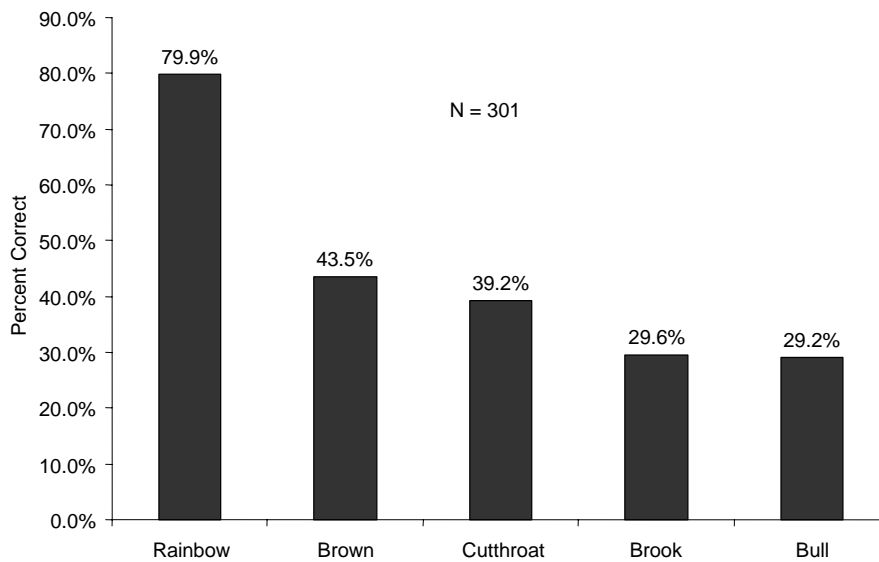




ANGLER BEHAVIOR STUDIES

Grant F-73-R-20



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July 1, 1997 to June 30, 1998

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Project 5. Angler Behavior Studies

By

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ABSTRACT

We developed a longitudinal angler survey panel to assess future displacement or dropout caused by likely special regulation changes on several large Spokane River tributaries. Angler names and addresses were solicited via streamside interviews for a potential future survey, and anglers were subsequently invited via mail to participate in a long-term panel. A total of 408 anglers fishing on the St. Joe and Coeur d'Alene rivers eventually agreed to participate out of the 1046 anglers originally contacted. Only 278 (70%) of these anglers returned the first survey. The entire panel was comprised of mostly fly anglers (83%). However, a high proportion of Coeur d'Alene River respondents (51%) reported using all three gear types on the two streams in a typical year, while 29% reported doing so on the St. Joe River. Only 13% of respondent panelists had ever attended an Idaho Department of Fish and Game fisheries meeting. A minority of panelists liked to catch stocked hatchery trout on the two streams (34%-45%), and a slight majority of anglers (53%) supported reducing or eliminating stocking of hatchery trout in portions of the two rivers if ponds were constructed along the river and stocked with trout to harvest. The two most common reasons given by anglers opposed to this program included 1) angler preference for river fishing; and 2) anglers do not like ponds. In general, survey respondents had a somewhat positive impression of regional staff, and anglers were particularly supportive of Idaho Department of Fish and Game's job as a wildlife steward and their level of public service. Because of the low panel participation rate relative to the total number of anglers contacted (26.5%), we recommend the panel effort be discontinued. However, to facilitate one-time opinion surveys, we recommend that biologists conducting structured creel survey counts on waters where future regulation or program changes are anticipated collect names and addresses of anglers during creel interviews.

We quantified rates of bull trout and other species misidentification by anglers in three Idaho fisheries, including the Middle Fork Boise River, North Fork Boise River, and Arrowrock Reservoir. During streamside interviews, anglers were asked to recite current regulations for the water that they were fishing and to identify five different trout images using either color prints or fish mounts. We obtained a correct identification by the majority of anglers interviewed for only one of five species, the rainbow trout *Oncorhynchus mykiss* at 79.9%. Bull trout *Salvelinus confluentus* were correctly identified the least (29.2%), a value nearly identical to that of brook trout *S. fontinalis*. Identification rates for brown trout *Salmo trutta* and cutthroat trout *O. clarki* were intermediate at 39.2% and 43.5%, respectively. Only 64.5% of anglers were aware of the statewide no-harvest restriction for bull trout. Anglers in general regulation segments of the two streams were nearly as proficient in correctly identifying trout as anglers fishing the special regulation sections. Anglers in Arrowrock Reservoir were least able to correctly identify all species and were nearly three times as likely to incorrectly identify all species than anglers in other segments. Fly anglers were the most proficient at identifying five species of trout we presented (27.8%), but there is considerable room

for identification improvement in that group as well. Idaho Department of Fish and Game should begin developing educational tools to remedy the poor identification rates.

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INTRODUCTION

Spokane River Drainage Angler Panel

Enhancing public involvement with management issues and decisions is clearly one of the most pressing of current fishery management issues nationwide. Obtaining public input solely via public meetings and open houses is risky, because often only the most strident or specialized sportsmen attend such forums. What the average or majority of sportsmen desire or feel can often go unrecorded in such situations. Idaho fishery managers attempt to overcome some of these limitations by randomly distributing questionnaires designed to include the entire angling population (e.g. Reid 1989). Such surveys undoubtedly have improved past management decisions and reliance on them is likely to increase.

A relatively new offshoot of standard surveys for obtaining public input is the use of longitudinal surveys. Such surveys involve multiple-year surveys of the same individuals through time. They have been used to examine long-term changes in a host of sociologic variables (e.g., Willits 1988) as well as medical research, but have received little attention by fisheries or wildlife workers. A statewide angler panel has been in existence in Texas for five years and was set up to quantify attitudes of 1500 saltwater anglers and their fishing behavior (R. B. Ditton, Texas A & M University, personal communication). More recently, a second panel comprised of 4,393 anglers has been set up in Mississippi to address various issues, one of which is to quantify angler compliance with fishing regulations (John Forbes, Social Science Research Center, Mississippi State University, personal communication). Both of the above panels have been initiated to address various general issues statewide and involve two contacts per year for panel members. Based on literature review and contacts with human dimension experts from other states, these two efforts are the only ongoing examples of panel studies nationwide specifically constructed to address fishery issues.

Although new, and therefore experimental, there are several reasons for the Idaho Department of Fish and Game (IDFG) to investigate the use of angler panels. First, it would seem desirable to test the effectiveness of longitudinal surveys in assessing Idaho angler attitudes and opinions. The continued involvement of the same citizens on a variety of fishery management issues may provide a more firm understanding of public attitudes and desires than information gleaned solely from the present single-survey approach.

Panel surveys may be especially useful in quantifying angler dropout or displacement due to special regulation implementation. The fact that harvest-oriented anglers are largely displaced from special regulation fisheries upon implementation, initially producing substantial declines in angler effort, is well known (Shetter and Alexander 1962; Hunt 1970; Lewynsky 1986). Some Idaho biologists have become concerned about where displaced anglers go and what effect continued trends in implementation of such regulations will have on traditional users and ultimately, angler numbers.

Elle (1995) attempted to quantify the magnitude and implications of angler displacement due to implementation of the two-fish wild trout bag limit on a variety of waters statewide. His study met with limited success, perhaps for several reasons. First, it attempted to quantify changes in angler attitude and behavior on a large number of streams concurrently. In addition, the survey was conducted well after regulations had been implemented on many study streams, likely resulting in high levels of recall bias (Elle 1995). Perhaps the biggest limitation of this study and an earlier

exploratory effort (Elle 1994) was the lack of quantified information and attitudes and fishing habits before regulation implementation.

The formation of angler panels on waters where future changes in regulations are likely seems an attractive way to examine angler displacement. In this way, angler preferences, fishing behavior (e.g., locations), and attitudes about IDFG can be obtained before implementation of new restrictions. Assuming some regulation changes will be adopted in the future, continued surveys of the same individuals would allow a longitudinal study of angler displacement, attitude shifts, or dropout.

Angler Trout Identification Studies

In January 1994, the IDFG Commission adopted a no-harvest regulation statewide for all but one Idaho water containing bull trout *Salvelinus confluentus*. In 1996, the IDFG commission closed the only remaining limited-harvest fishery in Idaho (Lake Pend Oreille, 1 fish >508 mm) resulting in a complete harvest closure statewide. These actions were intended to reduce further declines in bull trout abundance and assist with rebuilding of depressed stocks.

An implicit assumption of the no-harvest restrictions is that anglers fishing in waters containing bull trout can correctly identify the species. There is some question about angler ability to discriminate among species, particularly between brook trout *S. fontinalis* and bull trout. To ease these concerns, a “no black, put it back” signing program using an approach originally conceived in Alberta was implemented in Idaho during 1995. Some important bull trout waters also containing brook trout were signed with posters that provided pictures of the two species and noted important features anglers could use to differentiate them.

Despite these signing programs and several other similar poster efforts, angler misidentification of bull trout remains a concern. From 1994 to 1996, Alberta enforcement officers found that 17%-23% of anglers in the Highwood River, Sheep River, and tributaries were unable to correctly identify bull trout from pictures (Isley 1997). Similar results were obtained for other species, including brook trout, rainbow *Oncorhynchus mykiss*, and cutthroat trout *O. clarki*. In a similar study, a surprisingly low proportion of Montana anglers (44%) were able to correctly identify bull trout from a variety of images, including photographs, drawings, mounts, live fish in aquariums, or fish in the creel (Schmetterling and Long 1999). However, it is unclear how many of the anglers involved in that study were actually fishing on waters that contain bull trout and would thus be required to identify them. It is possible that anglers fishing waters that actually harbor the species might be better at identifying them collectively as a group than a general survey of anglers, many of whom may never have fished in a bull trout water. Thus it is possible that the Montana estimate is a worst case one. Nonetheless, the Montana results and those of Isley (1997) suggest there is a possibility that high rates of bull trout misidentification and resultant noncompliance could be occurring in Idaho. Misidentification at a high enough rate could negate or reduce potential benefits of the no-harvest regulations and slow or stall recovery of depressed bull trout stocks.

