



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

## **MEMORANDUM**

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

*Michele DeHart*

FROM: Michele DeHart

DATE: October 18, 2010

RE: Quarterly Fish Passage Center Report for July-September 2010

Following is the Quarterly Report for the Fish Passage Center for the third quarter of 2010. This report follows the format and content agreed upon by the Fish Passage Center Oversight Board (Oversight Board).

### **Pisces System Work Elements**

#### **Produce environmental compliance documentation**

During this quarter the implementation of the Smolt Monitoring Program progressed at all sites. FPC staff monitored sampling and data collection to assure sampling was consistent with the terms of the NOAA Letter of Determination and states sampling permits. Modifications to the permit were requested based on sample needs and were provided by NOAA.

#### **Provide Technical Review**

The FPC staff continued to provide technical support in the Fall Chinook transportation evaluation committee addressing study design issues for juvenile fall Chinook transportation evaluations. The FPC provided comments to the fall Chinook planning team regarding the ongoing development of the Methodology Report anticipated in the Fall Chinook memorandum of agreement. FPC staff attended the COE sponsored "Bypass Effects Workshop" as requested by

the fishery managers. FPC staff also continued to provide technical support in the Fish Passage Advisory Committee. During this quarter, the FPC staff completed the 2009 FPC Annual Report and responded to the ISAB Review comments of the draft document.

### **Analyze/Interpret data**

The FPC staff concentrated major efforts on the preparation of the draft CSS annual report which was posted on the FPC web site, consistent with contract deliverable dates, on August 31, for regional review. The FPC staff continued to develop data sets and analyses in response to CSS Oversight Committee direction. The FPC staff spent a considerable amount of effort in developing written responses to and incorporating suggested changes by the ISAB comments on the FPC Annual Report of smolt monitoring and river operations. This included Smolt Monitoring Program and CSS data as well as environmental factors such as spill, flow and project operations data. In addition the FPC staff completed the annual monitoring summary memorandums on hatchery mark groups for the CSS and the SMP, to the hatchery managers. The FPC responded to various requests for data analysis and data summaries. The FPC responded to 12 requests for data and analysis, which are listed below and which are posted on the FPC web site.

1. Adult fall Chinook counts at Priest Rapids Dam in relation to those at McNary and Ice Harbor dams. - September 27, 2010
2. Carson Hatchery Report 1997-2010 - September 1, 2010
3. Rapid River Hatchery Report 1997-2010 - September 1, 2010
4. Priest Rapids Hatchery Report 1997-2010 - September 1, 2010
5. McCall Hatchery Report 1997-2010 - September 1, 2010
6. Lookingglass Hatchery Report 1997-2010 - September 1, 2010
7. Leavenworth Hatchery Report 1997-2010 - September 1, 2010
8. Dworshak Hatchery Report 1997-2010 - September 1, 2010
9. Wells Hatchery Report 1997-2010 - September 1, 2010
10. Review of Acoustic Telemetry Evaluation of Juvenile Salmonid Passage at John Day Dam, 2009 Draft Final Report. - July 29, 2010
11. Comments on fall Chinook workshop and Methods for Analysis Report Draft. - July 9, 2010
12. Preliminary Reach survival estimates and transport probabilities for spring migrant juvenile salmon from the Snake River Basin in 2010. - July 8, 2010

### **Develop RME methods and designs**

The FPC staff continued to provide technical support in the Fall Chinook transportation evaluation committee addressing study design issues for juvenile fall Chinook transportation evaluations. FPC staff attended the Corps of Engineers delayed mortality work shop. The FPC will assess and consider the work shop and analytical results in terms of RME design and methods of analysis. FPC staff also continued to provide technical support in the Fish Passage

advisory Committee and the Fish Passage Operations and Maintenance Committee attending meetings and providing review and comment as requested.

