

FISHERY RESEARCH RESTORATION



**Job Performance Report  
July 1, 1996 to June 30, 1997**

**Grant Number F-73-R-19**

**PROJECT 5. ANGLER BEHAVIOR STUDIES**

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## **JOB PERFORMANCE REPORT**

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### **ABSTRACT**

A 30-question mail survey was conducted on anglers who attended regulation development meetings during the 1989-1990 regulation dispute on the Big Wood River. The intent of the survey was to characterize those anglers in terms of gear use, fishing habits, and consumptiveness and to subsequently evaluate the effects regulation implementation had on their fishing location and general view of the fishery six years after the regulation controversy. A total of 145 surveys were completed out of 295 sent to usable addresses for a 49.2% response rate.

Anglers who responded to the questionnaire were quite experienced, with 97% to 98% indicating they had fished more than 10 years. Bait anglers surveyed shifted much of their angling time from segments of the river where the regulations were changed in 1990 to Section E, where general regulations remained. Use by fly/lure anglers increased in sections where special regulations were adopted, but increases were not as great in the slot section where bait angling was permitted. A single bait angler (3% of the group and 0.8% of all anglers surveyed) reported cessation of fishing in Idaho entirely as a result of the 1990 regulation change. The compromise regulation eventually adopted was acceptable to two-thirds of the fly/lure anglers, but only to 9% of bait angler respondents. A strong majority of bait anglers (70%) did not find the compromise regulation more acceptable over time. A majority of respondents indicated the regulation-setting process for the Big Wood River affected their long-term view of the Idaho Department of Fish and Game as the agency responsible for overseeing their fishery resources. From a qualitative examination of all written comments received, 21 of 49 fly/lure anglers and 12 of 15 bait anglers retained a negative or unfavorable impression.

Anglers from both groups perceived development, stream alteration, and pollution, collectively, as a primary threat to the existing and future fishery. Guiding appears to be quite unpopular with many respondents from both groups who chose to provide written comments. The number of responses received from an open-ended essay question was high and demonstrates anglers' willingness to provide their own written thoughts. More investigation into the open-ended technique should be considered for Idaho statewide surveys. The question of how much influence organized groups should have in charting management direction continues to be raised in Idaho and nationwide. One way of gaining insight into the question might be to ask a cross-section of anglers themselves for guidance on the issue, perhaps using focus groups or some other expanded interview process.

A total of 270 anglers agreed to participate on a longitudinal panel of Spokane River drainage anglers in 1996. Panelists are comprised largely of Idaho (63.7%) and Washington

(30.4%) anglers, with a small number of other nonresident states represented. The existing panel size is well below the 500 angler target believed necessary to track panel input given likely levels of dropout. Additional panelists will be recruited during the 1997 angling season.

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## INTRODUCTION

During the past three decades, general levels of angler participation in Idaho stream fisheries has increased markedly. Despite increased levels of angler participation during this time period, past and present management direction in Idaho has been to develop regulations that utilize the ability of streams to produce wild trout fisheries where possible (Idaho Department of Fish and Game [IDFGI 1990]). The long-term use of this general policy has resulted in over 8,000 of 26,000 fishable stream miles in Idaho being managed with special regulations that severely restrict or completely eliminate angler harvest. Based on perspective obtained while conducting a recent nationwide regulation survey (Schill and Scarpella 1995), this figure exceeds stream miles of special harvest restrictions for any other state and also easily represents more miles of such water than present in all states east of the Mississippi River combined.

Despite the popularity of the wild trout program in Idaho and high levels of angler use that often accompany special regulations, there are some concerns. The fact that harvest-oriented anglers are largely displaced from special regulations fisheries upon implementation is well known (Hunt 1970; Lewynsky 1986). Some Idaho fishery managers have become concerned about where displaced anglers go and what effect continued trends in implementation of such regulations will have on traditional user participation rates and their attitudes and general relationship with IDFG.

Despite potential displacement, Idaho special regulations have generally been implemented with minimal local controversy, but such is not always the case. Thurow and Schill (1994) discuss the controversy that erupted over implementation of special regulations on portions of the Big Wood River in central Idaho during spring 1989. Responding to direct political lobbying by an organized angling group composed primarily of fly fishermen known as the Friends of the Big Wood, the Idaho Fish and Game Commission (Commission) modified a package of internal staff regulation recommendations that contained a variety of harvest opportunities. Citing regulation complexity, the Commission instead voted to expand the existing catch-and-release (no bait, single barbless hooks only) section from 6 km to 32 km and also placed a slot limit on the remainder of the river that permitted bait but required single barbless hooks. Simultaneously, similar regulation changes were proposed for another nearby water, Silver Creek.

In response, what had begun as a local opposition group named the Wood River and Silver Creek Sportsman's Association soon evolved into a larger regional group renamed the Idaho Sportfishing Association (ISA). Claiming 3,000 to 4,000 members, this group retained an attorney, and three days prior to the 1989 general regulation season opener, filed a restraining order that prohibited the new regulations from being implemented (Thurow and Schill 1994). By August 1989, the Commission modified its earlier regulation, easing some restrictions, but in response, the ISA successfully blocked enactment of the amended regulations. In April 1990, after more than a year of litigation and immediately before the season opener, a compromise regulation was reached.

The original focus of the 1989 Big Wood River controversy centered around the biological need for bait restrictions and the length of stream miles to be managed via catch-and-release. Population simulations suggested that major improvements in fishing quality were possible with or without bait restrictions and that catch-and-release regulations were not

required to enhance the existing fishery substantively (Thurow 1990). Anglers from both interest groups were willing to accept reduced harvest of trout if such regulations would result in improved trout populations in terms of catch rates or trout size. The major differences between the two user groups was the desire of one group (bait anglers) to fish with their preferred method and the option to harvest, at least some, trout (Thurow and Schill 1994).

Despite the eventual compromise, the regulation controversy grew into a major political debate. In an unprecedented public response to an Idaho stream fishery change, more than 3,000 comments were received on regulation proposals. Due in large part to the backlash generated by the original angling regulations approved by the Commission for the Big Wood River, nearly 10,000 signatures were submitted in opposition to the reappointment of two Commission members. Within one year, a Commission member from south central Idaho was added legislatively to "better represent people in that area."

Fishery managers need to be able to predict reactions of public user groups affected by controversial resource decisions (Daigle et al. 1996). In the case of the Big Wood River controversy, a priori prediction of the size and magnitude of the dispute could have saved the Commission considerable staff time, funds, and, perhaps, long-term credibility. Because of the magnitude and ramifications of the original controversy, IDFG Fishery Bureau staff assured the Commission that a follow-up study of the Big Wood River fishery would be undertaken. This study is part of that effort, along with ongoing quantitative field evaluations of the fishery eventually produced (Steve Elie, IDFG, unpublished data).

## **OBJECTIVES**

1. To evaluate the behavioral response (increased angler use or displacement) of those anglers involved in the Big Wood River regulation dispute following the 1990 regulation change.
2. To qualitatively assess attitudes of anglers involved in the controversy, including their perception of the resultant fishery and IDFG in general.
3. To develop a longitudinal angler panel for northern Idaho streams that addresses angler displacement from special regulations.

## **METHODS**

### **Big Wood River Angler Survey**

#### **Sample Selection**

To develop a sample of anglers involved in the regulation controversy, I reviewed all IDFG records pertaining to public meetings and petitions submitted to the Commission on the Big Wood River regulation issue. Many of the signatures and addresses on the handwritten

petitions were illegible. Also, based on locality and knowledge of Big Wood River angler residence from Reid (1989), there was a strong likelihood that many who signed petitions had never fished the Big Wood River. For both of these reasons, we did not attempt to include petition individuals in the survey. Instead, I used 389 individuals who actually attended 1989 public hearings and signed in at Boise, Burley, Twin Falls, and Hailey as our initial target sample. This in essence limits the scope of this study to that segment of the angling public serious enough to attend public meetings on the regulations. Thus, survey results are not intended to proportionally represent the public at large.

Records of public meeting attendees were also handwritten and often incomplete. Project personnel verified the current addresses of 200 of the original 389 individuals by examining appropriate telephone directories and made address corrections and updates when possible. A mailing database was developed and surveys were mailed out to all 389 individuals, including those we were unable to update. Thus, 189 addresses had a high probability of not being returned.

Project personnel sent out the first mailing on September 20, 1996. A total of 132 surveys were returned for incorrect addresses during the following two weeks. For 38 of these individuals, telephone numbers could be found and calls were made to obtain corrected address information. A reminder letter and a second mailing of the complete survey was sent to non-respondents and those with updated addresses between October 11 and 26.

## **Angler Survey**

I used a 30-question survey divided into two parts to assess respondent attitudes and solicit written comments. The first 13 questions pertained to various measures of an angler's "consumptiveness" and his or her level of involvement in the sport of fishing (Appendix A). Possible responses to these questions included numerical Likert-scale and multiple-choice options.

Questions in Section 2 related specifically to the Big Wood River fishery and the controversy around the 1989-1990 decision. First, I sought to verify that anglers in the sample had indeed fished the Big Wood River prior to the regulation controversy and also queried them about the type of gear they preferred to use (bait, lure, or fly). The next series of questions was designed to ascertain where survey anglers fished prior to the controversial regulation being implemented, and where they elected to fish in two subsequent time periods following the regulation change (1990-1993 and 1994-1996). The purpose of these questions was to determine if individual angler use among various river sections was changed by regulation implementation and whether any new use patterns developed through time. For example, it is conceivable that bait anglers initially may have been displaced from the slot limit zone, but over time their participation in that portion of the river fishery might increase. To encompass past and existing regulations on the Big Wood River, angler use during the three time periods (as a proportion of time spent on the Big Wood River) was solicited from surveyed anglers. The various sections identified for anglers along with corresponding regulations are presented in Table 1.

Table 1. Big Wood River sections identified for survey participants and corresponding regulations prior to and after the controversial 1990 regulation implementation.

Section Descriptions	Regulations	
	Pre-1990	Post-1990
Magic Reservoir to Glendale Diversion (about 3 miles below Bellevue)	General	General
Glendale Diversion to Highway 75 Bridge (first bridge north of Hailey)	General	12"-16" slot <sup>a</sup>
Highway 75 Bridge upstream to Hulen Meadows Bridge	General	C&R <sup>b</sup>
Hulen Meadows Bridge to first highway bridge downstream of N. Fork	C&R	C&R
North Fork Upstream	General	General <sup>c</sup>

<sup>a</sup> 2-fish bag limit, bait use allowed.

<sup>b</sup> 0-fish bag limit, bait use prohibited, barbless hooks, C&R = catch-and-release.

<sup>c</sup>General = 6-fish bag limit, any size.

The next several questions asked survey anglers whether they fished more or less because of the regulations, inquired about reasons for any changes, and specifically dealt with their opinions about the regulation controversy and how IDFG handled the process. A final question asked for their opinion on the primary threats to the existing and future Big Wood River fishery. I specifically provided ample space and solicited written comments for a number of the questions in Section 2 of the survey. The intention of this process was to avoid the problem of limiting respondents' ranges of possible answers in advance based on the investigators preconceived ideas, a limitation of standardized multiple-choice quantitative surveys (Krueger 1994).

## Data Analysis

Because of the highly specialized nature of the original sample (only anglers concerned enough to attend public meetings), I calculated only simple descriptive statistics on the sample. The data are largely summed as proportions of various responses and presented graphically in the Results section of this report. Because of the small number of lure anglers responding, and the fact that the regulations eventually adopted on much of the river excluded bait anglers while permitting fly and lure anglers, I combined responses of the latter two angler types and compared them to bait angler responses. In addition, I categorized written comments to various questions by the same two angler groups (bait versus fly/lure) and present them for readers interested in opinions expressed in the anglers' own words.

