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MDT/FWP Task Force

Recommendations Report

Prepared by

Montana Fish, Wildlife & Parks

and

Montana Department of Transportation

September 1997

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Executive Summary

The Fisheries Task Force, appointed by the Directors of Montana Fish, Wildlife & Parks (FWP) and the Montana Department of Transportation (MDT), worked together to identify and develop recommendations on how the two departments can work together to resolve issues, concerns and take advantage of opportunities where roads and streams are in conflict.

This report presents eight recommendations from the Task Force.

Recommendations 1-3 are procedural in nature, will occur early in transportation project development and will facilitate information exchange between the agencies.

Recommendation 4 establishes criteria for temporary crossings during transportation project construction.

Recommendation 5 is to establish a permanent FWP/MDT fisheries group to manage on-going tasks and to evaluate and modify interagency procedures.

Recommendation 6 will continue the effort to further evaluate and complete fish passage criteria guidelines which are particularly lacking for Montana trout species.

Recommendation 7 is to develop and implement a series of (one-time only) meetings between respective MDT Maintenance Area personnel and Regional FWP fisheries personnel to interact on the local level. (This differs from Recommendation 1 which is intended to be on-going relative to planned construction projects.)

Recommendation 8 is to use a permanently established group to identify, prioritize and nominate Remediation projects.

These recommendations constitute achievement of the majority of the 16 objectives established at the outset by the Task Force. The exception is the continuing work relative to maintenance activities and the fish passage criteria for western Montana-type stream conditions.

Introduction

The FWP/MDT Fisheries Task Force was implemented May 1, 1995, jointly by the Director's of Montana Fish, Wildlife & Parks (FWP) and the Montana Department of Transportation (MDT).

Members of the Task Force, as originally implemented, consisted of the following:

FWP- Phil Stewart, Miles City, Co-Chair
George Liknes, Great Falls
Scott Rumsey, Kalispell
Don Peters, Missoula
Ken Chrest, Helena Consultant

MDT- Gordon Stockstad, Helena, Co-Chair
George Swartz, Missoula
Mark Traxler, Helena
Carl Peil, Helena
Joe Kolman, Helena
Ben Dean¹, Helena

As stated by the Department Directors, the Task Force was formed in recognition of the importance of Montana's fishery resources and transportation systems for the future of the state. The intent of the Task Force was to "work on those activities where fisheries and transportation systems come together and result in specific issues, concerns and opportunities...this group will develop recommendations on how our department can work together to resolve these issues, concerns and take advantage of the opportunities." It was also intended that the group be in place at least two years to take action on suggested topics such as loss of fish habitat, fish passage, road maintenance practices, bridges vs. culverts, safety and economics and threatened and endangered species. The Task Force was encourage to expand on this list with their own topics and priorities.

The group conducted their first meeting on June 27, 1995 and has generally met on a bi-monthly basis over the past two years. In addition to adding a representative from MDT's Construction Bureau to the Task Force, advisory (non-voting) members Kirk Eakin and Dick McIntyre from MDT and Glenn Phillips from FWP were recognized and have continued to participate throughout the process. Marjore Blewett from MDT has assisted as facilitator and Liane Taylor from FWP has provided meeting minutes and formatted group documents.

¹At the second meeting of the group (August 22, 1995), it was agreed to add one additional representative from MDT Construction. Also, participating in an advisory (non-voting) capacity, are Kirk Eakin and Dick McIntyre from MDT and Glenn Phillips from FWP.

The Task Force began by developing a Goal Statement and 6 general categories containing 16 specific objectives. The 16 objectives became the basis for determining priorities and allowed the group to systematically work toward agreeable recommendations for presentation to their respective Departments.

Much of the work has been completed and most of the objectives originally set forth by the Task Force have been accomplished; however, some of the objectives will require additional effort and resources. The Task Force has also determined that a continuing core group of representatives from both agencies should remain in place to follow through with the remaining work and to identify and resolve continuing and new issues.

This report contains a meeting summary, four written "Procedural Recommendations" developed and approved through consensus by the Task Force. Three of these procedures are essentially intended to provide for early coordination between the two agencies and to facilitate the exchange and gathering of information relative to transportation project development and stream and fisheries issues. The fourth written procedure addresses the construction of temporary facilities across or near streams or drainages. This report also identifies as "Continuing Recommendations", what the Task Force believes to be the next order or priority.

The Task Force hereby supports adoption of these recommendations by each agency.

FWP/MDT Fisheries Task Force

Goal and Objectives

Goal and Objectives for FWP/MDT Fisheries Task Force

Goal: Produce a consistent, cooperative and efficient approach to protect and enhance stream and associated fish and wildlife resources while providing safe, effective and efficient transportation systems.

Objectives:

1. Communication
 - A. Develop procedures for early and continuing communication from preconstruction through construction and maintenance.
 - B. Improve information exchange between biologists and engineers.
 - C. Develop mutual understanding of each agency's needs.
2. Fish Habitat Protection
 - A. Develop mutually agreeable fish passage criteria for both eastern and western Montana.
 - B. Develop criteria to determine type of stream crossing (bridge, culvert, culvert extension) to be used.
 - C. Increase consideration for fish habitat during project design based on identified needs.
 - D. Define ways to decrease the need for channel changes.
 - E. Minimize loss of habitat at bridges and longitudinal encroachments.
 - F. Develop design criteria for routing of flood flows.
3. Road Maintenance
 - A. Minimize entry of road sand into streams.
 - B. Maintain vegetative cover in roadside ditches.
 - C. Minimize habitat damage from beaver dam removals.
4. Project Scheduling
 - A. Resolve conflicts from restrictive project scheduling.
5. Evaluation
 - A. Evaluate key projects post-construction.
 - B. Identify old projects in need of modification.
6. Training
 - A. Identify training needed for personnel of both departments.

