MINUTES

MONTANA HOUSE OF REPRESENTATIVES
53rd LEGISLATURE - REGULAR SESSION

JOINT SUBCOMMITTEE ON NATURAL RESOURCES

Call to Order: By **CHAIRMAN ROGER DEBRUYCKER,** on February 5, 1993, at 7:30 A.M.

ROLL CALL

Members Present:
Rep. Roger DeBruycker, Chairman (R)
Sen. Cecil Weeding, Vice Chairman (D)
Sen. Gerry Devlin (R)
Sen. Greg Jergeson (D)
Rep. John Johnson (D)
Rep. William Wiseman (R)

Members Excused: None

Members Absent: None

Staff Present: Roger Lloyd, Legislative Fiscal Analyst
Florine Smith, Office of Budget & Program Planning
Theda Rossberg, Committee Secretary

Please Note: These are summary minutes. Testimony and discussion are paraphrased and condensed.

Committee Business Summary:

Hearing: **FISH, WILDLIFE & PARKS**
Fisheries Division
Wildlife Division

Executive Action: **FISH, WILDLIFE & PARKS**
Fisheries Division
Wildlife Division

HEARING - FISHERIES DIVISION

Roger Lloyd, Legislative Fiscal Analyst, reviewed the budget differences of the Fisheries Division with the committee. **EXHIBIT 1**

Florine Smith, Office of Budget Program and Planning, said the $46,250 for the Missouri Basin Reservations Grant was a modification that was approved in **Gary Fritz's** budget in the Department of Natural Resources and Conservation.

The Lewistown Fisheries Biologist modification for a .50 FTE is funded with state special revenue and Dingell-Johnson funds. BLM

provides an equal match for that FTE. There is no general fund in this budget.

The Clark Fork River Investigation FTE is funded with state special revenue and Dingell-Johnson funds. There is no general fund in this budget.

Larry Peterman, Administrator of the Fisheries Division, reviewed the budget items.

Water Leasing:
In 1989 the Legislature authorized the department to conduct a study on the effects of leasing water. About 60 to 70 streams were checked and of those, about 15 have the potential of moving ahead on water leasing. The division is negotiating on four separate streams and, hopefully, an agreement can be devised for those water leases. The division requested a $30,000 biennial appropriation for this program. It is believed there will be more activity in the next biennium for water leasing.

REP. WISEMAN asked how much money the division spent in FY 92 and FY 93. **Mr. Peterman** replied there is $60,000 biennial appropriation for the study carried forward. The division spent $2,500 in FY 92 and the balance of $27,500 for FY 93.

REP. WISEMAN asked how much they paid per foot. **Mr. Peterman** said about $3 per acre foot.

REP. WISEMAN asked if that was about the average cost. **Mr. Peterman** said for stored water the cost was anywhere from $2 to $5 per acre foot.

SEN. WEEDING asked if the division was requesting this on the premise of additional leases. **Mr. Peterman** said they have authority for ten streams and, of those, there are seven under active study. The division is looking at four other streams and are pretty positive on the other four. These are annual leases which carry forward year after year. An annual report is submitted to the Water Policy Committee.

SEN. DEVLIN asked if they made a long term contract with those people for water leasing or if it was yearly. **Mr. Peterman** said the term of a contract can be up to ten years and by law contain a ten-year renewal clause.

CHAIRMAN DEBRUYCKER asked how the basin closures affect the water leases. **Mr. Peterman** said the basin closures should not affect water leasing. The existing rights are being changed. The funding is 25% from fishing licenses and 75% federal funds.

EXECUTIVE ACTION
FISHERIES DIVISION

Motion/Vote: **SEN. WEEDING** moved to approve the executive budget for $30,000 in FY 94 and zero in FY 95 for water leasing. Motion **FAILED** 3 to 3.

Angler Harvest Survey:
Mr. Peterman said this is a cyclical budgeting item. A major statewide fishing survey is done in even numbered years, a follow-up is done in odd numbered years and then an analysis is done on that survey.

There are two components of the Angler Harvest Survey: 1) assessing the resident angler; and 2) assessing the non-resident angler. The survey tells what the fishing pressure is on different bodies of water. There is a lot of follow-up done with mailings and telephone surveys. The division receives about a 70% return rate from residents, but not nearly that return rate from non-residents.

The money for this item is to allow more follow-up on non-residents to receive a higher rate of response in order to be more accurate in the non-resident fishing pressure estimates. The division is requesting $5,938 the first year and $3,265 the second year.

SEN. DEVLIN asked how much is now being spent for this survey. **Mr. Peterman** said in the even numbered years when an actual survey is done the budget is $94,000; in the odd numbered years it is $35,000.

Fishing Regulations Printing:
Mr. Peterman said the fishing regulations are also a cyclical budgeting item. The fishing regulations are done in the even numbered years and in the odd numbered years only emergency regulations are printed. Most of the cost is for brochures and regulations which are produced in the even numbered years. The demand for fishing regulations has increased from 550,000 to 750,000. There is an increase of requests for regulations from the non-residents and different dealers.

The budget request will allow the division to recover some of the costs which had to be taken out of other operational budgets over the last several years.

SEN. WEEDING asked what the source of funding was. **Mr. Peterman** said the funding is primarily from fishing license revenues.

SEN. DEVLIN asked what the current level was. **Mr. Lloyd** said there is $63,814 in the base for 1994.

Mr. Peterman said it is estimated the division will spend about $75,000 in the two-year period.

Motion/Vote: **SEN. WEEDING** moved to approve the executive budget for $11,186 in FY 94 and $539 in FY 94 for Fishing Regulation

Printing. Motion **FAILED** 3 to 3.

Paddlefish Roe Program:
Mr. Peterman said this program allows for the collection and sale of paddlefish eggs. The Glendive Chamber of Commerce (GCC), a non-profit organization, does the collection and marketing of the eggs. The net profits are split 50%-50% with the division and the Chamber of Commerce. There is proposed legislation to change to a 60%-40% split. The GCC has about three years of revenue estimates but those are not constant since the harvest depends upon spring run-off and if there is a drought there is a small harvest.

The FWP has concluded that there needs to be further study on paddlefish to determine its status as an endangered species. The studies between the department and North Dakota are necessary to justify what is a safe level of harvest on the paddlefish population.

SEN. DEVLIN asked what kind of money North Dakota contributes for that study. **Mr. Peterman** said North Dakota is funding its portion of the study that takes place at the Missouri and the Garrison Reservoir. A coordinated study is being done on harvesting at the intake and the river downstream. He said he wasn't certain what the cost was, but the division will be paying about $32,000 per year.

SEN. DEVLIN asked if the revenue the division receives paid for the study. **Mr. Peterman** said it averages about $50,000 with the 50%-50% split and will be reduced to about $42,000 with the 60%-40% split.

REP. WISEMAN asked how long the study would take. **Mr. Peterman** said it will be a five-year study with North Dakota. After that the situation will be assessed as to what kind of monitoring has to be done.

REP. JOHNSON said with regard to the 60%-40% allocation, $30,000 would be the share that FWP would receive. The GCC would make up the difference to FWP from its share. This study is vital to the paddlefish population.

Tape 1, B.

Motion/Vote: REP. JOHNSON moved to approve the executive budget for $8,501 each year of the biennium for the paddlefish study. Motion **CARRIED** unanimously.

Missouri Basin Reservations Grant:
Mr. Peterman said this is a grant to DNRC for processing the applications which have been submitted for the Lower Missouri River Basin below Fort Peck and also for the Little Missouri River Basin. The Upper Missouri River Basin was just completed this year. The Little Missouri River Basin was to have been completed by December 31, 1992. There is a bill pending to extend that to December 31, 1994.

The $46,250 covers the cost of the Environmental Impact Statement (EIS) and the cost of hearings involved with the process. This is a biennial appropriation which is needed to process the applications.

SEN. WEEDING asked if the committee approved this in the DNRC budget. **Ms. Smith** replied yes, they did.

REP. WISEMAN said he thought the one approved in DNRC was in **SEN. JERGESON'S** territory. **SEN. JERGESON** said the Milk River is part of the Lower Missouri Basin.

Mr. Peterman said the appropriation is needed every year. The funds are from the license account and Dingell-Johnson funds.

Motion/Vote: **SEN. JERGESON** moved to approve the $46,250 biennial appropriation for the Missouri River Reservations Grant. Motion **CARRIED** unanimously.

Consulting & Professional Services:
Mr. Peterman said the budget for this biennium is nearly the same as the last biennium. The reason outside consulting services were used is because the department doesn't have the expertise. The division had a contract with FWP at Creston for over-wintering a block of fish at Eagle Lake Rainbow. The fish used to be planted in the fall, but studies indicated there was a very poor survival rate at that time. Consequently, some funds were re-directed to carry the fish over for a spring plant.

The division has a contract with the University System to look at therapeutic drugs for fish diseases in hatcheries.

Motion: **REP. JOHNSON** moved to approve the executive budget for $76,458 in FY 94 and $53,111 in FY 95 for Consulting and Professional Services.

Discussion: **SEN. DEVLIN** asked if, since the division is unsure of what the expenses will be in a given year, it should be a biennial appropriation. **Mr. Peterman** replied it is an annual appropriation.

Substitute Motion: **REP. WISEMAN** made a substitute motion to approve an appropriation of $50,000 each year of the biennium. Motion **FAILED** 3 to 3.

Vote: To approve the executive budget for $76,458 in FY 94 and $53,111 in FY 95 for Consulting and Professional Services. Motion **FAILED** 3 to 3.

Motion: **SEN. JERGESON** moved to approve the executive budget for $73,458 in FY 94 and $50,111 in FY 95 for Consulting and Professional Services.

Discussion:
Mr. Peterman said that due to an error in the LFA write-up, the LFA budget was overstated by $23,327 in FY 95.

Mr. Lloyd said **SEN. JERGESON'S** motion would put the FY 94 and FY 95 budget at the same level as FY 92 expenditures.

Vote: Motion **CARRIED** 5 to 1 with **REP. WISEMAN** voting no.

Motion: **SEN. JERGESON** moved to approve the executive budget for $1,655,000 in FY 94 and $2,150,000 in FY 95 for the Legislative Contract Authority (LCA).

Discussion: **SEN. DEVLIN** asked if the motion would be giving the division spending authority for the studies. **Mr. Lloyd** replied in the 1991 session the Legislature authorized $1.245 million LCA for FY 94 of which $787,000 was spent, an added 24.79 FTE. The FTE are not continued in the base, so current level is zero. He said in FY 92 $2.9 million was authorized, but only $1.7 million was spent, so $1.2 million spending authority was never used.

Vote: Motion **CARRIED** unanimously.

Mr. Peterman said there is a grant to the University System for the operation of the Cooperative Fisheries Program at MSU. That program was not continued as a grant for this year. The Cooperative Fisheries Program is a joint effort between the state and the University System. This cooperative unit has been in existence since 1963; under the program, FWP pays the salaries of the unit leader and the assistant leader and some of the operation dollars. The University System provides office space, secretary, printing, etc. The division participates in the project by providing stipend and operation money for graduate students to do research on fishery topics. Those graduate students do the studies without pay, under the direction of a competent scientist. Their schooling and tuition are paid for under that program.

The division is requesting $28,500 per year to allow the Cooperative Fishery Research to continue. That $28,500 is the total expenditure for the program.

Ms. Smith said that is an oversight that was left out of their budget and the Executive supports the department's request.

SEN. DEVLIN asked if the $28,500 was the total cost for the Cooperative Fishery Research Unit. **Mr. Peterman** said yes. **Ms. Smith** said it is funded with general license money and no general fund.

Motion/Vote: **SEN. WEEDING** moved to approve $28,500 per year for the Cooperative Fishery Research Unit. Motion **CARRIED** unanimously.

Minor Differences:
Motion/Vote: **SEN. JERGESON** moved to approve $266 for FY 94 and $268 in FY 95 for Minor Differences. Motion **CARRIED** unanimously.

SEN. WEEDING asked whether, if Dingell-Johnson dollars were not used, the monies would be returned to Washington. **Mr. Mott** said there is a two-year time period in which to spend the funds and if unspent, the monies do go back to Washington to be reappropriated to other programs.

Motion/Vote: **SEN. WEEDING** moved to reconsider the action taken previously on Water Leasing. Motion **FAILED** 3 to 3.

SEN. DEVLIN said they already have a 50% increase. **SEN. WEEDING** said the stream studies are over, lessees located and the program is just getting into operation.

Mr. Peterman said currently, there is considerably more interest for leasing; two leases have been completed with more interest in water leases being expressed.

SEN. JERGESON asked if a motion at some other dollar figure would be appropriate.

Motion: **SEN. JERGESON** moved to approve a biennial appropriation for $25,000 for Water Leasing.

Substitute Motion/Vote: **SEN. DEVLIN** moved to approve $15,000 as a biennial appropriation for Water Leasing. Motion **CARRIED** 5 to 1 with **REP. WISEMAN** voting no.

Personal Services:
Mr. Lloyd said Item C is the only item which hasn't been considered. Item A is a moot point and action was taken on Item B.

Item C - Other:
Ms. Smith stated that in Item C, the number was used to bring up the total 5% vacancy reduction.

Motion/Vote: **REP. WISEMAN** moved to approve the executive budget for $6,338 in FY 94 and $6,038 in FY 95 for the 5% vacancy reduction. Motion **CARRIED** 5 to 1 with **SEN. JERGESON** voting no.

CHAIRMAN DEBRUYCKER asked if the department had any response to **REP. WANZENRIED'S** concerns expressed yesterday. **Mr. Peterman** said **REP. WANZENRIED** raised a number of issues about the fisheries and mitigation occurring in the Flathead area. He also questioned the amount of money to be used for the fish trap being built. The department budgeted $7,800 for that and about $2,500 per trap for three traps. They only budgeted for the actual netting for the traps. The remainder of the budget for the labor of putting the traps together would come out of operations.

He mentioned the Somers Hatchery which is in need of repair. The division has budgeted for a new pump for that hatchery, and they are also considering ways to re-build the sea wall. The division believes there is a cheaper way to repair the wall than the amount quoted by the engineers. Some of the budget is for fencing to keep animals out of the hatcheries.

The division is also working with the Echo Lake people on that hatchery.

The division is not biased about using hatchery fish, but needs to make sure that the fish match the species already there.

Tape 2, A.

Mr. Peterson said they have scheduled a meeting on February 17th with the Lake County and Flathead County legislators to respond to their concerns. Meetings have also been scheduled with the Echo Lake Fishing Association and the Flathead Lake Fishing Association.

There was considerable discussion about the fish hatcheries and fishing issues in the Flathead Lake area.

CHAIRMAN DEBRUYCKER said everyone was disturbed about **REP. WANZENRIED'S** concerns.

Budget Modifications

Lewistown Fisheries Biologist:
Mr. Peterman said there is a substantial fishery resource in the Lewistown area. The division could expand opportunities and manage that water much better if there was a fishery biologist in the area.

They have worked with the biologist in Lewistown and also the BLM, and are proposing to obtain a cooperative project between BLM and the department to jointly fund it. The department's cost would be for half of the cost of an FTE and half the cost of operations. The BLM would provide the other half of the funds.

In the past, the division has had cooperative agreements with the Forest Service which have worked very well. The federal agencies are interested because the division can do the work cheaper than if they had to hire people and the division has the expertise. The funding is 25% from fishing license revenues and 75% Dingell-Johnson funds.

CHAIRMAN DEBRUYCKER asked if the $53,332 was the BLM match. **Mr. Peterman** said yes.

CHAIRMAN DEBRUYCKER also asked what the budget for the Lewistown Hatchery was. **Mr. Peterman** said he did not have the budget figures at this time, but they do population surveys every other year on Big Springs Creek that is independent of the hatchery.

Motion/Vote: **REP. JOHNSON** moved to approve the executive budget for $26,666 each year of the biennium for the Lewistown Fisheries Biologist. Motion **CARRIED** 5 to 1 with **REP. WISEMAN** voting no.

Clark Fork River Investigation:
Mr. Peterman said a fisheries biologist was hired to assist with the investigation of the Clark Fork River damage assessment which was a two-year study. The state had a suit with Atlantic Richfield Company (ARCO). The Upper Clark Fork River, Rock Creek and the Blackfoot River used to be Class One trout streams; but due to damages caused by the mining industry, the waters do not measure up.

Data collection has been completed and a report compiled on the damage assessments. **EXHIBIT 2**

The division is requesting an additional two years of funding for the natural resource damage to either take ARCO to court or try and reach a settlement. The division is requesting another two years of funding to develop a mitigation plan for the Clark Fork River to make improvements to the system.

REP. WISEMAN said that damage occurred over a hundred years of accumulation from all the mining damage. Now, they are going after ARCO because they were the last ones on the list. **Mr. Peterman** responded ARCO is the responsible party because it purchased those properties.

REP. WISEMAN asked if the Butte Pit was also ARCO'S fault. **Mr. Peterman** responded that he wasn't sure if ARCO or the Washington Corporation were responsible for that.

Motion: **SEN. WEEDING** moved to approve the executive budget for $50,915 in FY 94 and $50,946 in FY 95 for the Clark Fork River Investigation and include language as follows: "Item (Clark Fork River Investigations)...." Refer to **EXHIBIT 1 Item D.**

Discussion:
SEN. WEEDING said a lot of money has been spent on the project and he thought it should be pursued to the end since the state would probably recover far more than what was spent on it.

