult (Pacific, River, and Western Brook) Lamprey Identification Guide



Ammocoete Identification Guide (Pacific, River, and Western Brook)

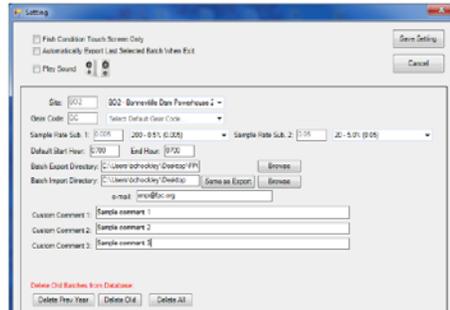


VII. Overview of FPC32.NET Program

VII.A. Running the FPC32.net Program and Select Settings

1. Once FPC32.net is installed an icon will appear on your desktop. Double-click on the **FishCondition** icon on your computer desktop.
2. This opens the program. By default, the program is set to open to the **Batch Data Entry Screen** and an icon is placed in your system tray (lower right hand corner). Right-click on the **FPC32.net/Fish Condition** icon in the system tray and choose **Setting**. The setting dialog box appears. From this dialog box, you can choose whether you want the **Fish Condition Touch Screen** as the primary data entry screen. Computers located in the wet lab should be set to have the **Fish Condition Touch Screen** as the primary data entry screen upon opening the program. Computers located in the office should be set to have the **Batch Data Entry Screen** as the primary data entry window upon opening the program.

To make the **Fish Condition Touch Screen** the primary entry screen, select the **Fish Condition Touch Screen Only** checkbox (see figure below). Computers in the wet lab should be configured in this manner.



FPC SMP Documentation and 2012 FPC32.net Manual

Tank A or None Clip/Unclip Tally:		
CH1:	0 /	0
CH0:	0 /	0
ST:	0 /	0
CO:	0 /	0
SO:	0 /	0
/ AB:	0	AS: 0
/ AP:	0	MP: 0
Total:	0 /	0
Tank B Clip/Unclip Tally:		
CH1:	0 /	0
CH0:	0 /	0
ST:	0 /	0
CO:	0 /	0
SO:	0 /	0
/ AB:	0	AS: 0
/ AP:	0	MP: 0
Total:	0 /	0
Special Species Tally:		
	Tank: A	B None
Total Ho:	0	0 0
Total EF:	0	0 0
Total LF:	0	0 0
Total Incidental:		0
Total Sampled:		0

FPC32.net second tally box for tallying Tank B counts for MCN only

Site: MCN Sub Batch: 1 Sequence: 1 Tank/Trap: A B None

Batch: 12107 Species Code: CH - Chinook Age Code: 1 0

Fin Clipped: Y N Cwt:

Gear Code: GC - Gatewell Collection System Species: - n/a

Non-Cond. Sample Count: 0 Est. Collection: 0

Num exam for descaled: 0 Num Cond. descaled: 0

Total Sample Count: 0 Total Exam. descaled: 0

Sample Morts: 0 Facility Morts: 0 PITTtag Morts: 0

Sample Rate... Sample Rate: 1.0

Species dropdown menu:

- Unknown
- CH - Chinook
- CO - Coho
- SO - Sockeye
- ST - Steelhead
- AB - Ammocoete(Brook)
- AP - Ammocoete(Pacific)
- AS - Ammocoete(Unknown)
- MP - Macrop. Pacific
- LU - Lamprey Sp.(Unid.)

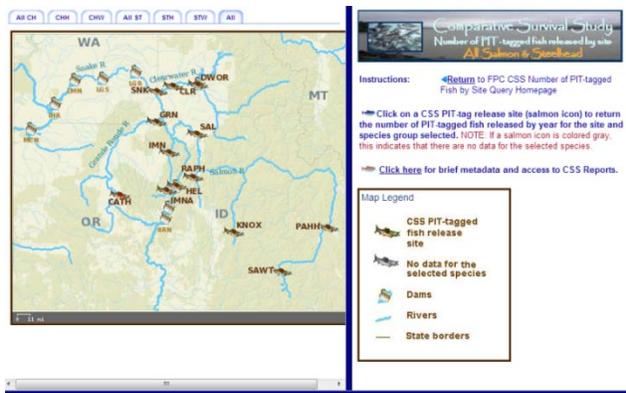
In FPC32.net added new species code to Catch Detail – LU – lamprey Sp (Unid)

Daily Summary Report

1 of 2 100%

Chno	ChFry	SsHd	Coho	CoFry	Sock	PacAm	BritAm	SmAm	PacMac	LamUn	Total
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10	10
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Incorporated new Lamprey species code into Daily Summary Report on FPC32.Net and SMP batch posting program



Comparative Survival Study
 Number of PIT-tagged fish released by site
All Salmon & Steelhead

Instructions: [Return to FPC CSS Number of PIT-tagged Fish by Site Query Homepage](#)

Click on a CSS PIT-tag release site (salmon icon) to return the number of PIT-tagged fish released by year for the site and species group selected. NOTE: If a salmon icon is colored gray, this indicates that there are no data for the selected species.

[Click here for brief metadata and access to CSS Reports.](#)

[Create CSV for download](#) Click and drag the blue frame border up to see more of the data.

Layer: FPC CSS Number of PIT-tagged Fish Released by Site Data - All Salmon & Steelhead

RELEASE LOCATION CODE	MIGRATION YEAR	SPECIES	REAR CODE	NUMBER OF RELEASED PIT-TAGGED FISH	TAG SITE
CATH	2001	CH	H	20915	CATH
	2002	CH	H	20796	CATH
	2003	CH	H	20628	CATH
	2004	CH	H	20994	CATH

Number of Smolts and Returning Adults by CSS Study Category

Multiple Year Data Table and Graph Query

Step 1. Select a species:
 Wild Chinook
 Wild Steelhead
 Wild Steelhead
 Hatchery Chinook

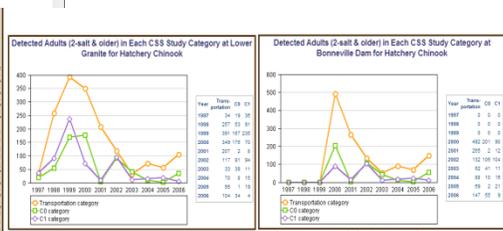
Step 2. Highlight source site and detection project (system data are available):
 Inverna Hatch LGR (SP-05)
 MacEd Hess LGR (SP-05)
 Hatcheria Hatchery LGR (SP-05)

Step 3. Enter start year: 1997 and end year: 2008

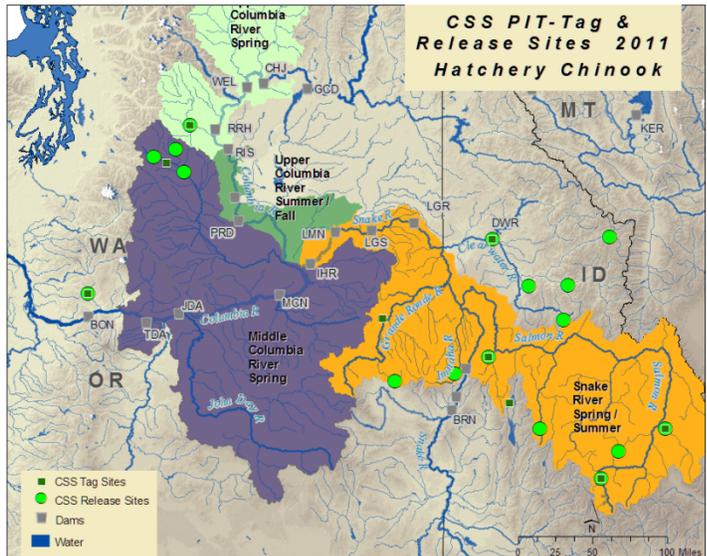
Step 4. Submit the form [Submit](#) [Reset](#)

Only CSS Number of Smolts and Returning Adults by CSS Study Category data are available.

Migration Year	Detected Smolts at Lower Granite (LGR) in transportation category	LGR detected adults in (LGR) in CI study category	Detected Smolts at Bonneville (BON) in transportation category	BON detected adults in (BON) in CI study category	Footnote
1997	34	19	36	0	0
1998	227	23	81	0	0
1999	391	167	230	0	0
2000	549	176	70	490	201
2001	207	2	6	265	2
2002	117	91	84	132	109
2003	33	39	11	52	41
2004	70	8	15	88	10
2005	60	1	19	69	2
2006	104	34	4	147	55
2007	40	49	13	62	67
2008	250	111	46	303	105
2009	140	98	30	199	140



Updated CSS Queries to incorporate 2011/ 2012 data



Updated 2011 CSS Tag and Release Site Maps

dbo.doc_keywords

- Columns
 - docnumber (PK, varchar(15), not null)
 - dockeywords (varchar(50), not null)
- Keys
- Constraints
- Triggers
- Indexes
- Statistics

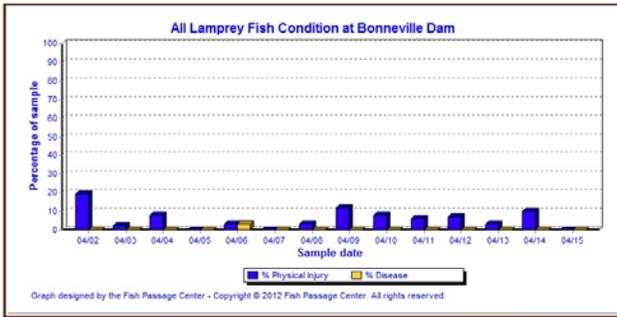
dbo.doc_title

- Columns
 - date (datetime, not null)
 - docnumber (PK, varchar(15), not null)
 - author (varchar(10), not null)
 - format (varchar(10), not null)
 - recipient (nchar(50), null)
 - description (varchar(254), not null)
 - path (varchar(254), not null)
 - web (varchar(5), null)

date	docnumber	author	format	recipient	description	path
01/12 12:00:00 AM	01-12	DB	Memo	FPAC	Reservoir Op...	G:\STAFF\DO...
1/11/2012 12:...	02-12	MD, MF	Letter	Orri Vigfusso...	Questions Re...	G:\STAFF\DO...
1/12/2012 12:...	03-12	FPC	Memo	FPAC	Action Notes f...	G:\STAFF\DO...
1/13/2012 12:...	04-12	MD, MF	App.	Blane Bellaru...	ESA Application	G:\STAFF\DO...
1/23/2012 12:...	05-12	DB	Memo	FPAC	Reservoir Op...	G:\STAFF\DO...
1/30/2012 12:...	06-12	MD	Memo	Richie Graves...	Comparison o...	G:\STAFF\DO...
1/30/2012 12:...	07-12	DB	Memo	FPAC	Reservoir Op...	G:\STAFF\DO...
2/6/2012 12:...	08-12	DB	Memo	FPAC	Reservoir Op...	G:\STAFF\DO...
2/10/2012 12:...	09-12	MD	Memo	Liz Hamilton...	Summer Migr...	G:\STAFF\DO...
2/13/2012 12:...	10-12	DB	Memo	FPAC	Reservoir Op...	G:\STAFF\DO...
2/15/2012 12:...	11-12	MD	Memo	Ed Bowles, O...	Acoustic Tag...	G:\STAFF\DO...
2/22/2012 12:...	12-12	BC	Memo	SMP	2012 Pre-Sea...	G:\STAFF\DO...
8/19/2011 12:...	124-11	FPC	WR-23	LIST	FPC Weekly R...	G:\STAFF\DO...
8/19/2011 12:...	125-11	MD	Memo	SMP Site Per...	Preparation o...	G:\STAFF\DO...
8/22/2011 12:...	126-11	DB	Memo	FPAC	Reservoir Op...	G:\STAFF\DO...
8/24/2011 12:...	127-11	FPC	Memo	FPAC	Action Notes f...	G:\STAFF\DO...
8/26/2011 12:...	128-11	FPC	WR-24	LIST	FPC Weekly R...	G:\STAFF\DO...
8/29/2011 12:...	129-11	DB	Memo	FPAC	Reservoir Op...	G:\STAFF\DO...
2/23/2012 12:...	13-12	FPC	Memo	FPAC	Action Notes f...	G:\STAFF\DO...
8/29/2011 12:...	130-11	MD	Memo	FPAC, Charle...	2009 Acoustic...	G:\STAFF\DO...
8/31/2011 12:...	131-11	MD	Memo	Rich Aldredg...	Response to f...	G:\STAFF\DO...
9/2/2011 12:...	132-11	FPC	WR-25	LIST	FPC Weekly R...	G:\STAFF\DO...
9/9/2011 12:...	133-11	FPC	WR-26	LIST	FPC Weekly R...	G:\STAFF\DO...
9/12/2011 12:...	134-11	DB	Memo	FPAC	Reservoir Op...	G:\STAFF\DO...
9/13/2011 12:...	135-11	FPC	Memo	SOWS	Biological ser...	G:\STAFF\DO...
9/14/2011 12:...	136-11	JM, BC	Memo	Christina Lud...	Results of 2b...	G:\STAFF\DO...
9/16/2011 12:...	137-11	FPC	WR-27	LIST	FPC Weekly R...	G:\STAFF\DO...
9/16/2011 12:...	138-11	DB	Memo	FPAC	Reservoir op...	G:\STAFF\DO...

