END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region One SBAS Project Number 3111 (EPP)

Project Title Coldwater Streams -- EPP

Date Proj. Started July 1, 1988 Ending Date June 30, 1989 (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

List:

Establish and maintain a funding base for monitoring of selected coldwater streams in Region One. Coordinate with BPA and USFS to obtain funds for the program (Completed and ongoing -- planned funding base exceeded).

Conduct an angler survey and fisheries monitoring streams in the Bob Marshall Wilderness Complex BMWC), summarize data and include in the 3111 Job Progress report. Specific items include:

(a) Creel card survey of anglers in the entire BMWC (Completed).
(b) Monitoring of length frequency, growth and catch rates of westslope cutthroat trout in the headwaters of the South Fork Flathead River (Completed).

Prepared and mail a fisheries management questionnaire designed to guide formation of a management plan for the South Fork Flathead River and Hungry Horse Reservoir (Completed).

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e., problems incurred and resulting impacts to attainment of project objectives).

None.

C. Discuss impact(s) of project variance to DFWP program(s) as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Accomplishments:

Results form the creel survey are instrumental in guiding the formation of a management plan for the South Fork drainage.

Information from the project was directly inputted to the Limits of Acceptable Change management plan of the USFS for the wilderness complex.

The direct contribution to these plans will benefit the recreational user of the fisheries resource in the drainage.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
3111 (EPP)				
Pers. Services	9,300.00	9,300.00	0.00	"On schedule"
Operations	5,114.00	2,587.00	2,527.00	The operations category was underspent because funding level from outside sources was larger than anticipated.
TOTALS	14,414.00	11,887.00	2,527.00	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Continued integration into the main 3111 project planned for FY 1990 will improve the efficiency of work efforts and lead to a better product. This EPP work will be combined into the main 3111 quarterly and year end reports in FY 1990.

Prepared by John Fraley Date 8-24-89
Regional Supervisor [signature] Date 8/29/89
Comments:
rpt/576.2

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region One SBAS Project Number 3121 (EPP)

Project Title Coldwater Lakes -- EPP

Date Proj. Started July 1, 1988 Ending Date June 30, 1989 (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

List:

1. Coordinate completion of Northwest Power Act program.

   Objectives for Libby and Hungry Horse Reservoirs:

   (a) Finalize the Libby technical summary report (Not completed will be completed in early FY 90).

   (b) Develop initial quantitative models for the two reservoir. Incorporate a fisheries component for westslope cutthroat (Hungry Horse) and kokanee (Libby) (Completed).

   (c) Propose an extension of Libby Reservoir project including an entrainment study and Kootenai River component (Completed; negotiations with BPA are ongoing).

2. Establish a funding base for monitoring of selected coldwater lakes in Region One (Completed; planned funding level exceeded).

3. Include information from the project in the 3121 job progress report (Completed).

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e., problems incurred and resulting impacts to attainment of project objectives).

The technical summary report for the Libby Project was not completed because of change in personnel. A new biologist was hired and the report will be completed in early FY90.

C. Discuss impact(s) of project variance to DFWP program (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Accomplishments:

This project has resulted in the first empiricle model for a northern reservoir which is driven by reservoir water levels. This modeling approach will make it possible to determine fisheries and power trade-offs in a manner mandated by the Northwest Power Planning Council. Successful fisheries mitigation will increase recreational (angler) days on the reservoir.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
3121				
Pers. Services	9,300.00	9,300.00	0.00	"On schedule"
Operations	4,328.00	1,651.00	2,677.00	The operations category was underspent because funding level from outside sources was larger than anticipated.
TOTALS	13,628.00	10,951.00	2,677.00	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Continued integration into the main 3121 project planned for FY 1990 will improve the efficiency of work efforts and lead to a better product. This EPP work will be combined into the main 3111 quarterly and year end reports in FY 1990.

Prepared by John Fraley Date 8/29/89
Regional Supervisor Date 8/29/89
Comments:
rpt/576.2

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region One SBAS Project Number 3131 (EPP)

Project Title Flathead Lake and River (EPP)

Date Proj. Started July 1, 1988 Ending Date June 30, 1989 (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

List:

1. River Basin Coordination:

   (a) Maintain funding from the Flathead National Forest for the Coal Creek/Flathead monitoring project; ensure completion of proposed work and annual report (Completed).

   (b) Secure funding and develop a proposal for the FBC Fisheries module (Completed).

   (c) Ensure completion of annual report to the USFS and GNP on the Red Bench fire project (Completed).

2. Complete calculations of population estimates and creel data for Middle Fork Flathead River (Completed).

3. Develop a draft mitigation plan for Flathead Lake and River program measures (Completed).

4. Input information from the project into the Flathead fisheries co-management plan (Completed).

5. Include information from the project in the 3121 Job Progress Report (Completed).

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e., problems incurred and resulting impacts to attainment of project objectives).

None.

C. Discuss impact(s) of project variance to DFWP program (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Accomplishments:

Results from the project were published in an article on mitigation in Regulated Rivers, an international journal published in London. We presented a paper at an international symposium in England, gaining wide review and exposure of our work under the Northwest Power Planning Act. Input from the project to the Flathead fisheries management plan will help produce more angler days as the program is implemented.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
3131 (EPP)				
Pers. Services	9,300.00	9,300.00	0.00	"On schedule"
Operations	4,828.00	4,140.00	688.00	Funds for operations were slightly underspent because of greater than anticipated contract funds.
TOTALS	14,128.00	13,440.00	688.00	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Continued integration into the main 3131 project planned for FY 1990 will improve the efficiency of work efforts and lead to a better product. This EPP work will be combined into the main 3111 quarterly and year end reports in FY 1990.

Prepared by John Fraley Date 8/29/89
Regional Supervisor [signature] Date 8/29/89
Comments:
rpt/576.2

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region One SBAS Project Number 3174-1

Project Title Water levels needed for fisheries in Hungry Horse Reservoir

Date Proj. Started July 1, 1988 Ending Date June 30, 1989 (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

List:

Collect water quality primary productivity and secondary production data (Completed all sampling including additional benthos sampling above water surface).

Assess downstream zooplankton drift (Completed).

Run spring, summer and fall gill net series, collect stomach contents, scales and otoliths (Completed).

Collect creel data from anglers (Ongoing, all previous census periods completed as scheduled).

Estimate impacts of dam operation on the reservoir fishery through the use of a predictive trophic component model (Ongoing, models completed through target fish species, preliminary recommendations in preparation).

Process field samples in the laboratory for entry on computer (Partially completed, all 1988 samples processed except for second month of stomach and zooplankton analyses.

Construct habitat improvement structures on Mill Creek for cutthroat enhancement (Partially completed, ongoing).

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e., problems incurred and resulting impacts to attainment of project objectives).

Remaining stomach contents and zooplankton analyses were postponed due to demands of the 1989 field season. These samples must now be completed with new 1989 samples creating potential for unfinished samples next year. New data were required to complete portions of the immediate downstream flood control component in the computer models. Data were compiled for incorporation in the model during FY 1990. This component is an addition to the original plan so will have no impact on completion of the study as stated in the plan. It does, however, strengthen the models predictions.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Unfinished sample analyses will have only minor impact to the study deadline and model validation. Data of greatest importance to the model were completed. The Libby and Hungry Horse Reservoir models when completed through model validation and refinement, will aid in the development of Biological Rule Curves (BRC's) for dam operation in the two reservoir. Non-power constraints to dam operation when incorporated into the hydro-system planning will help fishery managers enhance angler opportunities.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
3174-1	290,547.00	223,218.51	67,328.00	Planned costs for contracted services were underspent. The habitat improvement effort was delayed due to site changes, and landowner agreements. The Libby and Hungry Horse models are budget under an accrual and remaining dollars will be spent for model refinements.
TOTALS	290,547.00	223,218.51	67,328.00	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

A full year of laboratory and data analysis should be included in the study plan to effectively assess the completed model and trophic investigation. Model runs could also be completed during the analysis year to better formulate recommendation for dam operation using the BRC's.

Prepared by Brian L. Marotz Date 8/25/89
Regional Supervisor Allen Nelson Date 8/29/89
Comments:
rpt/576.2

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region One SBAS Project Number 3176-1

Project Title Quantification of Libby Reservoir levels needed to maintain or enhance reservoir fisheries

Date Proj. Started July 1, 1988 Ending Date June 30, 1989 (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

List:

Collect biological samples of phytoplankton, zooplankton, insects fish and analyze samples in the lab (Completed).

Enter data from pervious years for each trophic level (Completed).

Produce draft workplan for BPA for FY 1990 (Completed).

Complete a kokanee component for quantitative model on Libby Reservoir (Completed).

Complete technical summary report for Libby Reservoir project (Partially completed).

Complete segment of journal paper relating to reservoir projects and mitigation for Regulated Rivers (Completed).

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e., problems incurred and resulting impacts to attainment of project objectives).

Libby Project technical report was not completed because of personnel changes; will be completed in FY 1990.

C. Discuss impact(s) of project variance to DFWP program as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Project has contributed to the first quantitative reservoir model based on empirical data and driven by reservoir operations. This approach will make it possible to determine trade-offs between fisheries and power as directed by the Northwest Power planning Council Information from project has been inputted directly to Region One fisheries management program. These accomplishments will contribute directly to increases in recreational user-days of the fishery.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
Personnel	137,954.00	125,930.00	12,024.00	Operations and personnel were slightly underspent because of improvement of sampling efficiency, changes in tasks and personnel vacancy savings.
Operations	66,600.00	56,095.00	10,505.00	
TOTALS	204,554.00	182,025.00	22,529.00	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Continued coordination with fisheries management program in Region One will make this project and the management program itself more effective. Extension of project to include fish entrainment through dam and work on Kootenai River is needed to meet overall objectives of Northwest Power Planning Council's Fish and Wildlife Program.

Prepared by Don Skaar / John Fraley Date 8/29/89
Regional Supervisor [illegible] Date 8/29/89
Comments:
rpt/576.2

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region One SBAS Project Number 3177-1

Project Title Coal Creek/Flathead River Basin Fisheries Monitoring

Date Proj. Started July 1, 1988 Ending Date June 30, 1989 (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

List:

1. Complete fish population estimates on five reaches of Coal Creek and at 18 other stream reaches in the Flathead system by September 15, 1988 (Partially completed).

2. Make final counts of bull trout spawning sites in 12 tributaries to both the Middle and North forks of the Flathead River and four Swan River tributaries by October 31, 1988 (Completed).

3. Collect substrate core samples in all stream reaches listed in the contracts with the U.S. Forest Service and in 11 additional reaches by September 15, 1988; analyze core samples in the lab by February 28, 1988 (Completed).

4. Complete habitat enhancement work on two reaches in the South Fork Coal Creek drainage and photo-document habitat conditions in the two reaches by September 30, 1988 (Completed).

5. Identify all major stream features, ie., sediment sources, migration barriers, etc., in the Coal Creek drainage by October 1, 1988 (Completed).

6. Analyze all data, make comparisons with information collected in previous years, and submit to the U.S. Forest Service a report which includes assessments of impacts of land use (including recommendations) by February 15, 1989 (Completed).

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e., problems incurred and resulting impacts to attainment of project objectives).

One electrofishing site could not be sampled until October and a second site was not sampled due to the Red Bench Fire travel restriction. Final Report deadline was extended to allow USFS review of Draft Report.

C. Discuss impact(s) of project variance to DFWP program (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

This project continues to supply important information necessary to manage bull trout and cutthroat trout, two species of special concern. Also, the project continues to provide information necessary to evaluate proposed timber sales. Recommendations resulted in measures to stabilize several major management-related sediment sources in the Coal Creek drainage. These efforts help protect a Flathead system fishery which provides 100,000 angler days of recreational fishing per year.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
3177-1	29,995.54	25,725.16	4,270.38	
TOTALS	29,995.54	25,725.16	4,270.38	Position 33161 vacancy

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

We need to seek a longer term funding source for this project. It is difficult to plan properly without knowing the level of available funding from year to year.

Prepared by Tom Weaver Date 8-25-89
Regional Supervisor _____ Date _____
Comments: _____
rpt/576.2

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region One SBAS Project Number 3177-1

Project Title Coal Creek/Flathead River Basin Fisheries Monitoring

Date Proj. Started July 1, 1988 Ending Date June 30, 1989 (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

List:

1. Complete fish population estimates on five reaches of Coal Creek and at 18 other stream reaches in the Flathead system by September 15, 1988 (Partially completed).

