

People and Fish: Angling Ethics, Fisheries Management, and Folkways

Shari L. Dann¹

Why Provide Learning Activities about People and Fish?

Although other types of learning activities related to sportfishing may have more “glitzy” appeal, there is no topic more important to the future of our fisheries resources than how people interact with those resources! If our goal is to help youth develop into responsible anglers who really care for aquatic resources, then we need to help them understand how people are interrelated with the resource. Some fisheries professionals call this area of study the “human dimensions” of fisheries.

What is Fisheries Management?

Fisheries management includes the processes used in decision making about fish populations, their aquatic environments and the people who interact with fish and aquatic systems. Fisheries managers make decisions about people, as much as they make decisions about the ecology of the systems they manage.

So, where does the angler fit into this scenario? Because anglers are among the most important “customers” of fisheries management agencies, they have an important say in fisheries goals. Anglers provide input into fisheries management in a variety of ways (through committees, through monitoring the resource over time in their observations while fishing, as in the lesson “Keeping a Fishing Field Journal,” etc.). In fact, over 90% of most state budgets for fisheries managers comes from anglers who purchase fishing licenses and equipment (paying the federal excise tax which goes into the Sportfish Restoration Act funds).

In addition to considering anglers in fisheries management, agencies need to consider a wide range of other “stakeholders” -- people or groups who impact the aquatic resource or have a vested interest in the resource. For instance, people who live within a watershed have a great effect on the water quality there, and those who recreate on a waterway (e.g., canoeists, boaters, etc.) may come into conflict with anglers or other users. Thus, on a daily basis, fisheries managers must work to understand complex issues. They work to understand fish populations (as in the lesson “Estimating Fish Populations”), then they work with various individuals and groups to decide how to allocate the resource held “in common” or in the public trust--for the public (as in the lesson “The Commons Dilemma”). Fisheries professionals use information gathered from fish population studies and public surveys to set specific regulations for the purpose of protecting and enhancing fisheries and to help people enjoy fishing success (as demonstrated in the lesson “Fishing For Regs.”). To help youth learn more about fisheries managers and others who have work related to fisheries, you can use the activity “Fisheries and Fishing Related Careers.” While teaching from the fisheries management section of the curriculum, consider inviting local or regional resource people such as fisheries managers, private-sector resource people (bait and tackle retailers, fishing guides, charter captains) and others to “bring alive” your learning experiences and to expose youth to many role models!

¹ Assistant Professor and Extension Specialist, Department of Fisheries & Wildlife, Michigan State University, East Lansing, MI

Why is Teaching About Angling Ethics Important?

Our goal is more than to produce additional anglers through education. Instead, we hope to help young people develop into ethical anglers, who make decisions carefully and give back to the aquatic resource. Ethics provide a system of guidelines for governing an individual's behavior--guiding and enabling each person to know and choose the most right thing to do in situations which provide ethical challenges. Ethics are driven internally; they are not based on laws, mandates, regulations, or enforcement. Ethics are guidelines you use when no one else is around! And encouraging ethical "competence and fitness" will help us ensure the future quality of both the fisheries resource and the fishing experience. (For more information, see the section entitled "An Introduction to Teaching Angling Ethics."

Teaching about ethical decision making is a challenge! One rule of thumb is to approach ethics development in small doses (not in lengthy preaching, or lecturing)! Toward this end, several activities in this curriculum section provide realistic activities to engage youth in thinking about ethical dilemmas and decisions. Many of these activities can be done while your group is out fishing or on other learning experiences. Activities which will help you, as the leader, include: "Take Home Your Limit of Litter," which allows youth to observe the results of others' unethical behavior and to take action, and "Angling Ethics Lesson"--which has two parts: "Know Your Code" helps youth develop their own code of ethics within a supportive community of peers, and take ownership of this code, and "Angling Dilemma Exercises" present real-life scenarios youth might encounter while fishing.

What are Fishing Folkways?

Another important way to understand how people relate to fisheries resources is to learn about their traditions and tradition-bearers. This area is considered the study of "folklife" or "folkways"--or "anthropology in your own back yard." Folklife is the study of traditions that are passed on from person to person in a folk group in an informal way, by word of mouth or by example. Folklife isn't only something that people had in the past (e.g., history of fisheries), but it is also the current traditions continued and modified for today. We all have traditions, and we all belong to many folk groups. Traditions are easily studied within your own community, and can provide an interesting way for youth to understand their own fishing heritage and the heritage in their communities, to learn specific skills from a tradition-bearer, or even to understand the roots and dilemmas of current controversies tied closely to peoples' lifeways. A few activities in this curriculum (developed by a folklife specialist), help you lead learning experiences in this area: "Museum in a Tackle Box," "Fishing For Stories," "If Tackle Could Talk, Oh What (BIG FISH) Tales It Would Tell," and "Regional Fish Foodways." In addition, "Making Fish Prints" is an activity based on a traditional Japanese art-form. Be sure to think about local or regional tradition-bearers you could invite to interact with your youth to enhance their learning!

Summary of Activities Included in this Section

This section of the 4-H Sportfishing Curriculum includes activities grouped into three areas: angling ethics, fisheries management, and fishing folkways. The leader may choose to do some of these activities, or all of them; and, these lessons can be done in any order! Have fun!

An Introduction to Teaching Angling Ethics²

Bruce E. Matthews³ and Kelly S. Carter⁴

This section contains a great deal of background information on angling ethics. It indicates both the importance of angling ethics and recognition that teaching ethics isn't easy. A thorough reading of this section should enable instructors to more effectively lead ethics education activities and help kids learn that it feels good to fish right.

Why teach outdoor/angling ethics?

There seems to be more of a problem with angling and outdoor behavior today than there was, say, twenty years ago. A number of factors are contributing to this. If we can understand these factors, we can address them in our club efforts and make a difference in the outcome.

First of all, there are lots of anglers, more fishermen and women than ever before. In addition, more people are participating in other natural resources based outdoor activities (e.g., biking, hiking, birding, canoeing etc.) which can lead to conflict over natural resource uses. Unfortunately, crowding and differing values toward natural resources can cause an ethical breakdown in behavior. Inconsiderate behaviors-- unacceptable and unthinkable in previous generations--can become the norm. Trespassing, vandalism, littering and disrespect for others, the law and nature itself become widespread. Selfishness, ignorance and greed all contribute to this ethical breakdown. Too often, people rationalize that "everybody else is doing it so why shouldn't I?" and further the problem of poor outdoor behavior.

²*Adapted from Teaching and Evaluating Outdoor Ethics by B.E. Matthews and C.K. Riley. 1995. National Wildlife Federation, Washington, D.C.*

³ *Chief, Office of Information and Education, Michigan Department of Natural Resources, Lansing, MI 48909*

⁴ *Graduate Research Assistant, Department of Fisheries and Wildlife, Michigan State University, East Lansing, MI 48924-1222*

Angling Ethics

In addition, many of us have become insulated from the natural world and its processes. Our increasingly urbanized lifestyle and ever-increasing reliance on technology contributes to a lack of connection with the natural world. This can result in a lack of understanding about aquatic resources and how people fit into the natural scheme of things.

Good outdoor ethics education can empower learners to extend ethical considerations to the natural world and to develop appropriate guidelines for outdoor behavior. When values such as those mentioned above come into conflict with each other, outdoor ethics education seeks to enable learners to resolve these conflicts. By helping outdoor users develop their ethics, the outdoor ethics educator helps them make choices that consistently reflect outcomes based on what they value most about the outdoors and the outdoor experience.

What is Ethics?

Ethics is a system of guidelines for governing our behavior, guiding and enabling us to know and choose the most right thing to do. Ethics is like an internal navigational chart and compass, a means of finding and knowing the best course of action. Paul Quinnett, in his book *Pavlov's Trout* (1993), says:

A...ethics is what you do in the dark, before the game warden shows up....@

While some elements of angling ethics have been formalized in the form of laws or codes of conduct, ethics is driven internally. Laws, mandates, regulations and their enforcement are based upon ethics, rather than being the source of ethics. Ethics is obedience to the unenforceable. Quinnett suggests that many people today are governed more by shame than by guilt.

AShame is what you feel when they *catch* you doing something wrong; guilt is what you feel when you do something *you* know is wrong, period. One requires law enforcers. The other requires only the presence of that still small voice....@

Ethics differ from laws because laws usually address the lowest common denominator of ethical bounds in society. Ethics is the set of guidelines you use even when nobody else is around. Sometimes ethics is a written code, and sometimes it is unwritten, but ethics always include that internal filter that judges each

Angling Ethics

thought or action on its rightness or appropriateness. Ethics help you determine what the **most right** course of action will be.

Environmental Ethics

Part of angler ethics involves environmental ethics. In essence, environmental ethics defines our ecological conscience. Environmental ethics is related to the degree to which we value nature, and why we do so as we make choices about how much we change habitats. Like many other creatures, humans alter their habitat to feed and shelter themselves, and to provide opportunities for reproducing and raising young. But, unlike other creatures, humans can make conscious choices about the size and scale of the differences made. As Wendell Berry suggests, if the choices we make involve too small a difference, we diminish our potential as humans. Too great a difference diminishes nature, and therefore impacts on our future and potentially our survival as a species. As we confront these difficult choices, environmental ethics help us choose the action most consistent with our environmental values. If we are developing good angling behavior based on a strong ethical framework, environmental ethics and ethics-based stewardship will develop as an inherent and important part of that process.

Ethics Education Grounded in Community

Ethics rests upon a single premise: that the individual is a member of a community of interdependent parts. Our instincts prompt us to compete for our place in that community, but our ethics prompt us also to cooperate (perhaps in order that there may be a place to compete for). Aldo Leopold suggests that ethics is a kind of community instinct in-the-making because ethical behavior implies respect for fellow members and for the community. Leopold felt that ethics is limitation on freedom of action in the struggle for existence.

The Purpose of Angling Ethics Education

The aim of angling ethics education is to enable anglers to develop as *ethically fit and competent outdoors people*. According to Paul Quinnett, an ethically competent individual has the:

Aethical skills and qualities necessary to operate at the highest levels of ethical behavior.

He states that these skills include:

- the sensitivity to recognize a situation as posing one or more ethical considerations;

Angling Ethics

- _ the knowledge of what responses are legal versus what responses might be ethical in that situation;
- _ the willingness to act;
- _ the judgment to weigh various considerations where there are no laws or guidelines, and
- _ the humility to seek consultation and additional knowledge to guide one=s action.

The outcome of your angling ethics education efforts should be a youngster who can consistently and logically think through an ethical situation, choose the most right course, and act on his or her convictions.

You get the youngster to this point by giving them:

- ☺ the tools of critical thinking and moral reasoning;
- ☺ frequent opportunities to actively use these tools in a setting that is emotionally safe and respectful;
- ☺ experiences in seeing you and others behave ethically in numerous fishing settings, over time; and
- ☺ the social support of the group, family and community.

Teaching Ethics

Remember... *Ethics can=t be taught...they can only be caught*

You can teach about ethics, ethical viewpoints, and the values that underlie ethics. You can teach how to teach ethics. The problem occurs when your teaching about ethics crosses the line to become advocating or an indoctrination of specific ethics and ethical positions. An educator enables and empowers learners to develop and evolve their own set of ethics by giving them the tools they need -- critical thinking skills and the knowledge, sensitivity and willingness to act -- for a lifetime of ethical development. Advocates merely dictate ethical standards -- usually their own. Which approach is more likely to build ethical anglers?

How Do You Teach Ethics?

So how do you effectively teach angling ethics? What are the best ways to help youngsters develop and use good judgment when facing and making ethical decisions? Outdoor educators everywhere would love to have a quick and easy answer to these questions, but it just isn=t that simple. In fact, we know more about what doesn=t work than what does. Unfortunately most of what has gone on under the guise of outdoor ethics education falls into the doesn=t work category.

Angling Ethics

Outdoor Ethics Strategies -- What Doesn't Work

Why would we bother to tell you about teaching methods that don't work? Why not cut to the chase and tell you what methods the research says are most effective in teaching ethics education and influencing ethical behavior? Because unfortunately the methods which typically are not effective are those still most often in use -- and we'd like to change this! We've known for over 60 years that traditional, authoritarian approaches using codes of conduct and heavy-handed moralizing do not change behavior (*see coordinators section for more detailed information on changing and affecting behavior*). Yet, these still seem to be the methods of choice for many outdoor education programs. By describing both those approaches that researchers find do work and those that do not work effectively, we hope to make your ethics education efforts more effective. Most importantly, the strategies identified as most effective in teaching ethics education also help to develop an atmosphere of trust and mutual respect within your group. That creates the type of mentoring program that really helps kids develop and grow toward their potential -- and not just in ethics education!

The methods listed below are typically NOT effective. They are based on imposing or inoculating@ knowledge or views upon or into students. As stand-alone strategies trying to achieve long-term ethics-based behavior, they simply are not supported by the research. You'll see that strategies more likely to be effective have much different approaches. Ineffective strategies commonly used in outdoor ethics education include:

- ⌘ public awareness or promotional campaigns using catchy slogans,
- ⌘ pre-established codes of behavior and techniques borrowed from the advertising sector;
- ⌘ externally imposed codes of ethics;
- ⌘ canned ethics lectures (like the 30 minute capsules in too many hunter or sportsman education courses);
- ⌘ morality stories;
- ⌘ authoritarian-style approaches to teaching;

What DOES Work

Just as there were common characteristics of ineffective ethics education approaches, common characteristics appear throughout effective ethics education methods. Keep these in mind as you think about how you will approach angling ethics in your program. These key elements include:

Angling Ethics

- ☺ building a sense of community and family, and using this group identity to nurture positive behavior;

Angling Ethics

- ☺ guiding, not dictating, in your role as a teacher;
- ☺ developing a climate of mutual respect;
- ☺ building group consensus and ownership in group norms, including codes of moral behavior;
- ☺ using peer teaching, counseling and support;
- ☺ using interactive techniques (often centering around ethical dilemmas), including:
 - small group discussions, such as dilemma discussions, involving more than one right choice using a decision-making process that identifies choices, outlines consequences and discusses the results
 - trigger films or slide shows that set the stage for ethical decision-making (discussion initiated at the critical points in the film sequence)
 - interactive videos using computerized video technology to realistically simulate the situation, with the computer matching the decision with the appropriate consequence
 - role-play and simulations requiring group members to adopt different roles and to play different scenarios
- ☺ building all these elements into a sustained, long-term effort over a significant period of time (i.e. the use of mentoring approaches like those offered by 4-H clubs, community clubs and organizations, family and friends).

Properly done, interactive techniques teach more effectively than lectures simply because they *engage* students in the learning process and require them to invest more of themselves. Students must think critically, reason morally and discuss, choose and defend the most right course of action. In the right context, within a moral community containing the key elements listed above, interactive approaches offer great possibilities.

A positive social environment for ethics education plays a very significant role in the success of ethics education. Using small groups, guiding them as they assume and share responsibilities, emphasizing peer activities such as peer counseling and problem-solving, keeping the focus on ethical issues directly relevant to the group, and involving them with community service and action projects addressing these issues hold much promise, particularly when done over a significant period of time. Programs involving mentoring and continuing relationships within clubs or other neighborhood or community structures--building moral communities--appear to offer the best combination of strategies for successfully developing ethical fitness and

Angling Ethics

competence. Developing the positive social environment for learning may be much more important than the specific teaching techniques used. Combining that positive, sustained social environment with interactive teaching techniques creates the most favorable environment for successfully teaching ethics.

It is important to recognize that simply providing learners with a knowledge base is not enough to cause long-lasting behavioral change. To change behavior, we must go beyond developing issue awareness we must focus on ownership and empowerment. Ownership of an issue is critical to responsible environmental behavior. If we can make it personal and pertinent and help students realize that their actions can make a difference in their world, we have a much better chance of affecting their attitude and behavior. Research has shown that the above factors **can** influence behavior changes, thereby building ethically fit and competent anglers and outdoors people.

Your Personal Comfort with Approach Is Important!

