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Youth Participant Outcomes Associated With Local Hooked on Fishing - Not on Drugs Programs



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EXECUTIVE SUMMARY

Background

- Hooked on Fishing - Not on Drugs (HOF-NOD) is a national youth program sponsored by the Future Fisherman Foundation. HOF-NOD is designed primarily as a supplemental, interdisciplinary, in-school program for youth in grades K-12. The primary goals of the program are: (1) drug use prevention; (2) increased participation in sport fishing; and (3) increased environmental understanding and aquatic resources stewardship among youth participants.
- In 1997 and 1998, we developed and implemented a comprehensive evaluation of the HOF-NOD program. As part of that evaluation, we developed a study to explore the youth participant outcomes associated with participation in different types of local HOF-NOD programs. We focused our evaluation on programs offered as in-school or after-school programs for mainstream students in grades 6-8.

Study Goal:

1. Evaluate HOF-NOD's effectiveness in reaching expected outcomes for youth participants related to: participation in sport fishing; environmental understanding and stewardship; and prevention of drug use.

Study Objectives:

1. Select a sample of local programs that include low, moderate, and high levels of exposure to HOF-NOD programs for youth in grades 6-8.
2. Develop instruments to collect information about program outcomes from youth participants and their parents/guardians.
3. Collect information from teachers, youth participants, and parents associated with local programs in the selected sample.
4. Analyze data to identify differences in program outcomes associated with different levels of program.
5. Based on results, draw conclusions about outcomes of various types of HOF-NOD programs for youth in grades 6-8, and make recommendations for program enhancement and future program evaluation.

- We created subgroups within the sample of youth based on level of past involvement in HOF-NOD programming.
- Comparison subgroup: Youth who had never participated in any HOF-NOD program.
- Partial-program subgroup: Youth who participated in a HOF-NOD program that did not include fishing.

Analysis

- In March, 1998, we conducted follow-up interviews with parents of youth who had participated in a HOF-NOD program that included at least one fishing experience. We attempted to complete interviews with all 185 parents who agreed to be contacted by telephone. We completed 77 usable parent interviews. Many parents did not meet our criterion of having a child who had participated in a fishing activity as part of the HOF-NOD experience.
- HDRU staff worked with instructors and school administrators to arrange for survey implementation at schools. HDRU staff mailed questionnaires and parent consent forms to local teachers in November, 1997. Teachers collected data from youth on-site between December, 1997 and March, 1998. We received 619 completed questionnaires from youth in 6th-8th grade.

Implementation

- Based on interviews with HOF-NOD program coordinators and local HOF-NOD instructors, we identified eight locations in Arkansas, Ohio, Texas, and West Virginia as sites for our evaluation.

Survey Sites

- We developed a brief telephone interview to obtain information on the range of influences parents believed HOF-NOD had on their child, their interactions with their child, and their family's participation in fishing. The parent interview measured: socio-demographic and background information; outcomes related to drug-use prevention; outcomes related to fishing; and outcomes related to aquatic stewardship.
- We used a multi-stage process of program review, literature review, and personal interviews to inform questionnaire development. Based on these efforts, we drafted an instrument to assess program outcomes related to fishing participation, aquatic resources stewardship, and drug-use prevention.

The Youth Participant Questionnaire and Parent Follow-up Interview

METHODS

- Youth in full programs were more likely than youth in partial programs to want to fish more in the future and to report strong interest in fishing. Youth in the comparison group were just as likely as youth in other groups to report strong interest in fishing.

Interest in Fishing:

Fishing

YOUTH SURVEY: RESULTS HIGHLIGHTS

- We hypothesized that the comparison group (with no exposure to HOF-NOD) would be least likely to exhibit desired outcomes related to fishing, stewardship, and drug-use prevention.
- Drug-Use Prevention: Based on a review of literature on drug-use prevention education, we hypothesized that fully-implemented HOF-NOD programs were more likely than partially-implemented programs to influence life skills, self-perception, and parent-child interaction.
- Stewardship: Researchers have suggested that environmentally-responsible behavior is associated with what have been described as entry-level, ownership-level, and empowerment-level variables. We hypothesized that fully-implemented HOF-NOD programs were more likely than partially-implemented programs to influence entry, ownership and empowerment variables.
- Fishing: We hypothesized that youth in fully-implemented HOF-NOD programs were more likely than youth in partially-implemented programs to become more interested in fishing, develop better fishing skills, and participate in fishing more often.

Research Hypotheses:

- We used chi square and Scheffe's tests to identify between-group differences in fishing, stewardship, and drug-use prevention outcomes. Differences are reported at the 0.10 level of significance.
- Single fishing subgroup: Youth participated in a HOF-NOD program that included one fishing experience.
- Multiple fishing subgroup: Youth participated in a HOF-NOD program that included two or more fishing experiences.
- All respondents to the parent follow-up study were associated with children who had experienced fully-implemented HOF-NOD programs. We sorted parent interview data into two subgroups based on the number of fishing experiences included in their child's program.
- Full-program subgroup: Youth who participated in a HOF-NOD program that included one or more fishing experiences.

- Youth in full programs were more likely than youth in partial programs to believe that their understanding of aquatic life and concern about fish and aquatic habitats increased because they participated in a HOF-NOD program.
- Youth in full programs were more likely than youth in other subgroups to report: higher overall knowledge of fishing and aquatic environments, as well as higher knowledge in specific areas (i.e., food chains, limiting factors, sport fishing regulations, protecting aquatic habitats).

Entry-Level Variables:

Stewardship

- Youth in full programs were more likely than youth in other subgroups to report improvement in fishing skills over the previous year. Youth in the comparison group were more likely than youth in the partial program group to report improvement in fishing skills, reflecting the importance of fishing experience.
- Youth in full programs were more likely than youth in other subgroups to report that they had strong fishing skills because of their participation in HOF-NOD.
- Youth in full programs were more likely than youth in other subgroups to report stronger overall fishing skills and strong specific skills (i.e., handling fish, taking care of equipment).

Fishing Skills:

- Youth in full programs were more likely than youth in partial programs to say that they fished more often and fished more often with their parents because of their participation in HOF-NOD.
- Youth in the comparison group were not significantly different from other groups in their rate of fishing participation.
- Youth in full programs were more likely than youth in partial programs to fish alone or with family during all seasons of the year (i.e., winter, spring, summer, and fall).

Fishing Participation:

- Youth in full programs were more likely than youth in other subgroups to report that their interest in fishing had increased over the previous year. Youth in the comparison group were more likely than youth in partial programs to report an increase in fishing interest.

- Subgroups did not differ significantly on five items in a scale used to measure decision-making.

Decision-Making:

- Youth in fully-implemented programs were more likely than youth in partial programs to say that they felt better about themselves because they participated in HOF-NOD.
- Subgroups did not differ significantly on nine of 10 items in a scale used to measure self-esteem.

Self-Esteem:

Drug-Use Prevention

- Youth in fully-implemented programs were more likely than youth in partial programs to say that they know more about how to protect fish and the places fish live because they participated in HOF-NOD.
- Youth in full programs were more likely than youth in partial programs to agree with the statement, "there are many things I can do to protect the environment."

- Youth in full programs were more likely than youth in other subgroups to report strong skills related to fishing without bothering others and limiting impact on the environment while fishing.

Empowerment-Level Variables:

- Subgroups were not different on several items used to assess personal investment in environmental stewardship at a general level.
- Youth in full programs were more likely than youth in partial programs to find it important to think about the consequences of their personal actions for fish, aquatic habitats, and the environment.
- Youth in full programs were more likely than youth in other subgroups to place high personal importance on visiting and taking care of aquatic habitats. Youth in the comparison group placed higher personal importance on visiting and taking care of aquatic habitats than youth in partial programs.
- Youth in full programs were more likely than youth in other subgroups to place high personal knowledge of how human actions affect fish or aquatic habitats.

Ownership-Level Variables:

- A majority of parents in single and multiple fishing subgroups perceived that participating in a HOF-NOD program had a positive influence on their child.

PARENT SURVEY: RESULTS HIGHLIGHTS

- Youth in fully-implemented programs were more likely than youth in the comparison group to disagree that drugs are a helpful way to reduce stress, or that "drugs help you have more fun." Full and partial program subgroups did not express significantly different attitudes about drug use.
- Subgroups were not significantly different on five of seven items used as indicators of attitudes toward use of drugs.

Attitudes About Drug Use:

- On some indicators, youth in full programs were more likely than youth in partial programs to show signs of strong orientation toward the future. However, youth in HOF-NOD programs were not significantly different than youth in the comparison group on any of the items in this concept area.

Future Orientation and Personal Responsibility:

- Youth in full programs were more likely than youth in partial programs to believe that they spent more time talking with members of their family and had more fun fishing with members of their family because they had participated in a HOF-NOD program.
- Subgroups did not differ with regard to quantity of time spent with family members. However, youth in full programs were more likely than youth in other groups to report an increase in the quality of the time they spent doing things with their family during the preceding year.
- With one exception, subgroups did not differ with regard to general communication skills or peer interaction skills. The exception was that youth in full programs were more likely than youth in the comparison subgroup to report strong skills in the area of communicating with parents. Full and partial program subgroups were not significantly different on any items related to communication or peer interaction skills.

Communication and Interpersonal Relationships:

- Youth in full programs were not more likely than youth in partial programs to say that they gained better decision-making skills because they participated in HOF-NOD.

- Youth in the comparison group fished as much or more than youth in the partial program subgroup, and they were more likely to report increase in fishing-related interests and skills.
- Findings do not support the program assumption that partial programs can influence development of fishing skills, reflecting the importance of including fishing experiences in fully-implemented programs.
- Findings do not support the program assumption that partial programs are more effective than no program at all in raising fishing interest. However, the comparison (no program) group in this evaluation included children who had fished. Children with no program exposure and no fishing experience were not included in this study.
- Findings support the research hypothesis that full programs are more likely than partial programs to stimulate interest in fishing, increase fishing participation, and develop fishing skills.

Fishing Outcomes

- Participation in HOF-NOD, particularly in fully-implemented programs that included at least one fishing experience, appeared to have a strong impact on fishing-related outcomes, moderate impact on stewardship-related outcomes, and limited impact on drug-use prevention outcomes. Because the comparison group fished, however, it is difficult to characterize the impact of fully-implemented programs vs. no program and no fishing experience. In addition, few HOF-NOD programs exhibited high-end implementation involving multiple fishing experiences.

CONCLUSIONS

- Parents were most likely to perceive a positive influence on fishing skills and interest in fishing, and least likely to perceive a positive influence on school attendance and grade average.
- Parents of youth in the multiple fishing subgroup were more likely than parents of youth in the single fishing subgroup to have taken their child fishing 3 or more times in the previous year.
- Parents of children who had fished multiple times as part of a HOF-NOD program were more likely than parents of children in single programs to perceive positive influences on understanding of how people's actions affect fish and their environment, school attendance, and grade average.
- Parents in the single and multiple fishing groups reportedly spent more time with their child, experienced higher quality time with their child, and experienced improved communication with their child because they went fishing together.

- Findings provide limited support for the hypothesis that full programs are more likely than partial programs to influence communication between youth and parents.
- Findings do not support the hypothesis that fully-implemented programs are more likely than partial programs to influence skills interacting with or communicating with peers.
- Findings provide limited support for the hypothesis that full programs are more likely than partial programs to influence skills.
- Findings do not support the hypotheses that HOF-NOD programs influence decision-making skills.
- Findings provide limited support for the hypothesis that HOF-NOD programs influence self-esteem.

Drug-Use Prevention Outcomes

- We hypothesized that full programs would have a greater influence on empowerment-level variables in the aquatic stewardship education process. The data support this hypothesis with regard to responsible fishing behavior. These data do not provide enough information to address the question of whether HOF-NOD programs address empowerment-level variables in a context other than fishing.
- We hypothesized that full programs would have a greater influence on ownership level variables in the aquatic stewardship education process. The data support this hypothesis for many, but not all variables. We believe this result was observed in part because even full HOF-NOD programs are not addressing some ownership-level variables (e.g., variables that create personal investment in aquatic environmental issues outside the context of fishing).
- Findings support the hypothesis that full programs are more likely than partial programs to influence entry-level variables in the aquatic stewardship education process.

Stewardship Outcomes

Their involvement in actual fishing may help explain these findings and supports the notion that fishing participation may produce desired fishing outcomes regardless of whether those experiences are linked to a HOF-NOD program. However, youth in full programs including fishing scored higher on several fishing outcomes measures than did the comparison group, reflecting the influence of fishing experience combined with HOF-NOD participation.

RECOMMENDATIONS

Program Implementation

- Continue to encourage and support development of fully-implemented programs. In order to achieve desired fishing and stewardship outcomes, all HOF-NOD programs should include actual fishing experiences.

- For greatest pay-off from partial programs, target low-end programs only at audiences that contain a high proportion of youth who have never fished. Youth who have fished may already be experiencing many of the benefits a partial program would provide. These youth would benefit, however, from a fully-implemented program.

- Further define HOF-NOD program goals and objectives related to developing youth who become responsible anglers and aquatic resources stewards. Articulate the ownership and empowerment-level variables associated with fulfillment of those goals and objectives. Then, if necessary, develop additional lessons and experiences that address the ownership and empowerment variables associated with expression of responsible angling and aquatic stewardship behavior.

- Further define HOF-NOD program goals and objectives related to developing life skills and drug-use prevention outcomes. Develop additional lessons and experiences as needed.

- Develop training opportunities that: (1) help volunteer instructors develop realistic outcome expectations for different program formats; and (2) design and implement local programs that are capable of producing the particular outcomes they desire.

Suggestions Related To Future Program Evaluation

- Develop better capabilities for tracking program participants, including youth and teachers.
- Obtain better information on the proportion of participants in partially- and fully-implemented programs.
- Collect more complete information on use of HOF-NOD curriculum materials.
- Program evaluations tend to evolve through a series of stages. "First stage" evaluation involves descriptive and exploratory research (our current efforts fit under these categories). Second and third stage evaluations involve more rigorous research designs and measures of outcome achievement, particularly, long-term outcomes. Future evaluations of HOF-NOD should strive toward these more rigorous design and measurement standards, and will require better tracking of program participants.

- Include in-depth case studies of a few well-established programs to characterize local implementation differences and identify program strengths and weaknesses.
- Identify comparison groups that contain a high proportion of youth who have never fished, so that some of the questions raised in this evaluation can be addressed.
- Target evaluations to grade levels not studied extensively in this evaluation.
- Compare fully-implemented HOF-NOD programs that include single vs. multiple fishing experiences.
- Consider additional and more extensive evaluation of ownership and empowerment variables after new lessons or experiences are added to HOF-NOD programs to develop ownership or empowerment related to responsible fishing behavior or aquatic resources stewardship behavior.

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INTRODUCTION

The HOF-NOD Program

Hooked on Fishing - Not on Drugs (HOF-NOD) is a national youth program sponsored by the Future Fisherman Foundation, an educational arm of the American Sportfishing Association. The program was piloted in 1987. Local HOF-NOD programs have now been started in 26 states, Puerto Rico, American Samoa, and Norway.

HOF-NOD is designed primarily as a supplementary, interdisciplinary, in-school program for youth in grades K-12. The primary goals of the program are: (1) increased participation in sport fishing; (2) increased environmental understanding and aquatic resources stewardship; and (3) drug use prevention among youth participants

Curriculum Materials:

The Future Fisherman Foundation produced curriculum materials with assistance from drug education and communications experts. The product of this effort was a *Teacher's Guide to Hooked on Fishing - Not on Drugs* (Seng et al. 1995). This teacher's guide was adapted from *Learning to Live Drug Free*, a drug education curriculum guide developed by the U.S. Department of Education (Flatter and McCormick 1989). Lessons in the *Teacher's Guide* were developed for four different grade-level clusters (i.e., K-3, 4-6, 7-8, and 9-12). The lessons in the *Teacher's Guide* are primarily a character education curriculum that emphasize core values such as respect, responsibility, and community participation. Most of the lessons are designed to develop decision-making, responsibility skills, self-esteem skills, or other life skills that are believed to divert children from drug use. Many of the lessons in the *Teacher's Guide* have fishing or aquatic stewardship objectives that overlap with objectives related to drug use prevention. Lessons in the *Teacher's Guide* focus on topics such as: helping others; fishing skills; fish biology and ecology; personal responsibility; fishing ethics; environmental consequences of personal decisions; spending time with family; and setting goals for the future. Lessons in the curriculum are organized around the theme of fishing. The program developers assume that fishing provides a useful teaching theme because it will interest students, link learning to specific, practical learning needs of the student, and provide a gateway to a wider array of aquatic environmental subject matter.

The final section of the *Teacher's Guide* includes the *Aquatic Resources Education Curriculum (ARBC)* (Pfeiffer and Sosin 1995), and a student workbook called the *Sportfishing and Aquatic Resources Handbook* (Schmidt 1995). These materials provide instruction on: fishing skills; fishing equipment; fish and their habitats; basic ecology; water as an environment; aquatic environmental issues; fisheries management; fisheries conservation; fishing ethics; and careers related to fisheries. The goals of ARBC are, "increased knowledge, an understanding of the aquatic environment, improved fishing skills, and a commitment to a course of personal responsibility for aquatic resources" (Pfeiffer and Sosin 1995: preface, page 10). The developers

of ARFC also expect use of their curriculum to lead to the development of an internalized stewardship ethic.

Program Administration:

Future Fisherman Foundation staff promote the program nationally through presentations and mass media. As local interest develops, Foundation staff meet directly with interested individuals to establish a program coordinator in each state. State natural resource management agencies are preferred as state program coordinators. However, the Foundation also has established state programs through unaffiliated individuals and through organizations other than natural resource agencies (e.g., youth organizations, school districts).

Staff at the Future Fisherman Foundation train and support state program coordinators. State program coordinators are expected to promote HOF-NOD in their state and serve as the primary liaison between the Foundation and volunteer instructors. They are directed to provide training, assistance, and financial support to volunteer instructors (i.e., professional educators and others) and their community partners. State coordinators attend an initial instructor workshop provided by the Foundation. They are then encouraged to develop their own statewide workshops on implementation of HOF-NOD (with continuing assistance from the Foundation as needed).

State coordinators are expected to assist volunteer instructors in a variety of ways. They serve as a liaison between instructors, the state natural resource agency, and the Foundation. They are instructed to stay in frequent contact with program implementors to determine their local needs. They are expected to help volunteer instructors develop awareness of state resources, coordinate volunteer assistance, and learn how to reach out to their communities for program assistance and financial support. They also are expected to provide services (e.g., a related newsletter, a statewide directory of volunteer instructors) and program recognition (e.g., appreciation meetings, service awards) that help recruit and retain volunteer instructors.

State coordinators are expected to help volunteer instructors by facilitating access to fishing, fishing equipment and HOF-NOD educational materials. They also are expected to provide mini-grants to schools for start-up costs (e.g., provide money directly; help identify funding sources; teach teachers how to write grants).

Implementation of Local Programs:

Local HOF-NOD programs are developed, organized, and implemented largely through the efforts of volunteer instructors in school and community settings. They play a variety of critical roles. Volunteer instructors: develop, organize, and implement programs in school and community settings; obtain local program funding; develop partnerships with community organizations and subject matter experts; catalyze community-wide assistance and support; instruct and recognize community volunteers; involve parents in their program; and submit an annual report to their local or state coordinator.

Program characteristics are left to the discretion of volunteer instructors. As a result, the duration, format, and content of local programs vary widely. For example, some local programs will consist of a single assembly or community fishing event, while others will entail multiple activities over time and actual fishing experiences. Programs may take place in formal or nonformal education settings. Some programs will utilize HOF-NOD curriculum materials; others will rely on materials developed locally.

Although trainers place no constraints on instructors with regard to program design, they do encourage instructors to develop fully-implemented HOF-NOD programs. Fully implemented programs have several key characteristics which determine the type of program experience received by participants.

In a fully-implemented program, youth are expected to participate in HOF-NOD curriculum lessons and HOF-NOD activities from the *Teacher's Guide to Hooked on Fishing - Not on Drugs* (Seng et al. 1995), including lessons and activities that teach students how to be ethical and responsible anglers. Participants receive fishing instruction and at least one actual fishing experience. Youth participants spend time fishing and experiencing aquatic environments with parents and other adults. In full programs, parents and nonfamily adult role models are expected to use fishing experiences to challenge youth participant's decision-making skills. Fishing experiences provide youth opportunities for hands-on activities that encourage responsibility for self and others and demonstrate responsible angling skills.

If the volunteer instructor fulfills these roles, it is expected that parents will participate in HOF-NOD program events and take their children fishing on their own, and individuals and organizations from the community will help fund the program, provide goods and services, teach participants fishing skills, and provide participants with opportunities to go fishing with positive adult role models. Volunteer instructors are expected to deliver local programs where program participants learn valuable skills, become exposed to positive role models, and enhance their ties to their families and communities.

Expected Short-Term Program Outcomes:

The Future Fisherman Foundation expects a range of short-term outcomes to result from fully-implemented programs (full implementation of HOF-NOD as a fishing, stewardship, or drug-use prevention program is described in Figures 1-3). These outcomes represent a set of direct and indirect benefits that are anticipated for program participants and the state agencies that coordinate programs.

Fishing. Youth who participate in fully-implemented programs (i.e., programs that utilize curriculum materials and include actual fishing) are expected to improve their fishing skills, enjoy fishing more, and increase their participation in fishing during the program (Figure 1). Fishing participation by adults involved in HOF-NOD, as instructors or family members, is also expected to increase.