Created FPC document database

SMP Site Sub-Sample Fish Condition Graph

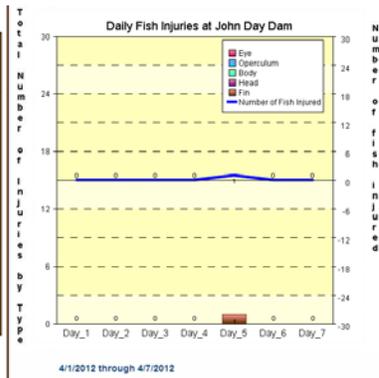


Site	Date	Species	Number of Fish Sampled	Number with Physical Injuries	Percentage of Fish with Physical Injuries	Number with Disease	Percentage of Fish with Signs of Disease	Comment
BO2	4/2/2012	LAMP	21	4	19.0476			
BO2	4/3/2012	LAMP	34	1	2.9412			
BO2	4/4/2012	LAMP	25	2	8			
BO2	4/5/2012	LAMP	32					
BO2	4/6/2012	LAMP	30	1	3.3333	1	3.3333	
BO2	4/7/2012	LAMP	30					
BO2	4/8/2012	LAMP	85	3	3.5294			
BO2	4/9/2012	LAMP	41	5	12.1951			
BO2	4/10/2012	LAMP	69	6	8.6957			
BO2	4/11/2012	LAMP	101	7	6.9307			
BO2	4/12/2012	LAMP	100	7	7			
BO2	4/13/2012	LAMP	80	3	3.75			

Added Lamprey to Fish Condition Graph and Query

Fish Condition - Detailed Injury Data:

Site	Date	Batch	Species	Eye Injuries	Operculum Injuries	Body Injuries	Fin Injuries	Head Injuries	Number of fish with Physical Injuries	Number of Fish Sampled
JDA	4/1/2012	NA	AP	0	0	0	0	0	0	0
JDA	4/2/2012	12090	AP	0	0	0	0	0	0	1
JDA	4/3/2012	12094	AP	0	0	0	0	0	0	5
JDA	4/4/2012	12095	AP	0	0	0	0	0	0	13
JDA	4/5/2012	12096	AP	0	0	0	1	0	1	15
JDA	4/6/2012	12097	AP	0	0	0	0	0	0	9
JDA	4/7/2012	12098	AP	0	0	0	0	0	0	3
JDA	4/8/2012	12099	AP	0	0	0	0	0	0	1
JDA	4/9/2012	12100	AP	0	0	0	0	0	0	3
JDA	4/10/2012	12101	AP	0	0	0	0	0	0	1
JDA	4/11/2012	NA	AP	0	0	0	0	0	0	0
JDA	4/12/2012	NA	AP	0	0	0	0	0	0	0
JDA	4/13/2012	NA	AP	0	0	0	0	0	0	0
JDA	4/14/2012	NA	AP	0	0	0	0	0	0	0
JDA	4/15/2012	12106	AP	0	0	0	0	0	0	1
JDA	4/16/2012	NA	AP	0	0	0	0	0	0	0



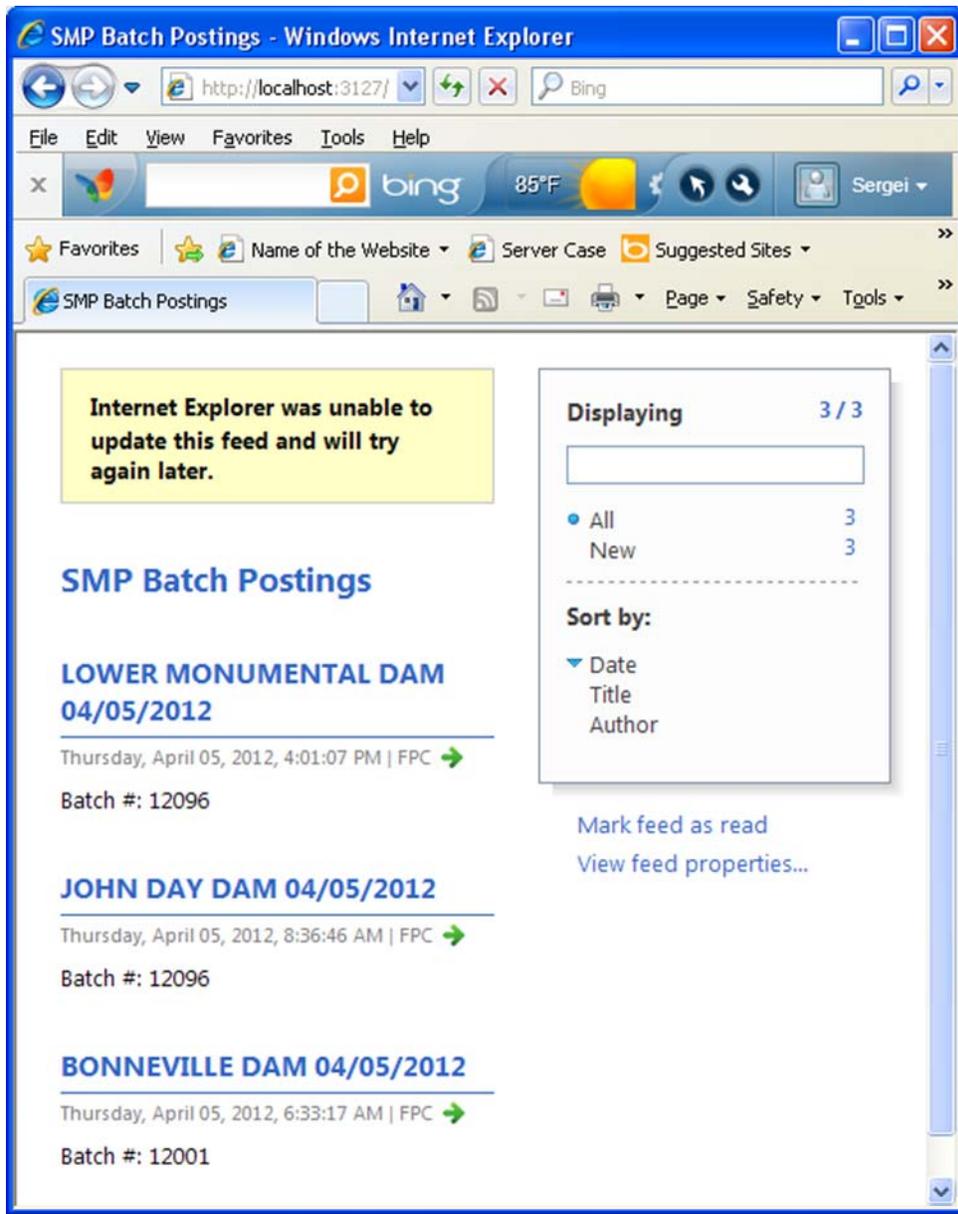
Added Lamprey to Detailed Fish Condition Graph and Query

The screenshot shows a Windows Internet Explorer browser window with the address bar at <http://www.fpc.org/irs>. The page title is "Adult Fish Counts". The main content area lists several dam entries, each with a date and time stamp, and fish count data:

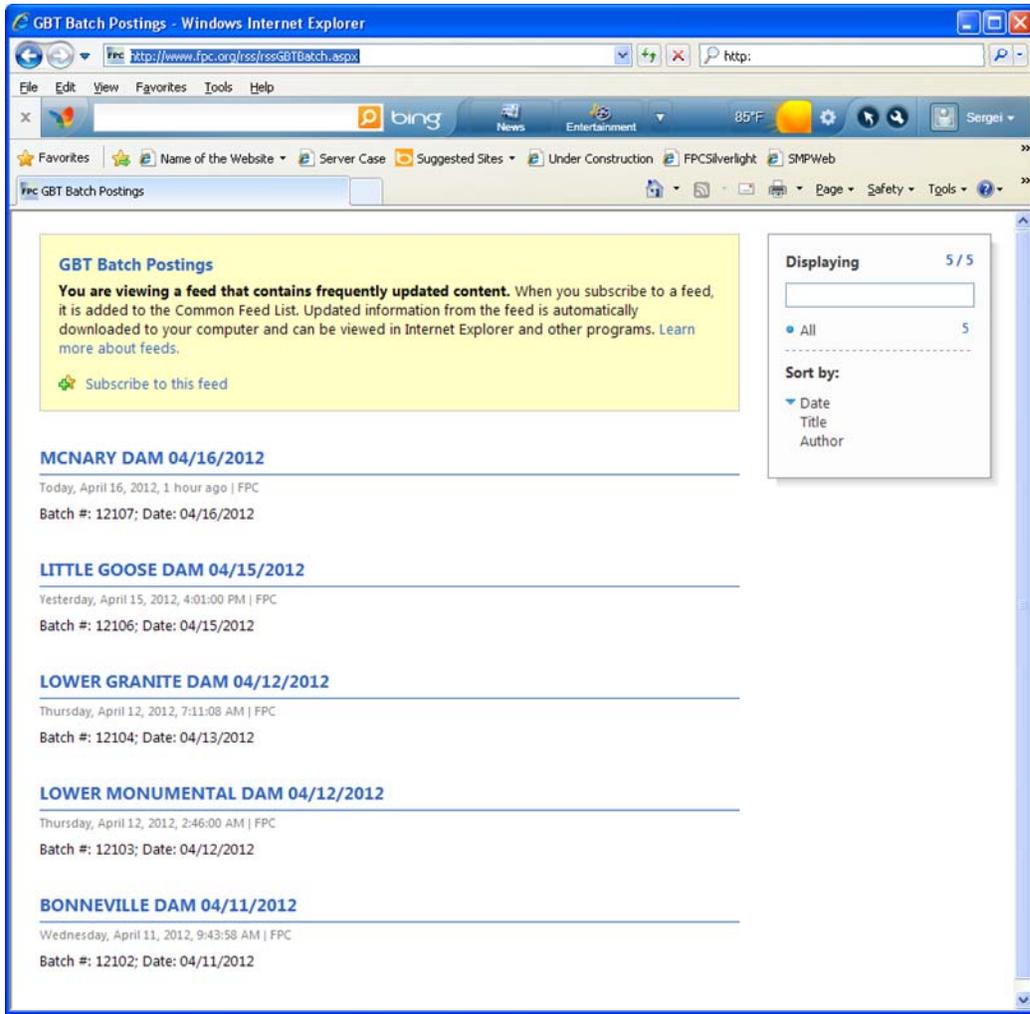
- LOWER GRANITE DAM 04/14/2012**
Today, April 16, 2012, 49 minutes ago →
Chinook Adult 0; Steelhead 153; Wild Steelhead 85
- LITTLE GOOSE DAM 04/15/2012**
Today, April 16, 2012, 49 minutes ago →
Chinook Adult 0; Steelhead 144; Wild Steelhead 100
- LOWER MONUMENTAL DAM 04/15/2012**
Today, April 16, 2012, 49 minutes ago →
Chinook Adult 0; Steelhead 124; Wild Steelhead 77
- ICE HARBOR DAM 04/15/2012**
Today, April 16, 2012, 49 minutes ago →
Chinook Adult -1; Steelhead 104; Wild Steelhead 56
- MCNARY DAM 04/15/2012**
Today, April 16, 2012, 49 minutes ago →
Chinook Adult 2; Steelhead 77; Wild Steelhead 54
- JOHN DAY DAM 04/15/2012**
Today, April 16, 2012, 49 minutes ago →

On the right side of the page, there is a "Displaying" sidebar showing "9 / 9" items. Below this, there are radio buttons for "All" (9) and "New" (9). Underneath, there is a "Sort by:" section with a dropdown menu currently set to "Date", and "Title" is also visible. At the bottom of the sidebar, there are links for "Mark feed as read" and "View feed properties..."

