

**FY2011 Performance Report
for
Cooperative Agreement- 14110-B-J008
between the
US Fish and Wildlife Service
and
Idaho Department of Fish and Game**

SPRING/SUMMER CHINOOK SALMON

Work Element 1- Document and Evaluate Production Strategies

Objective 1a. Adult Trapping and Broodstock Collection:

In fiscal year 2011, HES staff will:

1. *Verify that all 2010 adult trapping data has been verified and uploaded to the IDFG anadromous database.
This task was completed by February of 2011. Due to issues associated with learning a new database, the timeline for completion of this task will continue to improve. Database is available at: <http://fishandgame.idaho.gov/ifwis/hdmstrappivot/>*
2. *Summarize 2010 adult return data (by age class, origin, and disposition) for all LSRCP hatchery facilities.
This task has been completed for both 2010 and 2011. 2010 Hatchery-origin data is available in the LSRCP Table Set while both hatchery and natural origin data for 2011 is available in the DRAFT 2011 Year End Chinook Report submitted to LSRCP.*
3. *Complete the estimation of age composition by gender and origin for all historic adult trapping data from McCall, Sawtooth and Clearwater fish hatcheries.
Age composition data are completed and available in the LSRCP Table Set that was submitted to LSRCP. However, estimates are not broke down by gender within the historic dataset. Starting with the 2010 Year End Chinook Calendar Report and moving forward, gender-specific age compositions are provided for each return year.*
4. *Summarize recoveries of hatchery origin-fish, by age and gender, from LSRCP funded facilities recovered on spawning grounds in the summer/fall of 2010.
These data are reported in the LSRCP Table Set by age and origin that was submitted to LSRCP, but the set does not break down recoveries by gender.*

Objective 1b. Egg to Release Fish Culture Monitoring

In fiscal year 2011, HES staff will:

1. Summarize key life stage survival (from egg to release) for all LSRCP facilities in the HES annual report.
This task was completed and the 2011 data are in the LSRCP Table Set that was submitted to LSRCP.
2. Report any significant issues regarding water quality that impacted any LSRCP facility in the HES annual report.
There were no significant issues regarding water quality that impacted facilities in 2011.

Objective 1c. Disease Monitoring, Prevention, and Treatment

In fiscal year 2011, HES staff will:

1. Include a discussion, in the HES annual report, of fish health history and the potential impact specific disease incidents have on the performance of program fish.

Fish health issues are identified in the brood year-specific hatchery reports. Any significant fish health issues that impact a given brood year are also reported in that brood year's LSRCP Report. The 2002, 2003, and 2004 Brood Year Report was submitted to the LSRCP office in October, 2011.

Objective 1d. Optimum production strategies and post release survival

In fiscal year 2011, HES staff will:

1. Estimate and report survival (with error bounds) of juveniles released from McCall, Sawtooth and Clearwater Hatcheries to Lower Granite Dam.
Juvenile survival estimates for all LSRCP hatchery releases were completed in August and are available in both the LSRCP Table Set and the DRAFT 2011 Year End Chinook Report that was submitted to the LSRCP office.
2. Estimate differential mortality/recovery rates or tag loss rates for three-ocean Chinook salmon returning to the Powell Satellite facilities that were either PIT/CWT tagged or CWT-only as juveniles.
These data are compiled and available as this study is now completed and a summary of the findings is available in the DRAFT 2011 Year End Chinook Report that was submitted to the LSRCP office.
3. Summarize CWT recovery data from two-ocean returns at the Powell satellite facility that were part of an acclimation vs. direct release at the Powell Satellite Facility.
These data are compiled and available in the DRAFT 2011 Year End Chinook Report that was submitted to the LSRCP office.
4. Evaluate returns of one-ocean Chinook salmon returning to the Sawtooth Fish Hatchery in 2011 that were part of a feed study to evaluate the efficacy of using a salt-laced feed just prior to release.

These data are compiled and available in the DRAFT 2011 Year End Chinook Report that was submitted to the LSRCP office. The two-ocean returns from this study came back in 2011.

Work Element 2 – Estimate Hatchery Contribution

The HMP and HES staff develop annual estimates of the total contribution program spring/summer Chinook salmon make toward meeting LSRCP mitigation as well as state management objectives. Estimates include an accounting of harvest and escapement (see Objective 2a, and 2b below).