### **Spokane River Drainage Angler Panel**

Schill (1996) provides the background and methods for developing a longitudinal angler panel for several northern Idaho trout streams. Briefly, on randomly-assigned days during the 1996 angling season, a project clerk collected names and addresses of all anglers willing to

participate in a future survey about fisheries on either the St. Joe or Coeur d'Alene river. This effort was initiated near the conclusion of the previous contract year and continued until the conclusion of the 1996 angling season.

## RESULTS

### Big Wood River Survey

#### General Results

A total of 145 surveys were completed by Big Wood River anglers out of 295 sent to usable addresses. This yields a 49.2% response rate. However, 20 surveys were partially unusable and were dropped from the analysis. Of the remaining anglers, 89 preferred to fish with flies and lures and 36 with bait. These sample sizes were used to derive all subsequent numbers and figures presented below for Section 1 of the survey. For the full wording of each survey question, refer to Appendix A.

#### Section 1 - Consumptiveness and Angler Experience

**Question 1. I enjoy eating the trout I catch from streams.** - As expected, survey respondents differed widely in their attitudes on eating stream trout. Ninety-one percent of bait anglers strongly agreed or agreed with the concept. In contrast, 62% of fly/lure anglers disagreed or strongly disagreed with the concept of finding enjoyment in eating stream trout.

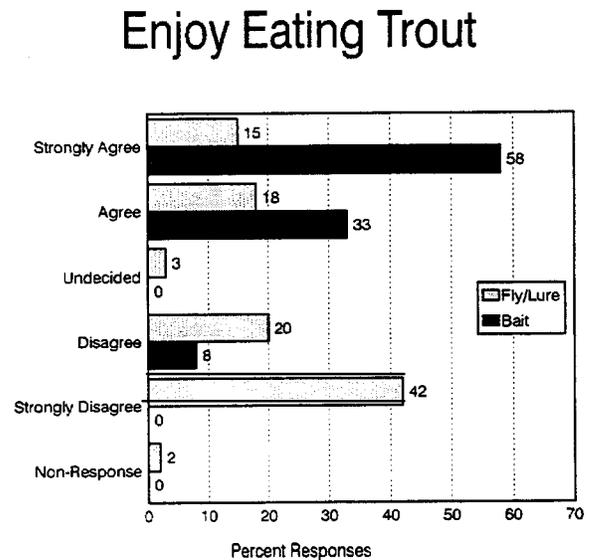


Figure 1

**Question 2. I would rather catch one trophy trout than my limit of average size trout.** - There was a wide discrepancy in interest in catching trophy trout. Seventy-three percent of fly/lure respondents agreed or strongly agreed they would prefer to catch one trophy trout than a limit of average size trout. Bait anglers clearly felt differently, 64% disagreed or strongly disagreed with the statement. The bait result was somewhat surprising, considering the advanced skill and experience level of anglers responding to the survey (see below).

## One Trophy Trout

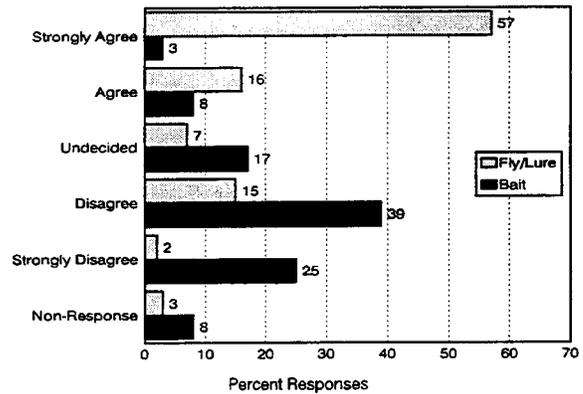


Figure 2

**Question 3. I release most of the trout I catch from streams.** - A strong majority (70%) of fly/lure anglers indicated they release most stream-caught trout. In contrast, 52% of bait anglers disagreed with this statement. However, one-fourth of bait respondents also agreed or strongly agreed they release most of their stream catch. Non-response to this question was very high for fly/lure anglers, perhaps because some individuals preferred to answer the subsequent question.

## Release Most Trout

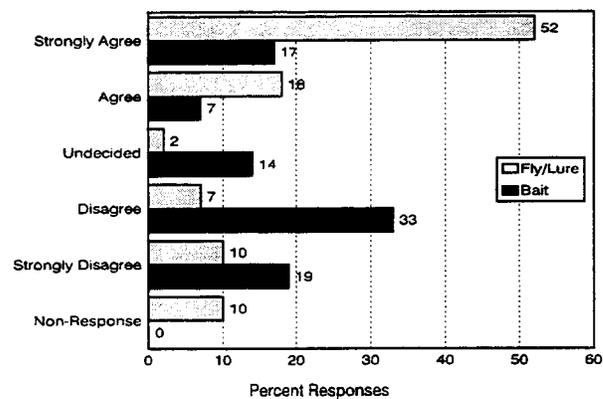


Figure 3

**Question 4. I release all the trout I catch from streams.** - The response to this slightly altered version of Question 3 remained fairly constant for fly/lure anglers, but disagreement increased notably for bait respondents. Eighty-four percent of bait anglers disagreed or strongly disagreed with the statement when I included the word "all."

## Release All Trout

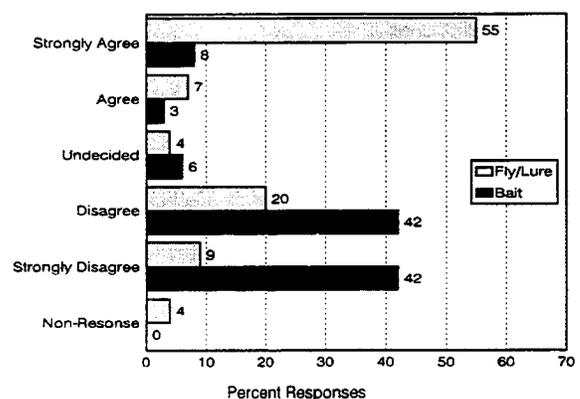
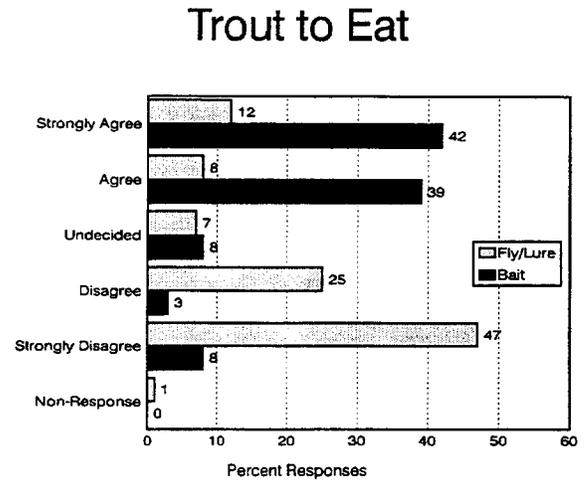


Figure 4

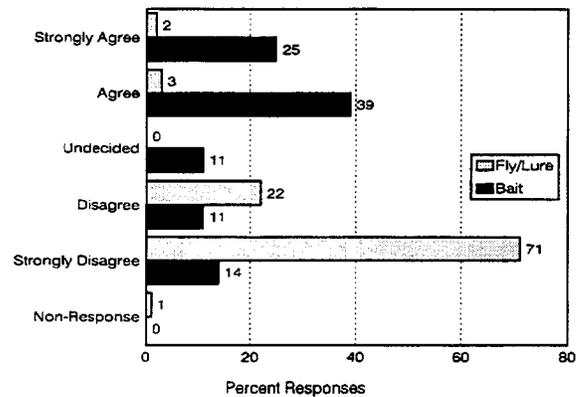
**Question 5. Keeping trout to eat from streams is important to me.** - The response of the two groups here was almost complementary, with 81% of bait anglers agreeing with the statement and 72% of fly/lure anglers disagreeing.



**Figure 5**

**Question 6. I often keep all the stream trout I catch up to the legal limit.** - Ninety-three percent of fly/lure anglers disagreed with this statement, most (71 %) did so strongly. In contrast, 64% of the bait respondents agreed with this statement. This question, perhaps better than any of the prior ones, demonstrates the different attitudes of the two groups in terms of consumptiveness.

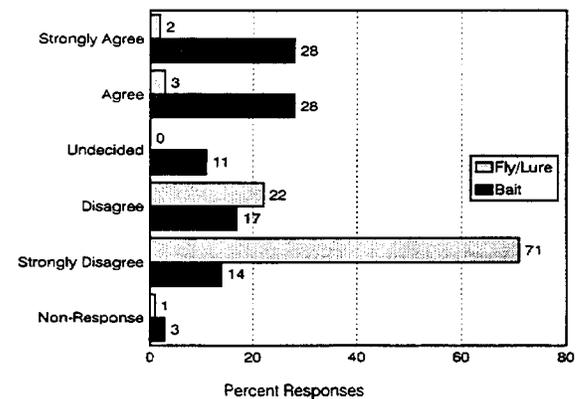
### Keep All Stream Trout



**Figure 6**

**Question 7. I feel stocked trout are as enjoyable to catch as wild trout.** - Nearly half of the bait anglers agreed with the above statement, many strongly agreed. A strong majority (93%) of fly/lure anglers disagreed.

### Enjoy Stocked Trout

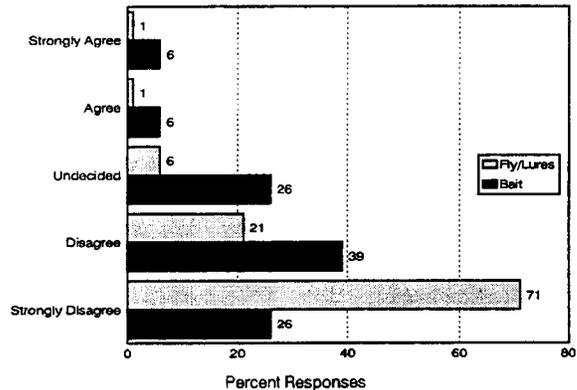


**Figure 7**

**Question 8. I try to fish streams shortly after they are stocked with trout. -**

Respondents from both groups did not want to fish for hatchery trout shortly after their stocking in streams. A very strong majority (92%) of fly/lure anglers disagreed or strongly disagreed with this statement. Sixty-five percent of bait anglers also did not agree with the statement, with an additional 26% undecided on the issue. Given bait angler responses to Question 7, their high level of disagreement with this statement was somewhat perplexing. However, nearly all bait anglers responding to the survey were highly experienced (see below). Such experienced anglers on the Big Wood River may seek to avoid crowding.

**Shortly After Stocking**

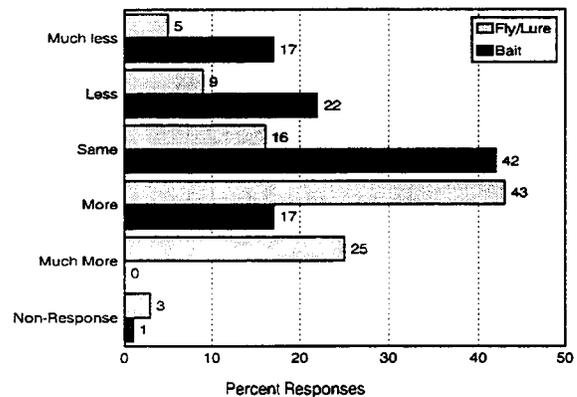


**Figure 8**

**Question 9. How would you compare the number of trout you catch to that of other anglers? -**

Bait anglers were most likely to rate their ability to catch trout the same as other anglers. However, 29% of bait respondents chose to rate this ability as less or much less than other anglers. In contrast, fly/lure anglers had a much higher assessment of their ability to catch trout. Forty-three percent of fly/lure anglers believed they caught more trout than others and 25% felt they caught much more. No bait anglers felt they caught much more trout than other anglers.