Adult Count RSS feed



SMP Batch RSS feed



GBT Batch RSS feed

Fish Passage Center

DAY	CHROOK ADULT	CHROOK JACK	SPRING CHROOK ADULT	SPRING CHROOK JACK	SUMMER CHROOK ADULT	SUMMER CHROOK JACK	FALL CHROOK ADULT	FALL CHROOK JACK	COHO ADULT	COHO JACK	STEELHEAD	WILD STEELHE
8/15/2012	141	4	140	4	0	0	0	0	0	0	44	9
8/16/2012	104	0	104	0	0	0	0	0	0	0	58	18
8/17/2012	78	1	78	1	0	0	0	0	0	0	26	12
8/18/2012	42	0	42	0	0	0	0	0	0	0	26	0
8/19/2012	9	0	9	0	0	0	0	0	0	0	20	4
8/20/2012	18	0	18	0	0	0	0	0	0	0	33	11
8/21/2012	15	0	15	0	0	0	0	0	0	0	60	17
8/22/2012	6	0	6	0	0	0	0	0	0	0	30	15
8/23/2012	6	0	6	0	0	0	0	0	0	0	28	6
8/24/2012	20	1	20	1	0	0	0	0	0	0	42	6
8/25/2012	17	0	17	0	0	0	0	0	0	0	64	23

Table with Daily Adult Counts – linked from Adult Count RSS feed

File Collector

Data Source: P:\DataReqs

Detected File System Events

Time	Event	Filter	File Name	Creation Time	User IP
14:00:03	Delete	.jpg	P:\DataReqs\AdultGraph\98.237.253.17150364.jpg	8/12/2012 1:59:24 PM, # 25	
14:00:03	Delete	.jpg	P:\DataReqs\AdultGraph\98.247.62.2347572.jpg	8/12/2012 1:12:52 PM, # 26	
14:00:03	Delete	.jpg	P:\DataReqs\AdultGraph\98.247.62.2347598.jpg	8/12/2012 1:13:19 PM, # 27	
14:00:03	Delete	.csv	P:\DataReqs\Adult\67_205_6_24749911.csv	8/12/2012 1:51:51 PM, # 1	
14:00:03	Delete	.csv	P:\DataReqs\Adult\67_205_6_24749914.csv	8/12/2012 1:51:54 PM, # 2	
14:00:03	Delete	.csv	P:\DataReqs\adult_alldatabase\166_147_89_1534...	8/12/2012 1:29:59 PM, # 1	
14:00:03	Delete	.csv	P:\DataReqs\adult_alldatabase\166_147_89_1594...	8/12/2012 1:35:22 PM, # 2	
14:00:03	Delete	.csv	P:\DataReqs\adult_alldatabase\166_147_89_1594...	8/12/2012 1:35:43 PM, # 3	
14:00:03	Delete	.csv	P:\DataReqs\adult_alldatabase\166_147_89_1604...	8/12/2012 1:17:16 PM, # 4	
14:00:03	Delete	.csv	P:\DataReqs\adult_alldatabase\50_53_26_194469...	8/12/2012 1:02:35 PM, # 5	
14:00:03	Delete	.csv	P:\DataReqs\adult_alldatabase\67_205_6_247499...	8/8/2012 1:51:54 PM, # 6	
14:00:03	Delete	.csv	P:\DataReqs\adult_alldatabase\70_103_106_1894...	8/12/2012 1:17:42 PM, # 7	
14:00:03	Delete	.csv	P:\DataReqs\flowspill\50_125_27_23647846.csv	8/12/2012 1:17:26 PM, # 1	
14:00:03	Delete	.csv	P:\DataReqs\flowspill\50_125_27_23647912.csv	8/12/2012 1:18:32 PM, # 2	
14:00:03	Delete	.csv	P:\DataReqs\flowspill\50_125_27_23647945.csv	8/12/2012 1:19:05 PM, # 3	

New application to collect hits from Web Log Files and clean images and csv's files on Web Server

LGR Adult Spring/Summer Dam Counts

Click [here](#) to download the Adult Spring Chinook Counts for

LGR Spring Chinook Adult Dam Counts

Date	2012	2011	2010
03/01	0	0	0
03/02	0	0	0
03/03	0	0	0
03/04	0	0	0
03/05	0	0	0
03/06	0	0	0
03/07	0	0	0
03/08	0	0	0
03/09	0	0	0
03/10	0	0	0
03/11	0	0	0
03/12	0	0	0

SAWT Redds, Emigration and Juvenile Survivals

Click [here](#) to download the Redds and Emigration data

SAWT Redds and Emigration

Site	SmoltYear	Redds	Admigrating	Admigrating	Admigrating	Footnote	Processing	Processing
SAWT	1994	40	2079	2079	4100	4000	19000	19000
SAWT	1994	10	17444	17444	20113	17000	13000	13000
SAWT	1995	15	3854	3854	3992	3100	2000	2000
SAWT	1997	6	30719	30719	20747	1876	4000	4000
SAWT	1998	20	39218	39218	44302	8249	21914	20716
SAWT	1999	10	17916	17916	24524	2037	12044	14884
SAWT	2000	121	40067	40067	120400	14940	14269	18927
SAWT	2001	272	30161	30161	61000	12048	44452	16400
SAWT	2002	304	44100	44100	61001	14000	11000	16337
SAWT	2003	202	22024	22024	20767	14017	7400	10500
SAWT	2004	134	20914	20914	27420	19071	8540	17771
SAWT	2005	138	20046	20046	30400	12170	10000	20712
SAWT	2006	80	13047	13047	18848	14281	8531	11024

SAWT Redds, Emigration and Juvenile Survivals

Click [here](#) to download the SAWT Juvenile Survival data

SAWT Juvenile Survival

Year	Survival
1994	1.00
1995	1.00
1996	1.00
1997	1.00
1998	1.00
1999	1.00
2000	1.00
2001	1.00
2002	1.00
2003	1.00
2004	1.00
2005	1.00
2006	1.00
2007	1.00
2008	1.00
2009	1.00
2010	1.00
2011	1.00
2012	1.00
2013	1.00
2014	1.00

LGR Adult Spring/Summer Dam Counts

Upper Salmon River MPC - CSS Overall Annual LGR to LGR SARs for Hatchery / Wild Chinook

This query returns overall annual SARs for wild and hatchery Chinook for the Upper Salmon River MPC area. The data are from the CSS 2009-2011 annual reports.

Includes: Source site, species, year, annual SAR zone, number of smolts in SAR, SAR estimate, Lower limit of the SAR 90% confidence interval, Upper limit of the SAR 90% confidence interval and Footnote.

All fields are required.

Select Source Site: Snake River above LGR (PITAGG_SNAKE - CHW)

Beginning Year (1994): 1992

Ending Year (2009): 2009

[Submit Form](#)

[Link to Location Map](#)

Upper Salmon River MPC - CSS Overall Annual LGR to LGR SARs for Hatchery / Wild Chinook

Overall LGR to LGR SARs

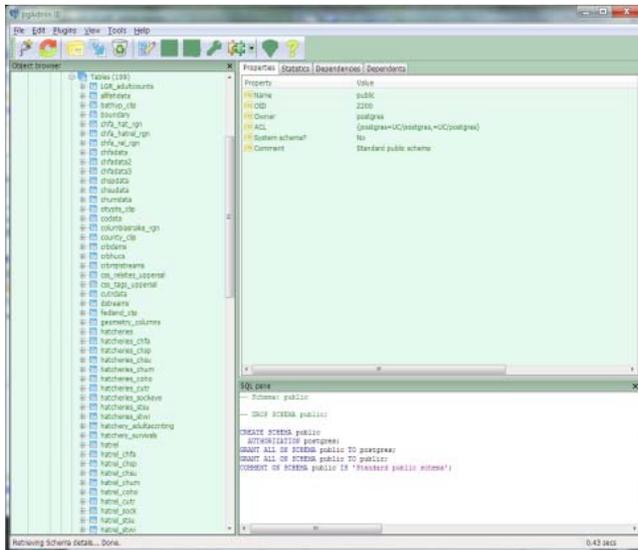
Click [here](#) to download the overall LGR to LGR SARs data.

Overall SARs LGR to LGR

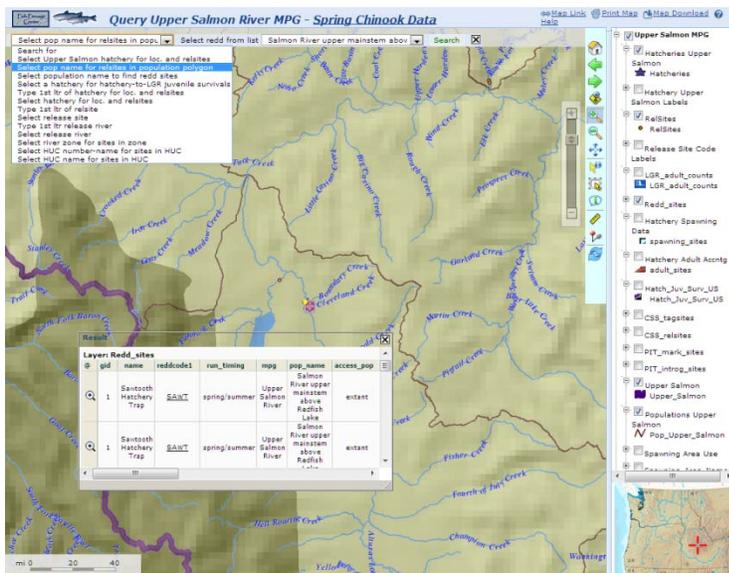
Site	ItgYear	Smolt_num_in	SAR_estimate	SAR_90cil	SAR_90cih	Footnote	Annual_SAR
PITAGG_SNAKE	1994	15200	0.43	0.22	0.65	---	LGR_to_LGR
PITAGG_SNAKE	1995	20208	0.35	0.2	0.52	---	LGR_to_LGR
PITAGG_SNAKE	1996	7968	0.42	0.06	0.84	---	LGR_to_LGR
PITAGG_SNAKE	1997	2880	1.73	0.97	2.69	---	LGR_to_LGR
PITAGG_SNAKE	1998	17363	1.21	0.82	1.64	---	LGR_to_LGR
PITAGG_SNAKE	1999	33662	2.30	1.89	2.81	---	LGR_to_LGR
PITAGG_SNAKE	2000	26163	1.71	1.32	2.74	---	LGR_to_LGR

Overall SARs Data and Crap | [Location Map](#) | [Metadata](#) | [Salmon Lifecycle Navigator](#)

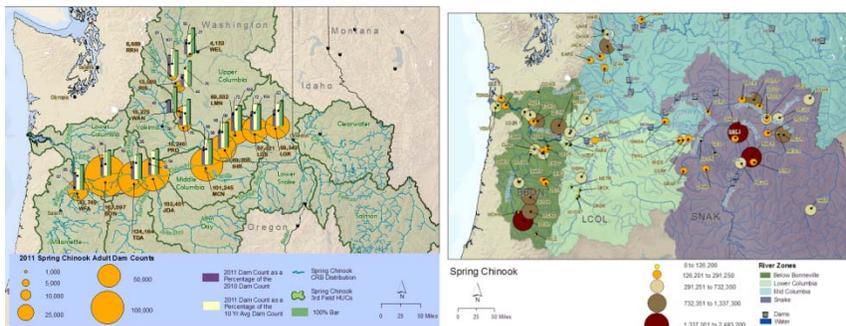
Preliminary queries using new researched website technologies, copied and tested on development server;