Stewardship. Youth participants who complete aquatic resources lessons and experiences are expected to obtain greater understanding about aquatic environments. As they learn to fish

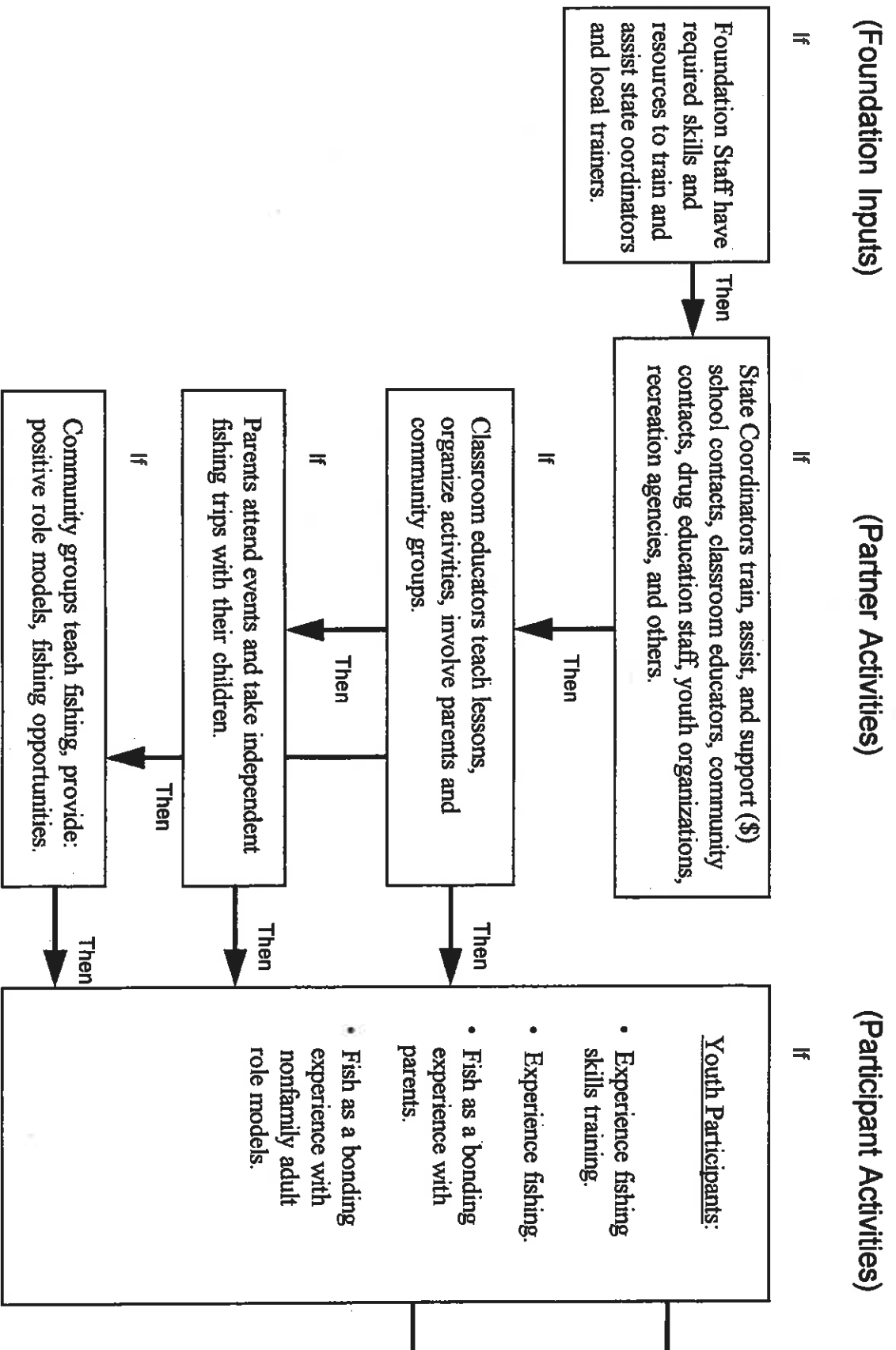


Figure 1. Model of HOF-NOD as a fishing recruitment program.

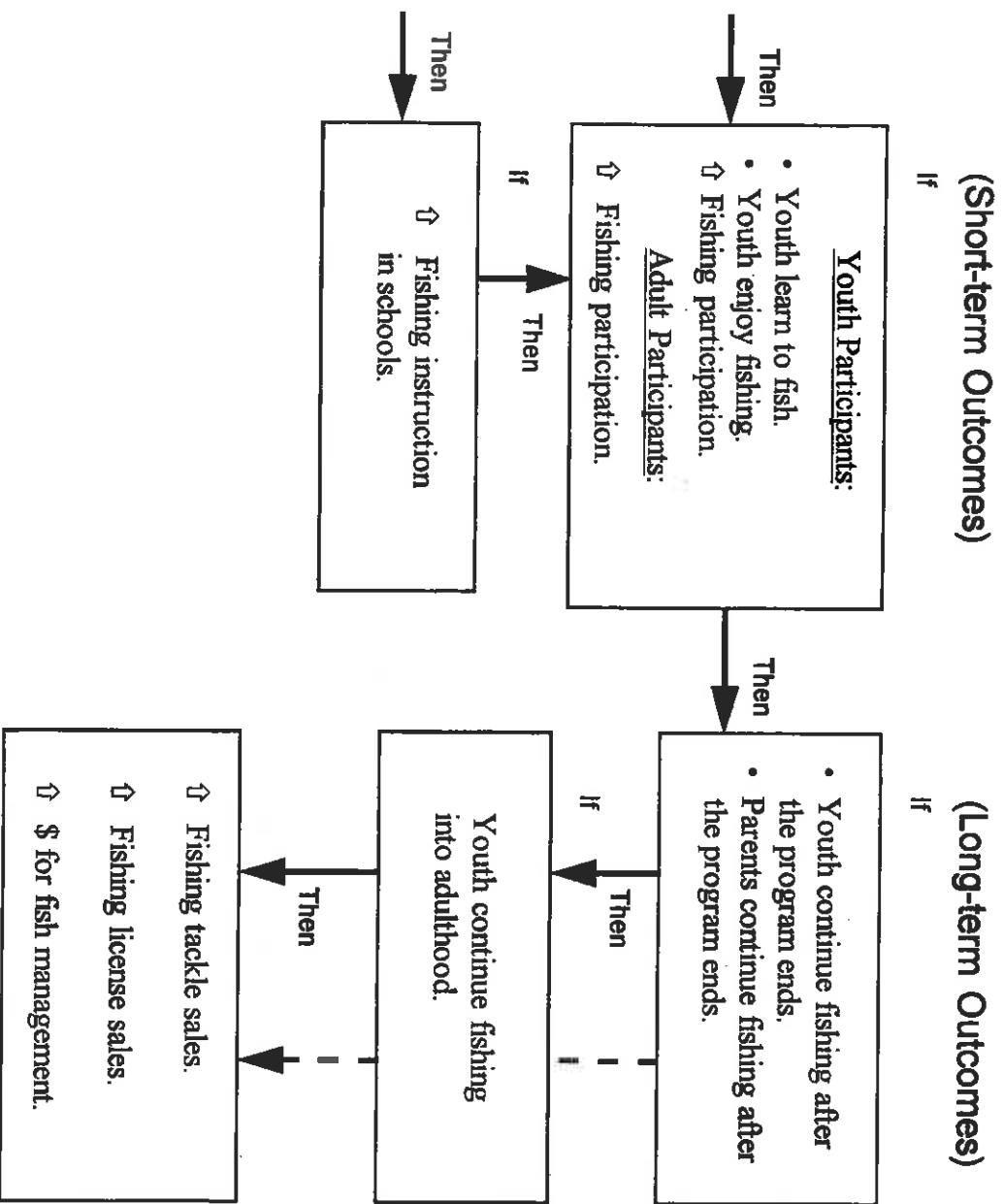


Figure 1. (continued).

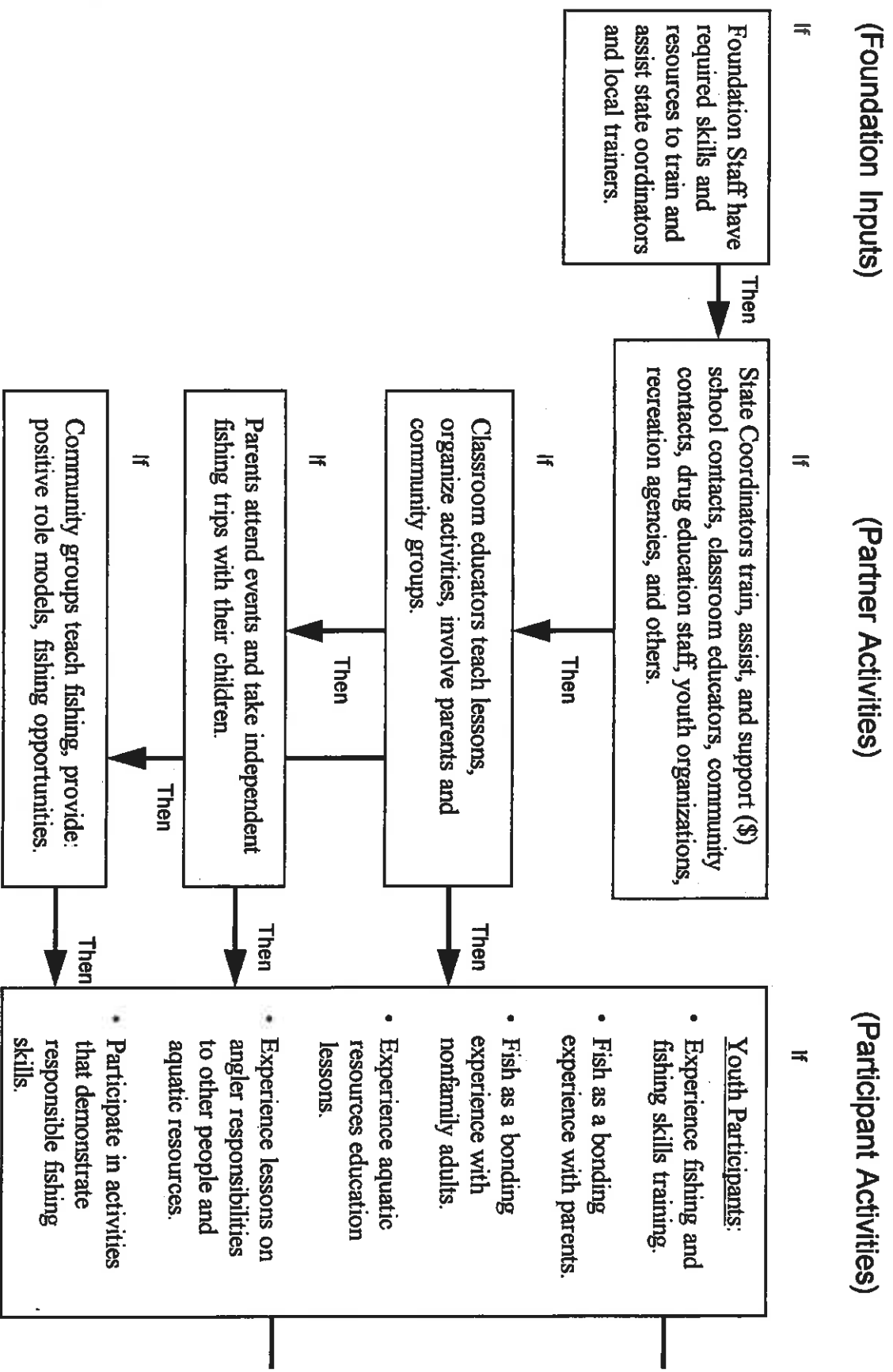


Figure 2. Model of HOF-NOD as a stewardship education program.

(Short-term Outcomes)

(Long-term Outcomes)

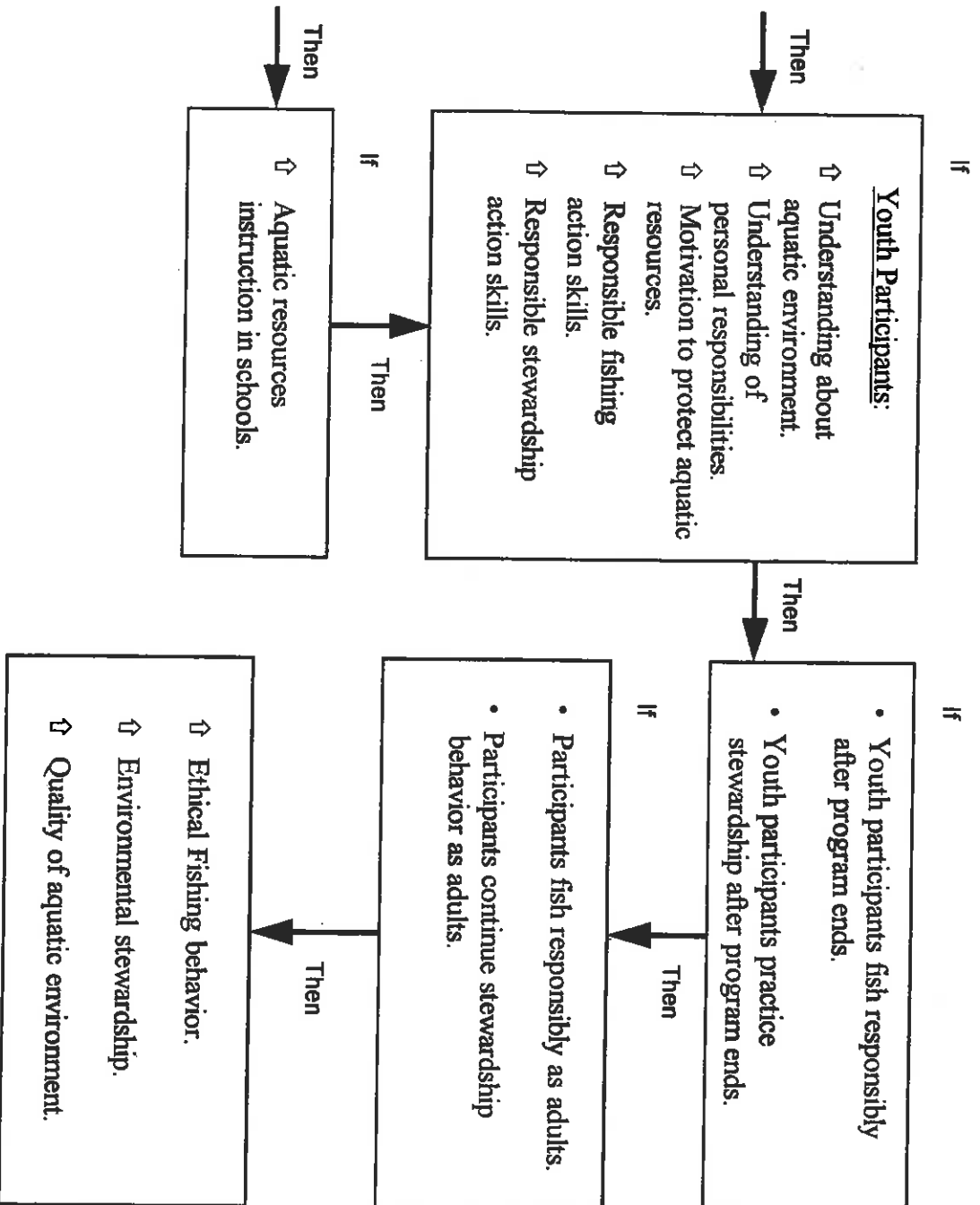


Figure 2. (continued).

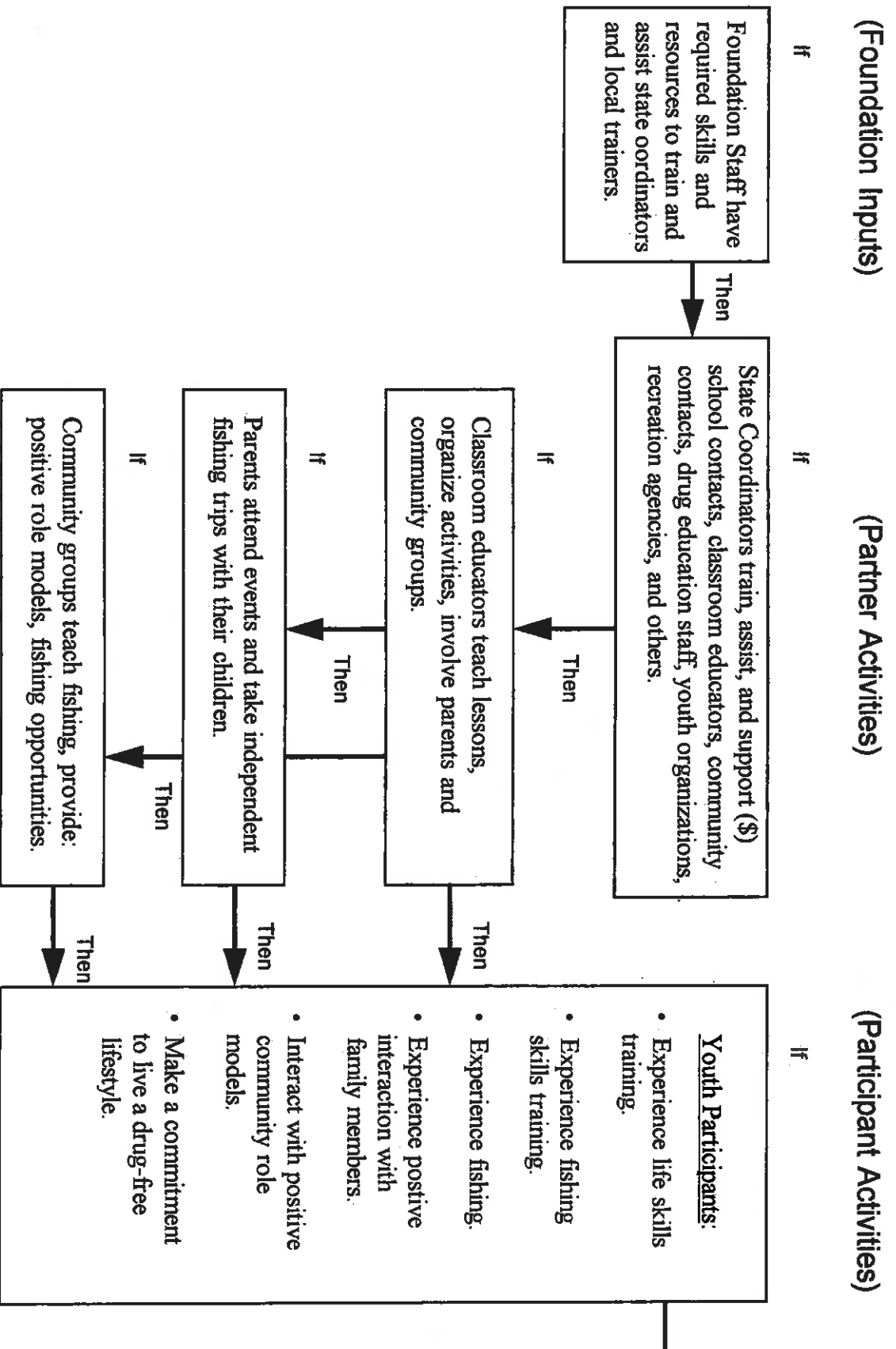


Figure 3. Model of HOF-NOD as a drug use prevention education program.

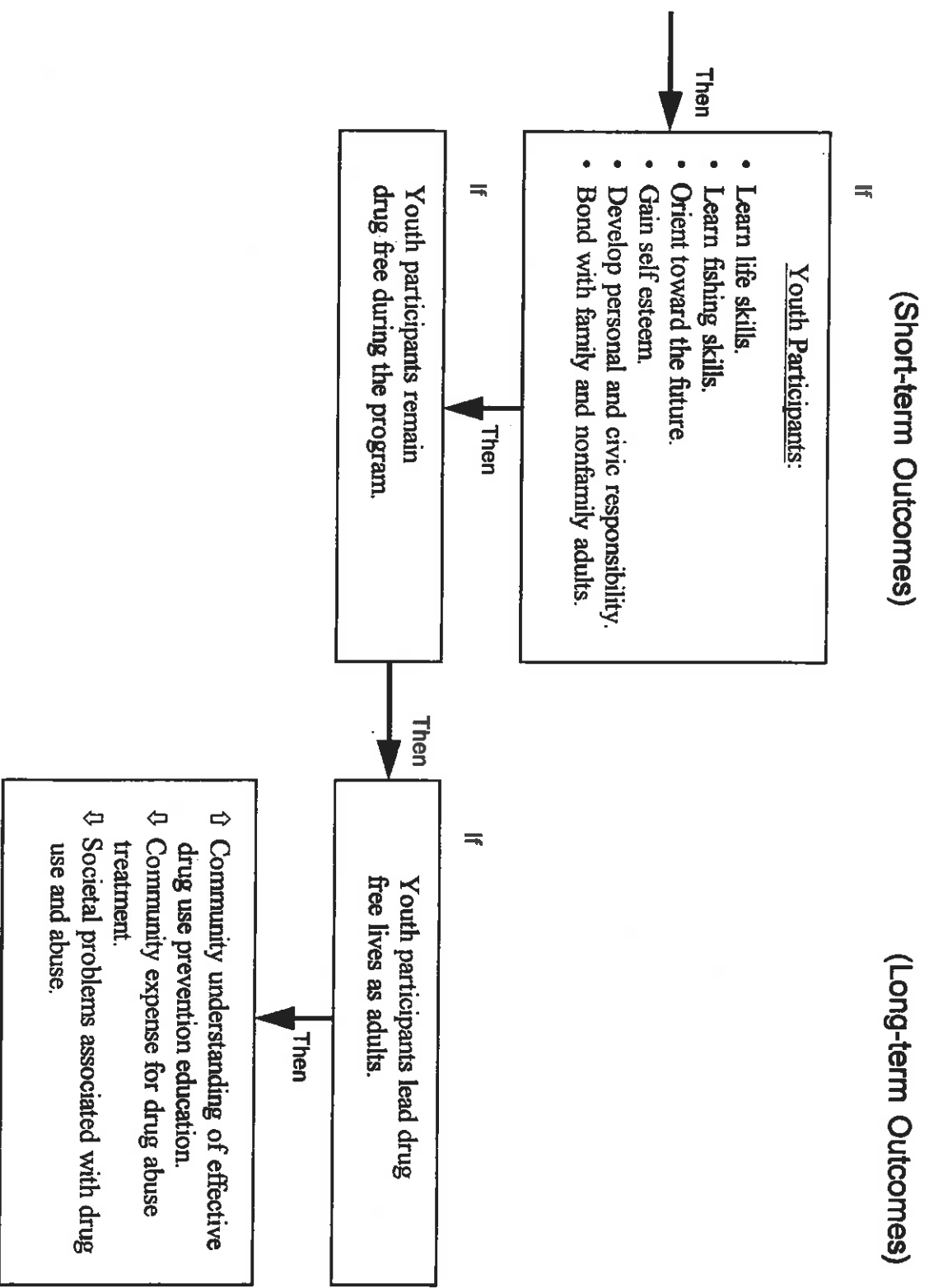


Figure 3: (continued).

In states where fully-implemented programs are maintained on a continuing basis, a number of long-term benefits are expected for program participants, state natural resource management agencies, society at large, and the natural environment.

Expected Long-Term Program Outcomes:

Aquatic resources education is a subject that may receive little attention in the schools of a given state. The agency's efforts to promote HOF-NOD are expected to increase use of aquatic education and sportfishing materials in schools. As state coordinators, agencies could develop partnerships with schools and community organizations who have the facilities and staff or volunteers necessary to deliver aquatic education activities at low cost. Community groups would become more involved in fishing and aquatic education. These school-based and community-based programs are expected to increase the agency's ability to contact youth, especially urban youth. Increased funding for aquatic education also is expected, because the agency's expenditures also would be matched with funds from other sources (e.g., school funds, grants for drug use prevention programs, etc.).

Expected Benefits for Agencies. All state agencies responsible for fisheries management have an interest in encouraging understanding and stewardship of aquatic resources and in fostering fishing participation. The developers of HOF-NOD assume that state natural resource agencies will be willing to coordinate state programs because fulfilling that role will make it easier for them to achieve their education and resource participation goals. It is assumed that serving as a state coordinator will allow the agency to increase its capacity to reach youth and conduct aquatic resources education because it will increase the level of funding and staffing available to deliver aquatic education programs. Serving as state coordinator will also help agencies in their outreach efforts to recruit new anglers to the sportfishing community.

Drug-Use Prevention. Youth who complete fully-implemented programs are expected to improve life skills associated with drug-use resistance, increase self-esteem, gain an orientation toward the future, develop greater personal and civic responsibility, and experience greater bonding with adult family members and nonfamily adult fishing companions. Youth are expected to remain drug free while involved in the program (Figure 3).