### Disseminate raw summary and data results

The FPC website is the primary vehicle for data distribution. During the third quarter of 2010, the FPC website had 6,431,950 successful hits, 668,108 page views and 489,545 user sessions. For the 3<sup>rd</sup> quarter, the 2010 web-site hits were about 92% of that for 2009, the 2010 web page views were 1.12 times greater than that for 2009. Finally, the 2010 user sessions were 1.12 times greater than that for 2009. Approximately 87% of the user sessions were from the United States, while about 1.8% was international and about 11.2% of unknown origin. During the 3<sup>rd</sup> quarter, we averaged 69,912 hits per day and 7,262 page views per day. The average user session length was about 4:25 minutes. The number of unique visitors was 116,039. Of these unique visitors, 55.2% visited once and 44.8% visited more than once. We log all data requests via the web. The number of requests between 7/1/2010 and 9/30/2010 was 163,077. The following figures illustrate our website use for the 3<sup>rd</sup> quarter of 2010.

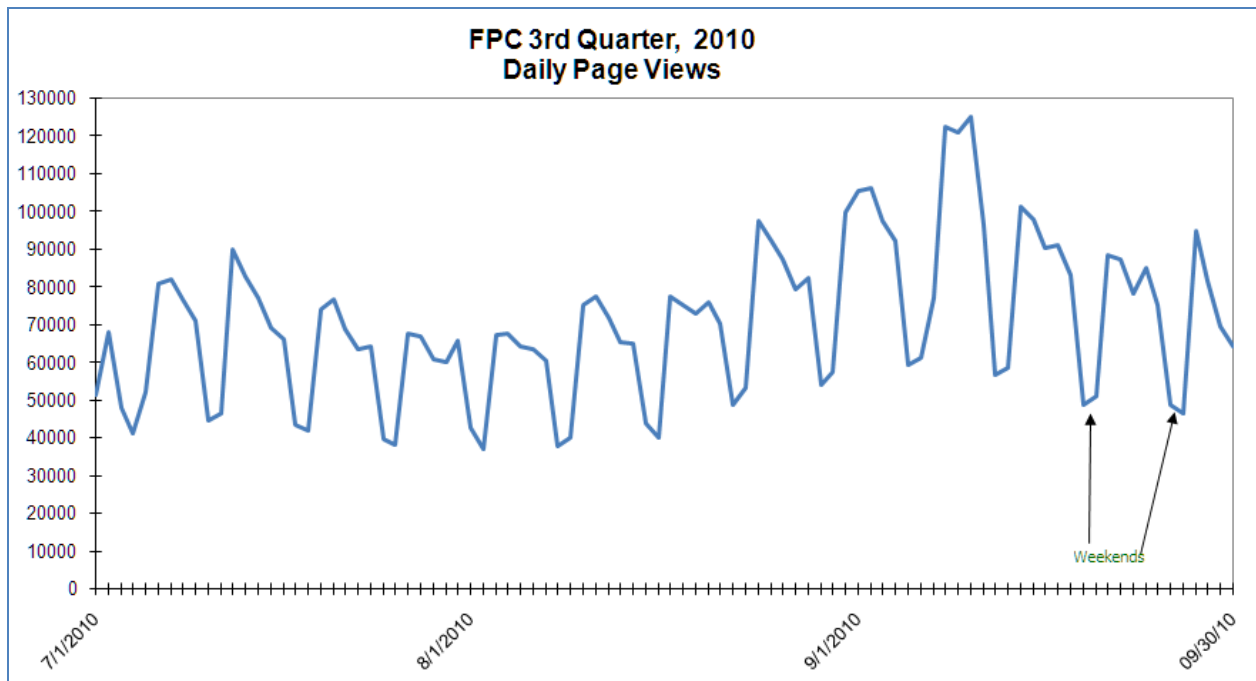
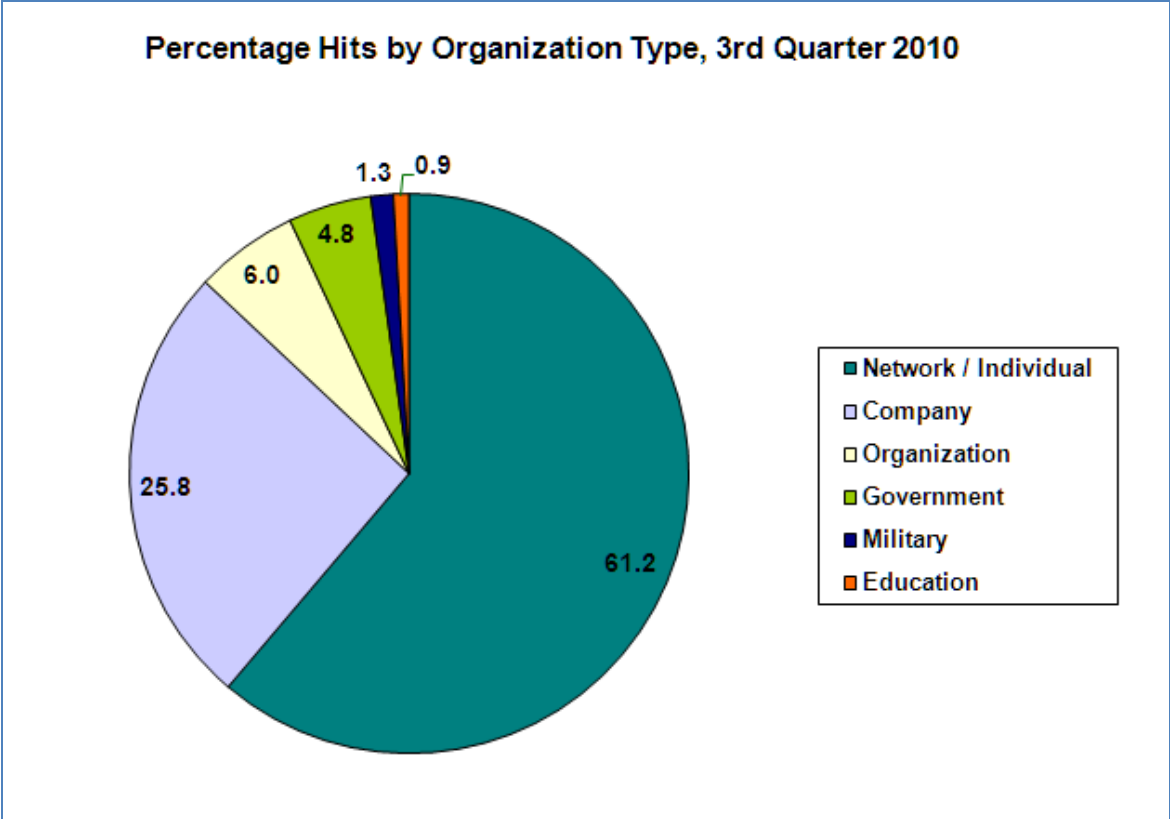