2. Make final counts of bull trout spawning sites in 12 tributaries to both the Middle and North forks of the Flathead River and four Swan River tributaries by October 31, 1988 (Completed).

3. Collect substrate core samples in all stream reaches listed in the contracts with the U.S. Forest Service and in 11 additional reaches by September 15, 1988; analyze core samples in the lab by February 28, 1988 (Completed).

4. Complete habitat enhancement work on two reaches in the South Fork Coal Creek drainage and photo-document habitat conditions in the two reaches by September 30, 1988 (Completed).

5. Identify all major stream features, ie., sediment sources, migration barriers, etc., in the Coal Creek drainage by October 1, 1988 (Completed).

6. Analyze all data, make comparisons with information collected in previous years, and submit to the U.S. Forest Service a report which includes assessments of impacts of land use (including recommendations) by February 15, 1989 (Completed).

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e., problems incurred and resulting impacts to attainment of project objectives).

One electrofishing site could not be sampled until October and a second site was not sampled due to the Red Bench Fire travel restriction. Final Report deadline was extended to allow USFS review of Draft Report.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

This project continues to supply important information necessary to manage bull trout and cutthroat trout, two species of special concern. Also, the project continues to provide information necessary to evaluate proposed timber sales. Recommendations resulted in measures to stabilize several major management-related sediment sources in the Coal Creek drainage. These efforts help protect a Flathead system fishery which provides 100,000 angler days of recreational fishing per year.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
3177-1	29,995.54	25,725.16	4,270.38	
TOTALS	29,995.54	25,725.16	4,270.38	Position 33161 vacancy

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

We need to seek a longer term funding source for this project. It is difficult to plan properly without knowing the level of available funding from year to year.

Prepared by Thomas M. Weaver Date 8/22/89
Regional Supervisor [signature] Date 8/24/89
Comments:
rpt/576.2

F-3442

MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS
FISHERIES DIVISION
JOB PROGRESS REPORT

State: Montana
Title: Northcentral Montana Fisheries Study

Project No.: F-38-R4
Title: Middle Missouri River Basin - Instream Flow Studies

Job No.: II
Title: Planning Inventory, Fisheries

Period Covered: July 1, 1988 through June 30, 1989

ABSTRACT

Assessment of instream flow requirements for the fisheries of 19 streams in the middle Missouri River basin was completed during the report period. Instream flow recommendations ranged from 3 cfs for Yogo Creek to a high of 560 cfs for the lower Marias River. Trout populations were surveyed in the Sun River. Rainbow trout were most numerous in the Gibson Dam section and brown trout were largest and most numerous in the Simms Bridge section. The Tiber Dam tailwaters trout fishery was evaluated for population improvements since 1985 when the Bureau of Reclamation began meeting recommended instream flows. The trout standing crop was estimated at 105 fish/mile. Numbers of trout did not improve from the previous year, however they remain considerably better than 1982, when minimum flow conditions and water temperatures were not always adequate.

OBJECTIVES AND DEGREE OF ATTAINMENT

The overall objectives are to inventory sport and nonsport fish populations, to determine important factors upon which sport fish depend, locate critical river habitat or tributary streams for the various sport species and formulate instream flow recommendations which would protect sport fish populations.

Specific objectives include the following:

1. **To continue with instream flow analysis on approximately 30 streams.** Data collection and analysis have been completed on 19 streams. Six coldwater streams were transferred to Job I and 3 streams were deleted because of poor habitat conditions and low fishery values.

2. **To survey fish populations in streams within the study area and make fish standing crop estimates where feasible.** Fish populations were surveyed or estimated in 4 streams.

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Gardner, W.M. and Berg, R.K., 1983. Instream flow requirements for the Marias River fishery downstream of Tiber Dam. Mont. Dept. Fish, Wildlife & Parks. Helena. 32 p.

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Leathe, S. A. and Hill, W. J. 1987. Northcentral Montana Fisheries Study; Inventory and Survey of Coldwater Fish Populations in Rivers and Streams. Project No. F-5-R-36. Mont. Dept. Fish, Wildlife & Parks. Helena. 38 p.

Nelson, F. A. 1984. Guidelines for using the wetted-perimeter (WETP) computer program of the Montana Department of Fish, Wildlife and Parks. Mont. Dept. Fish, Wildlife & Parks. Bozeman. 58 p.

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Vincent, E. R. 1971. River Electrofishing and fish population estimates. Prog. Fish. Cult., 33(3):163-169.

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Prepared by: William A. Gardner

Date: July, 1988

END OF FY PROJECT REPORT
JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 Project Number 3801
Project Title Division Administration
Date Proj. Started Ongoing Ending Date _____ (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your 1988 work plan - item 6). Write either "completed", "not completed", or "partially completed" to indicate work actually done last FY beside each item listed.

List:

- Development of annual budget - spring 1989 (Completed)
- Prioritization of FAS selection criteria, acquisition & development (Ongoing)
- EPP projects and capital projects (Completed)
- Review of federal aid documents and planning documents - August 88 (Completed)
- Liaison with state sportsman groups, agencies & other interest groups (Ongoing)
- Revise central division filing system (Completed)
- Define and implement division's training needs - January 1989 (Completed and ongoing)

B. Describe any variance between work scheduled and work completed and explain:
(i.e., problems incurred and resulting impacts to the project)

No measurable variance.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

No measurable impact of variance on DFWP programs.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule" If spending was at variance with planned costs, describe.)
3801				
Personal Service	145,825	145,016	808	
Operations	59,053	78,847	(19,794)	
Equipment	0	2,052	(2,052)	
TOTALS	204,878	225,915	(21,037)	

Spending was at variance because an additional $10,000 was needed for reprinting the fishing regulations. The equipment was incorrectly charged to this project instead of 3819 where it was originally budgeted and the cost of the annual division meeting was more than originally anticipated.

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in future.

Clarify rules and responsibilities of new administrator and new staff and supervisors.

Prepared by Tim Gallagher Date_____
Regional Supervisor_____ Date_____
Comments:_____

END OF FY PROJECT REPORT
JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 Project Number 3802
Project Title Fisheries Management Bureau
Date Proj. Started _____ Ending Date Ongoing (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your 1988 work plan - item 6). Write either "completed", "not completed", or "partially completed" to indicate work actually done last FY beside each item listed.

List:

(A) Coordinate revision of 1990-92 fishing regulations - Fall 1989 (Completed)

(B) Assist regions with development of management plans (Completed)

(C) Coordinate review of fishing contest applications (Completed)

(D) Ensure annual reports meet DJ requirements - Summer 1989 (Completed)

2. Provide long-term guidance for bioeconomic surveys and assist in survey design. Supervise development of statewide population base survey. (Completed)

3. Maintain liaison with statewide sportsman groups. (Completed)

4. Attend relevant symposia & training sessions. (Completed)

5. Review literature and disseminate information to division personnel to maintain high professional standards. (Completed)

B. Describe any variance between work scheduled and work completed and explain:
(i.e., problems incurred and resulting impacts to the project)

None

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Completion of management plans on the Stillwater River and Rock Creek improved public participation and understanding of management objectives.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule" If spending was at variance with planned costs, describe.)
3802	50,637	49,332	+1,304	
TOTALS	50,637	49,332	+1,304	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in future.

Prepared by Howard Johnson Date 10/16/89
Regional Supervisor _____ Date _____
Comments: _____

END OF FY PROJECT REPORT
JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 Project Number 3803
Project Title Fisheries Research and Special Projects
Date Proj. Started Ongoing Ending Date_____(or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your 1989 work plan - item 6). Write either "completed", "not completed", or "partially completed" to indicate work actually done last FY beside each item listed.

List:

- Oversee completion of Missouri River Reservation application by July 1, 1989 - Completed.
- Complete LCA allocation by May, 1989 - Completed
- Conduct Tiber Reservoir Advisory Committee meeting April, 1989 - Completed.
- Conduct Canyon Ferry Advisory Committee meeting April, 1989 - Completed.
- Conduct annual Coop fish unit meeting and project review - Completed
- Begin electrofishing safety video series October 88 - Not Completed.

B. Describe any variance between work scheduled and work completed and explain:
(i.e., problems incurred and resulting impacts to the project)

The start of the electofishing safety video series was delayed due to the problem of rainbow trout mortality associated with electrofishing.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Variance should have little impact since most temporary employees hired this summer were returning from last summer and did not require additional training.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs,describe)
3803	$50,622	$50,403	$219	On Schedule
TOTALS	$50,622	$50,403	$219	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Prepared by Larry Peterman Date 9/20/89
Regional Supervisor_____ Date_____
Comments:_____

END OF FY PROJECT REPORT
JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 Project Number 3804
Project Title Hatchery Bureau
Date Proj. Started _____ Ending Date_____(or indicate if ongoing) Ongoing

A. List work scheduled to be completed for this project (include performance standards from your 1987 work plan - item 6). Write either "completed", "not completed", or "partially completed" to indicate work actually done last FY beside each item listed.

List:
Planting program development for 1989 - Completed
Eggs and fish allocations to hatcheries for production - Completed
Genetic monitoring of broodstocks and genetic status analyzed - Completed

B. Describe any variance between work scheduled and work completed and explain:
(i.e., problems incurred and resulting impacts to the project)

Due to continued high demand for kokanee in Flathead Lake, an agreement to rear rainbow at Creston and Ennis NFH was completed with USFWS. These facilities reared .5 million rainbow for stocking state waters which provided space in state hatcheries for rearing kokanee which was used in Flathead Lake.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Produced additional 2.8 million kokanee for use in Flathead Lake Kokanee Restoration Project. Partial completion of Miles City Hatchery resulted in record numbers of walleye fry and fingerlings being stocked. Also large and small mouth bass production may provide fish to satisfy most request on the 1989 planting program for these species.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Amount Proj. No.	Amount Budgeted	Balance Spent	of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
3804	$40,800	$40,764.01	35.99	Personal services on schedule
3804	25,061	30,568.27	0	$5,507.28 overrun in operations
TOTALS	$65,861	$71,332.28	0	$5,471.28 total project overrun

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Continue to upgrade computer effectiveness for continued tracking of feed orders, egg allocations and private and commercial pond operations.

Prepared by Thurston Dotson Date 8/4/89
Regional Supervisor _____ Date _____
Comments: _____

END OF FY PROJECT REPORT
JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 Project Number 3805
Project Title Coop Fish Unit Grant
Date Proj. Started Ongoing Ending Date (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your 1989 work plan - item 6). Write either "completed", "not completed", or "partially completed" to indicate work actually done last FY beside each item listed.

List:

- Completion of winter habitat study and final report - June 30, 1990 - Partially Completed

- Completion of evaluation of habitat structures in Boulder River and preparation of final report - June 30, 1989 - Partially Completed

- Big Hole Grayling study - June 30, 1990 - Not completed

B. Describe any variance between work scheduled and work completed and explain:
(i.e., problems incurred and resulting impacts to the project)

Boulder habitat evaluation study will be completed June 30, 1990.

Grayling study was not initiated.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Delay in Boulder study will not cause substantial problems. Grayling study was not initiated. Instead, the Coop unit provided support to the Department's grayling study.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs,describe.)
3805	$18,500	$18,500	-0-	On Schedule
TOTALS	$18,5000	$18,500	-0-	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Prepared by Larry Peterman Date 9/20/89
Regional Supervisor Date
Comments:

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 SBAS Project Number 3806

Project Title Statistical Services

Date Proj. Started _____ Ending Date ongoing (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

List:

1. Stream Lake Database - partially completed. Contract work continued with the retrieval portion almost completed. Work is continuing on report generation and database subset creation.

2. Mark-Recapture - partially completed. Without a programmer analyst, this duty was contracted. The M/R has been rewritten with length group selection automated. The variances and testing need to be completed.

3. Stream and Lake Catalog - on schedule. Instead of producing microfiche, we are developing software so the system can be distributed on a floppy and selections made by computer. This will allow for easier updates.

4. Fish Planting - Fish planting records are on-line in the computer. Still trying to get last year's records corrected. This system will again be moved to computer and away from microfiche.

5. Fisherman Log - on schedule. Logs were recalled in January. Newsletter generated and results readied for microfiching.