CHAIRMAN DEBRUYCKER asked if the suit is settled, the FTE would fall out of the base. **Mr. Graham** replied they would be preparing another report and would provide the committee with a copy of it.

Vote: Motion **CARRIED** 5 to 1 with **REP WISEMAN** voting no.

Restore 5% Reduction:
Mr. Lloyd said if the committee wishes to reinstate any of the vacant positions, it would require a positive motion. All the positions are listed on **Page 3, EXHIBIT 1.**

Mr. Peterman said the positions were grouped together by category

of job responsibility. He reviewed all FTE categories with the committee, job titles, responsibilities and locations.

Motion/Vote: **SEN. JERGESON** moved to reinstate positions #13605 and #13302. Motion **CARRIED** 5 to 1 with **SEN. DEVLIN** voting no.

Motion/Vote: **SEN. DEVLIN** moved to reinstate fisheries workers positions 3 through 14 with the exception of number 8, position #23412. Motion **CARRIED** unanimously.

Motion/Vote: **REP. WISEMAN** moved to restore position items 19-27, 29-32 and 39-44. Motion **CARRIED** unanimously.

Tape 2, B.
(Doesn't Work)

Tape 3, A.

Mr. Peterman reviewed the 5% position reductions with the committee.

Motion: **SEN. WEEDING** moved to approve Item 34, position #13818, Item 35, position #13102 and Item 36, position #13814.

SEN. DEVLIN said Item 35, specialist #13818 has a much higher salary than Item 2, specialist #13302. He said he could not support Item 35.

Mr. Peterman explained that Item 35, specialist #13818 has been a long-time employee which is the reason for a higher salary.

Motion/Withdrawn: **SEN. WEEDING** withdrew his motion.

Motion/Vote: **SEN. WEEDING** moved to reinstate Item 34, position #13818, Information System Specialist. Motion **CARRIED** 5 to 1 with **REP. WISEMAN** voting no.

Motion/Vote: **SEN. JERGESON** moved to reinstate Item 35, position #13102, Fish/Wildlife Specialist. Motion **FAILED** 3 to 3.

Mr. Mott asked if all the vacant positions were reinstated. **Mr. Lloyd** replied that Items 15, 16, 17 18, 28, 33, 35, 36, 37 and 38 have not been reinstated,

Mr. Peterman said there are some significant positions which have not yet been reinstated.

SEN. WEEDING asked what positions would be the most critical. **Mr. Peterman** replied that Item 35, Fish/Wildlife position #13102, Item 37, Statistical Technician position #13806, and Item 18, Fisheries Field Worker position #23216 are critical. Also, the Fisheries Field Worker, Item 18 is a crew leader and is most significant.

Motion/Vote: **SEN. WEEDING** moved to approve the full position of Item, 37 position # 13806. Motion **FAILED** 3 to 3.

Motion/Vote: **SEN. JERGESON** moved to restore Item 18, Fisheries Field Worker position #23216. Motion **CARRIED** unanimously.

Language Issues:
Motion/Vote: **SEN. JERGESON** moved to approve Items A and B, to be biennial appropriations. Motion **CARRIED** unanimously.

HEARING
WILDLIFE DIVISION

Don Childress, Administrator, Wildlife Division, gave a brief overview of this division. He said the Wildlife Division was started in 1901 through a legislative mandate to protect and regulate wildlife enhancement. **EXHIBIT 3**

Big Game Management Bureau:
This bureau is often referred to as the survey and inventory bureau due to the counting of wildlife and preparation of inventory reports on wildlife populations. The bureau deals with endangered species and attempts to de-list those species through management action.

Small Game Bureau and Non-Game Bureau:
This includes management of fur bearers for trapping which does not include predators. There are over 500 non-game species. He said that the activities for non-game are primarily for population inventory. The bureau also works with a lot of volunteer groups throughout the state.

Upland Game Bird:
This program involves: 1) the season setting process and 2) a habitat enhancement program. **EXHIBIT 4**

In the 50th Legislation Session there was a pheasant enhancement program designed with landowners who wanted to plant pheasants. In the 51st Legislative Session there was an amendment which provided habitat enhancement on landowner's property.

Currently, there are over 400 contracts with private landowners in the eastern two-thirds of Montana. There are approximately 158,000 acres involved in the program.

Waterfowl Program:
This is an earmarked account associated with the sale of duck stamps. The eastern and northeastern part of the state have been identified as the North American Management Plan influencing the national and international scale. It is funded by a number of sources: the federal government, Ducks Unlimited, the duck stamp program and private groups. The State of Colorado is also donating $50,000 to help improve the duck populations in Montana.

Habitat Management Bureau:
The bureau oversees management plans and maintenance support

for 62 areas in the state. Sikes Act: **EXHIBIT 5.**

Research and Technical Services:
This is associated with the University of Montana at Bozeman. The laboratory there performs a number of activities, including developing ways of tracking diseases associated with wildlife. The bureau also works closely with the Department of Livestock.

Long Term Species Research:
The division is conducting a 10-year research program on white tail deer, elk, etc.

Tape 3, B.

Jean Johnson, Executive Director, Montana Outfitters and Guides Association, said the Association deals mostly with the non-resident hunters which provide a good share of the budget. The budget is not taking anything away from Aid to Dependent Children or any other such programs. She said the Association hoped this committee would look at the big picture and the consequences of losing too much of the budget.

Mr. Lloyd reviewed the budget difference with the committee. **EXHIBIT 6**

Ms. Smith stated the executive budget included $1,840,318 of state special revenue funds for the Upland Game Bird item for the biennium.

The FTE requested in the Wildlife Management EIS modification are 2.58 FTE the first year and 1.00 FTE in the second year, which are supported with state special revenue funds.

The 5% vacancy is also supported with state special revenue funds.

Personal Services:
Mr. Childress reviewed the vacant FTE with the committee. **EXHIBIT 6, Page 3**

EXECUTIVE ACTION - WILDLIFE DIVISION

Motion: **SEN. JERGESON** moved to reinstate positions #15604 and #15809.

Discussion:
SEN. DEVLIN asked what happened to the biologist in Malta. **Mr. Childress** replied that person moved to Forsyth where there was a vacancy. The division was in the process of advertising when the snapshot was taken. Position 2, located in Helena, was only vacant two days when the snapshot was taken, and is currently filled.

REP. WISEMAN said rather than go through the FTE helter skelter he would rather hear what the order of priority is from the

department. **Mr. Childress** responded that positions one through thirteen are priority positions.

Vote: Motion **FAILED** 3 to 3.

Mr. Childress said position 3 is tied to the Upland Game Program. The individual works in the field to help generate contracts with landowners. That FTE is needed because of the busy workload.

Motion/Vote: **SEN. DEVLIN** moved to reinstate position 3, #25110, Research Assistant. Motion **CARRIED** unanimously.

Mr. Childress said positions 4-11 are seasonal employees who work in the spring and summer doing maintenance in the wildlife areas.

SEN. WEEDING asked if those employees were spread across the state. **Mr. Childress** replied yes.

REP. WISEMAN asked what the difference was between the Research Aide and the Research Assistant. **Mr. Childress** said the Research Aide is a higher grade that oversees a crew and the Research Assistant works with information gathering. That particular FTE is designated to work on wildlife management, assessing weed control, vegetation analysis, etc.

Motion: **SEN. JERGESON** moved to restore the seasonal positions numbers 4 to 13.

Discussion: **SEN. DEVLIN** asked what the number 9 laborer was with the star. **Mr. Lloyd** explained, the **SWYSGOOD** motion directed him to remove .65 FTE from that position. When he looked at the FY 94-FY 95 budget, that position was only a .50 FTE.

Vote: Motion **CARRIED** unanimously.

Mr. Childress said positions 14 and 15 are regional specialists to assist the wildlife management area. Position 14 is located in Bozeman and position 15 is located in Great Falls.

SEN. WEEDING asked if those were wardens. **Mr. Childress** replied no, both were biologists.

Motion/Vote: **SEN. JERGESON** moved to reinstate positions 14 and 15. Motion **CARRIED** 4 to 2 with **CHAIRMAN DEBRUYCKER and REP. WISEMAN** voting no.

Mr. Childress said position 16 is a wildlife biologist working with the Forest Service out of Kalispell.

Motion/Vote: **REP. JOHNSON** moved to reinstate position 16, #15865, Fish/Wildlife Biologist. Motion **CARRIED** 4 to 2 with **REP. WISEMAN and SEN. DEVLIN** voting no.

Mr. Childress said position 17, the other Wildlife Biologist is

currently filled; this person works in Red Lodge with the Forest Service. The department provided the FTE and the Forest Service provided the operations. Work is being done in Helena on a similar program with the Forest Service.

Motion/Vote: **SEN. WEEDING** moved to reinstate position 17, #15861, Fish/Wildlife Biologist. Motion **FAILED** 3 to 3.

Mr. Childress said positions 18 and 19 are Research Assistants. These individuals assist with research activities using radios for tracking efforts.

Motion/Vote: **SEN. DEVLIN** moved to reinstate positions 18 and 19, Research Assistants. Motion **CARRIED** 4 to 2 with **CHAIRMAN DEBRUYCKER and REP. WISEMAN** voting no.

Mr. Childress said position 20 is a secretary position in the wildlife office who takes care of a large number of mailings, answers the telephone and acts as receptionist.

Positions 21, 22 and 23 are laborers associated with wildlife management. These are temporary positions which are filled on a seasonal basis located in region 3 where there are a significant number of wildlife areas.

Motion/Vote: **SEN. JERGESON** moved to reinstate positions 21, 22 and 23 seasonal laborers. Motion **CARRIED** 5 to 1 with **CHAIRMAN DEBRUYCKER** voting no.

Motion/Vote: **SEN. WEEDING** moved to segregate positions 1 and 2. Motion **CARRIED** unanimously.

Motion: **SEN. WEEDING** moved to reinstate position 1, #15604 Fish/Wildlife Biologist, located in Malta.

Discussion: **REP. JOHNSON** said the committee asked the department to give them their priorities and positions 1 and 2, the two top priorities, have been eliminated. He stated he supports **SEN. WEEDING'S** motion to restore position 1.

Vote: Motion **CARRIED** 4 to 2 with **SEN. DEVLIN and REP. WISEMAN** voting no.

Motion: **SEN. JERGESON** moved to reinstate position 2, #15809 Fish/Wildlife Program Officer, located in Helena.

Discussion: **Mr. Childress** said that position is used for the mountain lion and black bear hunt.

Tape 4, A.

Mr. Graham said that position is continually reassigned due to of critical new issues which arise. One of the things that is being discussed in the Senate Fish and Game Committee is whether or not there needs to be a study to resolve conflict between outfitters and the hunters.

Vote: Motion **CARRIED** 4 to 2 with **CHAIRMAN DEBRUYCKER and REP. WISEMAN** voting no.

Upland Game Bird:
Mr. Childress said the division is attempting to spend down the $425,984 balance in this program in FY 94 to actual income levels.

Motion: **SEN. JERGESON** moved to approve the executive budget of $425,984 in FY 94 and zero in FY 95 for the Upland Game Bird.

Discussion:
SEN. WEEDING asked what the language, "double fiscal 1992 actual expenditures" meant. **Mr. Lloyd** explained that is a biennial appropriation and, using one year's actual expenditures, it was doubled to come up with $425,984.

Mr. Mott said the level appropriated in FY 92 and FY 93 was almost identical to what is being requested for FY 94 and FY 95.

CHAIRMAN DEBRUYCKER asked if the program was automatically opened to hunting. **Mr. Childress** said one of the aspects of legislation states that reasonable public hunting opportunities must be provided.

Vote: Motion **CARRIED** unanimously.

Personal Services:
Ms. Smith said when the Executive took the 5% vacancy, the total reduction did not equal what it was supposed to be. In order to balance personal services differences were reduced. There was a $2,000 difference.

Motion/Vote: **REP. WISEMAN** moved to approve the executive budget of $2,294 in FY 94 and $1,754 in FY 95 for Item B, 5% FTE reduction. Motion **CARRIED** 5 to 1 with **SEN. JERGESON** voting no.

Motion/Vote: **SEN. WEEDING** moved to approve the executive budget of $11,452 in FY 94 and $11,463 in FY 95 for Item C, transfer of .45 FTE, grade 7 and 14 to grade 17. Motion **CARRIED** unanimously.

Bighorn Sheep:
Mr. Childress said this is an earmarked account with the revenue generated from the auction of one bighorn sheep permit annually. The revenue is split between capital and operations, and averages about $75,000 per year. He said they are trying to shift more of the funds into operations.

Motion/Vote: **REP. JOHNSON** moved to approve the executive budget of $16,900 each year of the biennium for bighorn sheep. Motion **CARRIED** unanimously.

Waterfowl Stamp Program:
Motion/Vote: **SEN. JERGESON** moved to approve the executive budget

of $3,000 each year of the biennium for the Waterfowl Stamp Program. Motion **CARRIED** unanimously.

Wildlife Environmental Impact Statement:
Mr. Childress said they would be dealing with this issue both in the modification and between the LFA and the Executive Budgets The Attorney General's office has encouraged the Department to update the EIS on big game hunting and upland bird hunting done in 1972. The Attorney General said there was a potential liability to be challenged since the EIS was written prior to MEPA.

SEN. WEEDING asked if the reason this showed up in the Executive Budget was due to a budget amendment. **Mr. Childress** replied that it was a re-direction of funds within the division.

CHAIRMAN DEBRUYCKER asked if the EIS was ongoing, but not the modification. **Mr. Childress** said the $17,574 is part of the base operation and the modification is for spending authority. The division is requesting $275,000 in FY 94 and $120,000 in FY 95 to complete the EIS. The $17,574 is on-going because it is part of the base operation.

SEN. WEEDING asked **Mr. Childress** to bring the committee some information on the EIS. **Mr. Childress** replied he would bring some EIS information to the committee on Monday.

ADJOURNMENT

Adjournment: 12:30 P.M.

ROGER DEBRUYCKER, Chairman

THEDA ROSSBERG, Secretary
by Marilyn Miller

RD/tr

HOUSE OF REPRESENTATIVES

NATURAL RESOURCES SUB-COMMITTEE

ROLL CALL DATE 2-5-93

NAME	PRESENT	ABSENT	EXCUSED
REP. ROGER DEBRUYCKER, CHAIRMAN	X		
SEN. CECIL WEEDING, VICE CHAIRMAN	X		
SEN. GERRY DEVLIN	X		
REP. WILLIAM WISEMAN	X		
REP. JOHN JOHNSON	X		
SEN. GREG JERGESON	X		

HR:1993
wp:rollcalls.man
CS-10

EXHIBIT ___
DATE 2-05-93
HB ___

5201 03 00000
DEPT OF FISH, WILDLIFE & PARKS — Fisheries Division
Program Summary

Budget Item	Current Level Fiscal 1992	Current Level Fiscal 1993	Executive Fiscal 1994	LFA Fiscal 1994	Difference Fiscal 1994	Executive Fiscal 1995	LFA Fiscal 1995	Difference Fiscal 1995
FTE	107.10	109.00	102.02	107.10	(5.08)	102.02	107.10	(5.08)
Personal Services	3,220,760	3,346,424	3,252,811	3,410,679	(157,868)	3,267,766	3,425,632	(157,866)
Operating Expenses	1,753,962	1,716,363	1,919,440	1,785,724	133,716	1,670,680	1,605,420	65,260
Equipment	191,665	153,363	218,533	218,644	(111)	219,033	219,251	(218)
Grants	111,126	18,500	46,250	0	46,250	0	0	0
Transfers	0	1,505,000	1,655,000	0	1,655,000	2,150,000	0	2,150,000
Total Costs	$5,277,515	$6,739,650	$7,092,034	$5,415,047	$1,676,987	$7,307,479	$5,250,303	$2,057,176
Fund Sources								
State Revenue Fund	2,730,183	2,666,224	3,388,053	2,573,135	814,918	3,784,928	2,572,554	1,212,374
Federal Revenue Fund	2,547,331	4,073,426	3,703,981	2,841,912	862,069	3,522,551	2,677,749	844,802
Total Funds	$5,277,515	$6,739,650	$7,092,034	$5,415,047	$1,676,987	$7,307,479	$5,250,303	$2,057,176