**Compare Trout Catch**

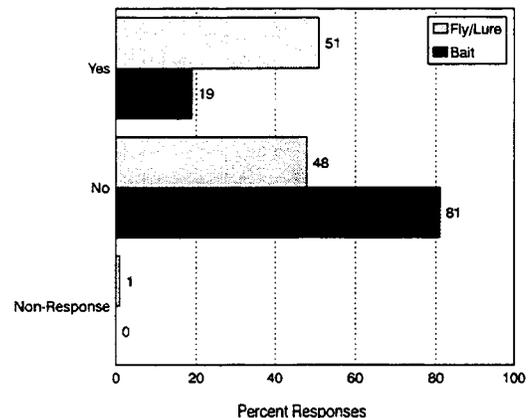


**Figure 9**

**Question 10. Do you belong to a local sportsman club (i.e., rod and gun club or fishing club)? -**

About half of fly/lure respondents to the survey belonged to an organization. Only 19% of bait anglers indicated they were a member of a club.

**Local Club**



**Figure 10**

**Question 11. Do you belong to a national sportsman or environmental group? -**

There was a wide disparity in membership in national organizations. A small minority of both groups (2%) reported membership in the North American Fishing club. Forty-eight percent of fly/lure anglers were members of either Trout Unlimited (TU) or the Federation of Fly Fishermen (FFF). In addition, 31% indicated membership in other national organizations. In contrast, no bait respondents claimed membership in FFF or TU and only one bait angler (2% of respondents) indicated membership in other organizations.

### National Group

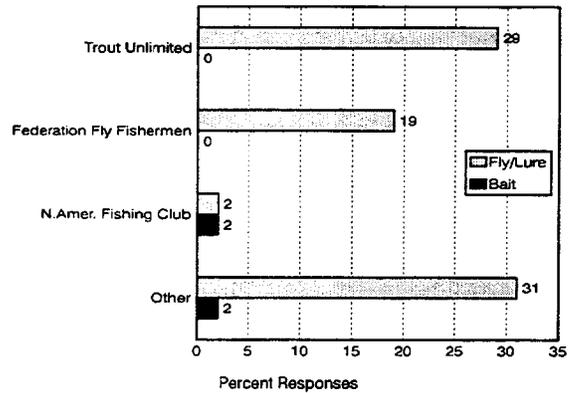


Figure 11

**Question 12. How many years have you fished (any kind of fish) in your lifetime? -**

Anglers involved in the Big Wood River regulation controversy who chose to answer the questionnaire were quite experienced, regardless of angler type. Ninety-seven percent and 98% of bait and fly/lure anglers, respectively, indicated they had fished for more than 10 years. This high level of experience is probably not reflective of angler experience in typical Idaho stream fisheries where higher proportions of inexperienced anglers would be anticipated.

### Years Fished

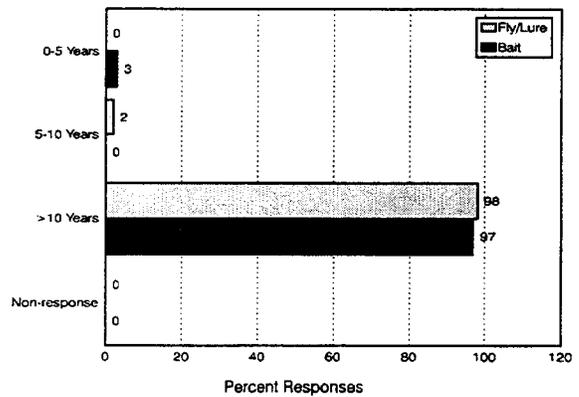


Figure 12

**Question 13. How many days do you fish in a typical year (for all species)? -**

Results of this question, again demonstrate the highly specialized nature of the survey respondents. Well over half of the fly/lure anglers reported fishing more than 30 days in a season. Only 6% of fly/lure respondents indicated they fished less than 10 days in a typical year. Bait anglers reported days fished/year in nearly equal proportions among the four categories. However, nearly half (47%) of bait respondents reported fishing more than 20 days per season.

### Days Fished/Year

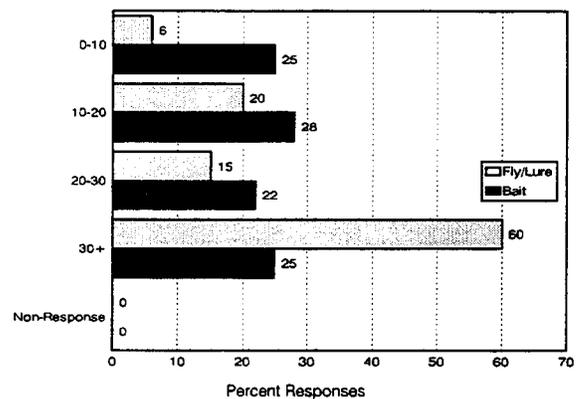


Figure 13

## Section 2 - The Regulation Controversy

**Questions 1 and 2. Proportion of survey respondents who fished the Big Wood River prior to 1990 and type of gear they fished with most often.** - Two percent of respondents (three anglers from both the fly/lure and bait groups) revealed here that they had not fished the Big Wood River prior to 1990. Responses for these individuals were not used for subsequent portions of the survey. Thus, the sample sizes for calculations in Section 2 become n = 33 and n = 86 for bait and fly/lure responses, respectively.

**Questions 3, 5, and 6. Proportion of angling effort by section before and after regulation implementation.** - Results of these questions indicate both groups of Big Wood River anglers shifted angler use among sections in response to regulation changes. Not surprisingly, fly/lure anglers increased their use of both sections where new special regulations were adopted (Table 2). However, fly/lure use in the "bait-allowed" slot (Section B) did not increase measurably during the first three years following the regulation change (1990-1993). Instead the increased occurred during the second three-year period (1994-1996). In contrast, fly/lure use increased by 8% in Section C immediately following the regulation change. In Section C, the designation of total catch-and-release, along with the bait restriction may have played a role in the speedier attraction of typical catch-and-release advocates. Fly/lure use in Section D, the segment originally restricted to catch-and-release, appeared to decline slightly with other new special regulation zones available, but the differences were small and may be due to sampling variability. A few anglers preferring to use bait did report fishing in the catch-and-release

Table 2. The location of annual fishing use on various Big Wood River segments by surveyed anglers during three different time periods.

Section	Gear	Prior to 1990		1990-1993		1994-1996	
		% Use	Regulation	% Use	Regulation	% Use	Regulation
A	Fly/Lure	9.1	General	6	General	8	General
A	Bait	32.0	General	46	General	35	General
B	Fly/Lure	32.0	General	31	Slot <sup>a</sup>	44	Slot
B	Bait	46.0	General	18	Slot	27	Slot
C	Fly/Lure	35.0	General	43	C&R <sup>b</sup>	44	C&R
C	Bait	7.0	General	0	C&R	2	C&R
D	Fly/Lure	16.0	C&R	14	C&R	12	C&R
D	Bait	1.0	C&R	0	C&R	2	C&R
E	Fly/Lure	6.0	General	3	General	3	General
E	Bait	11.0	General	32	General	31	General

<sup>a</sup> Slot = 12"-16" slot with bait use permitted.

<sup>b</sup> C&R = Catch-and-release, no bait, barbless hooks required.

segments (Sections C and D). This may have reflected non-compliance or an error in assigning their use on the form. Alternatively, they may have chosen to switch gear types to be able to fish there as the question used to categorize their responses (Question 2) asked what tackle they fished with most often.

Based on limited data, bait anglers apparently shifted much of the time they originally spent in Section B prior to regulation change to Section E where general regulations remained. Section B bait use declined from 46% to 18% during the first three years with the new slot regulation, while bait use in Section E increased from 11% to 32%. Although Section B bait anglers surveyed reported a 2.5-fold drop in use during the first three years of the slot regulation, bait use there appeared to rebound somewhat to 27% during the second three-year period. This observation suggests that Big Wood River bait anglers were initially displaced from the section by the size and bag restrictions alone, but returned in subsequent years after reconsidering the desirability of fishing there. However, the small number of bait anglers surveyed, along with the specialized nature of the sample (i.e., highly experienced anglers), restricts the utility of this findings which cannot be ascribed to the general population.

**Question 4. Why did you fish your favorite section of the Big Wood prior to 1990? -**

This question sought to rank a variety of potential reasons why anglers chose to fish their favorite Big Wood River segment prior to the regulation change. Several of the most common reasons checked by survey respondents were the same for both angler groups and included: 1) number of fish caught; 2) distance from home; and 3) size of fish (Table 3). There were differences, however. Bait anglers listed "Access" as important and also often identified the type of regulation as a factor. In contrast, fly/lure anglers were more disposed to list type of water and fewer numbers of people as reasons they fished their favorite section.

Table 3. Reasons Big Wood River anglers checked for fishing their favorite stream segment prior to the 1990 regulation change.

Reasons to fish favorite section	Fly/Lure		Bait	
	Percent <sup>a</sup>	Rank <sup>b</sup>	Percent	Rank
Number of fish caught	48	4.5	64	1.5
Type of fish	27	7.0	24	6.0
Distance from home	48	4.5	64	1.5
Type of water	49	3.0	27	5.0
Closeness to road	4	11.0	12	9.0
Closeness to a campground	6	9.0	21	7.0
Size of fish	53	1.5	28	4.0
Fewer number of people	53	1.5	15	8.0
Type of regulations	25	8.0	45	2.0
Access	28	5.5	33	3.0
Area is stocked with hatchery trout	2	12.0	12	10.0
Other	5	10.0	3	12.0

<sup>a</sup> Proportion of anglers checking this reason.

<sup>b</sup> Values ending with the proportion 0.5 denote tied ranks.

**Question 7. Has number or size of fish declined or improved since the 1990 regulation change?** - Initially, I had hoped to use Question 7 to examine potential differences in perceptions of the two groups in fishing quality since the regulation change, particularly in the slot section where bait is permitted (Section B). I intended to compare the perceptions of the two groups of whether fishing quality has improved or declined to actual population inventory data being collected concurrent with this survey (Steve Elle, IDFG, unpublished data). However, the limited number of bait anglers and a high level of non-response for both groups to this question precludes meaningful data analysis. Written responses to the question are presented below:

**Comments to Question 7 from Fly/Lure Anglers:**

- Lots more fishermen and fish kept.
- All areas of the Wood River I fish between Bellevue and Hailey and Hailey and Ketchum and beyond Ketchum have declined. The fishing has not been anywhere near as good as prior to new regulations - too many guides taking the easy-to-fish areas and making big bucks with out-of-state clients at our (locals) expense!
- Regardless of the amount or size of fish, I enjoy fishing in the State of Idaho.
- Excellent, even though drought!
- We camped in groups for years until SNRA decided we were too many as a group and have been disappointed with their rules and decisions, consequently we stay away.
- Has resulted in quite a good fishery, but I highly suspect the general public has not been made aware of the "real" quality of the water from sewage drainfields being continually constructed adjacent to river.
- Much better conditioned and larger fish now reside in W.R. after new regs.
- Water quality not as good.
- I definitely am catching what I feel are larger healthier fish in the sections I regularly fish.
- North Fork upstream - About the same, though I fish there little.
- Dramatic increase in quality and size of rainbow approx. 18 months after reg. change, also noticed decline in whitefish numbers.
- The fishing has improved on the Big Wood because of the new regulations. I have had many good days of fishing on the Big Wood.
- Generally planted, with few wild fish.
- Very pronounced improvement in size and numbers in catch-and-release areas. Less dramatic in slot limit areas, but definitely improved.
- Have not fished above North Fork. Was lucky enough to gain access in water through Ketchum and found the fishing very good.
- Fishing has improved, there are more bigger rainbows, but fishing pressure has increased dramatically as well!
- Fish are not as "fat" as during period of 85 '90. Hard to say much change - fatter, stronger (football size) caught 1985-1990. Still catch many fish - just not as "fat."
- Fish Wood River much less now. Too many people! Fish Silver Creek mostly.
- (B) Noticeably improved. Most dramatically improved. (D) Apparent decline - due to fishing pressure and habitat changes - I expect that will change (improve) over time. Also proximity of Lake Creek area to Hwy. 75 appears to lead to unintentional violations of regulations by uninformed visitors. (E) Seems to be a slight improvement for wild trout due to better (higher) water conditions.
- The above areas fished well, despite increase in fishermen. Caught/released more wild fish.
- Have not fished it enough to make valid comment.
- I have not fished Big Wood since the new regulations.
- Old catch-and-release section declined (otter). Poor above N.F. because of pressure and planting.
- Vast improvement in number and size.

