

1995  
May

Subj:  
Whirling  
Disease

F-W Policy Resources, Inc  
#87098

# **B R I E F I N G**

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## **Montana Whirling Disease Task Force**

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**May, 1995**

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Prepared by  
Policy Resources, Inc.  
Helena, MT  
for the  
Montana Department of  
Fish, Wildlife and Parks

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## **Introduction**

The potential impact of whirling disease in Montana is not well understood and the summer fishing season is rapidly approaching. Governor Racicot has appointed a Whirling Disease Task Force to study the issue and to provide both short-term and long-term recommendations.

This Briefing is being distributed to Task Force members and others interested in the Task Force's work. It is intended to provide background information concerning whirling disease and to summarize current thinking about the Task Force and its activities during 1995. As such, this is a "live" document, subject to revision as these issues are clarified and resolved.

More information can be obtained on the Task Force and whirling disease by contacting the Montana Department of Fish, Wildlife and Parks:

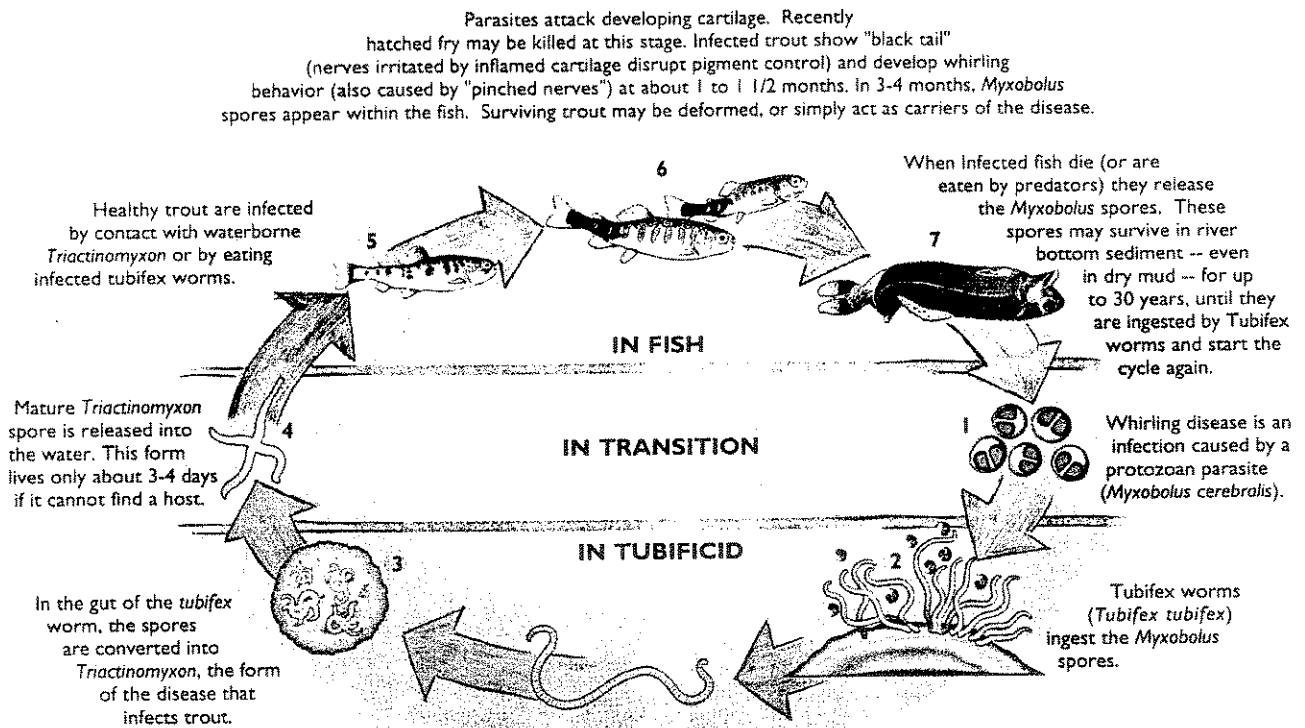
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## WHIRLING DISEASE LIFE CYCLE

Whirling disease is caused by a microscopic, water-borne protozoan parasite that attacks the cartilage of young trout. Whirling disease spores (*Myxobolus cerebralis*) are released into the water when infected fish die and decompose, or when they are consumed and excreted by predators or scavengers.

As the chart below illustrates, the parasite has a complex, two-host life cycle that involves the trout and the river bottom-dwelling tubifex worm, which is found in streams, rivers and lakes throughout Montana.

While the parasite may not directly kill a trout, an infected fish's erratic tail chasing makes it extremely vulnerable to predation. The disease also makes feeding difficult for infected fish, which can eventually result in starvation and death.