Installation /Setup of Software and Spatial Databases

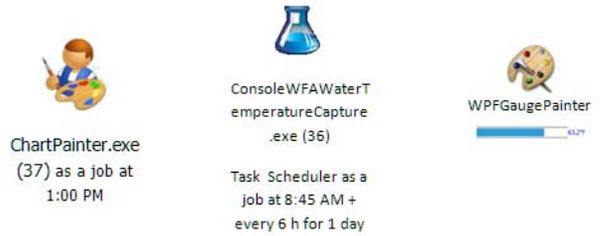


Beginning research/development of linking redd count index sites and data to FPC hatchery maps



Updated FPC Annual Report maps

Schema to Generate Web Images for Water Temperature Graph



ChartPainter.exe (37) as a job at 1:00 PM
 using `sp_insertFishPicture` posting images into FishImages table

ConsoleWFAWaterTemperatureCapture.exe (36)
 Task Scheduler as a job at 8:45 AM + every 6 h for 1 day
 using `usp_PostWaterTemp` populates PostWeather with Water temp and charts

WPF GaugePainter
 using `sp_InsertThermPicture` posting images into PostWeather table

SaveWeatherPicture



Insert original images



PriFileCollector.exe (7) using

`spGetSUMDailyAdults` - activates trigger (UpdateActive) that run `spPostFishCounts` to populate PostFishCounts



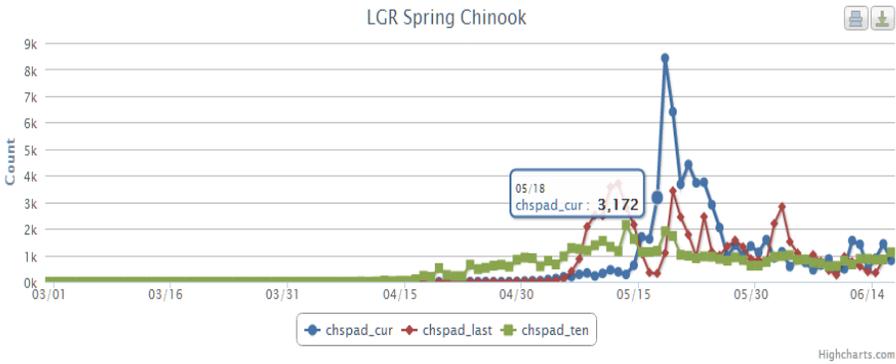
PriFileCollector.exe

(7) 6:00 AM; 8:00; 9:00; 10:00; 11:00; 12:00; 1:00 P.M.; 2:00; 3:00; 4:00; 5:00; 6:00



NETTempgraph Web App.

Schema to Generate Web Images for Water Temperature Graph

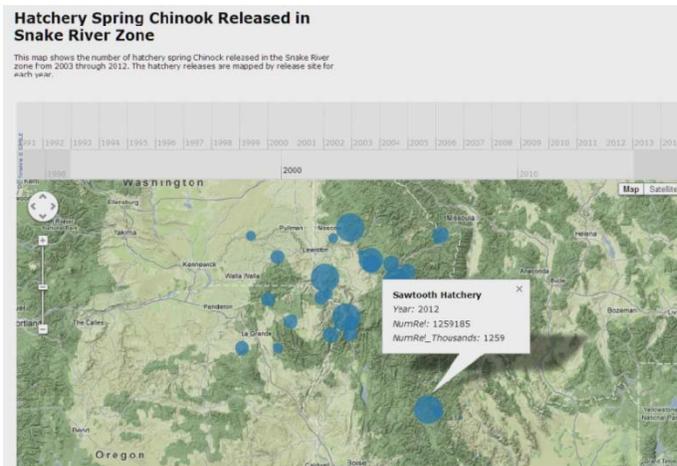


• Click [here](#) to download the Adult Spring Chinook Counts file.

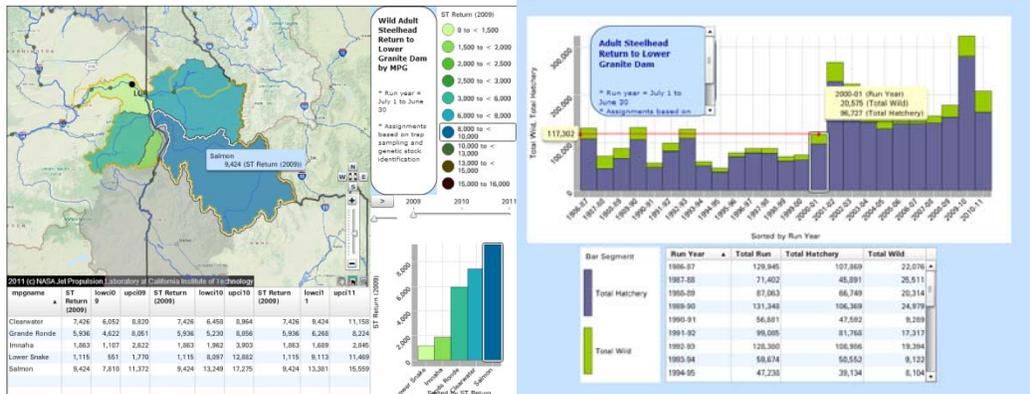
LGR Summer Chinook Adult Dam Counts

Date	2012	2011	10YR
06/18	532	703	614
06/19	490	1031	880
06/20	703	1228	1123
06/21	1093	1096	879
06/22	685	617	712
06/23	354	2840	874
06/24	419	2368	693
06/25	425	1585	787
06/26	910	839	663
06/27	438	1273	775
06/28	893	2339	735
06/29	379	2846	743
06/30	335	1716	618
07/01	200	2116	685
07/02	118	1182	646
07/03	439	1355	577
07/04	476	1019	432
07/05	295	500	374
07/06	133	642	331
07/07	118	820	334
07/08	157	962	334
07/09	191	850	308
07/10	456	698	283
07/11	209	378	194
07/12	124	432	201
07/13	103	431	183
07/14	73	260	146
07/15	85	502	146

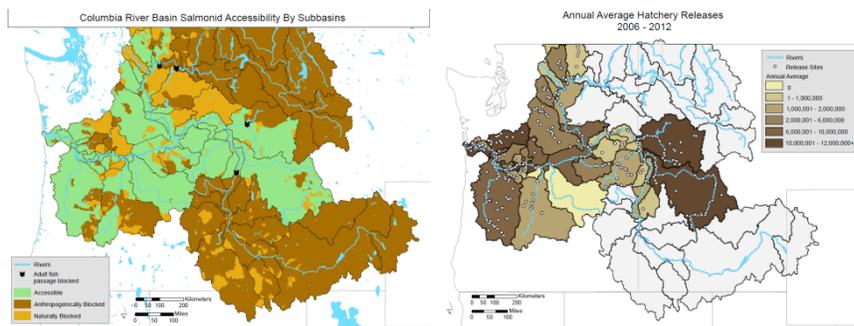
Updated DataGrid CSS Templates to Run Data Table Components in IE versions



Preliminary Time Map Query for Hatchery Releases by Year and Species



Preliminary Choropleth Time Map / Graph Query for Adult Returns by Year and Species



Salmon Distribution and Hatchery Release by Subbasin Data Request Maps

Salmon Population Lifecycle Data Portal Design and Components

- Salmon Population Map Queries
 - Google, Heron
 - OpenLayers
 - MediaWiki VMS map layer / Bing/Google
 - USNA, Google, etc.
- Salmon Lifecycle Navigator
 - Display layout 1-72
 - Index / CSS
 - Index location
 - ThinFader
- Graph and Table Queries
 - Drop layout 1-72
 - MSQL
 - Highcharts
 - Drop (atagrad)
 - Flot
 - Location maps
 - Google Heron
 - OpenLayers VMS
 - MapServer
 - OSM (OpenLayers)
- Salmon MPG Spatial Search Map Queries (optional)
 - MSQL
 - Emapper
 - Thin / Mapscript
 - Postgres / Postgis
 - MapServer
- Temporal Map Queries (optional)
 - TimeMap.js
 - Google.4k

Development...

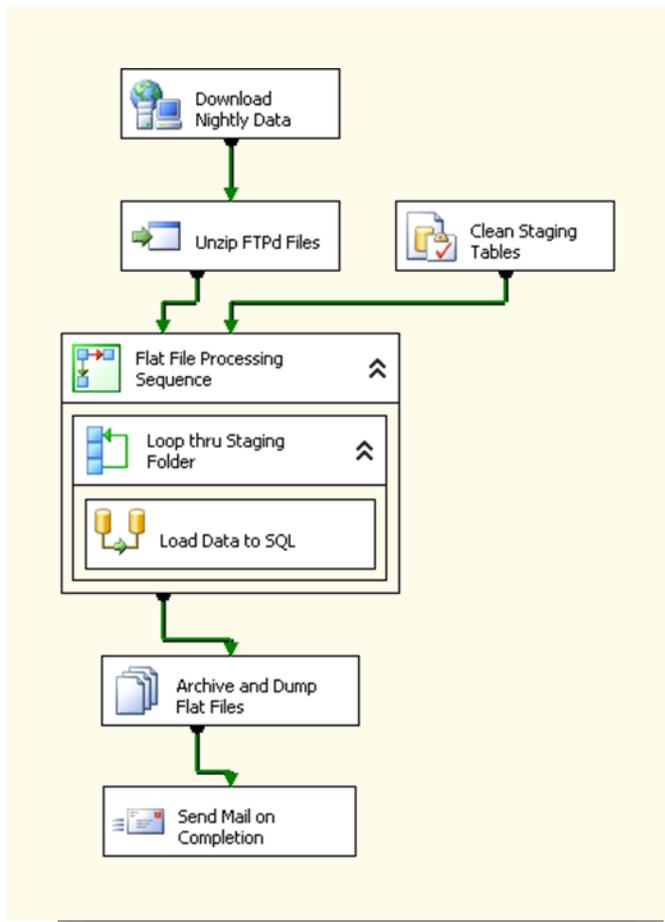
- Programmed search functions
- Create Views in PostgreSQL with geom. and data columns
- Create links to return to graphs and location maps

Upper Salmon MPG Spring Chinook Data - Query and Zoom to Hatchery and release sites