Objective 2a – Accounting of Harvest

In fiscal year 2011, M&E staff will:

1. *Assist with the development of mark and tag plans that support LSRCP and state management objectives.*

This task was completed in May of 2011 and mark and tag plans are available at <https://research.idfg.idaho.gov/markings/default.aspx>

2. *Enter, validate, and maintain all marking, tagging and release data in the IDFG hatchery database.*

This task was completed by August of 2011.

3. *Manage, validate, and upload, all migration year 2011 PIT tag files to the PTAGIS regional database.*

This task was completed by May of 2011.

In fiscal year 2011, CWT lab staff will:

1. *Assemble and distribute snout sample bags to all LSRCP hatcheries, to harvest monitoring staff, and to IDFG research staff that will be conducting spawning ground surveys in 2011.*

All snout bags were distributed to hatchery and harvest monitoring staff by the end of April, 2011 and to staff conducting spawning ground surveys by the end of July, 2011.

2. *Coordinate the delivery of all snouts collected in 2011 to the CWT lab in Nampa.*

This task was completed and all 2011 snouts were delivered to Nampa Research by mid November, 2011.

3. *Excise tags, read, enter and validate all CWT code information into the IDFG database.*

This task was completed for 2010 returns and will also be completed for 2011 returns by December of 2011.

4. *Upload all CWT recovery and sample rate information into the RMIS database. This data upload will occur on or before January 1, 2011 and will include CWTs recovered in Idaho fisheries and hatchery traps during the spring, summer, fall of 2010.*

All 2010 recoveries were uploaded to RMIS by January 1, 2011. Sample rate information has not been uploaded but we are in the process of incorporating the sample rate information.

5. *Return all non-Idaho wire recovered to the tagging agency as per the PSMFC tag coordinators agreement.*

All 2010 recoveries of non-Idaho wire were distributed by mid January, 2011.

6. *Respond to in-season CWT data processing requests to help facilitate management of ongoing fisheries.*

Task was completed. Example: in-season CWT extraction of snouts recovered in the lower Salmon River fishery to assess stock composition.

In fiscal year 2011, HMP and HES staff will:

1. *Work with state fish managers to implement spring/summer Chinook salmon harvest monitoring programs in Idaho where applicable.*

This was done through participation in a workgroup working with the University of Idaho to reassess IDFG's creel programs throughout 2011.

2. *Develop and/or summarize harvest estimates for spring/summer Chinook salmon Ocean, Columbia River, and project area fisheries. Summarize historic harvest estimates up to and including 2006.*

These data have been summarized through return year 2009 (two year lag in data from downriver managers) and is available in the LSRCP Table Set.

3. *Maintain all harvest data in IDFG databases and present harvest estimates in a draft annual report to be submitted by the end of the fiscal year.*

2011 Idaho harvest data is available in the DRAFT 2011 Year End Chinook Report while tribal, Idaho sport, and downriver harvest estimates are provided by stock, brood year, and return year in the LSRCP Table Set.

Objective 2b – Estimate Escapement

In fiscal year 2011, HES staff will:

1. *Estimate and report the number of LSRCP program fish recovered in Columbia River tributaries.*

These data are reported in the LSRCP Table Set and are complete through return year 2009. We are allowing two years to make sure all CWTs recovered downstream of Idaho have been reported.

2. *Estimate and report the project area and terminal escapement for McCall, Clearwater, and Sawtooth fish hatcheries based on PIT tag interrogations at Lower Granite Dam, weir recoveries, and spawning ground surveys.*

Escapement estimates from PIT tag interrogations at LGD are reported in the Year End Report, while escapement estimates based on harvest, drop out, and weir recoveries are provided in the LSRCP Table Set.

Objective 2c – Smolt-to-Adult Survival

Representative Chinook salmon from all smolt releases at Clearwater, Sawtooth and McCall fish hatcheries are PIT tagged at a level that allows the estimation of SAR to Columbia and Snake River dams. Beginning with the adult returns in the spring/summer of 2010, all three age classes will be represented with PITs. Estimated SARs from release to Bonneville and Lower Granite dams will be made for the 2011 adult return year.