Recommendation #1

Procedure for Early Coordination

and

Review of Proposed Transportation Projects

Montana Department of Transportation and Montana Fish, Wildlife & Parks: *Procedure for Early Coordination and Review of Proposed Transportation Projects*

Purpose

The purpose of this procedure is to establish a means to facilitate early communication, coordination and understanding between the Montana Department of Transportation (MDT) and Montana Fish, Wildlife & Parks (FWP), thereby assisting both agencies to better fulfill their respective programs, services and responsibilities to the people and resources of Montana.

Process

MDT's on-going construction program is determined and established based on the identified need to improve existing transportation facilities and available funding to accomplish those identified needs. MDT's Project Management System (PMS) planning guide identifies and schedules projects within each of the 5 MDT Districts approximately 2-5 years into the future. When proposed projects are identified and approved for programming, they enter the PMS and are scheduled based on priorities, type of project, available or anticipated funding and any other relevant considerations.

Project Field Meetings/Reviews

At least once each year, MDT environmental, design, construction and district staff will meet with the appropriate FWP Regional staff and SPA Coordinator to review MDT's most recent PMS project list. This meeting will be an opportunity for MDT headquarters and district staff to present FWP regional staff with new project proposals and status updates of projects already in the PMS. The meeting will be conducted in the appropriate MDT District or Area Office or the FWP Regional Office. Depending on seasonal conditions, on-site reviews of selected projects or segments of projects may also be conducted. The intent of the meeting is to identify as early as possible, prior to MDT's final scope-of-work, fisheries and other habitat issues and concerns relative to potential project impacts through the use of a checklist.

The MDT project/district biologist will be responsible for scheduling the meeting of their particular district in cooperation with the appropriate FWP Regional fisheries biologist. A list of proposed projects to be discussed will be provided in advance of the meeting(s). The list will include at least project type and location with beginning and ending milepost. A record of each meeting will be prepared and distributed to all participants.

Recommendation #2

MDT Criteria for Determining

Type of Stream Crossing to be Used

FWP/MDT Fisheries Task Force

MDT Criteria for Determining Type of Stream Crossing for Highway Projects

- A. Information MDT Project Biologist would provide to FWP after the Preliminary Field Review.
 - 1. Scope and location of proposed project.
 - 2. Proposed year and month of construction.
 - 3. Stream crossing locations.
 - 4. Existing information: culvert/bridge dimensions and condition of culvert or structure.
 - 5. Alternatives being considered at each crossing.
 - 6. A timeline by which MDT needs preliminary information back from FWP for design consideration.

- B. Information FWP would provide to MDT before preliminary design.
 - 1. Species present by stream
 - 2. Is fish passage currently being provided and is it necessary or desired for the future. Is there a current facility.
 - 3. Critical habitat upstream, downstream, and in vicinity of stream crossing (spawning areas).
 - 4. Passage requirements (if known or available) for adults, juveniles, spawners, resident, bedload, time of year and for what length of time, permissible delays in passage (ie for a two-day peak on a hydrograph).
 - 5. Species swimming abilities (if known or available) ie. sustained speeds/lengths and darting speeds/lengths, and minimum depths and maximum velocities for passage.
 - 6. Preliminary recommendations for the criteria that needs to be met at each stream crossing for fish passage. What are FWP's concerns.

- C. After preliminary design, MDT can provide the following if needed for FWP to make a decision on fish passage.
 - 1. Existing stream slope above, below, and through/under road crossing.
 - 2. Expected min/max/avg velocities, depths and lengths through or under crossing.
 - 3. Core log data adjacent to crossing.
 - 4. Existing stream and stream bank condition/stability above and below crossing (photos, etc).

Recommendation #3

FWP Criteria to Determine Type of Stream Crossing to be Used

FWP/MDT Fisheries Task Force
FWP Fisheries Criteria Related to Objective 2B
“Develop Criteria to Determine Type of Stream Crossing to be Used”

The following criteria will be considered as general guidelines and starting points in project planning. For specific sites and projects either FWP or MDT may want to incorporate different provisions. These exceptions will be negotiated between the parties on a case by case basis.

The agency responsibilities as outlined in the MDT Stream Crossing Criteria memo will be adopted as guidelines by both agencies. Standard forms will be developed to facilitate and expedite providing this information to each respective agency. Accompanying this information will be a small glossary which defines all pertinent acronyms. Any design changes by either agency from the following rules which would potentially impact fisheries or hydrologic values during the planning/designing phase of the project will be promptly communicated in a formalized process as soon as the information is known.

I. Criteria Related to Choosing Type of Stream Crossing

- A. To preserve high quality habitat, bridges will be used on spring creeks with a classification of Value Class I, Highest-Value Fishery Resource. Streams of Value Class II, High Priority Fishery Resource and non-spring creeks of Value Class I, will receive special consideration regarding the type of crossing, but not necessarily a bridge².
- B. For perennial or ephemeral streams with spawning migrations of weak swimming fish, such as channel catfish, walleye, sauger, and northern pike, existing bridges will only be replaced with other bridges. As additional field data is obtained, other species and/or waters may be proposed as additions to this list.