There is no one perfect strategy for leading ethics education activities. The complexity and diversity of fishing and its deeply personal nature makes most standard codes far too general to make much sense, though they can offer a starting point. Youth need to have these guidelines directly and specifically applied in a relevant manner. We suggest you view each fishing situation in terms of the demands and needs for ethical behavior in that specific situation. Then give your members the tools they need to evaluate the rightness or wrongness of a course of action. From this, the members, as a group, will generalize a universal set of angling ethics, guided by your mentoring. In this way, we hope to develop a new generation of anglers who know how to behave ethically, because they understand how it feels to make the right choices. Using those methods with which you are most comfortable is often the best choice, as long as the methods are interactive and sustained in nature.

For each fishing trip or experience, the group should develop and/or review a set of behavioral expectations *as a group*. This need not be an ordeal or excessive in length. In fact many brief exposures may be better than fewer longer ones. As the behavioral expectations are developed, practiced and reviewed over time, patterns will become evident. Look for these patterns. Because youth themselves will participate in developing the ethical guidelines, they will have ownership in abiding by them. To maximize the value of your angling ethics education efforts, your example must be strong and consistent. That will help your kids to actualize their guidelines, fish right and feel good about it. This is done through:

1. observing others in ethical situations, and helping members see the ethical choices made;

Angling Ethics

2. demonstrating appropriate and inappropriate behavior through modeling and role-playing;
3. using scenarios suggested in the activities as a basis for discussing and practicing angling ethics;
4. small group discussions and role-play addressing ethics violations, giving members the critical thinking tools they need to deal effectively with these situations;
5. encouraging members in making the sometimes difficult choices where no single action is necessarily wrong or bad, all choices may be right, and they must choose what is most right;
6. reinforcing and rewarding positive ethical behaviors when your members demonstrate them. Let them know you know they've done right. Be sure to involve the rest of the group in this recognition process. Peer support is a very powerful thing.

How Should YOU Teach Angling Ethics Education?

Ethics can be a heavy topic. We recommend that your ethics discussions be done in small doses (not in lengthy preaching, or lecturing)! Remember, real ethical education results in internally motivated actions. We want youth to learn to develop personal ethical codes, not because we impose them, but because they find that abiding by their ethical codes is satisfying and feels good to the spirit. Heavy-handed approaches are likely to lead to the opposite effect.

Everything we do in this program, both deliberate and inadvertent, will have an impact on ethical development in the young people involved; but several activities in the APeople and Fish@ section (see AAngling Ethics Lessons@) are focused around the effective ethics education strategies listed above -- small group discussions, role playing, and group consensus and ownership building. These lessons provide realistic activities to *engage* youth in thinking through ethical dilemmas and decisions. Many of these activities can be done while your group is out fishing or on other learning experiences. The best scenarios for learning are those that your group actually encounters! Remember to take the time to make good use of any Ateachable@ moment. You may find that when faced with real dilemmas with real consequences, youths may respond differently than when discussing a hypothetical situation. In addition, the reality of the situation can be more effective in encouraging critical thinking and moral reasoning.

Interested in Learning More ... Some Suggested Readings

Berry, W. 1989. *Home Economics*. New York: Farrar, Strauss & Gioroux, Inc.

Kidder, R. 1995. *How Good People Make Tough Choices*. New York: William Morrow & Co.

Leopold, A. 1966. *A Sand County Almanac*. New York: Oxford University Press.

Angling Ethics

- Matthews, B. E. and C. K. Riley. 1995. *Teaching and Evaluating Outdoor Ethics Education Programs*. Washington, DC: National Wildlife Federation.
- Posewitz, J. 1994. *Beyond Fair Chase*. Helena, MT: Falcon Press.
- Quinnett, P. 1994. *Pavlov=s Trout*. Sandpoint, ID: Keopee Co.

Fishing for Regs

Title: Take Home Your Limit of Litter!

Bruce E. Matthews
Chief, Office of Information & Education
Michigan Dept. of Natural Resources
Lansing, MI 48933

Kelly S. Carter
Graduate Research Assistant
Dept. of Fisheries & Wildlife
Michigan State University
East Lansing, MI 48924-1222

Best Time: At the end of a fishing outing; as an annual community service event.

Best Location: Outdoors.

Time Required: 1-3 hrs.

Objectives:

1. To remove litter and debris along a lake or stream shoreline.
2. To be able to describe the concepts of biodegradability, decomposition and toxicity and relate them to water and soil quality, and aquatic wildlife.
3. To learn how certain waste products can harm the environment and wildlife.
4. To have fun while learning.

Youth Development Objectives:

1. To participate in a community service project.
2. To help youths understand their role in maintaining a clean and healthy environment.
3. To help youths explore their personal conservation ethic toward natural resources as they respond to issues of pollution, consumerism, and responsible waste disposal.

Evaluation Activities/Suggestions:

Have youths write about the litter that they found, including the overall condition of lake or stream site. One good method for gaining perspective of how litter affects wildlife is to write from a specific point of view, for example: how a bluegill, northern pike, turtle, muskrat, or river otter might describe the affects of litter and pollution on their livelihood.

Have youth write a news release describing the event for local print media. Take photos to illustrate the area before and after the project.

Write a journal entry after completing this project. Share thoughts with other club members or family.

Roles for Teen and Junior Leaders:

Pair up with younger members to assist with the removal of large debris and hazardous items such as broken glass and wire.

Have older members invite the local media to the event. Their stories or interviews can provide good public relations for the club and could result in bringing in new members!

Potential Parental Involvement:

Assist with hauling the trash to the proper dump stations: oil, glass and cans to a recycling center, other materials to the local waste management site.

Equipment/Materials:

- heavy duty plastic garbage bags (clear)
- work gloves and/or rubber gloves (surgical gloves are available by the box and are reasonably inexpensive)
- notebook and pencil
- hip boots or waders
- personal floatation devices if the water is fast-moving, deep or has a drop-off
- first aid kit

Safety Considerations: Leader should be familiar with the clean-up site so that they can provide any necessary safety instructions regarding the topography of the area, currents, drop-offs, and any dangerous wildlife or poisonous plants in the region.

Instruct youth to use caution when handling sharp objects such as broken glass or wire. Youths should be cautioned against picking up medical needles.

Leaders should check into any applicable regulations governing the disposal of hazardous or other regulated materials.

References:

Center for Marine Conservation. (no date). Plastics in the ocean: more than a litter problem. Washington, D.C.

Edelstein, K.L. and B.E. Matthews. 1993. Aquatic sampling. NY Sportfishing and Aquatic Resources Education Program Manual. Cornell U.: Ithaca, NY. 75 pp.

The Watercourse and Western Regional Environmental Education Council. 1995. Project WET. Bozeman, MT.

Western Regional Environmental Education Council. 1992. Project WILD-Aquatic. Bethesda, MD.

Lesson Outline

Application

Choose a waterbody to clean

Assign teams

Pick up litter

Assist youths

Reassemble group

Describe findings

Look for clues

Public opinion of anglers

Review litter

Empty bags of litter

List items

Discussion

Abiodegradability@

for

Identify and classify items

Presentation

I. Choose a section of stream or lake shore needing cleaning.

- Assign teams of two to sections of the area.
- Instruct the teams to pick up all litter and
- Remind youths to ask for adult assistance when they encounter litter that is either too large to remove or is potentially hazardous (e.g. objects with sharp edges such as broken glass and wire; un-identifiable bottles/jugs which may contain harmful chemicals). Advise youths to use common sense while picking up all litter.

II. Reassemble the group after a designated time

- Ask the group to describe what they found.
- Were there any clues as to who might have been responsible for any of the litter?
 - What does the litter say about the kind of person who left it there?
 - Discuss impacts of litter on public opinion of those who do the littering. How does the public feel towards fishing and towards anglers, when the littering is clearly done by anglers?

III. Choose a few bags of litter and open them up.

- Dump the bags on the ground or on a drop
- Make a list of the items contained in the bags.
- Discuss the concepts of and decomposition (see narrative definitions).
- Identify those items that do not

Fishing for Regs

Impacts of litter

decompose.

- Identify what the potential problems or impacts of each item found might be on the fish or other organisms living nearby.
 - What if something ate the item of litter, or became entangled in it?
 - What if the litter contributed some chemical or biological element to the ecosystem?
 - Think about where the litter

might

have gone had you not removed it.

- When considering the impact on wildlife, think about any possible effects on the wildlife=s food, shelter and space.
- Discuss strategies your club might use to prevent the area from being littered again (e.g. provide waste cans; officially Adopt@ the site, post a sign with your clubs efforts and or mission to encourage people to follow your clubs lead in environmental stewardship).
- Are there regulations affecting the

water,

Litter prevention strategies

Regulations?

Conduct an experiment

Choose samples

Select site for experiment

- IV. Set up an experiment to measure decomposition
1. Choose three samples of each item.
 2. Choose a site that is not likely to be disturbed for several months to a year (the side yard area at either the leader=s home or one of the club member=s would work well).
 3. Place one sample in water, one on top the ground, and bury the last one (6-10 inches or so).
 4. Monitor the decomposition process.
 - set up a monitoring schedule:
 - record date
 - record season or weather
 - record changes observed, if any
 5. Discuss the results.

Experiment design

Monitor experiment

Records

Discuss results

Lesson Narrative:

Years ago, an angler finding litter alongside a stream could reasonably blame it on some thoughtless picnicker or swimmer. Today, the large amount of styrofoam bait containers, plastic lure wrappers and discarded monofilament line provide silent proof that at least some people who fish also litter. This does little to influence folks to think more favorable towards anglers, and a lot to make the rest of the world think that all anglers are slobs.

Non-biodegradable (items that do not break down or decay over time) plastics are among the most damaging kinds of litter. In both marine and freshwater environments, plastic waste materials can negatively impact wildlife. Aquatic animals often mistake some plastics for food. Plastics have been found in the stomachs of whales, dolphins, fish, birds, manatees and turtles. If these foreign materials aren't passed (eliminated in feces), they can accumulate in the intestines and cause the animal's bowels to become blocked, resulting in death. In other cases, wildlife can become entangled in plastic debris such as fishing line and plastic six-pack carriers. Plastic netting Alost= from commercial fishing fleets may be the greatest hazard to marine life. Because few fish or marine mammals can swim backwards, nearly all those entangled will die.

Some litter can contribute to chemical pollution (introduction of toxic substances) and can be toxic in certain concentrations. Chemicals leak out of discarded containers (such as motor oil jugs) and leach (pass through by percolation or seeping) into the soil making their way to streams, lakes, and groundwater.

A litter cleanup activity not only improves the appearance of fishing sites but also drives home an important environmental and ethical message. Each of us is responsible for maintaining a clean and healthy environment. Litter is evidence that someone has been there before. Like the three bears discovering evidence of Goldilock's trespassing, your club members can use this activity to discover what type of person has been littering in your favorite fishing hole. Your group might find a clue as to who literally, has been dumping garbage. If enough evidence is found, discuss your findings with law enforcement personnel and encourage them to prosecute the offender. Or, if the litter problem appears to be more widespread, brainstorm and identify possible ways to improve the situation.

Summary Activity:

Youths will participate in a shoreline cleanup activity. They will identify different types of waste items and analyze their affect on aquatic wildlife, water and soil quality, as well as aesthetics of the outdoors.

Exhibit or Sharing Suggestions:

Create a display of the trash items that were found. Identify items that are recyclable, biodegradable or toxic and provide information on properly disposing them. Identify where the litter may have come from, or who might have been responsible for the litter. Include information on how the litter affects wildlife in the area.

Write an article describing the cleanup project and send it into the local newspaper. Include photos and a description of the group's primary activities (fishing!).

Fishing for Regs

Create a display demonstrating responsible consumerism: products packaged in recyclable materials, low volume packaging (not using unnecessary packaging such as boxes, wrapping) the use of refillable containers, etc.).

Community Service and Giving Back Activities:

This activity *is* a community service project! Turn it into an annual event and encourage a ALocal City@ (yours) clean-up day.

Participate in AAdopt-A-Waterbody@ programs. If none exist in your area, start one!

If your community does not currently participate in a recycling program, help start one!

Extensions or Ways of Learning More:

Research how your state disposes of hazardous wastes, yard trimmings, and household waste products (states, regions, and cities each may have specific guidelines or regulations for waste disposal).

Identify and examine pollution sites within your region or state. Explore the problem. Look at AAreas of Concern@ and examine the environmental impacts of the site. Review the ARemedial Action Plans@ drawn up by local committees to help remedy the problem.

Examine and discuss worldwide pollution problems (air, water, acid rain, hazardous waste disposal etc.). Review events such as the Exxon *Valdez* oil spill in Alaska, radioactive leaks (Chernobal, Three Mile Island) and others.

Links to Other Programs:

Check other 4-H projects for activities or concepts that involve litter, trash, or waste disposal. For example, in agricultural practices such as farming, livestock husbandry and other animal husbandry situations, proper disposal of wastes and chemicals such as fertilizers, herbicides, and insecticides must be taken. If there are no related activities within 4-H, see the Project WILD - Aquatic and WET below:

From Project WILD - Aquatic

ANo Water Off a Ducks Back@

APlastic Jellyfish@

ASomething=s Fishy Here!@

ADeadly Skies@

ADeadly Waters@

Project WET

AMacroinvertebrate Mayhem@

ANo Bellyachers@

APoison Pump@

Fishing for Regs

AThe Pucker Effect@

ASparkling Water@

ASum of the Parts@

ASuper Bowl Surge@

AWhere are the Frogs?@

Keeping a Fishing Field Journal

Shari L. Dann⁵ and Ronald A. Howard Jr.⁶

Objectives

Participating young people and adults will:

1. Record fishing experiences in a journal
2. Practice writing observations and outcomes
3. Practice a scientific communications skill
4. Enhance observation and reporting skills
5. Have fun while learning

Youth Development Objectives

Participating young people will:

1. Practice written communication skills
2. Learn the value of self-reflection
3. Develop planning and analytical skills
4. Enhance enjoyment of fishing and outdoor recreation
5. Enhance relationships through shared experiences

Roles for Teen and Junior Leaders

1. Share examples of their journal entries with members
2. Assist members with spelling or sketching entries
3. Share uses they have found for their journals

Potential Parental Involvement

1. See Roles for Teen and Junior Leaders@ above
2. Assist members with making journal entries
3. Reinforce use of fishing journals at home
4. Encourage use of journal information to answer questions about fishing and fish

Evaluation Activities/Suggestions

1. Have youths read aloud from their journals if they are willing to share what they have written. Discuss each angler's journal entries.

Best Time: During or after any fishing outing

Best Location: anywhere

Time Required: 10 to 40 minutes

Equipment/Materials

paper (100% cotton fiber is most waterproof)
pencils or permanent (waterproof) pens
clipboard or small 3-ring notebook
newsprint and markers

Safety Considerations

Some youths, particularly early adolescents, may record personal information they would rather not share. Respect their privacy, and encourage them to find some small part of their journal they are willing to share, or to share parts of entries with just one or two other teens.

References

- Axtell, H. 1955. How to write verifying accounts of unusual sight records. *The Prothonotary* 21(4): 32-36.
- Carter, Jimmy. 1988. *An outdoor journal: Adventures and reflections*. Bantam Books, Toronto ON.
- Hinchman, Hannah. 1991. *A life in hand: Creating the illuminating journal*. Peregrine Smith Books, Salt Lake City UT.
- Hoyt, S. F. 1961. Comments on the preparation of field notes and regional reports. *Kingbird* 11(4): 179-183.
- Leopold, Aldo. 1966. *The Alder Fork@ in: A Sand County almanac*. Ballantine Books, New York, NY.

⁵ Assistant Professor and Extension Specialist, Department of Fisheries and Wildlife, Michigan State University, East Lansing, MI, 48824

⁶ Professor and Extension 4-H and Youth Development Specialist, Texas Agricultural Extension Service, Texas A & M University College Station, TX, 77843-2473

Fishing for Regs

2. **Encourage (but don't require) members to share parts of their journal entries with parents.**
3. **Observe changes in journal entries with practice.**

Lowenstein, S. 1987. A brief history of journal keeping. Pp. 87-97 in *The Journal Book* (T. Fulwiler, ed.). Boynton/Cook Publishers, Portsmouth NH.