## THE LIFE CYCLE OF WHIRLING DISEASE

(Borrowed from *Trout* magazine, Spring, 1995)

## **WHIRLING DISEASE UPDATE**

- Whirling disease has been found in the following Montana locations:
  - Madison River – December, 1994. WD found from just below Ennis Dam to below Quake Lake.
  - Blaine Spring Creek (Madison River tributary) – February, 1995
  - Ruby River – February, 1995
  - Poindexter Slough (Beaverhead River drainage) – April, 1995
  - Willow Creek (Jefferson River drainage) – April, 1995
  - A spring that feeds the Red Rock River, about 1/2 mile upstream of Clark Canyon Reservoir – April, 1995
  
- Waters testing negative for whirling disease
  - Madison River above Quake Lake
  - Gallatin River near Big Sky
  - Missouri River near Townsend, below Holter and near Great Falls
  - Bitterroot River near Darby, Stevensville, Hamilton and Lolo
  - Lower Rock Creek
  - Big Blackfoot 15 miles east of Missoula
  
- All Montana river basins are being monitored for trout population changes and for whirling disease; an inventory will be completed by year-end.
  
- Egg Taking
  - Discovery of whirling disease in Willow Creek and in the Red Rock/Clark Canyon system has temporarily stopped egg-taking in those locations (Willow Creek are DeSmet strain, Red Rock are Eagle Lake strain).
  - It is believed that whirling disease cannot be transmitted either from or to trout eggs; the decision to suspend egg-taking in streams where the disease has been detected is a precautionary measure only.

- Sculpins
  - Sculpins taken from the Madison River and Willow Creek in April of 1995 were found to be carrying spores that resemble *Myxobolus cerebralis* (the whirling disease pathogen).
  - Final confirmation of the spores' taxonomy will take several months, since they must complete their complex life cycle to determine if the spore found in the sculpin is, in fact, the same spore that causes whirling disease in trout.
  - As a precautionary measure, the collection of sculpins and the use of sculpins as bait are currently prohibited in Montana.
  
- Madison River Research
  - Portions of the upper Madison were closed during the rainbow spawning season. The river's remaining wild rainbows could be extremely valuable if found to be resistant to whirling disease.
  - To evaluate if angling pressure influences recovery of the Madison's rainbow trout, a 4.5 mile stretch of the upper river (between Squaw Creek and the Windy Point Access) is closed until February 29, 1996.
  
- Species Susceptibility Research
  - The National Biological Service has agreed to investigate the susceptibility of arctic grayling, bull trout and cutthroat trout at their Fish Health Center in Leetown, West Virginia.

## **WHY A TASK FORCE IS NEEDED**

- Montana's trout fisheries are unique
  - Unlike other states, Montana does virtually no stocking of its rivers and streams, and has not for many years.
  - As a result, Montana has the leading wild trout fishery in the U.S.
  
- Whirling disease poses a serious threat – Montana could lose much of this unique resource
  - Not yet clear how great the risk is,
  - But what initially looked like an isolated problem in one river is now known to be more widespread
  - Because Montana does have an extensive wild trout fishery, whirling disease could do more harm here than almost any other state
  - The problem is complex and our understanding of it is rapidly changing
  
- It's not just a fishing issue, it's also an economic issue
  - Thousands of Montana citizens fish, and there are more than 1.3 million "angler days" annually in Montana.
  - Millions of dollars are generated from tourism based on fishing – guiding, tackle, lodging, etc. The net economic value of coldwater fishing in Montana has been estimated to be more than \$270 million each year.
  - The ripple effect of these tourism dollars impacts ALL Montanans
  
- Whirling disease also poses an increased risk to native species – grayling, cutthroat and bull trout – which are already seriously threatened.
  - Groups have already petitioned for the federal government to designate both grayling and bull trout as Endangered Species, and whirling disease increases the odds that this could occur.
  - If it does, the economic repercussions for other land uses could be very significant.

- A sense of urgency is needed because the summer fishing season is approaching and we must insure that (1) everything possible is done to prevent the spread of the disease, but that (2) at the same time, the sky isn't falling and that world-class fishing is available in Montana.
- But this is also a long-term problem. Everything that is known about whirling disease suggests that although we can do many things to help manage the problem right now, there are no quick fixes, and a long-term approach will be needed.

A Task Force is one of the best ways to draw resources and people together, to deal with this issue quickly – to insure that whatever can be done is done in a *timely, effective* and *coordinated* way.



## **COMPOSITION OF THE TASK FORCE**

- FWP will be the lead state agency. Governor Racicot has designated Pat Graham and Dr. Marshall Bloom to serve as co-chairs for the Task Force.
  
- This is a multi-agency concern, so the Task Force will cross all lines of state government, as needed. Other state agencies which may be included: Commerce/travel/tourism; the Montana University System, and others.
  
- Good science is key. The Task Force and its Technical Committee(s) will include top scientists in this field.
  
- A diversity of concerns and perspectives need to be represented. As a result, individuals from a variety of professions and interests have been asked to participate on the Task Force:
  - Individuals who are active with major fishing, sporting and outdoor groups
  - Guides & outfitters; bait & tackle shop owners
  - Members of the business community
  - The media
  
- The Task Force should be a magnet to attract other key individuals and groups who have a stake in this issue. Therefore, the Task Force has been empowered to create Technical Committees and to engage other individuals who are interested in this issue to become part of the process.
  