- Quit fishing Wood River Valley after you asked fishermen if they wanted to catch bigger fish and failed to tell them you wanted to lower the limit.
- I'm not sure yet. This season was certainly not as good as last year ('95) and the year before ('94). '94 was exceptional.
- Heavy fishing pressure lessens the experience, high water the last 2 years has reduced the numbers of larger fish. - Fished the Big Wood more often in 60s and 70s - when fishing was great - more fish, not being hammered by people.
- The catch-and-release section has increased both the number and size of fish. Even though it is much more crowded. From Bellevue to Star Bridge (south of Halley) it is very hard to catch a fish over 12". South of Bellevue and from Star to Hailey have held up better because of limited access and more log jams and brush piles.

**Comments to Question 7 from Bait Anglers:**

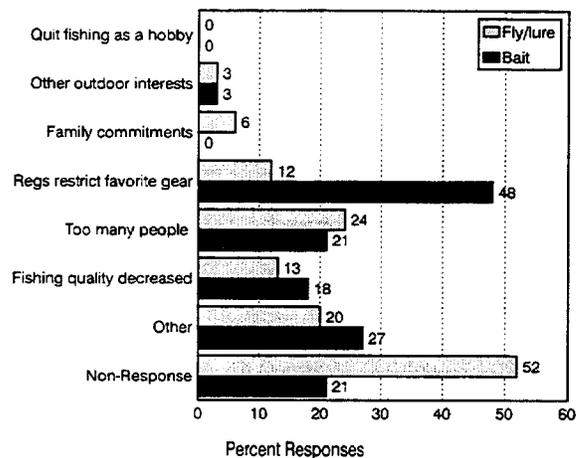
- Size doesn't matter as long as they're legal.
- Size of fish has not changed - even with catch-and-release section - I believe this is because water too cold. Best spawners found in south end of valley.
- I have not fished enough to know, also with the drought years there wasn't much opportunity. - Have not fished much since 1990 due to other recreational activity.
- Your planting program this year was a joke. Much worse than previous years. Tourists who bought expensive licenses had a rough time getting a meal of trout. F&G should be ashamed.
- Some years are better.
- Improvement in fish size is attributable to improved water conditions after the drought that ended in 1994 and keeping the Army Corp of Engineers out of the river.
- Seems about the same. Have found other places to fish because of so much catch-and-release stuff. We like to eat what we catch. Don't have to be trophy fish.
- Undecided.

**Question 8. If you quit fishing any of the Big Wood sections, please indicate why? -**

The primary reason bait anglers quit fishing individual sections of the Big Wood River was because of changes in regulations. Forty-eight percent of bait anglers reported they quit fishing in one of the study segments for this reason. An additional 21 % of bait respondents indicated too many people was a concern. Non-response of fly/lure anglers was quite high (52%), presumably because many had not quit fishing any of the sections.

Twelve percent of fly/lure anglers also indicated regulations restrict their favorite type of gear. Fly/lure anglers had a similar level of concern (24%) with crowding as the bait anglers.

**Why Quit fishing**



**Figure 14**

### **Comments to Question 8 from Fly/Lure Anglers:**

- Health problems would be the only reason.
- Have only fished twice in last 3 years. Do not enjoy having to utilize easement lanes past "Rich Bitch" homes and definitely do not enjoy attitudes of SV guides!!!
- Sun Valley area isn't as enjoyable due to the California attitude of the fly shops and guides there. -I enjoy the "quality" regulation sections for fish size, number, and type of angler.
- Too hard to keep track of different regs. on different sections.
- The reg. change made fishing with children much less desirable and feasible.
- The population influx and the number of river guides have made some areas less appealing to me (numbers of people).
- Not entirely, but not as much! I want to, and this is a priority fishery as time permits.
- My friend in Sun Valley died. Now fish Silver, Little Wood.
- Fish Silver Creek.
- Regulations do not allow fishing of family units. My grandchildren cannot comply with your regulations. - Travel to other locations for majority of fishing.
- There are too many fishermen fishing the waters of Big Wood in a year-round system. They fish for trout during whitefish season, which is not right.
- Lack of access, if I catch a fish or two that I would like to eat, I want to keep them. Too many people where access is available.
- No longer enjoy the Wood River Valley due to the changing population/lifestyles in the Wood River Valley. - Just haven't been there. No other reason.
- Low water conditions.
- Type of fishermen you meet.
- Too many bait fishers (I assume) have taken too many fish, and there is very poor habitat (log jams, etc.) in the Bellevue to Star Bridge section.

### **Comments to Question 8 from Bait Anglers:**

- I fish when I can or when I can afford too.
- Just haven't had time, also regulations, mostly the river has changed and there just aren't as many fishing holes. - Too many regs.
- Too many regs.
- The controlled sections have become commercial areas serving guides and their paying guests. The guides are abusive and unfriendly. Do they own the river -- just ask them!
- Will not be going back because of cost. The regulations messed things up and the cost for campgrounds, without water, etc., is crazy.
- I live 1.5 blocks from river! Now restricted with size and type of bait to use. Also amount of effluent discharged into river from above - who wants to eat those fish?
- Started deep sea fishing for billfish (tag and release).

## Compare days fished

**Question 9. Compare total number of days per year you fished on the Big Wood now to pre-1990?** - Both groups of anglers surveyed indicated they fish less on the Big Wood River when compared to the period prior to the 1990 regulation change. About three-fourths (76%) of bait respondents and 53% of fly/lure anglers reported less angling in terms of total days fished. None of the bait anglers surveyed reported fishing more than in the pre-1990 era, while 15% of fly/lure anglers did so.

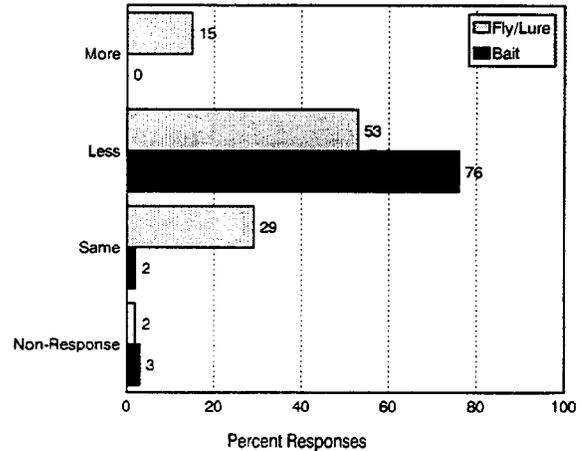


Figure 15

**Question 10. Have you stopped fishing in Idaho entirely as a result of 1990 regulation change?** - None of the fly/lure anglers indicated they had stopped fishing as a result of the regulation change. A single bait angler indicated this was so. Overall, 0.8% of surveyed anglers ceased purchasing an Idaho fishing license. Again, given the specialized nature of this survey sample, these results may not be applicable to the general angling population, where more casual anglers might be more prone to such a response. Nonetheless, these results are encouraging from a fiscal perspective to IDFG.

**Question 11. If you fish less on the Big Wood River where do you fish to replace the days you used to spend there?** - The vast majority of fly/lure anglers did not respond to this question, presumably because they do not fish less on the Big Wood River. Those respondents indicating they did replace some days were about equally divided among fishing nearby trout streams, lakes, and reservoirs and fishing other states. Substantially greater numbers of bait anglers reported fishing less on the Big Wood River. Of these individuals, the most frequent method of replacing this time was on other nearby trout streams or on lakes and reservoirs. Relative to fly/lure anglers, few bait anglers were likely to replace this time by fishing in other states.

## Where replace days

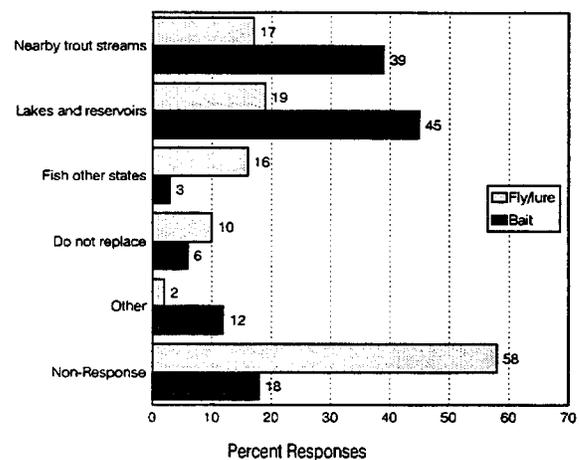


Figure 16

## Fish more often

**Question 12. Do you currently fish more often on the Big Wood River because of the 1990 regulation change?** - None of the 33 bait anglers indicated they fish more often on the river for this reason. In contrast, nearly one-third (31 %) of fly/lure anglers responded yes to this query.

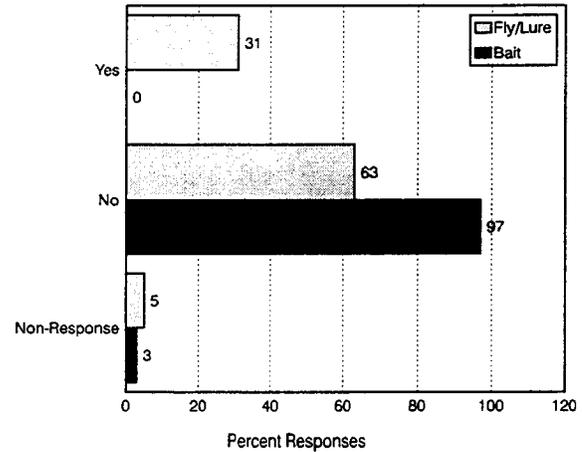


Figure 17

**Question 13. If you changed your fishing habits after regulation adoption in 1990 and currently fish different sections, why did you do so?** - Again, a high percentage (41 %) of fly/lure anglers did not respond to the question, presumably because their fishing habits on the Big Wood River did not change. Twenty-seven percent of this group reported fishing different sections in order to fish in a catch-and-release area where bait fishing was restricted. Unfortunately, with the way the question was worded I cannot tell if such anglers were seeking the opportunity to fish where total catch-and-release was practiced or if they sought to avoid bait anglers. Eight-five percent of the bait anglers surveyed reported changing their habits so they could fish with their preferred gear type.