Siemer et al. (1998). program design and theoretical frameworks for aquatic stewardship education is described in empowered to take environmentally responsible actions. The relationship between HOF-NOD and social interaction) is expected to help youth participants develop the tools they need to feel community, and environment. Life skills training (e.g., skills in decision making, problem solving, ethics and environmental stewardship are tools to develop self respect and responsibility for self, precursors to environmentally responsible behavior (Figure 2). Lessons and experiences in fishing responsible anglers. Finally, youth participants are expected to develop life skills regarded as internal motivations to protect aquatic environments. They are expected to learn how to be and experience fishing and other exposures to aquatic environments, they are expected to develop

In states where HOF-NOD programs are maintained over many years, broad societal benefits are expected. HOF-NOD is expected to increase levels of environmentally responsible behaviors (including responsible sportfishing behaviors) and increase money available for fisheries management (due to increased fishing license purchases). These long-term outcomes are

Sponsoring HOF-NOD is expected to provide agencies a fiscally efficient way to enhance their public image, because it will make the agency an active partner in a program that addresses major social concerns (i.e., drug use prevention and environmental protection). Positive press and locally enhanced public relations for the fisheries management agency may expand the constituency base who support fisheries management, making it easier for the agency to gain compliance with or acceptance of management decisions necessary to conserve aquatic resources.

Being associated with HOF-NOD is expected to enhance the agency's image in local communities over time. Serving as a state program coordinator is expected to open doors to communities and get them involved in fish- and wildlife-related activities. This will enhance community relations and establish agencies as community leaders. Community groups will become more aware of the role state agencies play in resource education and protection.

Expected Benefits for Agencies. Over time, state agencies are expected to cultivate a pool of volunteers who can provide fishing and aquatic education instruction to youth and help train new volunteer instructors. Established relationships with schools and community organizations are expected to strengthen and expand. The number of program participants is expected to grow, allowing the sponsoring agency greater opportunity to achieve its goals related to stewardship education and sportfishing recruitment.

Drug-use prevention. Youth who complete fully-implemented programs are expected to continue leading drug-free lives after the program and into adulthood. In localities where use of HOF-NOD programs becomes widespread, program developers expect experiences with implementation of HOF-NOD programs will increase community understanding of effective drug use prevention. Moreover, program developers expect communities using HOF-NOD programs extensively over time to experience a reduced level of negative societal consequences of drug use (e.g., drug-related crimes, drug-related health care expenses).

Stewardship. Fully-implemented programs are expected to create youth who go on to practice stewardship behaviors, including environmentally responsible fishing behavior, after they complete a HOF-NOD program. Moreover, these behavioral changes are expected to persist into adulthood.

Fishing. Youth who complete fully-implemented HOF-NOD programs are expected to continue fishing participation after the program ends and into adulthood. If fully-implemented HOF-NOD programs are implemented extensively, they are expected to have a collective impact on fishing license and fishing tackle sales. Increased fishing license and tackle sales would create additional revenues that would return to agencies for the purpose of fisheries management, improvement of fishing access sites, boater education, and angler education.

1. Select a sample of local programs that include low, moderate, and high levels of exposure to HOF-NOD programs for youth in grades 6-8.
2. Develop instruments to collect information from youth participants and their parents/guardians regarding their experiences in local HOF-NOD programs and their perceptions of related outcomes.
3. Collect information from teachers, youth participants, and parents associated with local programs in the selected sample.
4. Analyze data to identify differences in program outcomes associated with different levels of program.
5. Based on results, draw conclusions about outcomes of various types of HOF-NOD programs for youth in grades 6-8.
6. Based on results, make recommendations for program enhancement.

Study Objectives:

A 1996 survey of HOF-NOD workshop attendees (Dann 1998a) confirmed that HOF-NOD programs are offered in both school and non-school settings, to youth of many ages and cognitive abilities. We did not have the resources to effectively evaluate the full diversity of program types and participants, so we limited our evaluation to a subset of program types and participants (as recommended by Dann 1998a). We focused our evaluation on programs offered as in-school or after-school programs for mainstream students in grades 6-8. We focused on mainstream students in grades 6-8 because: (1) Dann (1998a) found that the majority of multi-event programs appear to be offered through schools to mainstream students; (2) most programs are offered to youth before they enter high school; and (3) we were interested in assessing life skills and stewardship action concepts that were not appropriate for children in grades K-4.

To date, relatively little information has been collected to determine the degree to which program participants experience expected program outcomes. In 1997 and 1998, we developed and implemented a comprehensive evaluation of the HOF-NOD program. As part of that evaluation, we developed a study to explore the youth participant outcomes associated with participation in different types of local HOF-NOD programs. Our goal was to evaluate HOF-NOD's effectiveness in reaching expected outcomes for youth participants related to: fishing participation; environmental stewardship; and drug use prevention. We hypothesized that youth who received the greatest level of program would achieve a greater amount of desired program outcomes than youth who received a lower level of programming.

Study Purpose

expected to result in measurable improvement in local aquatic environments where HOF-NOD programs are implemented.

One of the ways we characterize fishing participation is through three items (adapted from Purdy and Decker 1986) to measure "stage of fishing adoption" (i.e., awareness, interest, trial, adoption [continuation], and dissection [discontinuation]) (questionnaire items 1-3). This is an approach the Human Dimensions Research Unit has used in other studies to examine fish and wildlife-related activity involvement.

HOF-NOD is intended to expose youth to fishing as a positive alternative to drug use. We developed multiple measures to assess program outcomes related to fishing interest (questionnaire items 4-5), fishing participation (questionnaire items 9-10, 31a), and fishing skills (questionnaire items 6a-e, 7-8, 31h). Some of these items were developed by Connelly et al. (1997) for a survey of New York State anglers.

Fishing Outcomes:

The instrument contains items to assess age, gender, ethnicity, and grade level to help characterize the sample (questionnaire items 19-23). We also include several items to characterize the level of involvement in HOF-NOD programs and past participation in drug-use prevention programs (questionnaire items 24-30).

Socio-Demographic Characteristics:

The youth questionnaire measures concepts in four categories: socio-demographic characteristics; fishing participation outcomes; aquatic resources stewardship outcomes; and outcomes associated with drug use prevention.

We used a multi-stage process to inform questionnaire development. First, we reviewed all available background documentation on the program. Next, we worked closely with HOF-NOD staff to develop a model of the design underlying the HOF-NOD program (a full description of the program model appears in Siemer et al. 1998). Finally, we interviewed state program coordinators in all 10 states where HOF-NOD was coordinated by a state natural resource agency in 1997 (i.e., Illinois, Iowa, Kansas, Maine, Maryland, Missouri, Montana, Ohio, Texas, and West Virginia). These interviews allowed us to verify aspects of program implementation, make informed judgments about the plausibility of the program design, and develop a survey implementation strategy. We then reviewed elements of the HOF-NOD program and intended program outcomes in light of current research on fishing participation (Damm 1998b), environmental stewardship (Siemer et al. 1998), and drug-use prevention (Damm 1998c). Based on these efforts, we drafted an instrument to assess program outcomes related to drug-use prevention, fishing participation, and aquatic resources stewardship (see Appendix A).

The Youth Participant Questionnaire

METHODS

Stewardship Outcomes:

We examined the environmental education literature to identify a framework to examine HOF-NOD as a stewardship education program. The framework we chose was developed by Knapp et al. (1997) (see Figure 4). It is based on a literature review and conceptual framework by Hungerford and Volk (1990) that summarized which variables researchers had associated with stewardship behavior (see Figure 5). Hungerford and Volk (1990) and Knapp et al. (1997) categorize these as entry-level, ownership-level, and empowerment level variables.

Entry-Level Variables. Items related to entry-level variables included: knowledge of fishing and aquatic environments (questionnaire items 11d-e, 31i); understanding of fish biology and ecology (questionnaire items 12a-d); awareness of fisheries management practices and issues (questionnaire items 12e-f); and concern about fish and aquatic habitats (questionnaire item 31j).

Ownership-Level Variables. Items related to ownership-level variables included: understanding of human impacts on fisheries and aquatic resources (questionnaire items 12g-h); interest in visiting aquatic environments (questionnaire item 13a); and sense of personal responsibility to be an environmental steward (questionnaire items 13b,c,e,g, 17i-j). Some of the items related specifically to sense of personal responsibility to the environment were adapted from environmental stewardship attitude and motivation items developed by Siemer et al. (1995).

Empowerment-Level Variables. Items related to empowerment-level variables included: confidence in skills necessary to take actions as a responsible angler (questionnaire items 6f-g); internal locus of control for taking environmental stewardship actions (questionnaire items 17k-l); and influence of program on stewardship action skills (questionnaire item 31k).

Drug-Use Prevention Outcomes:

HOF-NOD is intended to "enhance the development of life skills that divert children from using drugs" (Seng et al. 1995:5). We measured changes in life skills and changes in general attitudes towards drugs as an assessment of outcomes related to drug-use prevention. The instrument (see Appendix C) included items to measure self-esteem, decision-making skills, communication and communication skills, responsibility, nonspecific attitudes toward drug use, and personal perceptions of how HOF-NOD influenced these variables.

Self-Esteem. We assessed self esteem using a modification of the 10-item Rosenberg Self-Esteem Scale (Rosenberg 1965) (questionnaire items 14a-j). We also developed one additional item to assess perceived influence of HOF-NOD on self-worth (questionnaire item 31l).

Decision-Making. We used 5-items from a 7-item decision-making subscale used by Botvin et al. (1990) (questionnaire items 15a-e). Botvin et al. (1990) developed these items based on the Wills Coping Inventory (Wills 1986) to assess decision-making skills. We also developed one additional item to assess perceived influence of HOF-NOD on decision making (questionnaire item 31g).

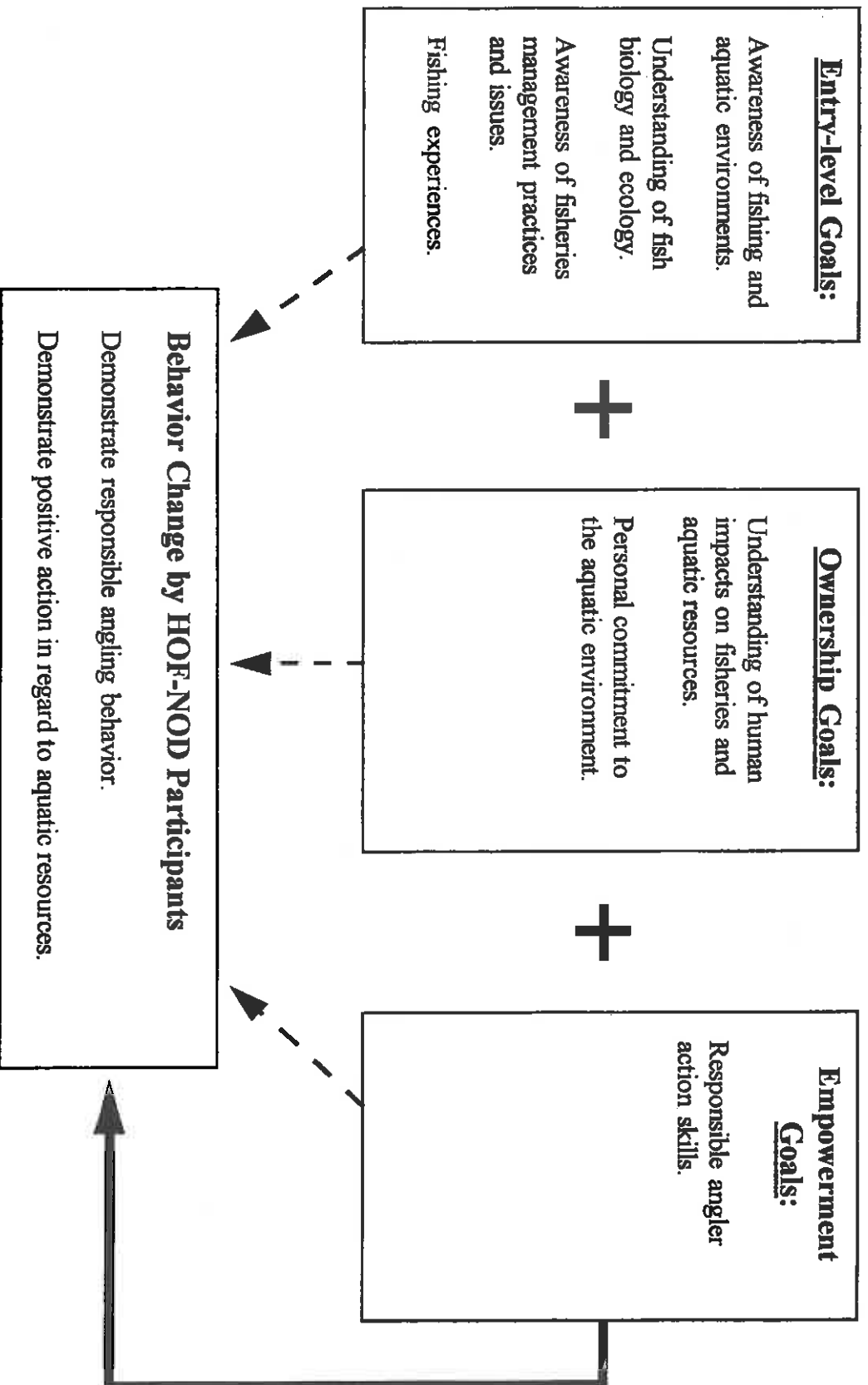


Figure 4. Aquatic stewardship behavior-change model used in HOF-NOD programs (Adapted from: Knapp et al. 1997, Journal of Environmental Education 28(3):24-34).

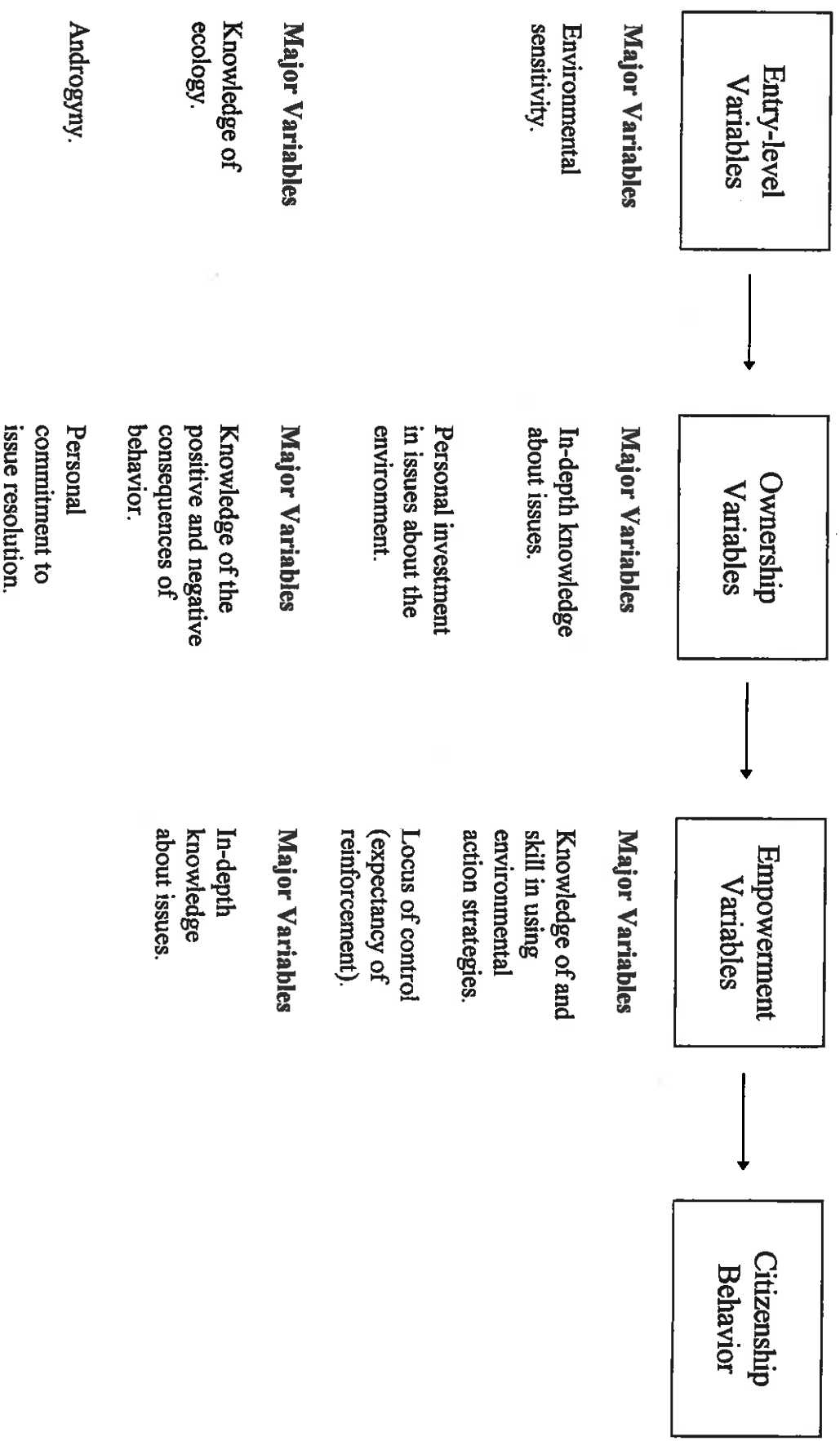


Figure 5. Major and minor variables in environmentally responsible behavior (Source: Hungerford and Volk 1990, Journal of Environmental Education 28(3):24-34.

Parents were asked a series of 13 questions to determine whether they perceived that HOF-NOD had influenced their child in any one of a variety of ways. Each parent was asked if they perceived any influence on: motivation to learn; school attendance; attitudes about going to school; grade average; self-esteem; decision-making; quality of shared family time; quantity of

Perceived Outcomes Related To Drug-Use Mediating Variables:

The interview contained items to confirm the child's age, school affiliation, participation in HOF-NOD activities during school, and participation in fishing trips organized by their school. The interviewer also recorded the gender of the parent interviewed and the child.

Socio-demographic And Background Information:

The parent follow-up interview measured concepts in four categories: socio-demographic and background information; outcomes related to drug-use prevention; outcomes related to fishing; and outcomes related to aquatic stewardship. The questions in the parent interview were designed to provide information about the same concepts that were explored in the youth participant survey.

We developed a brief telephone interview to obtain information on the range of influences parents believed HOF-NOD had had on their child, their interactions with their child, and their family's participation in fishing. The target audience for this interview was parents with children who had experienced a HOF-NOD program that involved actual fishing experiences. We were interested in those parents because we believed they would be the individuals most likely to observe some positive program outcomes for youth participants.

The Parent Follow-Up Telephone Interview

Drug Use Attitudes. We used a 7-item scale developed by Clayton et al. (1996) to assess general attitudes toward drug use (questionnaire items 18a-g). We also developed two additional items to assess perceived influence of HOF-NOD on attitudes toward use of drugs or alcohol (questionnaire items 31e-f).

Responsibility. HOF-NOD is intended to help youth develop an orientation for the future which includes an acceptance of personal and civic responsibilities. We measured future orientation and acceptance of responsibility by adapting a 5-item subscale (subscale 8: "Can I control my future?") from the Teenager's self test - Smoking (USPHS 1974) (questionnaire items 14k-o).

Communication. We assessed confidence in communication skills using a modification of 5 used a 7-item scale developed by Clayton et al. (1996) to assess attitudes about perceived social skills with peers (questionnaire items 17a-g). We also developed several items to measure perceived effects of HOF-NOD on family interactions (questionnaire items 11a-b, 30b-d, and 31b-d).

We worked with the program coordinators in those four states to identify teachers who might offer fully-implemented HOF-NOD programs. We completed interviews with 52 teachers

Based on these interviews, and information from the HOF-NOD workshop participant survey, we selected Arkansas, Ohio, Texas, and West Virginia as states where we would collect data from program participants (overviews of HOF-NOD in these states appears in Appendix B). Ohio, Texas, and West Virginia represented the three states where program coordination, diversity, longevity, and teacher training were best developed. We concluded that these were the states most likely to have local programs where target outcomes could be reasonably expected, and had a high likelihood of providing enough evaluation subjects (program participants) to conduct statistically meaningful analysis. We chose to include one program from Arkansas because it was very well developed, had been offered for many years, and because it provided us an opportunity to contact a relatively large number of youth program participants in one location (i.e., the program met the same criteria we used to select Ohio, Texas, and West Virginia as locations for outcome evaluation).

We conducted telephone interviews with HOF-NOD program coordinators in each state with an established regional or statewide coordinator at the time of this study (i.e., Iowa, Kansas, Maine, Missouri, Montana, Ohio, Texas, and West Virginia). We also interviewed the leader of a well-known program in Arkansas (a state coordinator for Arkansas was established while this study was in progress). These interviews provided information we needed to verify aspects of program implementation, make informed judgments about the plausibility of the program design, identify potential barriers to later data collection from volunteer instructors or program participants, and identify states where outcome evaluation was appropriate.

Selecting Sites for the Youth Participant Survey

Interviewers asked parents if they believed participation in a HOF-NOD program had influenced their child's knowledge of aquatic environments; understanding of human impacts on the environment; or confidence in their ability to take environmental stewardship action skills.

Perceived Outcomes Related To Aquatic Stewardship:

Interviewers asked parents if they had fished with their child before that child participated in a HOF-NOD program. Parents were also asked if they thought that their child's participation in a HOF-NOD program had had any influence on their child's interest in fishing, their child's fishing skills, or the number of times their family participated in fishing.

Perceived Outcomes Related To Fishing:

Interviewers also posed an open-ended question to parents, asking them if they believed participating in a HOF-NOD program had influenced their child in any other way. Questions about potential influences on behavior contained five response categories: Very positive influence on behavior; slightly positive influence; slightly negative influence; very negative influence; or no influence at all.

to obtain background information on local program and participant characteristics. This was not a random sample; rather, we contacted teachers that state coordinators believed to be actively delivering HOF-NOD programs with the characteristics we described (e.g., multi-event programs that involved actual fishing and use of HOF-NOD curriculum materials). The sample of teachers was not intended to provide a representative cross-section of HOF-NOD programs or volunteer instructors. Rather, the sample was designed to identify youth participants at three levels of program exposure: minimal, low, and high.

We identified eight locations as targets for data collection from youth participants and their parents/guardians (Appendix C). We worked closely with teachers in those localities to plan survey implementation.

Implementation

HDRU staff worked with instructors and school administrators to arrange for survey implementation at schools. HDRU staff mailed questionnaires and parent consent forms to local teachers in November, 1997. Teachers collected data from youth on-site. Implementation took place between December, 1997 and March, 1998, depending on the site. Parents/guardians were asked to sign a consent form granting permission for their child to participate in the survey. Parents were also asked to sign a separate consent form to participate in a follow-up telephone interview to assess their perceptions of outcomes their child had experienced as a result of participating in a HOF-NOD program. The parent/guardian consent process and other aspects of the youth participant survey were approved by the Cornell University Human Subjects Committee.

In all cases, instructors supervised data collection on behalf of HDRU staff. Some instructors surveyed their students as a group during class time. Instructors who operated after-school programs surveyed their students as a group during a regular meeting time for those activities (e.g., after school, during a lunch period). All students were given a packet of fishing tackle (i.e., plastic grubs) as a token of appreciation for their participation in the study. Teachers mailed all completed consent forms and questionnaires back to Cornell University.