- The Task Force will gladly take any help it can get. Anyone who feels they can contribute should contact Pat Graham to discuss.
  
- Task Force members do not represent any organization – they are being asked only to represent their own perspective on this important issue.

## **ROSTER OF TASK FORCE MEMBERS**

### ***Patrick Graham, Co-chair***

Director of Fish, Wildlife & Parks. Address: Montana Fish, Wildlife & Parks; 1420 East Sixth Avenue; Helena, MT 59620; 406-444-3186; FAX: 406-444-4952.

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### ***Jim Ahrens***

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### ***John Bailey***

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### ***Matt Cohn***

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### ***Robin Cunningham***

Exec. Director of Fishing Outfitters Assoc. of Montana (FOAM). Licensed fishing outfitter for Headwaters Guide Service. On the Montana Board of Outfitters. Address: P.O. Box 311; Gallatin Gateway, Montana 59730; 406-763-4761; Fax: 406-763-5436 (call first).

### ***Mike Hayden***

President/CEO of American Sports Fishing Association. Former Governor of Kansas, former Assistant Secretary of the Interior for Fish, Wildlife and Parks. Address: American Sports Fishing Association; 1033 N. Fairfax St., Suite 200; Alexandria, VA 22314; 703-519-9691; FAX- 703-519-1872.

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Director of the National Fish Health Research Laboratory. Fish pathologist. Held faculty position with various universities since 1959. Address: National Biological Service; Fish Health Laboratory; 1700 Leetown Road; Kearneysville, WV 25430; 304-725-8461 x235; FAX: 304-725-7061.

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***Bud Lilly***

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***Dud Lutton***

Development Director of the MT Nature Conservancy. Address: MT Nature Conservancy; 32 S. Ewing; Helena, MT 59601; 406-443-0303; FAX- 406-443-8311.

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Owner, Blue Ribbon Flies. Address: Blue Ribbon Flies, P.O. Box 1037, West Yellowstone 59758; 406-646-7642; FAX 646-9045.

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***Chris Somers***

Attorney in private practice. Founding board member of Big Hole River Foundation. Interest in The Compleat Flyfisher, Wise River. Address: Haxby and Somers; P.O. Box 3008; Butte, MT 59702; 406-723-6966; FAX: 406-723-6644.

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Owner, Turner and Associates, a consulting firm specializing in management, public relations, and public policy consulting; 908 Madison Avenue, Helena, MT 59601; (phone and fax) 406-442-9209.

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***Ed Williams***

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## **Technical Committee**

The following scientists and fisheries professionals have been invited to participate in the first meeting of the Task Force and will serve as a Technical Committee:

- Carl Johnson, Ph. D.                      Virologist (retired)
- Beth McConnell, Ph.D.                  Fish pathologist, Bozeman Fish Technical  
Center, U. S. Fish and Wildlife Service
- Bob White, Ph.D.                         Unit Leader, Cooperative Fisheries Research Unit
- Dick Vincent                                FWP Fisheries Manager
- Jim Peterson                                FWP Fish Pathologist
  
- Additional members as identified.

## **WHAT THE TASK FORCE WILL DO**

The objectives for the Task Force are ambitious. But given the very enthusiastic response when prospective Task Force participants were asked if they were interested in serving on this project, we believe that these objectives can, in fact, be accomplished. Governor Racicot has requested that the Task Force do three specific things:

- (1) ***Create a public-private partnership*** which will be a credible focal point for activities relating to whirling disease in Montana. A combination of government and private-sector interests, working together, is the best way to deal with this problem.
  
- (2) ***Develop an Action Plan*** to attack the whirling disease problem. Both short-term recommendations to address the onset of the summer fishing season, and long-term recommendations, will be sought, focusing on several different areas:
  - **Scientific research** - Coordinate efforts to identify and research key questions regarding the extent, spread, containment and/or elimination of whirling disease.
  
  - **Communication, education** - Provide credible, factual and current information about whirling disease to key audiences around the state and nation (fishermen/recreationists, tourists, the media, etc.).
  
  - **Fisheries management & policy issues** - Review fisheries management techniques, laws, regulations and policies which could impact whirling disease. Provide recommendations on what activities need to be undertaken immediately, along with policy changes which should be evaluated or implemented.
  
  - **Economic and social impacts of whirling disease** - Since whirling disease has already received considerable national press, it is possible that even this summer it will cause changes in travel and tourism, license purchasing, choice of streams fished, and so forth. These issues need to be considered by the Task Force.

- **Organizing resources** - Networking and coalition-building to identify individuals/groups who have skills, expertise or resources that can help address this problem. The Task Force will be asked to determine what is needed, what it will cost, and provide recommendations on how to raise the necessary funding.