If misidentification of bull trout is found to be frequent enough to have biological implications, the question of what approach to use in educating anglers remains. One way for potentially improving identification ability is to construct signs of sufficient quality to garner the attention of most anglers and locate the signs where the preponderance of anglers would view them. Other options may be distributing adhesive-sticker bull trout images that anglers could attach to tackle boxes or personally handing out small cards with identification pictures on them as is done in

northern Idaho on Lake Pend Oreille. Whatever education approach is chosen, the message should be clear and concise enough to be accurately recalled by anglers after entering a fishery.

Because education expense and manpower expenditures could be substantial, the need for in-depth education of anglers should first be assessed. Despite the out-of-state results above, it is possible that a reasonably high proportion of Idaho anglers can already accurately identify bull trout.

If field surveys prove otherwise, the results of such an effort could be used to evaluate the success or failure of future education efforts.

OBJECTIVES

1. Evaluate use of angler panels as a technique to obtain angler opinions and public input.
2. Assess the proportion of harvest-oriented anglers that are displaced by special regulation implementation and assess effects of the same on long-term angler attitudes and IDFG support.
3. Quantify rates of bull trout and other species misidentification by anglers in typical Idaho fisheries where the species occurs.

METHODS

Spokane Drainage Angler Panel

Panel Development—1996 Angling Season

Schill (1996) provides detailed 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 rivers. This effort involved driving the length of both streams, soliciting names during the 1996 angling season. Concurrently, clerks conducted a structured creel survey on behalf of Panhandle IDFG personnel for their use in upcoming management decisions. A total of 633 anglers volunteered their names and addresses to participate in a future survey.

During winter 1997, a letter was sent to 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, and as recommended by the two other angler panel directors mentioned above in Missouri and Texas, anglers were informed that each time a survey was done there would be drawings for one \$100 and two \$50 gift certificates.

Two hundred seventy individuals (43%) agreed to participate as panelists and returned sign-up sheets. The sample size was well below the 500 minimum target believed necessary to track panel thoughts, given likely levels of dropout, etc. Subsequently, a letter advised participating panelists that additional anglers would be sought in the upcoming year. To reduce dropout through changes of address, 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. (R. B. Ditton, Texas A & M University, personal communication). 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 panelist names could be collected.

1997 Angling Season

During the 1997 angling season (May 24 to November 30), an additional 413 prospective panelist names along with structured creel survey data were collected by roving clerks on randomly assigned days. On February 15, 1998, an explanatory letter and invitation to participate on an angler panel was mailed to the group. Only 138 individuals (33%) responded positively and agreed to participate on the panel.

Panel Survey

A total of 408 anglers who had agreed to participate on the panel were sent a survey on May 1, 1998. Anglers were initially asked to provide information on what segments of the various Spokane streams they fished and what species of trout they preferred to catch. Subsequent queries addressed preference for gear type, attendance at IDFG public meetings, opinions on stocked hatchery trout, and the construction and stocking of ponds along the Coeur d'Alene and St. Joe rivers in lieu of the present policy of river stocking (Appendix 1). Those anglers opposed to this potential management change were provided space to write down their concerns. The survey concluded with a series of five Likert-scale questions designed to gauge their overall attitudes toward IDFG Panhandle Region staff and the agency in general. These latter questions were similar to several posed by Dolson and Landry (1996) but were modified to serve as a baseline for assessing attitudinal shifts given the likelihood of major future regulations changes on one or both of the major Spokane drainage fisheries.

Angler Trout Identification Studies

Study Area

We sought to quantify angler proficiency in identifying trout on various types of bull trout fisheries. Consequently, angler interviews during the contract period were conducted on five discrete sections of the upper Boise River drainage (Appendix 2). The entire pool of Arrowrock Reservoir comprised section 1. This reservoir is 24.9 km in length with an area of 1275 ha. Section 2 began at the beginning of flowing water for the Middle Fork Boise River (MFBR) immediately below Willow Creek campground and extended 16.9 km upstream to the North Fork Boise Confluence. Section 3 on the MFBR began at the North Fork confluence and ended at Atlanta Dam (56.3 km). Section 4 began at the Atlanta dam on the MFBR and included only the next 1 km area of slack water immediately above Atlanta Dam. Section 5 included the roaded portion of the North

Fork of the Boise River from the Rabbit Creek confluence to Deer Park Bridge, a distance of 25.1 km. A more complete physical description of the study area, including drainage area, etc., is provided by Rohrer (1989).

Anglers fishing in sections 1, 2, 4, and 5 were all subjected to the statewide Idaho general regulation of six trout with no size or gear restrictions. Section 3 anglers were restricted to harvest of two trout over 355 mm. In addition, use of bait was restricted in section 3 and use of barbless hooks was mandatory. Given the size of trout in the stream, the section 3 regulation results in the vast majority of all caught trout being released. As noted above, statewide angling regulations for bull trout in all sections completely restrict harvest.

Angler Interviews

During spring 1998 we developed and implemented a field interview approach designed to ascertain individual angler ability to identify different trout species including bull trout. We followed the basic approach of Schmetterling and Long (1999) with the exception that all interviews were conducted on-site along waters known to contain bull trout. Interviews were conducted from the season opener on May 23 to the end of the contract period (June 30). Angler contacts were made on two days per week on one randomly assigned weekend day and one weekday.

Project personnel drove the length of the study area each sampling day and approached individual anglers in the various study sections for interviews. In order to relax anglers and provide data for angler use and harvest estimates, we asked a series of standard creel survey questions, including hours fished, fish harvested, fish landed, and fish released. Anglers were then asked their sex, age, and years of angling experience, and were requested to recite the fishing regulations for the area that they were fishing.

The next portion of the interview pertained solely to fish identification. First, we asked anglers to rate their ability to identify various kinds of trout on a scale of 1-5, with 5 being most confident (Appendix 3). For anglers with fish in the creel, we observed their catch, recorded the species, and then asked anglers if they could identify the fish in their catch. Their species observations were recorded next to those of the project clerk. Next we asked anglers to identify five different trout images. During the first two weeks of the season, we used individual 75x150 mm cards with colored prints of brook trout, bull trout, rainbow trout, cutthroat trout, and brown trout *Salmo trutta* on them. All of these species are present in the Boise River drainage, although brown trout were not present in the actual study area. The images were the same ones used in the Idaho regulation pamphlet but were considerably clearer due to their enhanced size. After the second week of the angling season, we obtained taxidermist mounts of the same fish species 250-280 mm in length. The mounts appeared to be more readily identifiable, at least to project personnel, and were subsequently used in all future angler contacts. All five fish mounts were attached to a 1x1 m plywood board. Each individual fish was covered with a light canvas flap, and anglers were only permitted to view and identify one image at a time. To eliminate potential bias from guessing, we systematically varied the order of presentation to anglers so each fish had the same probability of being viewed first.

Following the identification exercise, we asked several questions pertaining specifically to bull trout. We inquired whether the angler was or had ever specifically fished for bull trout/dolly varden, whether they believed they had ever caught one, and if they could recite the regulation for the species. We concluded the interview by asking the angler how many years of education they had completed.

While conducting the above interviews on randomly assigned days, project personnel also recorded counts of anglers observed in the various sections and recorded times of the counts. During interviews, clerks recorded residency, hours fished, method of angling (boat or bank), gear type, number of fish kept, and number released. The intention of this effort was to obtain a rough estimate of angler use and harvest to compare with past creel survey estimates for the MFBR (Rohrer 1989; Rohrer 1990) and Arrowrock Reservoir (Casey et. al. 1968). In addition, we sought to estimate illegal bull trout harvest by anglers misidentifying them. The direction of the count (upstream or downstream) was varied systematically, but because of manpower constraints we did not randomize start and end times across the day.

RESULTS AND DISCUSSION

Spokane Drainage Angler Panel

General Results

A total of 1046 anglers were contacted streamside during the two year panel formation period and asked if they were willing to participate in any future fisheries management surveys in regard to the Spokane River drainage. The majority of anglers contacted during this recruiting phase (67.9%) were fishing with flies, with lesser numbers using bait (18.3%) and lures (13.8%).

Four hundred eight anglers, or 39% of the original 1046 volunteers, subsequently agreed to be on the panel. Two hundred eighty-nine of those anglers (70%) completed the survey sent to them. The majority of these respondents were originally contacted while fishing on the St. Joe River (69%), with lesser numbers from the Coeur d'Alene River (31%). None of the very few (five) anglers originally contacted on the St. Maries River volunteered to serve on the panel.

Survey Responses

Question 1. Please check those rivers listed below that you fish in a typical year. As expected, panel members identified the St. Joe River most often, followed by the Coeur d'Alene and North Fork St. Joe rivers. Relatively few panelists fished other sections; only 5% fished the St. Maries River in a typical year. A minority of the panelists (38.4%) reported fishing on both the mainstem Coeur d'Alene and St. Joe River segments annually.

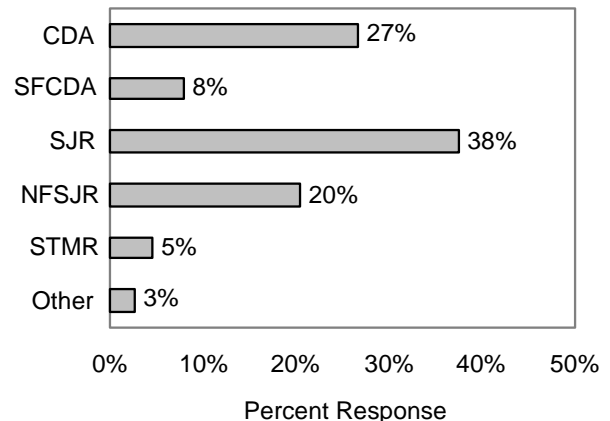


Figure 1. Panelists report fishing these rivers in a typical year.