Figure 1 – FPC.org 2nd quarter daily page views



**Figure 2 – FPC.org 2nd quarter percentage hits by visitor type**

**Off-site backup service and new backup server**

The FPC staff researched and reviewed options for a new off-site backup service. Off-site backup was completed by backing up our servers by tape backups and then a staff member would transport the tapes to the off-site office storage facility. Two options were considered for the new service: off-site backup services and server colocation service. Several service providers were contacted for quotes for both services. A server colocation service was chosen through Easystreet. Easystreet provided us with an economical 3 year agreement. The package the FPC purchased includes a dedicated rack condo 6” 3(RU) 30” deep with internet connection and firewall protection, using green power. Redundant power, redundant internet access and redundant firewall service are also provided. The bandwidth with this package is <50 GB/month. Three members of the FPC staff have 24 hour access to the Easystreet facility and FPC backup server rack. In addition, there are Easystreet employees at the facility 24 hours a day.

FPC staff built a new backup server with several hard drives, providing several terabytes of storage. FPC staff setup backup software on the new server. Staff members are in the process of backing up all of the servers and databases to the new FPC backup server. When this is completed the server will be moved to the Easystreet facility. Once the server is located at the Easystreet facility, a nightly remote backup of FPC servers will be performed. The bandwidth

that will be required will be low because only updated/new items will be added to the initial full backups.

## Website Updates

Regular website maintenance and updates were completed during the quarter. This included updating the web scripts, pages and graphics when necessary. Additionally, work continued on updating the website and adding additional data queries. Under the smolt sub-site, an updated fork length query was added.