(3) ***Publish its recommended Action Plan***, in two separate phases:

- Phase 1 of the Action Plan should focus on short-term recommendations, as quickly as possible.
- Phase 2 of the Action Plan should address long-term research, education, communication and fundraising needs, to be published later this year.

## **TIMING**

The summer fishing season will soon shift into high gear. This means increased fishing pressure – and increased potential to spread whirling disease. All steps that can reasonably be taken to reduce the spread or impact of the disease should be identified and, where possible, implemented. At the same time, there appears to be no compelling reason why out-of-state fishermen should be discouraged from visiting Montana, creating needless economic harm. The Task Force is asked to make short-term recommendations to address both these concerns, hopefully publishing an initial report by mid-June.

It is also obvious that whirling disease is complex and fully understanding the problem and how to deal with it will require a long-term approach. Once the Task Force completes its initial short-term recommendations, it is asked to develop longer-term recommendations. This phase of the Task Force's activities should be completed no later than year's end.

As a starting point for discussion, a proposed timetable for Task Force activities, based on these objectives, is provided on the following page.

## **PROPOSED ACTIVITY TIMETABLE**

<b>Activity</b>	<b>Date</b>
Governor appoints Task Force	May 12
Develop & distribute materials	May 16
<b>Task Force Meeting #1</b>	May 23
Draft Phase 1 of Action Plan	May 26 - June 2
Distribute draft plan to all Task Force members; work with Exec. Committee on revisions	June 5-15
<b>Public Release of Phase 1 Report</b>	<b>June 16</b>
Subcommittees/Technical Committees meet	Summer
<b>Task Force Meeting #2</b> to review work of Subcommittees, develop draft recommendations	September
Distribute draft plan to all Task Force members; work with Exec. Committee on revisions	October
<b>Release Phase 2, Public Review</b>	October-November
<b>Task Force Meeting #3</b> Work through public comments, finalize Phase 2 report, determine next steps	<b>Late fall/early winter</b>
<b>Final Report</b>	<b>January 1, 1996</b>



## **SUMMARY SECTIONS**

- 1. Scientific Issues**
- 2. Communication/Education**
- 3. Policy Issues**
- 4. Economic and Social Issues**
- 5. Organizing Resources**

The following sections are intended to organize and summarize some of the key issues relating to Action Plan items for the Task Force. The sections are not meant to be comprehensive – hopefully they will serve as a starting point for discussion at the first meeting of the Task Force.

## **SCIENTIFIC ISSUES**

A brief research overview will be presented to the Task Force during its first meeting. The section identifies some of the key short-term and long-term scientific questions regarding whirling disease that may need to be addressed by the Task Force and/or by Technical Subcommittees which the Task Force may wish to call up.

Overall, the state of knowledge concerning whirling disease is somewhat limited, particularly concerning its potential impacts on wild trout fisheries. This suggests some important initial questions:

### **1. Causality**

- How certain are we that whirling disease is the causal agent?
- Is there a need for additional, systematic evaluation of other causes or pathogens which may be responsible?
- Is it possible that whirling disease is interacting with other environmental or biological factors which may be partially responsible for the declining populations of rainbow trout?

### **2. Prevalence/Incidence**

- Distribution of whirling disease in Montana?
  - Plan for ascertaining which stretches of which rivers, lakes, reservoirs?
  - Level of infection?
    - How document/quantify?
    - How do we measure change? (variation over time at same site; rates of spread up/downstream)
  - Plan for monitoring infected waters, testing untested waters
- Biologic and aquatic factors determining lethality of whirling disease
  - Water body types (including comparison with other locations throughout the West)
  - Assessment of biological/aquatic/water quality conditions where

whirling disease is and is not present

- Gradient/sediment load/productivity of the water/stream flows

- How can the disease be spread?
  - Sculpins as vectors?
  - Other ways disease can and can't be spread (Birds, mud, water, felt wader boots, etc.)
- Field Testing Issues
  - Develop a new diagnostic test for whirling disease, preferably nonlethal to fish?
  - Develop diagnostic for testing worms rather than fish?
  - Live box testing – what does it mean in relationship to the natural system?

### **3. Susceptibility to whirling disease**

- Which species can be effected?
  - Salmonid susceptibility (rainbow/brown/brook/cutthroat/bull/lake trout, kokanee salmon, grayling, whitefish)
  - Non-salmonids (sculpin, suckers, dace, sturgeon, sauger, paddlefish)
  - Testing for susceptibility – field/laboratory
- What factors affect susceptibility?
  - Age susceptibility (how does age at exposure influence degree of infection/mortality ... eggs, fry, fingerlings, etc.)
  - Genetic susceptibility/resistance (are there genetic strains which are resistant; do survivors pass genetic resistance; can genetic strains be developed; etc.?)
  - Impact of spring versus fall spawning patterns?
  - Other?

#### **4. Research concerning the whirling disease pathogen**

- Tubifex worm stage:
  - What species of aquatic worms are carriers? Present in which drainages?
  - Sampling techniques
  - Other intermediate hosts? (look for spores in other organisms?)
  - Intermediate host life-cycle analysis
  - What else?
  