Mosby, H. S. 1980. Making observations and records. Pp. 45-54 (Chapter 4) in *Wildlife Management Techniques Manual* (S. D. Schemnitz, ed.). The Wildlife Society, Washington DC.

Remsen, J. V. Jr. 1977. On taking field notes. *American Birds*. 31:946-953.

Lesson Outline

Presentation

- I. Why keep a field journal
 - A. Fishing related
 1. Record of catch
 2. Record of effort
 3. Record of fish kept, released
 4. Record of methods tried and results
 5. Record of habitats fished
 6. Basis for understanding changes in an area
 - B. Fishery science or management related
 1. To assist fisheries managers with data
 2. To better understand an area
 3. To provide historical data describing fisheries from journal entries
 - C. Personal enjoyment
 1. Recording experiences
 - a. Ease of recalling
 - b. Accurate record of experiences
 2. Sharing experiences with others
- II. What should or could be written about your fishing experiences?
 - A. Working from memory
 1. Forgetting important things
 2. Losing lessons learned and experiences gained

Application

Ask youths to **BRAINSTORM** reasons that an angler might want to record information about their fishing trips? **LIST** their responses on newsprint or on a blackboard, grouping them in a manner similar to the outline. Be prepared for youngsters to list a variety of ideas, mostly concrete ideas such as Ato be able to find a good fishing hole over and over,@ and Ato remember where the big fish are.@ **USE** probing questions (for example, AWho else might use written notes...and why?@) to encourage youths to see other good reasons for writing down information about their fishing outings.

One-minute field notes exercise B [**NOTE**: This must be done after a fishing outing or other outdoor experience.] **ASK** youths to think privately (without talking) about their most recent fishing outing or outdoor experience. **TELL** them that they will have 1 minute to write down as much as possible about where they went and what happened. **NOTE** that spelling and grammar are not important for this exercise -listing everything they can remember or using running phrases is fine. Let them **WRITE** for 1 minute. Have each youth **SHARE** their writing with one or two others. **ASK** how easy it was to remember the details of the fishing experience. **QUESTION** if they have captured enough information to be able to return to the same place and fish in the same way just by reading what they had written 10 years from

- A. Heading information:
 - 1. Date
 - 2. Name(s)
 - 3. Location (in detail)
- B. Body of entry:
 - 1. Anyone who was with you
 - 2. Time of day (and time zone information)
 - a. Often written in the left margin
 - b. Show time events occurred
 - 3. Weather conditions
 - a. Temperature
 - b. Wind conditions
 - c. Cloud cover
 - d. Precipitation
 - e. Previous weather influences
 - f. Weather changes during outing
 - 4. Water conditions (as applicable)
 - a. Water temperature
 - b. Depth
 - c. Current or tide conditions
 - d. Wave conditions
 - e. Water clarity (e.g. Secchi disk depth)
 - 5. Purpose(s) of your outing.
 - 6. Time progression
 - 7. Habitat descriptions
 - 8. Appearance of fish or wildlife
 - a. Markings
 - b. Size
 - c. Age and sex (if known)
 - 9. Numbers of fish/wildlife
 - a. Observed - seen, heard, etc.
 - b. Caught or lost
 - c. Kept or released
 - 10. Wildlife behavior and surroundings
 - 11. Fishing methods used
 - a. Baits or lures
 - b. Tackle
 - c. Other equipment
 - d. Techniques
 - 12. Sketch maps or drawings
 - 13. Notes on the activities of the day
 - a. When did most fish hit
 - b. Where were most fish caught
 - c. What bait, lure, technique was most effective

now. Lead them to **DISCUSS** their perspectives, emphasizing how important it is to record the details of our experiences while they are fresh in our minds. **STRESS** that the field journal is a structured way to keep certain records of our experiences, in order to enable us to return to the same spot time after time, or to remember our experiences and our enjoyment.

Ten-minute field journal exercise -- Ask youths to **BRAINSTORM** the types of information they might want to record after going fishing to remember details of their experiences. **RECORD** their responses on a newsprint pad or chalkboard. **HELP** them develop a list that includes:

- Where** they were fishing
- What** they did and observed
- Where** the fish were located and reasons for their being there
- What** methods and other tackle were used
- Any **likes or dislikes** about the experience
- Reflections** on the experience and things that might alter outcomes under similar conditions
- Things** to be tried next time

After the group develops their own list of what could be included in field notes, let them take 5 minutes to **WRITE** a journal entry about their last experience. **Optional:** have each youth share parts of his/her entry with one or two other youths.

Twenty-minute journal -- Full scientific format

TELL youths that many anglers choose to keep notes in something called a field journal, a way of keeping notes that is sometimes called a log, a logbook, or an angler's diary. **REVIEW** the format and components of a field journal with them (see Lesson Narrative for additional information). **SHOW** them your field journal, or a few pages of your field notes! (Nothing encourages kids to write like having role models reveal and share their own writing!) **TELL** them that now they will have a chance to write their own notes in full, scientific form. Let them **WRITE** a complete journal entry and **SHARE** their writing with one or two other youths.

CLOSE the session by reading from your own fishing journal entries, and discussing what they mean to you, or by reading from another writer's work (see References).

Fishing for Regs

Summary Activity

1. Do a **One-Minute Journal** as a group or in small groups (see instructions, above, for the 1-minute field notes exercise.)
2. Do a **Memory-Walking** sketch of your fishing experience. Have youths recall where they started on their fishing excursion, and draw a simple line sketch of that place in their notes. Then, have them draw the other places that they visited during this excursion (as though drawing a sketch map). Finally, for each place that was drawn, have them add a few words to describe the place and their experiences there. This exercise is described in more detail in Hannah Hinchman's book: *A Life In Hand: Creating the Illuminated Journal*. It is a good teaching strategy for starting someone in the practice of journal-writing, and a good strategy for people who are visual learners or who enjoy sketching or drawing.

Lesson Narrative

Keeping a Fishing Field Journal

Why Should I Keep a Journal? - *The strongest memory is weaker than the palest ink.* This statement, by an unknown source, sums up one value in keeping a field journal, or a fishing log, or diary. As we all know, memories of pleasant events fade with age! Recording observations, feelings, successes and failures, techniques and companions provides both information and enjoyment that cannot be retained from memory alone.

A field journal serves several purposes. First, it provides a detailed record of a field experience. (Of course, the level of detail must be provided by the person recording the experience.) The journal keeper may want to return to a specific, favorite outdoor location and may want to remember the exact conditions of the site and the exact observations of fish or wildlife. The journal keeper may also want to communicate his/her observation, so that any reader can return to the site and make additional observations for comparison. For example, an angler might use the journal to describe fishing conditions, to keep a checklist of fishes caught and methods used, and to make decisions about where and how to fish in the future. He or she also might wish to refer to the field notes to monitor changes in fish catch rates over time in an area. Finally, the angler may wish to share the journal with researchers and fisheries managers. Sometimes, biologists collect and read anglers' notebooks to monitor fish populations, or to learn about the amount of fishing effort on a given body of water. Natural history museums or public libraries may even accept donations of well-written, organized field journals for their permanent files. Journals by early explorers, traders, settlers and travelers can provide both historical information and early observations of previously unknown fishes or records of fisheries resources available at the time of their writing.

Finally, and most importantly, a field journal can provide enjoyment for you. You can relive your experiences by reviewing your old field journal entries. By reading a journal entry (yours or someone else's) you can recall a pleasant summer fishing trip even in the midst of a stormy winter day! You'll be amazed, too, at how just writing the journal sharpens your observational skills; you'll see more while you're afield, and you'll have more to reflect upon after your experience.

How Do I Keep a Field Journal?

The style of recording field observations depends mainly on the purpose for which they will be used, and on the preferences of the writer! Above all, the notes should be clear and to the point. The format should be convenient for field use and easy to file and retrieve later. A few tips might be useful to help in maintaining a field journal.

- Use a looseleaf notebook (3-ring binder) for easy filing. (Some prefer file cards or bound notebooks.)
- If possible, use 100% cotton fiber paper (100% rag content); it doesn't disintegrate when wet.
- Try to leave completed journal pages at home. Some of your notes may not be replaceable if lost! You can never reconstruct complete notes from memory, and you may never witness the same event or catch the same fish!
- If you can, use waterproof ink and a drafting pen, not an ordinary ball point pen. (A pencil is a good second choice.) That way, you won't see your notes disappear when you take an accidental dunking or get caught outside in the rain.

Fishing for Regs

- Reread old entries periodically. Besides being entertaining, this activity serves to motivate one to get outdoors more often and to continue keeping field notes!

Tips on Field Journal Format

In order to be useful, field journal notes need to be complete. Yet, the field journal is simply a series of brief entries, like in a diary. Two major components of the journal entry include 1) the heading and 2) the body. The heading should describe the location of your observations very specifically. The description should be detailed enough to allow someone unfamiliar with this area to locate it, now or in the future. Each time you change locations or start a new day or entry in the journal, you should record the following basic information in the heading:

- your name
- the date (written so it is not ambiguous)
- a page number (in case pages become separated) - usually written in the upper right hand corner of the page
- the specific location (distance and direction from nearest town or village, road names, and Areal@ name for the location such as the name of the body of water fished -- not a name that is used among your friends, or family members which isn=t commonly known).
- the general location (county, state or province, and country if outside the U.S.)

Put this heading in the center of the page, and underline it (some use a wavy underline.) It should look something like this:

Journal

536
Shari Dann
13 May 1995

Ovid Lake, Sleepy Hollow State Park,
1/4 mi. NE of corner of Price and Shepardsville Rds.,
Ovid Township, Clinton Co., MI

The body of the journal entry should contain other background information, as well as your observation notes. First, be sure that you have included this information:

- describe who else was there with you
- time of day (and time zone information) - often written in the left margin, showing the time certain observations happened
- weather conditions (your observations might be influenced by such things as weather or amount of daylight)
- water conditions: water temperature, water depth, current and tides (if applicable), wave conditions, pH and secchi disk depth (if available)
- purpose(s) of your outing.

Then, write your observation notes as running phrases. Don=t worry about grammar, but be sure you have recorded complete ideas. Make note of these types of things:

- time progression, weather changes
- habitat descriptions
- appearance of fish or wildlife: markings, size, age and sex (if known)
- numbers of fish/wildlife observed, caught, heard; numbers of fish kept or released (by species)
- behaviors (and the surroundings of the fish or wildlife as they behave in a certain way)
- fishing methods used: bait, lures, rods, reels, other equipment
- sketch maps, drawings
- notes such as: When (what time of day) did you catch most fish? Where were most fish caught? What bait(s) or lure(s) caught the most? How did you use baits or lures?

Record your notes carefully, and try to avoid changing them once they are recorded. If you change your notes, or try to copy them over, you might re-think your observations, and they may be less accurate! [If you do change something, be sure to record the date and time and to initial it, leaving the original notes as well.] Record your

Fishing for Regs

observations as soon as possible, in detailed phrases, ideally while in the field. And enjoy reading them.

What To Do With Younger Writers

Younger writers (and even some older writers) may prefer not to use the usual field journal format. Another popular format for recording field experiences is the checklist. Decide what information you want to record, and design your own checklist.

Birders, anglers, and other naturalists use a variety of types of notes. Some separate their angling or hunting experiences into a separate set of sporting notes. Another format is to write species accounts (observations of particular species of interest); yet another format is a specimen catalog (a listing of the locations, measurements, species and other information about specimens collected). All of these formats are useful. It is up to you to decide what format will be most useful to you and to any readers who see your writing! And, it is up to you to make field journal writing a fun part of outdoor enjoyment!

Exhibit or Sharing Suggestions

1. Publish a community or a club fishing Anewspaper@ or submit an article to a local paper, based on your field journal entries and those of other club members.
2. Display your field journal at a local fair or science event. Consider making a poster to accompany your field journal; include such things as fishing techniques used, habitat type fished. Display actual tackle used, too.
3. Type your journal entries into a computer, word-processing file. Add graphics, video, information you collect (from doing readings) on fish species, habitats, etc. Create a multimedia show which is based upon your field notes!

Community Service and AGiving Back@ Activities

1. Visit a housing facility for older citizens. Read your journal entries to someone who once fished or hunted. Share in listening to their memories of outdoor experiences. Help them to record their memories (see Activity entitled AFishing for Stories@).
2. Write a thank-you note to those who have taken you fishing or who have provided access to a fishing site. Refer to your journal to share your experiences.

Extensions or Ways of Learning More

1. Make your own book for use as a journal. Develop some way to bind your journal pages together. Decorate the cover with sketches from your fishing trips, photos, or AFish print@. Add quotes from anglers, outdoor and environmental writers, or sketches to some of the pages. Design your own format for journal pages.
2. Contact your state fisheries management agency. Find out if you can participate in an angler diary program. These programs involve anglers in keeping records of fishing effort, fish caught, water quality conditions, and other important information. Fisheries agencies then use this information to make decisions about managing fish populations and habitats.
3. Read journal entries of other writers (see books by Aldo Leopold, Jimmy Carter, and others in References section of this lesson plan). Learn more about sketching techniques, and incorporate sketches into your journal entries. Set up a pen-pal correspondence with an angler from another part of the world. In your letters, use segments from your field journals. Ask for them to share their fishing field notes. Exchange videos along with your written field notes.
4. Invite a local outdoor writer to speak to your club or interview him/her. Ask about how, as a writer, this person keeps notes on outdoor experiences. Read the writers= articles and/or books.

Fishing for Regs

5. Find out if any local museums or libraries hold journals of early settlers or recreationists. Visit to view and read these materials.

Links to Other Programs

Journal keeping is a valuable, common record keeping skill. Check other 4-H projects for activities which make use of journals for making observations and reflecting upon experiences.

Commons Activities

Conducting the Activity

Preparation

Prior to the activity, count out sets of Afish@ for each Alake@ to be sampled by the participants. Using peanuts, kidney beans or something similar in size as panfish or forage fish and Goldfish⁷ as predatory fish, count out 16 of the smaller and 4 of the larger Afish@. If desired use a larger number, but keep the ration of 4:1 intact. Prepackage enough of these to stock as many Alakes@ as you will have groups, sealing each set in a sealable plastic bag. Placing a bowl or plate, the Afish@ and all other supplies in a larger bag, makes set up for the exercise quick and easy.

Conducting the Exercise

When the participants assemble, divide them into groups of 4 and have each group sit around a table or in a small circle. Provide each group with a Alake@ (a bowl or plate) stocked with the fish previously prepared. The number provided represents the carrying capacity of the lake. [*Note: if you intend to count out the fish, be sure to keep your counting inobtrusive to avoid calling the participants= attention to the significance of the numbers.*] Provide each group with a copy of the Fish Data Table and a writing instrument.

Provide necessary background information, explaining that the container is a local lake or pond, providing a name to enhance the reality of the model. Explain that the lake is at its carrying capacity, that is that it is stocked with as many fish of each type as it can support under the present conditions. [*Keep this simple! It is an introduction, not a final exam in ecology.*] Note that the Goldfish⁷ and the peanuts or beans each represent fish species. Assign species names that make sense for the area, allowing the peanuts or beans to represent common fish like bluegill, perch, suckers or carp and assigning to the models the Goldfish⁷ to a sportfish or commercially valuable species like black bass, striped bass, walleye, trout, or a similar species.

The rules for conducting the exercises are simple.

1. No talking while the groups are fishing!

Fishing for Regs

2. Each participant is an angler, and each angler will fish during each bout of fishing.
3. Each angler may harvest from 0 to 3 fish during their turn.
4. The number and types of fish taken are the choice of the angler fishing.
5. Each bout of fishing (every angler fishing once) will represent a year.
6. At the end of each year, a new fish of each species will be recruited (added) for every fish of that species remaining in the lake. [*The original number of fish of each species in the lake, however, may not be exceeded.*]
7. Each angler should keep the fish they catch in front of them. (Anglers will be able to eat their catch later.)