Page References

LFA Budget Analysis, Vol. II pages C 27–28
Executive Budget pages C 6–7

Current Level Differences

	Exec. Over(Under) LFA Fiscal 1994	Exec. Over(Under) LFA Fiscal 1995
PERSONAL SERVICES		
A. The executive eliminates 5.08 FTE in response to the 5% personal services reduction.	(149,114)	(149,412)
B. Overtime–The LFA current level reflects a 3-year average plus 15% benefits.	(2,416)	(2,416)
C. Other–The executive imposes vacancy savings so the program would meet the 5% personal services reduction. *Wiseman OK / Exec passed*	(6,338)	(6,038)
WATER LEASING–The executive requests a biennial appropriation to lease water rights. Authority of $30,000 for this purpose was provided by the 1991 Legislature (Senate Bill 425) only for the 1993 biennium. Both the LFA and executive current level contain $60,000 as a biennial appropriation to study the feasibility of leasing water rights. *Weed – failed 3-3 80,000; Devlin – 15,000 Bien approp*	~~30,000~~ 15,000	0
ANGLER HARVEST SURVEY–The LFA current level reflects the cyclical cost of this expense (higher costs are incurred in odd numbered years) based on fiscal 1992 actual expenditures. *No action*	5,938	3,265
FISHING REGULATIONS PRINTING–The LFA current level reflects the cyclical costs of this expense (higher costs are incurred in even numbered years) based on fiscal 1992 actual expenditures. *Weed – 3-3 failed*	*Even* 11,186	*Odd* 539
PADDLEFISH ROE PROGRAM–The executive includes an increase over fiscal 1992 actual expendiures. *Johnson – passed*	8,501	8,501
MISSOURI BASIN RESERVATIONS GRANT–The executive requests a biennial appropriation for a grant to the Department of Natural Resources and Conservation. The request by DNRC for authority to spend the grant is contained in a budget modification and is not in current level. See a discussion of the DNRC modification on page C-79, #6. *Jergeson – passed*	46,250	0
CONSULTING & PROFESSIONAL SERVICES– The LFA current level reflects actual fiscal 1992 expenditures with increase for evaluation of fish introductions and irrigation measuring devices, and decreases for water rights appropriation applications, Eagle Lake Rainbow overwintering, and miscellaneous one-time projects. Due to an error the LFA current level is overstated by $23,327 in fiscal 1995. The methology used by the LFA results in considerably lower amounts budgeted than the $281,820 spent in fiscal 1992. The department's request is within $3,000 of actual fiscal 1992 expenditures. *Jergeson passed*	~~76,458~~ 93,458	~~53,111~~ 58,000 OK
LCA–See issue of LCA on pages C 13-15. *Jergeson – passed spend. auth.*	1,655,000	2,150,000
MINOR DIFFERENCES *MSU – Coopeling 28,500 each yr Weed – passed; Jergeson – passed Exec*	(266)	(268)
INFLATION (Non-voting item)	1,788	(106)
TOTAL CURRENT LEVEL DIFFERENCES	1,676,987	2,057,176

Budget Modifications

LEWISTOWN FISHERIES BIOLOGIST–The executive requests 0.50 FTE for a fisheries biologist in Lewistown. See page C-11. Johnson Passed	26,666	26,666
CLARK FORK RIVER INVESTIGATION–The executive recommends 1.00 FTE to explore and develop mitigation and habitat development in the Clark Fork River. The 1991 Legislature approved 1.00 FTE and $98,540 for the 1993 biennium for this purpose but specified it not to be included in FWP current level for the 1995 biennium. See page C-11. Dingle Johnson no GF. Weed - Erck- with Lang. (D)	50,915	50,946
RESTORE 5% REDUCTION–The executive recommends restoration of 5.08 FTE eliminated in response to the 5% personal services reduction. See page C-11.	149,111	149,111
TOTAL MODIFIED LEVEL	226,692	226,723

Language and Other Issues

A. Both the LFA and executive current levels contain $55,000 as a biennial appropriation for fish introduction environmental impact statements.

B. Both the LFA and executive current levels contain $60,000 as a biennial appropriation for water leasing studies.

C. The 1991 Legislature requested the department to provide a report to the 1993 Legislature on the Clark Fork River Investigation modification approved for the 1993 biennium.

D. The 1991 Legislature included the following language in the general appropriations act (adjusted to reflect the 1995 biennium): "Item [Clark Fork River Investigations] contains $50,915 in fiscal 1994 and $50,946 in fiscal 1995, appropriated for aquatic resource data collection on the Upper Clark Fork River in connection with the state's resource damage assessment suit against ARCO. The department shall present to the 54th legislature the results of this project. In preparing the 1997 biennial budget for legislative consideration, the office of budget and program planning and the legislative fiscal analyst's office may not include the expenditures from this item in the current level base. In the litigation, the state shall seek reimbursement for all expenses incurred by the department associated with the assessment and litigation. Reimbursement must include interest on the amount commensurate with rates earned in the short-term investment pool."

EXHIBIT 2 1
DATE 2-5-93

Fisheries

EXHIBIT 1
DATE 2-5-93

Positions Removed by Joint Committee Action
House Appropriations & Senate Finance and Claims
January 6, 1993

	Position #	Position Description	Total Personal Services Fiscal 1994	Total Personal Services Fiscal 1995	FTE Removed by 5% Reduction	FTE Removed by Being Vacant	Total FTE Removed	Non-Approp. FTE
	All or Partial General Fund Positions							
		None					0.00	
	Sub-Total		0	0	0.00	0.00	0.00	0.00
	Non-General Fund Positions							
1	13605	Fish/Wildlife Biologist	30,456	30,480		1.00	1.00	
2	13302	Fish/Wildlife Specialist	38,177	38,243		1.00	1.00	
3	23106	Fisheries Field Worker	1,790	1,800		0.09	0.09	
4	23203	Fisheries Field Worker	7,854	7,901		0.44	0.44	
5	23205	Fisheries Field Worker	7,315	7,358		0.39	0.39	
6	23305	Fisheries Field Worker	6,708	6,748		0.32	0.32	
7	23402	Fisheries Field Worker	1,771	1,782		0.10	0.10	
8	23412	Fisheries Field Worker	0	0		0.00	0.00	
9	23503	Fisheries Field Worker	375	377		0.02	0.02	
10	23609	Fisheries Field Worker	4,998	5,028		0.28	0.28	
11	23801	Fisheries Field Worker *	179	180		0.01	0.01	
12	23805	Fisheries Field Worker	4,462	4,489		0.25	0.25	
13	23806	Fisheries Field Worker	4,462	4,489		0.25	0.25	
14	23807	Fisheries Field Worker	893	898		0.05	0.05	
15	23414	Fisheries Field Worker	7,141	7,184	0.35	0.05	0.40	
16	23411	Fisheries Field Worker	3,289	3,308	0.16		0.16	
17	13813	Fisheries Field Worker	7,177	7,220	0.25		0.25	
18	23216	Fisheries Field Worker	11,135	11,188	0.38		0.38	
19	23102	Laborer	4,042	4,066		0.25	0.25	
20	23302	Laborer	2,952	2,970		0.16	0.16	
21	23404	Laborer	994	1,000		0.07	0.07	
22	23605	Laborer	1,525	1,534		0.10	0.10	
23	23703	Laborer	1,067	1,072		0.07	0.07	
24	23704	Laborer	7,173	7,179		0.34	0.34	
25	23713	Laborer	2,295	2,309		0.15	0.15	
26	23723	Laborer	2,287	2,300		0.15	0.15	
27	23814	Laborer	2,821	2,838		0.20	0.20	
28	23702	Laborer	3,783	3,792	0.10		0.10	
29	23101	Fish Hatchery Aide	2,769	2,771		0.20	0.20	
30	23309	Fish Hatchery Aide *	1,666	1,676		0.10	0.10	
31	23711	Fish Hatchery Aide	3,049	3,067		0.20	0.20	
32	23712	Fish Hatchery Aide	2,287	2,300		0.15	0.15	
33	23113	Fish Hatchery Aide	7,187	7,229	0.34		0.34	
34	13818	Information System Specialist	30,119	30,142	1.00		1.00	
35	13102	Fish/Wildlife Specialist	42,424	42,469	1.00		1.00	
36	13814	Secretary	9,997	10,005	0.50		0.50	
37	13806	Statistical Techinician	23,544	23,562	0.50	0.50	1.00	
38	13828	Fish/Wildlife Biologist	14,841	14,851	0.50		0.50	
39	23832	Research Aide	1,317	1,325		0.08	0.08	
40	13114	Office Supervisor	2,193	2,195		0.10	0.10	
41	23114	Research Specialist	1,753	1,754		0.06	0.06	
42	13119	Administrative Aide	0	0		0.00	0.00	
43	13998	Not Yet Classified	0	0		0.00	0.00	
44	13999	Not Yet Classified	0	0		0.00	0.00	
	Sub-Total		310,267	311,079	5.08	7.13	12.21	0.00
	TOTAL		310,267	311,079	5.08	7.13	12.21	0.00

* Positions in the LFA base that have less FTE than listed by Swysgood motion:
23309 .25 in motion
23801 .11 in motion

0 - not reinst-

EXHIBIT #2
DATE 2-5-93
HB

Department of Fish, Wildlife and Parks
Report on the Upper Clark Fork River Investigation Project to the Natural Resources Appropriation Sub-Committee
Fisheries Division
FY 1992

Introduction

HB 2 passed by the 1991 legislature authorized one FTE and $50,042 in FY 92 and $50,040 in FY 93 for an Upper Clark Fork River Aquatic Research Investigation Project in connection with the state's resource damage assessment suit against Atlantic Richfield Company (ARCO). In this litigation the state will seek reimbursement for all expenses incurred by the department associated with this assessment and litigation. HB 2 also requires the department to present to the 53rd Legislature the results of this project.

Background

The Upper Clark Fork River is potentially a Class I trout river. It exhibits the basic productivity of other Class I rivers in the region, namely Rock Creek and the Blackfoot River, but does not measure up because of damages by the mining industry over the past century. The data collected from this project will allow the department to respond to the demand for fish, wildlife and water quality data that will be needed to assist the state's effort to establish the value of resources lost to hazardous wastes in the Clark Fork River floodplain. Successful cleanup would be an economic boom to Montana's growing recreation industry and salvation to the economically stifled communities along the river.

The department hired a biologist in October 1991 to collect the fisheries and aquatic resources information necessary to support the damage claim. We spent $44,512 in FY 92 on this program. Data collection is complete. The data is currently stored in the Clark Fork fisheries computer data base and has been turned over to the state's attorneys and consultants. Collection of more data and work with others developing the state's case will continue.

Summary

With the initial phase of the Upper Clark Fork River investigation project completed emphasis has shifted to developing a trout recovery mitigation and habitat improvement program to be used in the Natural Resource Damage Assessment (NRDA) lawsuit and possible settlement. We are currently exploring and developing mitigation and habitat development opportunities in both the Clark Fork River and its tributaries. A complete inventory of the habitat and water conditions will be made to determine what type of restoration work would be most beneficial to the fishery, then an evaluation of the various demonstration projects will be made to determine the costs and benefits associated with the various types of restoration work planned.

The second phase of this project is to develop effective and cost-efficient fishery mitigation and enhancement methods to ultimately recover the Clark Fork River fishery. We work closely with local landowners to develop pilot restoration projects and assess their effectiveness. This data will be incorporated into the state NRDA effort. We are requesting continuation of this project for this coming biennium.

A copy of the 25 page job progress data analysis technical report (Project Number F-46-R-5 Upper Clark Fork EPP) for the period October 21, 1991 through June 30, 1992 is attached.

EXHIBIT 2
DATE 2-5-93

EXHIBIT #3
DATE 2-5-93
HB

5201 05 00000

DEPT. OF FISH, WILDLIFE & PARKS — Wildlife Division

Program Summary

Budget Item	Actual Expenditures Fiscal 1992	Current Level Fiscal 1992	Current Level Fiscal 1993	LFA Fiscal 1994	Executive Fiscal 1994	LFA Fiscal 1995	Executive Fiscal 1995	LFA Change 92 – 94
FTE	114.14	99.03	98.83	99.03	93.57	99.03	93.57	0.00
Personal Services	3,499,584	3,121,063	3,092,263	3,315,209	3,129,210	3,325,240	3,139,238	194,146
Operating Expenses	2,991,383	2,680,488	1,992,026	3,287,983	3,749,867	1,886,881	1,936,835	607,495
Equipment	137,037	124,104	111,685	147,770	147,770	102,525	102,525	23,666
Grants	59,382	18,021	36,380	18,021	35,000	18,021	35,000	0
Transfers	0	0	1,331,500	0	1,584,000	0	1,531,500	0
Total Costs	$6,687,388	$5,943,676	$6,563,854	$6,768,983	$8,645,847	$5,332,667	$6,745,098	$825,307
Fund Sources								
State Revenue Fund	3,641,672	3,572,472	2,741,082	4,327,957	5,572,237	2,875,191	3,696,830	755,485
Federal Revenue Fund	3,045,716	2,371,204	3,822,772	2,441,026	3,073,610	2,457,476	3,048,268	69,822
Total Funds	$6,687,388	$5,943,676	$6,563,854	$6,768,983	$8,645,847	$5,332,667	$6,745,098	$825,307

Program Description

The Wildlife Division is responsible for the department's statewide Wildlife Management program, which enhances the use of Montana's renewable wildlife resources for public benefit. It protects, regulates, and perpetuates wildlife populations with habitat management and regulated harvest. Through promotion of land management practices, wildlife habitat areas are maintained and enhanced. In addition, the program provides wildlife recreational opportunities to the public and provides public information regarding conservation of wildlife populations and wildlife habitats. The program manages animals legislatively categorized as big game, small game, furbearers, and threatened and endangered species.

LFA Current Level

The $194,146 increase in personal services from fiscal 1992 to fiscal 1994 is the net of: 1) annualization of the fiscal 1993 pay plan increase, other benefit increases, and vacancy savings experienced in fiscal 1992; 2) transfer in of 0.45 FTE from the Wildlife Division for a wildlife management environmental impact statement (EIS); 3) transfer out of 0.25 FTE for clerical support for Region 1; and 4) upgrades for three positions in fiscal 1993.

Operating expenses increase from fiscal 1992 to fiscal 1994 due to the net of: 1) $4,564 decrease in fixed costs; 2) elimination of $17,574 of expenditures for an EIS on wildlife management (see "Wildlife Management Environmental Impact Statement" in the Issues section); 3) a $13,976 increase for bighorn sheep trapping which was curtailed in fiscal 1992 due to the mild winter; 4) a $707,181 increase (the amount spent in fiscal 1992) due to the biennial appropriation for upland game birds; 5) a $107,004 increase in wildlife habitat operations and maintenance reflecting the agency's request to convert the fiscal 1992 biennial appropriation to an annual appropriation; 6) $15,644 in inflationary adjustments; and 7) miscellaneous minor adjustments. Operating expenses decrease from fiscal 1994 to fiscal 1995 due to the $714,416 biennial appropriation for upland game birds in fiscal 1994 only.

Grants reflect actual amounts of fiscal 1992 grants to the university system for the student stipend program. The university matches these fund with a like amount of federal funds.

EXHIBIT #3
DATE 2-5-93
HB

MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS

FISHERIES DIVISION
JOB PROGRESS REPORT

STATE: Montana

PROJECT TITLE: Statewide Fisheries Investigations

PROJECT NO: F-46-R-5

STUDY TITLE: Survey and Inventory of Coldwater Streams

JOB NUMBER: I-O

JOB TITLE: Upper Clark Fork EPP

PROJECT PERIOD: October 21, 1991 through June 30, 1992.

ABSTRACT

Fish trapped moving downstream in Warm Springs Creek and Racetrack Creek this spring were mostly brown trout age 2 or younger. Downstream migration increased rapidly the third week in April. Large fish movements were associated with increasing flows, but occurred prior to peak runoff. Most fish moving upstream in Warm Springs Creek were adult rainbow trout; most were captured the first week in April.

Brown trout abundance in eleven reaches of the Clark Fork River between Warm Springs Ponds and Milltown Dam was generally similar each spring and fall between 1989 and 1991. Fish numbers averaged about 800/km in the first eight kilometers immediately below the ponds. Downstream abundance was half this number, or less. Abundance this spring was similar to spring estimates the three previous years in all reaches sampled.

Seasonal abundance of brown trout in Warm Springs and Racetrack Creek between 1989 and 1991 was variable. Highest numbers (about 1000 fish/km) and lowest numbers (about 150 fish/km) probably reflect movements associated with spawning and recruitment each year in addition to environmental effects.

Brook trout were common in three tributaries of Silver Bow Creek sampled this spring. Brown trout were common in two new sections in the Little Blackfoot River, although less abundant upstream than downstream. Westslope cutthroat trout predominated in a headwaters tributary of Flint Creek.

Mean lengths at annulus formation for brown trout in the Clark Fork River and its tributaries were similar in samples collected between 1981 and 1991. Mean lengths were smaller for age 4 and older fish compared to brown trout caught in the Big Hole River in 1982 and 1983.

EXHIBIT 3
DATE 2-5-93

OBJECTIVES AND DEGREE OF ATTAINMENT

Satisfactory progress has been made towards attaining all project objectives. This progress includes the increasing availability of fish population and habitat records in various formats on microcomputers.

Data collections, compilations, and analyses during the project period that are reported here include:

A. Spring trapping of Warm Springs Creek and Racetrack Creek to assess fish movements to the Clark Fork River.

B. Spring and fall mark recapture estimates of brown trout [1] numbers in the Clark Fork River for 1989, 1990, and 1991.

C. Mark recapture estimates of brown trout numbers this spring in the Clark Fork River.

D. Multiple-pass fish population estimates in Warm Springs Creek and Racetrack Creek in 1989, 1990, and 1991.

E. Multiple-pass fish population surveys this spring in five tributaries of the Clark Fork River.

F. Brown trout age and growth based on scale collections from the Clark Fork River, selected tributaries, and the Big Hole River.

---

[1] Common names are used throughout this report. Scientific names are listed in Appendix A.