New Technology Graph, Data and Map Queries Presentation – OSGIS 2012

Project	Date	Hour	TotalFlow	TotalPower	TotalSpill	PH1Flow	PH1FB_Elev	PH1TW_Elev	PH1_Head	PH2Flow	PH2FB_Elev	PH2TW_Elev	PH2_Head	
1	BON	2002-12-31 00:00:00.000	0100	110.50	106.20	0.00	78.50	75.90	11.90	64.00	27.70	75.90	11.80	64.10
2	BON	2002-12-31 00:00:00.000	0200	110.80	106.50	0.00	78.70	75.70	12.00	63.70	27.80	75.70	11.80	63.90
3	BON	2002-12-31 00:00:00.000	0300	110.90	106.60	0.00	78.70	75.60	11.90	63.70	27.90	75.50	11.80	63.70
4	BON	2002-12-31 00:00:00.000	0400	111.00	106.70	0.00	78.70	75.40	12.00	63.40	28.00	75.30	11.90	63.40
5	BON	2002-12-31 00:00:00.000	0500	107.60	103.30	0.00	77.00	75.30	12.00	63.30	26.30	75.20	11.90	63.30
6	BON	2002-12-31 00:00:00.000	0600	101.00	96.70	0.00	72.60	75.30	11.80	63.50	24.10	75.20	11.80	63.40
7	BON	2002-12-31 00:00:00.000	0700	96.90	92.60	0.00	70.10	75.40	12.00	63.40	22.50	75.30	11.70	63.60
8	BON	2002-12-31 00:00:00.000	0800	95.50	91.20	0.00	69.40	75.50	11.90	63.60	21.80	75.40	11.50	63.90
9	BON	2002-12-31 00:00:00.000	0900	94.90	90.60	0.00	69.10	75.50	11.80	63.70	21.50	75.50	11.50	64.00
10	BON	2002-12-31 00:00:00.000	1000	94.90	90.60	0.00	69.10	75.50	11.70	63.80	21.50	75.40	11.40	64.00
11	BON	2002-12-31 00:00:00.000	1100	96.00	91.70	0.00	72.50	75.60	11.70	63.90	19.20	75.50	11.40	64.10
12	BON	2002-12-31 00:00:00.000	1200	96.30	92.10	0.00	78.00	75.60	11.90	63.70	14.10	75.70	11.30	64.40
13	BON	2002-12-31 00:00:00.000	1300	99.90	95.60	0.00	79.60	75.60	11.90	63.70	16.00	75.80	11.40	64.40
14	BON	2002-12-31 00:00:00.000	1400	101.20	96.90	0.00	72.90	75.80	11.80	64.00	24.00	75.90	11.40	64.50
15	BON	2002-12-31 00:00:00.000	1500	126.00	99.60	0.00	74.50	76.00	12.10	63.90	25.10	76.00	11.70	64.30
16	BON	2002-12-31 00:00:00.000	1600	100.50	96.20	0.00	73.00	76.40	12.10	64.30	23.20	76.10	12.00	64.10
17	BON	2002-12-31 00:00:00.000	1700	87.70	92.00	0.00	77.00	76.30	12.90	63.40	15.00	76.10	12.60	63.50
18	BON	2002-12-31 00:00:00.000	1800	101.80	97.50	0.00	73.80	76.10	13.00	63.10	23.70	76.10	12.70	63.40
19	BON	2002-12-31 00:00:00.000	1900	109.30	105.00	0.00	78.40	75.90	13.00	62.90	26.60	75.80	13.00	62.80
20	BON	2002-12-31 00:00:00.000	2000	117.90	113.60	0.00	84.50	76.30	13.20	63.10	29.10	76.20	13.10	63.10

Application for posting Bonneville Ops data into SQL Server



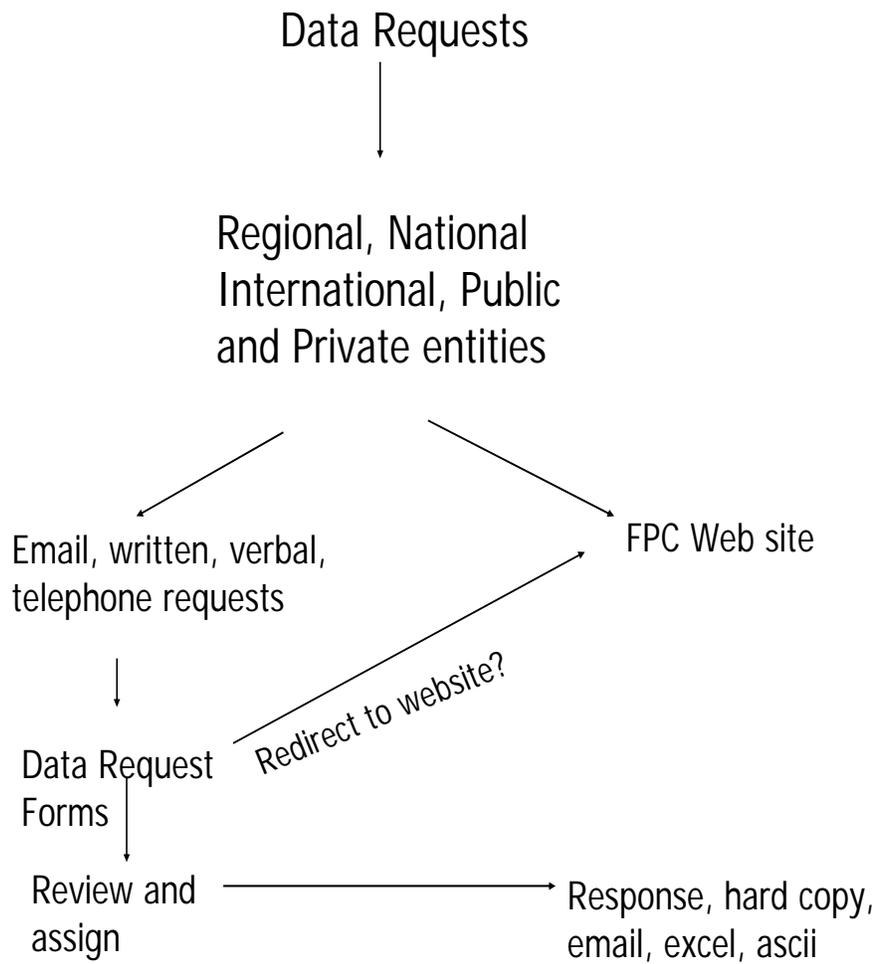
New layout to create application to process new PITagis data collection system

Technical Assistance for fishery managers and the public at large

The primary purpose of the Fish Passage Center is to provide technical assistance and information to fish and wildlife agencies and tribes in particular and the public in general. The FPC participated in all Fish Passage Advisory Committee meetings and provided technical information as requested. In season analyses and recommendations relative to the implementation of the 2012 Operations Agreement were assessed weekly and SORs were developed and submitted as needed. The FPC also participated in weekly Technical Management Team meetings. In 2012 the FPC staff responded to requests for analyses from the Corps of Engineers, Fish Passage Operations and Management Committee, regarding operations at Bonneville Dam. In 2012 FPC staff was invited by the Southwest Minnesota State University to give a technical presentation on the development of fish passage and hydro system operations on the Columbia River as the keynote speaker at their Seventh Annual Undergraduate Research Conference. Margaret Filardo of the FPC staff was sent as the technical expert on adult and juvenile fish passage in the Columbia basin. FPC staff spent two days meeting with various university professors, staff and students to provide technical advice regarding the application of scientific data.

In implementing the NPCC Program language the Fish Passage Center responds to requests for data, analysis and technical support. The vast majority of data provided to the region by the FPC is accomplished through the FPC web site. Users throughout the region and the world are able to access FPC data through the web site. Data can be downloaded into spreadsheet format and documents, analysis and reports can be accessed through the web site. The data and analysis provided to the region through the web site is accomplished without direct involvement of FPC staff. FPC staff is available to assist individuals when they are having difficulty locating or downloading the data they need.

Specific requests for data summaries or analysis are also submitted to the FPC through telephone conversations or email. If possible these requests are directed to the web site and assistance is provided to the requester in navigating the site to retrieve the data requested. These requests are logged onto a data request form reviewed by the FPC manager and assigned to one or more FPC staff members according to expertise and workload to fill the request. All data requests are logged and filed upon completion. Those that include analysis are posted on the web site upon completion. The schematic below shows the process for response to data requests followed by a data request form.





FISH PASSAGE CENTER
1827 NE 44th Ave, Suite 240, Portland, OR 97213
Phone: (503) 230-4099 Fax: (503) 230-7559
<http://www.fpc.org> e-mail us at fpcstaff@fpc.org

DATA REQUEST FORM

Request Taken By: _____ **Date:** _____

Data Requested By:

Name: _____ **Phone:** _____
Address: _____ **Fax:** _____
_____ **Email:** _____

Data Requested:

Data Format: **Hardcopy** **Text** **Excel**

Delivery: **Mail** **Email** **Fax** **Phone**

Comments:

Data Compiled: By _____ **Date:** _____

Request # _____

Response to Specific Data Requests

The FPC website is the primary source for public data access. In addition to data access through the website, several data requests are received through telephone or written contacts. In 2012 contract year the FPC responded to 74 requests for data requests from the agencies and tribes and others, in addition to the regular weekly reports, and annual reports. These are recorded through data request written forms. Responses are developed by FPC staff and distributed according to the request. Data request forms and responses are maintained in a data request log. In 2012 the FPC staff received and responded to 74 data requests from agencies, tribes and the public. Of the 74 requests received in 2011, 40 responses required analyses and the response was developed in memorandum form. These memorandums are posted on the FPC website at the same time as they are submitted to the requestor. These requests were completed and presented to the agencies and tribes to facilitate their activities in a wide range of forums related to fish passage and hydro system management. These 40 requests related to data summaries and analysis relative to historic passage data, hydro system operations and fish passage characteristics. The requests that included analysis were posted on the FPC web site in accordance with established FPC operating procedures.

Weekly summary reports of storage reservoir elevations and operations were provided to the Fish Passage Advisory Committee and reflected in weekly reports which are posted on the FPC website. FPC staff participated in the Adaptive Management Team and provided analysis and technical support to the agencies and tribes regarding dissolved gas waiver limits and monitoring

In response to requests from the fishery agencies and tribes, the FPC staff provided historic data summaries, research results, analytical results to the agencies and tribes and review comments on various proposed hydro system operations as they potentially affect fish passage and survival. The FPC staff, continued participation and technical support in the regional Adaptive Management Team the Fish Passage Advisory Committee and the Lamprey Technical Workgroup FPC staff provided technical support for the Corps of Engineers Fish Passage Operations and Management Committee.. Regular updates were provided in season on the migration characteristics of juvenile and adult salmonids during the spring season and particularly during the implementation of the court ordered spill. These were developed to web reports. The FPC staff provided review comments on research proposals and research reports as requested by the agencies and tribes. These were proposed or conducted through the BPA Fish and Wildlife Program process and the US Army Corps of Engineers Anadromous Fish Passage Evaluation Program. Specifically, the FPC staff provided technical assistance to the agencies and tribes in the development and review of research proposals. As well as provide assistance in reviewing results of research used to make management decisions regarding modifications to dam's structure or operations.

Specific Data Requests 2012

1. Re-ascension rates at Bonneville Dam in response to Operations in 2012 - December 17, 2012
2. Effects of operations at Bonneville Dam second powerhouse and juvenile sample mortalities, 2008-2012 - December 17, 2012
3. Survival and migration timing for two release sites of Hanford Reach fall Chinook PIT-tagged and released in 2011 and 2012. - December 13, 2012
4. Odessa Subarea Special Study, Final Environmental Impact Statement - December 5, 2012
5. Results of 2012 Lamprey Monitoring - November 14, 2012
6. PTAGIS Data System, meeting October 23, 2012 - October 25, 2012
7. Summary of mortality, descaling, injury and gas bubble trauma data from Smolt 8. Monitoring Program (2002-2012) - October 19, 2012
9. FPAC request to establish sockeye and fall Chinook monitoring mark groups - October 17, 2012
10. Evaluation of proposal entitled, "Provide access to Columbia River water when flows exceed the Biological Opinion (Bi-OP) flows for fish" - October 5, 2012
11. Estimated spill volumes resulting in 120% total dissolved gas in the tailrace at Upper-Columbia PUD projects - October 5, 2012
12. AMIP model inputs - October 3, 2012
13. Juvenile Migration Characteristics of the 2012 B Run Steelhead Return - September 18, 2012
14. Comments on bypass selectivity proposals to SRWG - September 10, 2012
15. Spilling water at hydroelectric projects in the Columbia & Snake rivers - September 6, 2012
16. Adult Sockeye survival in the Bonneville to McNary Dam reach - September 6, 2012
17. Open Geometry Operations - July 30, 2012
18. FPC data access request and PTAGIS beta website - June 19, 2012