## Why change habits

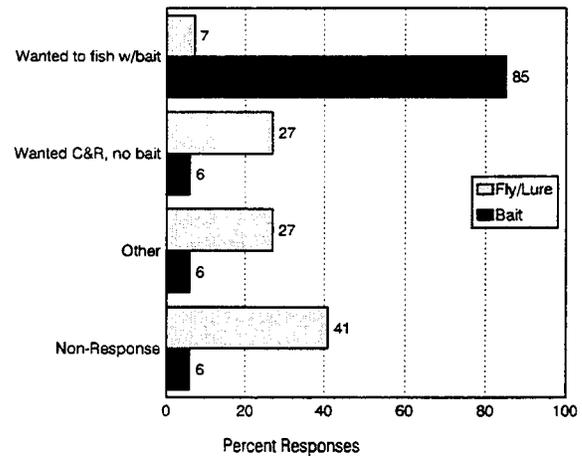


Figure 18

### Comments to Question 13 from Fly/Lure Anglers:

- Wanted to keep some of what I catch - too many guides on Wood now. Wanted more trout and to eat some - to hell with the trophy trout for those rich people!
- Too busy lately.
- Switched to flies only.
- After two years of reg. changes, fish quality on the Big Wood River fell so far below standard normal I went elsewhere to catch quality fish.
- 1990 ruling didn't change anything for my fishing but would like to see one trophy impoundment in each district.
- Access.

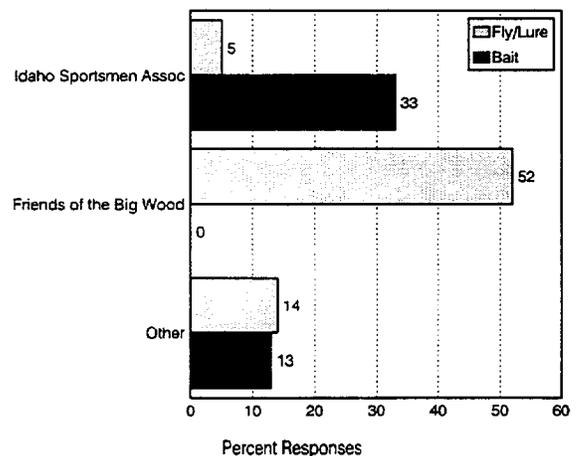
- Basically, new regs. had nothing to do with less fishing Big Wood. Mostly too many homes and lack of access and "greedy-possessive" guides!
- Too many people.
- Get away from people and fishing better elsewhere.
- Wanted bigger, stronger fish.
- Hardly anyone fishes the section I fish the most. - For bigger water and larger fish.
- Nothing to do with regs. - more to do with crowded areas.
- Wanted to fish in areas which appeared to have the best density of fish.
- Want to keep one or two fish for eating.
- Too many anglers.
- Still fish with lures.
- I would like catch-and-release from Glendale Diversion upstream to North Fork.
- Less people.
- Pleased to see limit reductions - not excited about catch release bait reg.
- Other activities.
- A lot of people on the water. High water washed a lot of fish to Magic Reservoir.
- Am not against fly fishing, catch-and-release, etc. Just can't associate with those groups, nothing personal. -
- Wanted to fish with less people around.

**Comments to Question 13 from Bait Anglers:**

- Eat what I catch. So that grandchildren can fish.
- Still want to bait fish and fly fish to release some.
- I like to fish with what I desire at the time. I release most fish anyway. -
- Want to eat what I catch.

**Question 14. During the 1989-1990 regulation conflict were you associated with any particular interest group?** - The majority of fly/lure anglers (52%) claimed an association with the Friends of the Big Wood River. None of the bait anglers surveyed belonged to that organization. In contrast, 33% of the bait anglers surveyed belonged to the Idaho Sportsmen Association, while only 5% of the fly/lure anglers did.

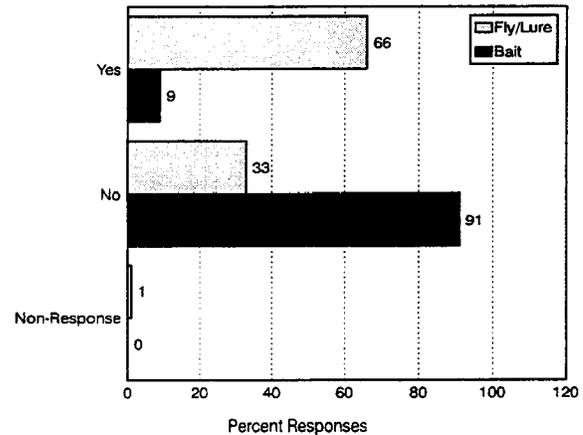
**Interest group involvement**



**Figure 19**

## Was compromise acceptable

**Question 15. Was the eventual regulation compromise reached acceptable to you at the time it was approved?** - The compromise was considered acceptable at the time of approval by the Commission by two-thirds of the fly/lure anglers. In contrast, a striking 91 % of bait anglers surveyed did not find the regulations eventually adopted acceptable at approval time. Non-response to this question was quite low, with a high percentage of individuals also providing written comments below.



**Figure 20**

### Comments to Question 15 from Fly/Lure Anglers:

- Go back to the way it was before 1990 - you got suckered by the guides and their business owners looking to make big bucks!
- Yes, but the retraction of catch-and-release waters on Silver Creek at the same time was short-sighted and driven by individual F&G officers with personal agendas and no long-term vision - and I state this strongly. From personal history with this, the controversy was very driven and fueled by a couple of F&G's own local officers. There was no question about this.
- As more pressure is put on our resources we must all compromise. This is why I feel Fish and Game does an outstanding job - and should be left to do what they have been hired for.
- I feel most of our streams have room for all types of fishing. Most "meat" fishermen were not happy, but they still have a much higher percentage of bait and keep waters in Idaho than fly fish, catch-release only waters.
- Planned on fishing elsewhere.
- I felt that C&R should start at least as far down as Deer Creek bridge.
- Not strong enough: many treble hook spinner fishermen still fish the Wood.
- Too much catch-and-release.
- I would like the C&R water to extend past Hailey.
- Tough decisions demand tough choices.
- Many people felt that you were making private fishing for Jack Hemingway and the Sun Valley crowd. -A 12"-20" 1-fish slot would be more to my liking in the lower river, 75 bridge to Stanton Crossing. -I wish that the regulations had been more restrictive.
- Personally wanted entire river catch-and-release, but understand that compromise was necessary for all residents concerned.
- It seems it is working well for all.
- I would like the fly fishing only regulation changed to read single barbless hook (to include lures). - Barely. Would have preferred more catch-and-release.
- I remember it very well. It was the ugliest confrontation I was ever a part of.
- With the amount of angling interest and its value to our community - the whole drainage should be catch-and-release - wild trout - the reservoirs should be stock and take.
- Gradual change is better.
- I thought the Commission folded to a small vocal special-interest group.

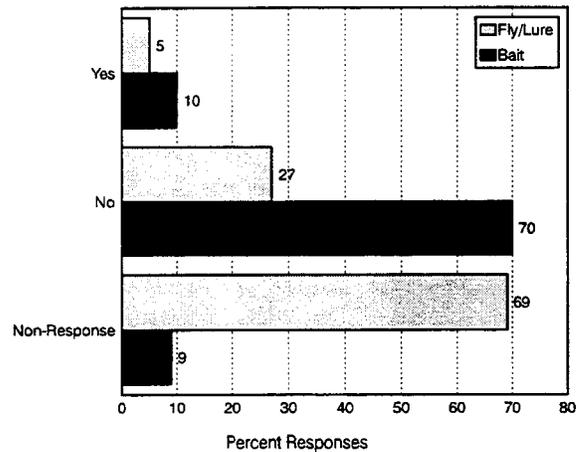
- I think the entire river should be catch-and-release.
- It is my opinion that the Dept. of Fish and Game has done an excellent job in trying to balance the interests of a wide variety of sportsmen (and their methods) while maintaining the integrity of the resource. -But would have liked to see more catch-and-release.
- Except would have liked catch-and-release further down Silver Creek.
- I resent the fact that people move into Idaho and in just a few years, because of money or a lot of whining, get things changed. The Wood River Valley is a prime example. I like fly fishing, but I believe "Grandpa" fishing with worms has as much right on a river as I do with flies or lures, especially considering the fact that "Grandpa" has probably funded more fishing in Idaho than the vast majority of the Wood River snobs. I used the term "Grandpa" because a resident of the Wood River area said he did not like "Grandma and Grandpa" fishing with worms on the Wood River at one of the hearings I was attending.
- You still only listened to the fly pole fishermen. And you can't seem to remember we all pay the same for our licenses.
- I would like more catch-and-release as stated above.
- I would prefer all fly fishing catch-and-release only. Leave Penny Lake and the Galena section for stocking. Maybe one trophy fish per season if it can be enforced. I believe a child needs to have the opportunity to keep a fish as well. Stocking can be done on Trail Creek (maybe) and Warm Springs.
- As an underlying principal, killing fish will not work with the kind of pressure that exists on the Big Wood. -In slot limit areas would like to see barbless artificials - no bait.
- Too complicated - we are fishermen, not brain surgeons. The Big Wood should be slot limit, none between 12-16 inches from Magic Reservoir to the SNRA (single barbless hooks).
- I do not like stocking. Years from now we will be suffering. It also covers up underlying problems.
- If the regulation had not been set, the northern stretches of the Wood would have been over-fished if not devastated.
- I felt the resource needed more protection and felt (still do) that we need catch-and-release down to Glendale Diversion. The Wood gets hammered each year. Most of the pressure is from Hulén Meadows down to E. Fork Bridge. I don't see one bait fisher above Star Bridge each year. We need to spread out the pressure by the type of user. I suggest C&R from Glendale to North Fork. I am a fourth generation southern Idaho native. Prior to 1982, I was a consumptive bait and spinner fisherman. Since then, I have been a C&R fly fisherman. Based on my observations, C&R fly fishermen are 95% of the people that fish from N. Fork to Glendale. If we had water and habitat, you would see the same down to Magic.
- Not strict enough.

#### **Comments to Question 15 from Bait Anglers:**

- Big money boys, trying to obtain this river for the affluent people, tying up access: riverfront development. -As long as I can still fish and eat what I catch, I don't care how you change the laws.
- I strongly felt that at the least a slot limit could be created on all of the area of the Big Wood which is now catch-and-release.
- It was designed for outfitters with no one else in regard. You can't save a river when you allow it to be altered for fly fishermen and homes and remove access by individuals.
- I believe the compromise was a good one.
- I felt that rather than listen to the recommendations of Russ Thurow, who had put a great deal of time into his study of the Big Wood, the Fish and Game Dept. yielded to pressure from guides and other special-interest groups and they dictated policy.
- I just moved up the river to fish.
- I feel that the entire outcome of the battle simply forced the regulations to become what was originally proposed to the people of the State of Idaho in various meetings held throughout the state, and not the regulations originally adopted that were a clone of what the guides and outfitters had requested and received. -I liked fishing with bait more than with flies.

## More acceptable over time

**Question 16. If unacceptable in 1990, are the regulations more acceptable now with passage of time?** - Again, a high proportion of fly/lure anglers did not respond to this question (69%). Based on the individual question instructions (Appendix A), this implied satisfaction with the original regulation. Twenty-seven percent of fly/lure anglers surveyed did not find the regulation more acceptable over time. In contrast, a strong majority of bait anglers did not find the compromise regulations more acceptable over time.