Question 2. Name the species of trout you most prefer to catch when fishing in these rivers. Nearly three-fourths (73%) of panelists preferred to catch cutthroat trout in the Spokane River drainage, followed by anglers seeking rainbow trout. Bull trout, brook trout, or other species were preferred by only 5% of the panelists. Only 4% of respondents did not state a species preference.

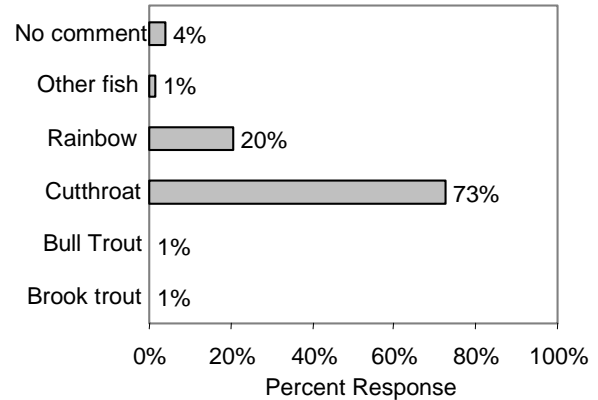


Figure 2. Panelist species preference.

Question 3. About how many days did you fish the river sections listed last year? Panel respondents estimated they fished a total of 913 days on the Prospector Creek to Spruce Tree segment of the St. Joe River last season, followed closely by two special regulation segments of the Coeur d'Alene River. This question was not asked to provide an accurate index of relative effort on the various sections, but to provide a baseline estimate of preferred angling locations for individual panelists to be used in future evaluations of potential regulation displacement.

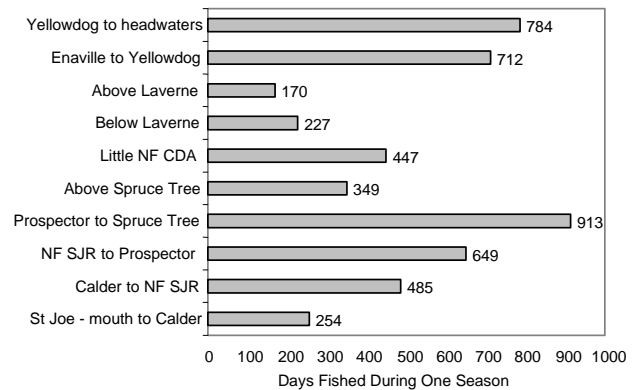


Figure 3. Days reported fishing on these river sections.

Question 4. What type of fishing tackle do you prefer to use (on these two rivers only) when fishing for trout? (Check one.) Seventy percent to 83% of survey respondents preferred to use flies on the two streams. Five percent to 14% of respondents preferred to use lures on the two streams with bait anglers only slightly more numerous.

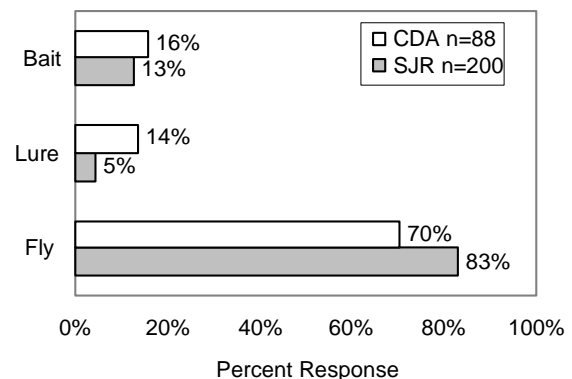


Figure 4. Panelist gear preference.

Question 5. Despite having a favorite tackle type, some anglers use more than one type. Please check all the types of tackle you would use (on these two rivers only) during an entire angling season. A surprisingly high proportion (51%) of anglers originally interviewed on the Coeur d’Alene River reported using all three gear types on the two streams in a typical year, while 29% contacted on the St. Joe River reported doing so. Conversely, nearly half (46%) of panelists recruited on the St. Joe River reported fishing with flies and lures, while only about a quarter of panelists from the Coeur d’Alene River used both types of artificials. Between 8% and 18% of anglers recruited from the two waters reported using bait and one of the two other artificial gears during an angling season. This latter group may or may not be as readily displaced in the future compared to more casual anglers who only use bait if the catch-and-release (no bait) segment on either river is extended downstream.

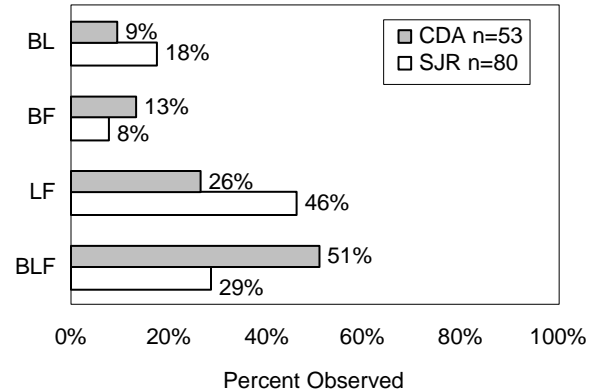


Figure 5. Multiple gear use by river.

Question 6. Have you ever attended an official Idaho Department of Fish and Game public meeting or open house on a fisheries issue? Anglers preferring to fish with flies were about twice as likely as those preferring bait to attend, although the sample size for the latter group was small. None of the 21 anglers preferring lures had attended, but the sample size obviously limits the utility of this observation. Less than half of those anglers originally contacted on the streams responded to the survey, and nonrespondents were probably less likely to have attended public meetings. Thus, the overall rate reported above (13%) is likely a very optimistic estimate of past public involvement for anglers using the two fisheries.

Only 13% of respondent panelists had ever

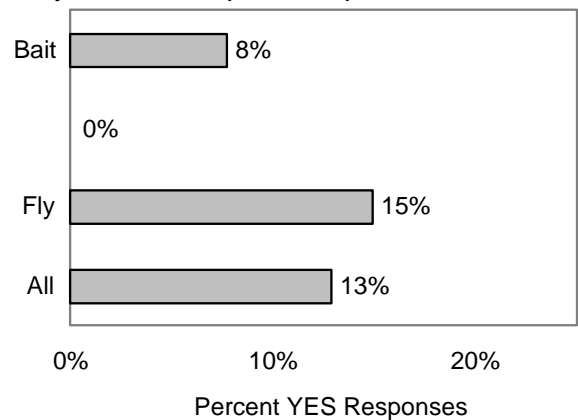
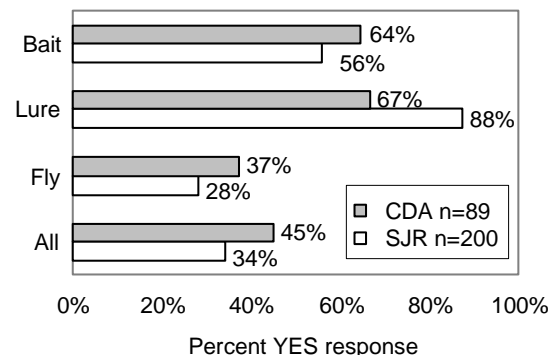


Figure 6. Ever attended public meeting.

Question 7. Do you like to catch stocked trout on the Coeur d’Alene River or St. Joe River? Overall, a minority of panel respondents liked



catching stocked hatchery trout on the two streams (34%-45%). Gear use strongly affected angler response to this question. Only about a third of anglers initially contacted while flyfishing enjoy catching stocked trout. On the Coeur d'Alene River, about 1.8 fold more bait and lure anglers enjoyed catching them than fly anglers. Lure and bait anglers on the St. Joe River were 2-3.1 times more likely to enjoy catching stocked trout than were fly anglers.

Figure 7. Liked stocked trout.

Question 8. I would support reducing or eliminating stocking of hatchery trout in portions of the St. Joe or Coeur d'Alene rivers if ponds were constructed along the river and stocked with trout to harvest. Overall, a majority of anglers (53%) in the two drainages supported this concept, and results were virtually identical for both drainages.

This is in contrast to a prior one-time regional survey of the same prospective panelist list for anglers interviewed in 1996 only. In that survey, a somewhat strong majority of anglers were opposed to this potential program (Ned Horner, IDFG, unpublished data). Reasons for the discrepancy are unclear, but the regional survey included more respondents from the same prospective list of 1996 addresses used in this study.