- Triactinomyxin stage:
  - In water column during what time of year?
  - How distributed in the river?
  - Sampling techniques

#### **5. Containment/intervention**

- Reduction/elimination of the pathogen?
  - Chemical or biological antigens for triactinomyxin or tubifex?
  - Reservoirs as roadblocks?
  - Feasibility/practicality?

#### **6. Short-term Field Activities/Needs**

Obviously, the scientific issues surrounding whirling disease are complex and many remain unresolved. Given that quality research requires time, one of the challenges is to utilize this summer to conduct as much field research as feasible, to increase our empirical understanding as much as possible. Field activities might include:

- Conduct population estimates on designated sections
- Test the impact of shocking disease infected fish
- Creel census on the Madison
- Live box experiments
- Testing of hatcheries (private, state, federal)
- Inventorying and testing private ponds
- Development of protocols for testing private ponds/hatcheries/egg collecting
- Detecting clinical signs of whirling disease in young fish in infected reaches
- Conduct additional tests of sculpin in infected versus free sections
- etc.

The challenge appears not to be identifying possible research activities, but prioritizing those activities for maximal impact.

## **COMMUNICATION/EDUCATION**

This section summarizes past and planned activities by the Montana Dept. of Fish Wildlife and Parks to inform the public about whirling disease and discusses other communications venues which may be considered by the Task Force:

### **FWP Communications Activities and Plans**

#### **Objectives:**

FWP immediately recognized and understood the volatile nature of the discovery of whirling disease in Montana. FWP's key objective was direct and simple:

**Tell the public what we know when we know it.**

#### **Key Messages:**

Throughout the FWP information effort the key message has been:

- (1) It is certain that WD has been discovered in Montana and that some wild rainbow trout populations have experienced dramatic declines.
- (2) What is uncertain is whether whirling disease caused a direct mortality of trout, or if its effects are indirect in combination with other factors.
- (3) In its search for answers, FWP fisheries biologists are now attempting to learn as much as possible, as fast as possible, about whirling disease and how it functions in the wild.

#### **Target Audiences:**

- Dec./Jan.           – Montana Residents via Montana News Media  
                          – FWP Employees
- Feb./March         – National outdoor and fly-fishing media

- April/May
- Montana Chambers of Commerce
  - Fly-fishing outfitters, specialty shops, licenses agents
  - Federal natural-resource agency offices in MT, including Yellowstone National Park and all Forest Service offices

**Action Items:**

- May/June
- “How You Can Help” to prevent the spread of WD campaign
  - No Sculpins campaign ... sculpins are banned fish bait in Montana
  - Pocket Cards for anglers: lists prevention precautions
  - Signing at selected Fishing Access Sites (*under consideration*)
  - Radio and TV Public Service Announcements
  - WD news feature written by FWP for Montana newspapers
  - WD update in Fishing Opener Press Kit
  - Distribute 22,500 WD brochures
  - Continuing community meetings on WD
  - Assist WD Task Force

- July
- *Montana Outdoors* magazine article on the WD parasite
  - Radio and TV Public Service Announcements
  - Continuing community meetings on WD

- On-going
- News released as it develops
  - Cooperation with local angling and sporting clubs to assist in prevention efforts

- Long-term
- Develop communication campaign aimed at private pond owners, asking cooperation with FWP efforts to prevent the spread of WD.
  - Establish an 800 phone number
  - Assist WD Task Force

## Other Communications Opportunities

- The media
  - From the outset, the media has shown considerable interest in whirling disease in Montana. Coverage has occurred in a wide range of national media: almost all flyfishing publications, the *New York Times*, the *Washington Post*, *NBC Nightly News*, etc. The Montana media has also carried extensive coverage.
  - In order to keep the media informed, and to encourage fair and accurate coverage of this issue, several activities may be considered:
    - Development of an “interested media” mailing list
    - Preparation and distribution of press kits
    - Ongoing media activities such as guest editorials, letters to the editor, and so forth.
  
- On-line activities
  - The state bulletin board is available to in-state anglers
  - The Internet, however, provides a way to reach flyfishers, vacationers, biologists and other researchers, nationally and internationally
  - Internet activities could include:
    - Ongoing monitoring of relevant news groups and mailing lists (e.g. ALT.FISHING; REC.OUTDOOR.FLYFISH; SCI.BIO.FISHERIES)
    - Announcement of the Task Force, creation of a clearinghouse to provide factual responses to questions; possible creation of a World Wide Web home page
    - Placement of positive fishing information to reinforce the fact that the sky is not falling
    - Use of Montana’s travel home page to provide information on whirling disease
  - The Internet should not be overlooked as an important tool in searching for scientific information and researchers doing work on whirling disease



- PSAs could be readily used to inform the Montana fishing public about what to do and not do regarding whirling disease. Such PSAs could be produced at very low cost using existing resources within FWP and the university system.
  