The parent follow-up interviews were conducted in March, 1998. By early March, 1998, we had received consent forms from 185 parents who agreed to participate in a follow-up telephone interview and provided their home telephone number for that purpose. We attempted to reach all 185 of these individuals. We were interested in completing interviews with parents of children who had been fishing at least one time as part of a HOF-NOD program. If a parent reported that their child had not gone fishing as part of a HOF-NOD program, the contact was terminated and no interview was conducted.

Research staff made up to four attempts to reach each individual. Staff made telephone calls during regular business hours, evening hours, and during weekends to maximize the probability of reaching parents/guardians for an interview.

Analysis

We focused our primary analysis on mainstream students¹ in grades 6-8. Respondents outside this target group were not included in the main analysis. However, we obtained some information about youth in 5th or 9th grade. We did a secondary analysis of results from 5th and 9th grade respondents. Those findings are not reported here.

We created subgroups for analysis based on level of past involvement in HOF-NOD programming. We placed youth who had not participated in any type of HOF-NOD program in a comparison group. We created two subgroups based on the number of fishing trips youth experienced as part of their program. The partial program group contained youth who had not fished as part of their HOF-NOD program, the full program group contained youth who had fished once or more as part of their program. We were not able to identify three groups as we had planned: minimal, low, and high HOF-NOD program exposure. Few programs were truly high end implementation involving multiple fishing experiences. Thus, our design and analysis were revised to include a comparison (no HOF-NOD program) group, a partial program group, and a full program group.

We also sorted parent interview data into two categories based on the number of fishing experiences included in the program. Parents reporting on youth who had fished once as part of their HOF-NOD program were placed in the single fishing program group. Parents reporting on youth who had fished twice or more as part of their HOF-NOD program were placed in the multiple fishing program group. The reader should note that these groupings differ from those used for the youth survey because the parent interviews were not designed to include parents of youth who had not fished at all as part of their HOF-NOD program.

In our analysis of both the youth participant survey and the parent follow-up telephone survey, we used chi square tests and Scheffe's test to identify between group differences in areas such as: life skills, attitudes toward drugs, fishing participation, and stewardship actions skills. Differences are reported at the 0.10 level of significance.

Research Hypotheses:

Fishing: We conceptualized HOF-NOD as an experience that could move youth through various stages of the fishing participation process proposed by Purdy and Decker (1986). Based on a review of that model and other literature on fishing participation (Damm 1998b), we hypothesized that fully-implemented HOF-NOD programs were more likely than partial programs to produce greater: interest in fishing, fishing skills, and fishing participation.

Stewardship: Hungerford and Volk (1990) and Knapp et al. (1997) suggest that different programs address a different mix of entry-level, ownership-level, and empowerment level variables in the stewardship education process. Moreover, they suggest that the programs that address all three levels of variables are most likely to produce environmentally-responsible

¹ The sample included some students who had learning disabilities and some older youth who had participated in a HOF-NOD program several years before. Responses from those students were not included in the main analysis.

behavior change. We hypothesized that partial HOF-NOD programs would influence entry-level variables only. We hypothesized that full programs were more likely than partial programs to influence some ownership and empowerment variables. We expected that even full programs would not influence some ownership and empowerment variables, because those concepts are not addressed through current HOF-NOD curriculum materials.

Drug-Use Prevention: Based on a review of literature on drug-use prevention education (Dann et al. 1998c), we hypothesized that full HOF-NOD programs were more likely than partial programs to influence life skills, self-perception, and parent-child interaction.

Expectations About the Comparison Group: We hypothesized that the comparison group (with no exposure to HOF-NOD) would be least likely to exhibit desired outcomes related to fishing, stewardship, and drug-use prevention.

RESULTS PART I: YOUTH SURVEY

Response and Demographic Characteristics

We received 880 completed questionnaires. Fifty-three percent of returns were from West Virginia; 29% were from Ohio; 11% were from Arkansas; and six percent were from Texas (Table 1). The number of completed questionnaires was substantially lower than the projected sample size for several reasons, including: (1) program coordinator overestimates of local participation and instructor involvement; (2) instructor inability to recontact past program participants; and (3) failure to receive consent forms from some students.

Seventy-one percent of respondents (n=619) were in 6th-8th grades; 12% (n=103) were in 5th grade; 17% (n=144) were in 9th grade; and one percent (n=7) were in 10th grade. We focused our main analysis on the 619 respondents who were in 6th-8th grades (results from 5th and 9th graders were reported to the Future Fisherman Foundation in a separate document).

We found no significant differences between respondent subgroups with regard to age, gender, race, or one-time exposure to fishing. In all three subgroups, the majority of respondents were aged 12 to 14 (Table 2). The comparison, partial program, and full programs subgroups were 52%, 48%, and 57% male, respectively. Ninety-three percent or more of all subgroups were white. In all groups over 90% had gone fishing at some time in their lives.

We did find a subgroup difference related to previous exposure to drug prevention education. Respondents in the full program subgroup were more likely than youth in the other subgroups to have participated in a Drug Awareness and Resistance and Education (D.A.R.E.) program (percent exposure was: 57% for the comparison subgroup, 59% for the partial program subgroup, and 74% for the full program subgroup ($\chi^2 = 15.58$; $df = 2$; $p > 0.001$)).

Table 1. Estimated sample and final number of completed youth questionnaires, by location.

State	Data Collection Site	Projected Sample Size ¹	# of Completed Questionnaires	# of Completed Parent Interviews
West Virginia	Lumberport Middle School (Harrison County)	40	30	5
West Virginia	Bridgeport Middle School (Harrison County)	100	101	0
West Virginia	Washington-Irving Middle School (Harrison County)	50	17	3
West Virginia	Other Harrison County Schools	1,000	289	0 ²
West Virginia	Preston County Schools	200	33	1
Ohio	Crooksville Middle School	250	217	12
Ohio	Antwerp Middle School	56	33	9
Texas	Northeast Independent Schools	350	Canceled	Canceled ³
Texas	Calallen Middle School	60	56	10
Texas	Anson Jones Middle School	55	0	0 ⁴
Arkansas	Central Junior High	200	105	37

¹ Sample size projections were based on discussion with state coordinators and/or volunteer instructors.

² Consent forms not received in time to include parents from this location in parent follow-up study.

³ Instructor discovered that past program participants could not be recontacted as expected.

⁴ Instructor was not able to collect questionnaires in time for data from this location to be included in the analysis.

Table 2. Age of children represented by parent interviews and within subgroups of the youth survey sample.

	n	Percent in Age Group at Time of Contact							
		Age 10	Age 11	Age 12	Age 13	Age 14	Age 15	Age 16	
Parent interviews:									
all	77	5.2	10.4	24.7	41.6	14.3	2.6	1.3	
Youth survey:									
no program	202	0.0	9.4	30.2	36.6	20.8	2.5	0.5	
Youth survey:									
partial program	163	0.6	9.8	25.2	39.3	23.9	1.2	0.0	
Youth survey:									
full program	232	0.0	11.6	23.3	43.5	18.1	3.4	0.0	

Fishing

Interest in Fishing:

Youth in full programs were more likely than youth in partial programs to want to fish more in the future, report strong interest in fishing, and report that their interest in fishing had increased over the previous year (Table 3). Youth in the comparison group were just as likely as youth in the partial program group to report strong interest in fishing, and they were more likely to report an increase in fishing interest over the previous year (Table 3).

Youth in the full program subgroup were more likely than youth in the partial group to report that it was very important to them to think about fishing and to go fishing (Table 4). Youth in the comparison group were more likely than youth in the partial group to report that it was very important to them to think about fishing (Table 4).

Fishing Participation:

We asked youth to tell us how often they fished and how often they fished specifically with family members during each season in the previous year. Youth in full programs reported fishing more often than youth in partial programs during all seasons of the year (Table 5). Youth in the comparison group were not significantly different from other groups in their rate of fishing participation during any season (Table 5).

We asked youth who had participated in a HOF-NOD program to report whether they believed that participating in HOF-NOD had influenced their fishing participation. Youth in full programs (who fished more than youth in the partial programs) were more likely to say that they fished more often and fished more often with their parents because of their participation in HOF-NOD (Table 6).

Fishing Skills:

The majority of all respondents described their fishing skills as medium to strong. Youth in full programs were more likely than youth in other subgroups to believe they had strong or very strong overall fishing skills (Table 3). Those in full programs were more likely than the others to report strong specific skills related to handling fish and taking care of fishing equipment (Table 7).

Subgroups also differed with regard to change in fishing skills. Youth in full programs were more likely than youth in other subgroups to report improvement in fishing skills over the previous year. Youth in the comparison group were more likely than youth in the partial program group to report improvement in fishing skills, reflecting the importance of fishing experience.

We asked youth who had participated in a HOF-NOD program to report whether they believed that participating in HOF-NOD had influenced their fishing skills. Youth in full programs

Table 3. Fishing interests and skills reported by youth in three program subgroups.

<u>Fishing Interest or Skills</u>	<u>Program Subgroup</u>	<u>n</u>	<u>Mean¹</u>	<u>Percent Who Reported Skill Level</u>						
				<u>Very Strong</u>	<u>Strong</u>	<u>Medium</u>	<u>Weak</u>	<u>Very Weak</u>	<u>No Skills</u>	
Current level of interest in fishing.	None	195	2.57	21.5	21.0	40.5	11.8	5.1		
	Partial	154	2.77 ^a	16.2	20.1	39.6	17.5	6.5		
	Full	231	2.40 ^b	26.8	22.5	36.8	10.8	3.0		
Fishing interest compared to one year ago.	None	194	2.64 ^{a,f}	14.9	22.7	49.0	9.3	4.1		
	Partial	154	2.89 ^{c,e}	9.1	18.8	51.3	14.9	5.8		
	Full	231	2.36 ^{b,d}	19.5	31.6	42.4	5.6	0.9		
Fishing skills overall.	None	194	2.52 ^a	14.9	34.0	36.6	12.4	2.1		
	Partial	154	2.65 ^e	12.3	27.3	46.1	11.0	3.2		
	Full	229	2.31 ^{b,d}	21.4	33.6	38.4	5.2	1.3		

¹ 1 = very strong, 2 = strong, 3 = medium, 4 = weak, 5 = very weak.

^a Mean of group a is statistically larger than group b at $P < .10$ using Scheffe's test.

² 1 = much stronger, 2 = slightly stronger, 3 = about the same, 4 = slightly weaker, 5 = much weaker.

^c Mean of group c is statistically larger than group d at $P < .10$ using Scheffe's test.

^e Mean of group e is statistically larger than group f at $P < .10$ using Scheffe's test.

Table 4. Differences in ownership-level variables and fishing interest reported by youth in three program subgroups.

How important is it to you to . . .	Program Subgroup	n	Mean ¹	Percent Who Reported Importance Level				
				Very Important	Important	Somewhat Important	Slightly Important	Not at all Important
Visit and explore places such as creeks, ponds, and wetlands.	None	200	2.49 ^d	25.5	27.5	26.5	13.0	7.5
	Partial	165	2.87 ^{a,c}	17.6	19.4	32.7	18.2	12.1
	Full	227	2.40 ^b	26.9	28.2	27.3	13.2	4.4
Help take care of the places in your area where aquatic plants and fish live.	None	200	2.21 ^d	34.9	30.0	20.5	11.5	4.0
	Partial	165	2.49 ^{a,c}	25.5	29.7	23.0	13.9	7.9
	Full	229	2.40 ^b	35.4	39.3	17.0	6.6	1.7
Think about how things you do might affect aquatic plants and fish.	None	199	2.38	23.6	35.2	26.1	9.0	6.0
	Partial	164	2.53 ^a	25.0	26.8	23.2	19.5	5.5
	Full	228	2.18 ^b	26.3	41.2	22.4	7.9	2.2
Think about fishing.	None	197	2.70 ^d	25.9	19.3	27.4	13.7	13.7
	Partial	163	3.03 ^{a,c}	20.9	14.7	23.3	22.7	18.4
	Full	228	2.48 ^b	29.4	24.1	22.4	16.7	7.5
Use water efficiently.	None	199	2.29	30.2	31.7	23.1	9.0	6.0
	Partial	165	2.38	29.1	26.1	27.9	11.5	5.5
	Full	227	2.24	27.3	39.2	19.4	10.1	4.0
Go fishing.	None	200	2.67	30.0	17.5	22.0	16.5	14.0
	Partial	165	2.90 ^a	24.8	15.8	23.0	16.4	20.0
	Full	227	2.41 ^b	34.4	23.3	18.5	14.1	9.7
Help make sure that people in the future have clean water to drink.	None	199	1.85	49.2	28.6	12.6	6.5	3.0
	Partial	164	2.00	49.4	22.0	12.8	11.0	4.9
	Full	227	1.78	48.9	33.5	11.0	4.0	2.6

¹ 1 = very important, 2 = important, 3 = somewhat important, 4 = slightly important, 5 = not at all important.

^a Mean of group a is statistically larger than group b at $P \leq .10$ using Scheffe's test.

^c Mean of group c is statistically larger than group d at $P \leq .10$ using Scheffe's test.

Table 5. Fishing participation in 1997 by youth in three program subgroups.

<u>Fishing Interest or Skills</u>	<u>Program Subgroup</u>	<u>Mean # of Trips by Season of the Year</u>			
		<u>Winter</u>	<u>Spring</u>	<u>Summer</u>	<u>Fall</u>
How many times did you go fishing in 1997?	None	1.67	2.71	3.22	1.94
	Partial	1.45 ^b	2.46 ^b	2.92 ^b	1.77 ^b
	Full	1.75 ^a	2.90 ^a	3.28 ^a	2.17 ^a
How many times did you go fishing in 1997 with members of your family?	None	1.49	2.46	2.93	1.81
	Partial	1.31 ^b	2.22 ^b	2.67 ^b	1.68 ^b
	Full	1.59 ^a	2.54 ^a	2.99 ^a	2.01 ^a

¹ 1 = none; 2 = 1-3 times; 3 = 4-6 times; 4 = 7-9 times; 5 = 10 times or more.

^a Mean of group a is statistically larger than group b at $P < .10$ using Scheffe's test.

Table 6. Differences in perceived outcomes of program participation by youth in two program subgroups.

	Program Subgroup	n	Percent Who Believed Statement			χ^2	Level of Significance
			True	False	Don't Know		
“Because of Hooked on Fishing - Not on Drugs”							
I have gone fishing more often.	Partial	165	31.5	53.9	14.5	28.61	<0.001
	Full	234	56.8	29.1	14.1		
I have gone fishing more often with members of my family.	Partial	165	38.2	50.3	11.5	15.90	<0.001
	Full	234	56.8	31.2	12.0		
I have spent more time talking with members of my family.	Partial	165	37.0	43.6	19.4	10.06	0.006
	Full	235	50.6	28.9	20.4		
I have had more fun fishing with family members.	Partial	165	39.4	45.5	15.2	21.33	<0.002
	Full	232	58.6	23.7	17.7		
I have learned that I am good at fishing.	Partial	165	42.4	43.6	13.9	24.1	<0.001
	Full	235	62.1	20.9	17.0		
I understand more about aquatic life.	Partial	165	46.1	30.9	23.0	15.80	<0.001
	Full	234	64.5	16.2	19.2		
I care more about fish and the places they live	Partial	165	55.8	26.1	18.2	12.92	0.001
	Full	235	72.8	14.5	12.8		
I have learned things that I can do to help protect fish and the places they live.	Partial	165	60.0	21.2	18.8	9.68	0.007
	Full	235	74.5	12.3	13.2		
I have learned how to make better decisions.	Partial	165	69.7	18.2	12.1	0.38	0.825
	Full	233	72.1	15.9	12.0		
I feel better about myself.	Partial	165	63.0	20.6	16.4	8.15	0.016
	Full	234	73.9	10.7	15.4		
I have changed some of my opinions about alcohol.	Partial	165	58.8	30.3	10.9	0.65	0.721
	Full	235	57.9	33.2	8.9		
I have changed some of my opinions about drugs.	Partial	165	60.0	31.5	8.5	1.02	0.600
	Full	235	62.6	27.2	10.2		

Table 7. Fishing and stewardship skills reported by youth in three program subgroups.

Fishing or Stewardship Skill Identifying fish.	Program Subgroup	n	Mean ¹	Very Strong	Percent Who Reported Skill Level				
					Strong	Medium	Weak	No Skills	
Fishing or Stewardship Skill Identifying fish.	None	192	3.27	9.4	15.1	29.2	31.8	14.6	
	Partial	154	3.34	5.8	11.0	40.3	28.6	14.3	
	Full	229	3.10	13.5	14.0	34.1	25.8	12.7	
Choosing where to fish.	None	194	2.83 ^a	13.4	25.3	32.5	22.7	6.2	
	Partial	153	2.83	15.0	25.5	29.4	20.9	9.2	
	Full	231	2.59 ^b	17.7	30.3	32.0	14.7	5.2	
Handling the fish I catch.	None	194	2.64	27.8	20.1	22.2	19.6	10.3	
	Partial	154	2.80 ^a	27.3	16.9	23.4	13.0	19.5	
	Full	231	2.40 ^b	33.3	28.1	14.7	12.6	11.3	
Taking care of fishing equipment.	None	194	2.15	36.1	28.9	22.2	9.3	3.6	
	Partial	154	2.26 ^a	35.1	24.7	25.3	8.4	6.5	
	Full	231	1.92 ^b	45.0	25.5	22.9	4.8	1.7	
Casting skills.	None	194	2.19	35.1	26.8	25.8	8.8	3.6	
	Partial	152	2.24	32.9	30.3	24.3	6.6	5.9	
	Full	230	2.02	38.3	30.0	24.8	4.8	2.2	
Releasing fish I don't keep.	None	192	2.31 ^a	37.0	22.4	21.4	10.9	8.3	
	Partial	154	2.23	43.5	16.9	21.4	9.1	9.1	
	Full	228	1.98 ^b	49.6	21.1	15.8	8.8	4.8	
Fishing without bothering people nearby.	None	191	2.09 ^a	40.8	27.7	18.3	6.8	6.3	
	Partial	152	2.02 ^a	42.8	30.9	13.8	6.6	5.9	
	Full	229	1.68 ^{b,d}	57.6	22.3	16.2	2.2	1.7	
Limiting how much impact I have on the environment when I go fishing.	None	191	2.25 ^c	33.0	25.7	28.3	9.4	3.7	
	Partial	152	2.24 ^c	34.9	24.3	27.6	7.9	5.3	
	Full	228	1.87 ^{b,d}	45.2	28.9	21.1	3.1	1.8	

¹ 1 = very strong, 2 = strong, 3 = medium, 4 = weak, 5 = no skills.

^a Mean of group a is statistically larger than group b at $P \leq .10$ using Scheffé's test.

^c Mean of group c is statistically larger than group d at $P \leq .10$ using Scheffé's test.

YOUTH IN FULL PROGRAMS WERE MORE LIKELY THAN YOUTH IN OTHER SUBGROUPS TO REPORT STRONG SKILLS RELATED TO FISHING WITHOUT BOTHERING OTHERS AND LIMITING IMPACT ON THE ENVIRONMENT WHILE FISHING (TABLE 7). YOUTH IN FULL PROGRAMS WERE MORE LIKELY THAN YOUTH IN PARTIAL PROGRAMS TO SAY

Empowerment-Level Variables:

Other findings did not support our hypotheses. Youth in the comparison group placed higher personal importance on visiting and taking care of aquatic habitats than youth in partial programs (Table 4). Youth in HOF-NOD programs were not more likely to place personal importance on using water efficiently or keeping water supplies clean for future generations (Table 4). When we asked respondents three questions to estimate their relative level of personal investment in aquatic stewardship issues, we found no differences between subgroups (Table 10). Substantial minorities of all three groups were unsure about whether their actions affected the environment, whether it was their responsibility to take actions to protect the environment, or what they could do personally to protect the environment.

Several findings supported our hypotheses. Youth in full programs were more likely than youth in other subgroups to report high knowledge of how human actions affect fish or aquatic habitats (Table 9). Youth in full programs were more likely than youth in partial programs to place high personal importance on: visiting wetlands, caring for local wetland habitats, and thinking about how personal actions affect aquatic plants and animals (Table 4).

Results paint a mixed picture of respondents with regard to understanding of human impacts on aquatic environments and perceived responsibility for (personal investment in) those impacts.

Ownership-Level Variables:

We asked youth who had participated in a HOF-NOD program to report whether they believed that participating in HOF-NOD had influenced their understanding of, or concern about, aquatic life. Youth in full programs were more likely than youth in partial programs to believe that their understanding of aquatic life and concern about fish and aquatic habitats increased because they participated in a HOF-NOD program (Table 6).

Youth in full programs were more likely than youth in other subgroups to report higher levels of overall knowledge of fishing aquatic environments compared to the previous year (Table 8), as well as higher knowledge in specific areas (i.e., food chains, limiting factors, sport fishing regulations, protecting aquatic habitats) (Table 9).

Entry-Level Variables:

Stewardship

were more likely than youth in partial programs to agree that because of HOF-NOD, they learned that they were "good at fishing" (Table 6).

Table 8. Family time and fishing-related knowledge reported by youth in three program subgroups.

Questionnaire Statement	Program Subgroup	n	Mean ¹	Level of Change Over Previous Year (%)					
				Much Higher	Higher	About the Same	Lower	Much Lower	
My knowledge of fishing is now...	None	202	2.44 ^e	19.8	27.7	44.6	4.0	4.0	
	Partial	165	2.55 ^a	18.2	24.8	44.2	8.5	4.2	
	Full	229	2.11 ^{b,d}	25.3	41.0	31.0	1.7	0.9	
My knowledge of aquatic environments is now...	None	203	2.59 ^e	15.3	23.2	52.2	5.9	3.4	
	Partial	164	2.49 ^a	15.2	34.1	40.2	6.7	3.7	
	Full	230	2.25 ^{b,d}	22.2	36.5	35.7	4.8	0.9	
My knowledge of how fisheries are managed is now...	None	202	2.88 ^e	6.4	23.8	52.5	9.9	7.4	
	Partial	164	2.86 ^a	11.0	23.2	45.7	8.5	11.6	
	Full	230	2.63 ^{b,d}	14.3	23.5	50.9	7.4	3.9	
The quality of time I spend doing things with my family is now...	None	203	2.55 ^e	14.8	31.0	40.4	11.3	2.5	
	Partial	165	2.56 ^a	15.2	31.5	39.4	9.7	4.2	
	Full	232	2.34 ^{b,d}	21.1	31.0	40.9	6.0	0.9	
The quality of time I spend doing things with my friends is now...	None	203	2.16	28.6	36.9	26.6	4.9	3.0	
	Partial	165	2.10	30.9	33.3	30.9	4.2	0.6	
	Full	231	2.08	26.4	45.0	22.5	5.6	0.4	
The amount of time I spend doing things with my family is now...	None	203	2.55	19.2	25.6	39.9	10.8	4.4	
	Partial	165	2.54	18.8	24.8	43.6	8.5	4.2	
	Full	232	2.38	20.7	27.6	45.3	5.2	1.3	

¹ 1 = much higher, 2 = higher, 3 = about the same, 4 = lower, 5 = much lower.

^a Mean of group a is statistically larger than group b at P < .10 using Scheffe's test.

^c Mean of group c is statistically larger than group d at P < .10 using Scheffe's test.

Table 9. Differences in stewardship entry-level variables reported by youth in three program subgroups.