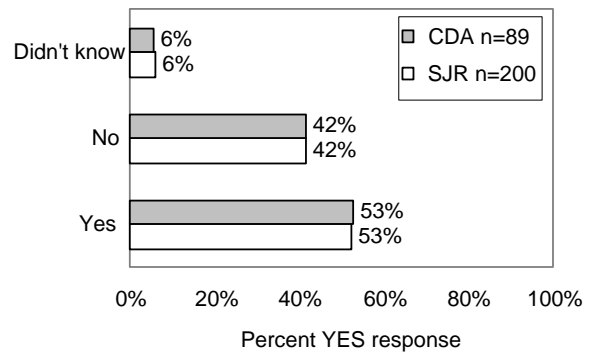
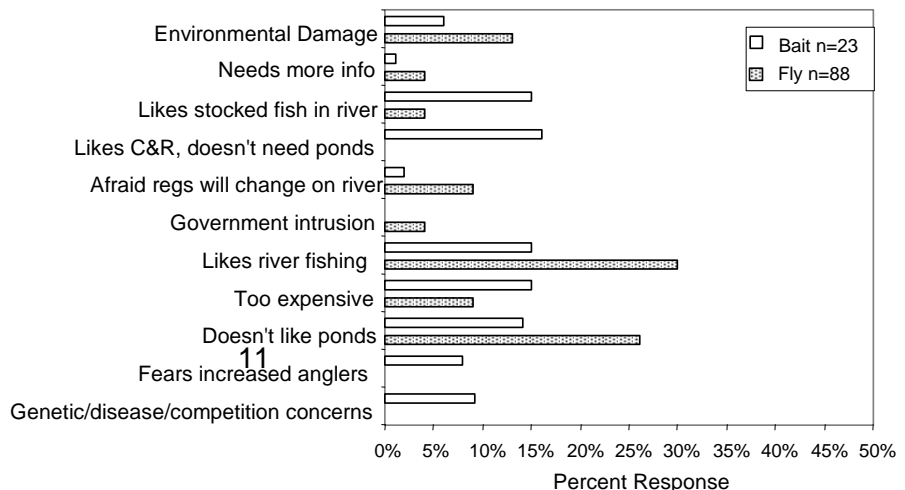


Figure 8. Support reduced stocking with ponds.

Question 9. If your answer to question 8 was no, please take a moment and explain why you would not support this program. Schill (1997) suggested that prompting anglers with such "essay questions" might provide biologists with added insight in addition to a simple dichotomous response as in Question 7. Individual written angler responses to this question are provided by gear type in Appendix 4. A summary of our subjective categorization of these responses for bait and fly anglers is presented in Figure 9. The two most common reasons given for anglers not supporting this program included 1) angler preference for river fishing, and 2) anglers do not like ponds. Often these responses were related to both categories and could have been assigned to either one. Only seven lure anglers responded to this question; however, five of seven responses fit into these same two categories.

Other reasons often given for program opposition included costs and a preference for having the



fish stocked in the river. The small sample size for bait and lure anglers precludes any statistical comparison across gear types. However, substantial differences in genetic, disease, or competition concerns, fears of increased angler effort in the area due to ponds, and excessive environmental impact from pond building appeared to distinguish the two groups.

Figure 9. Why not support ponds.

Question 10. Do you agree or disagree that Panhandle Region Fisheries Staff (Coeur d’Alene office) are professional and knowledgeable? A strong proportion of survey respondents who answered the question agreed that the staff was professional and knowledgeable (44%). Only seven respondents (2.4%) disagreed with the above statement, while 13.8% were neutral. However, a very high proportion of overall survey respondents chose not to answer this question (No opinion—39.4%). Presumably, they do not have sufficient contact with staff to warrant a position.

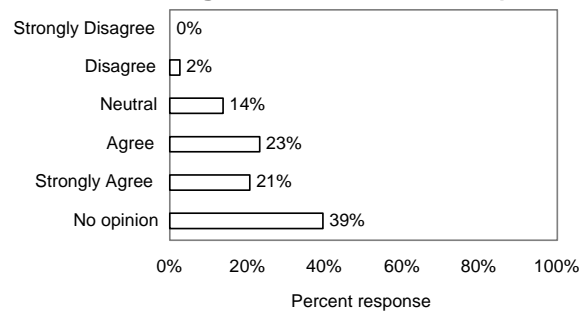


Figure 10. Staff professional and knowledgeable.

Question 11. Overall, how satisfied are you with how the Idaho Department of Fish and Game manages fisheries programs in northern Idaho? Overall, satisfaction with the fisheries program in northern Idaho appeared high with 50.9% of those responding as satisfied and 34.9% neutral. Only 11.4% reported being dissatisfied. The number of no opinion responses (2.8%) was well below levels observed in the previous question, presumably because knowledge about staff was not required to venture an opinion on the overall program.

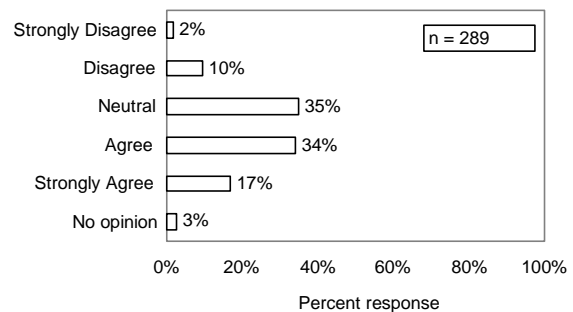
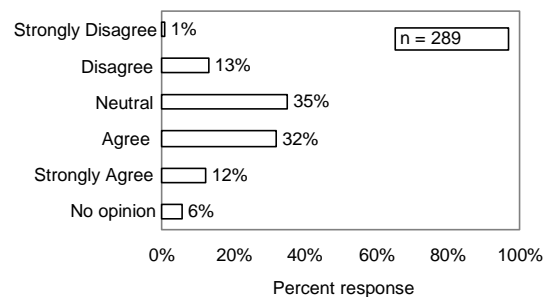


Figure 11. Satisfied with fisheries programs.

Question 12. Do you agree or disagree that the Idaho Department of Fish and Game informs the public about the full range of fisheries management options for Panhandle Region waters? Again, a fairly strong proportion (44.6%) of those surveyed agreed with this statement; an additional 35.3% were neutral. Only 14% of those



surveyed disagreed that IDFG informs the public about a range of options in the Region 1.

Figure 12. Feel informed on management options.

Question 13. In general, it is clear to me why decisions on fishing regulations are made by the Idaho Department of Fish and Game. Virtually an identical proportion of anglers agreed with this statement as in the previous question. Overall, 75.5% of respondents either agreed or were neutral on the question. However, the proportion of anglers disagreeing with the statement increased slightly to 20%, with a concomitant decline in neutrality responses.

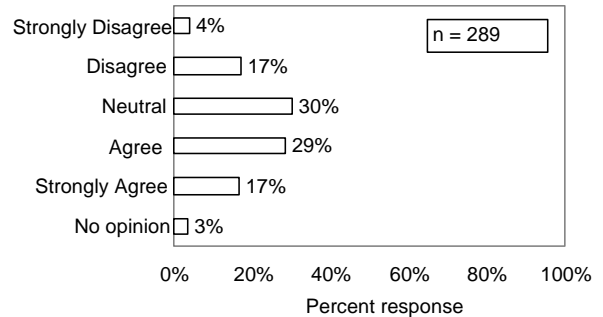


Figure 13. Know why decisions are made.

Question 14. How satisfied are you with the Idaho Department of Fish and Game as a fish and wildlife steward? Fifty-three percent of those responding reported being satisfied with IDFG as a wildlife steward, with an additional 32% reporting neutrality. These two groups combined comprised 85% of all responses. Only 12% responded as being dissatisfied.

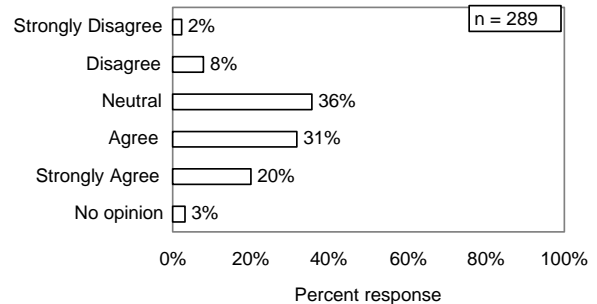


Figure 14. Satisfied with IDFG as Fish and Wildlife steward.

Question 15. How satisfied are you with the Idaho Department of Fish and Game as a public service agency? Again, a majority of respondents were satisfied with IDFG from a public service perspective, with an additional 35.6% reporting neutrality. This combined rating was the highest (87.2%) for all of the larger program-related queries (questions 10-15). The slightly higher combined value reported in questions 14 and 15 might suggest slightly higher satisfaction with IDFG in general than on more specific program-related issues. However, no statistical analysis was attempted.

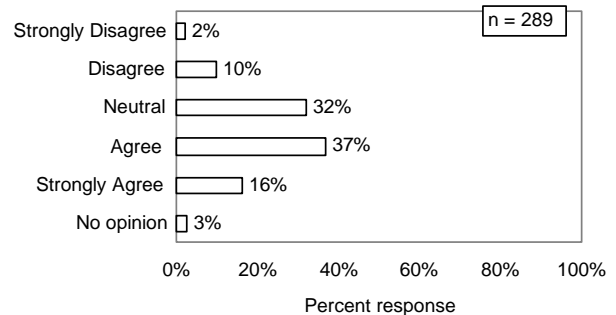


Figure 15. Satisfied with IDFG as a public service agency.

Panel Conclusions

Although the survey respondents sample size is substantial from a regional management perspective, the general survey results should be used with some caution. Only 27.6% of the random sample of anglers originally contacted on the two streams in both fishing seasons

eventually responded to the panel survey. The data are not corrected for nonresponse bias, which is typically overcome by using one or two follow-up mailings or telephone surveys to nonrespondents (T. McArthur, IDFG, personal communication). We did not do this because of original commitments to prospective panelists not to contact them if they declined to participate on the panel.

Despite expending considerable effort in two fishing seasons, we were never able to approach the 500 minimum target size for the panel respondents. Only 289 anglers eventually responded to the panel questionnaire, and given likely levels of dropout (Crider and Willits 1973), this number would be expected to diminish further. In addition, sample sizes for anglers in the two groups most likely to be displaced by anticipated regulation changes to catch-and-release (bait and lure anglers) were also very lightly represented. Thus we recommend panel dissolution.