### Fork length query updated

An updated SMP fork length query was developed. This query allows the user to obtain fork lengths that are collected as part of the fish condition monitoring conducted by SMP sites. The fields included in the output are: Site, Batch, Sample End Date, Species, Clipped/Unclipped, Coded Wire Tag, Fork length, Number of condition fish sampled, Special species code, and Elastomer tag. Special species codes are provided because the code of EF (eroded fin) can help users identify hatchery steelhead that are otherwise unmarked and the code FR (fry) can be used to identify Chinook fry, particularly in the early season. Elastomer tag information is also provided to help users identify hatchery origin salmonids that are otherwise unclipped.

The screenshot shows the 'Smolt Data' website interface. The main content area is titled 'Daily Fish Condition Fork Length Data' and includes a search form with the following steps:

- Choose one of the following Smolt Monitoring Project sites: Bonneville Dam
- Choose one of the following anadromous salmonid species: Yearling Chinook
- Enter desired date range in mm-dd-yyyy format: 02/15/2010 to 12/15/2010
- Submit (Submit Form) or Reset (Reset Form)

Below the form are instructions and a table of results. The table has the following columns: site, batch, SampleEndDate, species, clipped/unclipped, cwt, elastCode, specialspecies, and fishlength.

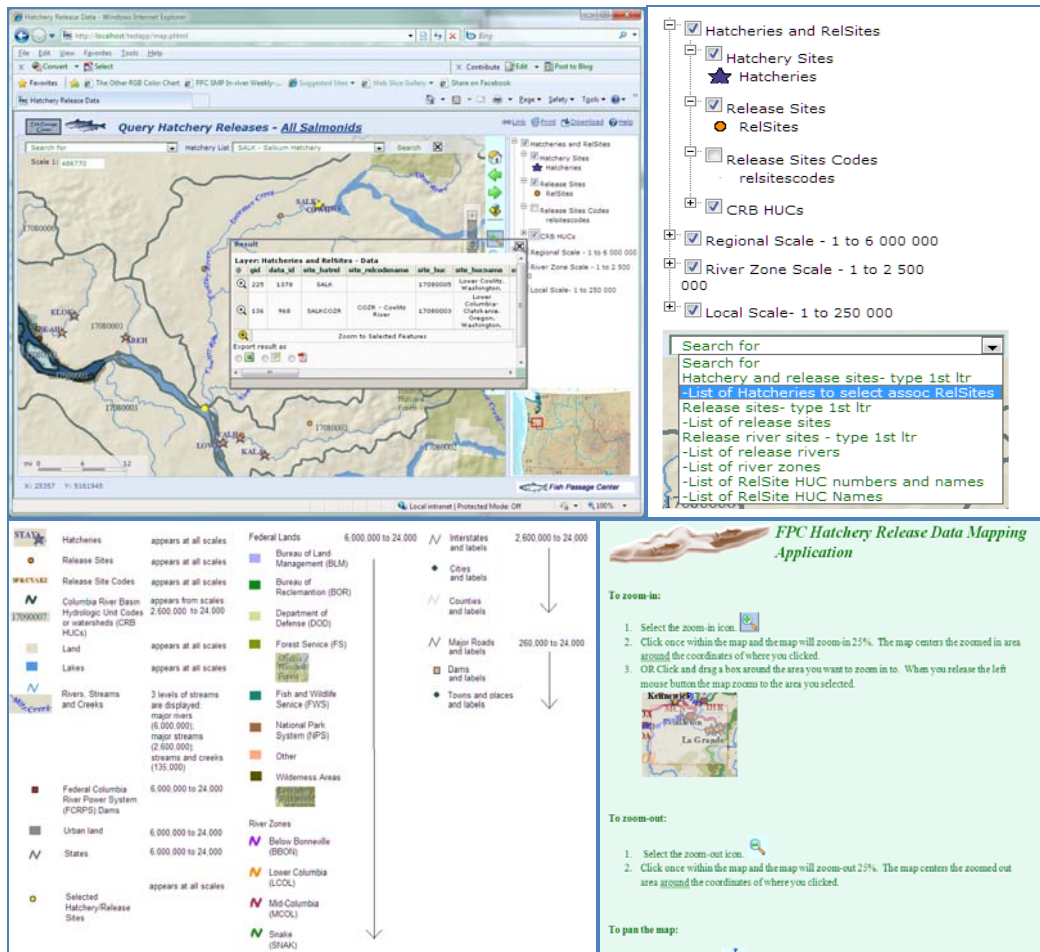
site	batch	SampleEndDate	species	clipped/unclipped	cwt	elastCode	specialspecies	fishlength
BOC	0902	3/3/2009	CH1	AC				158.000
BOC	0902	3/3/2009	CH1	AC				156.000
BOC	0902	3/3/2009	CH1	AC				156.000
BOC	0902	3/3/2009	CH1	AC				170.000