Overall, how much would you say you know about ...	Program Subgroup	n	Mean ¹	Percent Who Reported Knowledge Level				
				Very Much	High Amount	Medium Amount	Low Amount	Very Little
Biological carrying capacity	None	200	3.71	4.0	7.5	31.0	28.5	29.0
	Partial	161	3.92	3.1	6.2	23.6	29.2	37.9
	Full	228	3.75	4.8	9.6	28.9	18.0	38.6
Aquatic habitats	None	200	3.09	9.5	21.5	35.5	17.5	16.0
	Partial	163	3.18 ^a	8.0	16.6	39.9	20.2	15.3
	Full	228	2.89 ^b	13.2	18.0	43.9	15.8	9.2
Food chains	None	199	2.67 ^e	18.6	25.1	36.2	10.6	9.5
	Partial	161	2.47 ^a	21.1	29.8	33.5	11.2	4.3
	Full	229	2.22 ^{b,d}	27.1	34.1	29.3	8.3	1.3
Factors that limit fish populations	None	199	3.09 ^c	14.1	15.1	35.7	17.6	17.6
	Partial	162	3.14 ^a	14.2	17.9	28.4	18.5	21.0
	Full	229	2.76 ^{b,d}	17.0	23.6	35.4	14.4	9.6
Sport fishing regulations	None	200	3.05 ^c	16.0	17.5	28.0	22.5	16.0
	Partial	165	3.24 ^a	18.2	13.3	22.4	18.2	27.9
	Full	227	2.69 ^{b,d}	22.5	20.3	31.7	16.3	9.3
Protecting Aquatic habitats	None	199	2.89 ^c	15.6	22.1	33.2	15.6	13.6
	Partial	163	3.00 ^a	15.3	17.2	35.0	17.2	15.3
	Full	229	2.49 ^{b,d}	19.7	33.2	29.7	12.7	4.8
How human actions affect fish	None	200	2.56 ^c	22.0	30.5	25.5	13.0	9.0
	Partial	164	2.54 ^a	22.6	29.9	28.0	9.8	9.8
	Full	230	2.23 ^{b,d}	31.3	29.1	28.3	7.0	4.3
How human actions affect aquatic habitats	None	199	2.89 ^e	14.1	24.6	34.2	12.1	15.1
	Partial	165	2.86 ^a	18.8	23.6	26.1	15.2	16.4
	Full	229	2.50 ^{b,d}	24.5	27.1	28.4	13.5	6.6

¹ 1 = very much, 2 = high amount, 3 = medium amount, 4 = low amount, 5 = very little.

^a Mean of group a is statistically larger than group b at $P < .10$ using Scheffe's test.

^e Mean of group c is statistically larger than group d at $P < .10$ using Scheffe's test.

Table 10. Differences in personal investment in aquatic stewardship and stewardship action skills reported by youth in three program subgroups.

Personal Investment Statements	Program Subgroup	n	Mean ¹	Percent Who Agreed or Disagreed With Statement				
				Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
I feel like my actions have a direct effect on the environment.	None	203	2.76	14.3	21.7	44.3	12.3	7.4
	Partial	162	2.89	14.8	16.7	45.7	9.9	13.0
	Full	232	2.72	15.9	22.8	41.8	11.6	7.8
Trying to protect the environment is my responsibility.	None	203	2.44	20.7	31.0	36.9	5.4	5.9
	Partial	163	2.49	20.9	31.9	31.9	7.4	8.0
I think about how my actions may harm the environment.	Full	232	2.35	21.6	35.8	32.3	6.5	3.9
	None	203	2.47	13.8	40.4	33.5	8.9	3.4
Stewardship Action Skill Statements	Partial	160	2.45 ^a	20.0	31.9	35.0	9.4	3.8
	Full	231	2.24 ^b	21.6	42.9	26.4	7.4	1.7
I feel like there are many things I can do to protect the environment.	None	201	2.14	27.9	38.8	26.9	4.0	2.5
	Partial	163	2.22 ^a	25.8	38.7	26.4	6.1	3.1
	Full	229	1.97 ^b	30.6	46.7	18.8	2.2	1.7
Doing things to protect the environment would be a waste of my time.	None	203	3.89	5.4	6.4	19.7	30.0	38.4
	Partial	163	3.96	4.9	6.1	15.3	34.4	39.3
	Full	232	4.10	4.7	4.3	13.8	30.2	47.0

¹ 1 = strongly agree, 2 = agree, 3 = neither, 4 = disagree, 5 = strongly disagree.

^a Mean of group a is statistically larger than group b at P < .10 using Scheffe's test.

We did find several between group differences related to family interactions and communication. Youth in full programs were more likely than youth in other groups to report strong skills related to communicating with parents (Table 13). Youth in full programs were more likely than youth in other groups to report an increase in the quality of the time they spent doing things with their family during the preceding year (Table 8). Youth in full programs also were more likely than youth in partial programs to say that they spent more time talking with members of their family and had more fun fishing with members of their family because they had participated in a HOF-NOD program (Table 6).

We found little evidence that HOF-NOD programs influenced general communication skills. We found no differences between subgroups on four indicators of communication skills (i.e., working out problems with other people, avoiding misunderstandings, asking questions, and listening to other people) (Table 13) or seven indicators of peer interaction skills (Table 14).

Communication and Interpersonal Relationships:

The majority of youth in HOF-NOD programs reported that they learned how to make better decisions because they had participated in a Hooked on Fishing program (Table 6). However, we found no significant differences between subgroups related to decision-making skills (Table 12), and youth in full programs were no more likely than youth in partial programs to believe that HOF-NOD helped them make better decisions (Table 6).

Decision-Making:

Results related to the concept of self-esteem were mixed. We asked youth who had participated in a HOF-NOD program to report whether they believed that participating in HOF-NOD had influenced their self-image. The majority of youth in HOF-NOD programs reported that they felt better about themselves because they had participated in a Hooked on Fishing program (Table 6). Moreover, youth in full programs were more likely than youth in partial programs to say that they felt better about themselves because they participated in HOF-NOD (Table 6). On the other hand, we found only one significant difference between groups on the 10 items in the Rosenberg Self Esteem Scale (Rosenberg 1965). Youth in full programs were more likely than youth in partial programs to agree with the statement, "I take a positive attitude toward myself" (Table 11).

Self-Esteem:

Drug-Use Prevention

that, because they had participated in a HOF-NOD program, they had learned things they could do to help protect fish and the places they live (Table 6). Youth in full programs also were more likely than youth in partial programs to agree with the statement, "there are many things I can do to protect the environment." However, youth in full HOF-NOD programs were no more likely than youth in a comparison group to agree with that statement.

Table 11. Differences in self esteem reported by youth in three program subgroups.

Self-Esteem Statement	Program Subgroup	n	Mean ¹	Percent Who Agreed or Disagreed With Statement				
				Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
I take a positive attitude toward myself.	None	201	1.86	38.3	38.8	19.9	3.0	0.0
	Partial	165	2.00 ^a	37.6	38.2	14.5	6.1	3.6
	Full	233	1.74 ^b	43.3	42.9	10.3	2.6	0.9
I wish that I could have more respect for myself.	None	200	2.54	18.5	36.2	25.5	11.5	8.0
	Partial	165	2.60	20.6	29.7	26.1	15.8	7.9
	Full	233	2.56	21.0	33.0	24.0	12.4	9.4
I feel that I'm a valuable person at least equal with others.	None	197	1.92	37.1	38.1	20.3	4.1	0.5
	Partial	164	2.00	39.6	32.9	17.1	7.9	2.4
	Full	232	1.85	37.5	45.3	12.1	4.3	0.9
I feel useless at times.	None	200	2.79	17.5	29.0	24.0	16.0	13.5
	Partial	162	2.88	13.6	35.2	17.3	16.7	17.3
	Full	233	2.85	16.3	27.0	26.2	15.9	14.6
I feel that I have a number of good qualities.	None	197	1.93	37.1	38.6	18.3	5.6	0.5
	Partial	164	1.95	37.2	42.1	13.4	3.0	4.3
	Full	232	1.85	35.8	47.8	13.4	0.9	2.2
I feel that I do not have much to be proud of.	None	200	3.73	8.0	9.0	16.0	35.5	31.5
	Partial	165	3.85	6.1	8.5	17.0	30.9	37.6
	Full	232	3.69	8.6	9.9	18.1	30.2	33.2

¹ 1 = strongly agree, 2 = agree, 3 = neither, 4 = disagree, 5 = strongly disagree.

^a Mean of group a is statistically larger than group b at $P < .10$ using Scheffé's test.

Table 11. (continued).

<u>Self-Esteem Statement</u>	<u>Program Subgroup</u>	<u>n</u>	<u>Mean¹</u>	<u>Percent Who Agreed With Statement</u>				
				<u>Strongly Agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
I am able to do things as well as most other people.	None	201	1.90	35.8	42.3	18.4	2.5	1.0
	Partial	165	1.94	40.6	36.4	15.2	3.6	4.2
	Full	230	1.90	37.8	43.9	11.3	3.9	3.0
At times I think I am no good at all.	None	200	3.25	11.0	21.5	24.0	18.0	25.5
	Partial	164	3.29	9.8	22.6	18.9	26.2	22.6
	Full	231	3.29	10.0	20.3	23.8	22.1	23.8
I feel that I am a failure.	None	199	3.98	5.5	9.0	15.6	21.6	48.2
	Partial	165	4.05	4.8	7.9	12.7	26.1	48.5
	Full	232	4.07	3.4	6.0	15.9	28.4	46.1
In general, I am satisfied with myself.	None	197	1.93	37.1	39.6	18.3	3.0	2.0
	Partial	165	2.02	37.6	36.4	16.4	5.5	4.2
	Full	231	1.83	39.4	45.5	9.1	4.3	1.7

¹ 1 = strongly agree, 2 = agree, 3 = neither, 4 = disagree, 5 = strongly disagree.

Table 12. Differences in decision-making reported by youth in three program subgroups.

When I have a problem or need to make an important decision I....	Program Subgroup	n	Mean ¹	Frequency That Decision-Making Step is Used (%)				
				Never	Almost Never	Sometimes	Almost Always	Always
Get the information needed to make the best choice.	None	203	3.29	4.4	8.9	48.3	30.0	8.4
	Partial	163	3.42	6.7	5.5	41.1	31.9	14.7
	Full	232	3.41	3.4	8.2	44.8	30.6	12.9
Stop before doing anything to be sure I understand what the problem or decision is.	None	202	3.45	5.4	7.4	38.6	33.7	14.9
	Partial	163	3.52	6.7	9.2	31.9	29.4	22.7
	Full	232	3.55	1.7	8.2	39.7	34.1	16.4
Think of as many possible choices or ways of solving the problem as I can.	None	203	3.51	4.9	7.4	38.9	28.6	20.2
	Partial	163	3.57	3.7	12.3	31.3	28.8	23.9
	Full	232	3.56	3.4	8.6	32.8	38.8	16.4
Think about what will happen for each choice before doing anything.	None	203	3.37	7.9	8.9	38.4	27.6	17.2
	Partial	163	3.53	6.1	11.0	28.8	31.3	22.7
	Full	232	3.56	2.2	10.3	37.9	28.0	21.6
Make the best choice and then do it.	None	203	3.73	4.4	5.4	31.0	30.5	28.6
	Partial	162	3.90	3.7	6.2	21.6	33.3	35.2
	Full	231	3.82	1.7	4.8	33.3	29.4	30.7

¹ 1 = never, 2 = almost never, 3 = sometimes, 4 = almost always, 5 = always.

Table 13. Differences in communication reported by youth in three program subgroups.

Skill Area	Program Subgroup	n	Mean ¹	Perceived Skill Level (5)				
				Very Strong	Strong	Medium	Weak	Very Weak
Working out problems with other people.	None	202	2.40	17.8	36.6	36.6	5.0	4.0
	Partial	163	2.35	18.4	39.9	33.1	4.9	3.7
	Full	232	2.27	20.3	37.9	36.6	4.3	0.9
Communicating with parents.	None	201	2.42 ^a	28.4	25.4	26.9	13.9	5.5
	Partial	163	2.33	25.8	33.1	29.4	5.5	6.1
	Full	232	2.18 ^b	29.3	32.8	29.3	7.8	0.9
Avoiding misunderstandings.	None	201	2.62	11.9	28.9	48.8	6.0	4.5
	Partial	163	2.64	15.3	28.2	39.3	11.0	6.1
	Full	232	2.46	18.5	33.6	34.1	10.3	3.4
Asking questions.	None	203	2.33	25.6	34.0	27.1	8.4	4.9
	Partial	159	2.39	23.9	30.8	32.1	8.8	4.4
	Full	232	2.22	28.0	34.1	28.9	5.2	3.9
Listening to other people.	None	203	2.04	32.5	37.9	23.6	3.9	2.0
	Partial	163	1.96	36.2	39.3	19.6	1.8	3.1
	Full	231	2.00	36.8	36.4	20.3	2.6	3.9

¹ 1 = very strong, 2 = strong, 3 = medium, 4 = weak, 5 = very weak.

^a Mean of group a is statistically larger than group b at $P < .10$ using Scheffe's test.

Table 14. Differences in perceived social skills with peers reported by youth in three program subgroups.

<u>Questionnaire Statement</u>	<u>Program Subgroup</u>	<u>n</u>	<u>Mean¹</u>	<u>Percent Who Agreed or Disagreed With Statement</u>				
				<u>Strongly Agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
I get along well with other people my own age.	None	203	1.78	38.9	45.8	13.3	2.0	0.0
	Partial	163	1.65	47.9	41.7	8.6	1.2	0.6
	Full	233	1.73	43.8	43.8	8.6	2.6	1.3
Most people are more popular than I am.	None	202	2.66	18.3	24.8	36.6	12.4	7.9
	Partial	162	2.75	18.5	24.1	29.6	18.5	9.3
	Full	232	2.85	15.5	22.4	32.3	20.7	9.1
People pick on me a lot.	None	202	3.57	8.9	12.4	19.8	30.2	28.7
	Partial	163	3.42	11.7	8.6	27.6	29.4	22.7
	Full	232	3.33	13.8	12.5	22.4	28.9	22.4
Most people my age like me.	None	202	2.13	29.7	40.6	17.8	9.9	2.0
	Partial	162	1.96	32.7	45.1	17.3	3.1	1.9
	Full	231	2.11	26.8	45.0	20.3	5.6	2.2
It is hard for me to make friends.	None	203	3.87	5.4	10.8	12.8	33.0	37.9
	Partial	163	3.94	4.9	6.7	14.7	36.2	37.4
	Full	230	3.88	4.8	9.1	15.2	34.3	36.5
Other people are often mean to me.	None	203	3.74	6.9	12.8	15.3	29.1	36.0
	Partial	161	3.57	8.1	13.0	17.4	36.6	24.8
	Full	232	3.56	7.8	15.1	17.7	31.5	28.0
I am among the last invited to social events.	None	202	3.50	6.4	13.9	26.2	30.2	23.3
	Partial	163	3.42	10.4	12.9	23.9	29.4	23.3
	Full	233	3.43	8.2	14.2	27.5	26.6	23.6

¹ 1 = strongly agree, 2 = agree, 3 = neither, 4 = disagree, 5 = strongly disagree.

Parents of youth in the multiple-fishing subgroup programs were more likely than parents of youth in single-fishing subgroup programs to have taken their child fishing 3 or more times in the previous year.

Over 95% of parents interviewed had taken their child fishing before that child participated in HOF-NOD program (Table 17). Over 90% had taken their child fishing in the 12 months prior to the telephone interview (Table 17).

Results From Parent Interviews

The majority of parents we interviewed reported on youth aged 12 to 14 (Table 2). Sixty-seven percent of the parents interviewed gave information about a male child; 33% reported on a female child. All interviews were conducted with parents of youth who had fished at least one time as part of a HOF-NOD program.

We completed interviews with 78 individuals. Eighty-four individuals agreed to be interviewed, but no interview was completed because their child had never gone fishing as part of a HOF-NOD program. Two individuals refused to be interviewed; 10 individuals could not be reached because the telephone number they provided was incorrect or out of service; four or more unsuccessful attempts were made to contact the remaining 11 individuals who returned an interview consent form. We deleted one interview from the analysis because the youth involved was not a mainstream student. This resulted in a usable sample of 77 interviews. We completed 48% of the interviews with parents in Arkansas. We completed the remaining interviews with parents in Ohio (27%), Texas (13%), and West Virginia (12%) (Table 1).

Response and Demographic Characteristics

RESULTS PART 2: PARENT INTERVIEWS

Youth in fully-implemented programs were less likely than youth in the comparison group to agree that it is helpful to use drugs when under stress, or that drugs help people have more fun (Table 16). Youth in full and partial programs were not significantly different on these two items. We found no differences between subgroups on the five other items used as indicators of attitudes toward drugs.

Attitudes About Drug Use:

We used five items to explore future orientation and personal responsibility for oneself. We found that youth in the full programs were more likely than youth in partial programs to express a strong orientation toward the future on three of the five indicators (Table 15). However, there were no differences between the program and comparison groups.

Future Orientation and Personal Responsibility:

Table 15. Differences in future orientation and personal responsibility reported by youth in three program subgroups.

<u>Questionnaire Statement</u>	<u>Program Subgroup</u>	<u>n</u>	<u>Mean¹</u>	<u>Percent Who Agreed or Disagreed With Statement</u>				
				<u>Strongly Agree</u>	<u>Agree</u>	<u>Neither</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
Making something of my life is important to me.	None	201	1.50	63.2	25.9	8.5	2.5	0.0
	Partial	165	1.37	72.7	20.0	5.5	0.6	1.2
	Full	233	1.41	70.4	21.9	4.7	1.7	1.3
I use my own set of values to decide what I will or will not do.	None	200	1.93	35.5	41.0	19.5	3.0	1.0
	Partial	164	2.03 ^a	34.8	36.6	22.6	3.0	3.0
	Full	232	1.79 ^b	44.8	37.9	12.1	3.4	1.7
It is partly my responsibility to take care of my own health.	None	200	1.64	50.5	39.0	7.0	2.5	1.0
	Partial	164	1.53	57.3	34.8	6.1	1.2	0.6
	Full	232	1.53	57.8	34.1	4.7	3.4	0.0
I can control the kind of person I will become.	None	197	1.57	55.8	33.5	8.1	2.5	0.0
	Partial	165	1.73 ^a	52.7	30.9	9.7	3.0	3.6
	Full	232	1.51 ^b	64.2	25.0	6.9	2.6	1.3
I do not want to be just one of the crowd.	None	201	2.02	39.3	30.8	21.4	5.0	3.5
	Partial	165	1.83 ^a	49.1	29.7	13.9	3.6	3.6
	Full	233	1.80 ^b	50.2	28.3	15.0	3.9	2.6

¹ 1 = strongly agree, 2 = agree, 3 = neither, 4 = disagree, 5 = strongly disagree.

^a Mean of group a is statistically larger than group b at P < .10 using Scheffe's test.

Table 16. Differences in attitudes toward drug use reported by youth in three program subgroups.

Questionnaire Statement	Program Subgroup	n	Mean ¹	Percent Who Agreed or Disagreed With Statement				
				Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
It's OK to try drugs once or twice just to see what they are like.	None	203	4.15	4.9	6.4	11.8	21.7	55.2
	Partial	165	4.26	1.8	6.1	13.3	21.8	57.0
	Full	234	4.32	3.4	7.3	9.4	12.8	67.1
It's OK for people to use drugs if drugs make them feel better.	None	204	4.22	3.9	4.9	14.2	19.1	57.8
	Partial	164	4.37	2.4	3.7	9.1	23.8	61.0
	Full	234	4.33	3.8	6.0	9.0	15.0	66.2
There is really nothing wrong with using most drugs.	None	204	4.29	3.9	5.4	8.8	20.6	61.3
	Partial	164	4.37	1.8	3.0	12.8	20.1	62.2
	Full	233	4.43	2.1	3.4	11.2	15.0	68.2
People who use drugs have more friends.	None	204	4.31	3.9	3.4	10.8	20.6	61.3
	Partial	165	4.45	0.6	3.6	10.9	19.4	65.5
	Full	232	4.50	2.6	2.6	8.6	14.7	71.6
When you are under a lot of stress, it is helpful to use drugs.	None	203	4.40 ^b	3.0	3.9	6.4	22.7	64.0
	Partial	165	4.53	0.6	2.4	9.1	18.8	69.1
	Full	234	4.60 ^a	2.1	1.3	4.3	18.4	73.9
Drugs help you have more fun.	None	203	4.43 ^b	3.4	1.5	9.9	18.2	67.0
	Partial	165	4.49	1.8	3.0	8.5	17.0	69.7
	Full	233	4.64 ^a	1.3	2.1	5.2	13.3	78.1
Young adults who use drugs are more mature than young adults who don't use drugs.	None	203	4.47	3.0	3.0	8.4	15.3	70.4
	Partial	165	4.52	1.2	3.6	7.9	16.4	70.9
	Full	232	4.62	2.6	1.3	5.6	11.6	78.9

¹ 1 = strongly agree, 2 = agree, 3 = neither, 4 = disagree, 5 = strongly disagree.

^a Mean of group a is statistically larger than group b at $P < .10$ using Scheffe's test.

Some parents mentioned changes related to greater interest in or awareness of nature or the outdoors. These changes could be described as stewardship entry-level variables. Parents did not mention any changes that we would characterize as ownership or empowerment-level variables in the stewardship education process.

We asked parents to give us an open-ended response to the question, "Have you noticed any other changes in your child that you think were associated with their participation in HOF-NOD programs?". Parents noted a range of changes in the area of fishing, stewardship, and drug-use prevention (Table 20). All of their responses can be placed in categories that had been discussed in previous interview questions. Changes related to fishing interest and participation were noted most frequently.

The majority of parents in single and multiple fishing subgroups reported spending more time with their child, experienced higher quality time with their child, and experienced improved communication with their child because they went fishing together (Table 19). However, we found that parents' perceptions in these areas were not significantly different between the single fishing event and multiple event subgroups (Table 19).

On nearly every category explored, the majority of parents in single and multiple fishing subgroups perceived that participating in a HOF-NOD program had a positive influence on their child (Table 18). Parents were most likely to perceive a positive influence on fishing skills and interest in fishing (Table 18). Parents were least likely to perceive a positive influence on school attendance and grade average (Table 18). Parents of children who had fished multiple times as part of a HOF-NOD program were more likely than parents of children in single fishing experience programs to perceive particular positive influences on: understanding of how people's actions affect fish and their environment; school attendance; and grade average (Table 18).

Program	n	Number of Trips (%)				
		1 or 2 Times	3 or 4 Times	5 or More Times	None	Subgroup
Number of family fishing trips before youth entered a HOF-NOD program.	41	7.3	10.4	79.2	2.9	Multiple
Number of family fishing trips in past 12 months.	34	5.9	8.8	82.3	5.9	Multiple
Number of family fishing trips before youth entered a HOF-NOD program.	41	7.3	10.4	79.2	2.9	Single
Number of family fishing trips in past 12 months.	34	5.9	8.8	82.3	5.9	Single

Table 17. Family fishing experiences before and after youth participated in a HOF-NOD program reported by parents of youth in single vs. multiple fishing experience HOF-NOD programs.

Table 18. Program influences perceived by parents of youth in single vs. multiple fishing experience HOF-NOD programs.