6. Fish Bibliography. System was moved to RBase. Retrievals were made upon request.

7. Workshops - workshops were conducted in Mark/Recapture. A consulting statistician was contracted to provide a workshop in statistics.

8. Data analysis - help was provided on an "as requested basis".

9. Information responses - requests for information were handled with usually next day delivery.

10. Budgets were prepared, work plans written, attended meeting regarding WRIS, Data processing, fisheries, etc. Responded to ad hoc requests for various tasks to be performed.

11. Mail survey. The mail survey was initiated: paper ordered, forms designed, licenses keyed, computer programs written,

envelopes ordered, and labels produced. The first mailing of 10,000 occurred in late April with remails made 2 weeks later. Additional mailings of 10,000 occurred monthly thereafter with remails of 5,000-6,000 made in between.

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e., problems incurred and resulting impacts to attainment of project objectives).

All variances are as described above and can be attributed to not filling the programmer/analyst position. The impacts are that microfiche and some reports were not produced on time, so figures were not available to assess impacts or respond to inquiries.

C. Discuss impact(s) of project variance to DFWI programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

The major accomplishment was the restart of the statewide angling survey. This will provide the baseline figures for determining if goals have been met.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
3806	$125,801	$98,824.28	$26,976.72	The amount not spent was attributed to not having the programmer/ analyst position filled.
TOTALS	$125,801	$98,824.28	$26,976.72	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

The programmer/analyst position needs to be filled as soon as possible.

Prepared by Bob McFarland Date 9/19/89
Regional Supervisor _____ Date _____
Comments: _____
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END OF FY PROJECT REPORT
JULY 1, 1987 - JUNE 30, 1988

Division Fisheries Region 8 Project Number 3807
Project Title Pollution Control
Date Proj. Started 7-1-88 Ending Date Ongoing (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your 1987 work plan - item 6). Write either "completed", "not completed", or "partially completed" to indicate work actually done last FY beside each item listed.

List: Clark Fork Bioassays - completed.
report - data summarized and will be included in a more comprehensive report that includes several years of data.

EQC timber sale audit and report to legislature completed.

Big Horn River gas entrainment study completed.
report - deadline extended into 1990.

Clark Fork Habitat inventory completed and data summarized.
report - will be included in a more comprehensive Clark Fork River report.

Portions of Clark Fork River Basin Management plan dealing with effects of surface water quality degradation on the fishery completed. Entire report completed by Governor's office.

High Ore Creek reclamation - on hold until spring 1991.

B. Describe any variance between work scheduled and work completed and explain:
(i.e., problems incurred and resulting impacts to the project)

Clark Fork Bioassays and habitat inventory reports: A more comprehensive report is being prepared in collaboration with Gary Ingman (WQB) and Ron Spoon.

Bighorn River gas entrainment report: Deadline extended into 1990. Some additional funding for report preparation secured.

High Ore Creek Reclamation: On hold until spring 1991 to allow Pegasus Mining to complete exploratory drilling. Should they decide to mine they will be required to perform the reclamation themselves.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days,

related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Habitat inventory of Clark Fork supports hypothesis that fish populations are lower than the habitat is capable of supporting.

Variances described will not significantly affect DFWP programs.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe)
3807	$71,370	$68,402	$2,968	
TOTALS	$71,370	$68,402	$2,968	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Increase telephone budget to reflect amount spent in 1989 fiscal year. Increase contracted services budget by 3,000 to meet analytical costs.

Prepared by Glenn Phillips GRP Date 8-15-89
Regional Supervisor _____ Date _____
Comments: _____

END OF FY PROJECT REPORT
JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 Project Number 3809
Project Title Stream and Lake Enhancement and Education
Date Proj. Started 7/1/88 Ending Date Ongoing(or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your 1988 work plan - item 6). Write either "completed", "not completed", or "partially completed" to indicate work actually done last FY beside each item listed.
List: Coordinate scheduling of stream mechanics workshops. Completed.

A total of 8 workshops were held with 7 of these hosted by Conservation Districts and one at the County Road supervisors annual convention. About 325 persons attended these workshops. Total Cost - $7,205.23

Prioritize projects and allocate funds. Completed.

- Five lake and stream enhancement projects were approved and funded for a total of $9,080.46.
- The Bitterroot Water Commissioner fees were paid. Cost - $5,358.20.
- Funded pilot project for contracting 310 inspector in Region 3. The contractor inspected 39 projects at a cost of $1,099.95.
- Contributed $3,000 towards development of a trout habitat management handbook

Assist DNRC in developing draft stream management guide. Not completed.

B. Describe any variance between work scheduled and work completed and explain:
(i.e., problems incurred and resulting impacts to the project)

- One lake and stream enhancement project was not completed. The Dailey Lake ditch project was not completed when the project biologist transferred. Region 3 fish manager estimates $4,000 is needed for completion. The project must be completed or we will loose the investment already spent.

- DNRC personnel responsible for working on stream management guide transferred and no work was accomplished. Money allocated from FY 1988 budget was carried forward to FY 90.

- A draft of a brochure describing stream and riparian management principals was completed and given to Con Ed for printing. Still waiting for Con Ed to print.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Project variance will not impact objectives relating to habitat protection in the strategic plan. Of significance is the positive feedback from Conservation Districts regarding the Stream Mechanics Seminars. Better understanding of stream systems by the CD supervisors will improve their "310" administrative capability - which should help conserve stream habitat, which in turn, will help maintain recreational days. Three on-the-ground projects involved riparian enhancement which will increase fish habitat, thereby increasing recreational opportunity.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule" If spending was at was at variance with planned costs, describe.)
3809	$28,000	$23,689	$4,310	On Schedule About $3,000 was anticipated for printing of brochures. Printing was not done.
TOTALS	$28,000	$23,689	$4,310	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in future.

Most of the on-ground habitat enhancement projects will be funded under the River Restoration Program beginning FY 91. Anticipate more projects proposed by support groups and landowners. This program should generate more good will from the public and landowners as well as improving fish habitat and recreational opportunities. Some funding should be earmarked for lake enhancement projects since the River Restoration program involves only streams and rivers.

Prepared by Al Wipperman Date 10/13/89
Regional Supervisor _____ Date _____
Comments: _____

END OF FY PROJECT REPORT
JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 Project Number 3813
Project Title Instream Flow Coordination
Date Proj. Started Ongoing Ending Date (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your 1988 work plan - item 6). Write either "completed", "not completed", or "partially completed" to indicate work actually done last FY beside each item listed.

List:

1) Coordinate data collection to meet deadline for upper Missouri reservation application by July 1, 1989 - Completed

2) Drought monitoring letters to junior water users - Completed

3) Clark Fork reservation process coordination - Completed, however, this is an ongoing process

4) Oversee SB 76 process - Completed, but is ongoing

5) Water use permit evaluation - Completed but is ongoing

B. Describe any variance between work scheduled and work completed and explain:
(i.e., problems incurred and resulting impacts to the project)

Clark Fork reservation process has been continually delayed due to workload difficulties at DNRC. The effect is to prolong the priority date of any instream flows granted by the Board of Natural Resource.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Delay of priority date of Clark Fork reservations may slightly reduce amount of water available for instream flow protection under strategic plan strategy "Establish instream flow reservations".

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe)
3813	80,772	75,509	5,263	On Schedule
TOTALS	80,772	75,509	5,264	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

None

Prepared by Liter Spence Date 9/29/89
Regional Supervisor _____ Date _____
Comments: _____

#3814

MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS

FISHERIES DIVISION
JOB PROGRESS REPORT

STATE: MONTANA PROJECT TITLE:

PROJECT NO: F-38-R-3 STUDY TITLE:

JOB NO: 1 JOB TITLE: WATER RESERVATIONS - MISSOURI RIVER BASIN

PROJECT PERIOD: July 1, 1987 THROUGH June 30, 1988

JOB OBJECTIVES AND DEGREE OF ATTAINMENT

1. To compile existing biological and stream profile information to identify data needs.

Existing biological and stream profile data were summarized for approximately 100 stream reaches on the Missouri River and its tributaries downstream from Canyon Ferry Dam. Thirty-six streams were identified as having no fisheries data available, approximately 12 others were identified as needing additional fish data. Approximately 85 stream reaches were identified where additional stream profile and flow data were needed; work had been initiated on 54 of these. Work assignments were made to complete all streams.

2. To determine distribution, species composition and relative abundance of fish populations, where needed.

Fish population estimates or fish surveys were completed on 40 streams.

3. To collect stream profile data on streams where additional fish population assessments are completed.

Stream profile, stage and flow data were obtained on 75 stream reaches, including 21 reaches where no WETP transects had previously been established.

4. To begin summarizing existing recreational and economic data in the Missouri Basin below Canyon Ferry Dam.

Existing recreational data was summarized in draft stream description write-ups completed on approximately 43 stream reaches. Write-ups were partially completed on many of the remaining stream reaches. Two consulting services contracts were let to summarize overall recreational use and

recreational economics of the reservation.

5. To begin analysis of impacts of the reservation on other potential water users in the basin.

A major part of the impact analysis is being done through the two consulting services contracts mentioned in 4. above. This work is currently on schedule.

SUMMARY

All of the objectives were met as scheduled in FY 88. During this time, 10 stream reaches from the original list were eliminated due to lack of water or access problems. Work was postponed on four stream reaches located downstream of Fort Peck Dam due to legislative action eliminating that part of the basin from this cycle of the reservation process.

MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS
FISHERIES DIVISION
JOB PROGRESS REPORT

State: Montana
Project No.: F-38-R3
Job No.: II

Title: Northcentral Montana Fisheries Study
Title: Middle Missouri River Basin - Instream Flow Studies
Title: Planning Inventory, Fisheries

Period Covered: July 1, 1987 through June 30, 1988

ABSTRACT

Assessment of instream flow requirements for the fisheries of 19 streams in the middle Missouri River basin was continued during the report period. A total of 102 WETP cross sections were established on these streams in the study area. Rainbow and brown trout spawning activities were monitored on the Sun River. Fair spawning was noted for both species in 2 of the 3 sections studied. The Tiber Dam tailwaters trout fishery was evaluated for population improvements since 1985 when the USBR began meeting recommended instream flows. The trout standing crop was estimated at 141 fish/mile. The better flow conditions have increased over all-trout numbers and improved young-of-the-year brown trout survival. The sauger spawning migration was monitored in the lower Marias River during the spring, 1988. The catch rate was low averaging 5.0 fish per hour. Trout standing crop estimates were made in 13 tributary streams within the study area. Estimates ranged from 18 to 793 fish/1000 ft.

OBJECTIVES AND DEGREE OF ATTAINMENT

The overall objectives are to inventory sport and nonsport fish populations, to determine important factors upon which sport fish depend, locate critical river habitat or tributary streams for the various sport species and formulate instream flow recommendations which would protect sport fish populations.

Specific objectives include the following:

1. To continue with instream flow analysis at established cross sections on approximately 30 streams. Data collection have been completed on 14 coldwater and 3 warmwater streams. Additional field data needs to be collected on 2 more coldwater streams, and 6 coldwater streams were transferred to Job I. Three coldwater streams were deleted because of inadequate seasonal flows and their lower fishery value.

2. To survey fish populations in streams within the study area and make fish standing crop estimates where feasible. Fish populations were either surveyed or estimated in 15 streams.

3. To continue monitoring spawning migration runs in streams within the study area. Spawning migrations were monitored in 3 streams.

4. To begin instream flow write-ups on individual stream reaches for the reservation application. Instream flow write-ups have been started.

5. To evaluate the status of, and continue to monitor, fish populations in the Marias River in relation to flow releases from Tiber Dam. A standing crop estimate was completed.

PROCEDURES

The wetted perimeter (WETP) hydraulic simulation computer program was employed to evaluate the instream flow necessary for maintenance of important fish habitat areas in streams. This program was described in detail by Nelson (1984). Using standard surveying techniques, water surface elevations at three discharges (high, intermediate and low) were measured with a level and rod. Channel profiles were measured at low flow.