Despite this recommendation, the attempt at panel formation provided some useful insight. Originally, panel recruitment for the Spokane drainage via the statewide license database was deemed impractical because of the high mailing costs per individual and the low probability of any angler actually fishing the study waters of interest. On-site recruitment, although manpower intensive, was used to ensure contacts with anglers who actually fish the target study waters. The considerable expense of this approach was offset or minimized by conducting a structured creel survey concurrently, data often sought by IDFG fishery management. Perhaps one of the more important findings of this effort was that managers could effectively recruit a large random sample of prospective anglers for mail surveys (633 addresses were obtained in 1996) while conducting routine creel survey. These anglers were, in fact, surveyed a single time by the regional management staff (Jim Davis, IDFG, unpublished data) with a much lower rate of nonresponse than that for anglers who subsequently agreed to be on the panel. Given the high cost of structured surveys currently employed by IDFG, biologists should consider routinely recording angler address information concurrently. We simply asked if anglers would be willing to participate in any future surveys concerning management of the fishery should one be deemed necessary. This may help overcome a primary problem in weighing fishery management options on important Idaho fisheries, i.e., how to obtain detailed water-specific public involvement information more representative than that produced by public meetings.

The last five questions on the survey were originally designed to serve as baseline opinions about northern Idaho fisheries staff and IDFG in general prior to anticipated regulation changes. The intention was to ask these same questions of panelists after regulation changes and examine potential shifts in angler fishing habits and attitudes across demographic variables such as gear type and area originally fished. Although the follow-up portion of this effort will not be conducted with panel dissolution, the 27% of anglers originally contacted on the river that responded to the survey had a somewhat positive impression of regional staff and the department overall. These anglers were particularly supportive of IDFG's job as a wildlife steward and their level of public service.

Angler Trout Identification Studies

We interviewed 301 anglers during the study period. Only 64.5% of these anglers were able to correctly recite the no-harvest regulation for bull trout. A sole angler refused to participate in the identification portion of the survey.

In general, Middle Fork Boise and North Fork Boise river anglers did a poor job of correctly identifying the trout images. We obtained a correct identification by the majority of anglers

interviewed for only one of five species, the rainbow trout at 79.9%. Bull trout were correctly identified the least (29.2%) a value nearly identical to that of brook trout (Figure 16). Identification rates for brown trout and cutthroat were intermediate at 39.2%-43.5%, but also well below desired levels. Only 9.3% of all anglers interviewed were able to correctly identify all five species of trout. An equal number of anglers (9.3%) identified them all incorrectly.

Overall, examination of correct angler identification rates by regulation section and gear type yielded modest to substantial differences among groups. Anglers in general regulation segments of the Middle Fork Boise and North Fork Boise rivers were nearly as good as anglers fishing the special regulation section in correctly identifying trout. Anglers in Arrowrock Reservoir were least able to correctly identify all species and were nearly three times as likely to incorrectly identify all species than anglers in the other segments (Figure 17). Because a fairly substantial adfluvial population of bull trout resides in Arrowrock Reservoir (Flatter 1998), education of anglers fishing this water would appear to be a priority. However, correct bull trout identification rates for anglers fishing the other sections remained below 33%, so intensive education efforts appear necessary there as well.

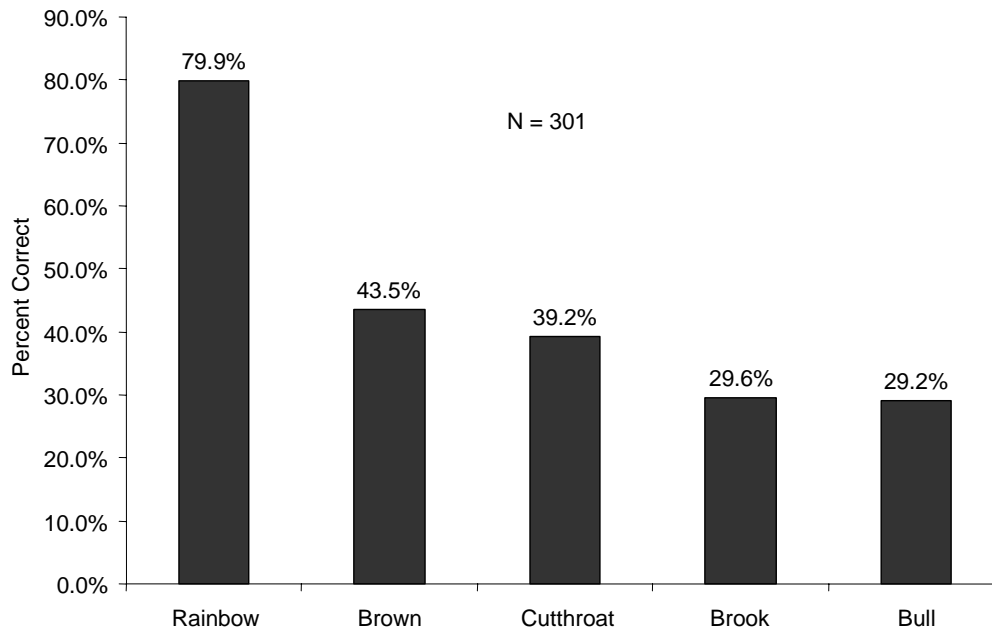


Figure 16. Percentage of total anglers interviewed through June 30, 1998 who identified individual species presented correctly.

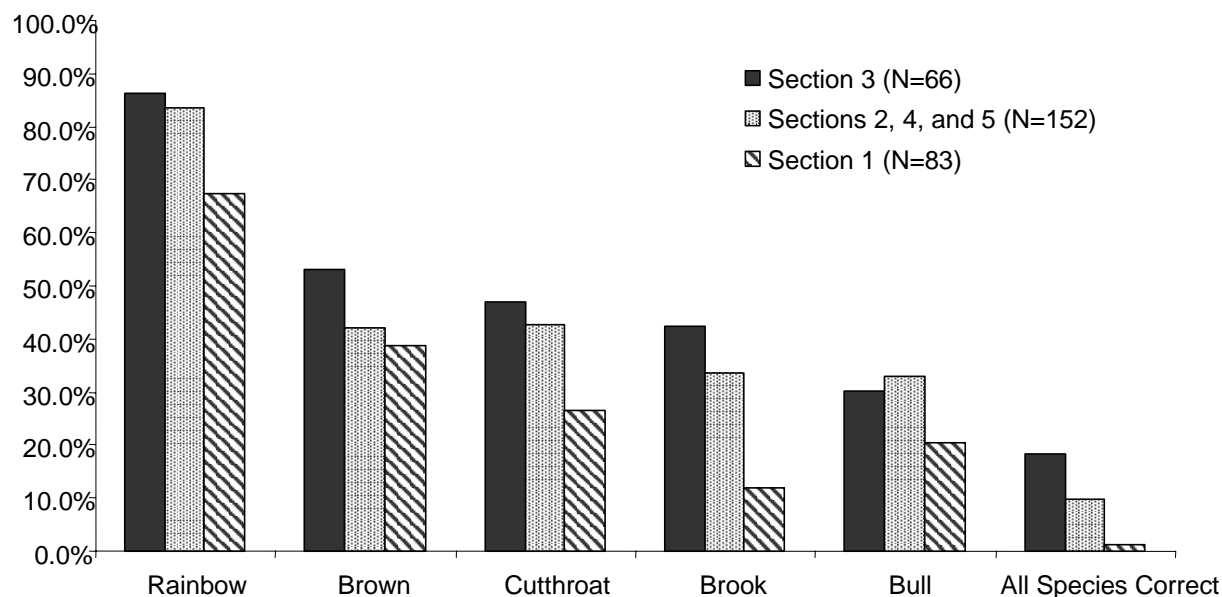


Figure 17. The proportion of MFBR anglers who correctly identified replicas (mounts or color drawings) of various trout species during on-site interviews May 23 to June 30, 1998. Section 1 is a general regulation reservoir section. Sections 2, 4, and 5 are general regulation river sections, and Section 3 is a special regulation river section.

There were substantial differences in correct identification rates by angler gear types. Fly anglers consistently identified the various species correctly more often than either lure or bait anglers (Figure 18). Fly anglers correctly identified rainbow trout 95.8% of the time, about one-fourth more often than the lure and bait anglers. Fly anglers were 32%-64% more likely than the other two angler types to correctly identify other species, including bull trout. Also, 27.8% of fly anglers correctly identified all five species compared to 5.1% and 2.0% for lure and bait anglers, respectively. In addition, no fly angler misidentified all five species, while 15.4% and 18.9% of lure and bait anglers did, respectively. While fly anglers were clearly the most proficient at identifying the five species of trout we presented, there is considerable room for improvement in that group as well. Only 41.7% of fly anglers correctly identified bull trout and, with the exception of rainbow trout, rates for the remaining species were all less than 66%.

The rates of correct identification by Idaho anglers within the upper Boise River drainage were well below rates observed for Montana and Alberta anglers (Isley 1997; Schmetterling and Long 1999). Because results reported to date only include about the first half of the angling season, final correct identification rates may increase. This is because anecdotal observations of Idaho anglers suggest inexperienced anglers tend to fish less as the season progresses. Nonetheless, given the extremely low correct identification rates of Idaho anglers in the early part of the season, it seems unlikely that season-long values will approach those of Montana and Alberta. Reasons for the disparity are unknown at present.