**Figure 21**

### Comments to Question 16 from Fly/Lure Anglers:

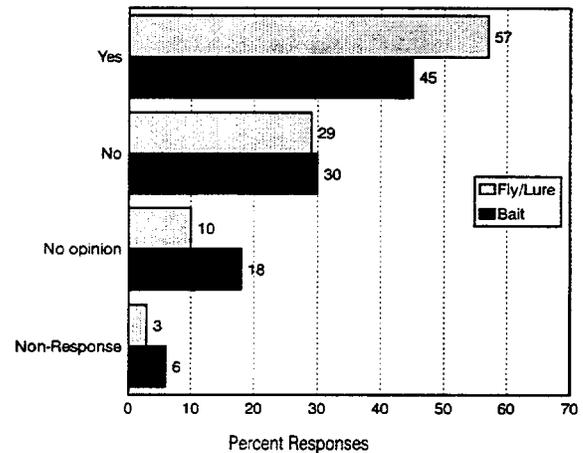
- Too many fish compete for food available resulting in many more small fish and fewer large (18 in. and bigger) fish.
- Due to so many regulations. I purchased a Class 1 license in 1936 - fishing - bird and big game regulations were printed on it. I know that we cannot go back to that but the volume and money spent on IF&G regulations today is absurd.
- Im satisfied with the regulations.
- More catch-and-release.
- Not enough catch-and-release.
- To a degree.
- More demand will require more catch/release to support a fishery.
- Same as above.
- I still want more catch-and-release.
- I notice people fishing bait - ignoring slot limit regulations.
- Too complicated
- We proved our point. Now we should finish the job. I would favor some sections totally closed to all fishing. We are stomping it to death.
- If enforced! !

### Comments to Question 16 from Bait Anglers:

- It still doesn't change the fact that fishing in these areas eliminates cheaper fishing styles for average income families.
- The business/campground I work for lost many customers due to the change to catch-and-release. I still feel a slot limit should have been imposed.
- The catch-and-release policy to preserve trophy size fish is misguided. Traditionally the trophy size fish return to Magic Reservoir with lowering water levels.
- I feel that too many fish are killed by improper catch-and-release fishermen.
- I think too much water was closed.

**Question 17. Did the regulation-setting process for the Big Wood River affect your long-term view of IDFG as the primary agency responsible for overseeing your fishery resources?** - Many of the anglers surveyed indicated the process did affect their long-term view. Fifty-seven percent and 45% of fly/lure and bait anglers, respectively, indicated the process affected their long-term view of IDFG. Virtually the same proportion of anglers from both groups (29% to 30%) indicated the process did not affect their view. From a qualitative examination of the comments below, 21 of 49 fly/lure anglers with a written opinion retained a negative impression of IDFG. Twelve of 15 comments from bait anglers had a negative or unfavorable tone.

## View of IDFG



**Figure 22**

### Comments to Question 17 from Fly/Lure Anglers:

- Thought they would ruin my fishing in favor of guides making a lot of money from rich out-of-state people. Catering to big business - big bucks and the rich people of Ketchum and California.
- Dept. shows awareness of importance of quality fishery in Blaine County.
- Absolutely! I viewed the Dept. as anti-stream conservation and local officers as the wrong representatives for fisheries improvement. It was a very disappointing experience and one that will take years to overcome and trust IDFG's F&W mgt. policies.
- Reasonable and adapting to new times.
- They did a good job using the biological study and public hearing process.
- In my opinion the IDF&G responded too much to special interest groups and not enough to local sportsmen and to the fisheries themselves.
- Idaho Fish and Game has proven to be too susceptible to outside interests and big money than to the average sportsman. Special-interest groups, such as outfitters, rule the Fish and Game Dept.
- I appreciate acceptance of public comment and feel anyone should be allowed to fish with their choice of methods - but still feel gen. public could be made more aware of the actual "low percentage" of fly fishing waters.
- I think IFG has pandered to the special interest environmental groups and commercial fishing operations.
- It greatly increased my confidence that IDF&G's "wild trout" policy is correctly formulated and implemented. - F&G did something positive and it worked.
- I previously had very negative thoughts about the effectiveness of Idaho and now I see they have done something positive and it is working. S. Fork of Boise a good example also.
- They are doing about as good a job as they are able.
- F&G willingness to adopt quality fishing regulations increased my respect.
- There are too many regulations in general and the Dept. only seems to listen to special-interest groups and ignores the interest of average fishermen.
- The Department operates in a political environment and sometimes has to bend to accommodate other interests. I wish that they didn't have to do this and could act exclusively on behalf of fish and wildlife. - Reaffirmed faith in agency to regulate in best interests of all with our concern of the resource itself. - Unfavorable reaction.
- A good decision that definitely helped the fish.

- I believe the regulations are in the best interest of the resource and should continue!
- Looking ahead at the need for better regulations and more catch-and-release, particularly on crowded waters. Unfortunately, this foresight seems to have been lost by the current Dept. Current policy of "no change" won't work.
- The confrontation sure took all of us by surprise! I don't think any of us (IF&G, sportsman groups) thought that the sustenance fishing issue was alive!
- Fish and Game still has the archaic belief that stocked fish and keeping trout to eat has any place in the Big Wood - lets manage for quality and let the stocked fish stay in the reservoirs.
- Too politically concerned.
- IDF&G seemed to listen to the majority of fishermen and experts who wanted the fishery improved by regulating the catch. I applaud the IDF&G for their actions.
- Need more catch-and-release areas!
- A big step forward.
- I think Idaho Fish and Game bent to special-interest groups who have the time and money to attend every meeting that takes place.
- It was a good process - lots of involvement.
- I felt the F&G was weak
- There were regulations set, not for the fish-eating fisherman, but for the so-called sportsmen that catch and kill release fish.
- It showed that the F&G Dept. does not really listen to the people.
- Very uplifting.
- Fish and Game in my opinion rarely represents the resource (i.e., fish and game). F&G reluctantly compromised due to local pressure to protect an abused drainage. F&G is arrogant, old fashioned, and red-necked. Wake up.
- F&G did the best for the resource and fishing demand. Wild trout streams are the best. Hatchery fish belong in ponds and res.
- You did a good job, hard decisions can't make everyone happy. The region (fortunately or unfortunately) is growing; can't stand more harvest. Suggest stock lakes, ponds (Penny/Dollar/etc.) if people want put-and-take.
- Yes, I believe the Department is giving in too much to the interest groups at the expense of the vast majority of other sportsmen.
- You only listen to one group.
- My knowledge of personnel has improved and communication with Fish and Game personnel has been excellent. All personnel are professional, knowledgeable, and care about the river and the fishery.
- I think we will see more catch-and-release rivers opening up-a lot more people are fishing today than 5 yrs. ago. - Seemingly, the DFG lacked a conviction which would benefit the resource, rather they appeared to be self-serving.
- Difficult balancing act for the Department to please all license holders - however, at some point decisions should be made simply to maintain or enhance the resource in question.
- Cannot please all interested public. Need most of all to do what is biologically sound.
- Idaho Fish and Game at least listens to citizen input. The problem is special-interest groups that lobby hard for their own interests.
- I thought the process was labored. I think that (from my perspective) F&G needs to be more aggressive in establishing quality fishing and regulations on those areas that lend themselves to quality regs. Any stream that can support its own wild fishery should be treated with special care. I'm also concerned with whirling disease being transmitted by hatchery plants.
- I think they did a good job. Getting some results in a very controversial climate. It proved to me they were not a bunch of lead slingers.
- I thought the F&G did a good job in a difficult situation. Even though I disagree with the results. I was impressed by the way the F&G dealt with the situation.
- Better.

### **Comments to Question 17 from Bait Anglers:**

- You opted for the big money people who have taken over Wood River Valley!
- I feel we are being influence by out-of-state people with more money than time.
- I felt that Fish and Game was not listening to the whole group of fishermen, but only to the groups and individuals with money and influence.
- I feel money buys anything it wants.
- It is imperative that we stick to biological and scientific facts in our decision making process and not allow special-interest groups to control our thought processes.
- It demonstrated to me that Fish and Game is not interested in common sense, but listens to the biggest mouths with the most money and influence.
- Cater to special-interest.
- I felt they were selling the common angler down the drain, for the benefit of out-of-state anglers and for the commercial guide anglers.
- It appears the trophy fly fishing groups are more active and vocal. One has to go with the flow of what appears to be public opinion.
- The fishing in Idaho has gone only one way, downhill.
- F&G no longer represents the people, just outfitters, guides, and commercial interests.
- The people that use stream should have more rights on the way its changed.
- You let a few influence your decision.
- After seeing how agreeable the Dept. is to special interests (i.e., guides and outfitters), the average sportsman definitely needs to be represented by a lobby.
- IDF&G simply wants to please the squeaky wheel - not considering the poorer people who want to enjoy catching and eating a few fish while enjoying the outdoors.

**Question 18. What do you believe are the primary threats to the existing and future Big Wood River fishery (as you would like to see it)?** - I purposely sought only written comments to this question so as not to prejudge potential respondent answers. For both groups, probably the most frequent threat pertained to development, stream alteration, and/or pollution in general. Crowding on the Big Wood River was clearly a major issue for both groups. One factor contributing to the crowding issue (guiding) appears to be quite unpopular with many anglers who chose to provide a comment here. Concern about guides tying up various river reaches seemed to be a common concern with anglers in both groups and even included a self-identified ex-fishing guide.

### **Comments to Question 18 from Fly/Lure Anglers:**

- People living by the river and rip-rap!! Leave the river alone to change as it always has.
- Too many guides taking out-of-state people - no room for locals at best places. Too many guides taking too many people to the easy-to-fish areas.
- Increased number of nongame fish.
- Home development. Access.
- Loss of habitat.
- Too many people, urbanization, lack of stream/riparian natural habitat.
- Too many fishermen. Too many guided trips.
- Too many guides and growing population.
- Under harvest of fish, over stocking of fishery, special-interest groups, out-of-state interest, destruction of habitat by population growth in area.

- Outfitters, guides, lack of minimum stream flow requirements south of Glendale bridge, the number of dead fish below the diversion is enormous.
- Public access in lower sections. Private posted property. When posted it often ends up with only their friends admissible and we are supplying them with their pleasures.
- Pollution.
- Home encroachment.
- Water quality can and probably will get bad enough to destroy fish and aquatic life in the entire river system. -
- Loss of sportsman's access and increased amount of anglers in the remaining areas.
- Access and too many people and not enough fish.
- Housing development and channelization of stream and concomitant loss of habitat.
- The policies and practices of the Idaho Dept. of Water Resource and guiding.
- Streamside development. Too many guides.
- Too many "shockings" to "count" fish.
- Mostly expensive homes being built and their owners removing stream bank protecting vegetation and bug life-producing veg. Fish and Game shocking more than once.
- Development, limited access, consumptive fishing.
- Pollution and over fishing.
- Development, increasing number of fishermen and continued lack of restrictions below Hwy. 75 bridge. -
- Allowing home owners the right to rip-rap banks and build close to river.
- Number of anglers and still too many fish being taken.
- Fishing pressure - flood control projects, stream alterations.
- Fishing pressure/all types, increased demand on water supply.
- Too many homes being constructed on the river.
- Stream channelization from overdevelopment of the flood plain.
- Negative impact of streamside building and grazing, especially on tributaries. Increased fishing pressure as number of residents and visitors increases yearly.
- Human encroachment.
- Overcrowding
- Development, habitat loss, water diversions.
- Too many fish killed. Many fish are killed by fly fishermen who use ultra-light leaders and tiny flies. They play the fish to total exhaustion.
- 1. Excessive guiding. Big contributor to 43. 2. Slot limit lower sections. Should be catch-and-release. 3. General crowding - showing the need for catch-and-release. More people in slot limit areas = less fish. -
- Population growth which causes limited access. Streams need boundaries with a greater setback for buildings. -
- Access; pressure from limit-mentality anglers and put-and-take advocates. Political pressure from stupid people to change quality reps.
- (1) Fishing pressure.
- Too many people when water is low. Too many people - not necessarily a complaint - just a fact of life/growth.
- Over-guiding the resource. Development/rip-rapping within the riparian zone.
- People, people, and people.
- People too many. Development in riparian zones.
- Overfishing.
- (1) The popularity of the sport. (2) Overcrowding. (3) Too much guiding, here and Silver Creek! -
- Bait fishing and drying up lower section of river due to irrigation demands.
- People, irrigation, and drought.
- Development and crowds.
- Continued development along river corridor and riparian areas - over use due to expansion and growth of entire valley.
- (1) Building too close to river. (2) Man - fishing pressure (i.e., number of fishermen).