II. Criteria Related Only to Bridge Installations

- A. Bridges will be designed to adequately pass bedload and maintain natural channel function above and below the crossing.

² Lists of streams requiring bridges to be replaced with bridges and Value Class I and II streams are located in Appendices A and B.

- B. Channels will be maintained in a natural configuration and will not be converted to trapezoidal shapes.
- C. Pier location to be in harmony with stream so that there is not a pier in the thalweg and potential for scour at the piers is reduced. Piers should also be placed to allow for floater safety, debris passage and ice passage.
- D. Rip-rap should be keyed and kept to the minimum necessary to protect the bridge. Rip-rap in the middle of the channel will be avoided and will not reduce channel cross-sectional area. A deeper key will be used to hold rip-rap in place instead of extending rip-rap toward the center of the channel.

III. Criteria Related Only to Culvert Installation

- A. Where fish passage may be an issue on a culvert installation or extension, FWP will designate the priority species and time of year passage is needed. MDT will provide the best data available on culvert and stream channel conditions at the site. This would typically include proposed culvert length, roughness, bottom depth, velocity profile, entry and exit conditions, flows, alignment and bed stability. Additional field data will be collected and negotiated when needed between both agencies.
- B. For perennial streams, culverts should adequately pass bedload to maintain natural channel configurations.
- C. Culverts, including embedded culverts, should be designed so that they adequately provide for fish passage following installation. If culvert becomes perched, or if for other reasons it does not provide needed fish passage, MDT will make a commitment to repair it within 12 months.
- D. Where upstream fish passage needs to be prevented, MDT will do so by purposely perching culvert or by other means. FWP will provide information on a project by project basis.

IV. Criteria Related to Both Bridges and Culverts

- A. Where T&E species, or Species of Special Concern are present at some part of their life history, MDT will utilize the highest design and construction standards at and near crossings. T&E species are currently present only in

the Kootenai River below Kootenai Falls, the Missouri River below Fort Benton, and the Yellowstone River below Intake.³

- B. Use of guide banks and channel changes will be avoided unless no other practical alternatives exist. MDT Hydraulics will provide documentation and justification for exceptions.
- C. When channel changes are necessary, the original channel configuration, such as length, slope, and shape will be maintained.
- D. Full erosion control requirements for both bridges and culverts will be implemented before, during, and after construction until adequate vegetation has become established. All erosion controls will be removed once adequate vegetation has been established. These provisions will be aggressively enforced to the extent allowable by MDT. (Maintenance can remove erosion controls if they know where they are).
- E. For Value Class I Streams, Highest-Value Fishery Resource waters, projects will provide for year around passage for both large (adult) and small (juvenile) fish. Crossing designs should include spawning passage and returns, as well as rearing and annual production outmigration when necessary.
- F. Net economic value of an angler-day, as determined by Rob Brook's Contingent Valuation Assessment, may be used for comparisons when considering the added cost of more "fish friendly" alternatives on controversial projects.

³A list of Species of Special Concern is contained in Appendix C.

Recommendation #4

Detour, Haul Road or Ford Facilities Construction

Adjacent to Streams or Ephemeral Drainages

Detour, Haul Road or Ford Facilities Construction Adjacent to Streams or Ephemeral Drainages

General Provisions

Determine if the detour or haul road being constructed needs a bridge, culvert or ford.

Submit the following information for all installations:

- A. A topographic map or sketch showing the features, elevations and location of the proposed facility.
- B. The location to the nearest town and the Range, Township and Section of the requested facility.
- C. Anticipated time of year and length of time the facility will be in place.
- D. Anticipated average water flow during the time facility is in place.
- E. Describe the method of installation and removal and the re-contouring of banks. Include methods of keeping construction materials from entering the stream channel or flowing water.

Ford Construction

- A. Describe the type of ford to be constructed and material to be used for construction. Justify use of ford.