- Communications using license agents, TU, FFF, other sportsmen's groups
  - Most TU and FFF chapters have newsletters around the state, as well as a national publication, as do other groups who have an interest in whirling disease (e.g. MT Wildlife Federation, Audubon Society, Nature Conservancy, etc.)
  - Communications materials could be produced for distribution to these and similar organizations for use in their newsletters and other mailings
  - Members of these organizations (particularly TU and FFF) could be used to assist in the distribution of other communications pieces on whirling disease (e.g. at fishing access sites), using their local chapters as centralized distribution points.
  - Guides and Outfitters could be another important communications channel
  
- A Speakers Bureau could also be created to present whirling disease information to local chambers of commerce, civic groups, and so forth. A speakers kit could be produced at low cost, and volunteers could be trained for this function. Although FWP will need to take a role in much of the public dissemination of information regarding whirling disease, trained volunteers could increase our overall reach, and free up FWP personnel for other activities.

## **FISHERIES MANAGEMENT & POLICY ISSUES**

The rapid spread of whirling disease has already caused some changes in management policy relating to disease vectors:

- New legislation was passed in this session of the legislature relating to transport of live fish and pond licensing.
- Emergency ban on sale of sculpin was enacted this spring. All known sculpin supplies were purchased by FWP and are being tested for whirling disease.

Longer-term, however, a variety of management and policy issues might need to be considered, and a plan for their implementation developed. These issues will depend on how the whirling disease issue evolves over time. Management issues fall into four areas:

- Management to prevent the spread of whirling disease
  - Development of protocols in hatcheries to prevent disease transmission
- Management to promote recovery of the impacted fisheries. Possible options. Predetermine events which could trigger any of the following:
  - Catch-and-release regulations on rainbows, other species
  - Changes in fishing limits
  - No wade sections; no float sections
- Management with respect to native species
  - Effect on recovery plan for threatened native species
  - Endangered Species Act considerations
- Management responses to various levels of disease impacts, could include
  - Management for brown trout
  - Supplemental stocking in streams
  - Restocking with alternative strains or species

## **ECONOMIC AND SOCIAL ISSUES**

The Task Force is also asked to consider ways to assess the potential economic and social consequences of whirling disease in Montana. The net economic value of coldwater fishing in Montana is estimated to be in excess of \$270 million each year, plus another \$18 million on fishing for warmwater species (See Appendix 2 for details). Obviously, with these kinds of revenues being generated from fishing, whirling disease could have severe impacts on tourism and fishing-related businesses throughout the state. The Task Force may wish to consider monitoring or other activities relating to such areas as:

- Reduced in-state and out-of-state license purchases, or changes in geographic distribution of purchases
- Reduced bookings by guides and outfitters
- Reduced sales of fishing-related sporting goods
- Reduced hotel bookings in communities where fishing is a magnet (e.g. Ennis, Twin Bridges, etc.)
- Changes in fishing pressure on various streams due to shifting of guided and nonguided fishing trips from whirling disease infected streams to non-infected streams
- Changes in the perception of Montana fishing and environment as knowledge about whirling disease grows
- Other economic and social issues which the Task Force may identify

## **ORGANIZING RESOURCES**

### **Networking and Coalition-Building**

- Thus far, no systematic effort has been made to identify and attract groups.
- How do we find people interested in this issue?
- Once identified, how do we bring them into the effort (i.e. act as a magnet) and avoid rivalries and competition; how do we make this an ongoing activity?

### **Fundraising and Resource Allocation**

- Research, communication and education activities will likely require additional resources. What is a working estimate for funding needs ... or is a better approach simply to assume that the more funding which can be brought to bear on this problem, the better?
- What existing resources are there?
  - Federal funding possibilities?
  - Private foundations?
- Should a fundraising plan for the summer, and beyond, be put into place?
  - “Trout Aid” Campaign has been suggested, possibly including
    - Distribution of self-mailer and/or other fundraising materials to fly shops
    - Utilize mailing lists from TU and similar organizations
    - Utilize nonresident license mailing list
    - Hosted events
    - Trout stamp, commissioned art, etc.
    - Corporate sponsorship plan

- Some type of basic support function will be needed - a central place to maintain work flow, and where supporters can contact for information and donations. (P.O. Box, telephone, fax, letterhead)
- A contribution has already been made to the Montana Community Foundation to work on the whirling disease problem. How can this \$10,000 contribution be best utilized?

## **CONCLUSION**

Whirling disease is a complex problem for Montana's fisheries, and for the fisheries of other Western states. Accordingly, the Whirling Disease Task Force brings together a diversity of backgrounds, skills, expertise and perspectives to address this multifaceted challenge. There appears to be no quick-fix. In the short-term, we can only hope that interim precautionary measures can assist in reducing the spread of the disease. And in the long-term, that real solutions can be found.

The Task Force represents an important step in that direction.