The electroshocking system used was adapted from the system described by Novotny and Priegal (1976). The electroshocking apparatus was a boom-type and mounted on a 14-foot aluminum McKenzie style driftboat powered by a 10 hp outboard motor. Power was supplied by a 3,500-watt AC generator. The alternating current was delivered to a Coffelt Model VVP-10 rectifying unit which changes the alternating current to pulsed or continuous direct current. The positive electrode consisted of two circular hoops with twelve 16-inch stainless steel droppers fastened on each hoop. These electrodes were supported by fiberglass booms and were positioned about six feet in front of the boat. The hull of the boat served as the negative. The unit was typically operated at 2-7 amps, 100-215 volts, 50% pulse width and a pulse frequency of 100 pulses per second. The boom electrofishing unit was utilized on the Marias River. A mobile-type electrofishing unit was used on streams between 20-300 cfs. The unit consisted of a boat (canoe or flat bottom boat) containing a hand-held mobile positive electrode, a negative electrode and a portable 1,500-watt, 115-volt AC generator. A Coffelt Model VVP-2C rectifying unit was used to change the alternating current to various forms of pulsed direct current. For the smaller tributary streams a Coffelt Model BP-6 gas power backpack shocker was used.

Fish captured by electroshocking were measured to the nearest 0.1 inch and weighed to the nearest 0.01 pound. A catch per unit effort was used as a measure of relative abundance. (CPUE is the number of fish caught per electroshocking hour.)

A two-sample removal method was used to estimate fish populations in streams smaller than 10 cfs. This involved making two electroshocking passes through a 400-700 ft. section and essentially capturing most of the fish. Leathe (1984) describes this method in detail.

Standing crop estimates were made for trout using the following formula from Seber (1973):

$$N = \frac{(n_1)^2}{n_1 - n_2}$$

Where:

N = population estimate
n_1 = number of fish captured during the first electro-shocking pass
n_2 = number of fish captured during the second electro-shocking pass

The mark/recapture technique as described by Vincent (1971 and 1974) was used to estimate the trout populations in larger streams. The following formula as modified by Chapman (1951) was used:

$$N = \frac{(M+1)\ (C+1)}{(R+1)}$$

Where:

N = population estimate
M = number of marked fish
C = number of fish in the recapture sample
R = number of marked fish in the recapture sample

FINDINGS

Introduction

The Montana Water Use Act of 1973 provides that stream flow can be reserved for fish and wildlife resources. The reservation process involves submitting an application for documented instream flow needs to the Department of Natural Resources. This application is the minimum instream flow necessary to maintain a stream's fish and wildlife resources at acceptable levels. The applications and documentation for all streams with important fishery resources in the Missouri River Basin must be submitted by July 1, 1989. This study is involved with collecting pertinent fisheries field information which describes the value of a streams resource and quantifying and recommending instream flows which would maintain these resources.

Description of Study Area

The study area includes seven tributary drainages in the middle Missouri River basin. The streams vary in size with average annual flows of about 20 cfs for Cow Creek to 947 cfs for the Marias River (USGS 1982). These seven tributaries are labeled in Figure 1. Table 1 lists the tributary streams to the seven mainstem tributaries which were also evaluated for instream flows.

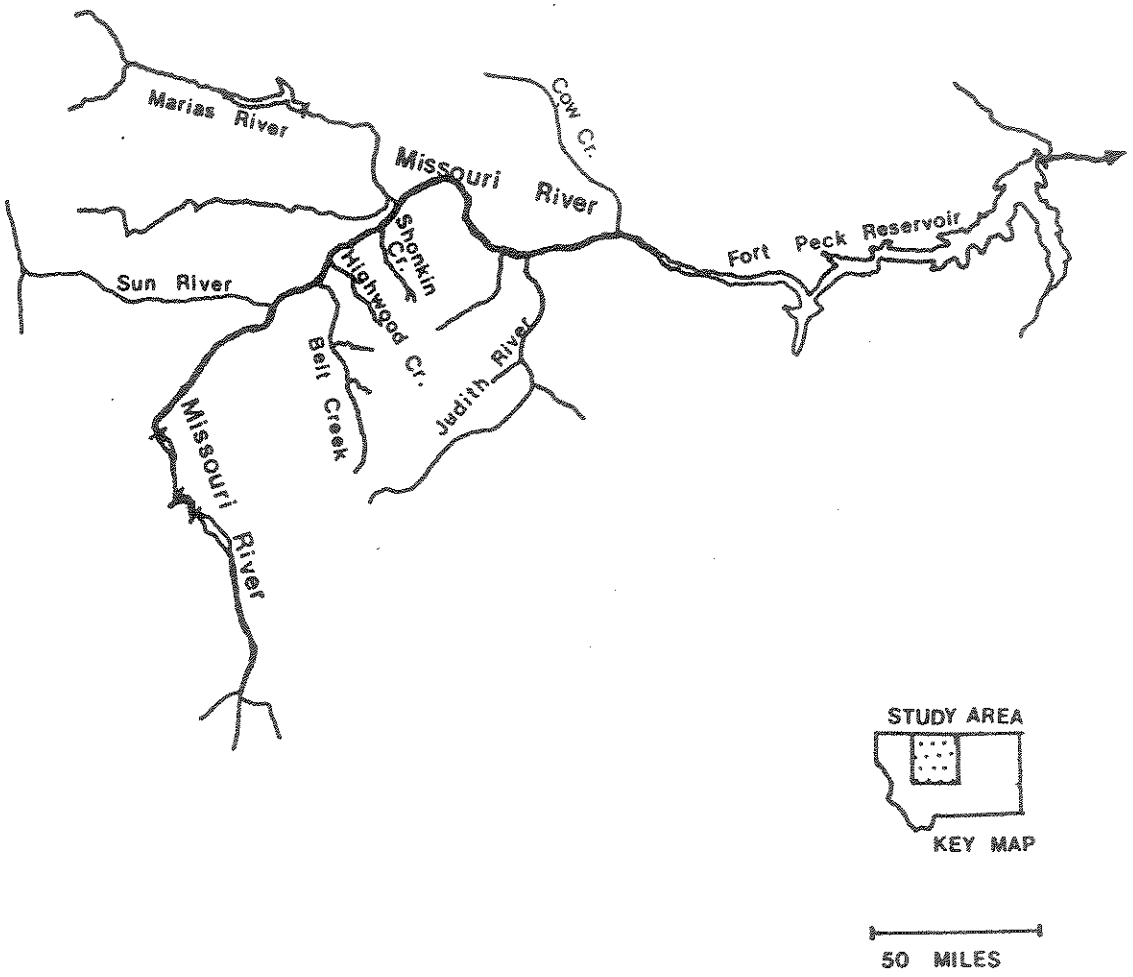

Figure 1. Map of the Study Area

Table 1. List of streams which were considered for minimum instream flow studies.

Sun River
Gibson Dam - Great Falls
Marias River
Two Medicine/Cut Bank Confluence to the Missouri River
Belt Creek
Headwaters to the Missouri River
Dry Fork Belt Creek
Tillinghast Creek
Pilgrim Creek
Logging Creek
Big Otter Creek
Highwood Creek
Headwaters to the Missouri River
Shonkin Creek
Headwaters to the Missouri River
Judith River
Headwaters to the Missouri River
South Fork
Middle Fork
Lost Fork
Yogo Creek
East Fork of Big Spring Creek
Cottonwood Creek
Beaver Creek
Cow Creek
Headwaters to the Missouri River

The Sun and Marias Rivers are 106 and 170 miles in length, respectively, and drain a major portion of the East Front of the Continental Divide and Glacier National Park in northern Montana. Both drainages have a large run-off in spring and early summer and low base flows during the summer. Substantial irrigation withdrawals further act to reduce the base flows.

Belt, Highwood, Shonkin and Cow Creeks are 83, 29, 40, and 58 miles in length, respectively, and drain interior mountain ranges. They generally maintain adequate flows in their coldwater reach throughout the summer. The Judith River is 130 miles in length and drains interior mountain ranges. The upper half of this drainage usually becomes dewatered during the summer. The lower portion maintains a good base flow because of the contributions from Big Spring and Warm Spring creeks. Both springs have base flows of about 125 cfs.

Instream Flow Analysis of Basin Tributaries

Sixteen coldwater streams and 3 warmwater streams were surveyed for instream flow data. This data is presently being analyzed so only the three calibration flows for each stream are reported in Table 2.

Fish Populations

Sun River

Trout populations were surveyed at 3 study sections along 97 miles of the Sun River during the fall, 1987 (Table 3). Surveys indicated that rainbow trout predominated in the upper 25 miles and brown trout were most common in the lower 70 miles. Young-of-the-year trout (YOY) were found in all 3 sections indicating successful reproduction throughout the system. The middle study section, Augusta Bridge, appeared to have an unusually low number of trout. This could be related to the extensive amount of dewatering and warm water temperatures which occurs in this section.

A substantial amount of brown trout spawning activity was noted in the Diversion and Simms study sections. Brown trout redd counts during late November, 1987 revealed 20 redds in a 3 mile study reach and 15 redds in a 1 mile reach of the Diversion and Simms sections, respectively. Only a couple of redds were noted in 0.8 mile of the Augusta section.

Rainbow trout also spawned intensively in the Sun River. Redd counts taken near the end of their spawning season in 1988 revealed 58 redds in 3 miles and 31 redds in 1.3 mile reach for the Diversion and Simms study sections, respectively. No rainbow redds were observed in a 0.8 mile survey reach at the Augusta section.

Marias River - Tiber Dam Tailwaters

A coldwater fishery exists in a 21 mile reach of river below Tiber Dam. This condition is maintained by bottom coldwater releases from Tiber Dam. Prior to 1985 the coldwater fishery was maintained far below its potential because of inadequate instream flows and periodic surface warmwater releases from the dam (Gardner and Berg, 1983). Since June 1985, the recommended minimum instream flow of 500 cfs has been provided and summer releases from the dam have been from the bottom. Figure 2 denotes the periods since 1981 when water releases from Tiber were at or above the recommended minimum instream flow.

A trout standing crop estimate and early life history investigations were conducted during 1987 to evaluate the effects of the improved water releases from Tiber. Trout standing crop estimates are given in Table 4. The population was estimated at 141 fish per mile which is low when compared to other rivers in the region such as the Missouri River at Craig- 4,000 trout per mile, Smith River - 900 trout per mile and Big Spring Creek - 3,500 trout per mile (Leathe and Hill, 1987). Both the rainbow and brown trout populations were well

Table 2. A list of study sites and streams where stage height measurements have been collected at the given flows.

Study Site	Flow (cfs) High	Intermediate	Low
Sun River - Canyon	1355	119.4	60
Sun River - Augusta	1355	250.0	60
Sun River - Simms	561.0	297.6	215.0
Belt Creek - Riceville	585.0		
Dry Fork Belt Cr.	29.7	22.2	9.1
Pilgrim Cr.	33.5	12.9	4.8
Logging Cr.	17.7	9.3	5.2
Tillinghast Cr.	73.5	19.1	7.5
Big Otter Cr.	15.3	12.1	7.4
Highwood Cr.	30.2	13.3	2.9
Shonkin Cr.	11.6	6.1	2.4
Marias River - mouth	1036	705	504
So. Fk. Judith River	34.1	12.6	5.0
Mid. Fk. Judith River	158.6	57.3	20.8
Lost Fk. Judith River	45.7	17.7	10.3
Yogo Cr.	9.7	4.3	2.4
Judith River - Utica	187.8	113.9	42.2
East Fk. Big Spring Cr.	34.4		
Cottonwood Cr.	48.2	13.2	5.2
Beaver Cr.	18.3	11.4	6.4
Judith River - mouth	619.4	338.9	293.2
Cow Cr.		4.7	1.8

Table 3. Size statistics for rainbow and brown trout sampled electroshocking the Sun River, fall, 1987.

Location	Number	Average* Length (in.)	Range	Average Weight (lb.)	Range
Diversion Bridge					
1 hr. - shocking					
0.3 mile length					
Rainbow	22	7.5	(4.7-13.8)	0.20	(0.03-0.80)
Brown	1	12.6	---	0.69	---
Augusta Bridge					
1 hr. - shocking					
0.8 mile length					
Rainbow	4	12.0	(6.5-17.9)	0.90	(0.11-2.06)
Brown	12	9.2	(3.9-16.5)	0.35	(0.03-1.47)
Simms Bridge					
2.3 hr. - shocking					
1.0 mile length					
Rainbow	5	10.4	(8.0-13.5)	0.47	(0.21-0.85)
Brown	41	12.8	(3.3-22.5)	1.12	(0.03-3.54)

*Fish less than 6.0 inches were not included in averages or total numbers.