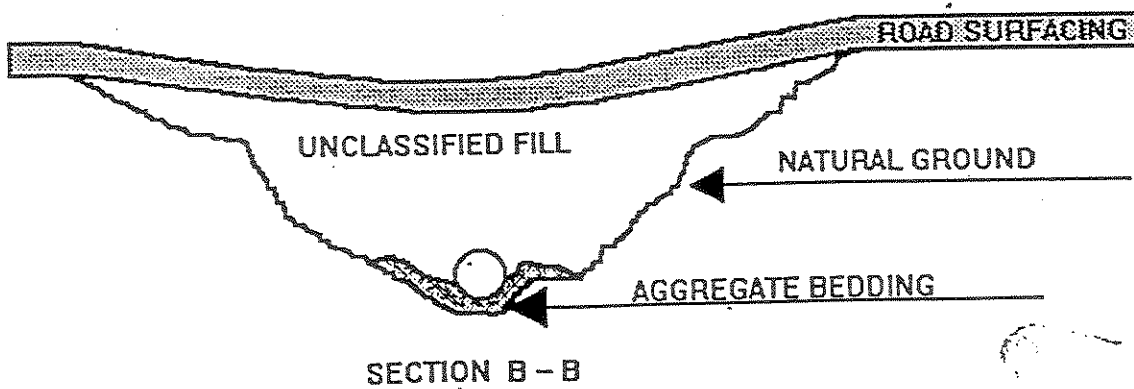
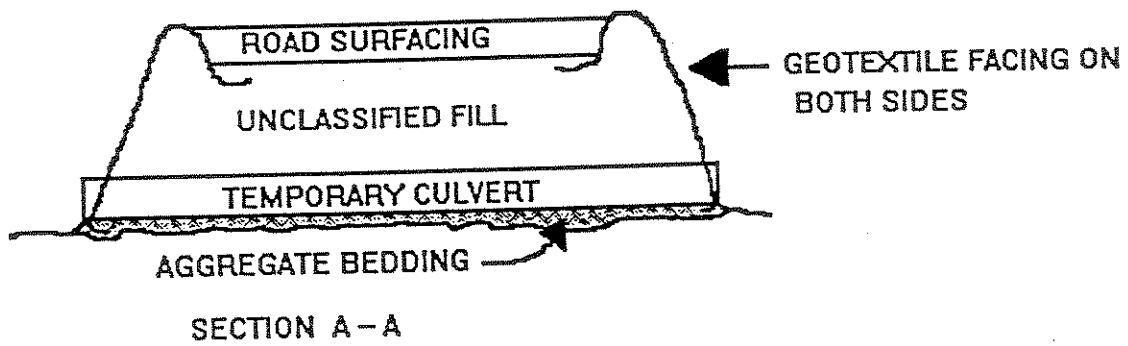
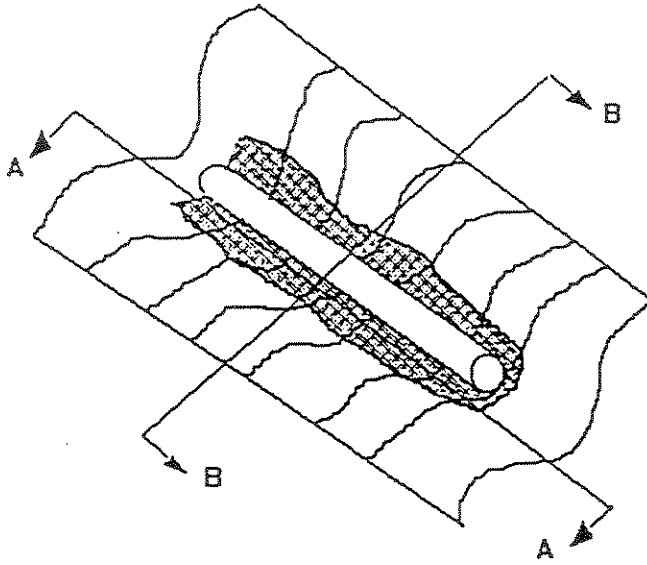
Bridge Construction

- A. Design and submit for approval, as per standard specs or special provisions, all plans and calculations for Detour and Work Bridges.
- B. Show the location and height of the anticipated high flow.

Culvert Installation

- A. Show how culvert design will handle anticipated flow without overtopping the detour.
- B. Design the installation to include the protection of the in slopes on both the upstream and downstream sides. A contour map and site sketch of the facility should include a provision for possible overtopping.
- C. Bed culverts in clean gravel of sufficient depth to provide a smooth bed for the culvert to facilitate removal. The gravel is to extend to the edge of streambank vegetation or at least two feet beyond the waters edge, whichever is further.
- D. Protect the upstream and downstream edges of the embankment with geotextile to prevent erosion of the side slopes.
- E. The attached drawings show a method of installation.

CULVERT DETAIL DRAWING



Note: Keep roads as low as possible with geotextile covering on both slopes.

Recommendation #5

Establishment of a Permanent

FWP/MDT Fisheries Group

Establishment of a Permanent FWP/MDT Fisheries Group

Over the past two years, the Task Force has achieved a majority of their originally identified objectives. Through the course of this effort, it has become obvious that a cooperative and continuing effort between both agencies will be necessary to implement, maintain, evaluate and modify the recommended procedures. Some of the original objectives relative to maintenance and western Montana fish passage criteria have not yet been fully achieved or concluded. It is also anticipated that new issues will likely continue to occur.

Recommendation

Therefore, the Task Force recommends that a "Core Group" of appropriate representatives from each agency be designated and maintained to identify and resolve continuing and new issues. This group should be made up of representatives from MDT Engineering, Maintenance and Environmental and fisheries representatives from FWP regions east and west of the Continental Divide and Headquarters. This group should meet at least annually and confer more frequently on a more informal basis to direct or evaluate the efforts of individual tasks.

Recommendation #6

**Continued Effort to Develop a
Salmonid Passage/Procedural Criteria “Guide”**

Continued Effort to Develop a Salmonid Passage/Procedural Criteria Manual

Objective 2.A.: *“Develop mutually agreeable fish passage criteria for both eastern and western Montana”* - The group has struggled with the best way to approach and achieve this objective. It is felt that this objective is now most pertinent and critical to western Montana due to fish species, habitat and dynamic and varied stream conditions. Eastern Montana streams and warmwater species have generally been addressed under the criteria developed of Objective 2.B., including the listed FWP Criteria IB. (Warmwater) Streams (Appendix C).

There are numerous studies and manuals that deal with various aspects relative to fish passage needs, hydraulics and so forth on a broad or regional basis, but not a single comprehensive manual that can be easily understood and in particular applied to trout species stream conditions by both biologist and engineer.