## **Appendices:**

- Chronology of FWP Communications Activities
- Economic Impact of Fishing in Montana
- Groups Known to be Active on Whirling Disease in Montana

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## Appendix 1 – FWP Communication/Education Chronology

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- Dec. 21, 1994 Whirling Disease meeting in Helena among FWP staff
- Dec. 22 WD News Release, Fact Sheet, Q&A released to Montana media and FWP employees
- Jan. 1-7, 1995 First national press on WD: Washington Post, New York Times
- Jan. 11 FWP WD research plan released to Associated Press
- Jan. 17-19 Public Meetings: Bozeman, Ennis, West Yellowstone
- Jan. 27 Emergency Madison River regulations proposal announced
- Feb. 1-2 Public Meetings: Helena & Great Falls
- Feb. 3-20 Whirling Disease story Ideas presented to program producers of Flyfishing the World.” Flyfishing America,” and “Photo Safari,” and Jerry McKinnis of JM Associates. Broadcast ops include “On the Fly,” and ESPN’s “People, Places, and Wild Things.” FWP established Whirling Disease On-Line Computer Conferences on Montana State Bulletin Board
- Feb. 22 WD White Paper with graphics prepared for Commission
- Feb. 24 Commission action on Madison River Closures  
— Commission adjusts original proposal  
— WD White Paper distributed at Commission meeting
- March Public Meetings held in Butte and Billings
- Fly Rod & Reel, “Whirling Disease Hits Montana” by Paul Guernsey
- Sports Afield correspondent Anthony Acerrano begins WD article
- March 9 Review Draft 11 of WD Brochure with letter sent to 70 selected national media correspondents in cooperation with Dept. of Commerce
- April 1-7 Public Meeting in Missoula
- Missourian newspaper three-part series on WD begins.
- Trout magazine publishes “Chasing our Tails” feature by Jim Matthews



- April 1-7            Flyfishing magazine publishes WD feature by John Holt
- Audubon magazine correspondent Jim Robbins begins WD article
- April 8-14           FWP Commission ban the collection and use of sculpins as bait.
- FWP begins effort to contact bait dealers to purchase all supplies
- May 1                300,000 TV viewers see FWP Outdoor Report on WD
- FWP Video Magazine features 8-minute segment on WD. Sent to 50 groups in Montana, including all organized sportsmen's clubs
- May 8-9             A total of 14,000 WD brochures sent to: Regional Information Officers, all Montana Chambers of Commerce; all high-profile flyfishing shops, all FOAM-members, all FWP license agents

## **FWP Whirling Disease News Release Chronology**

- Dec. 22, 1994     DISEASE SUSPECTED IN UPPER MADISON RIVER RAINBOW TROUT DECLINE
- WHIRLING DISEASE FACT SHEET; QUESTIONS AND ANSWERS  
                      Whirling Disease in the Upper Madison River
- Jan. 10, 1995     FWP SEEKS TO UNCOVER WHIRLING DISEASE SOURCE IN MADISON RIVER  
                      Tests Confirm Presence of Disease Throughout 50-mile Stretch of Blue-Ribbon Trout Stream
- Jan. 25            MEETINGS SET IN HELENA AND GREAT FALLS TO DISCUSS WHIRLING DISEASE & MADISON RIVER TROUT DECLINE
- Jan. 27            FWP SEEKS COMMENT ON PROPOSED MADISON RIVER FISHING CLOSURES
- Feb. 6             WHIRLING DISEASE FOUND IN RUBY RIVER BROWN TROUT  
                      Gallatin River & West Fork of Madison River Test Clean
- Feb. 24            FWP COMMISSION AGREES TO TEMPORARY MADISON RIVER CLOSURES TO PROTECT SPAWNING RAINBOW TROUT
- March 17          FWP SEEKS COMMENTS ON PARTIAL MADISON REOPENING
- March 30          WHIRLING DISEASE FOUND IN POINDEXTER SLOUGH
- April 2            WHIRLING DISEASE FOUND IN CLARK CANYON/RED ROCK RIVER SYSTEM
- April 14          WHIRLING DISEASE FOUND IN WILLOW CREEK
- SCULPINS NO LONGER LEGAL FISH BAIT
- April 28          SCULPINS NO LONGER LEGAL FISH BAIT
- May 5             WORKING CONFERENCE ON WHIRLING DISEASE TO BE HELD IN BOZEMAN MAY 16-71

## FWP Whirling Disease Communication/Education Activities

### **I. News Media**

- A. Mailings – Newspapers, magazines, radio, and television sources have been critical informational and educational outlets.
- B. Press Kit – A preliminary WD briefing packet was immediately developed by FWP for Montana and national media. A more comprehensive press kit is now under consideration.
- C. Story Placement – WD stories ideas have been presented to several TV program producers. Brochure with letter sent to 70 selected national media correspondents in cooperation with Dept. of Commerce. WD articles in: *New York Times*, *Washington Post*, *Sports Afield*, *Outdoor Life*, *Field & Stream*, *Audubon*, *Fly Rod & Reel*, *Trout*, *Flyfishing*
- D. Fact Sheet – Released December 22, 1994 to provide information and facts on various aspects of WD history, causes and prevention.
- E. News Releases – 15 FWP news releases that are related to WD in Montana have been produced since December 22, 1994.
- F. MTN Outdoor Reports – A video-news feature on WD was produced by FWP and run on the evening TV news broadcasts on all MT TV stations.
- G. TV PSAs – 30-second spots on prevention precautions, private ponds, and the sculpin ban are under consideration for June, July, and August.
- H. Radio PSAs – 30-second spots that highlight prevention precautions have been produced and will run through August.
- I. Montana Outdoors – Feature story on the WD parasite will be published in the July/August 1995 issue.