SARs are brood year specific and are accounted for in Brood Year Reports. The Brood Year 2002, 2003, and 2004 Report was submitted in October, 2011 and contained SAR info for those brood years. As the brood year reports catch up with the representative PIT tagging, both the PIT tag method and harvest+dropout+trapping methods will be calculated and compared. This method is already done for McCall hatchery, because of its long standing large PIT tag group, and Clearwater and Sawtooth will be included in the Brood Year 2005 report.

Work Element 3 – Legal Obligations

HES staff participate in the development and updating of HGMPs for the LSRCP hatchery facilities as a requirement for ESA consultation. On an annual basis, staff may devote up to five weeks of personnel time associated with this process.

The HGMPs were developed and submitted in 2011. All HGMPs are available on the LSRCP website at <http://www.fws.gov/lsnakecomplan/Reports/HGMPreports.htm> or from IDFG.

Work Element 4 – Electronic Database Systems

In fiscal year 2011, HES and HMP staff will:

- 1. Participate in hatchery database committee meetings and help steer the database development process.*

We have participated in numerous database committee meetings throughout the year.

- 2. Complete uploading process for all historical spawning and final disposition data.*

Progress was made towards this task but not all data had been uploaded as changes to some disposition data has created additional work in further verifying all this data prior to upload.

- 3. Work with Data Management team to develop a template to capture relevant historic hatchery incubation and rearing data.*

Limited progress was made towards this task during 2011 through participation in a workgroup designated to develop this part of the database but transitioning the database effort from IDFG to PSFMC has further delayed development of this database module.

4. *Begin the data entry and validation for all historic hatchery incubation and rearing data.*

This task has not been started due to the delay mentioned in task 3 above.

Work Element 5 – Peer Review, Biometric Review, Analysis and Reporting

Annual reporting requirements will be addressed through the submittal of two separate reports to the Lower Snake River Compensation Plan office.

At the end of the calendar year, an Annual Summary Report (DRAFT 2011 Year End Chinook Report) will be submitted to the LSRCP office on or before December 31, 2011.

A draft of this report has been submitted by 12/31/11.

The second report will be submitted to the Lower Snake River Compensation Plan office by October 1, 2011 in the form of a Brood Year Completion Report.

A brood year report outlining brood years 2002, 2003, and 2004 was submitted to the LSRCP office in October of 2011.

In addition to the annual reports submitted to the LSRCP office, IDFG will participate in the LSRCP Chinook Program Review scheduled for November, 2010.

IDFG participated in the LSRCP Program Review in November and provided presentations on all three LSRCP Chinook salmon programs as well as a presentation on relevant PIT tag research. Power Point presentations and summary reports are available on the LSRCP website <http://www.fws.gov/lsnakecomplan/Meetings/2010SpringChinookHatcheryReviewSymposium.html>

Work Element 6 – Participation in External Forums

Monitoring and evaluation staff will participate in or generate information that contributes to essential regional forums such as, but not limited to: harvest planning, mark planning, hatchery reform planning, and ESA consultation and biological opinion planning. Participation (unless otherwise approved) will not exceed three-weeks annually.

IDFG participated in regional forums such as the PIT Tag Symposium in January 2011 where IDFG staff presented current research on PIT tag retention in Chinook salmon.

Work Element 7 – Regionally Significant Research

M&E staff will contribute technical information to support regionally significant issues and programs such as, but not limited to, the Comparative Survival Study (BPA #199602000), StreamNet (BPA #199810804), the Collaborative System-wide Monitoring and Evaluation Program (BPA # 200303600), ISS (BPA # 198909800, 198909801,

198909802, 198909803), etc. Participation (unless otherwise approved will not exceed three-weeks annually.

IDFG participated in supporting regionally significant programs throughout 2011. Examples:

- *Generating Separation by Code lists as part of CSS*
- *Participating in the Age-at- Maturity workshop the was held in Portland, OR in May, 2011.*

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Summer Steelhead

Work Element 1: Document and Evaluate Production Strategies

Objective 1a. Adult Trapping and Broodstock Collection:

In fiscal year 2011, HES staff will:

1. *Verify that all 2011 adult trapping data has been uploaded to the hatchery database. Report numbers of fish recovered broken down by age and gender in the annual report. **This task was completed by October 2011. The timeline for completion of this task will continue to improve as staff become more accustomed to data submission and validation procedure with the hatchery database. Database is available at: <http://fishandgame.idaho.gov/ifwis/hdmstrappivot/>***
2. *Summarize 2011 adult return and final disposition data (by age class) for all LSRCP hatchery facilities. **Adult return information, by age class and origin, for steelhead returning to LSRCP facilities in 2011 is reported in the DRAFT 2011 Calendar Year Steelhead Report submitted to LSRCP. However, this does not include disposition data. Disposition data will be included in the tables generated for the LSRCP steelhead review in 2011 and available by March 2012.***
3. *Estimate age composition by gender and origin for all historic adult steelhead trapping data. **Age composition data, by gender and origin, are completed and will be presented at the LSRCP steelhead program review in 2011 and available in the table set submitted to the LSRCP office.***

Objective 1b. Egg to Release Fish Culture Monitoring

In fiscal year 2011 HES will:

1. *Summarize and report key juvenile life stage survival data (from egg to release) for all LSRCP hatchery facilities in the HES annual report.*

Eyed-egg and smolt survival information has been recorded for brood year 2010 steelhead smolts released in 2011 and will be presented at the LSRCP steelhead program review in 2012, as well as the table set submitted to the LSRCP office.

2. Report any significant issues regarding water quality or flow that impacted any LSRCP facility in the HES Summary and Brood Year reports.

Reductions in brood year 2010 production, which were the result of decreased water availability, will be reported in the Brood Year 2011 Report.

Objective 1c. Disease Monitoring, Prevention, and Treatment

In fiscal year 2011, HES staff will:

1. Include a discussion of fish health history and the potential impact specific disease incidents have on the performance of program fish in the 2011 Annual Summary Report and the 2011 Brood Year Completion Report (reported in 2018) annual reports.

Disease monitoring at LSRCP steelhead facilities was conducted by fish health staff and will be included in brood year 2010 hatchery reports. Substantial disease incidents will be referenced in the HES brood year 2011 report when complete.

Objective 1d. Optimum production strategies and post release survival

In fiscal year 2011, HES staff will:

1. Estimate and report the survival to Lower Granite dam for all LSRCP steelhead groups released with PIT tags in 2011.

Juvenile survival estimates for all LSRCP hatchery releases were completed in August and are included in both the LSRCP Table Set and the DRAFT 2011 Calendar Year Steelhead Report that was submitted to the LSRCP.

2. Participate in the FWS Hatchery Evaluation Team (HET) process and provide input to establish appropriate study designs to evaluate focused hatchery effectiveness studies.

All HET meetings were attended through FY 2011 and input was provided as necessary for proposed hatchery evaluations.

Work Element 2 – Estimate Hatchery Contribution

Objective 2a – Accounting of Harvest

In fiscal year 2011, HES staff will:

1. Assist with the development of mark and tag plans that support LSRCP and state management objectives.

The brood year 2012 steelhead mark and tag plan was developed in May 2011 and is available at <https://research.idfg.idaho.gov/markings/default.aspx>

2. Enter, validate, and maintain all marking, tagging and release data in the IDFG hatchery database.

Steelhead release information was entered into the IDFG RELEASE database by May of 2011 and submitted to RMIS in August, 2011.

4. Manage, validate, and upload all PIT tag files to the PTAGIS regional database for MY 2011.

This task was completed during May of 2011.

In fiscal year 2011, CWT lab staff will:

1. Coordinate the transfer of recovered snouts to the Nampa Research lab.
All steelhead snouts recovered during the 2010/2011 run were transferred to the Nampa Research Lab by July 2011.
2. Extract all wire from all snouts received.
All steelhead snouts with CWT recovered during the 2010/2011 run were processed by August 2011.
3. Double read and double enter all tag data into the database.
Task was completed.
4. Upload recovery and sample rate data to the RMIS database for CWTs recovered in Idaho. This data upload will occur on or before January 1, 2011 and will include CWTs recovered in Idaho fisheries and hatchery traps during the fall of 2009 and the spring of 2010.

Pursuant to RMIS guidelines, information for CWTs recovered from the 2009/2010 run was submitted to RMIS in January 2011. Sample rate information was not submitted, as we are developing the data transfer process; however, all current and historic sample rate information is available upon request.