Figure 3 – Updated Fork Length Query

## Hatchery and release site Draft Web Application and Tools

FPC staff continued development on the Hatchery and release site data web application. After review of the prototype application, FPC staff made several edits to the prototype application including: organizing the spatial base map layers by three scales (regional, river zone, and local scales); including hatcheries, release sites, release site codes and HUCs as the initial base map layers; refining the colors, symbols and labels of the spatial data layers; and defining the implementation of the specific spatial queries to be included in the application. These include: searching for hatcheries and associated release sites by a known name or by a list of all hatcheries; searching for specific release sites by name or by a list of all release sites; searching

for release sites by release river (name or list); searching for hatcheries and release sites by those that geographically occur in a specified river zone and searching for hatcheries and release sites by those that geographically occur in a specified HUC (HUC number or list). The staff continues to review the application. Initially the application was located on our intranet on a development server. Work has begun to port the second version of this application to our web server. Documentation of this application has begun. The review of spatial location of various hatcheries and release sites continues. FPC staff continues to work directly with the hatchery staff to review and update the location of their associated release sites.



**Figure 4 – Hatchery and release site Draft Web Application, version 2**

The geographic data for this application is housed in a spatial database, while the hatchery release data are housed in our main MS SQL server database. The FPC staff upgraded tools to connect these two data sources together. A Visual Studio C# application that automates posting hatchery data into a Postgres SQL spatial database has been upgraded, tested and implemented. The data are automatically updated twice a day, in the morning and early afternoon. This will provide up to date data for the user, when the application is made available over the web-site.



```

C:\Program Files (x86)\Fish Passage Center\HatcheryPostgreSQLReplication\ConsolePostgreSQLReplicati...
bia Gorge
176_SPRCSPRC_SPRC.Spring Creek Hatchery.17070105,Middle Columbia-Hood,USFU,Colum
bia Gorge
176_LMSHLASH_LASH.Little White Salmon Hatchery.17070105,Middle Columbia-Hood,USF
U.Little White Salmon
177_RINCRINA_RINA.Ringold Springs Hatchery.17020016,Upper Columbia-Priest Rapids
UDFU,Columbia Lower Middle
178_PRDMPRDM_PRDM.Priest Rapids Hatchery.17020016,Upper Columbia-Priest Rapids,U
DFU,Columbia Lower Middle
179_UAHAWAHA_UAHA.Washougal Hatchery.17080001,Lower Columbia-Sandy,UDFU,Washouga
1
180_UAHAWAHA_UAHA.Washougal Hatchery.17080001,Lower Columbia-Sandy,UDFU,Washouga
1
181_BONHTHHL_THHL.Thornhollow Acclin Pond.17070103,Lower Columbia-Sandy,ODFU,Una
cilla
182_BONHTHHL_THHL.Thornhollow Acclin Pond.17070103,Lower Columbia-Sandy,ODFU,Una
cilla
183_UMAHHTHHL_THHL.Thornhollow Acclin Pond.17070103,Middle Columbia-Lake Wallula,
ODFU,Unatilla
184_UMAHUMAT_UMAT.Unatilla River.17070103,Middle Columbia-Lake Wallula,ODFU,Unat
illa
185_NPTHNPTH_NPTH.Mez Pecep Tribal Hatchery.17060306,Clearwater_MEZP,Clearwater
186_SPRCSPRC_SPRC.Spring Creek Hatchery.17070105,Middle Columbia-Hood,USFU,Colum
bia Gorge