Start the activity by opening the lake/pond/sea to fishing. Remind them that they are not allowed to talk while they are fishing and the the maximum number they may take is three fish total. [*This may be a place to introduce the term **Aggregate** that is used frequently in regulations.*] Have each angler keep his or her catch separately. Once each angler has had a chance to fish and take the number of fish they have decided to harvest, have each group record its annual catch (harvest) and the fish population (number of fish of each species remaining in the lake). If the Fish Data Tables are not used, the numbers should be recorded on a newsprint pad or chalkboard for each group. Determine the number of fish that can be recruited (the number of each species remaining, but not more than the original number for that species) and add the annual recruitment to the lake. [Note that any population that is completely harvested cannot be replenished because that species has been extirpated (completely eliminated) from the lake!]

Repeat the entire process for another Ayear,@ allowing each angler to determine his or her harvest and to take the fish they chose from the population. Record the annual catch and the fish population on the table, chalkboard or pad; and replenish the population according to the formula with recruited fish.

Remind the young people that they cannot talk until the exercise is over, and repeat the process for the third year. After the harvest has taken place, record the annual catch and fish population and allow recruitment to restock the lake. [*Note the alternative and additional ways of using this exercise listed below.*]

Discussion Ideas

1. Who caught the most fish?

Refer to the fish each person has in front of them for the answer.

2. Which lake provided the greatest total harvest of fish?

Refer to the table to determine total catches for each of the lakes in the exercise.

Why?

Anglers were able to maintain recruitment and keep the lake at or near its carrying capacity.

3. Which lake was fished out the soonest?

Refer to the table to determine if any of the lakes were completely fished out or had a species extirpated during the exercise and when that took place.

Why?

If a species was fished to extinction in the lake, it was because the harvest exceeded the recruitment potential of the population.

4. Which species was wiped out first?

Refer to the table for this data.

Why did this happen?

Recruitment could not keep up with the harvest.

5. Why were fish replaced proportionally to the remaining stock and only if some remained in the lake?

Reproduction and recruitment require parental stock.

6. Why were fish only replaced to the total numbers that were originally in the lake?

That was established as the carrying capacity of the lake. The lake was not capable of sustaining more than that number of each species.

7. What were the best strategies for a sustained yield?

Proposed answers will vary, but taking half the fish each year would maximize the number that can be recruited and harvested in this example.

8. How did you feel as you played the game?

Did anyone take too many fish?

How did that make the other anglers feel?

Did everyone try to take as many fish as possible?

Why or why not?

Did fishing strategy change among anglers when fish stocks appear to become depleted?

All of these questions can produce excellent discussions. Be prepared to go with the flow and serve as a monitor for the resulting discussions.

9. What happens when anglers do not use a cooperative fishing strategy?

Fish stocks can be severely depleted or even extirpated leading to the tragedy of the commons as a result of the overfishing.

10. In a natural system, what management strategies might be used to influence populations, for example, managing to have more Goldfish?

Regulations like catch and release, size/bag limits, habitat improvement to increase carrying capacity, stocking, and similar things can be used to augment populations.

11. What kinds of local commons can you think of?

Answers will vary from parking spaces or parks to wildlife populations or seats in a classroom. Be prepared to accept any that are reasonable examples and have teen leaders ready to expand the sphere of thinking if necessary.

Can you think of natural resources that are common in the U.S.?

Allow this list to be as wide-ranging and broad as desired, trying to get it to include both commons resources and proprietary ones and both renewable and non-renewable types, e.g. fisheries, forests, wildlife, pasture and grazing lands, oil, natural gas, coal, water.

Fishing for Regs

How do these resources differ?

Some, like forests, are renewable, while others, like natural gas and oil, are non-renewable.. Some are commons resources, owned by all people corporately, while others are proprietary resources, where possession of the resource may be vested in an individual, group or corporation. Some may be either type depending upon their location. For example, state or national forests are commons resources, while industrial forest or private forested lands are proprietary resources.

Are all natural resources considered a commons resources@ throughout the world?

No, European traditions for fish and wildlife make them proprietary, while North American traditions regard them as commons resources. Water can be considered a commons resource in most of the eastern United States, but in a water rights@ states (most of the western United States) it may be considered at least partially a proprietary resource.

12. How do natural resources agencies manage commons resources?

As the representatives of the corporate body of the people, these agencies develop and enforce regulations, allocate (set apart) resources to various user groups, and generally control the use of commons resources for the common good, at least until a resource is rendered the private property of a legal taker of that resource, by catching and keeping a legal fish, for example.

13. Think ahead to the future. What advice would you leave for your great-grandchildren about fishing in this lake/pond/sea?

Answers will vary, but they should reflect improved understanding of the interactions of carrying capacity, harvest rates and recruitment and the influence of these factors on commons resources to prevent the tragedy of the commons. They should also reflect cooperative use to maintain sustainable resource populations.

Activity Adaptations for Advanced Learners

Now that the group is familiar with how this activity works, experiment with other versions listed below. You may want to have each group conduct a different version and compare results after they've fished for another three years. Or, you could have youths create their own versions by brainstorming variables that can affect fish population size (fertility of the system, predation,

Fishing for Regs

weather factors, availability of spawning habitat, human regulation, etc.). If they create their own scenarios, write them on index cards and distribute them among the groups. If not, copy or cut out the ones listed below.

Instructions

1. Follow instructions in the original version of this activity, allowing each group to fish for three years.
2. At the end of each year, stop the groups and have them record their data. Restock fish as before.
3. After three years, reward the anglers by allowing them to eat their Δ catch.
4. While snacking, have each group report their strategies and results and discuss their scenarios among the whole group. Which strategies do they believe provided the best chance for sustained fishing? Why?

Activity Variations:

-

Fishing Blind

Assume that the fish population size is unknown. Using a shallow box to represent the lake, cut a hole (two to three inches square) into the lid (a shoe box works nicely). Youths fish by reaching into the box with a spoon to Δ catch their fish. Restock fish populations randomly (remember you don't know how many fish remain in the lake). Point out that this situation is similar to real-life fisheries management where people work from *estimates* of fish populations. Which fishing strategy would work best for this scenario? (cooperative) Why? How can managers regulate uncertain fish populations? (for commercial fishing operations - set quotas, require catch reports; for recreational fishing - conduct creel surveys, set size/bag, and seasons limits).

Fishing with Information

Conduct the original activity, but use your knowledge gained from playing it the first time. (If people take out fish in limited numbers, the fishery has time to keep up with the harvest rate. In the long run, there will be more fish available in the lake. On the other hand, if people take fish too rapidly, people get fish for themselves very quickly, but the fish population does not have time to replenish itself. The fish population soon crashes!). Conduct the activity again with no talking. Did the knowledge gained while playing the original version result in longer, more successful fishing? Why, or why not?

Fishing with Strategy Provided

One good strategy to use is for each person to take 1 or 2 fish most of the time. This will make the population last longer. Youths are free to make their own choice. Play again with no talking. Did this strategy result in more successful fishing? Did all youths cooperate in limiting their harvest? If so, how did this affect the outcome of the activity?

Fishing with Communication or Cooperation Allowed

Before beginning this version, take a few minutes to talk among your group about how you can successfully fish in a sustainable manner. During this version, the group may continue talking. Ask questions and decide together how many fish to harvest. Did this version result in successful fishing? How would this strategy be conducted in

Fishing for Regs

real life? (fishing cooperatives, councils, etc.)

Fishing with Competition

For this version, each person in the group must have at least one (or two) fish at the end of each year in order to survive. Those without the requisite survival fish must drop out. Play a few rounds, and then add new players to simulate an increase in human population. Play a few more rounds. Discuss the implications of human carrying capacity.

Fishing for Regs

Kelly S. Carter¹

Objectives

Participating youth and adults will:

1. Become familiar with their state/regional fishing regulations guidebook.
2. Use a regulations booklet to determine specific regulations and information (i.e. seasons, size restrictions, bag limits, closed/open bodies of water, license requirements, where to get more information, etc.) for a given fish or other aquatic species.
3. Describe specific regulations (bag limit, slot limit, lawful fishing methods, unlawful activities, etc.).
4. Explain why and how regulations are used as a management tool.
5. Describe the difference between laws and ethics.
6. Have fun while learning.

Roles for Teen and Junior Leaders

1. Assist with locating regulations and information in the state/region/local guide booklet.
2. Assist with describing the regulations vocabulary to younger members.

Potential Parental Involvement

1. See “Roles for Teen and Junior Leaders” above.
2. Describe regulation changes which have occurred in their lifetime and assist with a discussion about why regulations have changed and continue to need modification.

Youth Development Objectives:

Participating youth will:

1. Practice referencing skills.
2. Develop planning skills, which can help them enjoy future fishing and outdoor activities.
3. Enhance their vocabulary.

Evaluation Activities/Suggestions

1. “Quiz” youth on their knowledge and understanding of the state fishing regulations by conducting mini-versions of this activity (i.e. while out fishing).

Best Time: While planning a fishing trip

Best Location: Any

Time Required: 1 hour

Equipment/Materials

- Your state/local fishing regulations booklet.
- The U.S. Dept. of the Interior and Fish and Wildlife Service Federal Aid in Sport Fish Restoration Program booklet, *Restoring America's Sport Fisheries* (optional)

Safety Considerations: None

References:

- Federal Aid in Sport Fish Restoration (Dingell-Johnson and the Wallup-Breaux Amendment). 1998.
<http://www.fsw.gov/r9fedaid/sfr/fasfr.html>
- Kohler, C.C., and W.A. Hubert, eds. 1993. *Inland fisheries management in North America*. American Fisheries Society, Bethesda, MD.
- Schmidt, B. 1997. *Advanced sport fishing and aquatic resources handbook*. American Sportfishing Assoc., Kendall/Hunt. Dubuque, IA. 135 pp.
- Staton, R.D. Jr. 1992. *Basic fishing: Conservation education series*. The Missouri Department of Conservation, Jefferson City, MO 90 pp.
- Western Regional Environmental Education Council. 1992. *Project WILD*. Bethesda, MD.

¹ Kelly S. Carter, Graduate Research Assistant
Michigan State University, Dept. Of Fisheries & Wildlife, East Lansing MI 48824-1222

Fishing For Regs.

Background Information:

The following glossary of fish and regulations terms may help teach fishing regulations:

Adipose Fin - a fleshy fin situated on the back of certain fishes (trout, salmon, whitefish, smelt and catfish) behind the dorsal fin.

Allocation - assignment of aquatic resources for fish production and other water uses. This includes providing sufficient numbers of fishes to escape harvest to perpetuate the fishery as well as assigning a portion of the annual allowable yield to a group or individual.

Anal/Ventral Fin - the fin situated behind the anus or vent.

Angler - any person who fishes.

Annual Creel/Bag Limit - a maximum amount of total harvest of specific species by individual anglers.

Artificial Bait - man-made baits that tend to resemble minnows, baitfish, crayfish, frogs, insects, worms, mice, birds, or other assorted fish food.

Bag Limit - a term used by some fisheries agencies to tell the number of fish by species that can be legally caught in one day. Bag (or creel) limits may also have size or weight restrictions on particular species as well.

Bait - an item/substance used to entice fish to bite a hook.

Barb - the spur found on the point of most fish hooks that serves to increase the holding power of the hook.

Catch and Release - regulations which require the angler to release caught fish live back to the body of water immediately. Used to reduce fishing mortality, assist declining fish populations to recover to sustainable levels, to maintain high catch rates and increase the catch of larger fish.

Caudal Fin - the tail fin of a fish, primarily used for forward motion.

Gear Restrictions - regulations which limit the type or

Closed Season - the period of time when fishes may not legally be caught. Closed seasons are often used when one or more of the following conditions occur: when harvesting spawning fish may prevent saturation of habitat with young fish; when fish populations are subject to excessive harvest during spawning concentrations; when regulating mixed populations; or to protect the angler from danger.

Commercial Fishing - catching fish to sell for a living.

Conservation - the wise use of resources.

Creel - a fish basket or personal fish carrier used to carry fish when fishing on or near shore.

Creel Limit - a term used by some fisheries agencies to tell the number of fish by species that can be legally caught in one day. Creel (or bag) limits may also have size or weight restrictions on particular species as well. See bag limit.

Dip Nets - nets without walls, which are lifted vertically.

DNR - an abbreviation for the Department of Natural Resources, the agency in many states responsible for fisheries management and conservation.

Dorsal Fin - the main fin on the dorsal (back) surface of fishes, used for balance, steering and positioning.

Estuaries - part of the wide lower course of a river where its current is met and influenced by the tides. Water is saline-brackish to moderately fresh at varying times.

Exotic Species - animal and plant species that are not naturally occurring in an area that have been introduced either accidentally or on purpose.

Fisheries Management - the effort to use wild populations for human use without destroying them.

Fresh Water - water that contains little or no salt.

size of gear which may be used to catch fish. Flies-only

Fishing For Regs.

and net mesh size limits are examples of restrictions on angling gear. Gear restrictions are also imposed to enforce principles of fair chase (by assuring that fish are captured individually and with sufficient difficulty), to prevent the spread of bait species into waters where they may be undesirable, and to reduce mortality of fish that may not be legally harvested.

Gill Net - a commercial net that has a mesh size designed to catch fish by the gills, preventing them from backing away and escaping. Different mesh sizes are used for different fish species and sizes.

Habitat - the local environment in which a plant or animal lives; includes the food, water, space and shelter necessary for survival.

Habitat Rehabilitation - the restoration of degraded fish habitat to its former condition so that fish and other animals can survive and reproduce.

Hybrid - an organism resulting from the crossing of two species.

Impoundment - a natural or artificial place where water is collected and stored for use. See reservoir.

Impoundment Gear - nets that catch/ keep fishes alive.

Lakes - somewhat similar to a pond, one variance is the size - lakes are bigger and usually have a distinct outlet. Another distinction, lakes are deeper with areas below the sunlight penetration line.

Landing Net - a small net on a frame and handle that is used to land hooked fish.

Lateral Line - a linear series of sensory pores and tubes extending along the sides of a fish and certain other aquatic animals.

Length Limit - a minimum or maximum size of fish that can legally be kept.

Live Bait - a bait that is fished while the bait is alive, such as minnow, worms, and crayfish.

Live Well - an aerated container, oftentimes built into a boat, that is used for storing fish to keep them alive.

Lure - artificial bait; sometimes called a "plug."

Marking - attaching a permanent identification marker to a fish (such as ink or fin clip) and then releasing the fish with the intention of gathering information on the movement, growth rate and/or size of fish populations as well as fish stocking success. See tagging.

Marsh - this is a broad wetland area that supports a wide variety of aquatic plant life, has less open water than true ponds, is shallow with most having no visible outlet. A wide variety of warm and cool water fishes may be found. The marsh is a step from a pond, to marsh, to swamp, to eventual solid land and possible forest emergence.

Marine - the saltwater environment including both plant and animal organisms.

Maximum Size Limit - a size limit which prohibits fish larger than the size specified to be harvested. These limits are rare, and are usually used when there are relatively few sexually mature adults or where large numbers of smaller fish exist. Another reason for maximum size limits is to maintain a certain number of large predator species (such as northern pike). Predator species help to control smaller prey fish as well assure enough large fish for breeding.

Minimum Size Limit - a size limit which prohibits fish smaller than the size specified to be harvested. For example, a 14" size limit on large mouth bass means that fish under 14" may not be harvested.

Native Species - self-producing plant or animal species indigenous to a particular ecosystem, region or area.

Natural Bait - bait that is organic or common to fish's habitat.

Net - a mesh woven material used to capture fish.

Open Season - the period of time when fishes may legally be caught.

Paired Fins - equal but opposite small fins on most fish, located on the ventral (belly) side or up to about the lateral line.

Panfish - a small fish such as a bluegill, sunfish, or crappie which fits into a frying pan.

Fishing For Regs.

Pelvic Fins - a pair of ventrally situated fins located in
PFD - an abbreviation for Personal Flootation Device, the technical term for a life vest.

Poacher - a person who deliberately takes fish or game in violation of the law for personal use or profit.

Ponds - ponds are shallow water collecting bodies with depths above the maximum sunlight penetration zone. Most do not have a major outlet.