EXHIBIT 3
DATE 2-5-93

PROCEDURES

A. Spring trapping of Warm Springs Creek and Racetrack Creek to assess fish movements to the Clark Fork River.

Two-way fish traps were placed in Warm Springs Creek and Racetrack Creek to monitor fish movements before and during spring runoff. Both creeks are tributaries that join the Clark Fork River between the Warm Springs Ponds and Deer Lodge. Trap boxes were located about 300 m upstream from each tributary mouth. Traps were positioned far enough upstream to reduce captures of fish moving occasionally from the river, but close enough that downstream captures were likely to be fish moving to the mainstem.

Trap boxes were steel frames covered with plywood and a 1 cm stretched metal mesh. Each trap measured about 76 x 91 x 122 cm and had a single conical wire mesh entrance about 40 cm in diameter tapering to 10 cm inside each box. Boxes were set in pairs, one facing upstream, the other downstream. A conduit pipe fence and wire leads were used to block fish passage past the traps and guide fish into either box, depending on which direction fish were moving. Openings in the fence and leads were small enough to prevent fish larger than about 100 mm total length from passing the trap; efficiency of the barrier was less for smaller fish.

Warm Springs trap was placed March 25; Racetrack Creek trap was placed April 1. Both traps were removed May 15.

Traps were checked each day, except April 25, 26, 28, and 30. Fish in both traps were identified and measured to the nearest 1.0 mm (total length). Brown trout and rainbow trout caught in the Warm Springs Trap were also weighed to the nearest 10.0 g, and marked before release to monitor recapture rates (adipose clip for fish less than 250 mm total length, Floy tag for larger fish). Fish caught in upstream traps were released upstream; fish caught in downstream traps were released downstream. Scales were collected from brown trout caught in the downstream boxes in both tributaries. Scales were used to confirm ages.

Relative water surface elevations were monitored once each day with staff gauges in both creeks. Water temperature was measured once each day when traps were checked for fish.

EXHIBIT 3
DATE 2-5-93

B. Spring and fall mark recapture estimates of brown trout numbers in the Clark Fork River for 1989, 1990, and 1991.

Mark recapture sampling to assess relative fish abundance in 11 reaches of the Clark Fork River has been ongoing since 1989. These reaches (Table 1) were selected by consultants hired by the Atlantic Richfield Company (ARCO).

Table 1. Descriptions of eleven reaches sampled in the Clark Fork River in 1989, 1990, and 1991.

Reach	Description	Approximate length (m)
0	Outflow at pond #2 to Warm Springs bridge	1,621
1	Warms Springs bridge to Perkins Lane	4,244
2	Perkins Lane to near mouth of Lost Creek	3,486
3	Sager Lane to about 3 miles downstream	4,466
4	Deer Lodge sewage plant to Mullan Gulch	6,874
5	Kohr's Bend to mouth of Little Blackfoot R.	7,025
6	Mouth of L.Blackfoot to Phosphate bridge	8,272
7	Phosphate bridge to one mile below Gold Creek	8,477
8	Robinson's boat launch to Bear Gulch	6,521
9	Bearmouth chalet to Beavertail FAS	13,522
10	One mile above Turah to Milltown slack waters	5,890

All sampling was done cooperatively with ARCO consultants. Most sections were sampled both spring and fall. Reach 0 was added in the fall of 1989. Sampling was limited to 7 of these reaches in the fall of 1991.

Fish were captured in each sampling section with a rubber raft equipped with a spherical cathode suspended from the boat, and a spherical anode mounted on an adjustable boom at the bow. A 5000 watt generator was used with a Coffelt Model VVP-15 rectifying unit.

Fish were collected in live cars, identified, measured to the nearest 1.0 mm (total length), and weighed to the nearest 10.0 g. Trout were marked with fin clips, and Floy tags if fish were larger than about 200 mm total length. All fish were returned to the stream after marking. Recapture sampling was conducted about two weeks later in each section.

Data were processed using MRSYS, a computer program developed by the Montana Department of Fish, Wildlife & Parks (MDFWP) for processing electrofishing records. Population estimates are calculated using the Chapman (1951) modification of the Peterson estimate.

C. Mark recapture estimates of brown trout numbers this spring in the Clark Fork River.

Fish were captured in each sampling section with an aluminum drift boat equipped with cable anodes suspended from twin booms at the bow. The boat hull served as the cathode. A 5000 watt generator was used with a Coffelt Model VVP-15 rectifying unit.

Sampling was done cooperatively with ARCO consultants. Fish handling, data collections, and data analyses were the same as described in PROCEDURES, section B. Sampling was limited to reaches 1, 2, 3, 4, and 6 (PROCEDURES, Section B, Table 1). A new section was also added between Galen and the Racetrack bridge.

D. Multiple-pass fish population estimates in Warm Springs Creek and Racetrack Creek in 1989, 1990, and 1991.

Brown trout were sampled using backpack mounted electrofishing gear and a hand held electrode in two sections of each creek. Lower sections were within 2 km of each creek mouth; upstream sections were approximately 1 km further upstream. Sections were approximately 100 m long, blocked at each end with 0.5 cm mesh nets. All fish within a section were removed and held in live cars during repeated passes with the electrofishing gear.

Sampling was done cooperatively with ARCO consultants. Data collections were the same as described in PROCEDURES, section B. Fish abundance was estimated using MicroFish 3.0 (Van Deventer and Platts 1985), a software package developed especially to process electrofishing data obtained by removal methods.

E. Multiple-pass fish population surveys this spring in five tributaries of the Clark Fork River.

The purpose of this sampling was to investigate reaches in each stream for which no previous data existed. Three streams (Blacktail Creek, German Gulch, and Brown's Gulch) join Silver Bow Creek above the Warm Springs Ponds. The Little Blackfoot River joins the Clark Fork near Garrison. South Boulder Creek is a tributary of Boulder Creek, which in turn is a tributary of Flint Creek that joins the Clark Fork near Drummond.

In most creeks, a single 91 m section was blocked at each end with 0.5 cm mesh nets. In the Little Blackfoot River, two 183 m sections were sampled. Approximate locations of each sampling section are listed below (Table 2).

Table 2. Sampling locations in five tributaries of the Clark Fork River surveyed in the spring of 1992.

Stream	Confluence	Distance from mouth to section sampled
Brown's Gulch	Silver Bow Creek	11.0 km
German Gulch	Silver Bow Creek	0.5 km
Blacktail Creek	Silver Bow Creek	1.6 km
S. Boulder Creek	Boulder Creek	1.6 km
Little Blackfoot River (upstream site)	Clark Fork River	35.0 km
Little Blackfoot River (downstream site)	Clark Fork River	18.0 km

Fish were sampled with boat mounted electrofishing gear. The cathode was cables suspended from the bow of the boat. The anode was a single hand held electrode connected to the power source by about 10 m of cable. A 5000 watt generator was used with a Coffelt Model VVP-15 rectifying unit.

All fish within a section were removed and held in live cars during repeated passes with the electrofishing gear. Data collections were the same as described in PROCEDURES, section B. Fish abundance was estimated using MicroFish 3.0 (Van Deventer and Platts 1985), a software package developed

especially to process electrofishing data obtained by removal methods.

F. Brown trout age and growth based on scale collections from the Clark Fork River, selected tributaries, and the Big Hole River.

Age was determined from the number of annuli on scales. Annuli were recognized by overcutting, changes in angle of formation, and circuli continuous between anterior and posterior scale fields. The distance from scale focus to each annulus and scale edge was measured from acetate impressions projected on a microfiche reader. Annuli were considered fully formed only if circuli beyond the annulus suggested renewed growth.

A linear model approach was used to backcalculate fish lengths at each annulus (Weisberg 1986). This approach uses scale measurements as the observed data, and models fish growth as the sum of age effects and yearly variation in the environment (Weisberg and Frie 1987). This technique was selected over more usual regression techniques (e.g. Hile 1970) because it incorporates an environmental component, and because the adequacy of data descriptions is readily amenable to statistical tests. Scale data were processed using software for this purpose produced by Minnesota Sea Grant, University of Minnesota (Weisberg 1989). The adequacy of data fit to these models was evaluated at alpha = 0.05.

Growth was assessed by comparing mean lengths at annulus formation between drainages for same sampling years, and within drainages for each year data were available (Student's t, alpha = 0.05 between drainages, alpha = 0.01 within drainages). Mean lengths at each annulus for fish captured in the upper reaches of the Clark Fork River in 1989 were also compared to mean lengths of fish captured this same year in downstream sections (Student's t, alpha = 0.05).

The presence of regenerated scales was recorded for each fish in all scale samples. Scales that were unreadable for reasons other than regeneration (poor mounts, scales absent, etc) were not included in these summaries.

EXHIBIT 3
DATE 2-5-93

RESULTS AND DISCUSSION

A. Spring trapping of Warm Springs Creek and Racetrack Creek to assess fish movements to the Clark Fork River.

Warm Springs Creek:

A total of 196 fish were trapped moving downstream. Most fish were brown trout (Table 3).

Table 3. Summary of fish captures in the downstream box in Warm Springs Creek in the spring of 1992.

Species	Number of fish	Trap Days
Brown Trout	185	51
Rainbow Trout	9	51
Redside Shiner	1	51
Sculpin	1	51

Most brown trout were small fish, (< 250 mm total length). Three percent were age 0, 31 percent were age 1, and 55 percent were age 2 (Figure 1).

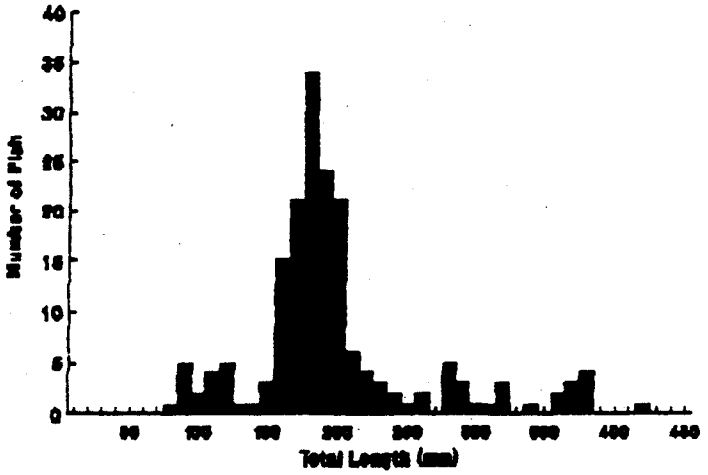


Figure 1. Length frequency distribution by 10 mm size classes for 185 brown trout caught in the downstream box in Warm Springs Creek in the spring of 1992.

EXHIBIT 3
DATE 2-5-93

Daily brown trout captures in the downstream box in Warm Springs Creek are summarized below (Figure 2).

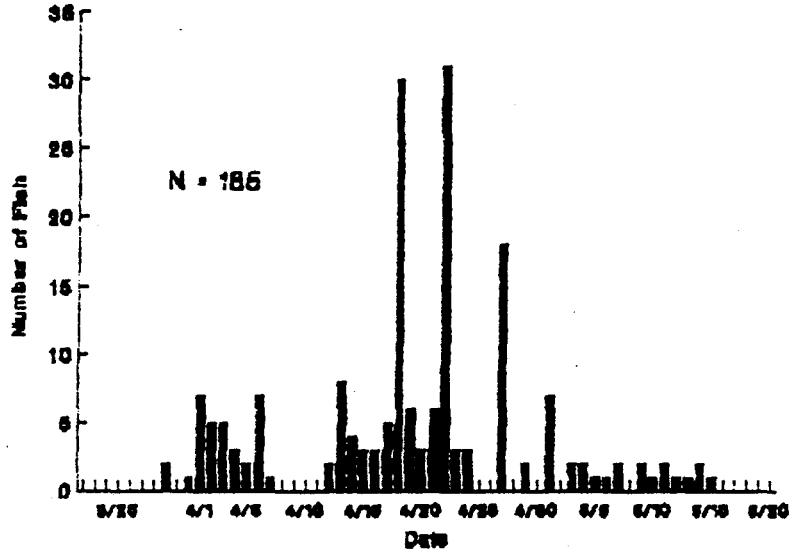


Figure 2. Number of brown trout caught each day in the downstream box in Warm Springs Creek in the spring of 1992. Trap was not checked April 25, 26, 28, or 30.

A total of 30 fish were trapped moving upstream. Most fish were rainbow trout (Table 4).

Table 4. Summary of fish captures in the upstream box in Warm Springs Creek in the spring of 1992.

Species	Number of fish	Trap Days
Brown Trout	7	51
Rainbow Trout	20	51
Largescale Sucker	3	51

All rainbow trout were mature fish, presumably moving up Warm Springs Creek to spawn. A female marked April 4 was recaptured in the downstream trap on April 18. This fish was ripe moving upstream, and returned in spawned out condition. A male marked April 5 was recaptured in the downstream trap April 27. This fish had a large bite wound, was covered with

fungus, and was one of only 3 mortalities in either trap the entire sampling period.

Rainbow trout were first caught March 29. Sixty-five percent of all rainbow trout were trapped by April 6. Upstream captures continued at a low rate through April 27 (Figure 3).

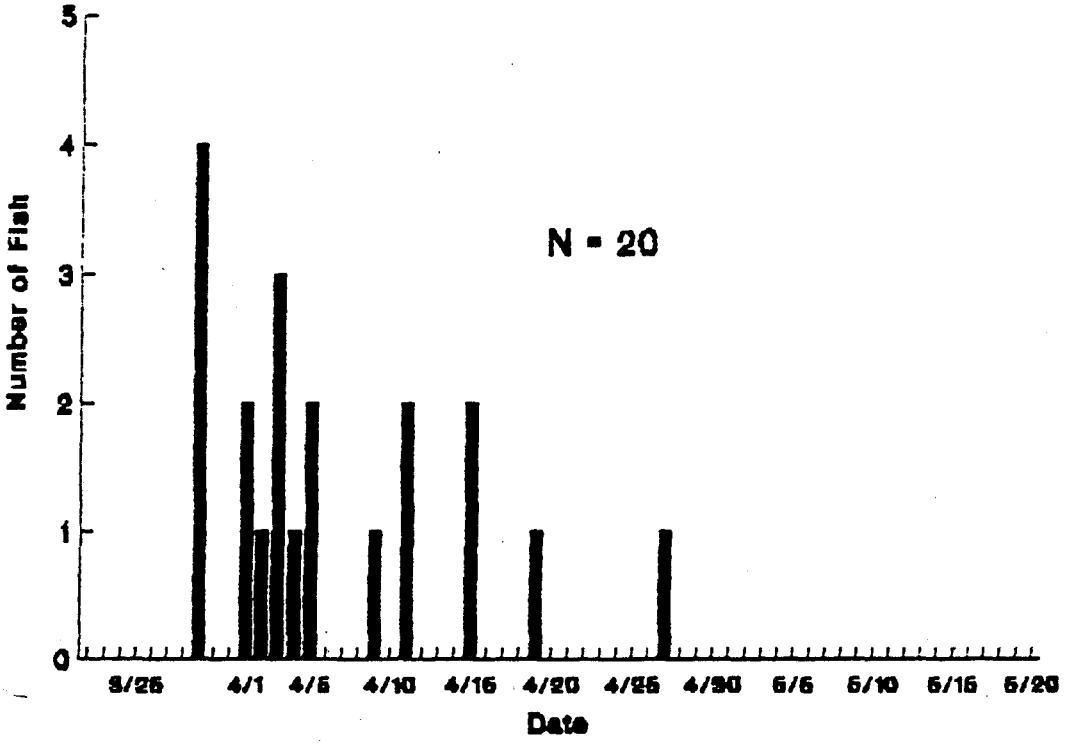


Figure 3. Number of rainbow trout caught each day in the upstream box in Warm Springs Creek in the spring of 1992. Trap was not checked April 25, 26, 28, or 30.

Racetrack Creek:

A total of 142 fish were trapped moving downstream. Most fish were brown trout (Table 5).

Table 5. Summary of fish captures in the downstream box in Racetrack Creek in the spring of 1992.

Species	Number of Fish	Trap Days
Brown Trout	113	44
Brook Trout	4	44
Mountain Whitefish	11	44
Largescale Sucker	4	44
Redside Shiner	8	44
Sculpin	2	44

Most brown trout were small fish, (< 250 mm total length). Twelve percent were age 0, 61 percent were age 1, and 23 percent were age 2 (Figure 4).