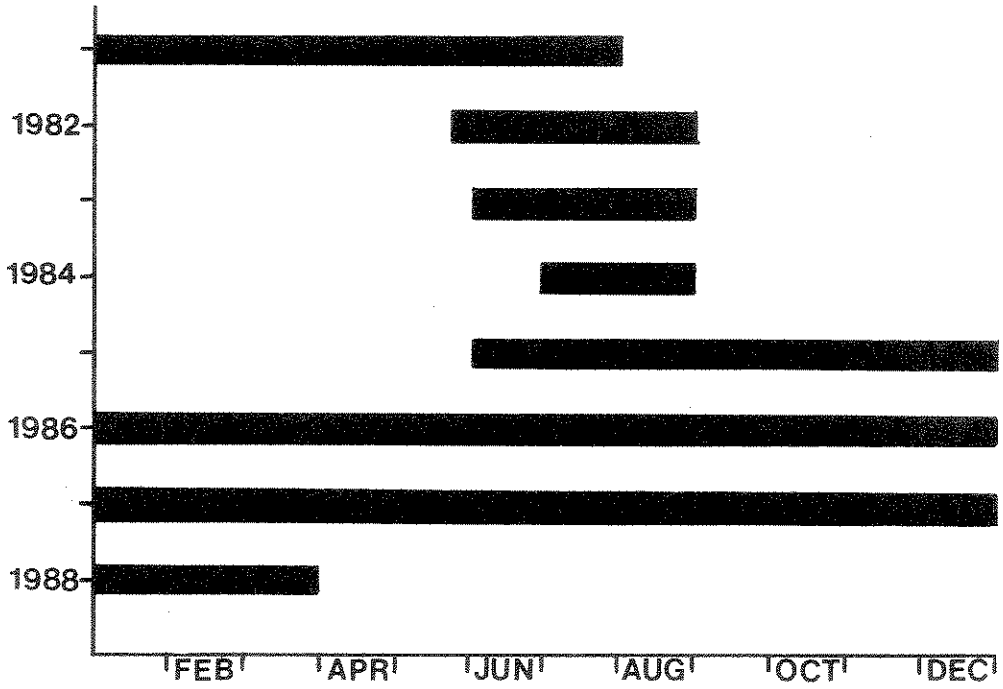

Figure 2. The occurrence of mean monthly discharges greater than 500 cfs from Tiber Dam. (USGS 1981-87)

Table 4. Standing crop estimates for a 4.5 mile reach of the Marias River below Tiber Dam, summer 1987.

Species	Size Class (in.)	Average Weight (lb.)	M	C	R	Estimate	No./ Mile	Comments
Brown Trout	6.0-10.9	0.25	15	18	5	50	11	
	11.0-32.0	2.64	39	46	11	156	35	YOY present
Rainbow Trout	6.0-10.9	0.19	13	28	1	202	45	
	11.0-20.4	1.27	44	29	5	222	50	YOY present
						Total	141	trout/mile

represented by large size fish averaging 12.2 inches/0.87 pounds and 15.7 inches/2.00 pounds, respectively. Table 5 compares the fish population data between 1982 and 1987. These data indicate that improvements of the coldwater fishery have resulted in :

1) greater survival of adult trout
2) improved survival of young-of-the- year brown trout
3) better brown trout spawning success

Considering the dynamics of this trout population, especially the brown trout, it is reasonable to assume that trout numbers will continue to increase at an accelerated rate. The rivers full potential should be reached in about 4-5 years. This will only be assured if stream flows in the tailwaters are maintained at 500 cfs or greater and summer water releases continue to consist of cool water from the bottom of the reservoir.

Marias River - Confluence Area

Sauger and shovelnose sturgeon are two important sport fish which are known to spawn in the lower Marias River (Berg 1981). The lower Marias has a resident population of sauger, although sauger from the Missouri River also migrate into the Marias during the spawning season. The shovelnose sturgeon population, unlike the sauger, resides exclusively in the Missouri and at least a portion of the mature sturgeon population ascend the lower Marias to spawn. The objective of this investigation was to collect more information on the relationships between streamflow and abundances of migrating fish.

Shocking runs in the Marias River during the sauger spawning season indicated there were few sauger present (Table 6). Numbers and sizes of sauger improved on the last shocking run (19 May) but this was not the result of a spawning migration because none of the sauger sampled were in spawning condition and water temperatures were approaching 70F, far warmer than preferred spawning temperatures. Table 7 lists the sauger catch rates during the spawning period for previous years and 1988. This years catch rate of 5 fish/hr. was far lower than other years which usually average about 20 fish/hr. There appears to be no certain explanation for the poor sauger spawning exhibited this year. Possible causes may be attributed to the lower flows in both the Marias and Missouri Rivers. The Marias River flow measured near the confluence was about 430 cfs throughout the spawning period.

The spawning migration of shovelnose sturgeon usually occurs in the Marias River from late May through mid July (Berg 1981). Electroshocking surveys conducted 19 May and 1 June found very few sturgeon in the lower Marias. It appears the 1988 sturgeon spawning run will be below normal.

Judith River - Lower Reach

The lower Judith River consists of both a coldwater/warmwater transitional zone and a warmwater zone. Tables 8 and 9 list the species and their sizes. Sport fish sampled were rainbow and brown trout, mountain whitefish, cisco, channel catfish, burbot, smallmouth

Table 5. Trout population comparisons - 1982 vs. 1987, for the 21 mile tailwater section of the Marias River below Tiber Dam.

Parameter	Species	Sampling Year 1982		1987	
Average Sizes		Inches	Pounds	Inches	Pounds
	Rainbow	12.3	0.88	12.2	0.87
	Brown	16.7	1.79	15.7	2.00
Night time Catch rates (CPUE)	Rainbow	2.45		9.5	
	Brown	0.73		10.11	
Yearling Brown trout composition		6%		30%	
Late Summer Fingerling Trout Catch Rates (CPUE)	Rainbow	36		26	
	Brown	19		78	
Standing crop estimate (no./mi.)	Rainbow	- No estimate; population too low		95	
	Brown			46	

Table 6. Size statistics and catch rates for sauger sampled electroshocking in lower Marias River, 1988.

Date	Number	Average Length (in.)	Average Weight (lb.)	CPUE [1]
19 April	1	14.8	0.90	1.0
21 April	2	12.6	0.49	2.0
29 April	3	13.8	0.73	3.0
9 May	4	13.4	0.65	4.0
19 May	15	14.5	0.85	15.0

1/ Catch per unit effort

Table 7. Comparison between years of the sauger spawning in the lower Marias River. (Sample period approximately 20 April - 31 May).

Year	CPUE
1988	5.0
1987	21.7
1986	14.4
1985	18.3
1976-79	27.3

Table 8. Species composition, number, size and catch-per-unit-effort of fish sampled by mobile electroshocking in the Judith River-Ming Coulee study section (river mile 50), spring, 1988.

Fish Species	Number Captured	Average Length (inch.)	Length Range	Average Weight (pounds)	Weight Range	CPUE
Goldeye	38	13.0	(12.0-14.5)	0.66	(0.50-0.88)	18.0
Cisco	4	10.4	(10.1-10.6)	0.30	(0.28-0.32)	1.9
Rainbow trout	6	10.1	(8.3-13.5)	0.43	(0.22-0.78)	2.8
Brown trout	4	9.0	(5.6-13.1)	0.31	(0.06-0.72)	1.9
Carp	4	20.9	(18.6-22.4)	4.71	(3.45-5.60)	5.3
Flathead chub	14	-	-	-	-	-
Longnose dace	11	-	-	-	-	-
Shorthead redhorse	15	17.1	(13.6-20.7)	2.20	(1.32-3.78)	7.3
Longnose sucker	33	14.0	(7.5-18.0)	1.22	(0.18-2.15)	44.0
White sucker	1	15.6	-	1.90	-	1.3
Mountain sucker	17	-	-	-	-	-
Stonecat	13	-	-	-	-	-
Burbot	1	7.5	-	-	-	1.3
Smallmouth bass	1	10.0	-	0.56	-	1.3
Sculpin	3	-	-	-	-	-

Table 9. Species composition, number, size and catch-per-unit-effort of fish sampled by mobile electroshocking in the Judith River - PN study section (river mile 3), spring, 1988.

Fish Species	Number Captured	Average Length (inches)	Length Range	Average Weight (pounds)	Weight Range	CPUE
Goldeye	15	13.2	(12.1-15.0)	0.70	(0.50-0.98)	5.4
Cisco	26	10.3	(9.2-11.2)	0.32	(0.24-0.42)	9.4
Mountain whitefish	1	15.8	-	1.92	-	0.4
Rainbow trout	1	13.6	-	0.76	-	0.4
Carp	21	18.9	(17.9-21.0)	2.92	(2.36-3.45)	7.6
Flathead chub	15	-	-	-	-	-
Longnose dace	1	-	-	-	-	-
Blue sucker	5	28.0	(24.5-31.5)	-	-	1.8
Shorthead redhorse	51	15.7	(5.5-20.2)	2.08	(0.80-3.30)	17.1
Longnose sucker	18	10.4	(7.9-15.4)	0.49	(0.20-1.44)	6.9
Mountain sucker	1	-	-	-	-	-
Channel catfish	2	26.9	(23.5-30.0)	9.05	(4.60-13.5)	0.7
Smallmouth bass	1	11.2	-	0.75	-	0.4
Sauger	8	16.7	(9.9-24.0)	1.75	(0.24-4.75)	2.9
Walleye	3	11.0	(10.5-11.6)	0.35	(0.30-0.38)	1.1

bass, sauger and walleye. The most abundant species found were longnose sucker, shorthead redhorse and goldeye.

Small Streams

Trout standing crop estimates were determined for 15 streams (Table 10). Population levels in 2 streams, the East Fork of Big Spring Creek and Beaver Creek appeared to be too low for an estimate. For the other streams, estimates ranged from a low of 18 trout/1000 ft. at Dry Fork Creek to a high of 793 trout/1000 ft. at Cow Creek. Streams in the Belt Creek drainage appeared to contain slightly better trout populations than those found in the Judith River basin - average of 144 compared to 120 trout/1000 ft., respectively. Cutthroat trout, a state species of special concern, were sampled in 2 of the Belt Creek drainage study streams and 3 streams in the Judith River basin.

The trout estimate for the Lost Fork and Middle Fork of the Judith River is probably well below the potential for these streams. This is most likely related to the impacts associated with the increased silt loads resulting from the 11,000 acre forest fire in the basin during 1985. Rainbow and cutthroat trout appear to be most affected by the increased siltation. Young-of-the-year and yearling age groups of these species were absent in both streams, apparently related to reproduction failures during the past 2 years.

RECOMMENDATIONS

1. Complete minimum instream flow analysis and file for recommended flows on selected streams in the upcoming Missouri River Basin water reservation application.

2. Continue surveying fish populations in the lower Judith River and estimate fish populations in the Sun River. This information will improve the present data base for the streams resulting in better fisheries management.

3. Conduct spring sauger and shovelnose sturgeon spawning migration surveys in the Marias River biennially, to monitor the status of these warmwater species. A comparison of sauger catch rates and sizes with past years will indicate population trends. Sturgeon should also be monitored by electroshocking and approximately 100 should be tagged for analyzing angler harvest rates.

Sauger spawning migrations should also be monitored in lower Belt Creek and the lower Judith River to further determine the importance of these streams for spawning.

4. Monitor trout population trends in the Tiber Dam tailwater section by conducting biennial standing crop estimates. If the population cannot be maintained greater than 200 fish/mile, a stocking plan should be developed.