Pool - water of considerable depth in proportion to the size of the stream. Pools generally have slowly flowing water, smooth surface, but can often have a swift turbulent area where the water enters them.

Possession Limit - the angler must stop fishing after reaching the allowed limit (often one-two times the daily bag or creel limit). Possession limits provide a target for anglers expectations, help distribute the catch more equitably, and may prevent over harvest. Aids in the enforcement of daily limits (especially when anglers fish all night).

Predator Fish - a fish which feeds on other fish.

Prey Fish - a fish eaten by another fish (or animal).

Quota - maximum allowable catch of a certain species, based on a sustained harvest.

Reservoir - impoundment. A lake where water is collected and stored for use, usually behind a dam.

Resident Sportfishing License - a license required by most state residents. Ages vary with state and provinces.

Salt Water - water with salt in it, such as the ocean or the sea. See Marine.

Sanctuary - an area that is closed to all fishing for a given period of time, usually to allow fish to spawn or stocked fish to establish a self-sustained population. Sanctuaries also are set up to protect research projects.

Season - the period of time during a year that a particular species of fish may be harvested (caught).

Seasonal Creel/Bag Limit - a maximum amount of

some species below the pectoral fins or in other species between the pectoral fins and anal fins.
total harvest of specific species by individual anglers.

Slot Size - a regulatory technique which protects fish of a certain (usually prime breeding) size from harvest. Fish smaller or larger than the slot may be caught.

Snagging - casting a heavy sinker and large treble hook with no bait. The angler tries to hook the body of a fish by making strong pulls on the rod.

Spaghetti Tag - a long, thin tag, resembling spaghetti, used to mark fish for migration and other studies.

Spawning - the act of depositing eggs or discharging milt (sperm).

Spawning Grounds - the area where spawning occurs.

Species - a biological classification of plants & animals.

Sport Fishing - fishing for recreation and not for profit or commercial reasons.

Subsistence Fishing - fishing for food rather than for sport.

Tackle - a name given to fishing equipment or gear.

Tagging - attaching a permanent identification marker to a fish with the intention of gathering information on the movement, growth rate and/or size of fish populations and stocking success. See marking.

Terminal Tackle - the hooks, weights, swivels, and the fishing tackle attached on or near the end of your fishing line.

Test - line strength as stated on the label.

Trapnet - a fully-enclosed, square net bag with a funnel opening that is used to catch and hold fish without killing them.

Treble - a hook with three points used on many lures and for bait fishing.

Tributaries - smaller streams which feed into larger streams or rivers.

Trolling - a method by which lures/ bait are trailed on

Fishing For Regs.

the end of fishing line, behind or to the side of a moving boat.

Weir - a channel or fencing of stones or sticks placed in

Lesson Outline

Presentation

I. Discuss your next fishing outing

- Ask about regulations

- Discuss Regs.

Application

When you begin planning for your next fishing outing, **DISCUSS** with the group what type of fishing you will be doing, what fish species you will target and where you will fish. The group will be getting excited and soon you will likely find yourself talking about what type of gear and tackle you will need.

REMIND the group that their first consideration when making fishing plans is to **CHECK THE REGULATIONS** to assure that the season is open for the particular species of fish they are targeting.

ASK “what’s a regulation?”

ASK youth why we need to think about regulations - “what’s the point?”

TELL A STORY about problems associated with not knowing what the regulations are (getting fined, for example. Feeling badly that you may have harmed the resource by inadvertently neglecting regulations or infringed upon another anglers rights--hint, try to think **BEYOND** just poaching, consequences of fines, but how it affects how others view violators and how it may affect public opinion of anglers and the tradition or sport of fishing. See angling ethics for more ideas and information)

ASK youth what type of fishing regulations they are going to need to adhere to during their outing.

ASK youth if they know what the creel/bag limit is for the fish species they plan to fish for; ask what the size limits are and any other regulations they may be aware of.

After determining how much youth already know about the specific regulations in the area, begin a **DISCUSSION** about the purpose of regulations. You may want to read the lesson narrative to them at this time.

Fishing For Regs.

II. Read Narrative

- Examples for Scavenger Hunt

READ the lesson **NARRATIVE**, or begin quizzing youth to determine if they know the definitions of specific regulations (such as limits, seasons, etc.). *See Glossary in Background Information section of this activity.*

- list examples of regs.

Have them try to **LIST** as many regulations as they can think of (see narrative and your state/regional fishing regulations guide for specific information) and ask youth to define these regulations in their own terms.

- purpose of regs.

Ask youth **WHY** they think **WE HAVE FISHING REGULATIONS** (allocate resources more equitably, help to protect and conserve resources and for human safety. See lesson narrative for more ideas).

III. Review Regulations Guidebook

- Pass out regs. books

DISTRIBUTE fishing regulations booklets to each member so that they can flip through the booklet (you can help demonstrate the importance of this activity and of knowing regulations by providing each youth with their own copy of your state or local regulations. Encourage them to keep the booklet with them in their tackle box).

Show youth how to locate the different regulations and information using the guide book; quizzing your group about the different regulations. For example:

How many bluegill can you keep? What is the length limit of large mouth bass? Does this limit apply to specific bodies of water? etc.

Keep the quiz relevant to specific fishing they are going to be doing.

- Begin the Scavenger Hunt

If youth did not know the answers to your questions about regulations regarding the species and location you plan to fish, have them look this up now. **BEGIN THE SCAVENGER HUNT.**

ASK other questions that will encourage them to become familiar with their state/local regulations.

Questions such as:

- *where to get more information;*
- *specific season openers and closings;*
- *closed bodies of water;*
- *gear restrictions;*
- *regulations pertaining to the use of live bait, etc.*

- Define regulations as needed

Some states **DEFINE** many of the regulations in their guidebooks. Help youth to define regulations by having them use the book to look up the answers in the guide books. Refer to the glossary located in the background of this activity for more assistance in defining and understanding regulations.

Fishing For Regs.

II. Responsibility to know and obey regulations.

When finished reviewing the regulations, be sure to explain to the group that it is the **RESPONSIBILITY** of every person to know the rules and regulations that apply to fishing and protecting our resources. Emphasize that even though the members may not need to purchase a fishing license due to their age, it is still necessary that they know, understand and comply with the law.

- Ask how they'd act.

ASK how they might handle a situation where another angler did not know or obey regulations.

- States publish regulations.

Explain that each year, your local fisheries regulations agencies **PUBLISH** a synopsis of the fishing regulations. In order to manage the fish populations and food webs of our waters, biologists need all of us to follow and support these rules. Fishing regulations are not just made up. They are the product of research. As well as paying close attention and following the regulations, it is also our responsibility to encourage others to do so too.

IV. Ethics versus Regulations

EXPLAIN how personal ethics may be different from Regulations. Explain that anglers sometimes find themselves in a circumstance where the regulations do not always pose the *most right* answer. Though one should always make every attempt to comply with the law, oftentimes we have a responsibility to go beyond the law — (beyond, not necessarily *above* it!) considering what is *most right* for the resource, sport of fishing and to our own personal values. For example, the law may provide for keeping 6 of a particular species. Yet, you know that population numbers are down this year. Moreover, you're not interested in eating more than a couple of fish. Do you take a full creel or do you choose to practice catch and release fishing or do you stop fishing altogether? In this manner, laws are often considered to be the lowest common denominator — they set the ground rules, the bottom line for fishing — while ethics often provide for higher considerations and more critical decision-making. See the 4-H Sportfishing “Angling Ethics” activities for more detailed information about teaching angling ethics.

Lesson Narrative

Generally, the purpose of fishing regulations is to protect and enhance a fishery and help all anglers enjoy success. The fact that most anglers must have a fishing license is an example of a fishing regulation. In most states, those who are under or over certain ages do not need a license (and some states do not require a license for salt-water fishing). The sale of annual and daily licenses provides revenue for the agency and a means to collect information from anglers. Special stamps and licenses may be issued for certain bodies of water or species, such as trout stamps and wilderness permits. This “user pay” principle means that the sale of special licenses and stamps can help to pay for specific programs which may cost the management agency more to provide, trout stocking, for example. These fees usually are ear-marked to directly benefit programs, such as a trout stamp fee designated for trout stocking or trout habitat improvement projects.

Other regulations may:

Fishing For Regs.

- Set a limit on how many fish of a certain species you can take in one day (bag/creel limit).
- Set a starting and an ending date for a fishing season (open/closed seasons).
- Set a limit on the number of fishing lines and hooks that you are allowed to use (gear limit).
- Set size limits for fish (minimum, maximum, slot).

Some states have fishing regulations that apply throughout the state. Other states may have different regulations for different bodies of water. No matter where you fish, you are responsible for knowing what the regulations are for the areas you are fishing.

There are good reasons for fishing regulations. All are intended to conserve and improve fish populations. Regulations are used to protect fish populations from over-exploitation. In fact, fisheries biologists often study bodies of water and suggest a new regulation if it will help keep the fish population healthy. For example, if there is a fishing season in your state, it may have been introduced to protect fish during spawning or as a way of limiting the number of fish caught on heavily fished waters. Size limits are also meant to protect fish of spawning size before they are caught. Enabling them to spawn at least once before they are large enough to keep.

Fishing regs are also intended to make it possible for more people to share in a fishery. Daily fish limits are meant to keep people from taking too many fish at one time. This helps to distribute or allocate the catch among anglers. Those who do take more fish than the regulation allows or take fish out of season are considered poachers. Conservation officers work to enforce them. You can help conservation officers protect your fish, forests, and wildlife by obeying the regs and reporting any violations that you see. Some states have a special telephone number for reporting fish and game violations. Check your regulation guidebook to see.

As the dynamics of fish populations and communities are better understood, regulations are accepted as a means of enhancing, as well as protecting fish stocks. Size limit restrictions, for example, are often used to regulate fish harvest and can be used to adjust size composition of fish stocks so more fish are in the desirable size range. For example, bluegill and other panfish are often quite abundant. When populations are too dense, the bluegill can become stunted (which can occur when population densities and competition for food are high), resulting in many small fish. Predator species can help to control abundant prey populations. Large size limits on predators such as pike can help to ensure that there are enough large pike to prey upon the abundant panfish. Also, anglers are more likely to enjoy success in catching large pike and panfish alike.

Knowing the purpose of fishing regulations is important to the conservation of our resources. A lack of conservation practices by only a few can affect the beauty of the outdoors, the pleasure received from all water-related sports, and the quality of the angling experience.

Financing Our Aquatic Resources

Do you know who pays for most of the research and other efforts to improve sport fisheries? Anglers do — the same people who use and enjoy them. Some money comes from the sale of fishing licenses and special-use stamps. Other money comes from a special government program, called the Federal Aid in Sport Fish Restoration Program. Some people refer to this program as “Dingell-Johnson” or “Wallup-Breaux” after the legislators who helped to pass and amend this legislation (D-J in 1950 and W-B in 1984).

Fishing For Regs.

When an angler buys fishing tackle and a boater buys fuel, a special excise tax (currently at 10%) has been figured into the price by manufacturers (not at the sales counter). This money is then collected from the manufacturer or importer and is paid to the U.S. Department of Treasury and transferred to the U.S. Fish and Wildlife Service for distribution among the states. The fund has helped finance building fishing and boating access sites, managing fisheries, fisheries research, or for teaching people about the environment, conservation, water safety, and fishing. In 1997, over a quarter of a billion dollars (\$273 million) were distributed for such purposes.

Summary Activity

Participating youth will review their state/local fishing regulations by conducting a regulations/information “scavenger hunt” using the state regulations guide book. Youth will become familiar with using the guidebook and will be able to define different regulations (e.g., minimum size limits, seasons, size restrictions) and describe why regulations are useful for fisheries management.

Exhibit or Sharing Suggestions

1. Create a “dictionary” of fishing regulation terminology and display at a fair or distribute among your group.
2. Create a display or model using various fish species to illustrate specific regulations pertaining to different species (i.e. size restrictions for different species).
3. Create a display which describes the process of establishing fishing regulations in your state. Contact your local fisheries regulation agency for more information.

Community Service and Giving Back Activities

1. Be lawful, purchase a fishing license if required!
2. Report regulation violators to the proper authorities such as your local law enforcement agencies (resource agency conservation officers, police, or sheriff).
3. You can do your part to protect and conserve aquatic populations and habitat by knowing and obeying state/local regulations.
4. If you catch a tagged or fin-clipped fish, report it to your state’s natural resources agency.
5. Attend an agency or legislation open-forum meeting, get involved and support good conservation laws and programs.
6. Participate in a fish population study (see 4-H Sportfishing Curricula “Estimating Fish Populations” for more detailed information).
7. After fishing, leave the fishing spot cleaner than you found it. Never litter and do your best to remove any trash left by others (see 4-H Sportfishing Curricula “Limit Your Litter”).

Extensions or Ways of Learning More

1. Interview a biologist responsible for recommending regulations or a conservation officer responsible for enforcing regulations. Conduct the “Fishing for Stories” activity located in the People and Fish section of the 4-H Sportfishing Curricula. Remember to take photographs and tape-record the interview and write up an article for your local newspaper or to display at a fair.
2. Invite a local conservation officer to a meeting to discuss fishing regulations. Encourage the officer to share some interesting stories from his/her experience. Encourage members to ask how they can help.
3. Participate in a fish population study (see 4-H Sportfishing Curricula “Estimating Fish Populations” for more detailed information).
4. Conduct the Angling Ethics activities (“Know Your Code”; “Dilemma Exercises”; “Take Home Your Limit of Litter”) in the 4-H Sportfishing Curricula. Ask youth to describe the differences between regulations and ethics.

Links to Other Programs

4-H Sportfishing Curricula: “Estimating Fish Populations”; “The Commons Dilemma”; “Fishing for Stories”;

Tackle Could Talk

Angling Ethic“Dilemma Exercises,” “Know Your Code,”; and “Take Home Your Limit Your Litter”
Project WILD: “Know Your Legislation”; “Who Pays For What”

Museum in a Tackle Box

LuAnne G. Kozma⁷

Objectives

Participating young people and adults will:

1. Identify and organize fishing related objects.
2. Organize objects into meaningful collections.
3. Understand and appreciate tackle they use.
4. Use proper vocabulary when describing objects.
5. Identify similarities and differences in fishing equipment.
6. Distinguish among functions of fishing gear.
7. Have fun while learning.

Youth Development Objectives

Participating young people will:

1. Enhance written and verbal skills.
2. Enhance categorization and classification skills.
3. Enhance vocabulary and language skills.
4. Enhance self-esteem and self awareness.
5. Enhance social skills and cooperation.

Roles for Teen and Junior Leaders:

1. Assist members with tackle identification.
2. Assist members with cataloging objects.
3. Assist members with setting up exhibits.
4. Assist members in researching information.

Potential Parental Involvement

1. See “Roles for Teen and Junior Leaders” above.
2. Assist in collecting and inventorying tackle.
3. Provide guidance in collecting tackle.
4. Arrange for or provide additional tackle.
5. Arrange for or provide exhibit space.
6. Arrange for or provide transportation.
7. Arrange for or provide refreshments.

Best Time: Any time after fishing (about a year).

Best Location: Any comfortable location.

Time Required: 3-5 hours over several weeks.

Equipment/Materials

- examples of fishing gear (about 5 items per member)
 - index cards or paper
 - pencil
 - boxes
 - fishing encyclopedia or other reference book
 - measuring tapes
 - acid-free tissue paper for wrapping objects
 - markers and cardboard for making small signs
- Optional: Computer, camera and film.

References:

- Museum Registration Methods*, third edition.
Dudley, D. H., I. B. Wilkinson et.al.
Washington, DC: American Association of Museums, 1979.
- Identification and Value Guide to Old Fishing Lures and Tackle*. Luckey, Carl F. Florence, Alabama: Books Americana, 1980.
- Standard Fishing Encyclopedia*. McClane, A.J. New York: Holt, Rinehart and Winston, 1965.
- Modern Fishing Tackle Craft*. Pfeiffer, C. Boyd. New York: NY: Lyons & Burford, 1993.
- Hook, Line and Sinker--The Complete Angler's Guide to Terminal Tackle*. Souche, Gary. New York, NY: Henry Holt & Co., Inc.,

⁷ Michigan Traditional Arts Program, Michigan State University Museum, East Lansing, MI 48824, 517-353-3326

Tackle Could Talk

Evaluation Activities/Suggestions

- 1. Evaluate classification and display of tackle**
- 2. Conduct a “quiz bowl” of fishing equipment**
- 3. Observe interactions among members**
- 4. Observe use of proper terminology**

Safety Considerations

Discourage the use of cleaning chemicals, glues, or other adhesives.