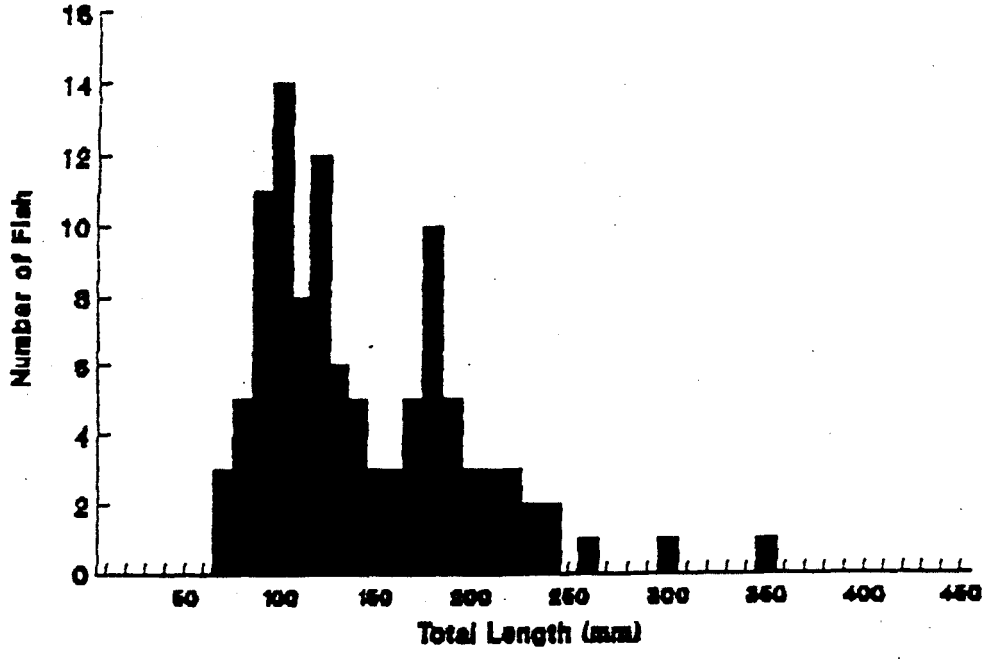


Figure 4. Length frequency distribution by 10 mm size classes for 113 brown trout caught in the downstream box in Racetrack Creek in the spring of 1992.

EXHIBIT 3
DATE 2-5-93

Daily brown trout captures in the downstream box in Racetrack Creek are summarized below (Figure 5).

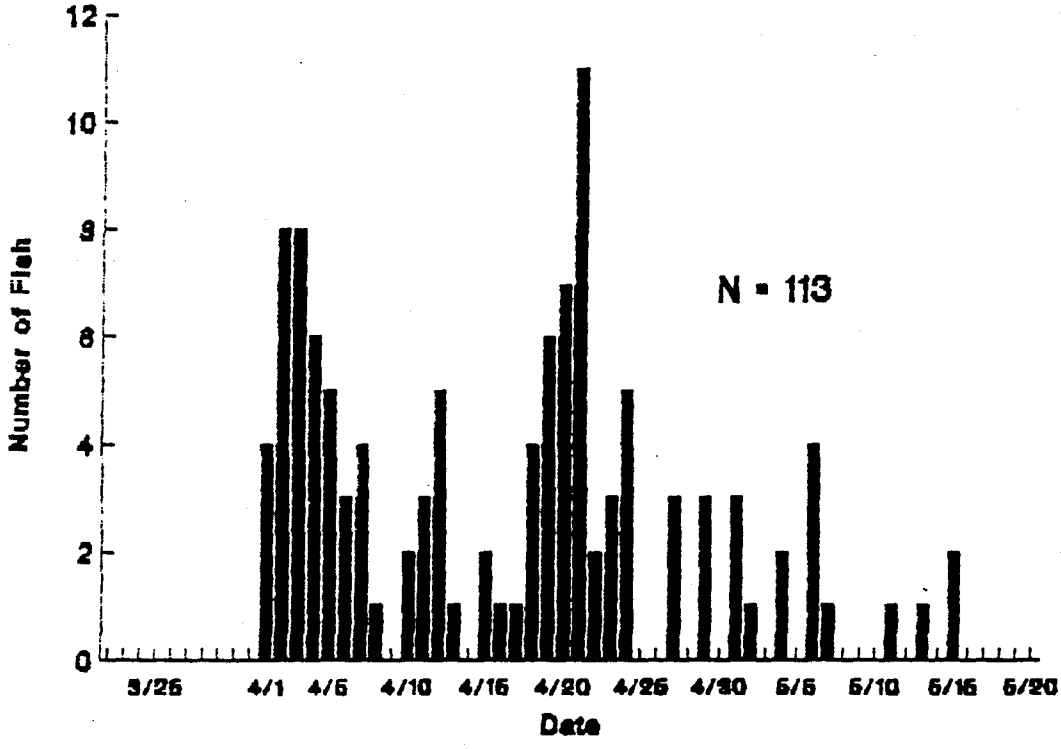


Figure 5. Number of brown trout caught each day in the downstream box in Racetrack Creek in the spring of 1992. Trap was not checked April 25, 26, 28, or 30.

A single sculpin was caught in the upstream box during the entire sampling period.

Downstream movement of brown trout in both creeks increased rapidly the third week in April. Forty-one percent of all brown trout caught in Warm Springs Creek, and 27 percent of all brown trout caught in Racetrack Creek moved downstream between April 18 and 22 (Figure 6). A smaller pulse (24 percent of total captures) occurred in Racetrack Creek between April 2 and 5. Pulse movements in both creeks were associated with higher flows, but occurred prior to peak runoff (Figure 7).

EXHIBIT 3
DATE 2-5-93

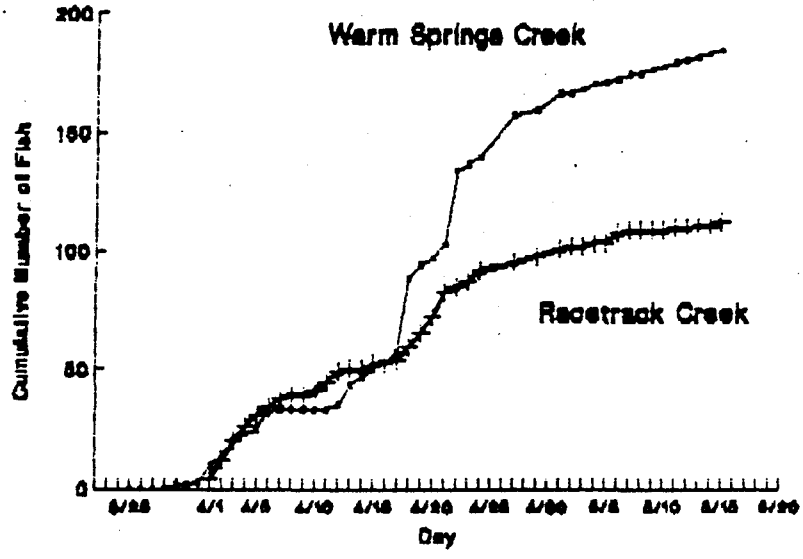


Figure 6. Cumulative number of brown trout caught each day in the downstream box in Warm Springs Creek and Racetrack Creek in the spring of 1992.

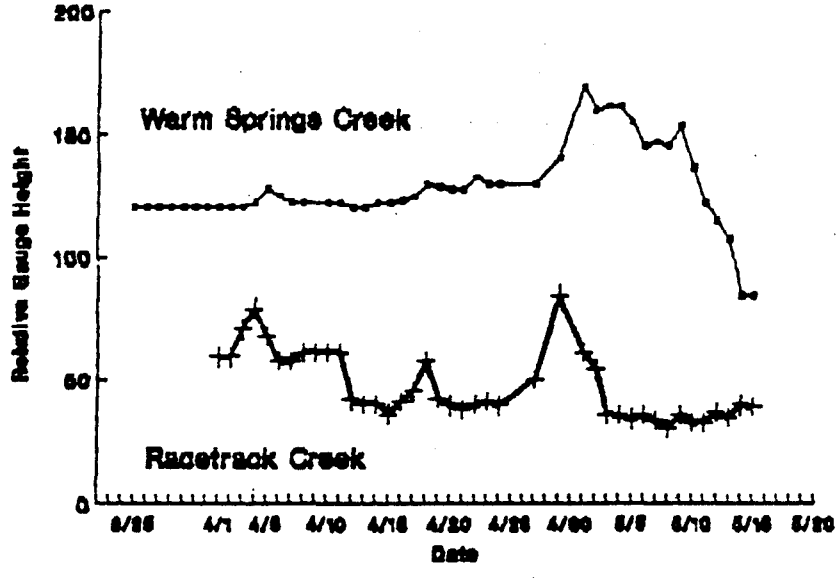


Figure 7. Relative gauge height each day in Warm Springs and Racetrack Creeks in the spring of 1992
.

Differences in the relative frequency of small and large fish caught in these creeks may be an artifact of trap efficiency: flow volume in Warm Springs Creek exceeds Racetrack Creek. Also, the traps do not catch small fish efficiently. Downstream movement of young of the year fish was undoubtedly greater than numbers contained in these data.

In Warm Springs Creek, the first age 0 fish was captured April 17. Captures continued at a low rate through May 15. Fry traps placed in the mouth of Warm Springs Creek on April 11 were monitored through April 24 as part of a different sampling procedure. These traps first caught age 0 brown trout April 14, and continued to catch low numbers of fish through April 21. It appears that downstream movement of brown trout fry was greatest the last two weeks in April. This peak coincides with peak downstream movements of larger fish. None of the fish caught in the fry traps was marked.

In Racetrack Creek, age 0 fish were first caught April 2, and no age 0 fish were caught after April 13. It appears that most age 0 fish moved downstream earlier in Racetrack Creek than Warm Springs Creek.

Only three fish were recaptured in Warm Springs Creek the entire sampling period. No fish were recaptured in Racetrack Creek.

Recaptures were two rainbow trout already mentioned, and a single adult brown trout. This brown trout was caught May 13 in the upstream box, and was recaptured in the downstream box May 14. This fish had a head wound covered with fungus.

Both Creeks were dewaterd by irrigation withdrawals in May. By May 15, Warm Springs Creek lacked adequate water to continue operating the trap.

Temperature variations in both creeks were similar throughout the sampling period (Figure 8).

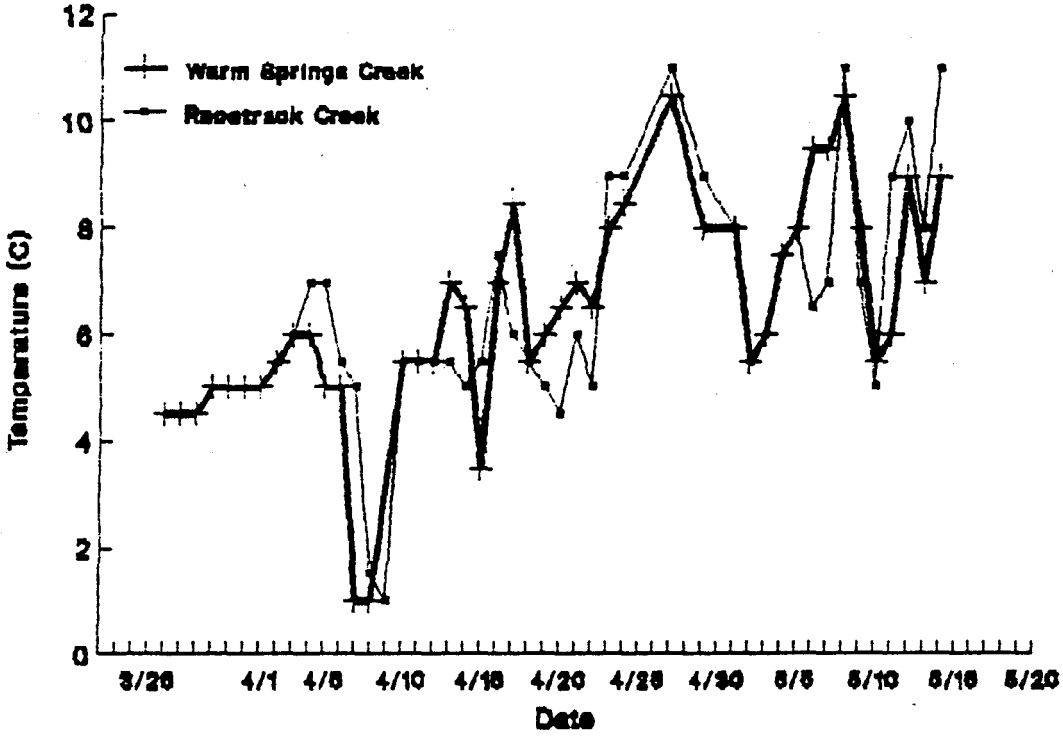


Figure 8. Daily water temperature in Warm Springs Creek and Racetrack Creek in the spring of 1992.

B. Spring and fall mark recapture estimates of brown trout numbers in the Clark Fork River for 1989, 1990, and 1991.

Relative brown trout abundance was generally similar ($p > 0.05$) in all river reaches each year and each season. Fish numbers in the uppermost reaches (0 and 1) were much larger than in other reaches, a pattern identified in previous reports (Hadley 1989).

EXHIBIT 3
DATE 2-5-93

In reach 1 and 2, fish numbers in the fall of 1990 exceeded numbers in earlier samples ($p < 0.05$). By the spring of 1991, fish numbers in reach 1 and 2 were similar to each estimate prior to the fall 1990 survey (Table 6; Table 7).

Table 6. Total brown trout abundance in eleven reaches of the Clark Fork River based on spring sampling in 1989, 1990, and 1991.

	1989		1990		1991	
Reach	N [1]	95% CI [2]	N	95% CI	N	95% CI
0	not sampled		not sampled		916	233
1	655	114	616	104	611	201
2	196	69	124	40	259	133
3	274	108	129	41	219	149
4	198	46	170	47	247	102
5	226	93	152	53	144	64
6	146	45	95	25	224	122
7	88	27	99	31	188	102
8	40	23	57	27	35	27
9	37	26	24	9	17	13
10	not sampled		68	23	83	42

1 Number of fish/km
2 95 percent confidence interval

EXHIBIT 3
DATE 2-5-93

Table 7. Total brown trout abundance in eleven reaches of the Clark Fork River based on fall sampling in 1989, 1990, and 1991.

	1989		1990		1991	
Reach	N [1]	95% CI [2]	N	95% CI	N	95% CI
0	668	124	1,160	457	875	135
1	622	143	1,564	560	691	135
2	85	66	622	204	296	80
3	257	95	246	71	336	95
4	265	57	266	55	311	52
5	153	50	145	39	not sampled	
6	259	75	259	65	327	93
7	202	53	193	63	not sampled	
8	32	12	13	5	not sampled	
9	no estimate		12	7	30	24
10	121	51	not sampled		not sampled	

1 Number of fish/km
2 95 percent confidence interval

Fish numbers in reach 8 were down a little in the fall of 1990 from the fall 1989 and spring 1990 estimates ($p < 0.05$). Total brown trout abundance in this reach averaged only about 35 fish/km between 1989 and 1991.

C. Mark recapture estimates of brown trout numbers this spring in the Clark Fork River.

Fish numbers in each reach sampled in 1992 were similar to spring estimates for 1989, 1990, and 1991 ($p > 0.05$). The 1992 estimate in reach 2 was slightly less than the fall 1990 estimate ($p < 0.05$). Fish numbers in reach 6 were down a little from the fall estimates in 1990 and 1991 ($p < 0.05$; Table 8).

EXHIBIT 3
DATE 2-5-93

Table 8. Total brown trout abundance in five reaches of the Clark Fork River based on spring sampling in 1992.

Reach [1]	N [2]	95% CI [3]	Reach	N	95% CI
1	1,027	312	3	202	83
2	244	165	4	271	104
2a [4]	142	50	6	139	45

1 Described in PROCEDURES, Section B, Table 1
2 Number of fish/km
3 95 percent confidence interval
4 New sampling reach between Galen and the Racetrack bridge

D. Estimated brown trout numbers in Warm Springs Creek and Racetrack Creek in 1989, 1990, and 1991.

Although fish numbers were not reliably estimated every year or season (probability of capture < 0.60), it is clear that brown trout abundance in these tributaries varies throughout the year (Table 9; Table 10).

Table 9. Brown trout abundance in Warm Springs Creek in 1989, 1990, and 1991.

Section: Season/Year	Removal pattern (1st,2nd,3rd)	N [1]	SE [2]	P [3]	Fish/km
Upstream section (98 m):					
Fall/1989	(84,17)	104	3	0.815	1,061
Spring/1990	(65,9,8)	83	1	0.745	847
Fall/1990	(52,34,15)	120	10	0.455	1,224
Spring/1991	(46,14,11)	76	4	0.582	776
Fall/1991	(19,10,10)	54	14	0.342	551
Downstream section (122 m):					
Fall/1989	(47,21)	82	10	0.581	672
Spring/1990	(107,31,19)	165	4	0.628	1,352
Fall/1990	(62,43,11)	130	7	0.520	1,066
Spring/1991	(30,26,13)	97	20	0.337	795
Fall/1991	———	no estimate		———	

1 Estimated number of fish in the section sampled
2 Standard error
3 Probability of capture

Table 10. Brown trout abundance in Racetrack Creek in 1989, 1990, and 1991.