5. Return all non-Idaho wire recovered to the tagging agency as per the PSMFC tag coordinators agreement.
All non-Idaho steelhead CWTs recovered during the 2009/2010 run were returned to the appropriate agencies by December 2011.
6. Assemble and distribute snout sample bags to all groups and individuals who will be recovering snouts in the following year.
This task was completed. Snout bags for the fall fishery were distributed in July 2010 while the snout bags for the spring fisheries and hatchery recoveries were distributed in December 2010.
7. Respond to data requests, as they arise, in a timely fashion.
This task was completed. Examples of request included length at age information, as well as survey rate information for Idaho fisheries.
8. Provide assistance for in-season real-time reading of wire recovered during spawning operations associated with the Squaw Pond project.
Task was complete.

In fiscal year 2011, HMP and HES staff will:

1. Assist state fish managers in implementing steelhead harvest monitoring programs in Idaho using appropriate techniques (e.g. roving creel and, access point).
This was done through participation in a workgroup, which worked with the University of Idaho to reassess IDFG's creel programs throughout 2011.

2. *Develop harvest estimates for Ocean and Columbia River steelhead fisheries by strata (see strata list above).*
This task will be completed by 12/31/11. This information will be presented at the LSRCP steelhead program review at the end of February 2012 and included in subsequent brood year reports as well as Table Sets submitted to LSRCP.
3. *Develop harvest estimates for Idaho steelhead harvest by release group.*
This task will be completed by 12/31/11. All historic harvest information through run year 2010/2011 for Idaho returns and 2008/2009 run year for estimates downstream of Idaho will be presented at the LSRCP steelhead program review in 2012 and included in subsequent brood year reports as well as the Table Sets submitted to the LSRCP office.
4. *Submit historic steelhead sample rate data to the RMIS database.*
The information is compiled and can be distributed upon request, but not submitted to RMIS as a data transfer process is under development.
5. *Summarize historic mainstem and Idaho harvest estimates up to and including 2009.*
This task will be completed by 12/31/11. This information will be presented at the LSRCP steelhead program review in 2012 and included in subsequent brood year reports as well as Table Sets submitted to LSRCP. Data will include harvest estimates through run year 2010/2011 for Idaho returns and 2008/2009 run year for estimates downstream of Idaho.

Objective 2b – Estimating Escapement

In fiscal year 2011, HMP and HES staff will:

1. *Estimate and report the escapement of LSRCP program steelhead recovered in Columbia River tributaries.*
This task will be completed by 12/31/11. This information will be presented at the LSRCP steelhead program review in 2012 and included in subsequent brood year reports as well as Table Sets submitted to LSRCP. Data will include all historic data through the 2008/2009 run year.
2. *Estimate and report the project area and terminal escapement for steelhead groups released from LSRCP facilities.*
This task will be completed by 12/31/11. This information will be presented at the LSRCP steelhead program review in 2012 and included in subsequent brood year reports as well as Table Sets submitted to LSRCP. Data will include all historic returns through run year 2010/2011.

Objective 2c – Smolt-to-Adult Survival

Representative steelhead from all smolt releases at Clearwater, Hagerman, and Magic Valley fish hatcheries are PIT tagged at a level that allows the estimation of SAR to Columbia and Snake River dams. Beginning with the adult returns in the summer/fall of 2010, both the one- and two-ocean age classes will be represented with PITs. Estimated SARs from release to Bonneville and Lower Granite dams will be made for the 2010/2011 adult return year.

SARs are brood year specific and are accounted for in Brood Year Reports. The Brood Year 2003 Report is under development and will contain SAR information. All historic SAR information will be presented at the LSRCP steelhead program review and in the Table Set submitted to LSRCP. For all brood years prior to 2008, SAR estimates will be derived from the compilation of estimated harvest, returns to hatchery traps and unharvested escapement and not through the use of PIT tags.

Work Element 3 – Legal Obligations

HES staff will participate in the development and updating of HGMPs for the LSRCP hatchery facilities as a requirement for ESA consultation. On an annual basis, staff may devote up to five weeks of personnel time associated with this process.

The HGMPs were developed and submitted in 2011. All HGMPs are available on the LSRCP website at [http://www.fws.gov/lsnakecomplan/Reports/HGMP reports.htm](http://www.fws.gov/lsnakecomplan/Reports/HGMP%20reports.htm) and are also available through IDFG

Work Element 4 – Electronic Database Systems

In fiscal year 2011, HES and HMP will:

- 1. Participate in the hatchery database committee process and help guide the development process.*

We have participated in numerous database committee meetings throughout the year.