```

id	hatchery	state	latitude	longitude	altitude	species	status	start_date	end_date	last_update	last_run	last_status	last_error
1	176_SPRCSPRC_SPRC	Spring Creek Hatchery	46.15	-120.15	1000	USFU	Active	2010-01-01	2010-01-01	2010-01-01	2010-01-01	Success	
2	176_LMSHLASH_LASH	Little White Salmon Hatchery	46.15	-120.15	1000	USFU	Active	2010-01-01	2010-01-01	2010-01-01	2010-01-01	Success	
3	177_RINCRINA_RINA	Ringold Springs Hatchery	46.15	-120.15	1000	UDFU	Active	2010-01-01	2010-01-01	2010-01-01	2010-01-01	Success	
4	178_PRDMPRDM_PRDM	Priest Rapids Hatchery	46.15	-120.15	1000	UDFU	Active	2010-01-01	2010-01-01	2010-01-01	2010-01-01	Success	
5	179_UAHAWAHA_UAHA	Washougal Hatchery	46.15	-120.15	1000	UDFU	Active	2010-01-01	2010-01-01	2010-01-01	2010-01-01	Success	
6	180_UAHAWAHA_UAHA	Washougal Hatchery	46.15	-120.15	1000	UDFU	Active	2010-01-01	2010-01-01	2010-01-01	2010-01-01	Success	
7	181_BONHTHHL_THHL	Thornhollow Acclin Pond	46.15	-120.15	1000	ODFU	Active	2010-01-01	2010-01-01	2010-01-01	2010-01-01	Success	
8	182_BONHTHHL_THHL	Thornhollow Acclin Pond	46.15	-120.15	1000	ODFU	Active	2010-01-01	2010-01-01	2010-01-01	2010-01-01	Success	
9	183_UMAHHTHHL_THHL	Thornhollow Acclin Pond	46.15	-120.15	1000	ODFU	Active	2010-01-01	2010-01-01	2010-01-01	2010-01-01	Success	
10	184_UMAHUMAT_UMAT	Unatilla River	46.15	-120.15	1000	ODFU	Active	2010-01-01	2010-01-01	2010-01-01	2010-01-01	Success	
11	185_NPTHNPTH_NPTH	Mez Pecep Tribal Hatchery	46.15	-120.15	1000	MEZP	Active	2010-01-01	2010-01-01	2010-01-01	2010-01-01	Success	
12	186_SPRCSPRC_SPRC	Spring Creek Hatchery	46.15	-120.15	1000	USFU	Active	2010-01-01	2010-01-01	2010-01-01	2010-01-01	Success	