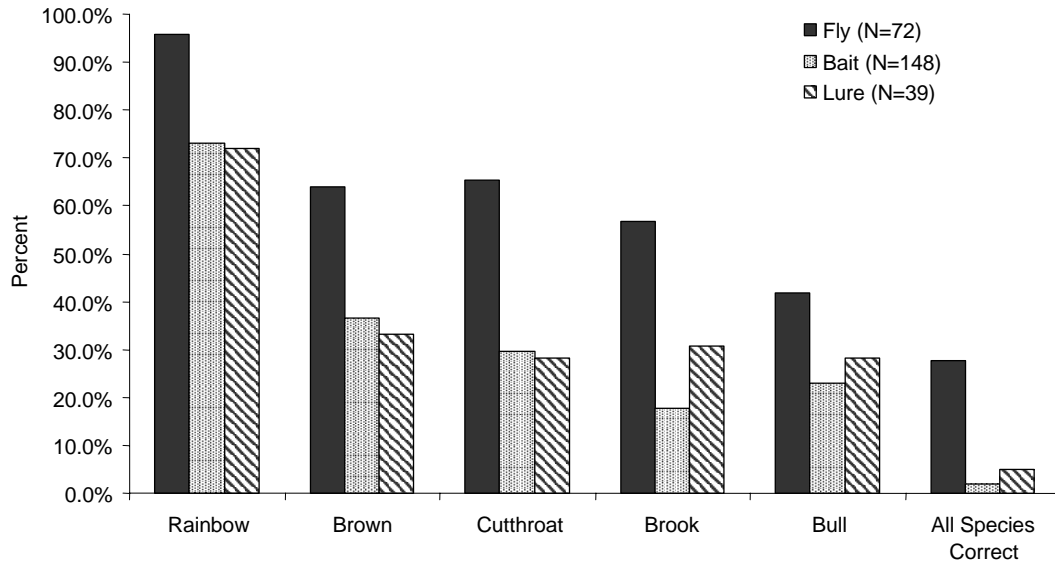


Figure 18. The proportion of MFBR anglers using different types of fishing gear who correctly identified replicas (mounts or color drawings) of various trout species during on-site interviews May 23 to June 30, 1998.

It is possible that the trout identification rates for upper Boise River anglers as described in this study are worst case for several reasons. Although the print images and mounts we used in the study appeared fairly easy to identify for fishery biologists, anglers may be more accurate when dealing with a real trout. As yet, we have observed insufficient fish in the creel to compare real trout identification rates to those of the images we presented. In addition, we were interested in determining if demographic variables such as age, sex, years of angling, etc., significantly affected correct identification rates so future education efforts could be directed accordingly. For this reason, we interviewed individual anglers and discouraged additional input from peripheral anglers in a group observing the interviews. However, Isley (1997) suggests that generally at least one angler in a group of Alberta anglers could correctly identify all of the species. Additional thought should be given in any follow-up surveys on ways to evaluate both group and individual trout identification rates.

Results of the creel survey including approximate annual effort estimates and harvest by species will also be summarized in the coming year. Estimates of illegal bull trout harvest resulting from angler misidentification will be important given preliminary identification rates reported here. However, preliminary observation of creeled bull trout during this report period suggests that few anglers catch bull trout and therefore have limited opportunity to misidentify them and violate the no-harvest regulation.

RECOMMENDATIONS

1. Discontinue the Spokane drainage angler panel.

2. Managers conducting structured creel survey counts on waters with even a remote possibility of future regulation or program changes should collect names and addresses of anglers during interviews.
3. Continue collection of angler fish identification in various Idaho drainages. Begin developing educational tools to remedy the apparent poor identification rates.

ACKNOWLEDGEMENTS

Kent Burns assisted with fish identification interviews on the MFBR. Rob Soumas, several northern Idaho reservists (especially Jack Reading), and Jim Davis assisted with collection of names and addresses for the angler panel. Dale Allen provided editing comments; Cheryl Leben finalized the report.

LITERATURE CITED

- Casey, O., R. Bell, D. Corley, J. Mallet, and W. Webb. 1968. Tests for increasing the returns of hatchery trout, 1966. Job 2: American Falls Reservoir, Blackfoot Reservoir, & Snake River Fisheries Investigations. Job 3: Lucky Peak & Arrowrock Reservoirs & Middle Fork of the Boise River Fishery Investigation. Idaho Department of Fish and Game, Boise, Idaho.
- Crider, D. M., and F. W. Willits. 1973. Respondent retrieval bias in a longitudinal survey. *Sociology and Social Research* 58:1.
- Dolsen, D. E. and M. K. Landry. 1996. Region One Public Information Phase Evaluation: Management Study, Phase II-1995. A comparison of pre and post-test survey results. Montana Fish, Wildlife, and Parks, Helena, Montana. 38pp.
- Elle, F. S., R. Thurow, and T. Lamansky. 1994. Rivers and Streams Investigations. Job Performance Report, Grant F-73-R-16. Report No. IDFG 94-33. Idaho Department of Fish and Game, Boise, Idaho.
- Elle, F. S. 1995. Wild trout investigations: South Fork Payette River studies. Job Performance Report, Grant F-73-R-17. Report No. IDFG 95-33. Idaho Department of Fish and Game, Boise, Idaho.
- Flatter, B. J. 1998. Life history and population status of migratory bull trout (*Salvelinus confluentus*) in Arrowrock Reservoir, Idaho. Idaho Department of Fish and Game to United States Department of the Interior, Bureau of Reclamation. 1425-6-FC-10-02170.
- Hunt, R. L. 1970. A compendium of research on angling regulations for brook trout conducted at Lawrence Creek, Wisconsin. Research Report 54. Wisconsin Department of Natural Resources, Madison, Wisconsin.
- Isley, Q. 1997. Highwood Drainage Fisheries Report: An overview of the angler survey and enforcement activities on the Highwood drainage. Alberta Natural Resources Service.
- Reid, W. 1989. Idaho anglers a survey of opinions & preferences. Idaho Department of Fish and Game Volume.
- Rohrer, R. L. 1989. Lake & Reservoir investigations. Study 1: Boise River reservoirs. Job Performance Report. Idaho Department of Fish and Game, Boise, Idaho.
- Rohrer, R. L. 1990. Rivers & streams investigations. Study 1, Job 1: Upper Boise River Basin fisheries investigations. Job Performance Report. Idaho Department of Fish and Game, Boise, Idaho.
- Schill, D. J. 1996. Angler Behavior studies. Annual Performance Report, Grant F-73-R-18. Report No. IDFG 96-23. Idaho Department of Fish Game, Boise, Idaho.
- Schmetterling, D. A., and M. H. Long. Montana anglers ability to identify bull trout and other salmonids. *Fisheries* 24:7.
- Shetter, D. S. and G. R. Alexander. 1962. Effects of a flies-only restriction on angling and on fall trout populations in Hunt Creek, Montmorency County, Michigan. *Transactions of the American Fisheries Society* 91:295-302.

Willits, F. W. 1988. Adolescent behavior and success and well-being. *Youth and Society* 20:1.

APPENDICES

**IN THE FOLLOWING QUESTIONS,
PLEASE TELL US ABOUT YOUR FISHING ACTIVITY AND OPINIONS**

1. Please put a check in front of those rivers listed below that you fish in a typical year?

(Please check more than one if they apply.)

- South Fork Coeur d'Alene River
- Coeur d'Alene River (excluding the South Fork)
- North Fork St. Joe River
- St. Joe River (excluding the North Fork)
- St. Maries River
- None of the above _____

2. Name the species of trout you most prefer to catch when fishing in these two rivers.

- First Choice
- Second Choice
- Third Choice

3. About how many days did you fish each of the following river sections last year? If you fish more than one river or section, please assign days accordingly.

<u>St. Joe River</u>		<u>Coeur d'Alene River</u>	
St. Joe from mouth to Calder	_____	Little No. Fk. Coeur d'Alene River	
<hr/>			
Calder to North Fk. St Joe	_____	Below Laverne Creek	_____
North Fk. St. Joe to Prospector Creek	_____	Above Laverne Creek	_____
Prospector Creek to Spruce Tree Camp	_____	Enaville to Yellowdog Creek	_____
Above Spruce Tree	_____	Yellowdog Ck. to headwaters	_____

4. What type of fishing tackle do you **prefer** to use **(on these two rivers only)** when fishing for trout? **(Check one.)**

- Bait Lures Flies

5. Despite having a favorite tackle type, some anglers use more than one type. Please check **all** the types of tackle you would use **(on these rivers only)** during an entire angling season.

- Bait Lures Flies

6. Have you ever attended an official Idaho Department of Fish and Game public meeting or open house on a **fisheries** issue?

- Yes No

7. Do you like to catch stocked trout on the Coeur d'Alene or St. Joe rivers?

Yes No
OR Don't Know/No Opinion

8. I would support reducing or eliminating stocking of hatchery trout in portions of the St. Joe or Coeur d'Alene rivers if ponds were constructed along the river and stocked with trout to harvest.

Yes No

9. If your answer to question 8 was no, please take a moment and explain why you would not support this program.

10. Do you agree or disagree that Panhandle Region Fisheries Staff (Coeur d'Alene office) are professional and knowledgeable? (Please circle one.)

Strongly Agree Strongly Disagree
1 2 3 4 5
OR Don't Know/No Opinion

11. Overall, how satisfied are you with how the Idaho Department of Fish and Game manages **fisheries** programs in northern Idaho? (Please circle one.)

Very Satisfied Very Dissatisfied
1 2 3 4 5

12. Do you agree or disagree that the Idaho Department of Fish and Game informs the public about the full range of fisheries management options for Panhandle Region waters? (Please circle one.)

Strongly Agree Strongly Disagree
1 2 3 4 5

13. In general, it is clear to me why decisions on fishing regulations are made by the Idaho Department of Fish and Game. (Please circle one.)

Strongly Agree Strongly Disagree
1 2 3 4 5

14. How satisfied are you with the Idaho Department of Fish and Game as a fish and wildlife steward? (Please circle one.)
- | | | | | | |
|----------------|---|---|---|---|-------------------|
| Very Satisfied | | | | | Very Dissatisfied |
| 1 | 2 | 3 | 4 | 5 | |

15. How satisfied are you with the Idaho Department of Fish and Game as a public service agency? (Please circle one.)
- | | | | | | |
|----------------|---|---|---|---|-------------------|
| Very Satisfied | | | | | Very Dissatisfied |
| 1 | 2 | 3 | 4 | 5 | |

PLEASE COMPLETE THE BACK OF THIS PAGE

Is there anything else you would like to share with us?