- 2. Complete uploading process for all historic adult trapping data from all LSRCP trapping facilities.*

Adult steelhead trapping data has been compiled for all LSRCP facilities, but is awaiting final validation that will be done concurrently with the spawning and final disposition dataset.

- 3. Complete uploading historic spawning and final disposition data*

Progress was made towards this task but not all data had been uploaded as changes to some disposition data has created additional work in further verifying all this data prior to upload.

- 4. Work with Data Management team to develop a template to capture relevant historic hatchery incubation and rearing data.*

Limited progress was made towards this task during 2011 through participation in a workgroup designated to develop this part of the database but transitioning the database effort from IDFG to PSFMC has further delayed development of this database module.

- 5. Begin the data entry and validation for all historic hatchery steelhead incubation and rearing data.*

This task has not been started due to the delay mentioned in Task 4 above.

Work Element 5 – Peer Review, Biometric Review, Analysis and Reporting

Annual reporting requirements will be addressed through the submittal of two separate reports to the Lower Snake River Compensation Plan office.

At the end of the calendar year, an Annual Steelhead Summary Report will be submitted to the LSRCP office on or before January 1, 2012.

A draft Calendar Year Steelhead Report was submitted to the LSRCP office prior to 12/31/11.

The second report will be submitted to the Lower Snake River Compensation Plan office by October 1, 2011 in the form of a Brood Year Completion Report.

A brood year report outlining brood year 2003 is under development, but was not completed because preparation for the LSRCP program review was deemed a higher priority. The brood year report will be submitted prior to July, 1 2012. It is important to note that all the data that will be included in the BY2003 report will be available via the table set that will be submitted to the LSRCP office prior to the steelhead program review at the end of February 2012.

In addition to the annual reports submitted to the LSRCP office, IDFG will participate in the LSRCP Steelhead Program Review scheduled for late winter 2012.

The majority of information has been compiled and will be completed by the agreed upon date, January 1, 2012. Presentation and Tables Sets generated for the review will be delivered to LSRCP after the review is complete.

Work Element 6 – Participation in External Forums

Participate in or generate information that contributes to essential regional forums such as, but not limited to: harvest planning, mark planning, hatchery reform planning, and ESA consultation and biological opinion planning. Participation (unless otherwise approved) will not exceed three-weeks annually.

HES staff did not present information pertaining to steelhead in regional forums during fiscal year 2011. However, plans are underway to present information during fiscal year 2012.

Work Element 7 – Regionally Significant Research

Contribute technical information to support regionally significant issues and programs such as, but not limited to, the Comparative Survival Study (BPA #199602000, if it receives funding), StreamNet (BPA #199810804), the Collaborative System wide Monitoring and Evaluation Program (BPA # 200303600), etc. Participation (unless otherwise approved will not exceed three-weeks annually.

IDFG participated in supporting regionally significant programs throughout 2011.

Examples:

- *Generating Separation by Code lists as part of CSS*

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Data Management -Hatchery Database Development

1 Database and Application Development

▪ **Program the core application of the Incubation, Rearing and Release Module.**

A working prototype of the core application for the incubation, rearing and release module was developed. The Hatchery Designer component was designed and implemented. This allows hatcheries to add, edit, and configure rearing unit containers. Navigation was implemented on the main form. This allows the user to zoom in on certain rearing units, navigate around the rearing units at any zoom level, select certain rearing units for closer inspection, and select rearing units for use in other modules. Multiple shaped rearing units were enabled. Currently, only Rectangular, Circular (without divisions), and Heath Stack rearing units have been implemented, but the design allows for any necessary shape to be added rapidly as plug-ins that will fully integrate into both the Hatchery Designer component and the main program. Fish marking was thoroughly revised to simplify the code involved, while expanding the reach to allow the display of a hatchery at any time in the past. Much of the problem surrounding editing was solved and implemented, though more work remains. The developing application was demonstrated to hatchery personnel across the state. All feedback was positive. The LSRCP halted work on the application mid-year, so the application did not get finished

▪ **Begin development of add-in modules of the Incubation, Rearing and Release Module.**

The mortality module was implemented to allow for the entry of data into an Excel-like interface as requested by the hatcheries. This shows a month-by-month calendar grid with only those rearing units that had fish during that month, and the only cells enabled are those for days when the rearing unit had fish. Drag-copy functionality was also implemented, along with a deep undo feature to rollback mistakes. Daily feed amounts, weights, depth, and flow, which combine to make up the data needed for monthly summaries, were wrapped into the same module as Mortality and will operate virtually the same way. The result is that any similar metric will be able to be included very rapidly by reusing the existing code base. The LSRCP halted work on the module mid-year, so the module did not get finished.