Therefore, the Task Force is presently considering the merits of hiring a mutually agreeable consultant, funded equally by both agencies, to examine four or five selected “fish passage” documents. The consultant would then make a recommendation on the feasibility and cost to produce a combined manual for Montana. This manual or guide could possibly complement and be used in conjunction with the draft “Chapter 15” of the AASHTO Model Drainage Manual currently being reviewed by the MDT Hydraulics Section.

Recommendation:

The Task Force recommends that there be a continued effort to develop a Salmonid Passage/Procedural Criteria Manual or guide for adoption and use by both agencies. This effort would be under the direction of the Task Force or a successor group.

Recommendation #7

FWP Regional/MDT Maintenance Area

Series of Statewide Meetings

FWP Regional/MDT Maintenance Area Series of Statewide Meetings

At a recent MDT Maintenance Chiefs' meeting, a presentation by FWP highlighted specific locations where winter maintenance road sanding has resulted in heavy sediment loads into adjacent streams. Though positive in their desire to correct such problems, the Maintenance Chiefs feel they are hampered by lack of funding and shortages of staff. The Task Force believes that an effort should be made to provide an opportunity for local meetings between MDT maintenance people and the FWP regional biologists so they can communicate about some of the local issues.

This would likely be a one-time only effort with a basic but flexible agenda. It would involve 6 to 8 meetings to include the 11 MDT Maintenance Areas and the 7 FWP Regions. The meetings would be an opportunity for local introductions; list of contacts; slide or video presentations of example "problem areas" prepared by FWP; discussion of chronic problems and possible solutions, e.g., beaver dams, accumulated sanding debris, maintenance practices, materials and constraints, identifying and nominating possible remedial projects; etc.

Recommendation:

The Task Force recommends developing an agenda, establishing a mutually agreeable schedule, and conducting a series of local meetings between Regional FWP biologists and MDT Maintenance Area staff. This would be an opportunity to identify problem areas at the local level and possibly generate effective solutions.

Recommendation #8

Identifying and Prioritizing

Remediation Projects

Identifying and Prioritizing Remediation Projects

Related to Recommendation 7, is the possible opportunity of using the Task Force successor group to identify and prioritize problem areas that may potentially be eligible for special funding. This may be an advantage over present processes for nominating projects of this type since it would be more systematic and involve input from both agencies and be based on fisheries resource and funding priorities.

Recommendation:

Establish a priority list of “trouble spots” and use the “Core Group” as a nominating body for future remediation projects potentially eligible for available special category funding.

Appendix A

List of Montana Value Class I and II Streams

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RV = Fishery Resource value, SF = Sport Fishery value, HS = Habitat and Species Value: 1 = Outstanding, 2 = High value, 3 = Substantial, 4 = Moderate, 5 = Limited

RV = Higher of SF or HS

NOVEMBER 5, 1985

[illegible]

SERIAL	REG-DRAINAGE-WATER-REACH	STREAM NAME	LOWER REACH BOUNDARY		UPPER REACH BOUNDARY		TWIN KING SEC			TRIBUTARY TO	LENGTH (KM)
			LOWER REACH BOUNDARY	UPPER REACH BOUNDARY	TWN	KING	SEC				
1-17-4920-000	MISSOURI RIVER SEC 11	MISSOURI RIVER	CANYON FERRY RESERVOIR	MISSOURI RIVER	07N	02E	30		MISSISSIPPI RIVER	25.6	
1-22-4270-001	MOLHERON CREEK	MOLHERON CREEK	MOUTH	MOUTH	07N	07E	30		YELLOWSTONE RIVER	1.0	
1-08-4880-001	MOOSE CREEK	MOOSE CREEK	MOUTH	MOUTH	07N	21W	32		N FK FLATHEAD RIVER	1.0	
1-08-4880-002	MOOSE CREEK	MOOSE CREEK	MOUTH	MOUTH	07N	21W	32		N FK FLATHEAD RIVER	4.9	
1-08-4880-003	MOOSE CREEK	MOOSE CREEK	MOUTH	MOUTH	07N	21W	32		N FK FLATHEAD RIVER	7.1	
1-08-4920-001	MORAN CREEK	MORAN CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-4920-002	MORAN CREEK	MORAN CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-4920-003	MORAN CREEK	MORAN CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-4940-001	MURRAY CREEK	MURRAY CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-4940-002	MURRAY CREEK	MURRAY CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-4980-000	N DR MARTEN CREEK	N DR MARTEN CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5184-000	N DR BIG HOLE CREEK	N DR BIG HOLE CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5275-000	N DR DEEP CREEK	N DR DEEP CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5280-000	N FK FLATHEAD RIVER	N FK FLATHEAD RIVER	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5100-001	N FK FLATHEAD RIVER	N FK FLATHEAD RIVER	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5100-002	N FK FLATHEAD RIVER	N FK FLATHEAD RIVER	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5100-003	N FK FLATHEAD RIVER	N FK FLATHEAD RIVER	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5340-000	N FK RYE CREEK	N FK RYE CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5375-000	NELSON SPRING CREEK	NELSON SPRING CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5305-000	NELSON CREEK	NELSON CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-001	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-002	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-003	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-004	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-005	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-006	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-007	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-008	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-009	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-010	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-011	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-012	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-013	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-014	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-015	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-016	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-017	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-018	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-019	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-020	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-021	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-022	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-023	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-024	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-025	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-026	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-027	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-028	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-029	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-030	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-031	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-032	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-033	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-034	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-035	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-036	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-037	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-038	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-039	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-040	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-041	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-042	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-043	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-044	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-045	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-046	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-047	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-048	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-049	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-050	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-051	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-052	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-053	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-054	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-055	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-056	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-057	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-058	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-059	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-060	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-061	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-062	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-063	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-064	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-065	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-066	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-067	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-068	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-069	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-070	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-071	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-072	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-073	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-074	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-075	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-076	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-077	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-078	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-079	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-080	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-081	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-082	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-083	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-084	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-085	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-086	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-087	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-088	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-089	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-090	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-091	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-092	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-093	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-094	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-095	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-096	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-097	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-098	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-099	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-100	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-101	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-102	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-103	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-104	NIDELL CREEK	NIDELL CREEK	MOUTH	MOUTH	07N	21W	32		HAY CREEK	1.4	
1-08-5020-105	NIDELL CREEK	N									