Section: Season/Year	Removal pattern (1st,2nd,3rd)	N [1]	SE [2]	P [3]	Fish/km
Upstream section (91 m)					
Fall/1989	(76,21)	104	5	0.735	1,143
Spring/1990	(107,33,12)	156	3	0.688	1,714
Fall/1990	(102,22,4)	128	1	0.810	1,407
Spring/1991	(171,55,13)	244	3	0.713	2,681
Fall/1991	(204,69,51)	357	11	0.545	3,923
Downstream section (91 m)					
Fall/1989	———	no estimate	———		
Spring/1990	(46,6,3)	55	1	0.821	604
Fall/1990	(9,5,1)	15	1	0.682	165
Spring/1991	(34,9,5)	49	2	0.686	538
Fall/1991	(71,20,13)	109	4	0.630	1,198

1 Estimated number of fish in the section sampled
2 Standard error
3 Probability of capture

Relative changes in fish numbers seem likely to be related to fish movements associated with spawning in the fall, new recruitment, and downstream movements of fish to the Clark Fork River in the spring. These data contrast with relatively more stable population numbers in the mainstem Clark Fork River during these years (RESULTS AND DISCUSSION, section B), and emphasize the important role of tributaries in the fish population dynamics of the system. We know that at least some portion of the brown trout population spawned in these tributaries remain in the tributaries for up to two years (RESULTS AND DISCUSSION, section A).

E. Multiple-pass fish population surveys this spring in five tributaries of the Clark Fork River.

Dominant trout species in all tributaries sampled reflect differences in each stream's habitat and location in the drainage. Brook trout were most common in all three tributaries of Silver Bow Creek, although total numbers in German Gulch and Brown's Gulch were not reliably estimated

(probability of capture < 0.60). Brown trout predominated in both sections sampled in the Little Blackfoot River, and were more abundant in the downstream reach. Westslope cutthroat trout were most common in South Boulder Creek, although the probability of capture in this creek was also less than 0.60 (Table 11).

Table 11. Total trout numbers in five tributaries in the upper Clark Fork drainage sampled in the spring of 1992.

Location	Species [1]	Removal pattern (1st,2nd,3rd)	N [2]	SE [3]	P [4]	Fish/km
German Gulch	EBT	(14,6,9)	45	19	0.287	492
	WCT	(9,3,3)	16	2	0.556	175
Blacktail Creek	EBT	(97,33,10)	144	3	0.683	1,575
Brown's Gulch	EBT	(34,18)	68	13	0.510	744
Little Blackfoot	LL	(9,3)	12	1	0.800	131
Little Blackfoot	LL	(42,17)	68	7	0.628	744
S.Boulder Creek	WCT	(49,30,10)	99	6	0.527	1,083

1 EBT = brook trout, WCT = westslope cutthroat trout, LL = brown trout
2 Estimated number of fish in the section sampled
3 Standard error
4 Probability of capture

F. Brown trout age and growth based on scale collections from the Clark Fork River, selected tributaries, and the Big Hole River.

Oldest brown trout with readable scales were age 6, regardless of where fish were collected. Samples from the Clark Fork River and its tributaries were the most difficult to interpret, primarily because of the large number of regenerated scales (Table 12). Growth checks and other scale marks resembling annuli were common. Regenerated scales were less common in samples from the Big Hole River.

Table 12. Summary of scale regeneration in brown trout samples from the Clark Fork River, selected tributaries, and the Big Hole River.

Stream: Year	Some scales regenerated	All scales regenerated	No scales regenerated	Total sample	Percent regenerated scales
Clark Fork River:					
1981	20	84	244	348	29.9 *
1982	17	60	213	290	26.6 *
1983	41	44	176	261	32.6 *
1989	179	38	53	270	80.4 **
1990	375	77	16	468	96.6 **
1991	387	57	33	477	93.1 **
Rock Creek:					
1981	9	29	86	124	30.6 *
1982	8	45	167	220	24.1 *
Flint Creek:					
1991	69	11	5	85	94.1 **
Little Blackfoot River:					
1991	41	6	0	47	100 **
Big Hole River:					
1981	6	16	413	435	< 0.1 *
1982	12	30	188	230	18.3 *
1983	13	16	211	240	12.1 *
1989	2	1	241	244	< 0.1 *

* Attempts were made to mount only readable scales
** Sales were mounted without regard to scale quality

Mean lengths at annulus formation in the Clark Fork River samples were similar in all years examined ($p > 0.05$; Table 13).

Table 13. Mean length at annulus formation for brown trout sampled from the Clark Fork River.

Year		Annulus 1	2	3	4	5	6
1981	TL:[1]	138.0	197.1	263.6	330.6	378.4	-----
	SE:	11.0	14.6	16.8	18.9	22.1	-----
	N:	32	80	100	64	12	0
1982	TL:	121.0	201.8	263.8	318.4	360.7	410.3
	SE:	9.7	13.3	15.4	17.1	19.2	24.6
	N:	19	77	64	70	20	4
1983	TL:	142.3	189.8	237.9	303.0	369.8	431.4
	SE:	12.2	9.8	11.5	12.8	14.5	18.3
	N:	1	33	32	107	48	7
1989	TL:	114.5	193.6	259.8	352.7	415.2	474.1
	SE:	8.4	11.3	13.6	15.4	17.4	26.0
	N:	22	57	65	60	24	3
1990	TL:	146.9	208.2	284.4	352.6	408.9	444.7
	SE:	4.0	5.2	6.1	6.8	7.5	8.4
	N:	46	68	111	80	67	19
1991	TL:	136.5	206.4	275.4	349.5	414.5	435.2
	SE:	9.0	12.2	14.1	15.7	17.9	21.4
	N:	58	60	106	144	39	11

1 TL = total length (mm), SE = standard error (mm), N = sample size

F tests for equal slopes in age groups (a test of the linear model's adequacy for estimating lengths) were large ($p > 0.05$) for the 1982, 1990, and 1991 samples. Length estimates for these years are therefore questionable.

Mean lengths in the Clark Fork tributaries were similar to the mainstem collections ($p > 0.05$; Table 14). All tributary data were adequately described by the linear models ($p < 0.05$).

Table 14. Mean length at annulus formation for brown trout sampled from selected tributaries of the Clark Fork River.

Tributary: Year		Annulus 1	2	3	4	5	6
Rock Creek:							
1981	TL:[1]	138.0	188.1	254.9	320.2	374.4	425.3
	SE:	13.7	18.4	21.8	24.1	26.5	31.0
	N:	15	30	41	42	17	3
1982	TL:	129.4	189.0	248.6	316.5	364.4	409.6
	SE:	10.9	14.9	17.8	19.9	22.5	16.1
	N:	36	39	37	60	14	5
Flint Creek:							
1991	TL:	137.4	188.3	266.8	330.9	371.3	448.2
	SE:	22.0	28.4	32.4	36.6	38.8	48.1
	N:	6	19	25	6	17	1
Little Blackfoot River:							
1991	TL:	149.0	176.5	285.1	354.2	426.9	-----
	SE:	32.7	41.4	51.3	58.3	67.8	-----
	N:	3	18	10	8	2	0

1 TL = total length (mm), SE = standard error (mm), N = sample size

Mean length at annulus formation in samples from the Big Hole River exceeded lengths in the Clark Fork mainstem at the fourth, fifth, and sixth annulus in 1982 and 1983 ($p < 0.05$; Table 15). Mean lengths were similar in 1981 and 1989. The linear model adequately described Big Hole samples ($p < 0.05$) only in 1982.

EXHIBIT 3
DATE 2-5-93

Table 15. Mean length at annulus formation for brown trout sampled from the Big Hole River.

Year		Annulus 1	2	3	4	5	6
1981	TL:[1]	161.6	222.6	308.9	390.8	458.7	496.1
	SE:	12.6	15.0	17.9	20.0	22.3	24.7
	N:	3	38	59	79	23	10
1982	TL:	103.2	225.3	296.9	381.4	454.8	519.5
	SE:	14.6	11.1	12.4	14.1	15.6	19.2
	N:	1	21	64	56	57	13
1983	TL:	156.0	218.4	300.3	391.0	459.3	505.8
	SE:	17.7	16.9	20.0	22.8	24.8	28.3
	N:	1	36	77	60	53	9
1989	TL:	136.8	201.6	283.3	373.5	447.5	499.2
	SE:	9.5	12.7	15.2	17.4	19.4	22.7
	N:	8	56	76	59	35	10

1 TL = total length (mm), SE = standard error (mm), N = sample size

Mean length at annulus formation was similar for brown trout caught upstream (reaches 1 and 2) and downstream (reaches 8 and 9) in the Clark Fork River in 1989 ($p > 0.05$; Figure 9).

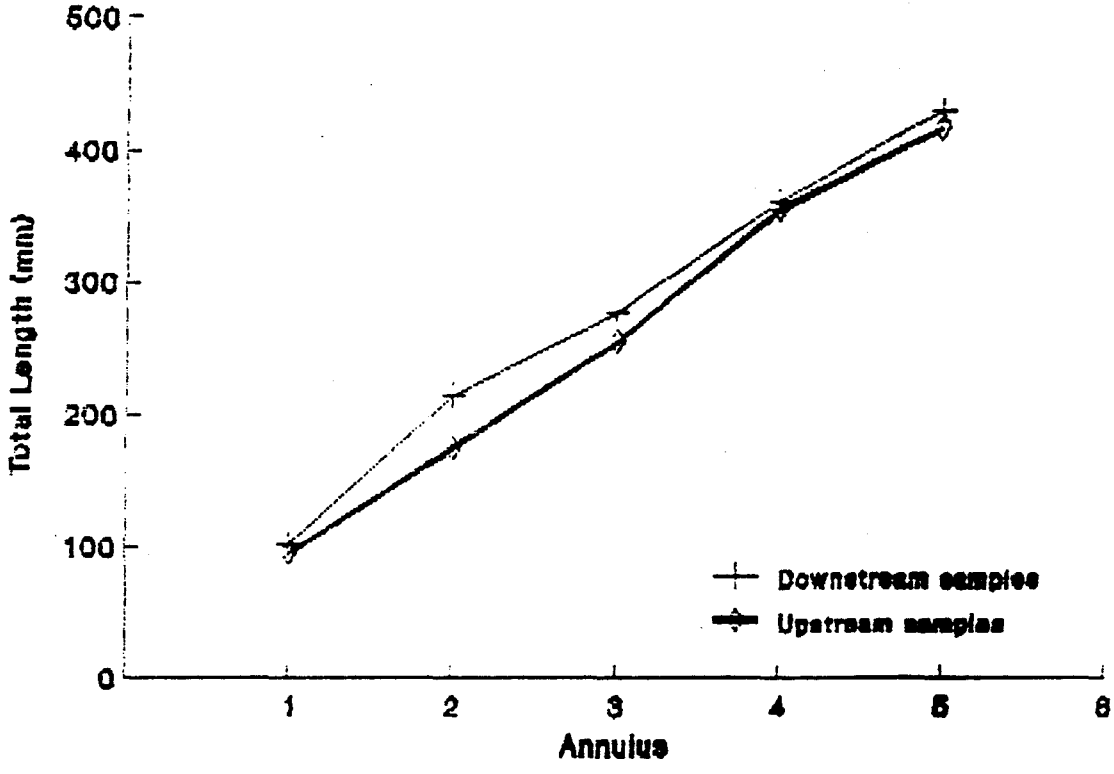


Figure 9. Mean length at annulus formation for Clark Fork brown trout caught in 1989 in upstream reaches (1 and 2), compared to same lengths for brown trout caught in downstream reaches (8 and 9).

Prepared by: Joel Tohtz

Date: August, 1992

Waters Referred To:

Clark Fork River
Warm Springs Creek
Racetrack Creek
Silver Bow Creek
Brown's Gulch Creek
German Gulch Creek
Blacktail Creek
Little Blackfoot River
Flint Creek
Boulder Creek
South Boulder Creek
Rock Creek

EXHIBIT 3
DATE 2-5-93

REFERENCES

Chapman, D.G. 1951. Some properties of the hypergeometric distribution with applications to zoological censuses. University of California Publications in Statistics 1:131-160.

Hadley, W.F. 1989. Survey and inventory of coldwater streams: upper Clark Fork River study. Job progress report. Project F-46-R-1, no. I-C. Montana Department of Fish, Wildlife & Parks, Missoula.

Hile, R. 1970. Body-scale relation and calculation of growth in fishes. Transactions of the American Fisheries Society 99:468-474.

Van Deventer, J.S. and W.S. Platts. 1985. MicroFish 3.0: a software package for processing electrofishing data obtained by the removal method. Microsoft Corporation.

Weisberg, S. 1986. A linear model approach to backcalculation of fish length. Journal of the American Statistical Association 81:922-929.

Weisberg, S. 1989. A computer program for analyzing the growth of fish. Minnesota Sea Grant College Program, University of Minnesota, St. Paul.

Weisberg, S. and R.V. Frie. 1987. Linear models for the growth of fish. In Summerfelt, R.C. and G.E. Hall editors, Age and growth of fish. Iowa State University press, Ames.

EXHIBIT 3
DATE 2-5-93

APPENDIX A

Table A1. Common names and scientific names of fish referred to in this report.

Common name	Scientific name
Brook Trout	*Salvelinus fontinalis*
Brown Trout	*Salmo trutta*
Largescale Sucker	*Catostomus macrocheilus*
Mountain Whitefish	*Prosopium williamsoni*
Rainbow Trout	*Oncorhynchus mykiss*
Redside Shiner	*Richardsonius balteatus*
Sculpin	(family: Cottidae)
Westslope Cutthroat	*Oncorhynchus clarkii lewisi*

RICHARD MOUSEL

EXHIBIT # 4
DATE 2-5-93
HB

THE UPLAND GAME BIRD HABITAT ENHANCEMENT PROGRAM

Something for Everyone

2-5-93

The Upland Game Bird Habitat Enhancement Program began in 1987, when the Montana Legislature enacted a bill to provide funds for raising and releasing ring-necked pheasants to the wild. Two years later, the Legislature amended the law to allow the Department of Fish, Wildlife & Parks (FW&P) to use some funds to improve habitat for all species of upland game birds.

Since 1989, more than 300 private landowners have developed cooperative habitat projects with FW&P (see table), and additional agreements have been struck with more than a dozen county conservation districts to plant and maintain shelterbelts, a critical component of upland bird winter cover.

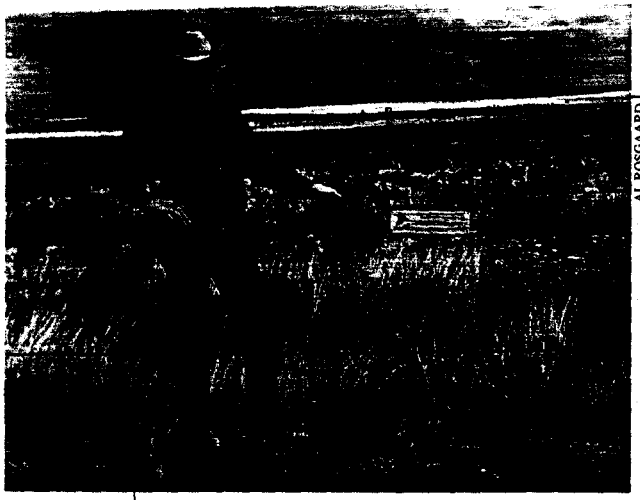
CHARLES R. PLACE III

Shelterbelt plantings provide critical winter cover for upland game birds.

These two components of the Upland Game Bird Habitat Enhancement Program have resulted in the development of more than 135,000 acres of habitat for upland game birds and other Montana wildlife.

"There is a lot of opportunity out there, and there are a lot of private landowners who are interested in trying to make their operations more productive for the long term," says Tom Hinz, who coordinates the program for FW&P. "They can look at the land and see where improvements can be made and we can help them make those improvements."

The habitat projects provide places for pheasants, grouse, and Hungarian partridge to breed, nest, raise young, roost, and winter. But the improved habitats also help to



AL ROSGAARD

DUANE SARGENT FARMER/RANCHER HAVRE, MONTANA SHELTERBELT AND NESTING COVER ESTABLISHMENT

In 1990, Duane Sargent entered a 15-year agreement with FW&P to establish and maintain an 11-acre shelterbelt designed to provide food and winter cover for pheasants, sharp-tailed grouse, and Hungarian partridge. FW&P provided buffaloberry, Russian olive, chokecherry, and caragana trees and Sargent planted them in five rows. Despite the drought, the trees are surviving.

In 1992, Sargent agreed to seed 233 acres of Conservation Reserve Program land with wheatgrass and alfalfa to provide nesting cover for pheasants, sharp-tailed grouse, and Hungarian partridge. The seed and planting costs were shared by FW&P and the Agricultural Stabilization & Conservation Service. The grasses have grown tall and are already providing dense cover for not only the targeted upland game birds, but also for several species of songbirds.

"I realize this benefits my cattle-ranching operation while it also improves wildlife habitat," Sargent said. "I also get a lot of satisfaction in providing hunters with a place to hunt upland game birds. They've been real cooperative in policing themselves."

conserve soil and water—the cornerstones for maintaining all wildlife populations.

Because soil and water conservation are so important, the involvement of county conservation districts—as well as individual agricultural producers—has been critical to the program's success. Producers may indeed realize an immediate financial benefit from having program funds spent on their property, but, in the long run, they and all Montanans will benefit from the good land stewardship the projects help foster.

"This is a first step toward the long-term maintenance of the land," Hinz says. "We're helping to put in shelterbelts, food belts, and establish grazing patterns. This isn't just for upland game birds. It's helping to heal the land for the landowner, and it's evolving into a program for all manner of wildlife."

Consider the variety of wildlife that benefits. Beyond providing places for upland game birds to live, many other wildlife species such as deer, antelope, ducks, nongame birds, and small mammals will benefit from these habitat partnerships.