19. Juvenile Fish Mortality Estimates for Bonneville Second Powerhouse Bypass - June 7, 2012
20. CSS Annual Review response to comments - May 22, 2012
21. Sockeye juvenile mortality and descaling at Bonneville Dam, May 3-9, 2012 - May 10, 2012
22. Bonneville Dam Passage - May 4, 2012
23. Potential for Reducing Daytime Spill/Increasing Nighttime Spill Using Storage at Bonneville to Aid in Adult Passage - May 2, 2012
24. Review comments on the NOAA paper entitled, "Changing rates of upstream survival in Snake River Spring-Summer Chinook Salmon during the migration season as indicated by short interval PIT tag estimates of survival" - April 26, 2012
25. Overview of Bonneville Dam powerhouse operations and Spring Creek subyearling Chinook passage and mortality - April 24, 2012
26. Review of "Adult Upper Columbia River and Snake River Spring Chinook Salmon and Steelhead Survival through the Federal Columbia River Power System Hydroelectric Projects" Final Phase I Report June 29, 2011 - April 24, 2012
27. 2011 Gas Bubble Trauma Biological Monitoring - Wells Hydroelectric Project - April 20, 2012
28. Historical Spill Summary 1981 to 2011 - April 18, 2012
29. Survival and migration timing for two release sites of Hanford Reach fall Chinook PIT-tagged and released in 2011 - April 18, 2012
30. Review Comments on draft report "The Marine Ecology of Juvenile Columbia River Basin Salmonids: A Synthesis of Research 1998-2011" - April 6, 2012
31. Conditions affecting the 2011 and 2012 Fall Chinook Adult Returns to Spring Creek National Fish Hatchery. - March 27, 2012
32. Comments on BON and TDA Performance Standards Testing in 2010 - March 23, 2012
33. Comparison of juvenile spring Chinook and steelhead survival estimates, Faulkner et al. (2010) and the Comparative Survival Study (CSS) (2011) - March 20, 2012
34. FCRPS Juvenile Performance Standard and Metrics - March 16, 2012
35. Comparison of fish mortality via spillways and turbines - March 9, 2012

36. Draft 2012 Fish Operation Plan - February 24, 2012
37. Acoustic tagging Studies in the Lower Columbia, performance standards, and review of "Analysis of Dam-Passage Survival of Yearling and Subyearling Chinook Salmon and Juvenile Steelhead at The Dalles Dam, Oregon, 2010" - February 15, 2012
38. Summer migration, Columbia River - February 10, 2012
39. Comparison of GBT incidence at Rock Island Dam versus Rocky Reach Dam in 2011 - January 30, 2012
40. Columbia Gorge Complex Hatchery Report - 2011 - January 3, 2012

All FPC staff participates in the development of weekly reports from March through October. These weekly reports summarize river and reservoir operations, as well as fish passage information. The reports document any unplanned or planned excursions from the implementation of Biological Opinion measures. The report is distributed via email and paper copy, as well as being posted on the FPC website. The estimated circulation is about 750 readers.

All FPC staff participates in the development of the Annual Fish Passage Center Report and the Comparative Survival Study Annual Report.. The objective of the Annual Report is to tell the story of adult and juvenile fish passage for that year. In this way the report serves as a resource of historic practical information regarding the annual operation and management of the hydro system and juvenile and adult fish passage. The report summarizes hydrologic conditions, reservoir operations throughout the water year and focuses on the resulting flows during the migration period. The report also summarizes annual spill operations as provided under the Biological Opinion spill measures or court ordered spill measures. Annual fish passage metrics; passage indices, passage timing, smolt travel time and survival and analyses are presented and discussed along with past years' information collected under varying environmental parameters. The Annual Report also presents annual and historic adult passage information and yearly hatchery information.

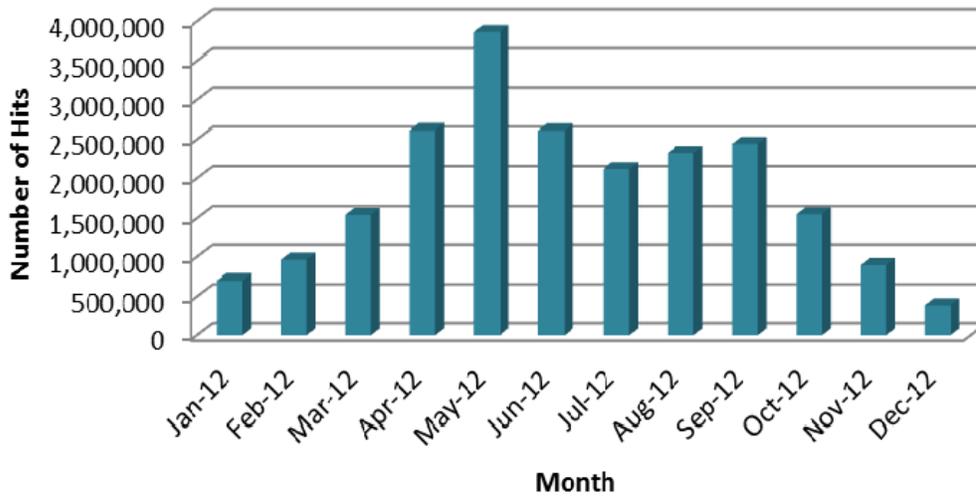
2012 FPC.org Web Statistics

The FPC website is the primary vehicle for data distribution. During 2012, FPC.org had 22,034,962 hits. During 2011, there were a total of 19,268,468 successful hits. The 2012 FPC.org annual hits were 1.14 times greater than the 2011 hits. In 2012, there were a total of 3,497,410 pages viewed and 1,982,804 visits to the website. The 2012 FPC.org page views were 1.45 times greater than the 2011 pages views and the 2012 visits were 1.46 times greater than the 2011 visits. The total number of unique visitors to the website in 2012 was 260,656. The average hits per day in 2012 were 62,179. The numbers of unique page views were 2,553,432. The average number of page views during weekdays was 531,912 while the average number of page views during the weekend was 395,754. The average visits per day to the website were 281,483 staying an average of 4:33 minutes. About 90.5% of the visits were from the United States. Of the U.S. visits, 28.8% were from Washington, 20.4% were from Oregon, 12.1% were from California, 5.3% were from Idaho, and 33.4% were from other states. About 46.4% of the visits from the U.S. were from commercial and organizations, 34.3% were from individuals and networks, and 19.3% were from government and education. We log all data requests made via the web. The number of requests between 1/1/2012 and 12/15/2012 was 1,272,758.

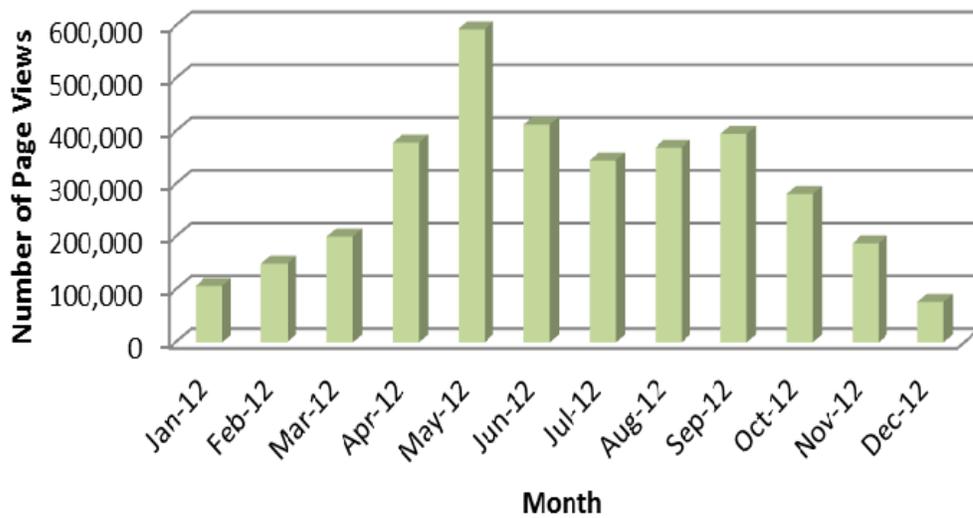
The most active days of the week was Tuesday, while the least active day of the week was Saturday. The busiest hour of the day was around 3pm. May was the busiest month, with 17.6% of the hits, followed by April and June each with 11.9% hits, followed by September (11.1%) and then August (10.6%). The top platform (operating system) used to hit the site during the third quarter of 2012 was Windows 7 with about 38% of the hits, followed by Windows XP (32%), Windows Vista (12%), AndroidOS (7.6%), Mac OS (6.7%), iOS (1.3%), Unix/Linux (0.8%) and other platforms (1.6%). The top browser used to hit the site was Internet Explorer (59%) followed by Safari (18.7%), Firefox (9.5%), Chrome (7.3%), and other various other browsers (5.5%). A total of 10.4% of the visits during 2012 were from mobile devices. Of the 10.4% mobile visits, 66.7% were from iPhones, 18.8% were from iPads, 11.8% were from various Android devices, 2.7% were from iPods.

The top requested page was the Daily Adult Salmon Dam Count Report. Of the top 30 groups of requested pages and queries, 79.7% were about adult salmon, 8.2% were about FPC documents, 4.3% were about river queries (flow / spill report, temperature graphs, spill update, etc...), 3.7% were about smolt data, 1.9% were about FPC and the website (includes FPC homepage, contact, site map, FAQ, FPAC links, etc...), and 2.2% were about CSS, hatchery and other data queries.