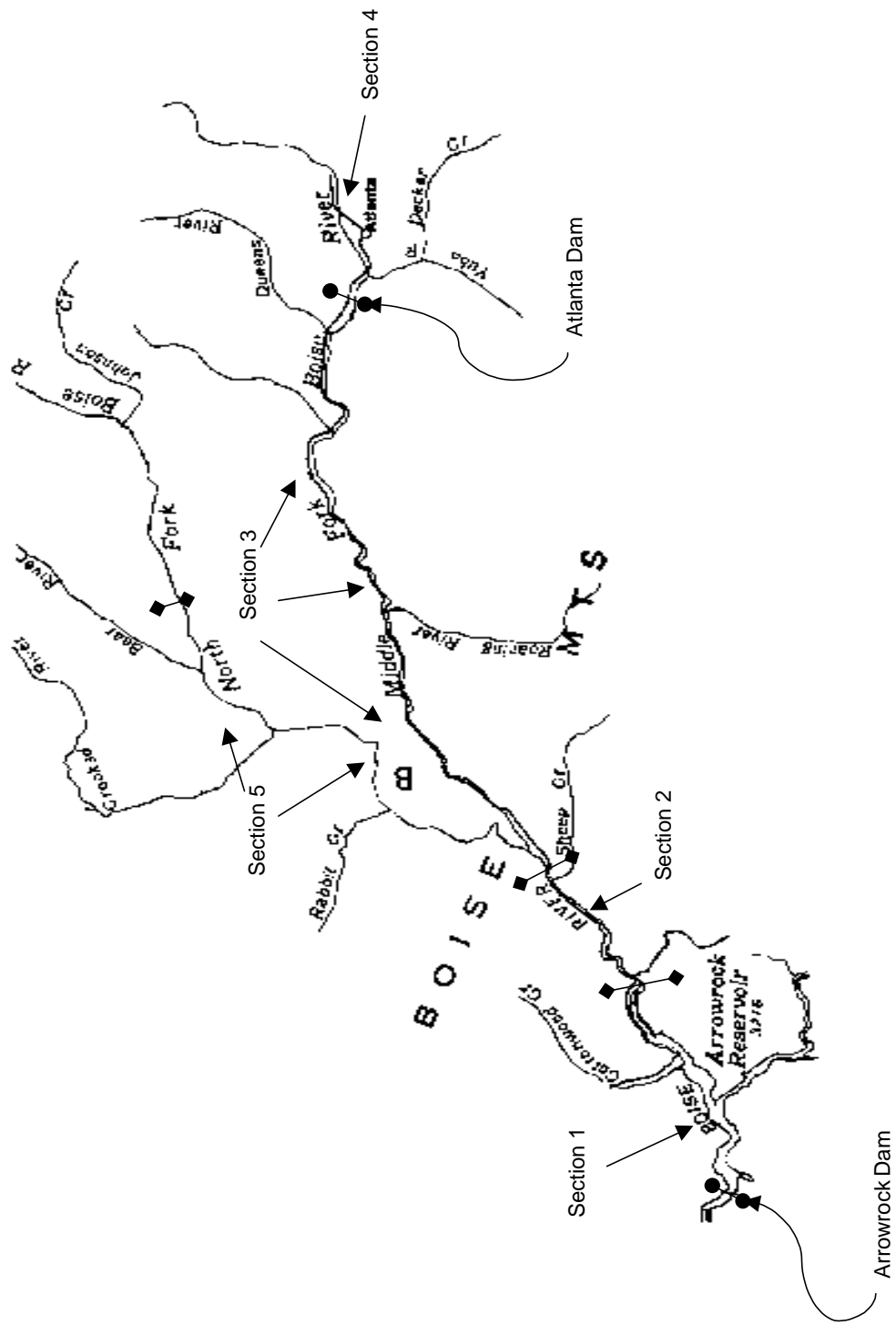
If your address is different from what appears on the letter, please print your new address and telephone number below.

New Phone No: () - _____

*****NEXT SURVEY MAILING IN WINTER 1999*****

**Your participation on this angler panel is truly appreciated.
Please return your completed questionnaire in
the pre-stamped return envelope as soon as possible.**

Appendix 2. The Middle Fork Boise River drainage and the respective sections used in the 1998 fish identification survey.



Appendix 4. Responses to Question 9, "If your answer was no to Q8, would you take a moment and explain why."

BAIT ANGLERS

"I believe the construction of these ponds would be costly, possibly ineffective, or damaging to the river ecosystem."

"A major source of my river fishing enjoyment is that it still provides a wild atmosphere, where uncertainty of catching quality fish easily outweighs amount harvested. I strongly favor releasing 15" fish to strengthen the future of native populations."

"Preserve the native population."

"I like to catch trout in their native habitat."

"Would hate to see the ponds get too crowded."

"Who wants to fish in a pond?"

"If I understand the question why would I want to fish a pond? I might as well go to the store and buy a fish."

"Use the money for ponds to build a more aggressive stocking program. If F&G is "going broke" as the paper says, current stocking programs would be better than new programs like ponds along the river."

"Rather stream fish then pond fish. It's not as sporting."

"I'm not sure. Not enough literature."

"Because if they reduce stocking hatchery trout there won't be enough fish to fish for."

"No ponds! Where are you going to make the ponds? From land belonging to private owners? A lot of people are struggling to keep their property because it's been called wetlands, and for some reason you say we need more than we have already."

"The ponds would take the fun out of fishing. I like to work to catch fish."

"These fish ponds would be fished out in no time and the fishing of rivers would be eliminated except for fly fisherman probably."

"I prefer to fish the river itself. I would not like ponds constructed to change the beauty of the rivers."

"Eliminate stocked trout okay, but I don't like the ponds idea."

"Fishing in a pond is not fun; it is boring! I travel to the St. Joe to fish it, not a pond next to it. Constructing a pond next to the St. Joe for me would insult me. Constructing a pond next to the river so a child could fish would be OK. I travel to the St. Joe to enjoy the great fishing and scenery. As it is now, I like the way the river has a section for harvest using bait

and a section for nonharvest using single barbless hook, no bait. Everyone can enjoy fishing the St. Joe, both bait fisherman and fly fisherman.”

“Most of the enjoyment derived from fishing these areas is the natural scenery and settings. I firmly believe a series of man-made ponds would greatly damage if not destroy the natural beauty of these areas. This proposal sounds suspiciously like a back-door way to institute catch-and-release-only fishing on the Panhandle fisheries region’s free flowing waters, which I remain adamantly opposed to.”

“Change the natural aspect of the river-flood drainage etc.”

“Fishing the river is more challenging than fishing in a pond.”

“I fished in one near Elk City. It is good for kids, but you don't have the chance to walk the river and pick the spots to fish.”

“River keeps the fish strong and healthy. Pond fishing is for kids.”

“I enjoy fishing the river. If fishing for trout at other than the river, I would go to CDA or Fernan lakes.”

FLY ANGLERS

“There is too much pressure on the St. Joe for this simple solution to work.”

“I cannot answer these questions without proper information.”

“Hatchery fish help increase the fish population.”

“I'm not fishing for fish to harvest. I'm fishing for fun and to catch native trout.”

“Yes, if it helps cutthroat; if not, why? Interestingly, I have only caught one or two rainbow in the St. Joe ever. Hundreds of cutthroat.”

“Construction of ponds would be expensive, would detract from natural settings. Flyfishing a pond is not much fun, but it may make the worm dunkers happy.”

“Like shooting fish in a barrel. Why not issue a gift certificate for fish at the store and save thousands of dollars in pond construction and harm to the rivers?”

“I believe in and practice catch-and-release all sizes. I would support slot limits fish under 14” catch-and-release. 14”-18”—one fish per day, 18” up—catch-and-release. But support catch-and-release the most.”

“Seems like a waste of a lot of funds. I would rather see that money go into more fish and have some dedicated wild trout areas.”

“The program in place works fine. The cost of ponds would be too much. Flooding and maintenance of ponds would cost too much.”

“It would be better to make more rivers catch-and-release to get the population up.”

"I think the money could be put to better use elsewhere."

"I would prefer years of barbless, catch-and-release programs throughout the entire river system. I prefer to fish in a natural setting even if it meant no fishing in an area for several seasons."

"I support elimination of stocking trout. I do not support building harvest ponds which will impact the environment in probable unforeseen ways."

"Ponds with stocked trout should be kept in places where it could easily be monitored like the new one in Post Falls, put-and-take like Fernan Lake. Otherwise you get too many people who do not respect the natural outdoors and the catch-and-release sections of water, litter, etc."

"Building ponds for hatchery trout will increase traffic on the Joe. I have fished the Joe for four years, and each year there is more traffic and more litter."

"Ponds cost money that's better used elsewhere. Plus ponds would wash away or damage every spring and require more money spent. This is a bad idea. Stock the rivers, but leave the rivers alone."

"I enjoy fishing the rivers and enjoy the opportunity to catch fish."

"The St. Joe represents quality fishing experience—not mediocre experience."

"Due to the people transferring fish from one habitat to another, therefore protecting the gene pool and avoiding transferring disease to the SJR. We don't need whirling disease, etc., introduced."

"I wouldn't think there is any reason for stocking the rivers if you reduce the fisherman by raising the out-of-state fees."

"Stocking allows for additional fish on bodies of water that are large enough to support this."

"Reduces fishing pressure in areas that I like to fish."

"I do not support stocking hatchery trout in any drainage that holds wild native Westslope cutthroat trout. Hybridization may occur or disease transmission."