Because the program's funding is derived solely from bird hunting licenses, public hunting is provided with landowner permission on project areas. Project areas also provide places to run hunting dogs, photograph and observe wildlife, and to just get away to a quiet spot to enjoy natural surroundings.

The Upland Game Bird Habitat Enhancement Program really offers something for everyone in Montana. It will help Montana stay Montana by maintaining open spaces, by helping landowners invest in rewarding land-stewardship projects, and by providing a place for Montanans to enjoy and better understand the vital role agriculture plays in the survival of wildlife.

THE MONTANA WATERFOWL STAMP PROGRAM— *Not Just for Ducks*

The Montana Waterfowl Stamp Program began in 1986. Since then, to be properly licensed to hunt waterfowl in Montana, hunters have been required to annually purchase the colorful $5 stamp.

The sale of associated artwork and stamps to waterfowl hunters and collectors has generated funds for wetland-enhancement work across Montana.

"In a semi-arid state like Montana, wetlands provide dynamic and diverse habitats for a wide range of wildlife species," says Jeff Herbert, FW&P statewide waterfowl coordinator. "Yet, wetlands are also important to livestock operators, especially in a dry year like 1992."

While it is true Montana's wetland-enhancement activities are primarily aimed at increasing waterfowl production and other wildlife uses—construction activities have included plugging drained wetlands, repairing dikes or spillways, constructing new ponds, building islands, and cutting off peninsulas—much work has been done beyond the wetland to improve adjacent upland areas.

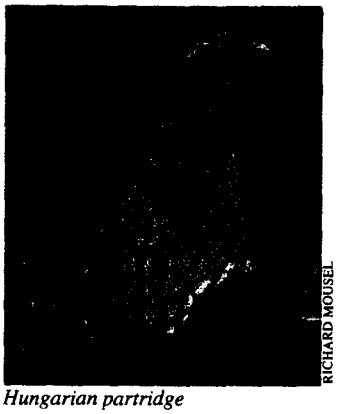
Herbert says wetlands serve an important role in flood control, improved water quality, and ground water recharge. "Most of our projects focus on wetland restoration and development, and on enhancement of adjacent upland acres," Herbert says.

Don't become confused. Waterfowl need healthy grasslands almost as much as good wetlands. Wetlands surrounded by grasslands or sagebrush and grassland pastures in good condition can actually produce dramatic increases in local waterfowl populations.

How? Adjacent grassland areas provide attractive nesting cover for breeding ducks and other birds. Work on uplands includes providing funds for the purchase and planting of desirable grass seed mixtures on acreage enrolled in the national Conserva-

THE UPLAND GAME BIRD HABITAT ENHANCEMENT PROGRAM 1989-1992

REGION	NUMBER OF CONTRACTS	FUNDS SPENT BY REGION
1	6	$ 11,000
2	20	$ 21,000
4	68	$149,000
5	28	$ 72,000
6	213	$558,000
7	31	$119,000
Statewide	366	$930,000


RICHARD MOUSEL

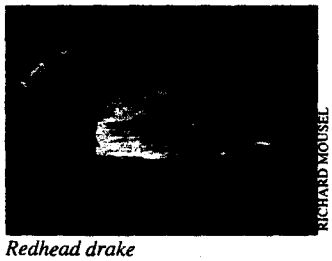
Hungarian partridge

Practice	Number Of Acres Enhanced	Wildlife Benefits	Benefits to Wildlife Users and Landowners
Shelterbelt installation, renovation, and maintenance	5,260	-Winter cover and food source for pheasants, sharp-tailed grouse, and Hungarian partridge -Winter cover and food source for passerine birds and small mammals -Nesting cover for Hungarian partridge -Nesting cover for passerine birds like robins, mourning doves, brown thrushes, and loggerhead shrikes	-Excellent sites for hunting upland birds, especially pheasants, sharp-tailed grouse, and Hungarian partridge -Opportunities to observe or photograph many bird species
Winter food plots	9,640	-Winter food for pheasants, sharp-tailed grouse, and Hungarian partridge -Winter food for deer, small mammals, Canada geese, and mallards -Winter food for passerine birds -Nesting cover for pheasants, Hungarian partridge, and passerine birds	-Hunting opportunities for pheasants, grouse, and partridge -Excellent areas for viewing, photographing, and studying deer, upland game birds, passerine birds, and small mammals
Nesting cover establishment	60,532	-Nesting cover for pheasants, partridge, and grouse -Cover and food for deer, antelope, and small mammals -Nesting cover for meadowlarks, lark buntings, mourning doves, sparrows, and other passerine birds -Winter cover for pheasants, grouse, partridge, passerine birds, rabbits, rodents, deer, and antelope	-Attractive places for hunting and photographing wildlife and enjoying the abundance of vegetation and wildlife -Improved soil and water conservation that preserves beauty and wildlife habitat values
Range management improvements	87,946	-Improved cover for grouse, partridge, longspurs and other passerine birds -Improved winter cover for pheasants, grouse, partridge, small mammals, and passerine birds -Improved plant diversity to favor a variety of wildlife species -Maintenance of soil and water to improve overall wildlife habitat	-Increased vegetative cover and enhanced range condition that provides better areas for hunting and observing, studying, photographing, and otherwise enjoying wildlife
Wetland restoration	28	-Improved winter cover for pheasants and sharp-tailed grouse -Erosion control to conserve soil and water, thus enhancing wildlife habitat -Improved winter cover for passerine birds and small mammals	-Wildlife oases that provide excellent wildlife viewing, photography, and hunting opportunities and increased diversity of wildlife and plants
TOTAL	163,406		

THE MONTANA WATERFOWL STAMP PROGRAM 1992

REGION	NUMBER OF CONTRACTS	FUNDS SPENT BY REGION
1	3	$ 17,250
2	3	$ 7,500
3	5	$ 19,321
4	6	$ 27,100
5	4	$ 39,900
6	17	$135,545
7	2	$ 8,000
8	1	$ 25,000
Statewide	41	$279,616

(Because of construction schedules, some overlap between years now occurs. Total expenditures to date for program are approximately $900,000.)


RICHARD MOUSEL

Redhead drake

Practice	Number Of Acres Enhanced	Wildlife Benefits	Benefits to Wildlife Users and Landowners
Wetland restoration, construction, enhancement	218	-Breeding and brood-rearing habitat for ducks and geese -Breeding and migration habitat for shorebirds and other water-related species -Increased habitat diversity for many nongame species and aquatic furbearers -Winter cover for pheasants, partridge, and grouse	-Increased recreational opportunities for hunting and bird-watching -Improved water distribution for livestock grazing -Increased wetland functional values including flood control, groundwater recharge, nutrient traps, and food chain support -Increased aesthetic values
Island construction	3.5	-Secure (predator-free) nesting sites for waterfowl, shorebirds, plovers, and terns -Safe areas for waterfowl and other species to loaf and relax	-Locations for hunting, bird-watching, and educational programs -Economic incentives to landowners for island construction -Aesthetic values and diversity
Nesting cover establishment	6,747	-Desirable grass/legume seed mixes that provide valuable nesting cover for upland-nesting waterfowl like mallards and pintails -Attractive nesting and brood-rearing cover for upland game birds -Cover for ground-nesting nongame bird species -Cover and food for mule deer, white-tailed deer, antelope, and small mammals -Increased productivity of adjacent wetland complexes	-Stands of native and introduced grasses that offer sites for hunting and observing wildlife -Marginal cropland seeded into permanent cover that reduces soil erosion and improves water quality in adjacent wetlands -Lease payments that provide economic incentives to landowners to establish and maintain good wildlife habitat -Permanent cover that can be used for pasture or hayland at the end of CRP or water bank contracts
Artificial nest structure program	150 goose platforms, 42 nesting culverts, and 100 wood duck boxes	-Increased production of Canada geese, mallards, wood ducks, hooded mergansers, and goldeneyes -Nest sites for nongame bird species and flying squirrels (wood duck boxes)	-Opportunity for clubs, school groups, scout troops, and individuals to participate in the program by installing and maintaining structures and monitoring waterfowl use
TOTAL	6,968.5		

• This report summarizes project activities during the last year. FW&P will annually update this information. FW&P has been able to stretch supporters' dollars by cooperating with a variety of agencies and private groups on habitat enhancement projects. Almost one-half of the projects undertaken in 1991 involved cost sharing with the U.S. Fish and Wildlife Service's Partners in Wildlife Program. All cooperative projects with the U.S. Fish and Wildlife Service were completed on private land. FW&P routinely works with Ducks Unlimited on a number of projects involving its U.S. Habitat and MARSH programs.—Ed.

BEN O. WILLIAMS

tion Reserve and Water Bank programs. FW&P also works with private landowners to help install rest-rotation grazing systems that not only produce good nesting cover, but also enhance the long-term productivity of pasture land.

Sometimes even good wetlands need help to produce more waterfowl, so some funds have been spent for materials to build artificial nest structures that can be erected in existing ponds. These projects usually target Canada geese, mallards, and wood ducks.

It used to be that the most significant waterfowl enhancement projects were developed in Canada, or in the Dakotas—the great "duck factories" of North America. But today, Montana—as arid as it is—is recognized as a state of particularly vital importance to breeding and migrating waterfowl. The state's wetlands can contribute to waterfowl production throughout the flyways.

In fact, Montana's promise is so great that the Colorado Duck Stamp Program and Colorado Ducks Unlimited recently contributed $50,000 for habitat work in north central Montana. These funds will be matched with funds from the Montana Waterfowl Stamp Program, Ducks Unlimited, and the U.S. Fish and Wildlife Service to accomplish far more than FW&P could accomplish alone.

Montana's duck stamps aren't just for ducks. And they're not just for duck hunters. They're for people who love wildlife, people like you, wherever you may live.

With continued support this important habitat program will make a difference. With continued support, work on private and public wetlands will continue to benefit wildlife. With continued support, Montana's Waterfowl Stamp Program will help Montana stay Montana. ■

DAVE BOOKS

DENNIS "PONCHO" MCCOY STOCKMAN DILLON, MONTANA WETLAND ENHANCEMENT

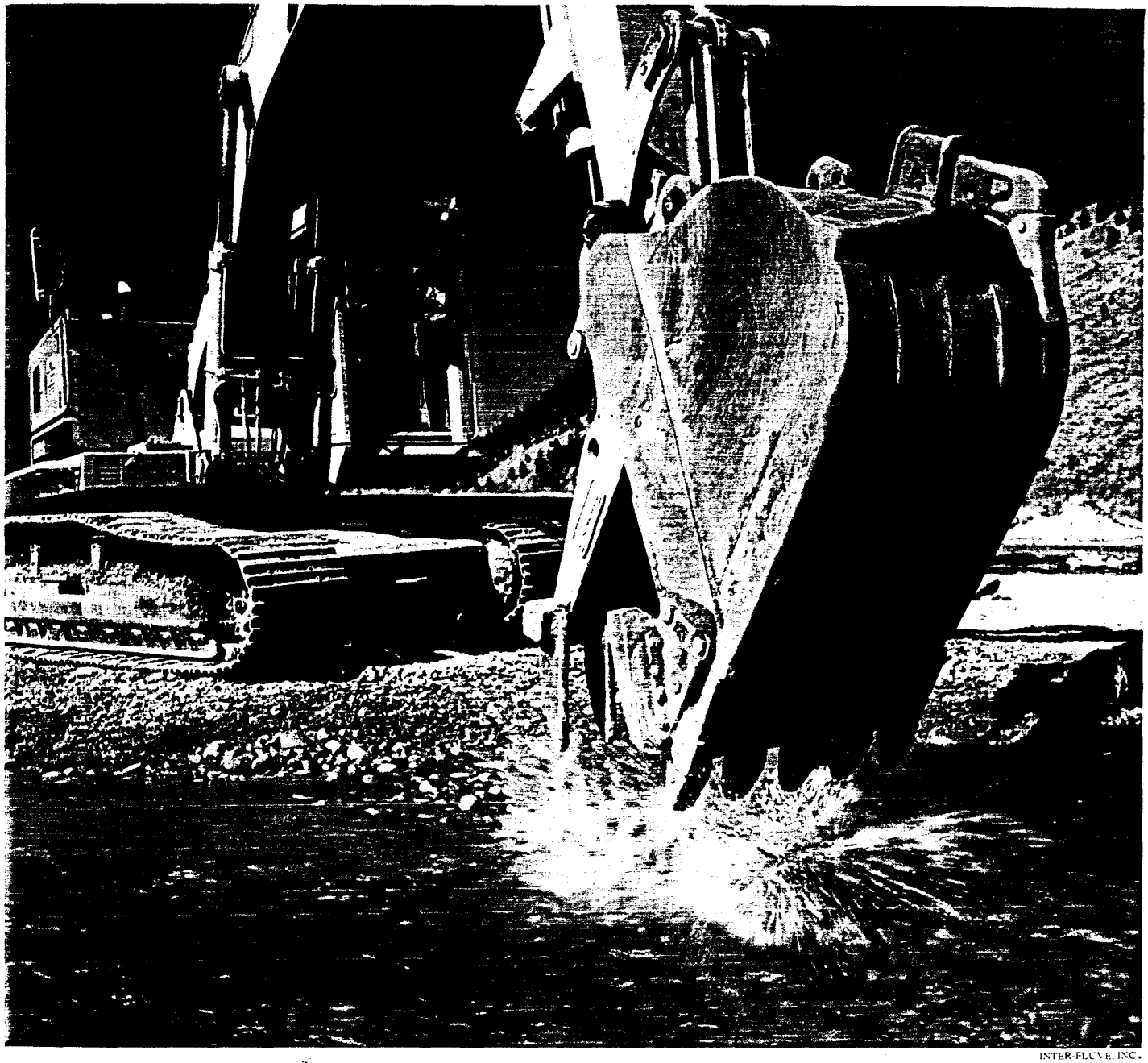
In 1991, Poncho McCoy developed six small ponds along a series of spring creeks. Duck- and goose-nest structures were placed in selected areas. Last spring, the ponds attracted five successful nesting mallard pairs. A successful pair of nesting geese managed to fledge eight goslings from the new wetland.

To build the ponds, McCoy entered a cost-share agreement with FW&P for labor and construction, while the local Soil Conservation Service provided much of the technical design. Dirt excavated during pond construction was used to fill and smooth nearby "bumpy" ground. The area will be seeded to tall wheatgrass and is used as a calving area for McCoy's cows.

"It has worked well enough that we're going to build two more ponds," McCoy said. "It doesn't hamper the cattle operation at all and it has definitely enhanced the total feel of the whole ranch."

Reprinted from Montana Outdoors, July/August 1992

EXHIBIT # 5
DATE 2-5-93



INTER-FLUVE, INC.

MONTANA MOVES MOUNTAINS *for Wild Trout*

by TAD BROOKS

WILD TROUT. To serious trout anglers across the country, the words are synonymous with Montana. Wild trout live in harmony with their environment and possess a natural vitality that appeals to many fishermen. Montana's stream trout fisheries are almost entirely self-sustaining and are the envy of the nation. The Montana Department of Fish, Wildlife & Parks (FW&P) has not stocked hatchery fish in the state's streams and rivers since the early 1970s.

INTER-FLUVE, INC.

Wade Lake, one of Montana's best big trout fisheries, is fed by a strong-flowing 40°F spring. But the 40-square-foot bed of gravel receiving the spring's flow (above) was too small to provide an adequate spawning area.

Lakes and reservoirs, however, are another matter. Where conditions aren't suitable for natural reproduction, stocking hatchery fish is necessary and desirable, and FW&P maintains a state-of-the-art hatchery system for that purpose.

To have a *self-sustaining* trout population in a lake or reservoir, adequate spawning streams or springs with good flows of high-quality water must be present. In recent years, where such conditions exist, FW&P biologists have attempted to establish strains of wild trout. These are fish hatched from eggs collected from native-spawning adults or from genetically wild hatchery broodstocks.

A case in point is Wade Lake near the Idaho border, one of a string of lakes that feed the famous Madison River. One of southwestern Montana's few high-mountain lakes that can be reached by car, Wade Lake is home to bald eagles, otters, and an occasional grizzly bear, and is serviced by a public campground and small resort. The lake is fed by a strong-flowing 40°F spring, and is rich in vegetation, plankton, and aquatic insects.

But the 240-acre lake is lacking in spawning habitat; a mere 40-square-foot bed of gravel receives the spring's flowing water, and spawning fish often dig up and destroy each other's eggs in the effort to lay their own. Other fish, unable to approach the gravel beds, discharge their eggs in deep water, or simply absorb them and don't spawn at all.

To rectify the situation, last summer the state and federal governments moved part of a mountain to create a wild trout fishery in Wade Lake. Using $115,000 of sportsmen's money earmarked for habitat improvement under the federal Sikes Act and state licensing laws, the agencies paid Inter-Fluve, Inc., a Bozeman-based natural resource reclamation firm, to construct a meandering, 600-foot-long spawning channel at the lake's source.

Designed to mimic a natural stream environment while at the same time maximizing spawning capacity, the 12-foot-wide channel is expected to yield thousands of rainbow trout fry a year and eliminate the need to stock the lake.

Wade Lake was first stocked in 1930 with coho salmon, and later with cutthroat trout, neither of which successfully reproduced. Rainbow trout were added to the mix and, in 1950, brown trout were released. In 1966, the lake yielded Montana's biggest brown trout on record, a 29-pound leviathan. Since 1984, the lake has been stocked with wild strains of rainbow trout.