**Figure 5 – Visual Studio C# application posting hatchery data to spatial database**

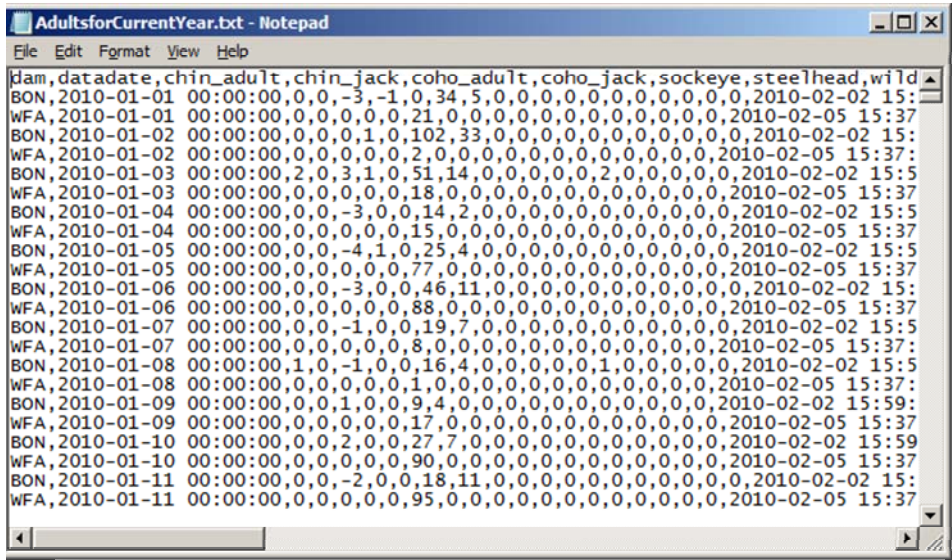
### Off-site SMP software

The FPC staff continues to support the SMP sampling personnel with hardware and software issues. For example, one of the SMP computers at LGS froze one morning, causing the SMP staff to have to reboot the computer without proper windows shutdown, since the computer stopped responding. The staff was in the midst of entering in their SMP data into the FPC32.net program on their office computer. This caused daily records to be corrupted. FPC staff worked with the SMP staff over the phone to restore the software and database to working condition.

FPC staff will travel to the SMP projects at the end of the season to collect the SMP computers. The computers will then be taken to the FPC office for service and software upgrades to prepare for the next season. The computers will be returned to the SMP projects prior to the next season. FPC staff began traveling to the SMP sites to collect the computers on Thursday Oct 14<sup>th</sup>.

### Sharing Adult Count Database

FPC received a request from CRITFC for sharing the FPC adult count database through a VPN or another means. This request was made so that the Tribal Data Network could then post these data directly on their website, with it being updated daily through the VPN or other means. The FPC staff investigated the advantages/disadvantages of several options for allowing CRITFC access to the adult count database. VPNs, web synchronization and a data dump to our ftp site were investigated. VPN and web synchronization both open additional ports (1433 and port 443), whereas the ftp port is already open and secure. In addition, it would take staff time to setup and maintain the VPN and web synchronization. Hence, FPC staff developed a new application, using SQL Server Integration Services (SSIS) to create a .csv flat file of historical adult data and a file of the current year's daily adult count data. This file is posted on the ftp server and overwritten every two hours in a scheduled job on the FPC SQL Server.



**Figure 6 – SSIS service creates .csv current year’s daily adult dam count data on FPC ftp site**

**Manage and Administer projects**

During this quarter, July 30, FPC staff completed the required input for the Fish Passage Center, the Smolt Monitoring Program and the Comparative Survival Study projects into the Regional Taurus data system for fish and wildlife projects. In addition the FPC staff began developing budgets and work statements for the 2011 contract year for the Comparative Survival Study and the Fish Passage Center. Mark groups for the CSS study were developed by the CSS Oversight Committee. The FPC staff then worked with specific state sub-contractors to develop budgets for 2011. FPC staff worked with PSMFC fiscal staff to develop the budget for the FPC project for 2011. Budgets and work statements for these projects were due to Bonneville Power Administration by October 1.

**Produce status reports**

All Pisces status report requirements were met for the SMP, CSS and FPC projects for this quarter. All Pisces status report requirements were met for the SMP, CSS and FPC projects for this quarter. Files and reports were uploaded into the Pisces system to Bonneville where required.

**Produce annual progress reports.**

All Pisces progress reports were completed successfully for the Comparative Survival Study, the Smolt Monitoring Program and the Fish Passage Center projects. During this quarter, the FPC staff completed the data summaries, graphics and analyses required for the CSS Annual Report.



## **Regional Coordination, Fishway Inspections/FPAC**

Fishway inspections were conducted at all thirteen Columbia and Snake River Dams with adult fish ladders over July, August, and September. During this period, the Adult Fishway Coordinator was able to join state and federal fishway inspectors at all projects. All monthly FPOM meetings were attended and in season issues at COE dams were coordinated. Coordination with the five Public Utility Dams was conducted independently. In July, an issue occurred at Rock Island Dam that necessitated the closure of the right bank fishway (main fishway) during the peak of the sockeye passage period. This issue was addressed quickly and the fishway was only out of service for a period of several days. During this period powerhouse loading was shifted to the left bank powerhouse and daily adult fish passage did not appear to have been impacted.