Table 10. Size Statistics and Standing Crop Estimates for Fish Populations in Selected Streams of the Middle Missouri River Basin, 1987. (Fish less than 4 inches were excluded)

	Species	Average Length In.	Average Weight (Lb.)	M	C	R	Estimate	No/1000 Ft.	Comments
Belt Creek (2100 ft) Sec 23 T17N R6E									
9/11-10/1	Rainbow	7.3	0.19	61	80	11	424	202±103	YOY present
	Brown trout	10.4	0.76	20	19	6	59	28±16	YOY present
	Mtn whitefish	13.2	0.93	37	15	7	76	36±17	YOY present
Dry Fork - Belt Creek (600 ft) Sec 3 T15N R7E									
9/20	Brook trout	6.0	0.08	3	0		3	5	YOY present
	Rainbow	5.8	0.09	4	2		8	13	YOY present
Tillinghast Creek (450 ft) Sec 16 T15N R7E									
9/20	Brook trout	6.1	0.10	37	9		49	109±12	YOY present
	Rainbow	6.1	0.09	9	4		16	36±22	YOY present
	Cutthroat	5.6	0.05	9	4		16	36±22	YOY present
Pilgrim Creek (584 ft) Sec 34 T16N R6E									
9/3	Cutthroat	5.9	0.09	80	6		86	147±3	YOY present
Logging Creek(568 ft) Sec 31T16N R6E									
10/6	Brook trout	5.9	0.10	87	11		100	176±6	YOY present
	Rainbow	5.9	0.10	22	4		27	48±5	YOY present
	Brown trout	5.7	0.06	3			3	5	YOY present
Big Otter Creek (690 ft) Sec 36 T18N R7E									
9/29	Brook trout	9.1	0.29	6	1		7	10±1	
	Brown trout	9.4	0.45	30	5		36	52±4	YOY present
Highwood Creek (450 ft) Sec 19 T20N R9E									
8/27	Brook trout	6.0	0.09	53	26		104	231±73	YOY present
	Rainbow	7.2	0.13	43	18		74	164±42	YOY present
Shonkin Creek (472 ft) Sec 26 T21N R9E									
8/25	Brook trout	5.9	0.09	129	31		169	358±22	YOY present

	Species	Average Length (In.)	Average Weight (Lb.)	M	C	R	Estimate	No/1000 Ft.	Comments
Judith River (Rogers-2590 ft) Sec 17 T13N R12E									
9/28-10/23	Brook trout	7.2	0.17	180	158	67	440	170±31	YOY present
	Rainbow	9.8	0.38	67	71	52	79	31±4	YOY present
	Brown trout	8.8	0.44	88	75	41	176	68±14	YOY present
	Cutthroat	6.9	0.15	9			--	--	YOY present
Lost Fork - Judith River (500 ft) Sec 22 T12N R10E									
9/1	Brook trout	6.7	0.14	15	3		19	38±5	YOY present
	Rainbow	7.8	0.20	20	3		24	48±4	
Middle Fork - Judith River (USFS Bound - 1500 ft) Sec 35 T31N R11E									
9/25-10/22	Brook trout	6.6	0.13	45	20	11	77	51±19	YOY present
	Rainbow	9.6	0.39	5	7	5	8	5±2	
	Cutthroat	9.1	0.33	1			--		
South Fork - Judith River (491 ft) Sec 23 T12N R11E									
9/2	Brook trout	7.2	0.15	2	0		2	4	
	Rainbow	6.6	0.13	29	2		31	63±2	YOY present
	Mtn whitefish	5.0	0.04	11	1		12	24±3	YOY present
Yogo Creek (480 ft) Sec 18 T13N R11E									
10/28	Brook trout	6.1	0.10	50	10		62	129±10	YOY present
	Rainbow	9.2	0.31	9	1		10	21±2	YOY present
	Cutthroat	9.8	0.34		1				
East Fork-Big Spring Creek (500 ft) Sec 31 T15N R19E									
10/1	Brook trout	10.4	0.56	1			--		
	Rainbow	10.7	0.52	2			--		
	Brown trout	11.3	0.55	1			--		YOY present
Cottonwood Creek (544 ft) Sec 15 T15N R17E									
10/2	Brook trout	8.1	0.22	12	2		14	26±3	YOY present
	Rainbow	9.2	0.31	7	1		8	15±2	
	Brown trout	8.4	0.35	23	4		28	51±5	YOY present
Beaver Creek (550 ft) Sec 20 T15N R17E									
9/30	Rainbow	15.1	1.74	2			--		
	Brown trout	10.6	0.48	1			--		
Cow Creek (450 ft) Sec 18 T27N R19E									
10/19	Brook trout	7.7	0.18	295	51		357	793±20	YOY present

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Prepared By: William M. Gardner

Date: July, 1988

END OF FY PROJECT REPORT
JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 Project Number 3815
Project Title Painted Rocks Water Purchase
Date Proj. Started Ongoing Ending Date _____ (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your 1989 work plan - item 6). Write either "completed", "not completed", or "partially completed" to indicate work actually done last FY beside each item listed.

List:

- 15,000 acre-feet of water to supplement stream flows during 1988 irrigation season - Completed.

- Schedule for water release for 1988 irrigation season prepared by June 1, 1989 - Completed.

- Contract negotiated for 1989 water purchase by June 1, 1989. Not Completed.

B. Describe any variance between work scheduled and work completed and explain:
(i.e., problems incurred and resulting impacts to the project)

Contract negotiations delayed because of disagreement over right of first refusal language.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

None.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs,describe)
3815	$20,000	$20,000	-0-	On Schedule
TOTALS	$20,000	$20,000	-0-	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Prepared by Larry Peterman Date 9/20/89
Regional Supervisor Date
Comments:

END OF FY PROJECT REPORT
JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 Project Number 3816
Project Title USGS Cooperative Agreement
Date Proj. Started Ongoing Ending Date _____ (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your 1988 work plan - item 6). Write either "completed", "not completed", or "partially completed" to indicate work actually done last FY beside each item listed.

List:

1) Operation of thermographs and surface water stations - Completed but ongoing

2) Water availability study - upper Missouri River Basin - Completed

B. Describe any variance between work scheduled and work completed and explain:
(i.e., problems incurred and resulting impacts to the project)

None

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

None

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was variance with planned costs, describe.)
3816	33,000	33,000	-0-	
TOTALS	33,000	33,000	-0-	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in future.

None

Prepared by Liter Spence Date 9/29/89
Regional Supervisor _____ Date _____
Comments: _____

END OF FY PROJECT REPORT
JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 Project Number 3817
Project Title DHES Grant - Missouri Reservation
Date Proj. Started 7/1/85 Ending Date 7/1/89 (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your 1988 work plan - item 6). Write either "completed", "not completed", or "partially completed" to indicate work actually done last FY beside each item listed.

List:

1) Continue field collection and laboratory analyses of water samples in Missouri basin - Not Completed

2) Determine loading trends of specific constituents - Not Completed

3) Determine sources of pollutants - Not Completed

4) Analyze and assemble data into reservation application by July 1, 1989 - Not Completed

B. Describe any variance between work scheduled and work completed and explain:
(i.e., problems incurred and resulting impacts to the project)

The $20,000 was not transferred to DHES in FY 89 because they were not diligently pursuing their water reservation program. DHES did, in fact, finally submit a reservation application by July 1, 1989, but they did it without the use of these funds.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

The variance did not affect DFWP programs. The funds were made available to DHES to assist them in filing a reservation application to protect water quality in the Missouri River.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
	20,000	-0-	20,000	See item B
TOTALS	20,000	-0-	20,000	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in future.

Require better commitment of agency receiving funds. Continue to monitor effectiveness of funded program.

Prepared by Liter Spence Date 9/29/89
Regional Supervisor _____ Date _____
Comments: _____

END OF FY PROJECT REPORT
JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 Project Number 3819
Project Title Fish Division Equipment Budget
Date Proj. Started 7/1/88 Ending Date 6/30/88 (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your 1988 work plan - item 6). Write either "completed", "not completed", or "partially completed" to indicate work actually done last FY beside each item listed.

List:

This is the Fisheries Division budget for all the division's projects.

The project does not include any personal services or operation dollars and therefore lacks any performance standards for rating.

An explanation of the budget is found in Section D variance.

B. Describe any variance between work scheduled and work completed and explain:
(i.e., problems incurred and resulting impacts to the project)

related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule" If spending was at variance with planned costs, describe.)
3819				
Personal Services	0	0	0	
Operations	0	0	0	
Equipment	90,198	59,185	31,012	
TOTALS	90,198	59,185	31,012	

Several equipment items were incorrectly charged to other projects. The actual equipment balance for the division was $23,589. This resulted from a freeze imposed by the Director on purchasing at the end of the fiscal year.

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in future.

Prepared by Tim Gallagher Date 10/20/89
Regional Supervisor _____ Date _____
Comments: _____

END OF FY PROJECT REPORT
JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 Project Number 3821
Project Title Regional Management Planning
Date Proj. Started _____ Ending Date Ongoing (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your 1988 work plan - item 6). Write either "completed", "not completed", or "partially completed" to indicate work actually done last FY beside each item listed.

List:

Base activities - provide operations support to regional personnel to write management plans for prioritized major waters including contracting with qualified consultants. (Completed)

B. Describe any variance between work scheduled and work completed and explain:
(i.e., problems incurred and resulting impacts to the project)

Final plan completion on Missouri and Hauser was delayed to allow greater opportunity for public review and comment on the plans.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

No impact

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule" If spending was at variance with planned costs, describe.)
3821	20,674	5,841	$14,832	On Schedule
TOTALS	$20,674	5,841	14,832	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in future.

Prepared by Howard Johnson Date 10/16/89
Regional Supervisor _____ Date _____
Comments: _____

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region One SBAS Project Number 3881

Project Title Flathead Lake Salmon Hatchery

Date Proj. Started July 1, 1988 Ending Date June 30, 1989 (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

List:

1. Collect 2,000,000 plus green kokanee eggs from state waters (Completed).

2. Receive, and eye 4,000,000 kokanee eggs from Colorado, and ship eyed eggs to other state facilities (Completed).

3. Hatch and rear 3 million kokanee for distribution on a statewide basis (Completed).

4. Collect and hatch 100,000 arctic grayling and distribute to area lakes and ship eyed eggs to other states and areas as assigned during the months of May and June (Completed).

5. Plant high mountain lakes with native trout as assigned with horses or packs (Completed).

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e., problems incurred and resulting impacts to attainment of project objectives).

These projects will maintain our current population of kokanee salmon and aid in sustaining of natural producing runs of kokanee in several lakes and rivers. Aid in high mountain lakes, where spawning is on a limited basis. To maintain grayling populations in several lakes in Region One and statewide.

Some problems were incurred during the kokanee eggs collection due to low water at one of our sites. The result was few eggs and other sources were sought.

Pen rearing produced problems with water temperatures and disease which prompted early releases.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

This project has maintained our current populations of kokanee in many lakes, and aid in high mountain lakes were spawning is on a limited basis. Tho maintain grayling populations in several lakes and small streams in Region One.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
3881	60,046.00	71,838.80	- 10,792.00	Increase in food costs for pen rearing of 1.4 million fish
TOTALS	$60,046.00	$71,838.80	$ - 10,792.00	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Increase production of kokanee to 5 million and plant at 2 inch or larger fish.

Install 4 outside raceways, and a new water system at Somers to build the Creston hatchery to raise the kokanee as needed by demand.

Prepared by Stewart E. Kenow Date 8/22/89
Regional Supervisor _____ Date _____
Comments: _____
rpt/576.2

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY 89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 4 SBAS Project No. 3885
Project Title Giant Springs Trout Hatchery
Date Proj. Started Ongoing Ending Date_____ (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY 89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

LIST:

Hatch, rear, and distribute 1.2 million rainbow - Completed

Hatch, rear, and distribute 300,000 kokanee salmon in Pishkun reservoir and 40,000 kokanee salmon into Helena Valley Regulating reservoir. - Completed

Hatch, rear, and distribute 634,144 kokanee salmon into Flathead Lake. - Completed

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e. problems incurred and resulting impacts to attainment of project objectives).

No variance encountered between work scheduled and work completed.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Impacts on project produced no variance in the DFWP programs as related to the Strategic Plan.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
3885	$133,135.00	$128,201.93	$4933.07	On Schedule
TOTALS	$133,135.00	$128,201.93	$4,933.07	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

To stay within the recommended "Five Year Plan" as close as possible without having any sudden, significant changes in production numbers or in the production schedule.