Today, Wade Lake is among Montana's best big trout fisheries. Creel surveys in recent years show the average rainbow measures 18 inches or more, and huge brown trout still patrol the depths. Its big-fish reputation made it popular, prompting some fishermen to mount a petition drive calling for the state to impose catch-and-release restrictions to preserve the fishery.

WADE FREDENBERG

In fall of 1991, sportsmen's dollars paid for construction of a 600-foot-long spawning channel that will yield thousands of rainbow trout fry each year and eliminate the need to stock the lake.

A recent trout population study led by FW&P revealed an alarming lack of middle-sized rainbows in the lake, possibly because they're being eaten by the big browns. Biologists concluded that even if catch-and-release rules were imposed, Wade Lake's fishery would eventually peter out unless a strong population of naturally reproducing fish could be established or the lake were continually restocked.

One alternative to continual stocking was considered in light of the quality of the spring and the state's goal of establishing wild trout wherever possible. A decision was reached to create more spawning habitat, and that meant inviting bulldozers into the lake's most vital region.

"The spring was just too nice not to be put to use," explained Wade Fredenberg, a fisheries biologist for the department in Bozeman. "It's probably the best spring in the state that doesn't have a hatchery on it."

The reclamation firm proposed building a free-form, meandering channel that emphasized spawning habitat as well as pools in which spawning fish could rest.

" 'It's kind of like watching your mother-in-law drive your new Cadillac off a cliff,' said FW&P fisheries biologist Wade Fredenberg, as the big diesels chugged and clawed through the hillside above the lake."

The natural channel could be replanted with natural vegetation to make it aesthetically pleasing.

"People are recognizing that the more you can replicate the natural environment, the more likely you will be able to create something that is functional and exceptionally appealing," said Dale Miller, a biologist for the reclamation firm.

But the proposal called for bulldozing 11,000 cubic yards of dirt from a hillside into the pristine lake to form a level pad on which to sculpt the channel.

That made Fredenberg and other officials nervous.

One concern was that sediment from the bulldozing would cloud the entire lake which is so clear you can toss a dime into it and read heads or tails from depths of 20 feet.

Another concern was that the sound of heavy equipment would upset campers and fishermen and hurt business at the nearby resort. Still another fear was that construction would disrupt nesting bald eagles and grizzly use of the area.

The U.S. Forest Service solicited public comment on the potential risks, but heard no complaints, said Bruce May, a fisheries biologist with the Gallatin and

Beaverhead National forests who was the co-sponsor and driving force behind the project. "You don't hear much about the white-hat projects," May said. "You hear a lot, though, when somebody has a gripe."

THE WADE LAKE CONSTRUCTION began after Labor Day, with crews building a fabric barrier across the lake to isolate the pad area. Buoyed by 50-gallon drums and anchored to the lake's bottom, the fabric curtain trapped mud and sediment while allowing water to pass through, preventing the lake from turning the color of chocolate milk.

The barrier didn't bother the trout a bit.

"You could see the fish feeding on the open side right up to the barrier," said May. "On one side, the water was absolutely clear."

Later, construction crews built an earthen berm around the pad site, pumped it dry of water, and began backfilling it with tons of dirt scraped from the adjoining mountainside.

"It's kind of like watching your mother-in-law drive your new Cadillac off a cliff," said Fredenberg, as the big diesels chugged and clawed through the hillside above the lake.

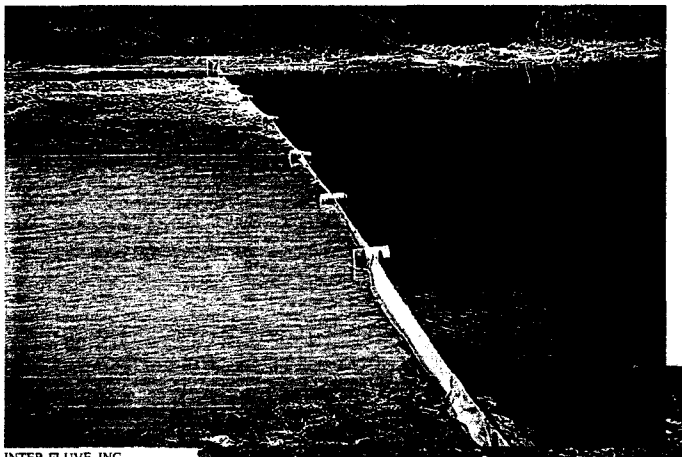
But with each shovel of dirt that turned the gin-clear water a muddy brown, the machines were helping to improve the fishing in Wade Lake.

With the pad complete, the reclamation firm began carving the spawning channel along a pre-determined gradient, then filled it with gravel for spawning beds, boulders for rest areas, and cobbles to give the young fish cover.

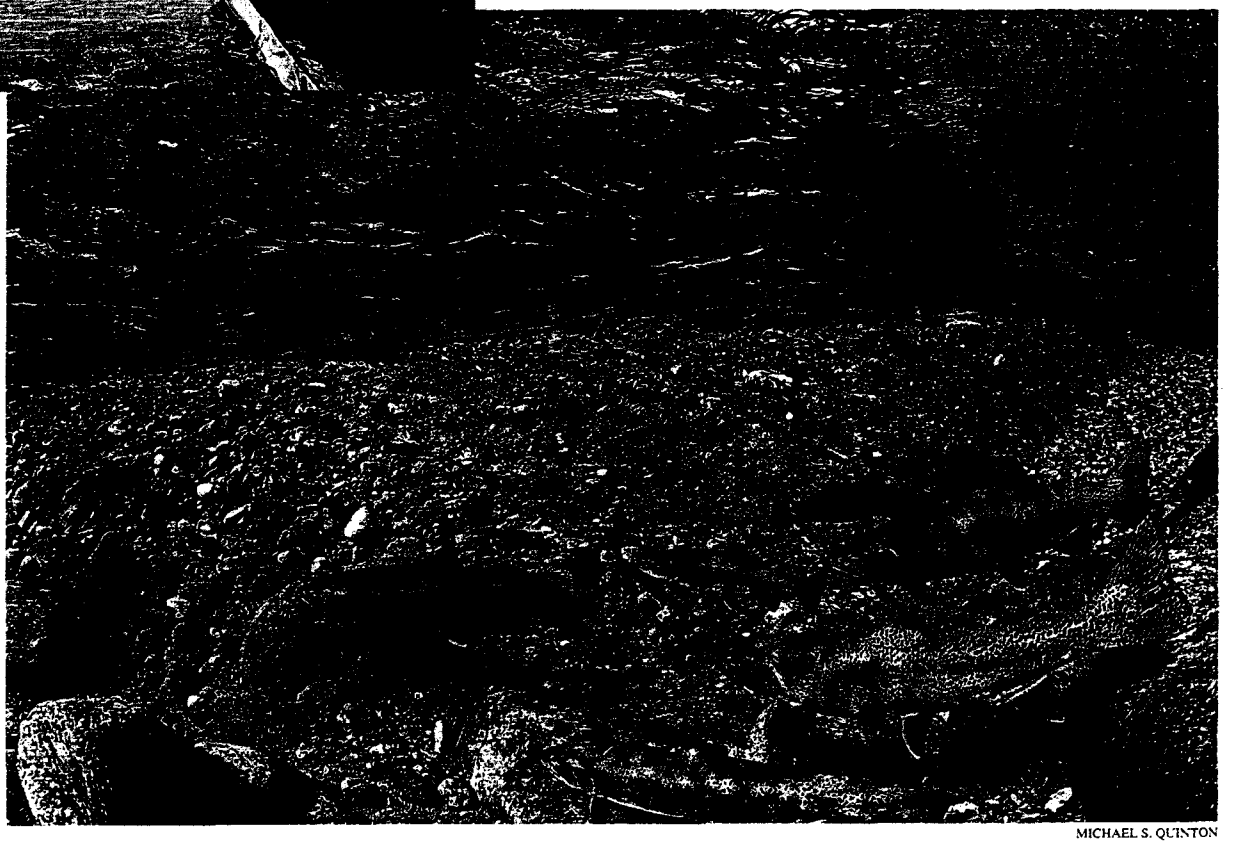
Banks of the channel were stabilized with a meshlike fabric made of woven coconut fibers, and the entire site was replanted with natural vegetation, including pink and purple wildflowers and willows to shield the spawning trout from ospreys and other aerial predators.

The channel sports a headgate at one end for controlling water flows and a fish ladder at the other, enabling biologists to regulate its use by fish. They can even shut it off completely if they want.

The Forest Service is so pleased with the outcome that it is considering putting up interpretive signs to explain to the public what ideal trout spawning habitat looks like, said May. "It's a long-term investment," added Fredenberg. "It allows us to do something that Mother Nature forgot. It's up to the fish now." ■



INTER-FLUVE, INC.



MICHAEL S. QUINTON

To prevent the whole lake from turning the color of chocolate milk, work crews built a fabric barrier (left) across the lake to trap mud and sediment during construction of the pad on which the spawning channel would be sculpted. Rainbow trout (below) now have an ample area in which to spawn.

EXHIBIT #6
DATE 2-5-93
HB

5201 05 00000
DEPT OF FISH, WILDLIFE & PARKS — Wildlife Division
Program Summary

Budget Item	Current Level Fiscal 1992	Current Level Fiscal 1993	Executive Fiscal 1994	LFA Fiscal 1994	Difference Fiscal 1994	Executive Fiscal 1995	LFA Fiscal 1995	Difference Fiscal 1995
FTE	99.03	98.83	93.57	99.03	(5.46)	93.57	99.03	(5.46)
Personal Services	3,121,062	3,092,263	3,129,210	3,315,209	(185,999)	3,139,238	3,325,240	(186,002)
Operating Expenses	2,680,481	1,992,026	3,749,867	3,287,983	461,884	1,936,835	1,886,881	49,954
Equipment	124,104	111,685	147,770	147,770	0	102,525	102,525	0
Grants	18,021	36,380	35,000	18,021	16,979	35,000	18,021	16,979
Transfers	0	1,331,500	1,584,000	0	1,584,000	1,531,500	0	1,531,500
Total Costs	$5,943,669	$6,563,854	$8,645,847	$6,768,983	$1,876,864	$6,745,098	$5,332,667	$1,412,431
Fund Sources								
State Revenue Fund	3,572,466	2,741,082	5,572,237	4,327,957	1,244,280	3,696,830	2,875,191	821,639
Federal Revenue Fund	2,371,202	3,822,772	3,073,610	2,441,026	632,584	3,048,268	2,457,476	590,792
Total Funds	$5,943,669	$6,563,854	$8,645,847	$6,768,983	$1,876,864	$6,745,098	$5,332,667	$1,412,431

Page References

LFA Budget Analysis, Vol. II pages C 31-32. An issue is on page C-20 (Wildlife EIS).
Executive Budget pages C 9-10

Current Level Differences

	Exec. Over(Under) LFA Fiscal 1994	Fiscal 1995
PERSONAL SERVICES-		
A. The executive eliminates 5.01 FTE in response to the 5% personal services reduction. Bkw	(172,253)	(172,785)
B. The executive imposes vacancy savings to attain the 5% personal services reduction. Of Van Winkle Passed	(2,294)	(1,754)
C. The executive transfers 0.45 FTE (grade 7 and 14) to a grade 17 attorney in the Department Management Division. Weed eva Passed	(11,452)	(11,463)
UPLAND GAMEBIRD - The executive requests a biennial appropriation in the Upland Gamebird program. The LFA current level reflects double fiscal 1992 actual expenditures. Jergeson Passed	425,984	0
BIGHORN SHEEP - The LFA current level reflects fiscal 1992 actual expenditures. Johnson Passed	16,900	16,900
WATERFOWL STAMP PROGRAM - The executive requests a base adjustment for a mishandled accural. Jergeson Passed	3,000	3,000
WILDLIFE ENVIRONMENTAL IMPACT STATEMENT - The LFA removed fiscal 1992 expenditures from the base for this activity because it has not had legislative consideration. The executive is requesting a budget modification for this activity. See LFA Budget Analysis page C-20 for additional information. The department is requesting a $149,560 budget amendment in House Bill 4 for this purpose. Jergeson - Passed	17,574	17,574
TRAINING COSTS - The executive funds a training session held in even numbered years in both years. The LFA current level reflects the cyclical nature of this activity. Weeding - Passed	0	12,563
UNIVERSITY STIPEND PROGRAM - The executive includes additional grant funds to MSU and UofM over the $18,021 spent in fiscal 1992. Jergeson - Juliet Wedding Amended	~~16,979~~	~~16,979~~
LCA - See LFA Budget Analysis pages C 13-15 for discussion of this issue. NOT IN LFA Bud	1,584,000	1,531,500
MINOR DIFFERENCES Jergeson - Passed	(1,948)	(929)
INFLATION (Non-voting item) Jergeson Passed.	374	846
TOTAL CURRENT LEVEL DIFFERENCES	1,876,864	1,412,431

Budget Modifications

WILDLIFE MANAGEMENT EIS - The executive requests additional staff (2.58 FTE in fiscal 1994 and 1.00 FTE in fiscal 1995) and funds to complete a wildlife management EIS began in fiscal 1992. The department is requesting a $149,560 budget amendment in House Bill 4 for this purpose. The legislature may wish to make this modification a one-time appropriation. See page C-11. Jergeson - Passed	275,000	120,000

EXHIBIT 6
DATE 2-5-93

DEPARTMENT OF FISH, WILDLIFE AND PARKS
Wildlife Division

Positions Removed by Joint Committee Action
House Appropriations & Senate Finance and Claims
January 6, 1993

	Position #	Position Description	Total Personal Services Fiscal 1994	Total Personal Services Fiscal 1995	FTE Removed by 5% Reduction	FTE Removed by Being Vacant	Total FTE Removed	Non-Approp. FTE
	All or Partial General Fund Positions							
		None						
	Sub-Total		0	0	0.00	0.00	0.00	0.00
	Non-General Fund Positions							
1	15604	Fish/Wildlife Biologist	32,749	32,783		1.00	1.00	
2	15809	Fish/Wildlife Program Officer	38,838	38,863		1.00	1.00	
3	25110	Research Assistant	14,419	14,520		0.50	0.50	
4	25208	Laborer	2,592	2,608		0.17	0.17	
5	25307	Laborer	4,998	5,070		0.30	0.30	
6	25310	Research Aide	13,041	13,105		0.50	0.50	
7	25311	Research Aide	14,407	14,479		0.59	0.59	
8	25601	Laborer	3,246	3,265		0.23	0.23	
9	25862	Laborer *	11,021	11,073		0.50	0.50	
10	95010	Laborer	16,977	16,989		1.00	1.00	
11	95011	Research Assistant	13,242	13,251		0.50	0.50	
12	25101	Laborer	1,073	1,079		0.08	0.08	
13	25702	Laborer	2,514	2,530		0.17	0.17	
14	15313	Fish/Wildlife Reg. Specialist	42,040	42,111	1.00		1.00	
15	15417	Fish/Wildlife Reg. Specialist	43,658	43,991	1.00		1.00	
16	15865	Fish/Wildlife Biologist	38,754	38,795	1.00		1.00	
17	15861	Fish/Wildlife Biologist	32,749	32,783	0.50	0.50	1.00	
18	25314	Research Assistant	12,632	12,647	0.51		0.51	
19	25858	Research Assistant	1,973	1,975	0.09		0.09	
20	15866	Administrative Aide	10,206	10,212	0.40		0.40	
21	25302	Laborer	1,552	1,561	0.11		0.11	
22	25304	Laborer	2,797	2,814	0.16		0.16	
23	25305	Laborer	5,249	5,282	0.24	0.13	0.37	
	Sub-Total		360,727	361,786	5.01	7.17	12.18	0.00
	TOTAL		360,727	361,786	5.01	7.17	12.18	0.00

* Positions where FTE in the 1995 biennium LFA current level budget are less than in the Swysgood motion.
#25862 – .65 FTE in motion

1-13- priorities
O - failed not acted on

HOUSE OF REPRESENTATIVES
VISITOR'S REGISTER

NATURAL RESOURCES SUB- COMMITTEE BILL NO. _____

DATE 2-5-93 SPONSOR(S) _____

PLEASE PRINT **PLEASE PRINT** **PLEASE PRINT**

NAME AND ADDRESS	REPRESENTING	SUPPORT	OPPOSE
Don Childress	MT FWP		
Larry Peterman	MT. FWP		
Tim Gallagher	MT. FWP		
Bill Hanks	FWP		
[illegible]	FWP		
Dave Mott	FWP		
Pat Graham	FWP		

PLEASE LEAVE PREPARED TESTIMONY WITH SECRETARY. WITNESS STATEMENT FORMS ARE AVAILABLE IF YOU CARE TO SUBMIT WRITTEN TESTIMONY.

DATE Feb 5, 1993

SENATE COMMITTEE ON Natural Resources Sub

BILLS BEING HEARD TODAY: _____

_____

Name	Representing	Bill No.	Check One Support	Oppose
Chris Murphy	self			

VISITOR REGISTER

PLEASE LEAVE PREPARED STATEMENT WITH COMMITTEE SECRETARY

F10