1988.

Family Folklore. Tucker, C. and M.

MacDowell. East Lansing, MI: Michigan 4-H Youth Programs, Cooperative Extension Service and Michigan State University Museum, 1989.

Good Show! A Practical Guide for Temporary Exhibitions, second edition. Witteborg, L. P. Smithsonian Institution Traveling Exhibition Service, 1991.

Tackle Could Talk

Lesson Outline

Presentation

- I. Collections as a hobby
 - A. Start with what you have
 1. Tackle
 - a. Rods and reels
 - b. Lines or spools
 - c. Lures
 - d. Terminal tackle
 2. Memorabilia
 - a. Post cards
 - b. Stamps and licenses
 - c. Lure packaging
 - d. Photographs
 3. Clothing
 - a. Fishing hats
 - b. Fishing shirts
 - c. Other clothing items
 4. Other items
 - a. Magazines
 - b. Catalogs
 - c. Travel guides or maps
 - d. Souvenirs or trinkets
 - B. Use your imagination
 1. Think broadly
 2. It's your collection
- II. Inventory your collection
 - A. Arrange all treasures on a flat surface
 1. Arrange in similar classes
 - a. Paper items
 - b. Lures
 - c. Things made of wood, etc.
 - B. Create a list of the items
 1. List by categorie, i.e.:
 - a. Hand tied flies
 - b. Postcard
 - c. Angling trophies
 - d. Tackle boxes
 - e. Pair of boots
 2. Record items on cards

Application

SUGGEST that each participant bring in about 5 items that are interesting to them from their personal collection or (with permission) from other family members.

BRAINSTORM some ideas on things that might be possible items to collect. If necessary, **PLANT** a few ideas to expand the thinking of the participants beyond tackle.

NOTE that the first value of a collection is to the collector. Anything that interests the youngster should be encouraged.

INVENTORYING your collection

Divide your group into small work groups of 3 or 4 members. Give each group about eight of your objects to work with as their collection.

Tell them they are creating a fishing museum. First, ask them to write on an index card or paper a **LIST** of all the **OBJECTS** in their "collection."

Based on the types of objects in their museum's collection, ask each group to make up a name for their museum. What is the museum's purpose? Who would visit such a museum? Encourage them to be creative and think of zany names. It doesn't have to be realistic. (An example might be: "The Smelly Bait Museum" whose purpose is to collect bait-related items and actual bait. Visitors can only attend at night with flashlights.) Have fun!

Tackle Could Talk

III. Catalog and classify your collection

A. Cataloging objects

Have the group practice **CATALOGING OBJECTS** by describing and measuring them. If you have enough reference books for each group, have each group use books to identify and describe the objects. Use measuring devices (rulers, tape measures, scales) to measure each object. Use the categories described below. Older teens can help each group.

B. Storing your collection

Gather the entire group together again and show them some **STORAGE TECHNIQUES**. Bring in the original boxes in which items were purchased, bring in acid-free tissue paper, and demonstrate how to store items safely, away from light, dust, moisture and heat. If you have an example of a fishing item that has been damaged due to improper storage, show it to the group and use it as a point of discussion of what not to do with valuable fishing gear. Have each member practice rolling a small object in tissue paper.

C. Creating a display

Working in teams again, have your members cooperatively **CREATE A DISPLAY** of the objects in their "collections." Each museum can create a sign and a few labels for the objects using markers and cardboard. Encourage them to think of creative ways of displaying an item using easily found materials (to display a fishing cap, how about putting it on a soccer ball draped with a cloth, rather than simply laying it on a table?).

D. Have each museum group visit all the other groups' museums.

Bringing the activity home. Now that your group has practiced putting together a "museum" of fishing items, have them turn to their own personal possessions and do the same activity at home individually or in small groups at the next club meeting. They can work on each step with each other as helpers and mentors. Share reference books and other equipment.

Summary Activity

Participating youth will catalog their tackle boxes and other fishing gear and organize them into a "fishing" museum type display.

Lesson Narrative

Collecting objects that relate to another hobby or interest is a fascinating hobby in itself. You don't need to go out and purchase expensive antique fishing tackle to do this project. If you have already tried fishing, you probably have a few items at home that you used on your trip. Start with your own experiences with fishing and search for things to put in your collection.

What to Collect

Tackle Could Talk

The most obvious things would be tackle, rods, reels, and other objects used to catch fish. Think about other, less obvious items, like a post card you bought, the hat or shirt you wore when you went fishing, or the photograph of you and your catch. Also consider: fishing newsletters, books and magazines, travel brochures and guides, the packaging from lures you bought, ticket stubs, trophies, a pin or key ring from a bait shop, a bait bucket, scoops, and even advertisements and calendars from bait shops, charter fishing boats, or tackle manufacturers. Something brand new that you save now may some day become a valuable antique!

Inventory Your Collection

Set all your treasures on a table and begin writing down what you have. Sort like things together (paper items, lures, things made of wood, etc). Make a list of what you have (2 tied flies, 1 postcard, 5 trophies, 2 tackle boxes, 1 pair boots).

Catalog and Describe Your Collection

For each object, write down on an index card or piece of paper (or use a database or spreadsheet program on a computer if you have one) the following categories:

| | |
|-----------------|-----------------------------------|
| object name | other names for object |
| object type | owner's name |
| owner's address | maker's name |
| maker's address | date collected |
| where collected | price paid |
| date made | where made |
| date(s) used | where used |
| how used | description of object |
| materials | dimensions: height, width, length |
| sources used | |

Using the categories, describe each object in your collection. Use a measuring tape to measure the height, width, and length. Ask a parent, 4-H leader, or other fishing source for help in identifying and describing your objects.

Storing Your Collection

Now that you've gathered your collection, how will you store all of it? Depending on the sizes and types of objects, you will need an assortment of storage boxes. A simple, low-cost method of storing objects is in old shoe boxes. Wrapping objects in acid-free tissue paper and then placing them in boxes offers protection against scratching and effects of acid in the boxes. You could also consider purchasing acid-free boxes from museum supply companies. To store your objects in a way that also displays them, consider using glassed shadow boxes, or arranging them on a wall or a shelf. Keep any display away from direct sunlight and heat. Keep flat paper items, like catalogs and brochures, laying flat.

Creating a Display

To display your collection at a 4-H club meeting or other temporary event, keep your idea simple. For example, select a few objects that relate to each other and choose a theme (such as "my ice fishing trip" or "kinds of lures.") For an easy way to display objects, simply arrange objects on a table. Use decorative paper, fabric or small boxes as background for your objects. Avoid using glues or dry mounting or any other process you can't undo; you might damage your collection.

Tackle Could Talk

Exhibit or Sharing Suggestions:

1. When all club members have completed a small collection of their own fishing memorabilia, have each member bring in his or her "Museums in a Tackle Box" to share at a club meeting. Create a club fishing museum with the individual collections and invite parents, families, and other 4-Hers to visit the museum at a meeting.
2. See "Creating a Display" described above.
3. Put your "Museum in a Tackle Box" on the internet or World Wide Web and enjoy sharing with others through the computer.
4. When entering your collection or exhibit in a county fair, choose a different focus or theme to your collection each year. (ie: this year, rods and reels, next year, fishing photographs)
5. When displaying objects that are handmade, consider photographing and interviewing the maker and including the photographs and tape-recorded interview as part of your display.

Community Service and "Giving Back" Activities:

1. Help your local museum to identify, catalog, clean, or exhibit their fishing-related collections.
2. Consider making an exhibit of your collections as part of a National Hunting and Fishing Day celebration or at a similar event.
3. Get involved with a local angling group and any collectors in that group.

Extensions or Ways of Learning More:

1. Visit a museum and take a tour of their archive or collection area. Ask questions of the curator on proper storage methods.
2. Help a tackle dealer organize some of the fishing items that are important to the local area and help organize a display.
3. Make tackle or other equipment using traditional or historical methods.
4. Try collecting fishing license stamps or postage stamps depicting fish or fishing-related activities.
5. Consider making a larger collection of something that interests you. Keep that collection cataloged and stored properly.
6. Go to a local flea market or swap meet and try to locate some fishing memorabilia that interests you.

Links to Other Programs:

This project is clearly related to other aspects of the 4-H Sportfishing program, like collecting insects or photographs of local fishes. It can also link to sewing projects or woodworking projects though making storage bags or boxes. Other 4-H activities like *Heritage and Horizons* (New York) or the family keepsakes activities in *Family Folklore* (Michigan), or collection and collecting projects in other 4-H areas can also be productive and interesting.

If Tackle Could Talk, Oh What (BIG FISH) Tales It Would Tell

Kelly Carter¹

Objectives

Participating youth and adults will:

1. Identify and categorize tackle box items.
2. Learn and describe different tackle purposes.
3. Describe the purpose of tackle items and use this information to also describe the tackle box owner.
4. Have fun while learning.

Youth Development Objectives

Participating youth will:

1. Practice and develop observation skills.
2. Practice and develop deductive reasoning skills.
3. Practice and develop the art of story telling.
4. Gain confidence and self esteem as they interact in a group.

Roles for Teen and Junior Leaders

1. Assist younger members with identifying and

Potential Parental Involvement

1. Bring in their tackle boxes and other fishing
2. Relate actual fishing stories to youth in a walk down memory lane.

Evaluation Activities/Suggestions

1. Youth should be able to identify and describe tackle gear and the type of fishing it is used for. Youth will be able to describe how other members of their group like to fish.

8

Best Time: Early in the formation of your group, as a mixer to get acquainted.

Best Location: Anywhere

Time: Dependent on the size of the group, allow 5-10 minutes for each member to talk.

~~equipment and paraphernalia for youth to identify.~~

⁸ Kelly S. Carter, Graduate Research Assistant
Michigan State University, Dept. Of Fisheries & Wildlife,
East Lansing MI 48824-1222

Tackle Could Talk

Equipment/Materials:

Each member:

- _ Tackle box or a supply of fishing gear (this activity works best if the tackle belongs to the participating youth members, but borrowed gear from someone they fish with or know well works too)
- _ Fishing related paraphernalia (i.e. fish postcards, hats, recipes, etc.)
- _ Paper and pens (enough for each member)
(optional, younger youth may need to write their thoughts down, while older youth may feel more comfortable talking in the group more spontaneously)
- _ Paper bags (optional)

Safety Considerations

The atmosphere should be open and respectful. Members should be careful while handling hooks and other sharp objects. Members should take care when handling old, valuable or delicate items.

References

This activity has been adapted from the 4-H Sportfishing *A Museum in a Tackle Box* activity by Lu Anne Kozma.

Recommended reading:

NOTE: it helps to have someone available who is knowledgeable about tackle and tackle history.

Lyons, Nick. 1974. *The Legacy In Fishing*
Widows. Crown Publ. Inc., New York, NY.
154 pp.

If Tackle Could Talk...

Lesson Outline

Presentation

- Things to consider while
examining boxes

1. Collect tackle boxes

2. Gather in a circle

3. Distribute tackle boxes (and pens and
paper if needed)

- Respect for tackle box items

5. Exchange fish tales@

- keep the box

4. Explain activity

- Record thoughts

- Respect for tackle box owner

Application

When your group first gathers together, **COLLECT** their tackle boxes and set them aside with the leader. You may want to put the tackle boxes inside paper bags -- the idea is that youth don't know whose box belongs to whom.

Have youth **GATHER IN A CIRCLE** (a table is optional).

Randomly **DISTRIBUTE** the tackle boxes or gear to each member. Be sure that a member does not receive their own gear.

If Tackle Could Talk...

EMPHASIZE that each participant should **RESPECT** the tackle boxes and gear: treat items with care and attempt to maintain the original order.

EXPLAIN that they will be looking through the tackle boxes and examining the gear to determine who the box belongs to. Have them **RECORD** their thought on a slip of paper (they will leave this recording of the "Fish Tale" in the tackle box for the owner to keep, revisit and enjoy later).

EMPHASIZE that participants should demonstrate a **RESPECT** for the owners feelings while reviewing the tackle items and describing the owner: what is said about them, etc.

Advise that they don't shout out whose box/gear they think they have, this will keep the activity interesting for the whole group. This activity should be done with talking kept to a minimum. Youth will have plenty of time to share the treasures that they find amongst each other when it comes time for them to tell their "fish tale."

Things to CONSIDER:

Suggest that they look at the type of tackle in the box and consider the following questions:

- _ what type of fishing does the owner like to do?
- _ how is the tackle organized (or not organized)? does this say something about the type of person this tackle belongs to?
- _ can they decipher any "stories" out of the gear or other items they find in the tackle box? (i.e. fishing license - maybe it's out of state, maybe it's new or extremely old...)
- _ what type of box (or container) is the gear in? why might this be? does it suggest how the owner likes to fish? or what the owner fishes for?

One at a time, have each youth tell their "FISH TALE" by describing the gear in their tackle box: what the gear means and what

- reveal owners name after the tale

If Tackle Could Talk...

it says about the owner. They should keep the box in front of them, pull out tackle and other items and talk about these treasures! They will return the box to the owner after the whole group has taken a turn talking.

Note: Leader as guide

Also, it can be more suspenseful and fun if they **GUESS WHO THE OWNER IS** *after* discussing all the gear and **TELLING THEIR AFISH TALE.**@ For example:

6. Return boxes to owner

A This person is probably a bass angler. See, they have plugs and spinner (etc.) tackle. And just look at this old Devle Bug (or old original make Heddon River Runt)! Geez, you don=t see many of these around. Maybe this angler is 60+ years old...or maybe their dad or mom or grandparent gave it to them. They either don=t want wrinkles, are fair skinned or just safety conscious because they have a tube of sunscreen in their tackle box. They

7. Tackle box owner describes themselves and their fishing interests

have a tape measure in their box, so they are either an ethical angler -- want to be sure that they are following size limits, or, maybe they just like to see if they=ve caught a trophy fish. This person is really organized. Just look at this box!...or, this person is more interested in the fishin= than in how his/her box is organized.....from what I see, I think that this box belongs to...@

NOTE: it helps to have someone available who is knowledgeable about tackle and tackle history.

If Tackle Could Talk...

While youth are exchanging Afish tales,@ the leader should make sure that **YOUTH DON=T GET RUDE OR DISRESPECTFUL**. The leader should advise youth that someone else will be Analyzing@ their box too, and making assumptions about what the tackle says about them as well.

Once each member has had a turn at telling their tackle tale, have them **RETURN THE TACKLE BOXES** or gear to the rightful owner. Don=t forget to have storyteller leave their Afish tale@ in the tackle box!

The rightful owner should reveal themselves. They can take a minute or two to **TALK ABOUT THEMSELVES** and how they heard themselves described, or about specific tackle items that were highlighted.

If Tackle Could Talk...

Summary Activity:

Using observational skills, youth will identify, categorize and describe the tackle in someone else's tackle box. They will use this information to determine what type of fishing this person enjoys and how the tackle and other paraphernalia in the box can leave clues about other interesting characteristics about the tackle box owner.

Lesson Narrative:

A....What was here to be found was not a thing. Things separated from their stories have no meaning. They are only shapes. Of certain size and color. A certain weight. When their meaning has become lost to us they no longer have even a name. The story, on the other hand, can never be lost from its place in the world for it is that place. @

-- Cormac McCarthy, 1994 in *The Crossing*.

Read: *The Legacy*, by Nick Lyons in *Fishing Widows*, 1974. Published by Crown Publ. Inc. New York, NY

(This is a wonderful story about a young man who has a chance to learn about his absent father after inheriting his fishing gear).

Exhibit or Sharing Suggestions:

Create a tackle box display, writing the Aackle tale@ on small cards next to the tackle items.