Life Skill, Fishing, and Environmental Stewardship Outcomes	Program Subgroup	Mean ¹	n	Perceived Influence on Child (%)			χ ²	Level of Significance
				Very Positive	Slightly Positive	No Influence		
Skills related to fishing.	Single	1.80	37	73.0	21.6	5.4	0.10	0.951
	Multiple	1.76	32	75.0	18.8	6.3		
Interest in going fishing.	Single	1.62	40	75.0	12.5	12.5	2.26	0.322
	Multiple	1.79	34	82.4	14.7	2.9		
Understanding of how people's actions affect fish and their environment.	Single	1.61	38	55.3	39.5	5.3	5.39	0.067
	Multiple	1.85	32	81.3	15.6	3.1		
Ability to take actions that will protect fish and their environment.	Single	1.68	35	54.3	37.1	8.6	1.20	0.54
	Multiple	1.64	33	63.6	33.3	3.0		
Knowledge of aquatic environments.	Single	1.52	39	51.3	41.0	7.7	2.03	0.361
	Multiple	1.61	34	67.6	26.5	5.9		
Motivation to learn at school.	Single	1.41	39	48.7	35.9	15.4	4.57	0.101
	Multiple	1.70	33	69.7	27.3	3.0		
Sense of self-esteem.	Single	1.51	37	51.4	32.4	16.2	1.77	0.411
	Multiple	1.55	33	57.6	36.4	6.1		
Attitude about going to school.	Single	1.19	40	45.0	25.0	30.0	3.64	0.161
	Multiple	1.55	33	66.7	18.2	15.2		
Decision-making skills.	Single	1.44	33	33.3	39.4	27.3	4.31	0.115
	Multiple	1.52	32	53.1	37.5	9.4		
School attendance.	Single	0.75	40	27.5	15.0	57.5	6.11	0.047
	Multiple	1.32	32	56.3	9.4	34.4		
Grade average.	Single	0.73	40	17.5	32.5	50.0	4.90	0.086
	Multiple	1.14	33	36.4	36.4	27.3		

¹ 2 = very positive, 1 = slightly positive, 0 = no influence.

Table 19. Differences in influences of HOF-NOD programs on family interaction and communication perceived by parents of youth in single vs. multiple fishing experience HOF-NOD programs.

<u>Questionnaire Statement</u>	<u>Program Subgroup</u>	<u>n</u>	<u>Mean¹</u>	<u>Percent of Parents Who Agreed With Statements</u>					<u>χ²</u>	<u>Level of Significance</u>
				<u>Strongly Agree</u>	<u>Slightly Agree</u>	<u>Slightly Disagree</u>	<u>Strongly Disagree</u>			
In the past year, adult members of my family spent more time than usual with my child because we went fishing together.	Single	36	1.02	36.1	47.2	16.7	0.0	2.64	0.450	
	Multiple	30	1.16	40.0	50.0	6.7	3.3			
In the past year, adult members of my family shared more quality time than usual with my child because we went fishing together.	Single	35	1.20	45.7	42.9	8.6	2.9	1.94	0.584	
	Multiple	30	1.46	60.0	33.3	6.7	0.0			
In the past year, communication between my child and adult members of my family improved because we went fishing together.	Single	35	1.17	48.6	37.1	11.4	2.9	0.29	0.961	
	Multiple	31	1.25	54.8	32.3	9.7	3.2			

¹ 1 = strongly agree, 2 = agree, 3 = neither, 4 = disagree, 5 = strongly disagree.

Table 20. Summary of responses parents gave to the open-ended question, "Have you noticed any other changes in your child that you think were associated with their participation in HOF-NOD programs?".

Parent's Description of Change	Type of Change Noticed
Fishing	Interest
<ul style="list-style-type: none"> • Wants to go fishing more. • More interested in fishing. • Looks forward to fishing. • Wants to know more about certain kinds of fish. • Encourages friends to fish now. • Shares ideas about fishing with family. 	Participation
<ul style="list-style-type: none"> • Became more knowledgeable about fishing. • Is more careful when fishing. • More cautious about catching fish. 	Knowledge and Skills
Stewardship	Entry-level variables
<ul style="list-style-type: none"> • Enjoys the outdoors more. • Wants to be outdoors more. • More aware of nature. • Gained an appreciation for the outdoors. • More aware of pollution. • Notices when someone pollutes. 	Drug Use Mediating Variables:
<ul style="list-style-type: none"> • More assertive. • More self-assured. • Self confidence increased. • Became more outgoing. • Took more control of himself. • Enjoys competing with other kids. 	Life Skills and Self Development
<ul style="list-style-type: none"> • School attendance increased. • Works on fishing-related homework. • Became an officer in a club. • Cares more about his grades now. 	Academic Interest and Performance
<ul style="list-style-type: none"> • Learned more about what drugs can do to people. • Changed attitude toward people who use drugs. 	Attitudes about Drugs

- Findings support the hypothesis that full programs are more likely than partial programs to influence entry-level variables in the aquatic stewardship education process.

Stewardship Outcomes

- Youth in the comparison group fished as much or more than youth in the partial program subgroup, and they were more likely to report increase in fishing-related interests and skills. Their involvement in actual fishing may help explain these findings and supports the notion that fishing participation may produce desired fishing outcomes regardless of whether those experiences are linked to a HOF-NOD program. However, youth in full programs including fishing scored higher on several fishing outcomes measures than did the comparison group, reflecting the influence of fishing experience combined with HOF-NOD participation.
- Findings do not support the program assumption that partial programs can influence development of fishing skills, reflecting the importance of including fishing experiences in fully-implemented programs.
- Youth in the comparison group fished as much or more than youth in the partial program subgroup, and they were more likely to report increase in fishing-related interests and skills. Their involvement in actual fishing may help explain these findings and supports the notion that fishing participation may produce desired fishing outcomes regardless of whether those experiences are linked to a HOF-NOD program. However, youth in full programs including fishing scored higher on several fishing outcomes measures than did the comparison group, reflecting the influence of fishing experience combined with HOF-NOD participation.
- Findings do not support the program assumption that partial programs are more effective than no program at all in raising fishing interest, at least among youth who have some fishing experience. However, the comparison (no program) group in this evaluation included children who had fished. Children with no program exposure and no fishing no fishing experience were not included in this study.
- Findings do not support the research hypothesis that full programs are more likely than partial programs to stimulate interest in fishing, increase fishing participation, and develop fishing skills.

Fishing Outcomes

- Participation in HOF-NOD, particularly in fully-implemented programs that included at least one fishing experience, appeared to have a strong impact on fishing-related outcomes, moderate impact on stewardship-related outcomes, and limited impact on drug-use prevention outcomes. Because the comparison group fished, however, it is difficult to characterize the impact of fully-implemented programs vs. no program and no fishing experience. In addition, few HOF-NOD programs exhibited high-end implementation involving multiple fishing experiences.

CONCLUSIONS

Some parents did perceive changes in self-perceptions and self-confidence. A few parents also noted influences on school attendance or academic interest and performance. Two parents noted some influence on their child's attitudes towards drugs or drug use. Parents did not mention any influence on other types of life skills.

- The data do not support the hypothesis that fully implemented programs are more likely than partial programs to influence general communication or peer interaction skills.
- The data do not support the hypothesis that full programs are more likely than partial programs to influence decision-making skills.
- The data provide limited support for the hypothesis that full programs are more likely than partial programs to influence communication between youth and parents.
- Findings provide little support for the hypothesis that fully-implemented programs are more likely than partial programs to influence attitudes towards drug use. These results are noteworthy considering youth in the fully-implemented program group were more likely than youth in other subgroups to have participated in a Drug Awareness and Resistance Education (D.A.R.E.) program.

Drug-Use Prevention Outcomes

- We hypothesized that full programs would have a greater influence on empowerment-level variables in the aquatic stewardship education process. The data support this hypothesis with regard to responsible fishing behavior. These data do not provide enough information to address the question of whether HOF-NOD programs address empowerment-level variables in a context other than fishing.
- We hypothesized that fully-implemented programs would have a greater influence on ownership-level variables (i.e., variables that create personal investment in aquatic environmental issues outside the context of fishing).

We found evidence that partial programs have the potential to create greater awareness of and interest in fishing. However, these programs appear to have little effect on fishing skills and fishing participation. These findings suggest that brief programs or promotional events that involve no actual fishing should be regarded as mechanisms to increase awareness of and interest in fishing. Greater expectations related to developing fishing skills or increasing fishing participation are probably unwarranted for such programs. This information should be conveyed to volunteer instructors at training workshops so that they can set realistic outcome expectations and design programs that are likely to produce specific desired outcomes. For example, instructors should be informed that brief promotional events, such as fishing events at a local mall, are best suited to move youth into the awareness stage of fishing participation. Fishing derives or other first-time fishing events are best suited to provide "threshold" experiences that initiate interest in fishing. If the instructor wants to move youth into the trial stage of fishing participation, she should develop a program that includes several actual fishing experiences over time. If the instructor wishes to move youth into the continuation stage of fishing participation,

These data provide some support for the common sense assumptions that actual fishing experiences are a necessary component to encourage additional fishing participation and development of fishing skills. This study suggests that youth who fish on their own or with family are more likely to increase fishing participation and develop better fishing skills than youth who experience a HOF-NOD program that includes no actual fishing.

Even low-level programs (i.e., brief programs that include one actual fishing experience) may provide a threshold experience that will stimulate interest in angling among youth who have never fished. However, these data suggest that partial and low-level programs may not heighten fishing interest among youth who have fished previously on their own (i.e., youth who received these threshold experiences without any programmatic intervention). This suggests that low-level programs are likely to have the greatest cumulative impact on fishing interest if such programs are targeted at youth who have never fished before. This is in fact what Foundation staff hope to do, but it is not clear that local volunteer instructors are reaching audiences which include a high proportion of youth who have never fished. It is important to note that those youth may not move beyond interest into later stages of fishing participation unless someone (family, friends, program staff) takes additional action with those youth.

Fishing Interest, Skills, And Participation

Results from the youth survey, parent interviews, and workshop participants (Dann 1998a) suggest that many state program coordinators, local instructors, youth, and parents perceive that they are receiving benefits as a result of their involvement with HOF-NOD programs. HOF-NOD seems to enjoy a positive image as a fishing, stewardship, and drug-use prevention program.

Overall Results

DISCUSSION

Although youth in the full HOF-NOD programs had more previous exposure than the other subgroups to drug prevention education (through the Drug Awareness and Resistance Education [D.A.R.E.] program), in most cases, they expressed attitudes toward drug use that were no different than those expressed by youth in the other subgroups. Yet, at the end of the questionnaire, many youth said that because of their participation in HOF-NOD they had changed their attitudes toward alcohol and drugs and made better decisions. These contradictory findings

There may be several reasons why we did not see differences in life skill outcomes for youth in partial and fully implemented programs. Fully implemented programs may not be incorporating life skills lessons to the degree expected; there may be problems with the content of the lessons; or perhaps the lessons in the program aren't effective as tools to develop life skills. These questions should be explored through additional evaluation. Foundation staff should consider undertaking some additional effort to verify how extensively local volunteers are utilizing life skills lessons and materials and to verify the effectiveness of individual lessons and activities.

These data support the contention that for many families, fishing can serve as a shared activity that produces social benefits perceived by both youth and their parents. These benefits likely occur for those families regardless of whether the fishing experience was associated with a HOF-NOD program. Volunteer instructor training should continue to emphasize the importance and benefits of incorporating family fishing experiences in local HOF-NOD programs.

Drug-use Prevention

We found evidence to support the assumption that full programs are more likely than partial programs to develop some of the knowledge and understanding that can help empower youth to take action as responsible anglers. However, we did not find evidence that HOF-NOD programs address some of the empowerment-level variables that researchers suggest are important for involvement in aquatic resource issues that go beyond fishing.

We found evidence to support the assumption that high level programs are more likely than low-level programs to develop some of the knowledge and understanding that can help youth develop ownership in fisheries management issues. However, we found evidence that HOF-NOD programs may not address some of the ownership-level variables that researchers suggest are important for broader types of aquatic resource management issues, such as conservation of water quality.

These data give some support to the notion that fishing participation, whether part of a HOF-NOD program or not, has the potential to influence entry-level stewardship variables. Involvement in fishing may explain a significant portion of the variance we observed between analysis subgroups.

Stewardship Variables

she should develop a long-term program that provides elements such as fishing apprenticeship experiences and social support from friends, family, and the community.

- For greatest pay-off from partial programs, target low-end programs only at audiences that contain a high proportion of youth who have never fished. Youth who have fished may already be experiencing many of the benefits a partial program would provide. These youth would benefit, however, from a fully-implemented program.
- Continue to encourage and support development of fully-implemented programs. For the most effect on fishing and stewardship outcomes, all HOF-NOD programs should include actual fishing experiences.

Program Implementation

RECOMMENDATIONS

We didn't obtain a large enough sample of truly high-end programs (i.e., programs that involved multiple fishing trips and many meetings over a period of several months or more) to test our hypotheses as we had planned. Despite our best efforts, we found it difficult to locate such programs and secure cooperation of the instructors associated with those programs in time to complete this study. Our difficulty in locating such instructors suggests to us that high-end programs are still uncommon, even in the states where HOF-NOD programs have been active for many years. Difficulty in securing a substantial sample of youth participants may also be indicative of problems in local participant tracking and program documentation. Program staff should consider additional efforts to track local program characteristics and document the proportion of programs that involve multiple fishing experiences, use of curriculum materials, and integration of HOF-NOD across classroom disciplines and grade levels.

During some interviews, interviewers noted that a parent made side comments suggesting that it was difficult for them to say whether HOF-NOD had influenced their child in a particular way. Yet, after making such statements, most of those parents went on to choose "very positive" or "slightly positive" rather than "no influence" as their actual response. Had this information been collected by mail, we might have received a higher percentage of "no influence" responses to our questions.

None of the parents we interviewed reported negative experiences with HOF-NOD or negative consequences due to participation in HOF-NOD. On the contrary, comments from parents were very positive. It is understandable that all the feedback we obtained from parents was favorable because parents selected themselves for interviews. It is reasonable to assume that parents who had less favorable experiences elected not to do an interview.

Other Thoughts On The Results

may be an example of the limitations of self-reports as a source of information about personal change in attitudes. Future evaluators should consider using alternative data collection procedures to overcome these limitations.

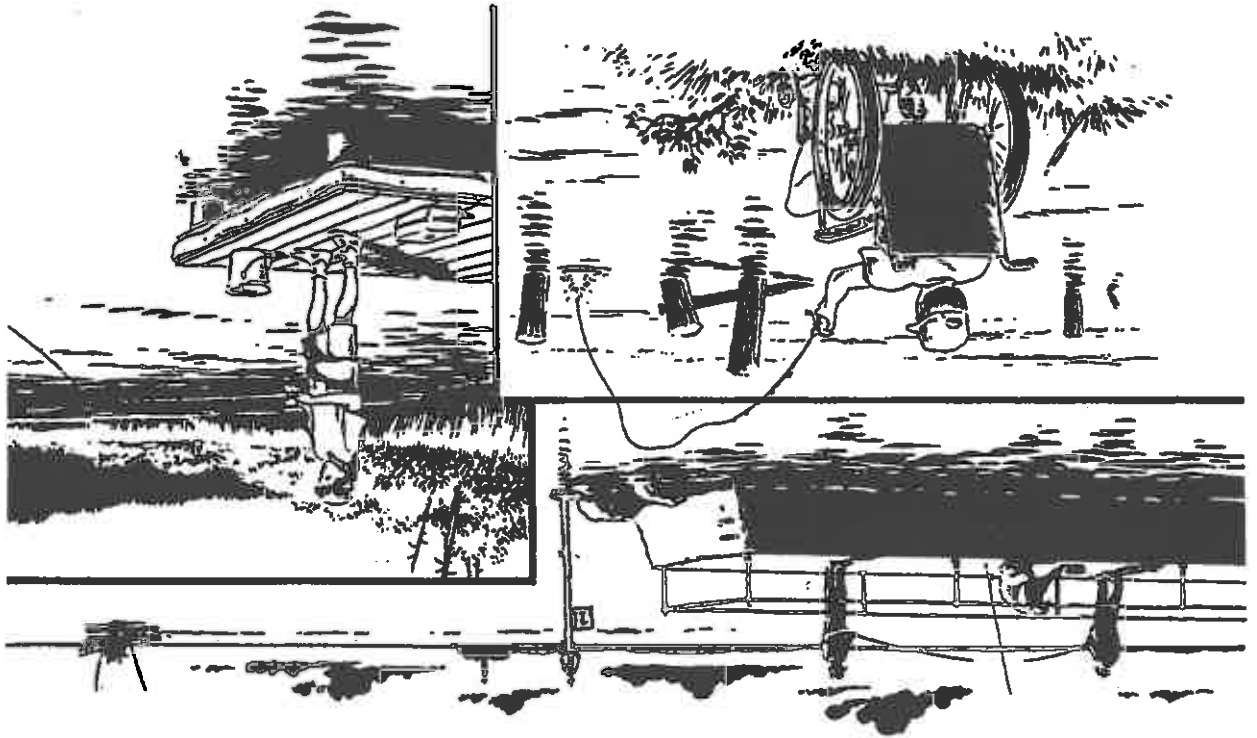
- Determine the extent to which HOF-NOD program goals and objectives should focus on developing youth who become responsible anglers and aquatic resource stewards. If it is agreed that this is an important outcome, further define HOF-NOD program goals and objectives and identify measures to assess the extent to which those outcomes have been achieved. Articulate the ownership and empowerment-level variables associated with fulfillment of those goals and objectives. Then, develop additional lessons and experiences that address the ownership and empowerment variables associated with expression of responsible angling and aquatic stewardship behavior.
 - Further define HOF-NOD program goals and objectives related to developing life skills and drug-use prevention outcomes. Develop additional lessons and experiences as needed.
 - Develop training opportunities that: (1) help volunteer instructors develop realistic outcome expectations for different program formats; and (2) design and implement local programs that are capable of producing the particular outcomes they desire.
- Suggestions Related To Future Program Evaluation**
- Develop better capabilities for tracking program participants, including: name; address; ethnicity; telephone number; school; age; gender; grade level; instructor; parent's contact information; dates of participation; and extent of program (i.e., partial vs. full). Tracking systems should focus on youth participants and their families, as well as volunteer instructors.
 - Obtain better information on the proportion of participants in partially- and fully-implemented programs. Obtain regular and explicit descriptions of programs from volunteer instructors and state coordinators to help identify which are partial and which are full.
 - Collect more complete information on use of HOF-NOD curriculum materials, including who is using them, and how frequently.
 - Program evaluations tend to evolve through a series of stages. "First stage" evaluation involves descriptive and exploratory research (our current efforts fit under these categories). Second and third stage evaluations involve more rigorous research designs and measures of outcome achievement, particularly long-term outcomes. Future evaluations of HOF-NOD should strive toward these more rigorous design and measurement standards, and will require better tracking of program participants.
 - It is typical for local sites within national programs to "show considerable variation in implementation and outcomes" (Patton 1990:102,105). Future evaluation of HOF-NOD should include in-depth case studies of a few well-established programs to identify local differences and better characterize program strengths and weaknesses.

- Identify comparison groups that contain a high proportion of youth who have never fished, so that some of the questions raised in this evaluation regarding the effect of HOF-NOD participation vs. the effect of fishing participation can be addressed.
- Target evaluations to grade levels not studied extensively in this evaluation.
- Compare fully-implemented HOF-NOD programs that include single vs. multiple fishing experiences.
- Consider additional and more extensive evaluation of ownership and empowerment variables after new lessons or experiences are added to HOF-NOD programs to develop ownership or empowerment related to responsible fishing behavior or aquatic resources stewardship behavior.
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APPENDIX A: YOUTH PARTICIPANT QUESTIONNAIRE

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Department of Natural Resources
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Ithaca, New York 14853-3001
Telephone: (607) 255-2828



FISHING AND AQUATIC EDUCATION SURVEY

THANK YOU FOR YOUR HELP!

1. Answer each question in the way that best shows your own personal feelings. There are no "wrong" answers. The best answer is the answer that shows how YOU feel.
2. Do your best to complete all items in the survey.
3. When you finish answering all the questions, please give the survey to your teacher.

TO COMPLETE THIS SURVEY:

Please help us find out about your experiences related to fishing and aquatic habitats. Your answers will help us learn what you think so we can improve aquatic education programs.

FISHING AND AQUATIC EDUCATION SURVEY

Conducted for the Future Fisherman Foundation
 1033 N. Fairfax Street, Suite 200
 Alexandria, VA 22314

SECTION ONE: YOUR OPINIONS AND EXPERIENCES RELATED TO FISHING

1. Have you ever gone fishing?

- Yes, a few times.
- Yes, many times.
- No.

IF YES, GO TO QUESTION 3. → → →

IF NO, GO TO QUESTION 2. ↑

2. If you have never gone fishing, put a check [✓] in the one box that best describes your feelings about fishing. (THEN GO TO QUESTION 11.)

- I don't think I will ever try fishing.
- I might try fishing.
- I will try fishing sometime.

IF YOU HAVE NOT FISHED, GO TO QUESTION 11. ← ← ←

3. If you have gone fishing, put a check [✓] in the one box that best describes your feelings about going fishing.

- I want to go fishing more in the future.
- I'm not sure if I want to go fishing more in the future.
- I'm not interested in going fishing in the future.

4. Which words below best describe your current level of interest in fishing? (Circle one number.)

- 1 Very Strong
- 2 Strong
- 3 Medium
- 4 Weak
- 5 Very Weak

5. How would you describe your interest in fishing compared to what it was about 1 year ago? (Circle one number.)

- 1 Much Stronger
- 2 Slightly Stronger
- 3 About the Same
- 4 Slightly Weaker
- 5 Much Weaker

6. How would you rate your skill doing the following things? (1 = very strong skills; 2 = strong skills; 3 = medium skills; 4 = weak skills; 5 = very weak skills).

	Very Strong Skills	Strong Skills	Medium Skills	Weak Skills	No Skills
a. Identifying fish	1	2	3	4	5
b. Choosing where to fish	1	2	3	4	5
c. Handling the fish I catch	1	2	3	4	5
d. Taking care of fishing equipment ..	1	2	3	4	5
e. Casting skills	1	2	3	4	5
f. Releasing fish I don't keep.	1	2	3	4	5
g. Fishing without bothering people nearby	1	2	3	4	5
h. Limiting how much impact I have on the environment when I go fishing ..	1	2	3	4	5

7. Now think about your fishing skills overall. Please circle one number below that best shows your own overall fishing skill.(1 = very strong skills; 2 = strong skills; 3 = medium skills; 4 = weak skills; 5 = very weak skills.)

Very Strong Skills	Strong Skills	Medium Skills	Weak Skills	No Skills
1	2	3	4	5

8. Complete the sentence that best describes your fishing skills today. (Check [✓] one box.)

- My fishing skills are:
- much better than they were 1 year ago.
 - somewhat better than they were 1 year ago.
 - about the same as they were 1 year ago.
 - probably worse than they were 1 year ago.

9. How many times did you go fishing in 1997? (Circle one number for each season of the year.)

	Season of the Year				
	None	1-3 Times	4-6 Times	7-9 Times	10 times or more
a. Winter, 1997 (January-March)	1	2	3	4	5
b. Spring, 1997 (April-June)	1	2	3	4	5
c. Summer, 1997 (July-September)	1	2	3	4	5
d. Fall, 1997 (October-December)	1	2	3	4	5

10. How many times did you go fishing in 1997 with a member of your family (for example, your parents, grandparents, brothers, or sisters)? (Circle one number for each season of the year.)