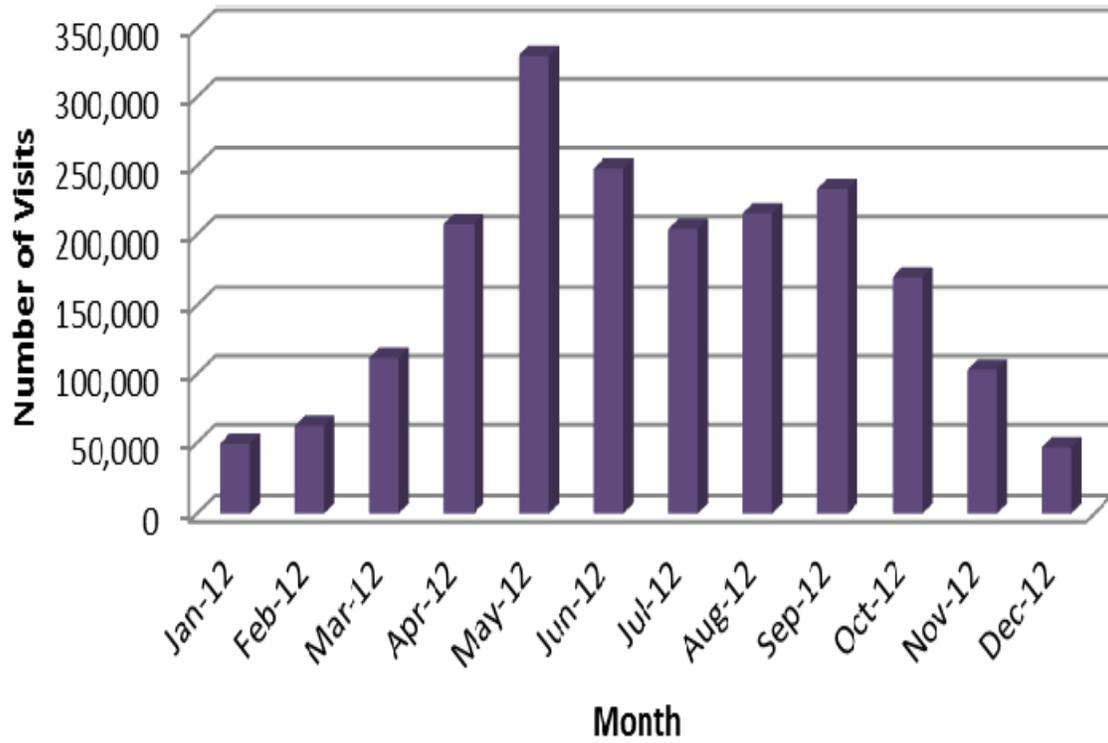
Hits Per Month, 2012



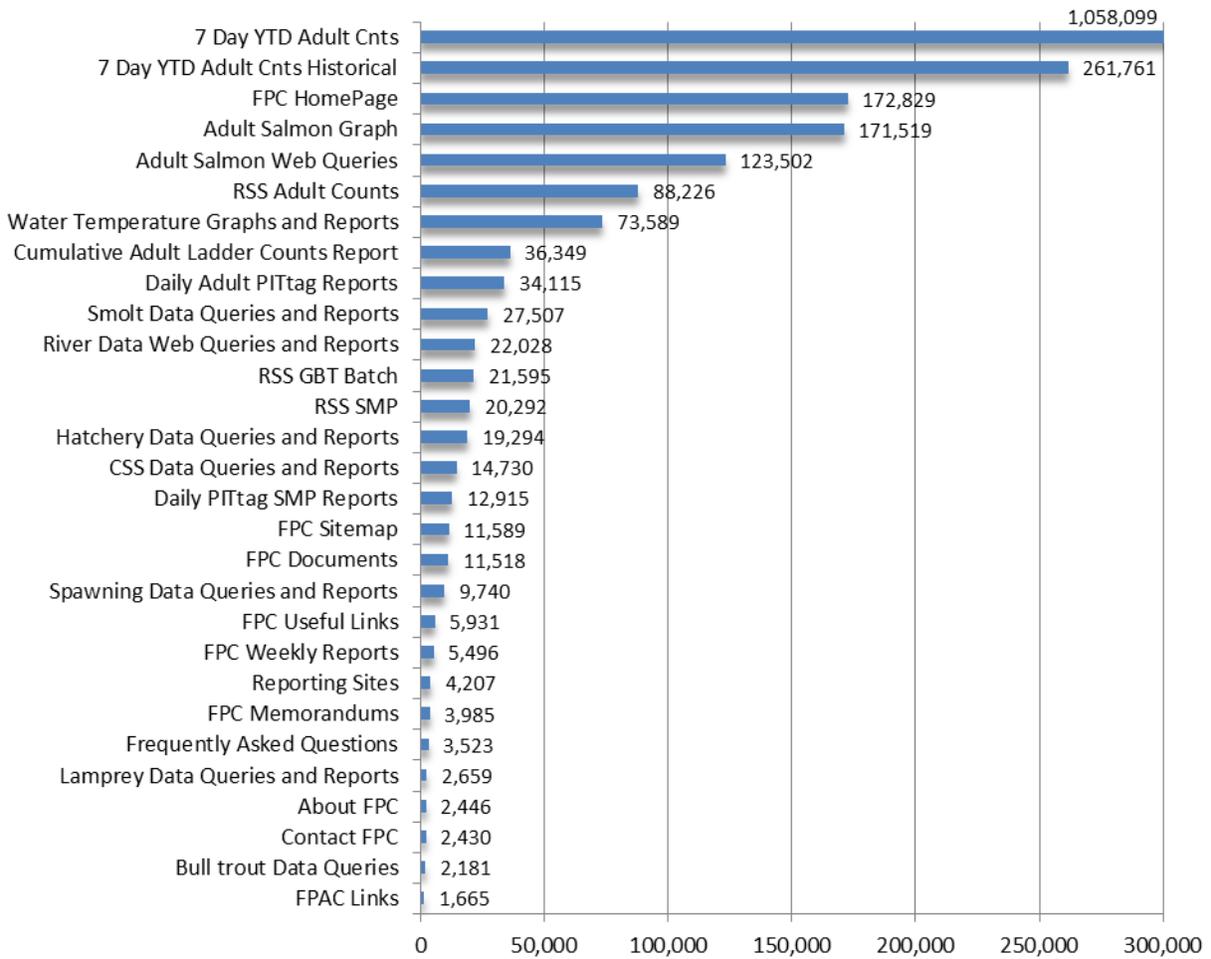
Page Views Per Month, 2012



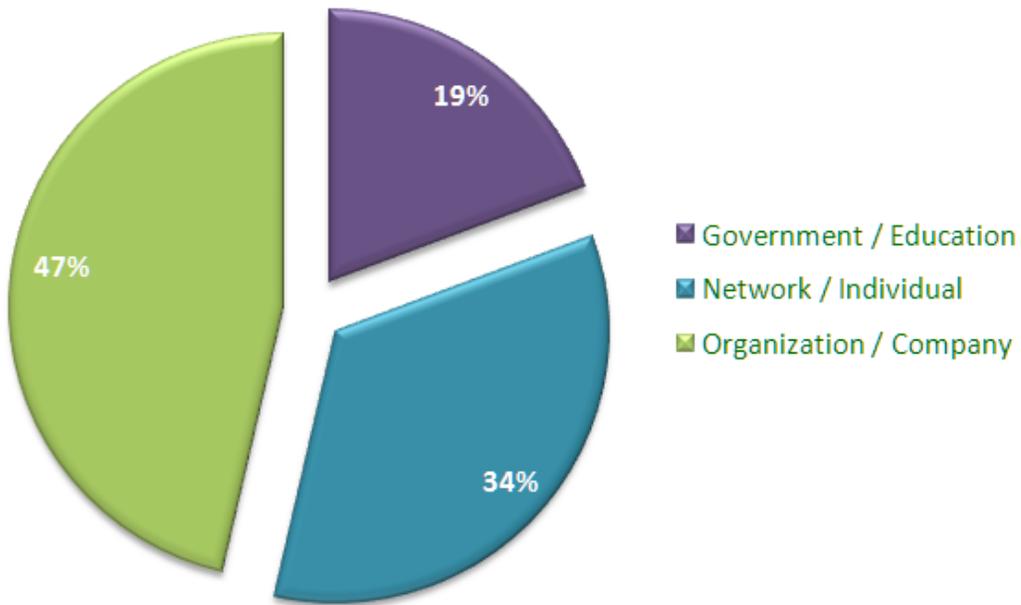
Visits Per Month, 2012



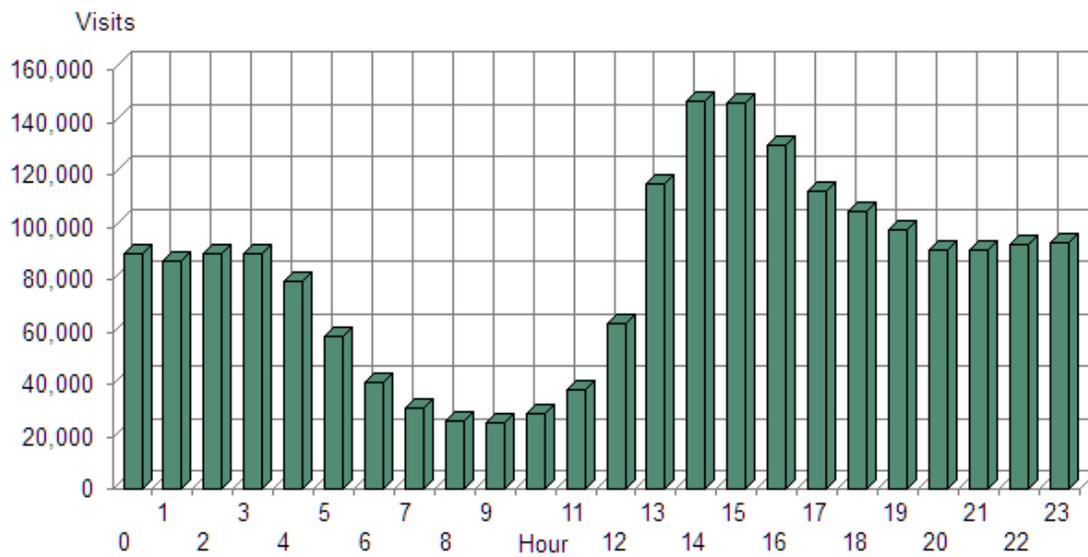
Top Requested Pages, 2012



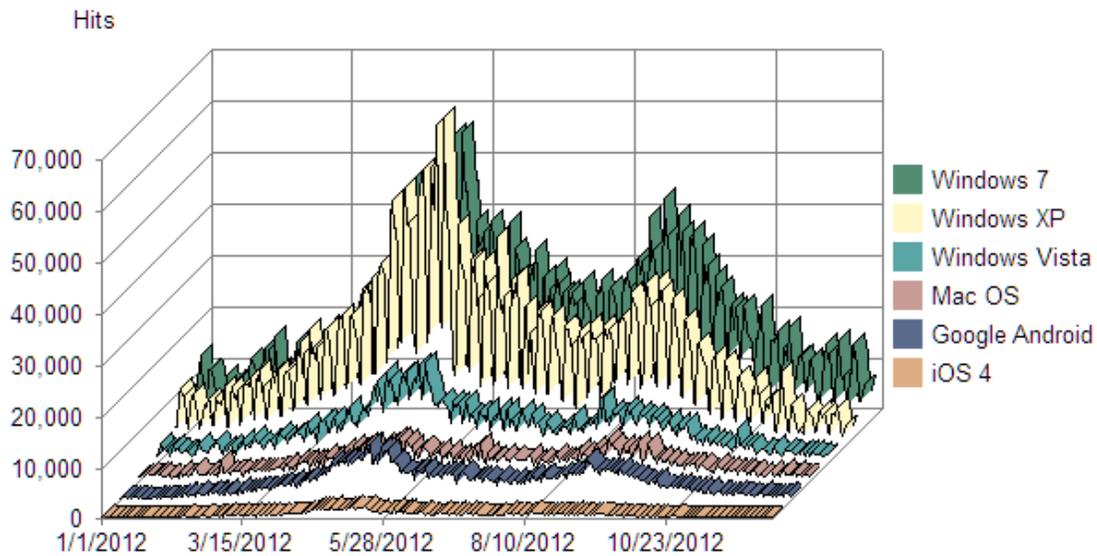
Percentage of Hits by User Type, 2012



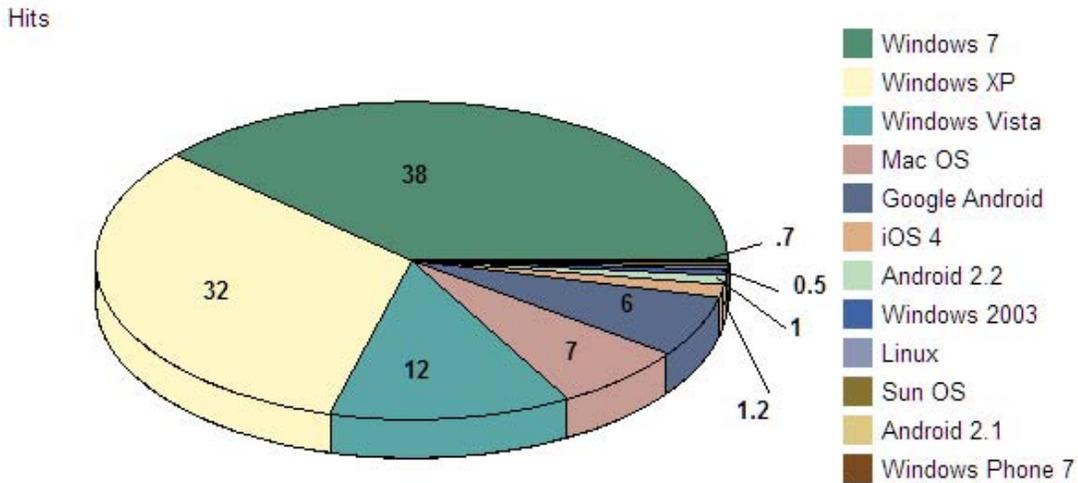
Visits By Hour Of Day



Daily Platforms

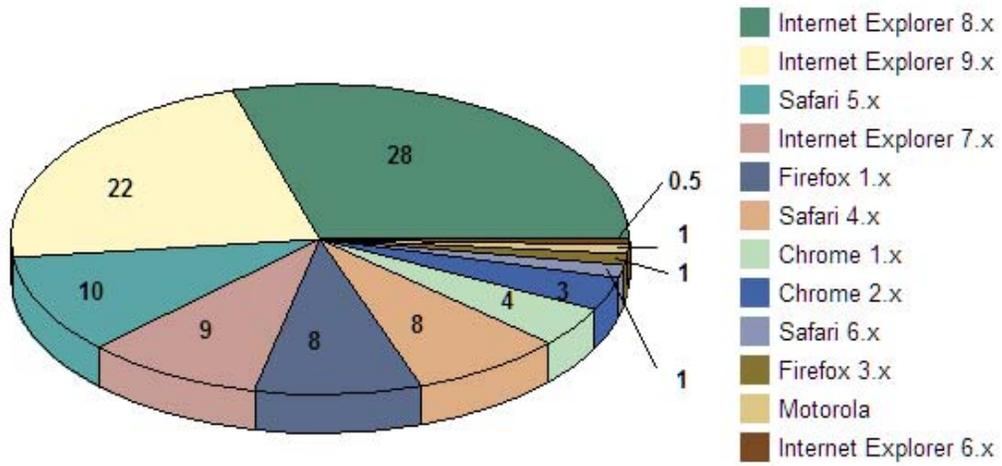


Top Platforms



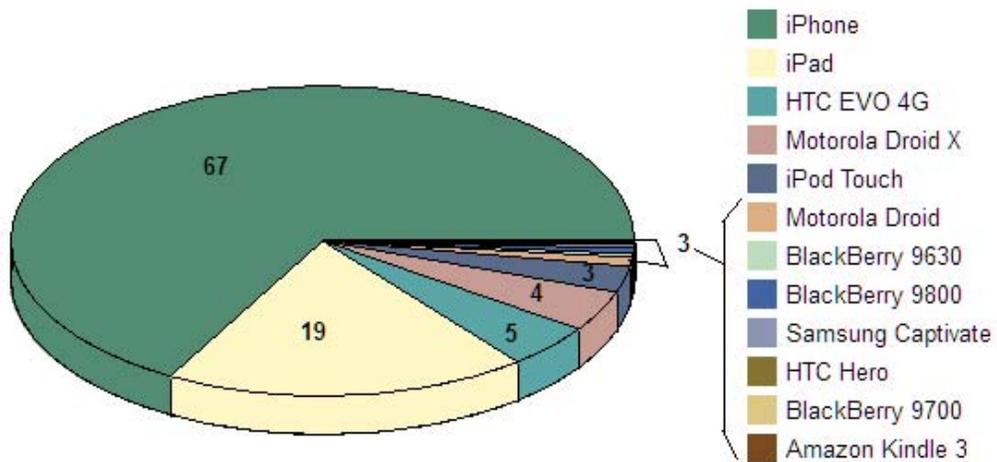
Top Browsers

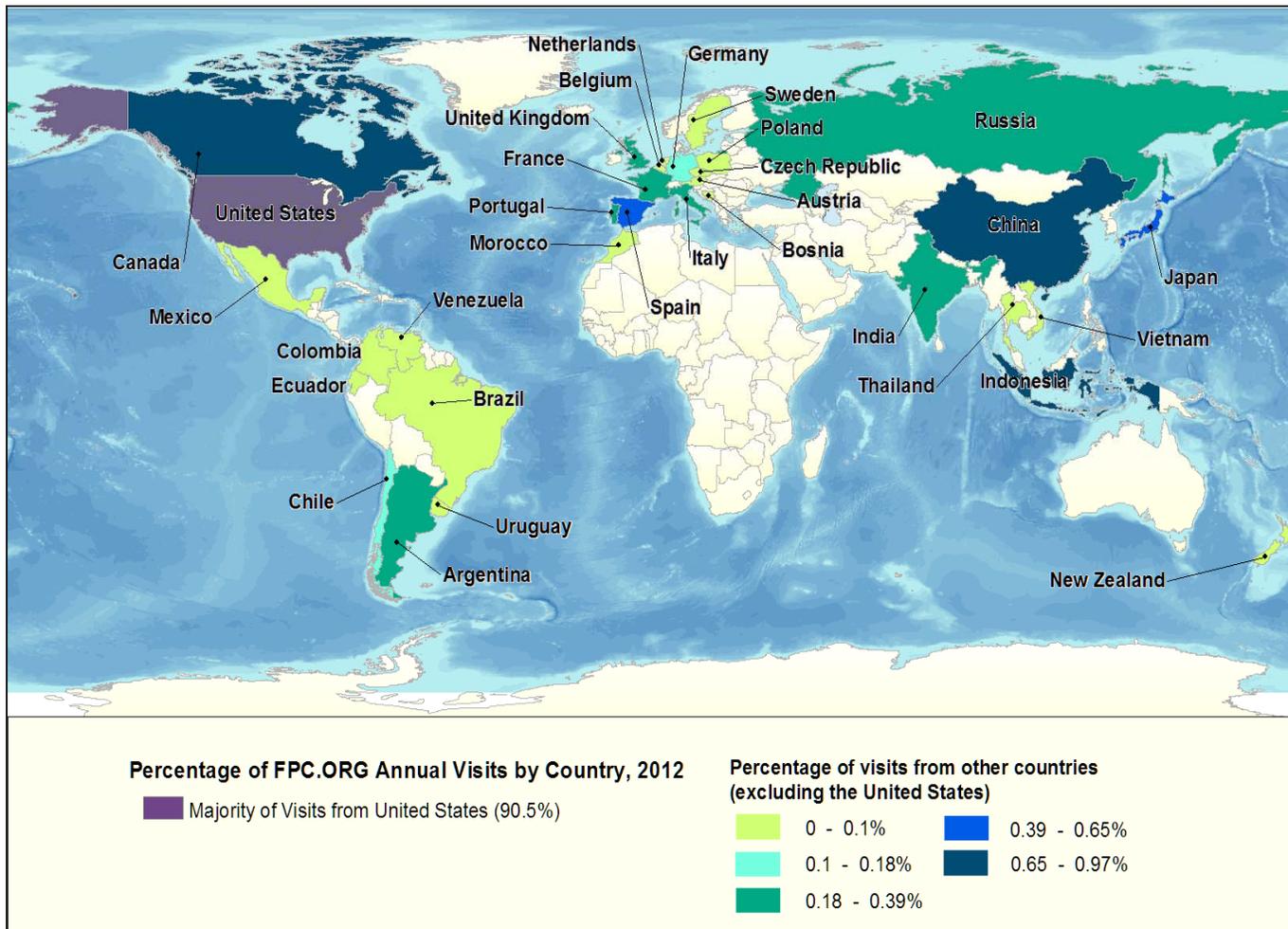
Hits



Top Mobile Device

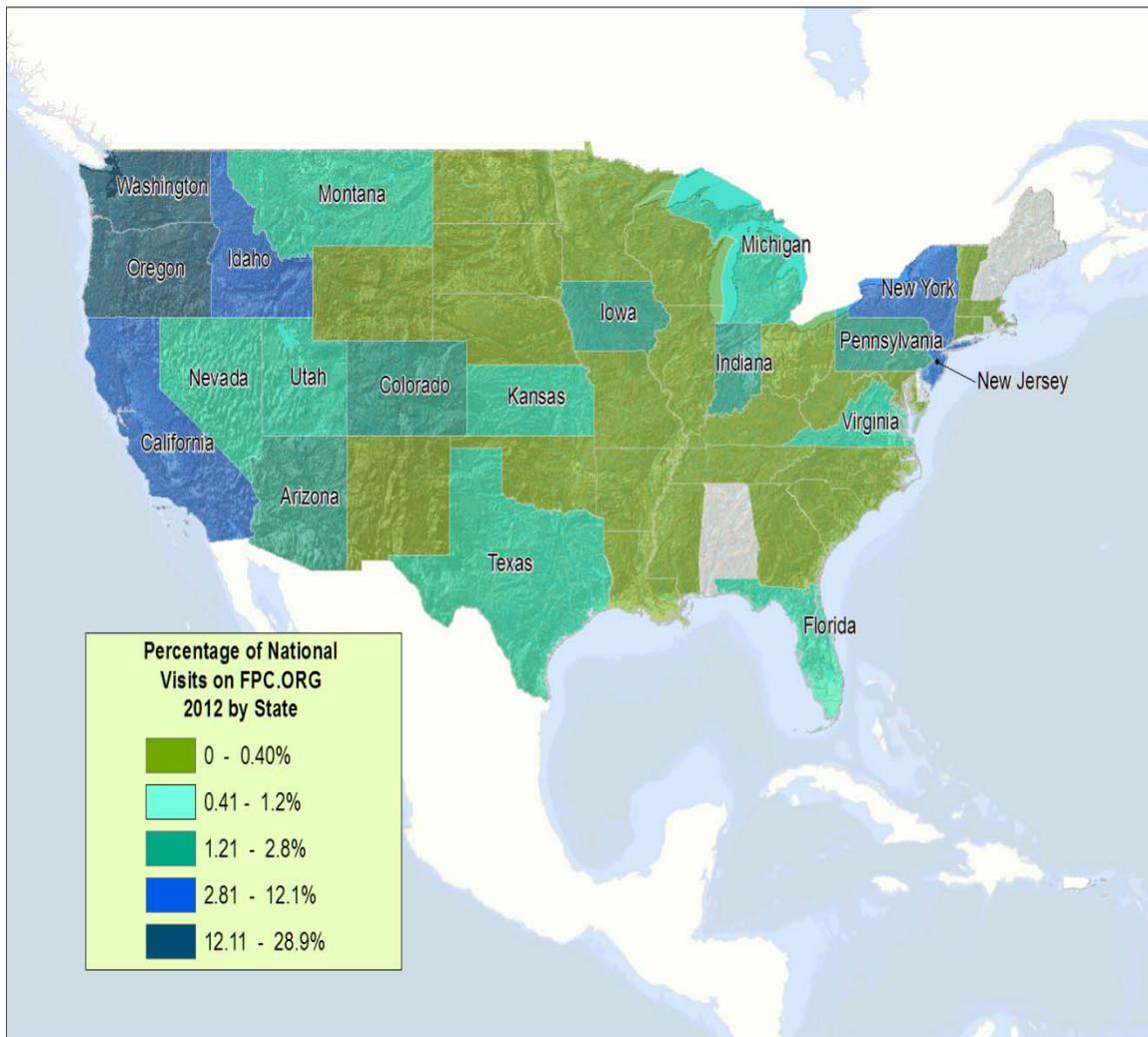
Visits





2012 Percentage of International FPC.ORG Visits by Country

Note: The geographic locations included in these maps are based on where the domain name of the visitor is registered. In some cases, the domain name is not registered in the same location as the visitor. For example, the domain name for the USFWS is in Colorado. Therefore, if a USFWS employee in Montana, Washington, Oregon or Idaho accesses the FPC web site, that visit will be logged as coming from Colorado.



2012 Percentage of National FPC.ORG Visits by State

Note: The geographic locations included in these maps are based on where the domain name of the visitor is registered. In some cases, the domain name is not registered in the same location as the visitor. For example, the domain name for the USFWS is in Colorado. Therefore, if a USFWS employee in Montana, Washington, Oregon or Idaho accesses the FPC web site, that visit will be logged as coming from Colorado.

Documents completed by FPC in the 2011 contract year

The culmination of all aspects of the FPC project staff work is presented in several annual, weekly and periodic documents prepared in response to requests. The documents completed in 2012 are listed below and are all available on the FPC website at www.fpc.org.

- Fish Passage Center Annual Report