- In all waters that there is natural spawning I feel that there should be special regulations limiting the take - catch-and-release.
- Letting these would-be catch and kill sportsmen fish the river 10 months out of the year. There isn't anyway a fish has a chance to get trophy size as it is maintained, they will in a catch-and-release season. The season on the river for whitefish is just a good outlet to outlaw fishing for trout. It is doubtful if there are 50 whitefish in the Big Wood watershed. So when the trout are fished for 10 or 11 months out of the year, they aren't going to survive. One out of every five fishermen that practices catch-and-release, doesn't know how to release fish to let it survive.
- No public access, too many people at a few access pts., closure of the entire stream.
- People. A high quality fishery brings people. To get a quality fishery, you need regulation.
- (1) Too many anglers. (2) There is always the threat that F&G will reverse and not expand existing restrictions. - Development/water quality.
- People/houses(people)/people.
- Overdevelopment and destruction of habitat.
- Excessive fisherman pressure on the catch-and-release section.
- Too much pressure on the catch-and-release section.
- Overpopulation - of people (not fish).
- You guys.
- Pressure from more fisherman, encroachment of development and flood control measures (i.e., rip-rap, riparian zone encroachment).
- Illegal poaching. It also appears to me that the drop structure has been a complete failure.
- A better, more active eye toward water quality and catch-and-release.
- Over fishing - low water - development along the stream.
- Habitat, bank erosion, water levels.
- Instream flows below Bellevue. Catch-and-release bait regulation. Liberal limits at Stanton Crossing on rainbow and brown trout spawners.
- Man - rip-rap - irrigation and/or water rights.
- Riverside development and US Army Corps of Engineers snagging process.
- Numbers of people. Stream degradation. Water quality.
- Guided fishing - i.e., too many fishermen on some stretches of the Big Wood - one day I floated from the first bridge north of Hailey to Deer Creek. I quit counting at over 30 novice fishermen.
- With current regulations that F&G has enacted, I think we will see improved wild trout fishing. Threats are: habitat degradation, overcrowding due to increased guiding or overcrowding because of popularity, and fly fishing in general.
- Too many fishermen. It is becoming such a good resource that we will trample it to death.
- Anglers who are selfish, who will take fish regardless of the consequences for the health and sustainability of the fishery.
- Irrigation and sewage from Hailey and Ketchum.
- 1. Catch and kill. 2. Rip-rap, streamside development, removal of woody debris and foliage from the flood plain. 3. Water removal from the river for agriculture and other uses.
- Access and too many people - too many guides.
- Construction, stream degradation, over fishing, water quality - enforcement.
- (1) Loss of habitat: i.e., snag and drag operations: if you allow it, I will try to destroy the equipment used. (2) Use of bait; (3) Rip-rapping.

#### **Comments to Question 18 from Bait Anglers:**

- Developments of homes too close to river frontage! Dozing river channels to prevent flooding of said developments; using a natural resource to profit a few.

- Year-round fishing.
- Pollution, illnesses, over fishing, illegal fishing, change in breeding habits.
- Lack of planting - allowing winter kill of large released fish.
- More people moving into area. Rip-raping of river banks. Accesses constantly being compromised due to development.
- Continued development along the river and subsequent channeling of the river to protect housing developments. - The Big Wood has too many guides etc.
- Construction on river banks, rip-rap,
- Population increase.
- Guided anglers - who want it all for themselves, and big fish and over regulation.
- Water quality (sewer and development) and fly fishing groups. Trying to turn it into a rich man's exclusive fishing area.
- Development - H<sub>2</sub>O quality.
- The threat is out-of-state for trophy fishing and building on river.
- Pollution from overpopulation.
- People, increase of population upstream.
- Keep more of it open and don't close more down.
- Too much private property.
- Overpopulation and a relaxed attitude toward streamside development.
- Too many people. Lower the limits and let people fish with what they want to.
- It is all going to suit big out-of-state fishermen and rich fishermen. Don't see much threat to the river itself, just to us little guys.
- Getting to be too many houses and homes on river.
- Too many people - Too much development - Too little access.
- Let it run its own course - build bridges if necessary - otherwise, NO human changes.
- Stop building houses along river to preserve natural fish.
- Professional guiding to out-of-staters for "blue ribbon fishery" and pollution from sewage by Ketchum and Hailey plants.
- Too many people.
- Too many people.

### **Spokane River Angler Panel**

Names and addresses of prospective panelists were collected on randomly-selected days during the entire 1996 angling season. To assist IDFG regional management activities, standard angler counts were done on these days to provide angler use. During angler interviews, the project clerk first collected standard creel information (hours fished, species caught, species released, and lengths). The creel use and catch data are being analyzed by regional personnel for upcoming management decisions. A total of 633 anglers volunteered their names and addresses for the opportunity to provide their input and opinion via a future survey.

On February 17, 1997, a letter was sent to all these individuals explaining the process of forming an angler panel and inviting them to participate. The letter explained that if they decided to join the panel, they would be contacted once or twice annually, for as long as their interest as a group was sufficient, and asked to provide their opinions and thoughts about Spokane River drainage trout management. As an inducement to participate, anglers were informed that each time a survey was done there would be drawings for one \$100 and two \$50 gift certificates. A total of 270 individuals agreed to participate as panelists and returned sign-

up sheets. These panelists are comprised largely of Idaho (63.7%) and Washington (30.4%) anglers, with a small number of other nonresident states represented. Of those participants from whom we have pre-survey information, 71 % fished most often with flies, 15% with bait, and 10% with lures.

The present panel size is well below the 500 angler target sample size believed necessary to track panel thoughts, given likely levels of dropout, etc. Subsequently, a May 14, 1997 letter advised participating panelists that additional anglers would be sought in the upcoming year. The same correspondence also asked them to provide names and addresses of two other persons who would know of their whereabouts in case they moved, etc. A \$100 gift certificate drawing was used as an inducement for them to provide this information and to keep interest in the project up until additional names could be collected. This will be accomplished in the 1997 angling season.

### **Non-Specific Project Activities**

#### **Research Supervision**

As principal fishery research biologist, a substantial portion of the year was spent supervising all statewide IDFG research projects funded with Dingell-Johnson (DJ) funds. I participated in planning, scoping, work plan development, sub-section meetings, and reports and provided logistical support/direction for three research projects, including the wild trout, irrigation diversion, and hatchery trout projects.

#### **Technical Assistance**

I assisted the IDFG Upper Snake Region in the planning, preparation, and presentation of a MOCPOP population modeling workshop on the South Fork Snake River. The workshop was presented to Upper Snake Region anglers and media personnel. I compiled lake trout *Salvelinus namaycush* literature and prepared for and conducted another modeling exercise for Panhandle Region personnel on lake trout regulations for Priest Lake. I assisted Panhandle and Salmon region management staff with otolith aging expertise on lake trout from Priest Lake and cutthroat trout from the Middle Fork Salmon River. Lake trout in Priest Lake were determined to live up to 23 years, well above the upper age determined previously from scales. Otoliths were particularly effective for aging Middle Fork cutthroat trout *Oncorhynchus clarki* and, again, consistently provided ages well above those from scales. In addition, I published two papers in the *North American Journal of Fisheries Management*, based on DJ-funded research completed in prior years.

Project technician, Rod Scarpella, assisted Panhandle, Southeast, and Salmon region management personnel with otolith aging expertise. Approximately three months of time was spent assisting wild trout project personnel on field electrofishing surveys, whirling disease studies, and data analysis. He also assisted the IDFG statewide Research Manager on a project relating lake/reservoir physical and chemical variables to several indices of angling quality for these fisheries statewide.

## **DISCUSSION**

### **Big Wood River Survey**

There are a number of potential study limitations associated with this survey. The relatively small sample size obtained in the survey, particularly for bait anglers, along with the specialized nature of the anglers involved (Figures 12 and 13) obviously limits the overall utility of the survey. Because of the limited sample size, I did not attempt to account for any non-response bias. In addition, recall bias could have affected survey accuracy. As designed, the survey asked anglers to recall general fishing activities over the period of seven years. Although recall bias has been shown to be a problem in quantitative surveys (Vaske et al. 1996), most of the questions in the survey did not request integer input from respondents and those that did asked for it on a relative basis. Thus, recall bias is probably a minor concern.

Assuming concerns above are minimal, results of the survey provide some findings of interest to fishery managers. Assuming no non-response bias, these results point out the highly skewed nature of input at public meetings. Nearly all anglers, regardless of group, were quite experienced, reportedly fishing more than 10 years (Figure 13). Nearly half of the bait anglers surveyed, and 82% of fly/lure anglers reported fishing over 20 days per season. Beginning or casual anglers appeared to be virtually unrepresented at the meetings, yet probably comprise a significant portion of anglers on the Big Wood River, particularly from the nearby towns of Halley and Bellevue.

There were predictable differences in responsiveness to consumptiveness questions between the fly/lure and bait groups. For example, fly/lure anglers strongly preferred to catch one large trophy trout versus an average size limit of fish, while bait anglers disagreed. Not all responses were predictable, however. Despite answering a number of the initial questions from a consumptive, harvest-oriented approach, a majority of the bait anglers indicated they did not try to fish streams shortly after stocking. Bait anglers, as a group, may in fact not be as focused on stocking as commonly perceived or the experienced anglers I surveyed may not be as inclined as casual anglers to rely on recent stocking events. Alternatively, bait angler responses may have been affected by social desirability bias (Fisher 1993).

The presentation of survey respondent comments in their entirety and my subsequent references to them qualitatively may be troubling to many biologists trained largely in the quantitative arena. Any generalization of their content should obviously be done with great caution. However, their presence allows the reader to see the strength of angler concerns or support in their own words. For example, a substantial portion of anglers responding to this survey were quite troubled by the presence of guides on the Big Wood River. While use of a quantitative-only, multiple-choice survey might have picked up this fact, reading many of the comments from these anglers provides readers with more perspective on their level of concern.

The number of responses received to an open-ended essay type question (of sorts) was exceptionally high and demonstrates anglers' willingness to provide their own thoughts rather than check a column or canned response. For Question 18, where no multiple-choice response was possible, 93% of respondents in both groups provided a written response. If this level of response is possible in our surveys for crucial questions, the essay approach might be

considered in the future. Letting respondents choose their own words and subsequently categorizing them via content analysis has occurred in Idaho game management recently (Tynon 1997) and may be preferable to forcing responses into fixed categories. More investigation into this approach and the technique of content analysis should be considered by Idaho fishery managers.

The latter portion of the survey yielded important perspective on the effect of regulation-setting processes, at least for experienced anglers serious enough to attend public meetings. These anglers probably comprise many of the individuals commonly referred to as "stakeholders" in recent years. Few anglers finding a regulation change unacceptable at the time of adoption moderated their views with the passage of time (Figure 21). Qualitative examination of the written comments for these individuals indicated a rather firm philosophical resistance to the compromise regulations adopted, regardless of the gear type they preferred to fish with. Based on this survey, with an admittedly limited sample, managers probably cannot expect shifts in such anglers' attitudes with time.