	Season of the Year				
	None	1-3 Times	4-6 Times	7-9 Times	10 times or more
a. Winter, 1997 (January-March)	1	2	3	4	5
b. Spring, 1997 (April-June)	1	2	3	4	5
c. Summer, 1997 (July-September)	1	2	3	4	5
d. Fall, 1997 (October-December)	1	2	3	4	5

11. Think about what you were like one year ago. Please circle one number below for each item to show how you have changed since about 1 year ago.

	Much Higher	Higher	About the Same	Lower	Much Lower
a. The quality of time I spend doing things with my family is now	1	2	3	4	5
b. The quality of time I spend doing things with my friends is now	1	2	3	4	5
c. The amount of time I spend doing things with my family is now	1	2	3	4	5
d. My knowledge of fishing is now	1	2	3	4	5
e. My knowledge of aquatic environments is now	1	2	3	4	5
f. My knowledge of how fisheries are managed is now	1	2	3	4	5

SECTION TWO: YOUR AQUATIC EDUCATION EXPERIENCES AND KNOWLEDGE

12. Overall, how much would you say you know about the following topics? (Circle one number for each topic.)

	Very Little	Low	Medium	High	Much
a. Biological carrying capacity	5	4	3	2	1
b. Aquatic habitats	5	4	3	2	1
c. Food chains	5	4	3	2	1
d. Factors that limit fish populations	5	4	3	2	1
e. Sport fishing regulations	5	4	3	2	1
f. Protecting aquatic habitats	5	4	3	2	1
g. How human actions affect fish	5	4	3	2	1
h. How human actions affect aquatic habitats	5	4	3	2	1

13. Please circle one number for each item to show how important each is to you personally.

	Not at all	Slightly	Somewhat	Important	Very Important
a. visit and explore places such as creeks, ponds, and wetlands	5	4	3	2	1
b. help take care of the places in your area where aquatic plants and fish live	5	4	3	2	1
c. think about how things you do might affect aquatic plants and fish	5	4	3	2	1
d. think about fishing	5	4	3	2	1
e. use water efficiently	5	4	3	2	1
f. go fishing	5	4	3	2	1
g. help make sure that people in the future have clean water to drink	5	4	3	2	1

SECTION THREE: HOW YOU FEEL ABOUT YOURSELF

14. Please circle one number for each item that best describes how you feel about yourself. (1 = you strongly agree with the statement; 2 = you agree; 3 = you neither agree nor disagree; 4 = you disagree; 5 = you strongly disagree.)

	1	2	3	4	5
a. I take a positive attitude toward myself.	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
b. I wish that I could have more respect for myself.	1	2	3	4	5
c. I feel that I'm a valuable person at least equal with others.	1	2	3	4	5
d. I feel useless at times.	1	2	3	4	5
e. I feel that I have a number of good qualities.	1	2	3	4	5
f. I feel that I do not have much to be proud of.	1	2	3	4	5
g. I am able to do things as well as most other people.	1	2	3	4	5
h. At times I think I am no good at all.	1	2	3	4	5
i. I feel that I am a failure.	1	2	3	4	5
j. In general, I'm satisfied with myself.	1	2	3	4	5
k. Making something of my life is important to me.	1	2	3	4	5
l. I use my own set of values to decide what I will or will not do.	1	2	3	4	5
m. It is partly my responsibility to take care of my own health.	1	2	3	4	5
n. I can control the kind of person I will become.	1	2	3	4	5
o. I do not want to be just one of the crowd.	1	2	3	4	5

15. Read the statements below and circle one number for each item to show your response.

When I have a problem or need to make an important decision I . . .	Never	Almost Never	Sometimes	Always
a. get the information needed to make the best choice	1	2	3	4
b. stop before doing anything to be sure I understand what the problem or decision is	1	2	3	4
c. think of as many possible choices or ways of solving the problem as I can	1	2	3	4
d. think about what will happen for each choice before doing anything	1	2	3	4
e. make the best choice and then do it	1	2	3	4

16. How would you describe your skills in the following areas? (Circle one number for each item.)

	Very strong	Strong	Medium	Weak	Very Weak
a. Working out problems with other people	1	2	3	4	5
b. Communicating with parents	1	2	3	4	5
c. Avoiding misunderstandings with people	1	2	3	4	5
d. Asking questions	1	2	3	4	5
e. Listening to other people	1	2	3	4	5

17. How much do you agree with the following statements? (Circle one number for each item.)

	1	2	3	4	5
a. I get along well with other people my own age	Strongly Agree	Agree	Disagree	Disagree	Strongly Disagree
b. Most people are more popular than I am	1	2	3	4	5
c. People pick on me a lot	1	2	3	4	5
d. Most people my age like me	1	2	3	4	5
e. It is hard for me to make friends	1	2	3	4	5
f. Other people are often mean to me	1	2	3	4	5
g. I am among the last invited to social events	1	2	3	4	5
h. I feel like my actions have a direct effect on the environment	1	2	3	4	5
i. Trying to protect the environment is my responsibility	1	2	3	4	5
j. I think about how my actions may harm the environment	1	2	3	4	5
k. I feel like there are many things I can do to protect the environment	1	2	3	4	5
l. Doing things to protect the environment would be a waste of my time	1	2	3	4	5

SECTION FOUR- YOUR OPINIONS ABOUT ILLEGAL DRUGS

18. These are statements about illegal drugs. Please circle one number for each statement to show how much you agree or disagree with the statement.

	1	2	3	4	5
a. It's OK to try drugs once or twice just to see what they are like	1	2	3	4	5
b. It's OK for people to use drugs if drugs make them feel better	1	2	3	4	5
c. There is really nothing wrong with using most drugs	1	2	3	4	5
d. People who use drugs have more friends	1	2	3	4	5
e. When you are under a lot of stress, it is helpful to use drugs	1	2	3	4	5
f. Drugs help you have more fun	1	2	3	4	5
g. Young adults who use drugs are more mature than young adults who don't use drugs	1	2	3	4	5

SECTION FIVE- BACKGROUND INFORMATION ABOUT YOU
 This background information will help us better understand your other responses

19. In what year were you born? _____ 19__

20. What is your sex?

Male Female

21. What is your race? (Check [✓] one box.)

- White
- Black or African American
- Asian or Pacific Islander
- Native American Indian
- Other

22. Are you of Spanish or Hispanic origin?

- Yes
- No

23. What grade are you in this year?

- 5th grade.
- 6th grade.
- 7th grade.
- 8th grade.
- 9th grade.
- 10th grade.

24. Have you participated in a "DARE" program (Drug Resistance Education Program) in the past year?

- No
- Yes

25. In the past year, have you participated in any other programs at school that focused on education about drugs or alcohol?

- No
- Yes ---> What are the names of those programs?

26. Have you ever participated in a program at school called "Hooked on Fishing - Not on Drugs" ?

No Yes
 IF NO, GO TO PAGE 14. IF YES, GO TO NEXT QUESTION.

SECTION SIX: QUESTIONS ABOUT THE HOOKED ON FISHING-NOT ON DRUGS PROGRAM

Answer these questions ONLY if you have been in a "Hooked on Fishing-Not on Drugs" program.

27. Check the boxes that show when you were in a "Hooked on Fishing - Not on Drugs" program. (Check [✓] all boxes that apply.)

- Fall 1997 (October - December).
- Summer 1997 - (July - September).
- Spring 1997 (April - June).
- Winter 1997 (January - March).
- Fall 1996.
- More than 1 year ago (summer of 1996 or earlier).

28. Circle the numbers to show what kinds of things you have done as part of a "Hooked on Fishing - Not on Drugs" program. (Circle one number for each item.)

Yes No I Don't Know

- a. Did you participate in an after-school program or "Hooked on Fishing - Not on Drugs" club? 1 2 3
- b. Did you go on field trips during a school day? 1 2 3
- c. Did you do some "Hooked on Fishing - Not on Drugs" activities as part of one of your regular classes? 1 2 3
- d. Did you attend a fishing event that was organized by your school? 1 2 3

	True	False	I Don't Know
a. I have gone fishing more often	1	2	3
b. I have spent more time talking with members of my family	1	2	3
c. I have had more fun fishing with family members	1	2	3
d. I have gone fishing more often with members of my family	1	2	3
e. I have changed some of my opinions about alcohol	1	2	3
f. I have changed some of my opinions about drugs	1	2	3
g. I have learned how to make better decisions	1	2	3
h. I have learned that I am good at fishing	1	2	3
i. I understand more about aquatic life	1	2	3
j. I care more about fish and the places they live	1	2	3
k. I have learned things that I can do to help protect fish and the places they live	1	2	3
l. I feel better about myself	1	2	3

29. How many times did you meet in your last "Hooked on Fishing - Not on Drugs" program? (Check [✓] one box.)
- 1 time.
- A few times.
- Many times.
30. How many times did you go fishing as part of your last "Hooked on Fishing - Not on Drugs" program? (Check [✓] one box.)
- None.
- 1-3 times.
- 4 times or more.
31. Think about what you were like before you participated in a "Hooked on Fishing - Not on Drugs" program. Then, circle one number below for each item to show how YOU think you have been affected by a "Hooked on Fishing" program.

**The Future Fisherman Foundation
Thanks You for Your Time and Effort!**

PLEASE RETURN YOUR COMPLETED SURVEY TO YOUR TEACHER.

*** * * THE END * * ***

APPENDIX B: PROFILES OF STATES SAMPLED

**SUMMARY OF HOOKED ON FISHING - NOT ON DRUGS PROGRAM
ADMINISTRATION IN ARKANSAS**

PROGRAM OVERVIEW

- Arkansas initiated involvement in HOF-NOD in 1997.
- The program is supported jointly by the Arkansas Game and Fish Commission and the Arkansas Department of Education. The Department of Education funds the state coordinator position. The Game and Fish Commission houses the state coordinator position and provides funding for educational materials.
- A full-time staff position of HOF-NOD State Program Coordinator was established and filled in 1998.

ACTIVITIES OF THE STATE COORDINATOR

- Promote the program and recruit new instructors.
- Deliver instructor training workshops.
- Administrate instructor support services (e.g., fill requests for information and instructional materials).
- Maintain contact with Future Fisherman Foundation staff as needed.
- Maintain a relationship with Department of Education staff.

INSTRUCTOR TRAINING

- Guidelines not established at time of study.

INSTRUCTOR SUPPORT

- Guidelines not established at time of study.

INSTRUCTOR MONITORING AND ASSESSMENT

- Guidelines not established at time of study.

STRUCTURAL ELEMENTS OF LOCAL PROGRAMS

- Arkansas Game and Fish was in the process of developing 10 pilot programs at the time the evaluation was implemented. Final program guidelines had not been established.
 - For information about the local program that was being used as a model for statewide program guidelines, see description of program at Central Junior High, Springdale, Arkansas.
- PARTICIPANT ACTIVITIES**
- Only one program had been established before 1998 (Central Junior High, Springdale, Arkansas). The characteristics of that program were well known and used as a model to develop plans for 10 pilot programs at other schools.
 - Basic model program is to offer actual fishing experiences as incentives for desired behaviors (e.g., regular school attendance, completion of homework assignments), accompanied by opportunities for local community service, interaction with adult anglers, and involvement in local fishing events and fishing organizations.
- COORDINATING AGENCY'S GOALS**
- Get HOF-NOD programs into all 311 school districts in the state of Arkansas.
- AGENCY PERCEIVED BARRIERS TO PROGRAM IMPLEMENTATION**
- None articulated at time of evaluation.
- AGENCY PERCEIVED INDICATORS OF PROGRAM SUCCESS**
- None articulated at time of evaluation.
- INFORMATION NEEDS**
- None articulated at time of evaluation.
 - None articulated at time of evaluation.

**SUMMARY OF HOOKED ON FISHING - NOT ON DRUGS PROGRAM
ADMINISTRATION IN OHIO**

PROGRAM OVERVIEW

- The Ohio Division of Wildlife (ODOW) began a working relationship with the Future Fisherman Foundation in 1990 and started heavily promoting the program in 1993.
- ODOW dedicated 80% of a full-time equivalent position to statewide coordination of HOF-NOD activities in 1992.
- ODOW learned how to conduct workshops by contracting with the Future Fisherman Foundation to provide their first six training workshops in 1993.
- ODOW now delivers 20-24 regular workshops annually across the state.
- ODOW now spends about \$800,000 on aquatic education (this represents 10% of their Sportfish Restoration funds -- the maximum amount states are allowed to allocate to aquatic education from that funding source). They spend \$300,000 specifically on HOF-NOD per year.
- HOF-NOD programs now reach an estimated 30,000 youth per year. Participation has grown quickly and they expect continued growth.

ACTIVITIES OF THE STATE COORDINATOR

- Promote the program and recruit new instructors through presentations (ODOW works directly with teachers, not schools).
- Promote the program and recruit new instructors through direct mailings to school principals and drug education coordinators (n=5,000).
- Give introductory workshops at crime and drug prevention meetings, parks and recreation meetings, children's services network.
- Conduct most of the instructor trainings.
- Administrate instructor support services (e.g., send announcements to instructors, fill requests for information and instructional materials; handle grant and tackle award programs).
- Maintain contact with Future Fisherman Foundation staff as needed.

- ODOW offers a standardized 8-hour training program. They also deliver several in-service workshops on specific topics for specialized audiences. Specialized in-service workshops vary in length from 4-8 hours. Each workshop has about 6-10 people minimum.
- ODOW now delivers 20-24 regular workshops annually across the state.
- ODOW is most interested in reaching educators in large metropolitan areas, so they target their training activities in the 12 counties with populations greater than 200,000.
- Classroom educators (especially urban teachers) are first priority, but they train many other types of people (e.g., scout leaders, 4-H leaders, youth group leaders, DARE officers, police athletic league officers, crime prevention specialists, community policing agencies, conservation clubs, sportsmen groups).
- They begin workshops with a program overview. They show a brief video about the Division, to let people know the program is federally funded. They summarize the mission, goals, and activities of the Division. They show a HOF-NOD program video and ask participants to brainstorm about the benefits of fishing. They discuss why kids use drugs, and they review the Hooked on Fishing Teacher's Guide (i.e., discuss copy of the aquatic resource education curriculum and give a brief review of how to use the two curricula together. In the afternoon, they go over how the Division can help them get a program started. They show copies of materials that can be ordered and tell participants how to order materials. They talk about how the Division supplies fishing equipment. They distribute Hooked on Fishing promotional materials. They end the training by having instructors sign a pledge card that says they pledge to use their new training.
- Circulate biannual newsletter to past workshop participants (includes an order form for materials).
- ODOW will coordinate involvement of agency staff in local programs.
- ODOW refers educators to parks and recreation agencies and staff who may be able to serve as program partners.

INSTRUCTOR SUPPORT

- Maintain a relationship with Ohio Department of Education staff (state coordinator currently has access to mailing lists, which he uses to do direct mailings to school principals and drug education coordinators).

INSTRUCTOR TRAINING

- ODOW provides small grants to help schools or other sponsors with many different kinds of expenses. They give \$500-2500 grants depending on audience size (maximum of \$10 per student). They will provide seed money for transportation to fishing sites, zoos, hatcheries, or museums, purchase of bait, other things. Each program can only receive such grants one or two times.
- The Division works with parks and recreation agencies to provide fish and fishing equipment to community fishing programs.
- ODOW doesn't provide HOF-NOD support for one-day events (those events are supported under the banner of other ODOW programs).
- ODOW has invested heavily in aquatic education exhibits and activities at zoos and museums. These are designed to facilitate formal education programs that include a field trip experience.
- ODOW provides rods, reels, cane poles, aquatic exploration kits (i.e., dip nets, seines).
- ODOW sponsors a creative arts event. Youth in any program create something (e.g., a poster, song, poem, essay, etc.) focused on the HOF-NOD program. The educator sends those creations to the Division. The Division then sends each person a small tackle box with basic tackle.
- ODOW provides HOF-NOD materials free to workshop participants. They loan HOF-NOD videos and banners for special events.

INSTRUCTOR MONITORING AND ASSESSMENT

- ODOW keeps records of attendance from instructor training workshops (the database includes about 750 members).
- ODOW does not have a rigorous system in place to track instructors or their activities. Instructors are asked to return a 1-page annual report form. About 50% complete forms in a given year. The report provides estimates of the following information: number of active instructors, number of hours volunteered per instructor, and number of youth participants. The report does not provide content information.
- ODOW does not have good information on the range of programs across the state or the proportion of programs in different activity levels.
- ODOW does not have good information on the number of active HOF-NOD groups or local programs that exist in Ohio. They estimated that in 1996, HOF-NOD programs were offered in more than 300 classrooms in 100 different school districts.

- ODOW does not have precise information on the proportion of programs that are: (1) in-school, (2) community-based, (3) single event vs. multiple event. They estimate that that about 60% of programs are offered by classroom educators and 40% are offered by other types of instructors. Affiliations of the instructors listed on the workshop participant database are consistent with this assumption.
- ODOW has very little information about the characteristics of youth participants (they do have a rough estimate of the number of youth participants) or change in participation by year. They estimate that about 50% of programs reach inner city youth, 40% reach suburban youth, 10% reach rural youth.

STRUCTURAL ELEMENTS OF LOCAL PROGRAMS

- ODOW does not encourage local organizations to create program planning committees. For example, they work with individual teachers rather than schools and they encourage teachers to work independently. They do work with planning committees for some organizations, however (e.g., the Elks put on programs and they use a committee approach to organize their events).
- ODOW has no evidence that any organization has developed a specific implementation plan (as recommended in HOF-NOD program documents).

PARTICIPANT ACTIVITIES

- ODOW estimates that 30,000 youth received some type of HOF-NOD program in 1997. They know little about program content, but they believe all participants receive something more than a one-day fishing event (that might be one day of instruction and one day of fishing).

COORDINATING AGENCY'S GOALS

- Increase fishing participation by urban minority youth by providing threshold experiences in a context that includes opportunities for family bonding.
- Help youth to better understand the environment and encourage youth to be better stewards of the outdoors.
- Drug prevention education is not a goal for ODOW, but HOF-NOD is attractive because it opens up doors to new audiences and it is ODOW's broad mission to help make Ohio a better place to live.

AGENCY PERCEIVED BARRIERS TO PROGRAM IMPLEMENTATION

- Difficulties related to creating greater awareness of the program through advertising and promotion.
- Limited staffing for program support.

AGENCY PERCEIVED INDICATORS OF PROGRAM SUCCESS

- Large numbers of youth participants.

INFORMATION NEEDS

- Demographic profiles of participants and instructors (e.g., age, gender, ethnicity, geographic location).
- Fishing participation characteristics of youth participants before and after they experience HOF-NOD programs.
- Data on program characteristics (e.g., program duration, number of fishing experiences, program content).
- Data on participant and instructor motivations (e.g., why do youth join a HOF-NOD club? Why do instructors attend workshops or go on to implement local programs?).

- The two highest priority duties for the new fishing education coordinator will be (1) training instructors, and (2) establishing HOF-NOD "clubs" in schools.
- The coordinator delivers presentations to drug prevention coordinators in the school districts during teacher in-service days.
- The coordinator maintains a connection with the statewide volunteer coordinating committee that implements the Kid Fish program.

ACTIVITIES OF THE STATE COORDINATOR

- Efforts are focused on basing the program in schools.
- Training of both volunteer anglers and teachers is emphasized.
- The state fish and wildlife agency and the education agency are closely involved.
- Volunteer and community involvement are important components.
- Participation is expected to increase now that they have a full-time staff person to promote the program.
- TPW currently has no information on the number of youth reached through fully-implemented HOF-NOD programs, although they estimate 5,000-6,000 from angler certification records. TPW estimates that Kid Fish (a one-day family fishing clinic and one-day HOF-NOD events reach 50,000-60,000 youth each year.
- TPW has conducted 22 instructor training workshops since 1993.
- TPW has allocated relatively little staff time to HOF-NOD until now. TPW just hired a full-time angler education coordinator and implementing HOF-NOD will comprise about 70-80% of the duties under that position.
- Texas Parks and Wildlife (TPW) became a state sponsor of the Hooked on Fishing programs in 1993.

PROGRAM OVERVIEW

SUMMARY OF HOOKED ON FISHING - NOT ON DRUGS PROGRAM ADMINISTRATION IN TEXAS

- The coordinator acts as the contact person who networks right now through personal referrals. The new coordinator will do more to help instructors network.
- The new coordinator is expected to create a quarterly instructor newsletter.
- The coordinator provides access maps to any angler and provides some equipment as awards for completing programs.
- TPW is developing a tackle loaner program that the state coordinator will provide to HOF-NOD "clubs" officially sanctioned by a given school.
- TPW maintains a database of past workshop attendees.
- The coordinator tracks instructor activities.
- HOF-NOD instructors are trained and certified as aquatic education instructors.
- TPW has conducted 22 training workshops since 1993.
- As of January 1997, they had about 1,300 active certified aquatic education instructors. Most of the instructors (75%) are professional teachers.
- Training efforts are coordinated through 20 regional education service centers where training workshops are held.
- TPW is integrating HOF-NOD into the volunteer training portion of their angler education program.
- TPW offers a standardized 8-hour training workshop modeled after their boater and hunter education courses. Attendees receive the HOF-NOD curriculum and the fishing instruction manual. After completing the workshop, the instructors are certified and recognized with the letter, patch, and decal. They are added to the angler education instructors database.
- Volunteer instructors fill out an application and take it to their local game warden who then interviews each applicant. The warden forwards the application to the agency at his discretion. They recruit and train volunteers or teachers who have completed applications.
- Teachers go through an extra step in the application process. They have to get their school to complete a "mutual agreement" that promises that TPW will provide certain things and the school promises to provide other things.

INSTRUCTOR TRAINING

- TPW keeps a database of workshop attendees (they had 1,300 active certified aquatic education instructors in January of 1997).
- TPW has a set of forms that they ask instructors to fill out annually (including information about youth participants).
- TPW estimates that at least 122 schools implement a HOF-NOD program.
- All students are recognized with an angler education certificate from the state by registering through their teacher in the school-based HOF-NOD programs. About

INSTRUCTOR MONITORING AND ASSESSMENT

- TPW is in the process of developing a tackle loaner program that will be provided to HOF-NOD "clubs". The new coordinator will cultivate this club system.
- The new coordinator is expected to create a quarterly instructor newsletter. Currently, instructors receive the national HOF-NOD newsletter.
- TPW has not had enough staff to coordinate volunteer assistance for instructors. The new coordinator is expected to do more to help instructors network with each other.
- TPW provides support for non-school programs. They provide materials through their aquatic education program, provide training for people who want to deliver their Kid Fish program, and print Kid Fish publicity brochures that go into schools.
- TPW tries to link teachers to people who organize Kid Fish events, as a way for those teachers to build actual fishing experiences into their program without starting from scratch.
- TPW provides access maps and other basic information to any angler, and HOF-NOD instructors can obtain the same information. TPW provides some fishing equipment to HOF-NOD participants (or anyone else) who completes one of their angler programs.
- TPW tries to link teachers to people who organize Kid Fish events, as a way for those teachers to build actual fishing experiences into their program without starting from scratch.
- Materials are given to instructors at their training workshop. They can obtain additional materials on an as-needed basis by contacting TPW.
- TPW provides access maps and other basic information to any angler, and HOF-NOD instructors can obtain the same information. TPW provides some fishing equipment to HOF-NOD participants (or anyone else) who completes one of their angler programs.
- TPW tries to link teachers to people who organize Kid Fish events, as a way for those teachers to build actual fishing experiences into their program without starting from scratch.
- TPW does not offer direct grants.