Write about your Aackle tale@ and submit it to a local newspaper or place it in your journal for future reading.

Community Service and Giving Back Activities:

Help a local museum or library create a fishing display (use local or regional made fishing gear, photos and Astories@ (either published or those you write up after interviewing local anglers, Aold-timers@ or fishing celebrities), home-made tackle (lures, flies, etc.).

Extensions or Ways of Learning More:

1. Conduct the following 4-H Sportfishing People and Fish activities: AMuseum in a Tackle Box@ and AFishing for Stories.@

Fish Prints

2. Invite "Old timers" to your meeting and have them tell tales about the fishing experiences. Encourage them to take a "walk down memory lane" by bringing their boxes, describing their tackle, where they got it, fish they caught (or didn't catch!) with it and other interesting stories related to fishing.
3. Collect lures and other paraphernalia: conduct the "Museum in a Tackle Box" again!

Links to Other Programs:

4-H Sportfishing People and Fish activities: "Museum in a Tackle Box" and "Fishing for Stories"; 4-H FOLKPATTERNS activities.

Making Fish Prints⁹

Mary Jamieson¹

Objectives

Participating young people and adults will:

1. Review external anatomy of fish
2. Identify characteristics of fishes being printed
3. Relate form to function in external anatomy
4. Have fun while learning.

Roles for Teen and Junior Leaders

1. Assist with teaching area set up and break down
2. Demonstrate fish printing
3. Assist members as needed
4. Lead discussion of anatomy and function
5. Assist with labeling as desired

Potential Parental Involvement

1. See “Roles for Teen and Junior Leaders” above
2. Arrange for or provide teaching space
3. Arrange for or provide teaching materials
4. Arrange for or provide fish for printing

Youth Development Objectives

Participating young people will:

1. Enhance hand-eye coordination
2. Enhance fine motor skills
3. Expand science awareness
4. Relate form and function in living things
5. Practice cooperation

Evaluation Suggestions

1. Observe group behavior and interactions
2. Observe ability to follow simple directions
3. Observe ability to relate anatomy to function

Best Time: Following a fishing experience or as an introduction or summary activity for a fish anatomy lesson

Best Location: Anywhere comfortable location where paint spills will not be a problem

Equipment/Materials

- Fish banners or pictures
- whole clean fish
- newspaper
- large soft paint brush about one inch wide
- paint containers (plastic dishes, pie pans, or baby food jars (number needed depends on the number of colors you will be using.)
- markers
- tempera paint
- paper or cloth towels

Fish T-shirts

- T-shirt
- acrylic paint
- permanent clothing additive
- hangers
- permanent markers
- newsprint or other paper

Safety Considerations

Be careful of younger youth putting paint into their eyes and mouths. Make sure following this activity youth

⁹ Adapted from multiple sources

wash their hands.

References

Aquatic Sampling. NY SAREP Program Manual. Edelstein K. L. and B. E. Matthews. 1993. Cornell University: Ithaca, NY. 75 pp.
Nature Crafts for Kids. Fish Print. Krautwurst G&T. . 1992
Fishes: an introduction to ichthyology. 3rd ed. Moyle, P. B. and J. J. Cech Jr., 1996. New Jersey. Prentice-Hall, Inc. pp 18-20.

Lesson Outline

Presentation

Application

I. Introduction

- A. Preparing the fish
- B. Painting the fish
- C. Printing the fish
- D. Labeling the fish
- E. Finishing the banner

Fish prints are an excellent way to save a memory of a fishing trip with a special picture. Anyone can learn to make a fish print, and the fish can still be eaten if it is kept fresh and non-toxic inks or paints are used. Individuals may select their own fish or a couple selected specimens may be used.

II.. Preparing the fish for printing

- A. Removing the slime
 - 1. Mild vinegar solution
 - 2. Wiping with a cloth or paper towel
 - 3. Making a couple of prints
- B. Painting the fish
 - 1. Work from head to tail
 - 2. Leave fins and eyes paint-less for now
 - 3. Apply a very thin layer of paint
 - a. Less is generally better
 - b. Thin as required
 - 4. Paint fins and tail last

Coarse scaled fish often make more interesting prints, but all slime must be removed. Use a mild vinegar solution to rinse the fish and dry it with a paper towel or cloth. Several treatments may be required.

DEMONSTRATE the fish painting process. **EMPHASIZE** using a thin coat of paint applied from the head toward the tail. Be sure the fish is placed on a protective surface to catch extra paint or drips.

PAINT the fins and tail last, just before printing. **EMPHASIZE** the importance of keeping the paint thin and the coverage light. There is a strong tendency to apply too much paint.

II. Printing the fish

- A. Moving the fish
 - 1. Avoid smearing the paint
 - 2. Position the fish to show features

DEMONSTRATE moving the fish to a clean, dry piece of newsprint, keeping the painted side up. This prevents having extra spots of paint on the finished print. **NOTE** the need to work rather quickly to avoid letting the paint dry on the fish.

Fish Prints

B. Making the print

1. Lay printing material gently on fish
 - a. Newsprint
 - b. Dampened rice paper
 - c. Tee-shirt with newsprint liner
2. Press printing material firmly against fish
 - a. Caution to avoid moving the material
 - b. Need to contact all parts of the fish

C. Removing the print from the fish

1. Peel printing material away from fish with a smooth motion
2. Fill in eye with a small brush, avoiding smearing wet paint or ink

3. Sign prints to avoid confusion
4. Set aside or hang securely until dry

D. Preparing the fish for the next print

1. Prints often improve with use
2. Remove paint and dry thoroughly

DEMONSTRATE the use of several printing media, allowing the youngsters to select the type they wish to have. While rice paper is more expensive, it makes a more permanent and artistic print. **CAUTION** shirt printers to insert a layer of newsprint between the layers of the shirt to prevent strike-through of the paints.

NOTE that over-handling can result in smearing the print, but that full contact is needed to get all parts printed.

Slowly and smoothly **PEEL** the printing material away from the fish. **AVOID** sliding the material across the fish body.

USE a small brush to fill in the eye on the print.

SIGN OR LABEL PRINTS: A little extra time here will prevent possible misunderstandings or confusion later.

III. Labeling the print

A. Why label?

1. Increase knowledge of fish characteristics
2. Identification of unknown fishes
3. Label to meet objectives
 - a. Fish biology and anatomy
 - b. Fish art and trophies

USE regular markers to label prints or banners and fabric pens to label shirt material.

NOTE that labels can be used for many purposes, from simple identification and dating of artistic prints or trophies to scientific or educational labels of external anatomy. The latter creates a learning aid to enhance knowledge of fish characteristics and function.

B. External anatomy and function

1. Median fins

- a. Dorsal fin(s)
 - 1) Spiny dorsal
 - 2) Soft dorsal
 - 3) Functions
 - a) stability in the water
 - b) positioning
 - c) communication
- b. Caudal fin
 - 1) Tail fin
 - 2) Many types and shapes
 - a) Homocercal
 - b) Heterocercal
 - 3) Function - propulsion

REVIEW the median fins found on the fish being used in the exercise. **NOTE** that their names come from Latin or Greek names for the location or composition of the fin. For example, dorsal means “back”, caudal means “tail” and anal means “near the anus”, while adipose means “fatty.”

NOTE that the dorsal fins can be of different types. Spiny dorsal fins have hard spines supporting the membrane, while soft dorsal fins have softer rays supporting the membrane. Both types are used for stability, minor position adjustments, and communication. **ASK** what type of dorsal fins are present and how many spines are present on the specimen fish.

NOTE types of caudal fins if appropriate to the audience. Homocercal (equal top and bottom) tails are nearly equally divided by the fish’s spine, while the spine extends into the upper lobe of a heterocercal (unequal top and bottom) tail. Also **NOTE** that primary propulsion is by this fin.

c. Anal fin

Fish Prints

- 1) Variable in type and shape
- 2) Primary function -stabilization

d. Adipose fin

NOTE the location behind the anal opening and that the primary function is similar to the dorsal fin -- stability and attitude adjustment in the water.

2. Paired fins

a. Primary steering fins in motion

- 1) Vertical movement
- 2) Horizontal movement

b. Pectoral fins

- 1) Shoulder fins or arms
- 2) Right behind operculum

c. Pelvic fins

- 1) Hip fins or "legs"
- 2) Locations vary
 - a) Throat area - jugal
 - b) Chest area - thoracic
 - c) Abdominal area - abdominal

NOTE that the function of the fatty tab-like fin is not clearly known, although it may be important for movement in fry (young fish). Adipose fins are present in only a few fish families.

NOTE that the paired fins are used for steering as well as communication. They adjust movement laterally and vertically, making the fish maneuverable. Pectoral fins are the shoulder fins or "arms" of the fish, while the pelvic fins are the hip fins or "legs." Pelvic fins may be positioned at the throat, thorax or toward the back of the belly.

3. Other external organs

a. Mouth

- 1) Food gathering
- 2) Type, location and size aid identification

b. Barbels

- 1) Sensory organs
- 2) Present in some families

c. Operculum

- 1) Opening behind gills
- 2) Protect gills from damage

d. Eyes

- 1) Visual organs
- 2) Location indicates feeding strategy

Briefly **REVIEW** other external organs that can be observed in the fish prints or on the specimens used. **NOTE** that the location, size and type of mouth helps in identification and determining the feeding strategy of the fishes.

NOTE that barbels are located in some families of fishes and that they serve as chemical receptors to aid in locating food.

POINT OUT the operculum and note that it covers and protects the gills.

NOTE that the fish's eye is similar in function to our own. **STRESS** that their location and size give clues to habitat and feeding strategies.

e. Nares

- 1) Chemical receptors
- 2) "Nose" holes

f. Lateral line organ

- 1) Chemical and vibration receptors
- 2) Line of sensory pores

INDICATE the external nares and their chemical reception function.

ASK how a fish "hears" or picks up vibrations in the water.

NOTE that the lateral line organ acts as both a chemoreceptor and a vibration receptor. **ASK** how this sense might be useful under dark or murky conditions.

IV. Finishing the banner or shirt

A. Finishing the banner

1. Turn banner face down

- a. Fold along top edge
 - 1) Width adequate for suspending rod

Fish Prints

- 2) Stick along edge with rubber cement
 - b. Fold along bottom edge as above
 2. Insert dowel or bamboo rod
 3. Attach cord or yard to hang banner
- B. Finishing the shirt
1. Iron in paint before wearing

Lesson Narrative

Fish Print History

After a good day of fishing, anglers like to revisit the day's events and discuss their catches and losses. Although much of the fun in this story telling results from embellishment in the re-telling, recording the catch can also be fun. One of the ways of recording a good day's catch can be to create a fish print of their own as a reminder, a learning aid, or even a trophy.

Fish printing dates back to Japan over a century ago. Anglers made fish prints to record their catches and to save information on fish biology. The Japanese term for fish printing is "gyotaku" (pronounced ghio-ta-ko), and it is an art form that can be useful in other ways as well. Although this method of printing does not provide the best avenue for fish identification, it can be very useful for learning external anatomy as well as recording a catch effectively.

The traditional Japanese method of fish printing used rice paper as a medium for the print, but prints can be made on other types of paper or cloth, including tee-shirts. Block printing paper makes excellent prints, but drawing paper, white paper, tissue paper or even plain newsprint can be used. Shiny, slick finished paper does not hold the paint or ink well, however.

Material Tips

The best location to purchase the necessary supplies for this activity is your local arts and crafts store. Most of these stores will carry the paint, paper, glue, etc. T-shirts can either be purchased or have the participants bring one from home. The T-shirts should either be white or light colored.

Although nearly any fish can be used, fish selection is important to the success of the activity. Fish with laterally compressed bodies are easier to handle, and those with relatively coarse scales and minimum amounts of slime are easier to print. Flounder, bluegill, perch, rock bass, crappie or similar shaped fishes are easiest for beginners to use. As they develop some skill in fish printing, they can use larger specimens and species with more rounded body shapes. Fish that are too large are difficult for youngsters to handle effectively, while those that are too small may lose some detail in the printing process.

Since the fish must be still, clean and dry to produce effective fish prints, the specimens must be dead before they are used. The potential benefits of having the dead specimen must be weighed against returning the fish to the water, just as the benefits of keeping a fish must be weighed against catch and release. Once the decision to keep the fish has been made, the animals should be killed humanely with minimum damage to their external characters. Freezing is an effective method of killing the fish without damaging them, although larger specimens may be killed with a sharp blow to the head. When storing fresh fish -- as in other uses of fish -- avoid keeping the fish in conditions where they can begin to decompose if they are to be used in fish printing. Before the fish can be used for making prints, it must be free from slime, clean and dry. Some fishes will require treatment with a mild vinegar solution and being wiped down several times before they are ready to use in printing. Often the quality of the prints will improve with use as the slime layer is depleted.

Paint or inks should be applied sparingly, covering the body before applying material to the fins. The tendency is to

Fish Prints

put too much paint or ink on the fish rather than not enough. Paint the fins last, just before making the print. Leave the eye blank and paint it in by hand after making the print. This permits some artistic license and may allow an artist to make the eye look more lively by using some white space in the painting.

Color Selection

Although black ink on pale rice paper is the tradition, color adds to the attractiveness of the fish print and allows some artistic expression on the part of the printer. Allow group members to be creative in their painting schemes. The print need not represent the color pattern of the live fish, and the addition of color personalizes the print made by each youngster. That aids in identification of their own work and enhances interest. Remember that light coatings are MUCH better than heavy ones when print quality is concerned. A thick layer of paint will result in a poor replication of the fish.

Labeling

The use of this lesson should determine the type of labeling that takes place. If the specimen fish is a trophy that is being saved as a fish print before going into the family larder, labeling with the location, date, species, size and angler may be all that is needed. If it is to be a learning aid, labeling the external anatomy can prove very useful. In the latter case, forming small groups and providing some suggested labels can be very instructive. Providing quality leadership while they determine the locations of the various parts and how to label them is key to getting the information correct and neatly represented. Once the groups have come to independent conclusions on matching the labels to the fish anatomy on the prints, go over the parts and their functions with them. If possible, take the time to use a discovery approach in outlining the functions of the external features.

Use and Display

Once the paintings, banners or tee-shirts are completed, take the time to make them ready for use or display. Note that to set the print, the tee-shirts should be ironed with a damp towel over the paint before wearing them or placing them in the laundry. Banners can be hung for display or matted and framed for the use of the maker.

Exhibit and Sharing Suggestions

1. Develop a group or individual display of fish prints representing local species for your county or state fair.
2. Develop a group demonstration for a fair or similar event, assisting others in learning to make fish prints or prints of other things - like flowers, leaves, or animal tracks.
3. Set up a display highlighting the external anatomy of different species of fish and how they differ.
4. Create a set of teaching posters to assist other young people in learning the external anatomy of local fishes. Make your teaching materials available to your leaders or volunteer to instruct other young people in external anatomy and identification.

Community Service

1. Volunteer to make fish prints with participants at a local fishing derby or national hunting and fishing day celebration.
2. Use the fish printing approach to teach fish anatomy with young children in a community setting.

Links to Other Programs

Links to other elements of the Sportfishing Program can be made easily, particularly with fish biology and ecology and with the angling skills areas. This lesson also can be used to develop artwork that can be shared in communications and artistic expression projects. The content can be used in other areas of conservation education, and the program fits well with elements of Project WET and Aquatic WILD, particularly with *Water Messages in Stone* (Project WET), *Water Plant Art*, *Micro Odyssey*, and *Fashion a Fish* (Aquatic WILD).

1. Department of Fisheries and Wildlife, Michigan State University, East Lansing, MI 48824

Fishing For Stories

LuAnne G. Kozma¹⁰

Objectives

Participating young people and adults will:

1. Be able to describe a folk tradition related to fishing.
2. Interview someone about their fishing experiences and traditions.
3. Have fun while learning.

Youth Development Objectives

Participating young people will:

1. Develop interpersonal communication skills such as being a good listener.
2. Develop better cultural awareness as they learn about people and groups who may be different than themselves.