MONTANA DEPARTMENT OF FISH WILDLIFE & PARKS
STREAM FISHERY EVALUATION BY RESOURCE VALUE
NOVEMBER 5, 1985

[illegible]

[illegible]

REF ID: A61215

[illegible]

SER IAL	REG-DRAINAGE- WATER-REACH	STREAM NAME	LOWER REACH BOUNDARY	UPPER REACH BOUNDARY	-- LOWER SEC TWN RNG SEC	TRIBUTARY TO	LENGTH (KM)
1-08-5365-002	PARK CREEK	3.5 KM ABOVE MOUTH	4.3 KM ABOVE FIELDIN	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5365-004	PARK CREEK	UPPER FORKS AT 19.3	3.2 KM ABOVE MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5370-001	PARK CREEK	MOUTH	2 KM ABOVE MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5370-002	PARK CREEK	MOUTH	2 KM ABOVE MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-000	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-001	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-002	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-003	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-004	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-005	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-006	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-007	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-008	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-009	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-010	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-011	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-012	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-013	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-014	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-015	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-016	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-017	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-018	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-019	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-020	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-021	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-022	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-023	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-024	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-025	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-026	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-027	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-028	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-029	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-030	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-031	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-032	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-033	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-034	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-035	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-036	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-037	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-038	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-039	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-040	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-041	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-042	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-043	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-044	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-045	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-046	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-047	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-048	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-049	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-050	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-051	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-052	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-053	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-054	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-055	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-056	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-057	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-058	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-059	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-060	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-061	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-062	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-063	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-064	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-065	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-066	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-067	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-068	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-069	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-070	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-071	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-072	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-073	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-074	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-075	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-076	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-077	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-078	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-079	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-080	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-081	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-082	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-083	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-084	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-085	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-086	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-087	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-088	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-089	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-090	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-091	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-092	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-093	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-094	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-095	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-096	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-097	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-098	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-099	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	
1-08-5388-100	PILGRIM CREEK	MOUTH	MOUTH	30N 26M 35	N FK FLATHEAD RIVER	8.2	

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Appendix B

Map of Value Class I Spring Creeks

Requiring Bridges to be Replaced with Bridges

Appendix C

List of FWP Criteria I.B.

(Warmwater) Streams Requiring Bridges to be Replaced with Bridges

IB Streams Requiring Bridges To Be Replaced with Bridges

Stream Name	County	Reach Description
Battle Creek	Blaine	Mouth to T33N, R20E, S30
Beaver Creek	Phillips & Valley	Mouth to T31N, R35E, S21
Beaver Creek	Hill	Mouth to T31N, R15E, S21, except where culverts now exist.
Beaver Creek	Wibaux	MT-ND border to mouth of Rattlesnake Creek in T11N, R60E, Sec. 30.
Bennie Peer Creek	Richland	Mouth to MT-ND border
Big Sandy Creek	Chouteau & Hill	Mouth to T32N, R15E, S5
Big Muddy	Roosevelt & Sheridan	Mouth T28N, R55E, S28
Box Elder Creek	Carter	MT-SD border to mouth of Muskrat Creek in T4S, R58E, S35
Cabin Creek	Dawson & Prairie	Mouth to County Road Crossing in T12N, R55E, S27
Clear Creek	Blaine	Mouth to T33N, R18E, S29
Cottonwood Creek	Wibaux	Mouth to Road Crossing in T17N, R58E, S6
Crane Creek	Richland	Mouth to Gartside Reservoir in T21N, R58E, S16
Deer Creek	Dawson	Mouth to North Fork Deer Creek in T17N, R53E, S10
Dunlap Creek	Richland	Mouth to Road Crossing in T20N, R57E, S5
East Fork Poplar River	Daniels	Mouth to Canadian Border

IB Streams Requiring Bridges To Be Replaced with Bridges continued.

Stream Name	County	Reach Description
First Hay Creek	Richland	Mouth to tributary to First Hay Creek in T24N, R58E, S7
Fox Creek	Richland	All of stream - mouth to confluence of forks in T22N, R58E, S27
North Fork Fox Cr	Richland	Confluence with South Fork to T22N, R57E, S15
South Fork Fox Cr	Richland	Confluence with North Fork to tributary in T22N, R55E, S12 (one mile east of Lambert)
Frenchman Creek	Phillips	Mouth to T32N, R35E, S13
Hanging Woman	Rosebud	Mouth to confluence with Lee Creek in T6S, R43E, S32
Little Bighorn River	Big Horn	Mouth to Diversion Dam at Crow Agency in T3S, R34E, S1
Little Bighorn R	Big Horn	Mouth to Diversion Dam at Crow Agency in T3N, R34E, S1
Little Box Elder Creek	Hill	Mouth to T32N, R17E S4
Little Porcupine Creek	Valley	Mouth to T27N, R44E, S28
Little Porcupine Creek	Rosebud	Mouth to Rattlesnake Creek in T9N, R40E, S10
Little Missouri	Carter	Entire length of river in Montana.