▪ **Maintain and make bug fixes to the spawning and final disposition modules.**

As requested by the Steering Committee, work was completed on implementing the “simplified” data entry module for the spawning and final disposition model. Internal testing and application fixes were taking place just before the spawning season when our only remaining programmer on the project resigned. The LSRCP halted work on the module mid-year, so the module did not get finished.

2 Data Queries, Reporting, and Downloads

- **Finalize standardized data reports.**

Final web-based standardized reports for adult trapping, spawning and dispositions were completed and deployed on the IFWIS website. They included a new web-based pivot report that can be saved in a users Favorites folder and an updated report is produced each time they need one.

- **Begin conceptual development of data reporting tools for the Incubation, Rearing and Release module.**

Because LSRCP halted work on the project mid-year, reporting tools for the incubation, rearing and release module were not completed.

- **Web site.**

The IFWIS website (<http://fishandgame.idaho.gov/ifwis>) was deployed. It provides a secure Website for project partners to access the hatchery database applications, data queries and data downloads.

3 Data Management and Compilation

- **Compile historic Chinook data.**

We completed compilation of historic Chinook and Steelhead spawning/final disposition data. Progress was made on the reconciliation between trapping and spawning/final disposition data using Brood Year and Run reports, but not completed. The reconfiguration of the database disposition fields that occurred this year required that (1) new protocols be developed for reconciliation of historic data and (2) the reconciliation process be redone for all historic data. As a result, the reconciliation between trapping and spawning/final disposition data will continue into next year. Because we lost our “field engineer” mid-year and were not allowed to refill that position, our data management team had to refocus their efforts to support the hatcheries in entering 2011 trapping and events data into the application and database. We organized and conducted early-season on-site training for hatchery personnel on the use of the trapping and events modules of the SBHIS data-collection application. Frequent QA/QC was conducted on the in-season trapping and events data.

- **Compile historic steelhead data.**

We completed compilation of historic Chinook and Steelhead spawning/final disposition data. Progress was made on the reconciliation between trapping and spawning/final disposition data using Brood Year and Run reports, but not completed. The reconfiguration of the database disposition fields that occurred this year required that (1) new protocols be

developed for reconciliation of historic data and (2) the reconciliation process be redone for all historic data. As a result, the reconciliation between trapping and spawning/final disposition data will continue into next year. Because we lost our “field engineer” mid-year and were not allowed to refill that position, our data management team had to refocus their efforts to support the hatcheries in entering 2011 trapping and events data into the application and database. We organized and conducted early-season on-site training for hatchery personnel on the use of the trapping and events modules of the SBHIS data-collection application. Frequent QA/QC was conducted on the in-season trapping and events data.

- **Create metadata for the trapping, spawning and final disposition data.**

We continued to update meta-data associated with historic data, which includes changes in protocols used in the treatment of data and detailed descriptions of the reconciliation procedure for each trap and trapping year. Entity-relationship diagrams and data dictionaries were developed and made available over the web.

- **Maintain and enhance the user manual for the trapping, spawning and final disposition modules.**

Version 2.0 of the SBHIS User’s Manual was completed. It includes trapping and spawning/events modules of the data-collection application. A User’s manual for producing web reports from the SBHIS database was completed. Both User’s Manuals were made available on the IFWIS website.

4 Administration, Policy and Guidance

- **Oversight committee.**

The development team met regularly with the SBHIS Oversight Committee.

- **Technical committee.**

The development team met with the SBHIS Technical Committee to review application and database development and to provide application and database requirements.

- **Training.**

IFWIS staff provided regular support and training on the use of the applications and reports to hatchery personnel and other database users.

- **Demonstrate SBHIS applications and reports.**

The SBHIS applications were demonstrated at StreamNet meetings and the annual American Fisheries Society meeting in Seattle.

- **Development and data management oversight.**

Policy and planning guidance was provided to the technical staff. Administrative support, including budgeting, work statements and coordination with the oversight committee and IDFG leadership was completed.

- **Development supervision.**

Technical guidance and supervision for the application and database development efforts were completed.