Prepared by Robert Hughes, Manager Date 8/18/89

Regional Supervisor _____ Date _____

Comments: _____

rpt/576.2

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY 89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 SBAS Project No. 3886
Project Title Big Springs Trout Hatchery
Date Proj. Started Ongoing Ending Date_____ (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY 89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

LIST: 1. Hatch, rear, and distribute:

SCHEDULED	ACTUAL
1,416,000 rainbow (5 strains)	1,172,165 rainbow (5 strains)
850,000 kokanee salmon	1,263,823 kokanee salmon
235,000 brown trout	191,630 brown trout
54,000 cutthroat	57,068 cutthroat
2,555,000 TOTAL	2,684,686 TOTAL
112 different waters	121 different waters

2. Eggs are ordered to meet management requests allowing for normal hatchery mortality(annual egg rec.rpt.) - accomplished.

3. Fish managers are given ample opportunity to adjust their requests when fluctuations in hatchery survival occur - accomp.

4. Provide carrying capacity information on request - accomp.

5. Distributes fish as outlined in the planting program(monthly planting reports) - accomplished.

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e. problems incurred and resulting impacts to attainment of project objectives).

1. Work scheduled was predicted before actual planting requests were received.

2. The fiscal year end occurs during the planting season - a few days either way means a difference of 50-75,000 fish released.

3. Acute bacterial infection and poor egg quality reduced brown trout production below normal survival levels.

C. Discuss impacts of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

IMPACTS: 1. Due to the shortage of brown trout, one reservoir and two stream reaches received only 50% of their commitment thus reducing their recreational potential.

ACCOMPLISHMENTS: 1. Despite the differences between projected and actual, 2,684,686 trout and salmon were successfully released into state waters to establish fish populations and maintain angling opportunities. 2. In addition to the fish released, 585,400 trout were hatched and reared for fall 1989 and spring 1990 plants.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
3886	$264,499	$263,894	$605	ON SCHEDULE
TOTALS	______	______	______	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Prepared by ______ Date 8/14/89

Regional Supervisor ______ Date 8/17/89

Comments: ______

rpt/576.2

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY 89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 8 SBAS Project No. 3887
Project Title Yellowstone River Trout Hatchery
Date Proj. Started on going Ending Date_____ (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY 89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

LIST:

Maintain Yellowstone Cutthroat Trout Broodstock	Completed: Electrophoretic analysis shows that the levels of genetic variation are stable.
Raise 4-600,000 trout to be planted	Completed: Planting Program was fullfilled
Maintain hatchery buildings and grounds	Partially completed

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e. problems incurred and resulting impacts to attainment of project objectives).

Maintenance that needs to be done in the summer is difficult to complete due to the lack of a summer employee. Appearance of the grounds and condition of the buildings suffer. It is difficult to find time to complete all the necessary routine work with the fish, keep records and do maintenance.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Accomplishments include producing enough eggs to fill all commitments plus provide eggs to Wyoming to start a broodstock, to the federal Fish Technology center for studies, and to Jackson, WY for fire damage studies. New roofs were installed on both houses. Water pipes were replaced in one house. Several fences were built. A hatchery pamphlet was produced to greatly improve public relations. One employee attended the federal Fish Culture Short Course to increase his knowlege and skills.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
3887	70,829.00	70,761.74	67.26	
TOTALS	70,829.00	70,761.74	67.26	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Prepared by David W. Rodgers, Hatchery Manager Date 8/22/89
Regional Supervisor _____ Date _____
Comments: _____
rpt/576.2

ANNUAL YEAR PROJECT REPORT   JOB PROGRESS REPORT
FY 89 ;   JULY 1, 1988 - JUNE 30, 1989

Division __Fisheries___   Region: 5   FRAS Project No. __1988____
Project Title __Blue Water Springs Hatchery____ ....
Date Proj. Started ____ONGOING ___ End date ______   (Indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY 1989 work plan - item ( ). Write either "completed", " not completed", or "partially completed" beside each item listed to indicated work actually done last FY.

1. Produce with in 10 % requested numbers of fish for distribution. COMPLETED

2. Plant fish at requested sizes and with in desired time frames. COMPLETED

3. Produce maximum numbers fish, fish health criteria will allow. COMPLETED

4. Submit reports to Hatchery Bureau Chief as needed. : COMPLETE

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain; (ie. , problems incurred and resulting impacts to attainment of project objectives).

NO VARIANCE BETWEEN WORK PLAN AND ACTUAL WORK

C. Discuss impacts of project variance to DWFP programs (or related) objectives stated in the strategic plan. Also discuss significant accomplishments of project (state in terms of outputs produced if possible, i.e. recreation days etc.

NO IMPACTS FOR A VARIANCE.

Meeting requested fish production, i.e. numbers and sizes being to maintain compliance with the 5 year planting program for the Fisheries Division.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and others).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance : If project spending was as scheduled, put "on schedule ". If spending was at a variance with planned costs, describe.
3269				
Personal ser.	$ 84,799.00	$83,141.55	$ 1,657.45	
Operations	$ 50,800.00	$52,814.76	-$ 2,014.76	
Other	$ 0			
TOTALS	$ 135,599.00	$ 135,956.00	-$1,357.31	

COST VARIANCE : above planned costs was due to increased utility, and feed cost, while continuing the planned maintance and upgrade of hatchery facilities.

E. RECOMMENDATED ACTIONS : to improve the effectiveness of this type of work effort in the fotuse.

Continue maintance projects at this hatchery in order to bring the physical fearures of this unit up to standards. To allow maximum numbers of fish produced with in fish health standards. Insuring compliance with 5 year planting schemes.

Prepared by Larry K. Shaver Hatchery Manager DATE 8/12/89
Regional Supervisor [illegible] DATE 8/17/89
Comments : DATE

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY 89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 3 SBAS Project No. 3889
Project Title Miles City State Fish Hatchery
Date Proj. Started 07-01088 Ending Date 06-31-89 (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY 89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

LIST:

The work schedule to be completed during FY89 consisted of the following:
1. Production of 42 million walleye fry (completed) and 2,100,000 fingerlings (partial completion).
2. Production of 5 million northern pike fry (partial completion) and 500,000 fingerlings (partial completion).
3. 500,000 each of largemouth and smallmouth bass fingerlings (partial-completion).
4. 300,000 crappie (not completed)
5. 25,000 channel catfish (partial completion)
6. 10,300,000 forage fish (not completed)

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e. problems incurred and resulting impacts to attainment of project objectives).

Due to problems with the hatchery construction, this facility was unable to utilize 15 of the newly constructed ponds, thus reducing the capabilities of this hatchery to produce the numbers of fish listed in part A.

Fish produced in FY89 were:
40,900,000 walleye fry plus 934,722 walleye fingerlings
350,000 northern pike fry plus 1752 fingerlings
49,300 largemouth bass (received from an out of state source), no smallmouth bass were produced due to hatchery construction.
11,700 channel catfish (received from an out of state source), this fulfilled the number requested.
0 crappie were produced due to hatchery construction
0 forage fish were produced, none were needed for FY89.

C. Discuss impact of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

This facility was not able to function in its entirety due to problems with construction. These construction problems effected the ability of the hatchery personnel to effectively manage the fish culture process at this hatchery. Th is resulted in lost procution, thus effecting the number of fish planted in the FWP fisheries program.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
3889	76,230.00	72,877.14	3,352.86	Full project work schedule could not be completed, due delayed construction of this facility.
TOTALS	76,230.00	72,877.14	3,352.86	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

There may need to be an increase in manpower and fish distribution units in order to remove the fish from the ponds and distribute them in a timely manner.

In order to meet the production goals of this hatchery, the hatchery construction will have to be completed so that all of the ponds can be put into production.

Prepared by Mike Rhodes Date 08-16-89

Regional Supervisor _____ Date _____

Comments: _____

rpt/576.2

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY 89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region 1 SBAS Project No. 3891
Project Title Murray Springs Fish Hatchery
Date Proj. Started 5/1978 Ending Date ongoing (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY 89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

LIST:

Hatch, rear, and distribute four species of fish into 59 lakes and 17 streams during the fish year of October 1, 1988 - September 30, 1989.

500,000	Westslope cutthroat	2-4 inch
91,000	Kamloop rainbow	7-8 inch
550,000	Kokanee salmon	2 inch
20,000	McBride (Yellowstone) cutthroat	4 inch

Other work completed see attached page

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e. problems incurred and resulting impacts to attainment of project objectives).

none

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Fish Plants	Numbers	Pounds
Westslope cutthroat	443,744	2,232
Kamloop rainbow	91,991	15,849
Kokanee salmon	555,276	1,534
McBride cutthroat	20,780	1,060

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgered	Amount Spenr	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
3891	115,000.00	115,298.28	- 298.28	
TOTALS	_____	_____	_____	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Prepared by Jim C. Schreiber James C Schreiber Date 8/29/89
Regional Supervisor _____ Date _____
Comments: _____
rpt/576.2

PROJECTS COMPLETED THIS REPORT PERIOD

1. Several United States Corps of Engineers operations and inspections were completed.
2. Spray cleaned all outside raceways.
3. Bolted down all walkways.
4. Checked all first aid kits.
5. Monthly inspection of all hatchery fire extinguishers.
6. Checked water chemistry of hatchery drinking water.
7. Monitored diesel fuel and gas tanks (underground) for generator and hatchery operation.
8. Inspected and recharged fire extinguishers as needed.
9. Made and installed ladder on outside of head tank tower.
10. Made and installed structure supports for damboards on all outside raceways.

BUILDINGS AND GROUNDS

1. Change oil in generator.
2. Lubricated pump motors in pump house.
3. Pumped out discharge pond.
4. Cleared out dead standing timber on grounds.
5. Inventoried and inspected all hazardous materials in paint storage room.
6. Installed heater in garage portion of hatchery building.
7. Gave tours to school groups, scout troops, government agencies, and all public visitors during hatchery hours.
8. Kept lawns watered, mowed and in excellent condition.
9. Installed alarm system on height of water in tower.

Fisheries

1. Made 117 fish plants for this reporting period of Westslope cutthroat, Kamloop rainbow, Kokanee salmon, McBride cutthroat, and Eastern Brook trout.
2. Biannually sampled discharge water for Water Quality Bureau.

End of FY Project Report

July 1, 1988 - June 30, 1989

Division: Fisheries Region: 8 Project: 3892

Project Title: Fish Health Management

Date Project Started / End Date: This is an ongoing project

A. List work scheduled to be completed for this project (include performance standards from 1989 work plan - item 6). Write either "completed","not completed" or "partially completed" to indicate work actually done last FY beside each item.

Timely and appropriate response to specific fish health problems and timely completion of scheduled routine inspections.

Completed and ongoing.

91 inspections were conducted in FY89.

Completed and ongoing.

Increased capabilities, self-sufficiency and effectiveness of overall project.

Completed and ongoing.

Lab reports filed both chronologically, by lab no., and by inspection location.

Completed and ongoing. These reports are held in hard copy at the lab.

Annual report of drug inventories and usage submitted each Feb. to the Hatchery Bureau Chief.

Completed. This information is now also computerized.

In addition to the goals established for this project for FY-89 in the Budget Allocation Work Plan, the following outputs are an ongoing part of this project:

Annual or semi-annual inspection of private hatcheries in Montana for compliance with state disease regulations.

Completed and ongoing.

Conducted fish health inspections at the following private hatcheries in Fy89:

Spring Creek Hatchery, Lewistown
Hagen Western Fisheries, Sheridan
Harriman Trout Company, Post Creek

Statewide survey of fish pathogens.

Completed and ongoing. This has been limited to troubleshooting inspections and routine inspections of egg sources. In addition, westslope cutthroat potential egg sources were tested for fish health.

Additional output: Tetracycline marking.

Scheduled work completed. This project has taken a lead in the tetracycline marking programs in Montana. Tetracycline ordering, shceduling and mark examinations were conducted this year at the Fish Health Lab.

B. Describe any variance between work scheduled and work completed and explain: (i.e., problems incurred and resulting impacts to the project.)

Most problems which occurred in FY89 were absorbed into the work schedule. The fish health project was created and designed to deal with unscheduled fish health problems, therefore scheduling and pacing of workload is difficult. However, no significant variance was encountered this year.

C. Discuss impact(s) of project variance to MDFWP programs (as related to objectives stated in the strategic plan.) Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

All scheduled work was completed, although indepth investigation of any one fish health problem was not possible.

A major emphasis of the MDFWP fish health project is diseae prevention. It is difficult to quantify the effects of preventing a problem except to point out that Montana's quality healthy fisheries depend on healthy quality fish. Montana's fish health project has had a positive impact on Montana's fisheries and fishing opportunity.