IB Streams Requiring Bridges To Be Replaced with Bridges continued.

Stream Name	County	Reach Description
Little Beaver Cr	Carter & Fallon	MT-ND border to mouth of Russell Cr in T2N, R58E, S18
Lodge Creek	Blaine	Mouth to T33N, R19E, S26
O'Fallon Creek	Prairie, Custer & Fallon	Mouth to mouth of Timber Cr in T7N, R56E, S32
Otter Creek	Rosebud & Powder	Mouth to mouth of Threemile Creek in T4S, R45E, S3
Peoples Creek	Blaine & Phillip	Mouth to T31N, R26E, S29
Poplar River	Roosevelt & Daniels	Mouth to Canadian Border
Porcupine Cr	Valley	Mouth to T36N, R42E, S32
Pumpkin Creek	Valley	Mouth to T36N, R42E, S32
Red Rock Coulee	Blaine	Mouth to T33N, R19E, S17
Redwater River	McCone	Mouth to Town of Circle
Rock Creek	Valley	Mouth to T31N, R36E, S22
Rosebud Creek	Rosebud & Big Horn	Mouth to mouth of Dry Creek in T6S, R39E, S32
Sage Creek	Hill	Mouth to T30N, R13E, S14
Sandstone Creek	Fallon County	Mouth to mouth of South Sandstone Creek in T8N, R58E, S31
Smith Creek	Richland & Wibaux	Mouth to North Dakota Border

IB Streams Requiring Bridges To Be Replaced with Bridges continued.

Stream Name	County	Reach Description
Sunday Creek	Custer	Mouth to confluence of South and North Forks in T8N, R47E, S18
Thirteen Mile Cr	Dawson	Mouth to South Fork in T19N, R55E, S35
Thirty Mile Creek	Blaine	Mouth to T32N, R23E, S21
Upper Seven-Mile Creek	Dawson	Mouth to Lindsay Reservoir in T17N, R51E, S24 (1/2 mile south of town of Lindsay)
War Dance Creek	Dawson	Mouth to Fork of Creek in T18N, R56E, S1
West Fork Poplar River	Roosevelt & Dawson	Mouth to Hwy #248 Crossing near town of Richard
Wolf Creek River	Roosevelt	Mouth to T27N, R47E, S17

Appendix D

List of Montana Species of Special Concern

MONTANA FISHES OF SPECIAL CONCERN

Class A Limited numbers and/or limited habitats in both Montana and elsewhere in North America; elimination from Montana would be a significant loss to the gene pool of the species or subspecies.

Paddlefish*
Yellowstone cutthroat trout
Westslope cutthroat trout
Arctic grayling (fluvial)
Bull trout

Class B Intermediate between class A & C. Limited numbers and/or habitats in Montana; fairly widespread and fair numbers in North America as a whole. Elimination from Montana would be at least a moderate loss to the gene pool of the species or subspecies.

Interior redband trout
Sturgeon chub*
Sicklefin chub*

Class C Limited numbers and/or limited habitats in Montana; widespread and numerous in North America as a whole. Elimination from Montana would be only a minor loss to the gene pool of the species or subspecies.

Shortnose gar*
Pearl dove
Northern redbelly dace
Trout - perch
Shorthead sculpin
Spoonhead sculpin
Blue sucker*

* Large river or reservoir species living only in waters where culverts would not be feasible.

Appendix E

Chronological Summary of

Fisheries Task Force Activities

FWP/MDT Fisheries Task Force Meeting Summary

The FWP/MDT Fisheries Task Force was implemented May 1, 1995, jointly by the Director's of Montana Fish, Wildlife & Parks (FWP) and the Montana Department of Transportation (MDT).

Members of the Task Force, as originally implemented, consisted of the following:

FWP- Phil Stewart, Miles City, Co-Chair
George Liknes, Great Falls
Scott Rumsey, Kalispell
Don Peters, Missoula
Ken Chrest, Helena Consultant

MDT- Gordon Stockstad, Helena, Co-Chair
George Swartz, Missoula
Mark Traxler, Helena
Carl Peil, Helena
Joe Kolman, Helena
Ben Dean⁴, Helena

The group has met a total of nine times beginning with the first meeting on June 27, 1995. Meeting minutes have been recorded for each meeting, distributed, reviewed prior to and approved at the beginning of each subsequent meeting. Following is a *brief* summary of business conducted at each meeting to date:

June 27, 1995

Developed Draft Goal Statements

Compiled sixteen objectives divided into six categories, based on identified interests, issues, conflicts, challenges and opportunities.

August 22, 1995

Setup and Agreed to Future Meeting Format

Revised and agreed to: the Goal Statement, Objective 1.A., and Objective 2.C. Accepted Goal and Objectives.

⁴ At the second meeting of the group (August 22, 1995), it was agreed to add one additional representative from MDT Construction. Also, participating in an advisory (non-voting) capacity, are Kirk Eakin and Dick McIntyre from MDT and Glenn Phillips from FWP.