- Comparative Survival Study Annual Report (CSS).
- Annual Adult Facilities Inspection Report
- Weekly Reports
- Gas Bubble Trauma Monitoring Annual Report
- Fish Passage Center Accomplishments Annual Report
- Response to ISAB comments on the CSS project
- Response to ISAB comments on the SMP project and the FPC Annual Report

In addition in 2012, the FPC staff attended monitoring.org training and training for new reporting requirements for Bonneville Power Administration Research Monitoring and Evaluation projects. The new monitoring.org requirement consumed a large amount of FPC staff time, which reduced the amount of FPC staff time available for primary FPC functions. New RME reporting requirements will be in place for 2013, which will also require commitment of FPC staff to this additional reporting requirement.

Financial Summary

The Fish Passage Center project funding levels were established and agreed upon through the Tribal Accords Process. The funding levels for the FPC and CSS and SMP projects were all set and agreed upon for the term of the Tribal Accords. The funding level for 2012 was set at \$1,459,109. The FPC project was successfully operated in 2012 within the budget established through the Accords process.

BPA PISCES System

The FPC project met all of the Pisces system requirements for maintaining Pisces project data for the Fish Passage Center, Smolt Monitoring Program and Comparative Survival Study projects, including, input of data, budgets, milestone reports, annual and quarterly reports. Edits were made to the statement of work as necessary for all projects. Project inventory was also maintained and updated by the FPC for all projects. FPC continues to maintain the responsibility of updating all needed PISCES requirements for CSS USFWS and updated budget information. All Pisces requirements for the Comparative Survival Study and the Smolt Monitoring Program were successfully completed within the required time frames.