### **II. Public Display**

- A. Programs and Presentations – FWP staff have presented WD overviews at public meetings in Bozeman, Ennis, West Yellowstone, Helena, Great Falls, Butte, Billings, and Missoula.
- B. Brochure – an overview brochure on WD has been produced and distributed.

- C. Slide/Video Program – FWP biologists have produced a comprehensive WD program for use in Montana.
- D. Signing of FWP Fishing Access Sites – Signs targeted at prevention precautions and the sculpin ban are presently under consideration.

### **III. Events**

- A. Working Conference WD – FWP participated in this international conference conducted in cooperation with Trout Unlimited and MSU.
- B. WAFWA Conference – A WD panel discussion is planned at the Western Association of Fish & Wildlife Agencies' conference (Big Sky, July 20).

### **IV. Interest Group Communications**

- A. Mailings – A statewide mailing of a brief letter and the WD brochure has been sent to MT Chambers of Commerce, flyfishing outfitters and specialty shops, FWP licenses agents, federal natural-resource agency offices.
- B. FWP Staff – FWP employees have received WD fact sheet and related information.
- C. License Agents – all license agents have been informed of WD-related issues, including the sculpin ban. They will continue to be updated on WD issues via FW&P's License Agent Newsletter.
- D. Pocket Cards – Pocket cards that feature prevention precautions, the sculpin ban, and Montana's toll-free WD hotline are in production.

### **V. Evaluation**

- A. Clipping Service – A Montana Clipping service has track WD stories beginning December 22, 1 994. A national clipping service is under consideration.

## Appendix 2 – The Economic Impact of Fishing in Montana

### Estimated Annual Economic Value of Montana Streams

RIVER	ANGLER DAYS			EXPENDITURES (\$)			NEV <sup>3</sup> VALUE	TOTAL USE VALUE
	Resident	Nonres.	Total	Resident <sup>1</sup>	Nonres. <sup>2</sup>	Total		
Madison	52,145	93,894	146,039	\$1,564,000	14,647,000	\$16,212,000	\$31,544,000	\$47,756,000
Beaverhead	10,241	10,495	20,736	\$307,000	1,637,000	\$1,944,000	\$2,675,000	\$4,619,000
Big Hole	42,006	21,241	63,247	\$1,260,000	3,314,000	\$4,574,000	\$9,171,000	\$13,745,000
Gallatin	44,936	26,193	71,129	\$1,348,000	4,086,000	\$5,434,000	\$14,510,000	\$19,945,000
Jefferson	14,230	2,635	16,865	\$427,000	411,000	\$838,000	***	
Upper Yellowstone	56,415	23,303	79,718	\$1,692,000	3,635,000	\$5,328,000	\$22,401,000	\$27,728,000
Region 3	272,376	200,127	472,503	8,171,280	31,219,812	39,391,092		
State	923,105	396,448	1,319,553	27,693,150	61,845,888	89,539,038		

Notes: (1) Based on resident expenditures of \$30.00/day (1993 dollars)  
 (2) Based on non-resident expenditures of \$156.00/day (1993 dollars)  
 (3) The net economic value of fishing in Montana, 1987 (\$67.25/day)

### Estimated Annual Economic Value of All Fishing in Montana

WATER TYPE	ANGLER DAYS	EXPENDITURES	NET ECONOMIC VALUE
Cold Lakes	966,939	\$46,300,000	\$90,800,000
Warm Lakes	120,553	\$7,200,000	\$8,100,000
Coldwater Streams	923,105	\$89,500,000	\$180,000,000
Warmwater Streams	84,112	\$5,000,000	\$5,600,000
<b>Total Lakes and Rivers (State)</b>			
Cold Water	2,286,492	\$135,900,000	\$270,800,000
Warm Water	204,665	\$12,300,000	\$18,800,000
<b>Total - All Waters</b>	<b>2,491,157</b>	<b>\$148,200,000</b>	<b>\$289,600,000</b>

Source: Department of Fish, Wildlife and Parks

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### **Appendix 3 – Groups Known to be Active on Whirling Disease**

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- MT Department of Fish, Wildlife and Parks
- Whirling Disease Foundation (sponsor of research conference)
- Trout Unlimited (MT and national)
- Fish Technology center (testing)
- Other groups know to be active?