Agreed the first work priority of the group would be Category 2. ("Fish Habitat protection:), with emphasis on Objective 2.B., ("develop Criteria to determine type of stream crossing (bridge, culvert, culvert extension) to be used").

October 31, 1995

Focused on Objective 2.B. "Develop criteria to determine type of stream crossing...to be used."

Agreed that each agency would prepare a rough draft of their criteria for stream crossings. These drafts were circulated for comment prior to the next meeting.

January 23, 1996

Focused on review of each agency's draft criteria.

MDT Criteria (1/11/96 draft) for Objective 2.B. was reviewed and accepted as revised and noted in the meeting minutes for 1/23/96 and 3/19/96.

FWP Criteria (1/16/96 draft) for Objective 2.B. was reviewed and revised for further discussion at the next meeting.

March 19, 1996

Focused on review and discussion of FWP Criteria (3/4/96 draft) for Objective 2.B.

FWP Criteria for Objective 2.B. reviewed and revised for further discussion at the next meeting.

May 30, 1996

FWP Criteria (5/17/96 draft) for Objective 2.B. reviewed, discussed and accepted as revised and noted in the meeting minutes for 5/30/96).

Item II.E. of the FWP Criteria was deleted at the 3/12/96 meeting and became the 1st draft (5/30/96) of MDT's "Detour, Haul Road or Ford Facilities Construction Adjacent to Streams or Ephemeral Drainages." This draft was reviewed, discussed and revised for further review at the next meeting.

The 1st draft (5/14/96) of MDT's "Procedure for Early Coordination..." was reviewed and revised for further discussion at the next meeting.

August 6, 1996

The 2nd draft (8/1/96) of MDT's "Procedure for Early Coordination and Review of Proposed

Transportation Projects" was reviewed and accepted for use on a one-year trial basis. Procedure to also include a checklist to be formulated by the project biologists to facilitate information gathering.

Focused on 2nd draft (7/29/96) of MDT's "Detour, Haul Road or Ford Facilities..." review and revisions were agreed to for final draft to be re-circulated through MDT. 3rd draft (8/12/96) was circulated for comments within MDT. Comments were requested by 9/6/96.

Regarding Objective 2.A. ("Develop mutually agreeable fish passage criteria for both eastern and western Montana."), draft Chapter 15 of the AASHTO guide was discussed, with MDT to keep the group informed of further developments. MDT and FWP agreed to prepare a video of selected problem sites for the next meeting.

FWP discussed results of a survey of FWP biologists to identify areas where maintenance should be improved and areas that are trouble spots.

December 12, 1996

Focus was on the video presentation prepared by FWP and MDT. Discussion of each site included nature of the problem and possible solutions. No decisions were reached.

Final draft (8/12/96) of "Detour, Haul Road or Ford Facilities..." was tabled to the next meeting.

February 27, 1997

Focused on discussion/presentation regarding Objectives 2.D. ("Define ways to decrease need for channel changes") and 2.E. ("Minimize loss of habitat at bridges and longitudinal encroachments"). Item II of the 2/2/97 meeting minutes (not yet approved) summarizes discussion.

Comments provided by the group concluded that longitudinal flood encroachments (LFE's) can only be modified on a case-by-case basis and the best solution may be early coordination and information exchange between agencies, with meaningful comment by FWP to MDT at the project alignment and grade stage. No agreement was reached by the group.

A work group will prepare a problem statement for discussion at the next meeting regarding "Salmonid passage Procedural Criteria" (Objective 2.A.).

The group tentatively agreed to begin identifying Task Force Recommendations to be put forth in a report format.

May 22, 1997

The group discussed FWP's recent presentation to the MDT Maintenance Chief's meeting. The presentation dealt with site specific problems resulting from concentrations of sanding material along and into streams. The group decided to formulate a plan for getting MDT maintenance staffs and regional FWP biologists together to become acquainted and to identify problems and solutions. This plan will be discussed at the next meeting.

The group discussed the possible development of a Salmonid Passage/Procedural Criteria Manual and the progress of the work group assigned to preparing a problem statement and outline. Estimated to cost \$10,000-\$20,000; need to select specific available technical materials for consultant review to determine feasibility of creating a composite manual to compliment the AASHTO Chapter 15. MDT and FWP are agreeable to cost share a mutually agreeable consultant for this review. This issue was continued to the next meeting agenda.

The group reviewed and discussed all past Task Force actions and recommendations: accepted the final draft of the "Detour, Haul Road or Ford Facilities..." document; determined that a draft compilation of Task Force recommendations in report format will be prepared for the next meeting.

July 15, 1997

The group discussed the draft Report of Recommendations and made suggestions for final format and contents. Another draft report will be circulated for comment, then possibly distributed to the Fisheries Division Administrator and the Environmental Services Administrator for agency action on the Task Force Recommendations.

The Salmonid Passage/ Procedure Manual group will continue to work on evaluation and development of the manual. This continuing effort is a Task Force Recommendation.

The plan for a series of MDT/FWP Maintenance Area/Regional meetings was approved by the group and will be included in the Task Force Report of Recommendations.

The group endorsed the continuation of an interagency "core group" and will provide a recommendation for who should comprise the group from each agency. This group would oversee continuing efforts such as the Salmonid Passage/Procedural Manual and development of all other approved Task Force recommendations.