"The added cost of construction would be a waste. We could use the money to help native trout fisheries."

"River conditions over long periods of time have a tendency to wipe out strains of trout sp., either drought or floods (chem. spills too). If conservation facilities are not in place for such catastrophes, many miles of fishing will not be available to anglers."

"It would seem to me to be more costly to build and stock ponds than it would be to just keep stocking the river."

"Support only if parts of CDA were closed to fishing and more parts of SJR were catch-and-release for two to three years to improve fishing. Then return to current rules with one-trout limit."

"Eliminate stocking/ponds. Unnecessary."

"I like the stocked areas for children to be able to catch fish in the river."

"Stocked fishing programs increase the amount of people which fish, and people mean problems. The fewer the people, the better the fishing."

"Although I don't care to catch planters, a lot of people do. Some people also like to take fish home for dinner. Pond fish wouldn't be as good and less of a challenge to catch."

"It does not make sense killing trout already existing/thriving in the river. I prefer to catch native trout, but hatchery are better than none. Why waste \$ on ponds along a river that can hold many trout already."

"Seems wasteful to make ponds when there's lots of river habitat available. Stock natural ponds and lakes to reduce hatchery competition if necessary. System is screwed up by introductions already."

"The fish should be free to roam. Fine for a kids pond or ponds."

"I think the entire river from St. Maries up should be catch-and-release."

"Make it flyfish, catch-and-release only. Employ a limited harvest of season for the bait chuckers."

"Additional cost to already depleted budget. Flooding!"

"Yes and No. In the lower portions of the rivers, rainbow trout do not seem to interfere with the native cutthroat. I don't know what effect they have in the lower rivers in the winter. If the effect is small or nonexistent, I see no harm in planting. I have never caught a rainbow in the St. Joe above Prospector or in the Coeur d'Alene above Yellow Dog."

"If you're going to have hatchery trout, better in rivers."

"My family and I feel that eliminating these programs would be unjust to families that love and nurture the outdoors. The SJR near Prospector has been great fishing for years with the help of wildlife programs. I've been fishing these waters since the early '70s. Since then the number of large fish has decreased, but it is nothing to catch 20-40 8"-14" cuts a day."

"I have read that stocking rainbow can reduce the population of cutthroat trout."

"I don't like stocking or ponds. The cost is too high. Denigrates cutthroat gene pool. Also promotes idea that you have to kill fish to enjoy fishing."

"Need a fishing situation that is as close to natural as possible."

"Half the enjoyment of getting out and fishing is tramping along the river."

"I support catch-and-release. I see no need for ponds. Ponds should be for kids."

"I think this would probably eliminate most of the natural stock."

"I fish with my two sons and father, and we like to flyfish rivers. Lake fishing we can do at home in Washington. We fish Idaho because there are still fish in the rivers. I do not believe we would drive into the St. Joe to pond fish."

"I don't think ponds should be constructed along these rivers. Leave them wild."

"Prefer wild."

"On the St. Joe I love catching cutthroats."

"Because it might be the start of shutting down river fishing and force public to fish ponds."

"Everybody enjoys fishing in the rivers. Especially the younger kids."

"I DO NOT support reducing or eliminating stocked trout."

"If you reduce or eliminate stocking of trout in these two rivers, I would like to see no harvest or catch limit. The fishery should be a trophy fishery."

"I think stocked ponds will lead to transfer of stocked fish to the river, and this will create more competition for the native fish."

"People would fish out the wild trout unless it is catch-and-release."

"I don't like the idea of bringing heavy equipment in along the river to construct expensive ponds to plant expensive hatchery trout."

"I support catch-and-release flyfishing only (single barbless hook) for the entire drainage, managed for natural propagation of Westslope cutthroat (native) with minimal hatchery stocks until wild population is established. Please no destruction of irreplaceable riparian habitat with backhoed artificial ponds."

"I am afraid of diseased trout somehow entering the upper St. Joe."

"I am interested in the health of these rivers, not the ability to harvest fish. I would not be interested in changing the character/experience which would come with the creation of ponds. Maintain/improve what there is by nature."

"Enough license fee money goes to hatcheries. Start putting more into protecting native trout and their habitat, especially from logging near streams. If starting put and take, put it just E of St. Maries on the St. Joe road."

"Pond fishing would probably lead to use of bait/lures with barbed hooks in main river and harvesting of native trout in main river."

"I support NOT stocking these rivers. Leave them for native trout. It is not a good idea to have bait/harvester fisherman near these rivers. It is too easy to move to the catch-and-release areas and destroy them. These rivers are already over fished."

"I fish for sport and I love fishing rivers, NOT PONDS. I used to fish the Selway River, but it is not fun anymore."

"I do not like fishing ponds or lakes."

"I'm not sure. I would need to know how many ponds there would be, where they would be constructed, the number of fish in each, and how they would be managed. I believe there are a number of people poaching on the Coeur d'Alene River and using bait in the catch-and-release section. I also believe it is the locals who live up on the river and close to it that are poaching. All of the photos that I have taken of illegal fishers and plate numbers that I wrote down, they have Shoshone County plates. This is why I make this statement. I believe these same poachers would clean out the ponds; it would be easier for them in the ponds than in the river. Also, I have not seen an IDFG agent up on the Coeur d'Alene for some time."

"Would prefer native trout indigenous to the drainage."

"I agree with the first part of the statement—reduce stocking—I have reservations about doing anything which will attract more people. Save and protect our native, indigenous trout populations."

"This is a very expensive and wasteful spending of funds. Why not make an outdoor sport something artificial?"

"I would need more information on what "construction" would mean. I am more supportive of natural fishing conditions along rivers and not a prestocked pond."

"If I am going "stream" fishing I want to fish in the stream. I have limited time available for fishing."

"I thoroughly enjoy the catch-and-release for native cutthroat trout."

"But without ponds."

"I would rather have stocked fish than construction along the river."

"I prefer river and stream fishing above all."

"Would support without ponds. Catch and release 100%."

"I believe that stocking the river would provide a better and cleaner fishery than constructing fishing ponds. When I go fishing I like to enjoy the beauty of my surroundings, anticipating the strike and casting to where I think the fish will be. The pond idea is a second choice. It's like saying here is this beautiful river, but if you want catch a fish, go to the fishing pond. I have seen one of these ponds on the Selway River. It was great for the kids, but the real fishing experience is on the river. For my choice I would rather see the rivers stocked with rainbow then to have ponds constructed. I have taken my boys to the St. Joe and to fishing

ponds. No doubt they have fun at both, but the real excitement is when they cast out into the current, watch their line and set the hook when the fish strikes, then the fight is on! To them it's more fun than watching a bobber; they lose interest and do something else."

"Do not think we need to construct ponds."

"Keep it world class!"

"I don't think we should destroy plants and trees in these narrow valleys to build ponds."

"I enjoy fishing these rivers. When I want to harvest, I'll fish stocked fish in the little NF of the CDA. Pond fishing tends to be a bait-fishing experience, which holds little interest for me."

"If you let people take fish, seems like stocking is needed."

"First of all, all water I fish are catch-and-release so no harvest."

"I would, but I'm afraid some would still get in the river and a possibility of whirling disease is there."

"Fishing is no longer a major food source in this area, therefore we must assume that it is done mainly for sport, and stocked ponds would reduce the fine quality of sport fishing that this area is noted for."

"There's not a lot of native rainbow trout in the CDA River anymore. The more you stock the better chance the public has to catch planters. More need to be planted."

"While I don't support stocking these rivers, I also don't feel that ponds with stocked fish are necessary either. Allowing native stocks to rebound through take limits is a better option in my opinion."

"Don't feel SJR or CDA can maintain quality hunting/camping/fishing if more people use them. If fishing is a challenge, I believe it will draw the type of people that will respect the rivers."

"Just reduce stocking anyway."

"Ponds are not any fun to fish. I prefer moving water."

"Feasible!"

"But only on the lowest part of the St. Joe. This activity would spoil the stretches above Avery."

"Need all the trout! No ponds near rivers!"

"How will wardens differentiate between stocked and wild? Also it would prevent fishing the rivers after you've kept stocked pond trout. Rules are already in place—stream trout, etc."

"Because I do not like to fish ponds—I am a stream fisherman."

"Put fish below the catch-and-release water. I don't harvest fish. I'm a catch-and-release fisherman."

"I prefer to fish rivers. Stocking a pond would be like catching fish in a barrel."

"Restructuring the river to make ponds should not be done. It should be left alone. Only time the river should be rebuilt is when flood damage has occurred."

"Anglers like to eat fish. I've seen lots of cutthroat killed on the St. Joe this year under the 14" rule."

"It puts too many fishermen in small areas. Part of the fun in fishing is being alone or two to three partners."

"It's not real fishing to catch a fish in a pond. I think that type of program is a dumb idea. It minimizes the true fishing experience."

"Rather fish rivers."

LURE ANGLERS

"I would prefer restricting more of the rivers and allow fewer fish to be taken as well as eliminating bait usage."

"I don't want to see ponds built."

"I prefer to catch in their native habitat."

"I don't have enough information at this time."

"Don't need the extra expense to build ponds."

"I'll say yes to this question for now, but I would like to see only catch-and-release in the rivers if it is not going to be stocked."

"I am a river fisherman. Would be good to keep stocked fish below Marble Creek. To give native fish above the bridge dominance. Stocked ponds would only be used by kids, not sports fisherman."

"I would support it if it was fairly close and had the ability to catch larger fish. Also I fish for sport, the surroundings/environment and the ability to move from spot to spot (different holes in the river)."

"Explain to me the sport of fishing a stocked pond! Give me a break! With all due respect."

"I would not want ponds constructed. I would not mind if stocking was reduced or eliminated with no ponds constructed."

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