Probably the most significant accomplishment of the fish health project this year was passage of new legislation which substantially changed our fish importation laws. The statute revision resulted in authority for MDFWP to require an import permit for all fish including both salmonids and non-salmonids. It also provides disease control for in-state fish movements. The preparation and development of the legislation took considerable time. Since passage of this bill in the 1989 legislature we have had many requests for import permits and in FY89 we issued 22 import permits for state and private uses.

D. FINAL BUDGET STATUS (TOTAL cost of project...personal services, operations and other.)

Project Number	Amount Budgeted	Amount Spent	Balance of Funds	Variance
3892	$45,423.00	$45,070.54	+ $ 352.46	*on schedule

* Spending was generally on schedule. For FY89 two budget categories were short; supplies and communications. Employee Benefits was overspent by $ 33.40. The project has no control over this category. The communications budget was especially hard hit this year by an increased need to mail fish health samples by Express Mail. Until last year the U S Fish and Wildlife Service has allowed us to ship samples priority mail which did not cost us. However, mail delays have resulted in some samples arriving at the lab late and some samples had to be recollected. Now most samples are shipped Express Mail. Samples are shipped in coolers and each cooler costs $35.00 - $50.00 to Express Mail. We mailed 2-4 coolers many months during FY89. Also overspent in the communications budget was long distance telephone calls. Since my duties are statewide I rely heavily on the telephone. I also communicate with other fish health people and labs all over the country.

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

I recommend we continue to develop our association with the USFWS, especially the Fish Disease Control Center at Fort Morgan, Colorado and the Fish Technology Center at Bozeman. Because of our own limited lab facilities and manpower we greatly depend on USFWS support. I recommend we continue to utilize USFWS resources available to us, yet we have to be aware of USFWS budget considerations and be prepared to take over some services now provided by the USFWS if a time comes they can no longer provide them. I recommend we continue efforts to make our lab more self-sufficient. This includes continued and increased funding for lab equipment and fish health operations. I also recommend that more out-of-state travel be made available to the fish health project to attend training sessions and to continue associations with other fish health professionals around the country.

During FY89 the USFWS Fish Disease Control Center (FDCC) continued to provide fish health laboratory inspection and diagnostic services to Montana. They will continue to provide this service in FY90. However, as of July 1, 1990 the USFWS has informed us that they will no longer provide routine inspection services for bacteriology or whirling disease. We are now faced with the very real possibility of losing some of these valuable services. At current funding and staffing levels the fish health project can not take over services dropped by FDCC. Fish disease protection will suffer greatly if we lose the services provided by FDCC. FDCC has been a friend to Montana. During FY89 we had several discussions with FDCC to encourage continuation of the services. We have also considered other options. Discussions will continue in FY90. However, it is quite clear that we are going to have to start paying much more for lab services.

Fish health facilities in Montana are currently limited. MDFWP should plan to develop a fish health lab and expanded staff, including fish health personnel as well as other specialists, such as a nutritionist and a geneticist.

Prepared by James E. Peterson Date 8-16-89

James E Peterson
Fish Health Biologist
Montana Dept of Fish, Wildlife and Parks

Supervisor _____ Date _____

Comments: _____

_____

\WP\FHAR\FY89REP

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY89: JULY 1, 1988 - JUNE 30, 1989

Division Fisheries Region One SBAS Project Number 31732

Project Title Flathead Lake/Mysis

Date Proj. Started July 1, 1988 Ending Date June 30, 1989 (or indicate if ongoing)

A. List work scheduled to be completed for this project (include performance standards from your FY89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

List:

Complete a hydroacoustic estimate of fish abundance in Flathead Lake (Analysis completed and results written in draft to Addendum Report).

Characterize diet and measure growth of kokanee and lake whitefish in Flathead Lake (Partially completed, lab analysis completed and data analysis in progress).

Formulation of Flathead/Kerr interagency mitigation plan by October 1989 (Completed).

Sample juvenile kokanee with mid-water trawl in June and September (Sampling attempted; very few young fish captured).

Measure age specific growth rate by extrapolation from incremental increase in otolith radius by June 30, 1989 (Completed).

Determine the age composition of trawled samples of fish taken in May and September Estimate mortality rate from the descending leg of the resultant catch curve (Insufficient data).

Compare mortality rates of wild and hatchery-reared fish (Insufficient samples).

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e., problems incurred and resulting impacts to attainment of project objectives).

Too few young kokanee to estimate mortality, age composition. Mortality estimates likely will only be possible from estimates of escapement for each year class; this means adult fish, and a 3-4 year lag.

C. Discuss impact(s) of project variance to DFWP programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

Impacts:

Lack of sufficient samples of young kokanee will make it difficult to evaluate our hatchery efforts to recover the kokanee fishery. Recovery of the fishery is important to the Region One fisheries management program.

Accomplishments:

Under this project, the first quantitative estimate of fish abundance in Flathead Lake was accomplished.

An interagency mitigation plan for Kerr Dam was completed in cooperation with the Confederated Salish and Kootenai Tribes, the U.S. Fish and Wildlife Service and the Bureau of Indian Affairs.

Two papers summarizing major results from the project were published in an international journal (one in 1987 and one in 1989).

The project contributed to the release of 2.5 million and 4.0 million kokanee fry into Flathead Lake in 1988 and 1989 respectively. The project pioneered net-pen rearing technology in Montana.

These and other accomplishments will add significantly to the success of the Region One fisheries management program, and help increase angler days on Flathead Lake.

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
31732	67,677.00	66,431.19	1,245.81	"On schedule"
TOTALS	67,677.00	66,431.19	1,245.81	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Determine young kokanee feeding success when presented different plankton densities in a controlled experiment. Determine plankton distribution in Flathead Lake on a seasonal basis, and ideally compare with plankton distribution in other Mysis disturbed lakes were kokanee numbers are still fairly high.

Prepared by Joel Tohtz and John Fraley Date 8-25-89
Regional Supervisor [signature] Date 8/29/89
Comments:
rpt/576.2

Montana Department
of
Fish, Wildlife & Parks

M E M O R A N D U M

TO: Work Plan Reviewers DATE: May 2, 1989

FROM: Steve McMullin

SUBJECT: What To Look For

Please review the regional workplans assigned to you and pass them along to whoever else is assigned to review them. Please make all your comments on a separate sheet of paper attached to the front of the workplans. This will facilitate the meetings Pat and I have with the regions. Please check the following when reviewing workplans:

1. Do the tasks adequately explain what will be done, and address the stated objectives?

2. Are there new work efforts suggested and are they worthy of funding? These should be identified by the number 9 after a task priority or by note from the region.

3. Are the priorities correctly assigned?

A list of projects for which each of you is responsible is attached. We will meet at 1:30 Friday, May 5 in the Commission Room to discuss workplans.

dr

Enclosure

WORKPLAN ASSIGNMENTS

Graham	McMullin	Peterman	Wipperman	Dotson
3211	3111	3111	3411	3311
3212	3121	3121	3421	3312
3213	3131	3131	3422	3321
3221	3151	3151	3441	3322
3231	3511	3211	3442	3331
3311	3512	3212	3451	3411
3312	3531	3213	3511	3421
3313	3561	3221	3512	3441
3314	3631	3231	3531	3451
3321	3651	3313	3561	3631
3322	3661	3314	3741	3661
3331	3741	3422	3742	
	3742	3442	3751	
	3743	3651	3752	
	3744	3743		
	3751	3744		
	3752			

Montana Department
of
Fish, Wildlife & Parks

November, 7, 1989

TO: Larry Peterman

FROM: Dwight Guynn

SUBJECT: End-of-Year Reports

Attached are all FY 89 End-of-Year reports received by the Planning Unit for the Fisheries division. A cover sheet lists all project numbers for End-of-Year reports within your division.

The purpose of End-of-Year reports is to aid in the evaluation of work projects and also to provide information that may be useful in personnel performance appraisals. The Planning Unit has kept copies of End-of-Year reports in the past. This year, divisions are to be responsible for retaining and using copies of their End-of-Year reports. Please keep these reports on file for your use or for reference by the director's office.

cc. Marcoux
Graham

LIST OF END-OF-YEAR REPORTS FY 89

FISHERIES

3111-EPP	*	3751	*
3121	*	3752	*
3121-EPP	*	3801	*
3131	*	3802	*
3131-EPP	*	3803	*
(31431)		3804	*
3151	*	3805	*
(31732)	*	3806	*
(3174-1)	*	3807	*
(31751)		3808	*
(3176-1)	*	3809	*
(31771)	*	3811	*
(31781)		3812	*
(3178-5)		3813	*
3211	*	3814	*
3212	*	3815	*
3213	*	3816	*
3214	*	3817	*
3215	*	3819	*
3221	*	3821	*
(32711)		3834	*
(32712)		(3874-7)	
(32713)		(38749)	
DJ3311	*	(38751)	
DJ3312	*	3881	
3313	*	3882	
3314	*	388369	
DJ3321	*	388469	
DJ3322	*	3885	*
3331	*	3886	*
3411	*	3887	*
3421	*	3888	*
3422	*	3889	*
3441	*	3891	*
3442	*	3892	*
3451	*		
3511	*		
3512	*		
3531	*		
3561	*		
3631	*		
3651	*		
3661	*		
(36752)			
(3682)			
3741	*		
3742	*		

(* Denotes End-of-Year Reports Received)
( )Denotes LCA Documentation Rather Than Dept. Workplan Format

Montana Department of Fish, Wildlife & Parks

Copy To all Central Staff (including Kalispell + Bozeman)

RECEIVED
JUL 28 1989
FISHERIES DIV.

Helena, MT 59620
July 28, 1989

TO: Regional Supervisors and Division Administrators

FROM: Ron Marcoux RM and Gene Allen GA

SUBJECT: End of Fiscal Year Project Reports

It is important to evaluate work completed during FY 89 before we're all too caught up in the new fiscal year. End-of-Year reports are one of the major tools we use to evaluate our work efforts. We continue to move toward a uniform Department-wide report format and expect to accomplish that by next year.

Fisheries Division Projects: Instructions and a deadline have already been sent to fisheries division personnel by Pat Graham. Department End-of-Year Project Reports and D-J Job Progress reports should be completed according to those instructions.

For All Other Department Projects (including P-R): Attached is the report form (Xerox as needed) to be completed for all other department projects conducted during the last fiscal year (July 1, 1988 through June 30, 1989). A diskette with the report form formatted in WordPerfect is included for use by the regional/division secretaries. Completed project reports are due to be submitted to regional supervisors by August 25, 1989. Regional supervisors will then submit all reports to the Director's office by September 1, 1989. This deadline allows submission of P-R and D-J reports to Denver in time to prevent withholding of Federal Aid monies.

Regional supervisors and managers must review projects in their regions to determine which projects are covered by the D-J report format and which require the Department's report format. All projects must be covered by one or the other.

If you have questions, please call the Planning Unit.

cc: Planning Unit
Federal Aid Coordinator

END OF YEAR PROJECT REPORT / JOB PROGRESS REPORT
FY 89: JULY 1, 1988 - JUNE 30, 1989

Division _____ Region____ SBAS Project No. _____
Project Title _____
Date Proj. Started _____ Ending Date_____ (or indicate if ongoing)

A. List work <u>scheduled</u> to be completed for this project (include performance standards from your FY 89 work plan - item 6). Write either "completed", "not completed", or "partially completed" beside each item listed to indicate work actually done last FY.

LIST:

B. Describe any variance between work (or P-R objectives) scheduled and work (or P-R objectives) completed and explain: (i.e. problems incurred and resulting impacts to attainment of project objectives).

C. Discuss impact of project variance to DFW programs (as related to objectives stated in the strategic plan). Also discuss any significant accomplishments of this project (state in terms of outputs produced if possible, i.e. recreation days, etc.)

D. FINAL BUDGET STATUS (TOTAL cost of project... personal services, operations and other).

Proj. No.	Amount Budgeted	Amount Spent	Balance of Funds	Variance: (If project spending was as scheduled, put "on schedule". If spending was at variance with planned costs, describe.)
TOTALS	_____	_____	_____	

E. RECOMMENDED ACTION(S) to improve the effectiveness of this type of work effort in the future.

Prepared by_____ Date_____
Regional Supervisor_____ Date_____
Comments:_____
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