In addition, a majority of the anglers responding to the survey indicated that the regulation-setting process on the Big Wood River affected their long-term view of IDFG (Figure 22). Given the long-term implication of this finding, it is imperative that development of angling regulation packages be perceived by the public as fair in terms of the decision-making process, a concept described recently by Daigle et al. (1996) as procedural justice. In the case of the Big Wood River regulation controversy, the Commission, responding to several intense lobbying efforts by a special-interest group, accelerated a research program and the regulation-setting process, ultimately adopting a regulation package more restrictive than that proposed by IDFG staff (Thurow and Schill 1994). While such is the prerogative, indeed the job of such decision makers, many of the survey respondents' comments were especially concerned with the influence of special-interest groups on the process. The question of how much influence such organized groups should have in charting management direction compared to unorganized anglers continues to be raised in other Idaho waters (Dick Scully, IDFG, personal communication) and nationwide (Gigliotti and Peyton 1993). One way of gaining insight into the question might be to ask a cross-section of anglers themselves for guidance on the issue, perhaps using focus groups or some other expanded interview process.

## **RECOMMENDATIONS**

1. In conjunction with ongoing biological evaluation of the Big Wood River trout populations after the 1990 regulation changes, solicit angler opinions regarding guiding, gear use, and quality of the present fisheries. If done on a randomly-selected basis as part of the planned creel census activities, results can be compared to those from the specialized sample provided in this report.
2. IDFG survey specialists should test the use of open-ended response questions with subsequent content analysis for various statewide applications.
3. Conduct a series of focus groups that solicit angler advice on the relative importance of public input from organized versus unorganized sportsman.

4. Collect additional names and addresses during the 1997 angling season on Spokane River tributaries to meet the target goal of 500 panelists. Initiate the panel process and assess attitudes and opinions prior to any management changes that may occur during the next regulation cycle.

## **ACKNOWLEDGEMENTS**

Rod Scarpella conducted the data analysis for the Big Wood River survey and assisted with mailing and management of the Spokane River Angler Panel effort, Steve Elie provided editing comments, and Rick Holm finalized the report.

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## **APPENDIX**

Appendix A. Complete version of the survey sent to Big Wood River anglers who attended public meetings on the 1990 regulation controversy.

Dear Angler,

In an attempt to be more responsive to our customers (you) the Idaho Department of Fish and Game is beginning a new fisheries project to examine the long-term effects of regulation changes on anglers. One of the first goals of this effort is to survey anglers who may have been affected by regulation changes that occurred on the Big Wood River in the Hailey area in the late 1980s. The regulation discussions at the time were highly controversial, and an eventual compromise was adopted to satisfy several public interest groups. (**Note:** this is not the beginning of an attempt to change regulations.)

The purpose of this survey is to better understand the long-term changes in your fishing habits and opinions about the Big Wood River fishery since the regulations were enacted. You have been selected for the survey because you were recorded as a concerned participant in the public meetings.

We need your help to learn from the Big Wood experience and minimize such controversies in the future. Please take a few minutes to fill in the survey questionnaire, even if you no longer fish the Big Wood River. There is enclosed a prepaid business reply envelope for your convenience. Your thoughts and opinions are important to us.

Sincerely,

Jerry M. Conley  
Director

Enclosures

Appendix A. Continued.

\*\*\*\*\*

SECTION 1. These questions pertain to your feelings in general about stream trout fishing (please disregard other species and settings). Please circle the number that best describes your feelings.

\*\*\*\*\*

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1. I enjoy eating the trout I catch from streams.	1	2	3	4	5
2. I would rather catch one trophy trout than my limit of average size trout.	1	2	3	4	5
3. I release most of the trout I catch from streams.	1	2	3	4	5
4. I release all the trout I catch from streams.	1	2	3	4	5
5. Keeping trout to eat from streams is important to me.	1	2	3	4	5
6. I often keep all the stream trout I catch up to the legal limit.	1	2	3	4	5
7. I feel stocked trout are as enjoyable to catch as wild trout.	1	2	3	4	5
8. I try to fish streams shortly after they are stocked with trout.	1	2	3	4	5

9. How would you compare the number of trout you catch to that of other anglers?

- \_\_\_\_\_ much less
- \_\_\_\_\_ less
- \_\_\_\_\_ same
- \_\_\_\_\_ more
- \_\_\_\_\_ much more

10. Do you belong to a local sportsman club (i.e. rod and gun club or fishing club)?

Yes (Please list) \_\_\_\_\_  
No

Appendix A. Continued.

11. Do you belong to a national sportsman or environmental group?

\_\_\_\_\_ Yes (please list)

\_\_\_\_\_ Trout Unlimited (Chapter) \_\_\_\_\_  
\_\_\_\_\_ Federation of Fly Fishers \_\_\_\_\_  
\_\_\_\_\_ North American Fishing Club \_\_\_\_\_  
\_\_\_\_\_ Other (Please specify) \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ No

12. How many **years** have you fished (any kind of fish) in your lifetime? (Check one)

\_\_\_\_\_ 0-5  
\_\_\_\_\_ 5-10  
\_\_\_\_\_ More than 10 years

13. How many **days** do you fish in a typical year (for all species)?

\_\_\_\_\_ 0-10  
\_\_\_\_\_ 10-20  
\_\_\_\_\_ 20-30  
\_\_\_\_\_ 30+

Appendix A. Continued.

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**SECTION 2.** The following questions relate specifically to the Big Wood River fishery, the 1990 regulation controversy (we know it's been a long time), and your reaction to the regulations that were adopted:

\*\*\*\*\*

1. Prior to the change in regulations in 1990 did you fish the Big Wood River?

\_\_\_\_\_ Yes  
\_\_\_\_\_ No

2. What type(s) of tackle do you fish with **most often** on the Big Wood River? (Please check one)

\_\_\_\_\_ bait  
\_\_\_\_\_ lures  
\_\_\_\_\_ flies

3. To the best of your recollection, please list a rough percentage of your Big Wood River fishing time (excluding other waters) you spent on the below sections before the 1990 regulation change. For example, you might have spent 60% of your time on Section B, 25% of your time on section D, and 15% of your time on section E.

% of time  
A. \_\_\_\_\_ Magic to Glendale Diversion (about 3 miles below Bellevue)  
B. \_\_\_\_\_ Glendale Diversion to Highway 75 Bridge (1st bridge north of Hailey)  
C. \_\_\_\_\_ Highway 75 Bridge upstream to Hulen Meadows Bridge  
D. \_\_\_\_\_ Hulen Meadows Bridge to first highway bridge downstream of North Fork  
E. \_\_\_\_\_ North Fork upstream  
F. \_\_\_\_\_ Unsure of boundary

4. Assuming the section you fished the most was your favorite segment of the Big Wood fishery, why did you actually fish this section most often prior to 1990? (Please select all that apply)

_____ number of fish caught	_____ size of fish
_____ type of fish	_____ fewer number of people
_____ distance from home	_____ type of fishing regulations
_____ type of water	_____ access
_____ closeness to a road	_____ area is stocked with hatchery trout
_____ closeness to a campground	
_____ other (Please specify) _____	

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Appendix A. Continued.

5. To the best of your recollection, after the regulation change occurred in 1990 did you continue to fish the BWR in any of the above sections during the next 3 years **(1990-1993)?** (Check one)

\_\_\_\_\_ Yes      No      \_\_\_\_\_ Can't recall

If yes, please provide a rough estimate of the percent of time you spent on the various sections during this time period **(1990-1993)??**

% of time

- A. \_\_\_\_\_ Magic to Glendale Diversion (about 3 miles below Bellevue)
- B. \_\_\_\_\_ Glendale Diversion to Highway 75 Bridge (1st bridge north of Hailey)
- C. \_\_\_\_\_ Highway 75 Bridge upstream to Hulen Meadows Bridge
- D. \_\_\_\_\_ Hulen Meadows Bridge to first highway bridge downstream of North Fork
- E. \_\_\_\_\_ North Fork upstream
- F. \_\_\_\_\_ Unsure of boundary

6. Have you fished any of the above sections of the Big Wood during the last 3 years (1994-1996)?

\_\_\_\_\_ Yes      No      \_\_\_\_\_ Can't recall

If so, please provide a rough estimate of the percent of time you spent on the various sections during this time period. **(1994-1996).**

- A. \_\_\_\_\_ Magic to Glendale Diversion (about 3 miles below Bellevue)
- B. \_\_\_\_\_ Glendale Diversion to Highway 75 Bridge (1st bridge north of Hailey)
- C. \_\_\_\_\_ Highway 75 Bridge upstream to Hulen Meadows Bridge
- D. \_\_\_\_\_ Hulen Meadows Bridge to first highway bridge downstream of North Fork
- E. \_\_\_\_\_ North Fork upstream
- F. \_\_\_\_\_ Unsure of boundary

7. Has the number or size of fish caught declined or improved on the Big Wood River since the 1990 regulation change (please check only for those sections you actually fished).

	<u>Fishing has</u>		Don't
	<u>Improved</u>	___ <u>Declined</u> ___	___ <u>Know</u> ___
Magic to Glendale Diversion	_____	_____	_____
Glendale Diversion to Highway 75 Bridge	_____	_____	_____
Highway 75 Bridge upstream to Hulen Meadows Bridge	_____	_____	_____
Hulen Meadows Bridge to first highway bridge below N. Fork	_____	_____	_____
North Fork upstream	_____	_____	_____

Comments:

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Appendix A. Continued.

8. If you have quit fishing in any of the Big Wood River sections entirely could you please indicate why?

- Have quit fishing as a hobby
  - Other outdoor interests developed
  - Family commitments, etc.
  - Regulations restrict my favorite type of fishing
  - Too many people
  - Fishing quality has decreased since 1990
  - Other (Please explain) \_\_\_\_\_
- 
- 

9. How does the total number of days per year you fish the big Wood River now compare to pre-1990?

- More
- Less
- Same

10. Have you stopped fishing entirely in the State of Idaho as a result of the regulation changes enacted for the Big Wood River in 1990?

- Yes
- No

11. If you fish less on the Big Wood River because of the regulation changes but continue to fish elsewhere, where do you fish to replace the days you used to spend on the Big Wood River? (leave blank if your use of the river has not decreased since 1990 because of the regulation change.)

- Replace with other nearby trout streams
  - Replace with lakes and reservoirs
  - Fish other states
  - I fish less on the Big Wood but do not replace the days I used to spend there (Just don't fish as much)
  - Other (Please explain) \_\_\_\_\_
- 
- 

12. Do you currently fish more often on the Big Wood River than prior to 1990 because of regulation changes?

- Yes
- No

**Appendix A. Continued.**

13. If you changed your fishing habits after the regulation was adopted in 1990 and currently fish different sections, why did you do so?

- still wanted to fish with bait
  - wanted to fish catch-and-release with no bait allowed
  - other (Please explain) \_\_\_\_\_
- 

14. During the 1989-1990 regulation conflict were you associated with any particular interest group involved with the issue?

- Idaho Sportsman Association
- Friends of the Big Wood River
- Other (Please name) \_\_\_\_\_

15. As noted above, the regulation-setting process for the BWR was certainly controversial. Was the eventual compromise reached acceptable to you as an angler **at the time it was approved?**

- Yes
- No

Comments \_\_\_\_\_

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16. Are the regulations more acceptable to you now, with the passage of time? (leave blank if you were satisfied with the regulations adopted in 1990)

- Yes
- No

Comments \_\_\_\_\_

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17. Did the regulation-setting process for the Big Wood River affect your long-term view of the Idaho Department of Fish and Game as the primary agency responsible for overseeing your fishery resources?

- Yes
- No
- No Opinion

If yes, please explain \_\_\_\_\_

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Submitted by:

Daniel J. Schill  
Principal Fishery Research Biologist

Approved by:

IDAHO DEPARTMENT OF FISH AND GAME

A handwritten signature in black ink, appearing to read "Virgil K. Moore", is written over a horizontal line.

Virgil K. Moore, Chief  
Bureau of Fisheries

Funds Expended

Contract period July 1, 1996 to June 30, 1997

State:	\$33,556
Federal:	<u>\$100,667</u>
Total:	\$134,223