INSTRUCTOR SUPPORT

- Instructors have a set of forms that they use to give the agency an annual report and the report should include student registration for each student.

- TPW encourages the committee approach and the new coordinator will try to stimulate the use of committees for community program. Committees heavily involved in the Kid Fish program may be paired with HOF-NOD.
- The Kid Fish program involves complex, costly events that are well planned and based on committee input. HOF-NOD won't use the Kid Fish program as an education model, but they will use it as an example to follow to develop advisory committees that serve a planning role.
- The school will be the catalyst, in that they will be the host and sponsor of a local HOF-NOD club or chapter. The school club would then conduct activities to promote HOF-NOD to their PTA, parents, teachers, local businesses, and others. TPW has about five of these clubs at the moment.
- The agency was in the process of teaming up with the Texas Black Bass Unlimited to explore ways for the partnership to expand its efforts.
- McDonalds is another new partner that TPW is working closely with on a regional basis to cosponsor fish placemats.

STRUCTURAL ELEMENTS OF LOCAL PROGRAMS

- TPW currently has no information on the number of youth reach through fully-implemented HOF-NOD programs. These programs usually take place in schools. A list of active instructors is purged every month. Instructors must deliver at least one course per year to stay in the database.
- TPW cannot say how many schools or groups participate in the program. The new coordinator will develop a school "club" program, so he will get a better sense of the number of schools participating.
- TPW keeps track of which instructors are using HOF-NOD vs. other angler education programs in the state.
- TPW has a system for collecting annual reports from volunteer instructors, but not all instructors comply.
- 5,000-6,000 youth register per year. However, there are entire schools where this registration process is not completed.

- Long term, they want Texas A & M to conduct an evaluation on a range of outcomes. They are interested in comparative studies from Texas and other states.

INFORMATION NEEDS

- Included in the longitudinal survey should be a question that asks if HOF-NOD participants became involved in fish or wildlife-related activities as a result of interests stimulated by being involved in HOF-NOD.
- Conduct a survey, using a pre-post design, to see if the program influences angling ethics.
- The purchase of a fishing license at minimum age (17). They hope that Texas A & M researchers will eventually track this through longitudinal studies.

AGENCY PERCEIVED INDICATORS OF PROGRAM SUCCESS

- They were concerned about not having enough staff but that problem is being overcome with a new position.

AGENCY PERCEIVED BARRIERS TO PROGRAM IMPLEMENTATION

- They are especially interested in connecting with urban youth.
- TPW has two goals for HOF-NOD: (1) They want it to provide them a means to develop a sense of bonding with the urban community, in terms of relevance to the community leaders and drug prevention level in Texas since HOF-NOD provides more education than the Kid Fish program.
- HOF-NOD fits under the broader umbrella of the angler education program, which is intended to achieve three goals: (1) develop fisherman; (2) develop future customers who are responsible anglers; and (3) help citizens enjoy the outdoors of Texas. Drug prevention is a secondary benefit, not an outcome the agency seeks.

COORDINATING AGENCY'S GOALS

- TPW estimates that 50,000-60,000 youth participate in either Kid Fish or a one-day HOF-NOD program each year. They estimate that at least 4,000 - 5,000 youth participate in a more substantial HOF-NOD school-based program per year. Few details are known about the content of programs longer than one day.

PARTICIPANT ACTIVITIES

- The director of the HOF-NOD programs in Harrison County is not a state coordinator. He is a School Board member and he is only responsible for Harrison County schools.
- The director contacts angler volunteers once a year and assigns them to a school where they will assist a classroom teacher.
- The director acts as a liaison for contacts in schools and addresses their individual needs for materials and support.
- The director maintains close contact with Trout Unlimited and a bass angler organization to recruit volunteer instructors (i.e., the anglers deliver an in-school seminar and may work with a teacher and organize fishing events).

ACTIVITIES OF THE STATE COORDINATOR

- All active programs are multi-event.
- HOF-NOD has the potential to reach approximately 9,000 students per year in Harrison County.
- There are currently 2-3 HOF-NOD fishing clubs.
- There are 27 schools in Harrison County, West Virginia, who have received HOF-NOD materials. Of those 27 schools, 17 have active programs.
- HOF-NOD has been integrated into school curriculum for grade levels K-8.
- The program involves local sportsfisherman who provide support to classroom teachers (i.e., provide fishing education lectures or conduct fishing activities). The volunteer fisherman work directly with a principal or aquatic resources education coordinator within an assigned school.
- Harrison County Schools started using HOF-NOD in 1988. They were the first group to use the program.

PROGRAM OVERVIEW

SUMMARY OF HOOKED ON FISHING - NOT ON DRUGS PROGRAM ADMINISTRATION IN WEST VIRGINIA

- Harrison County HOF-NOD programs take place within schools as part of regular classes or as fishing clubs. Teachers are responsible for deciding how they will implement the program with the help of a volunteer angler. The volunteer angler is assigned to the school by the program director. Volunteers are recruited from Trout Unlimited and a bass angler organization.

STRUCTURAL ELEMENTS OF LOCAL PROGRAMS

- Programs implemented by the teachers are not monitored.
- There is no database set up to track teachers and volunteer anglers. However, the director personally knows who the angler volunteers are and approximately how many are currently active, which at this time is about 7-9 volunteers.

INSTRUCTOR MONITORING AND ASSESSMENT

- HOF-NOD materials are distributed to schools and teachers.
- They help teachers get equipment and bait donations.
- A new high school has been developed that includes a new lake, a wetland, and an outdoor education classroom. These facilities provide additional teaching resources for some HOF-NOD programs, and they will provide access for fishing by school groups.
- Their state agency provides access to some opportunities for youth fishing from stocked water tanks at large fishing shows.
- They have gained access to several lakes for HOF-NOD events and participants.
- Support is provided on an individual basis based on the teacher's particular request.
- Private donations pay for all of HOF-NOD activities (i.e., they include everything from individual donors to large corporate sponsors).

INSTRUCTOR SUPPORT

- HOF-NOD training is not provided for Harrison County instructors.

INSTRUCTOR TRAINING

PARTICIPANT ACTIVITIES

- Harrison County currently has approximately 17 active HOF-NOD programs, involving an unknown number of students.

- Teachers design their own programs and programs vary by teacher and grade level. For example, a teacher may decide to implement a thematic program that lasts one week, with 45-minute sessions each day. However, all programs are multi-event.

- Club programs meet several times per year and go on field trips that include fishing.

COORDINATING AGENCY'S GOALS

- The director would like HOF-NOD to be a comprehensive drug education program that involves parents and excites the children. He would also like the program to build life skills such as self-esteem and decision making.

AGENCY PERCEIVED BARRIERS TO PROGRAM IMPLEMENTATION

- No information is available.

AGENCY PERCEIVED INDICATORS OF PROGRAM SUCCESS

- Continued implementation of the program by Harrison County schools.
- Public interest in the program.
- Continued interest by sponsors in making annual donations to the program.

INFORMATION NEEDS

- No information is available.

APPENDIX C: PROFILES OF LOCAL PROGRAMS SAMPLED

Table C1. Characteristics of HOF-NOD program at Central Junior High (Springdale, Arkansas).

<p>Local program director: Ron Duncan (teacher)</p> <p>Program setting: Middle school.</p> <p>Ages or grade levels: Grades 6-8.</p> <p>Number of participants: 200-400 per year are estimated to participate (total student enrollment is about 750).</p> <p>Participant characteristics: Any student is eligible to participate.</p> <p>Program history: Program initiation pre-dates creation of the HOF-NOD program. This school system was among the first to participate in the program; they developed an implementation approach that was adopted as a model format for the state of Arkansas.</p> <p>Program length: Youth can participate in this program for an entire school year or longer.</p> <p>Number of fishing experiences: Multiple fishing opportunities are created for students. However, students may be involved in this club program for several months before they get an opportunity to go fishing through the program.</p> <p>Lessons and activities: This program takes a club format. Actual fishing opportunities are offered as incentives for achievement of academic and behavioral objectives. Students have opportunities to participate in high quality fishing experiences with experienced adult anglers and peers. Some fishing and aquatic education curriculum materials are utilized during club activities, but classroom materials are a relatively minor program element.</p> <p>Club activities include: community service, aquatic habitat restoration, and fund-raising.</p> <p>Local fishing organizations and many business groups become involved in and provide support for HOF-NOD fishing events.</p> <p>Community involvement: Parents are invited to participate in some sponsored fishing events and they are encouraged to take their child fishing independent of school events.</p> <p>Parental involvement: None.</p> <p>Coordination with other drug education:</p>	<p>Local program director: Ron Duncan (teacher)</p> <p>Program setting: Middle school.</p> <p>Ages or grade levels: Grades 6-8.</p> <p>Number of participants: 200-400 per year are estimated to participate (total student enrollment is about 750).</p> <p>Participant characteristics: Any student is eligible to participate.</p> <p>Program history: Program initiation pre-dates creation of the HOF-NOD program. This school system was among the first to participate in the program; they developed an implementation approach that was adopted as a model format for the state of Arkansas.</p> <p>Program length: Youth can participate in this program for an entire school year or longer.</p> <p>Number of fishing experiences: Multiple fishing opportunities are created for students. However, students may be involved in this club program for several months before they get an opportunity to go fishing through the program.</p> <p>Lessons and activities: This program takes a club format. Actual fishing opportunities are offered as incentives for achievement of academic and behavioral objectives. Students have opportunities to participate in high quality fishing experiences with experienced adult anglers and peers. Some fishing and aquatic education curriculum materials are utilized during club activities, but classroom materials are a relatively minor program element.</p> <p>Club activities include: community service, aquatic habitat restoration, and fund-raising.</p> <p>Local fishing organizations and many business groups become involved in and provide support for HOF-NOD fishing events.</p> <p>Community involvement: Parents are invited to participate in some sponsored fishing events and they are encouraged to take their child fishing independent of school events.</p> <p>Parental involvement: None.</p> <p>Coordination with other drug education:</p>
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Table C2. Characteristics of HOF-NOD programs in Harrison County Schools (Harrison County, West Virginia).

<p>Doug Clifford (Teacher, Crooksville Schools, Crooksville, Ohio).</p> <p>Primary, middle, and high school classes.</p> <p>Grades K -12. Works predominately with middle school students.</p> <p>20-25 students are involved in the core program each year. Estimated that most youth in school system are eventually exposed to a fishing seminar provided by some of the 20 or so students in his class.</p> <p>Primary program is conducted with special needs students. The general student population is the audience for fishing seminars.</p> <p>This program pre-dates initiation of the HOF-NOD program. Instructor now has contact with adults who participated in his programs during middle school.</p> <p>Most students participate in just one fishing seminar. The core group of students are involved in their HOF-NOD program during the entire school year.</p> <p>Multiple fishing experiences for core group and some other students. Many students receive a program that does not include fishing.</p> <p>Core group utilizes curriculum materials and takes multiple fishing trips over an entire year.</p> <p>Students in core group deliver fishing seminars to other students and participate in a range of other school community services.</p> <p>Some students from the general population are afforded fishing opportunities through a club format.</p> <p>Local fishing organizations and many business groups become involved in and provide support for the core HOF-NOD group.</p> <p>Parents are invited to participate in fishing experiences.</p> <p>None (teachers may use a variety of drug prevention programs in addition to or in place of HOF-NOD, at their discretion).</p>	<p>Local program director:</p> <p>Program setting:</p> <p>Ages or grade levels:</p> <p># of participants:</p> <p>Participant characteristics:</p> <p>Program history:</p> <p>Program length:</p> <p>Number of fishing experiences:</p> <p>Lessons and activities:</p> <p>Community involvement:</p> <p>Parental involvement:</p> <p>Coordination with other drug education:</p>
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Table C3. Characteristics of HOF-NOD programs in Harrison County Schools (Harrison County, West Virginia).

<p>Local program director: Marcel Malfregeot (Board of Education, Harrison County Schools)</p> <p>Program setting: Primary, middle, and high school classes.</p> <p>Ages or grade levels: Grades K -12.</p> <p>Number of participants: Unknown (estimated that thousands attend some HOF-NOD events at some time, but tracking of in-class programs is not available.</p> <p>Participant characteristics: All students.</p> <p>Program history: Program has been implemented for 10 years. This school system was among the first to participate in the program; they developed an implementation approach that was adopted as a preferred format by several program events are held over the course of the spring school semester. In-class programs that link to those events may take place over 1 week, several weeks, or longer.</p> <p>Program length: One school-wide fishing event is held each spring. Individual teachers may include additional fishing experiences for their own groups.</p> <p>Lessons and activities: The basic program includes three components. First, local anglers are assigned to individual schools and provide a single presentation to individual classrooms each year. Second, the school district sponsors a large fishing exhibition at a local mall each spring. Third, the school district sponsors a large local fishing event each spring. All youth are given a fishing opportunity; some are paired with adult anglers who take them fishing by boat.</p> <p>Community involvement: Local fishing organizations and many business groups become involved in and provide support for HOF-NOD fishing events.</p> <p>Parental involvement: Parents are invited to participate in the school-wide fishing event and encouraged to take their child fishing independent of school events.</p> <p>Coordination with other drug education: None (teachers may use a variety of drug prevention programs in addition to or in place of HOF-NOD, at their discretion).</p>	<p>Local program director:</p> <p>Program setting:</p> <p>Ages or grade levels:</p> <p>Number of participants:</p> <p>Participant characteristics:</p> <p>Program history:</p> <p>Program length:</p> <p>Number of fishing experiences:</p> <p>Lessons and activities:</p> <p>Community involvement:</p> <p>Parental involvement:</p> <p>Coordination with other drug education:</p>
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Table C4. Characteristics of HOF-NOD programs in Preston County Schools (Preston County, West Virginia).

<p>Fred Koch (Board of Education, Preston County Schools)</p> <p>Primary, middle, and high school classes.</p> <p>Grades K -12.</p> <p>Unknown (estimated that hundreds attend some HOF-NOD events at some time, but tracking of in-class programs is not available.</p> <p>All students.</p> <p>Program in second year of implementation. This school system used the Harrison County (West Virginia) approach as a model approach in their county.</p> <p>Several program events are held over the course of the spring school semester. No information was available on duration of in-class programs that link to those events.</p> <p>One school-wide fishing event is held each spring. Individual teachers may include additional fishing experiences for their own groups.</p> <ul style="list-style-type: none"> • The basic program includes three components. First, local anglers are invited to give a single presentation to individual groups of students. Second, the school district sponsors a large fishing exhibition event at a local community center. Third, the school district sponsors a large local fishing event each spring. • Additional activities, including choices about use of HOF-NOD curriculum materials, are left to the discretion of individual teachers. • Local fishing organizations and many business groups become involved in and provide support for HOF-NOD fishing events. • Parents are invited to participate in the school-wide fishing event and encouraged to take their child fishing independent of school events. • None. 	<p>Local program director:</p> <p>Program setting:</p> <p>Ages or grade levels:</p> <p>Number of participants:</p> <p>Participant characteristics:</p> <p>Program history:</p> <p>Program length:</p> <p>Number of fishing experiences:</p> <p>Lessons and activities:</p> <p>Community involvement:</p> <p>Parental involvement:</p> <p>Coordination with other drug education:</p>
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<p>Kurt Temple, 5th grade teacher.</p> <p>Sanctioned club; club meets at the school.</p> <p>4th-7th graders.</p> <p>50-60 per year</p> <p>Mostly mainstream students; girls and boys; includes some special needs students; reportedly attracts non-athletes and students who struggle academically.</p> <p>Attended a workshop 3 years ago and started the program at his school. Obtained \$500 start-up money from Ohio Division of Natural Resources (ODNR). Instructor gets donations now and uses them to buy fishing equipment and transportation for participants.</p> <p>Runs throughout the school year. Meet for 1-hour once per month.</p> <p>He takes some club members fishing many weekends in fall and spring.</p> <ul style="list-style-type: none"> • Uses aquatic resources handbook often. • Uses pieces of role-playing lesson in Teacher's Guide. • Have discussions about preventing drug use. • Doesn't use Teacher's guide much; says lessons are "not practical" • Does mostly "hands-on" activities rather than classroom activities. • Has club officers who run the meetings. • Participate in ODNR poster event and attend ODNR displays at science museum. • Participants can continue in club for more than one year. • Supported by local bait shop, VFW, local businesses. • Guest speakers on fishing and fishing skills; DARE officer. • High school students sometimes help with fishing trips. <p>Parents and families are invited to attend all fishing events. About 4 parents help with fishing trips on a regular basis.</p> <p>DARE officer sometimes included as a guest speaker.</p>	<p>Local program</p> <p>director:</p> <p>Program setting:</p> <p>Ages or grade levels:</p> <p>Number of participants:</p> <p>Participant characteristics:</p> <p>Program history:</p> <p>Program length:</p> <p>Number of fishing experiences:</p> <p>Lessons and activities:</p> <p>Community involvement:</p> <p>Parental involvement:</p> <p>Coordination with other drug education:</p>
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Table C5. Characteristics of local HOF-NOD program run by Kurt Temple (Antwerp Local School, Ohio).

Table C6. Characteristics of local HOF-NOD program run by Brenda Tally (Calallen Middle School, Texas).

<p>Local program director: Brenda Tally, Teacher</p> <p>Program setting: An elective "Outdoor Education" class in a middle school about 40 miles from Corpus Christi, Texas.</p> <p>Ages or grade levels: 7th-8th.</p> <p>Number of participants: 65-80 per semester.</p> <p>Participant characteristics: Mostly boys. This is an elective class, so all of them must come to the class with an interest in the outdoors.</p> <p>Program history: She heard about the program and attended a training workshop a few years ago. She was interested in HOF-NOD as a way to build angler education into her outdoor education class. She thinks it has worked out well for her needs and she says the students are enthusiastic about the materials and subject matter. She receives free handbooks and other support from Texas Parks and Wildlife.</p> <p>Program length: She discusses fishing for about 1 month of the semester; that part of her class begins in mid-October. The rest of the course involves nonfishing topics (e.g., gardening, wildlife).</p> <p>Number of fishing experiences: 1</p> <p>Lessons and activities: Uses handbook extensively to teach angling education (participants get to keep their handbooks). Does not use teacher's guide at all and does not address drug-related topic areas.</p> <ul style="list-style-type: none"> • She has had guest speakers at some classes, but not always. • Other aspects of the class deal with stewardship, but they are not part of the HOF-NOD segment of her class (e.g., she discusses water conservation, integrated pest management, recycling, composting; native wildlife; the shrimp industry). • None (she doesn't work with volunteer anglers or community groups; youth pay their own way for the fishing trip). • Some parents volunteer to assist during their single chartered fishing trip. • None; They have other drug prevention programs at the school so she feels she doesn't need to deal with that in her class. 	<p>Community involvement: Community involvement: Coordination with other drug education:</p>
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Table C7. Characteristics of local HOF-NOD program run by Albert Lanzy (Bridgeport Middle School, Harrison County, WV).

<p>Local program director: Albert Lanzy, teacher</p> <p>Program setting: An "exploratory class" at Bridgeport Middle School</p> <p>Ages/grade levels: 6th-8th graders (he would like to limit it to 8th graders in the future—he wants to use it as a reward before they leave the middle school).</p> <p>Number of participants: 50-60 students in one class last year; he hopes to hold two sessions this fall and two this spring; he would like to reduce the class sizes, though.</p> <p>Participant characteristics: Nearly all boys.</p> <p>Program history: He has put on a program for several years. Last year he organized a class of 50-60 boys. He has plans to organize two such classes each spring and fall, but he is trying to move toward smaller, more manageable class sizes.</p> <p>Program length: This is a special class (he labeled the format as an "exploratory class") that meets five times, for half a day each time. They take additional time outside of school to go camping and fishing.</p> <p>Number of fishing experiences: They have gone fishing three times in past years. This has included at least one camping trip that involved trout fishing.</p> <p>Lessons and activities: All lessons and activities relate to basic fishing skills (they use the aquatic resources curriculum, but not necessarily the teachers guide). Anglers from the local trout club and professional anglers give presentations to the class. They go trout fishing and camping near a trout stream.</p> <p>Community involvement: Anglers from the local Trout Unlimited club give presentations. A professional angler gives a presentation.</p> <p>Parental involvement: Some parents attend fishing and camping activities to assist with student supervision.</p> <p>Coordination with other drug education: None.</p>	<p>Local program director:</p> <p>Program setting:</p> <p>Ages/grade levels:</p> <p>Number of participants:</p> <p>Participant characteristics:</p> <p>Program history:</p> <p>Program length:</p> <p>Number of fishing experiences:</p> <p>Lessons and activities:</p> <p>Community involvement:</p> <p>Parental involvement:</p> <p>Coordination with other drug education:</p>
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Table C8. Characteristics of local HOF-NOD program run by John Sedera (Lumberport Middle School, Harrison County, WV).

<p>John Sedera, special education teacher.</p> <p>Club that meets during lunch break at Lumberport Middle School.</p> <p>6th-8th grade.</p> <p>52 last year (over 100 wanted to join, but he limited enrollment).</p> <p>Mostly boys. The club members are all mainstream students, but he also brings his special education students when they take their single annual fishing trip.</p> <p>He ran a HOF-NOD club last year. He is a special education teacher, and not an avid angler, but he wanted to get involved with drug prevention at his school. He volunteers his lunch period to run the HOF-NOD club. He has found it rewarding and plans to continue doing so.</p> <p>The club is organized in January and meets during a lunch period, twice a month until May.</p> <p>They went fishing once last year. He hopes to do the same this spring.</p> <ul style="list-style-type: none"> • They start by signing their drug-free pledge cards. • They do many fishing lessons and activities (e.g., they meet in the gym to do casting practice or other skills exercises, watch videos, distribute literature). • They do "games and skills sessions" (physical activities). • They do life skills activities (e.g., "we do activities where we brainstorm how to deal with life pressures"). • They do fund-raising to buy shirts that have the HOF-NOD logo on one side and their school symbol (an eagle) on the other. • They fund-raise to pay for their fishing trip. • They have elected officers who help determine how the club is operated. • They have club hand-shakes and other group identity characteristics. • Future Fisherman Foundation staff have contributed to his program. • Marcel Malfregeot gives them equipment donated by industry or fishing clubs. • Some parents assist and participate during the fishing event. • They start the club during "red ribbon week" (a drug prevention activity that involves awareness activities and a commitment to live drug free). Club members sign their HOF-NOD drug-free pledge card during red ribbon week. 	<p>Local program</p> <p>director:</p> <p>Program</p> <p>setting:</p> <p>Ages/grade</p> <p>levels:</p> <p>Number of</p> <p>participants:</p> <p>Participant</p> <p>characteristics:</p> <p>Program</p> <p>history:</p> <p>Program</p> <p>length:</p> <p>Number of</p> <p>fishing</p> <p>experiences:</p> <p>Lessons and</p> <p>activities:</p> <p>Community</p> <p>involvement:</p> <p>Parental</p> <p>involvement:</p> <p>Coordination</p> <p>with other drug</p> <p>education:</p>
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