Roles for Teen and Junior Leaders:

1. Helping younger 4-Hers develop good questions to ask during an interview.
2. Older teens can help write a newsletter for the club based on the group's interview.

Potential Parental Involvement

1. See "Roles for Teen and Junior Leaders" above.
2. Parents might suggest people to interview and help arrange for the interviews. If the person interviewed is unknown to the 4-Her, parents might accompany youth on interviews, especially if the interview takes place in the home or workplace of the interviewee.
3. Provide transportation to the interview location.

Evaluation Activities/Suggestions

1. Have 4-Hers listen to the tape-recorded interviews with other club members and note what kinds of questions could be asked in a follow-up interview and ways to improve on interviewing methods.

Safety Considerations

Youth should not interview along; encourage members to go in pairs or small groups, gain permission to enter homes and workplaces, and have adult supervision.

Best Time:

- First meeting: At a club meeting.
Second meeting: At a library.
Third meeting: While on a fishing trip, while visiting relatives, while visiting bait and tackle shops.

Best Location: Inside, away from distracting noises.

Time Required: 6-8 hours

Equipment/Materials

- Worksheets (at the end of the activity lesson).
- cassette tape recorder
- cassette tapes
- microphone
- batteries for microphone and/or recorder, extension cord
- A/C adapter
- microphone stand
- camera and film
- pencil and paper (or journals)
- maps and telephone books of the local area

References:

- Ives, Edward D. *The Tape-Recorded Interview: A Manual for Field Workers in Folklore and Oral History*. Knoxville, TN: University of Tennessee Press, 1974.
- Johnson, Paula J., ed. *Working the Water: The Commercial Fisheries of Maryland's Patuxent River*. Charlottesville, VA: University Press of Virginia, 1988.
- Kozma, LuAnne G. *FOLKPATTERNS Leader's Guide: A Cultural Heritage Project*. East Lansing, MI: 4-H Youth Program, Cooperative Extension Service, Michigan State University Museum, 1991.
- Lloyd, Timothy C. and Patrick B. Mullen. *Lake Erie Fishermen: Work, Tradition, and Identity*. Urbana and Chicago: University of

¹⁰ Michigan Traditional Arts Program, Michigan State University Museum, East Lansing, MI 48824, 517-353-3326

Fishing For Stories

- Illinois Press, 1990.
- Moonsamy, Rita Zorn. *Passing It On: Folk Artists and Education in Cumberland County, New Jersey*. Trenton, NJ: The New Jersey State Council on the Arts, 1992.
- Mullen, Patrick B. *I heard the Old Fishermen Say: Folklore of the Texas Gulf Coast*. Austin: University of Texas Press, 1978.
- Posen, I. Sheldon. *You Hear the Ice Talking: The Ways of People and Ice on Lake Champlain*. Plattsburgh, NY: The Clinton-Essex-Franklin Library System, 1986.
- Taylor, David A. *Documenting Maritime Folklife*. Washington, DC: Library of Congress, 1992.

Lesson Outline

| Presentation | Application |
|---|--|
| I. At The First Meeting | |
| What is folklore? | Explain what folklore is (see lesson narrative). |
| Play the “telephone game” (an example) | Get your group ready for this activity by playing the game of “ telephone .” Members sit in a circle. Whisper the following short story to the first member in a circle, and ask him or her to whisper it to the next person, and so on until each person has told and heard the story. The last person to hear the story tells what they heard to the whole group out loud. Then the leader can say the original story out loud to compare what was first told and how the story eventually changed and transformed with each telling. “Last Saturday, Billy and Susie caught two big bullheads and a gob of smelly worms on the Black River by seven in the morning.” (You may want to adapt this sentence to fish your own local places, fish, and common names). |
| Type of fishing | Using the list below as a starting point, make a big list with your group of all the kinds of fishing traditions that they might be able to witness or ask about in your local area. |
| Finding someone to interview | As a group, brainstorm all the people you could ask to be interviewed . Identify a person for every two members of your group so that members can interview people in teams. Look through telephone books to find numbers of local bait shops, |

Fishing For Stories

| | |
|---|--|
| | sportsmen's clubs, and fish markets, etc. List what traditions or skills each person could be interview about. |
| Go over interviewing techniques | Help your members write good interview questions for each potential interviewee. Make a standard list of basic questions you could ask anyone (like "when and where were you born?"). You'll make specialized lists of questions at the next meeting. Using a cassette tape recorder and microphone, put a tape in the recorder and use it with the group to practice interviewing . Experiment with using all the buttons on the machine so that each member knows how to operate a basic tape recorder. You could go through a mock interview using yourself and another leader, teen leader, or one of the members to demonstrate the beginning of an interview. |
| II. Between Meetings Arrange interviews | Make calls to the interviewees and/or have your members make the calls to interviewees to set up interview times after the date of your next meeting. make arrangements with a local librarian to meet your group at the library or your next meeting. |
| III. At Second Meeting Doing Background Research | Ask the librarian to help your group look at all available sources that might help them learn more about the fishing tradition they are about to investigate. Look at local history sources to learn about the local area, from maps and nautical charts to photographs, newspapers, business records, advertisements, and telephone books. Books about luremaking and fishing might be helpful. |
| Preparing members | Help each member add to their list of interview questions and prepare them for their interview experience. What special questions might you ask this individual? Go over the details of when, where and with whom they will conduct this interview. Try to calm any anxieties they may have. |
| III. On their own Conducting the interview | Each member or group conducts an interview with parental supervision. The best places to conduct interviews are the places the interviewee works, lives, or fishes. Go on location! If the person makes lures from a basement workshop, that's the place to be. If the person tells jokes and stories while fishing, accompany him or her on a fishing trip. The interview itself is an exciting, fun-filled experience. make sure each interviewee is asked permission to be tape-recorded at the beginning of the interview. Use a written permission form that describes how and why you are going to use the contents of the tape (i.e.: "...for a 4-H fair exhibit"). (See worksheets at the end of this activity lesson). |
| Writing about it | Each member should write something based on their interview experience: a biography of the person interviewed; a newsletter |

Fishing For Stories

article about the person and his or her fishing tradition; the recipe for a fish food tradition; a glossary of terms used with definitions for each word; a journal entry by them member describing what the experience was like from a personal point of view.

Summary Activity

Meet to read and share each other's interview materials. Write a glossary of words the interviewee used, with his or her definition of each word. See worksheets at the end of this activity lesson.

Lesson Narrative

Everyone who fishes knows a wealth of information. To tap that knowledge, try interviewing someone who has fished for a long time and learn about fishing traditions and culture directly from an expert.

What is folklore?

Folklore, or folklife, are traditions we share with people who have something in common with us. We learn traditions informally by word of mouth or by example, from other people rather than from books or in classes. Folk traditions include foods, stories, songs, sayings, beliefs, games, art, dance, work skills, crafts, celebrations, and architecture. because we share different kinds of interests with different people, we may share different kinds of folk traditions with each group. For example, you might celebrate a birthday in your family by playing a practical joke, use a saying you share only with your friends, eat a certain diner only at your grandparents' house, share a dialect with other people in your region, and tell a joke on a fishing trip that only other anglers would understand. Folklore is both old and new--it changes all the time. As you can see, it's not just something our ancestors did; it is the living traditions we do today.

Types of fishing traditions to investigate.

- the techniques involved in a particular kind of fishing, such as how one uses tools and materials and the steps in a process
- words, phrases, sayings, and gestures
- customs and rituals
- beliefs about bad or good luck, beliefs about the weather
- oral traditions such as stories about personal experiences and stories of all kinds, songs, legends, rhymes, jokes
- local place names, local names for species of fish, waterbirds or other animals
- food traditions involving seafood
- folk medicine for seasickness and injury
- celebrations (blessing of the fleet, community seafood festivals)
- material items made for fishing (boats, nets, traps, lures, anchors, bait containers, buildings on land like net lofts, shucking houses, and fish camps, clothing, etc.)

Finding someone to interview

Talk to relatives, neighbors and friends first. If you want to interview someone completely new, try asking at the local library, bait and tackle shop, marine supply store, commercial fishery, marina, seafood outlet, or fishing club. Select someone you feel comfortable with, who is friendly and willing to talk. Explain that you would like to tape-record the interview and get their permission to do so.

Doing the background research

Once you're selected who you will interview, learn a little more about the person and the places he or she fishes

Fishing For Stories

so that you are better prepared to ask good questions. Spend some time in the local library, historical society, or museum to learn more about the kind of fishing you are investigating, the natural environment of the area, the life cycles of the species of fish involved, and the community in which the person lives. Look at maps and nautical charts that might help you better understand the region and the water.

Conducting the interview

Get the interviewee's permission to be interviewed right on the tape, and have the person sign a consent for or brief letter (see 0. you can make your own for, with wording like: "I agree to be interviewed by (name of 4-Her) on x date, for the purpose of her 4-H project." Then have the person sign the form.

It's best to ask some basic questions first, such as : What is your full name? Where and when were you born? What were your parents' names? Where did you grow up? The rest of the questions can be about the person and the tradition you are investigating. Start questions with words like who, what, where, when, why, how, and which. This encourages the person to explain the answers, rather than just answering "yes" or "no."

Use a cassette tape recorder, a microphone that you plug in, and batteries or an electrical cord. Practice using your equipment before you arrive at the interview. If you can, record only on one side of the tape; tapes will last longer over the years if recorded on one side. Bring a few tapes with you. Keep your interview to one hour or so. Interviewing is a tiring experience for both of you. Send a thank you letter to the person soon after the interview.

Exhibit or Sharing Suggestions:

1. Club members share their interview experiences with each other at a club meeting.
2. Interviewees could be invited to the meeting as well. Other ways to share the results of an interview is to transcribe the tape--write down each word spoken on paper, so you can read what was said. you could share the transcript with the interviewee and others.
3. Create a "story board" using photographs taken during the interview. Write captions next to the photos to describe the activity or story being demonstrated.
4. Write an article using the interview notes. Submit it to your local newspaper for publication.

Community Service and "Giving Back" Activities

Think about donating your interview to a local library or museum, for others to use, with permission of the interviewee. Make sure the interviewee knows how the museum or library would use the tapes and make them available to people. If the interviewee does not want to share the contents of the tape with others, respect that decision.

Extensions or Ways of Learning More:

Consider learning more from your interviewee over a longer period of time. Arrange for a second interview. Perhaps there is a handmade craft that the person knows that you would like to learn how to do, such as luremaking. Ask if you could learn this technique or tradition as an apprentice. Some states have folklife apprenticeship programs in which a master artist and apprentice may apply for grant funds to help defray the costs of apprenticeships. Contact the American Folklife Center, Library of Congress, Washington DC 20540-8100 for the name and address of your state's folklife program. You might also contact the American Folklore Society, 4350 North Fairfax Dr., Suite 640, Arlington, VA 22203. Some maritime museums have similar apprenticeship programs as well as demonstrations and classes in traditional Maritime crafts. Contact your local maritime museum to find out.

Look at a state map and see what place names for towns, rivers, lakes, etc., are named after fish or fishing traditions. Find out how the place got its name at your local library or create your own story about how you think the place was named. (Some examples: Fish Creek, Wisconsin; King Salmon, Alaska; Menominee, Michigan; Fishkill New York).

Fishing For Stories

Links to Other Programs:

See 4-H FOLKPATTERNS Leader's Guide for more detailed information on how to conduct interviews with family and community members.

See 4-H photography project materials.

Learning to Interview

That's a Good Question

1. Write down a folklore topic that interests you.

2. What do you know about this topic right now?

3. If you were to ask a question of someone about that topic, what would you want to find out? Write down at least three things below.

a. _____

b. _____

c. _____

4. Now, write questions beginning with these words that ask for the information you want to know.

When _____

Who _____

What _____

Where _____

Why _____

Which _____

How _____

5. Good! You made a great start. Now write as many more questions as you can.

Remember to begin your question with “who,” “what,” “where,” “when,” “why,” “how,” and “which.” Now you are ready to try interviewing!

Create a Dictionary

1. When interviewing a person about his or her occupational lore, when the person says a word or phrase that is unfamiliar, write it down.
2. Continue asking questions about special words used on the job.
3. Ask the person the word's meaning and how the word or phrase is used.
4. After your interview, listen to your tape.
5. Writ a dictionary of the words and definitions you learned.

A few sample words and phrases follow:

- Computer worker -- Bits, GIGO, FIFO, crash, bomb, bug, glitch, kludge, scrub...
- Auto mechanic -- Boat, boneyard, howler, junk a car, run it into the ground...
- Business person -- CEO, R&D, adhocracy, bottom line, down time, fast track, headhunter, lead time, perks

Interview Checklist

Use this checklist every time you conduct an interview to remind you of all the things you need to do.

Before the Interview...

- Set the date, time, and place of the interview.
- Ask permission to use a tape recorder.
- Explain the use of the FISHING FOR STORIES Interview Form.
- Explain your project and what you will do with the information and tapes.
- Check your equipment (recorder, microphone, electrical cord, batteries).
- Bring extra tapes and batteries.
- Write out your questions.

At the Interview...

- Set up the tape recorder and place the microphone close to the interview.
- Make sure there are no noises in the room.
- Label the tape with the date, person's name, and your name.
- Thank the person and say "This is the end of the interview" when you finish.
- Have the person sign a FISHING FOR STORIES Interview Form.

After the Interview...

- Send a thank-you card.
- Jot down other questions you'd like to ask in a follow-up interview.
- Write a complete label for the tape.
- Transcribe the tape (optional).
- Store the tape in a safe place or donate it to a library or museum.

FISHING FOR STORIES Interview Form

Permission

I give permission to 4-H to tape record this interview with me, and to use my name and the information I provide for nonprofit, educational purposes such as publications, exhibits, radio and television broadcasts, and publicity. The tapes _____ will be donated to _____. By giving permission, I do not give up any copyright or performance rights I may hold.

Date _____

Name (signed) _____

Name (printed) _____

Organization/Group Name _____

Address _____

Phone _____

Birth date _____ Birthplace _____

Interviewer _____ Age _____

Address _____

Index

Date recorded _____

Place _____

Person interviewed _____

Address _____

Interviewer(s) _____

Description _____

Foodways

Regional Fish Foodways

LuAnne Kozma¹

Objectives

Participating youth and adults will:

1. Be able to describe a fish Foodways tradition from their own region or community.
2. Be able to identify two other fish Foodways traditions from other places.
3. Understand that food tradition vary from place to place.
4. Taste one example of a local fish food tradition.

Youth Development Objectives

Participating youth will:

1. Develop better cultural awareness as they learn about people and groups who may be different than themselves.

Roles for Teen and Junior Leaders

May help with the cooking demonstration.

Potential Parental Involvement

May be asked to be the cook and demonstrate their version of a local foodway custom.

Best Time: After a fishing outing, after catching a fish. Or a club meeting.

Best Location: In a kitchen facility.

Evaluation Activities/Suggestions

In a group discussion afterwards, while eating the food, the club can talk about what they learned.

Time Required: 1 to 2 hours

Equipment/Materials

\$ A kitchen with oven, stove, sink and table or other food preparation area.

¹ Michigan Traditional Arts Program, Michigan State University Museum, East Lansing MI 48824-1222

Foodways

- § Room enough for a club to gather in and watch a cooking demonstration. The county Extension=s kitchen facility, if available.
- § If the foodways tradition involves outdoor cookery (on a beach, alongside river, etc.) it would be best to try to do the demonstration where the tradition usually takes place.
- § About ten spices and condiments used in preparing and eating fish, to talk about (such as catsup, mustard, lemon, horseradish, garlic, onion, Tabasco sauce).
- § First aid kit (i.e. burn ointment, bandages, etc.)

When, Why, and How We Eat in America. .

Little Rock, AR: August House, Inc., 1989.

Crawford, Linda. *The Catfish Book*. Jackson: University of Mississippi Press. 1993.

MacDowell, Marsha. *Foodways*. East Lansing, MI: 4-H Youth Program, Cooperative Extension Service, Michigan State University Museum, 1984.

Neustadt, Kathy. *Clambake: A History and Celebration of an American Tradition*. University of Massachusetts Press, 1992.

Pitre, Glen. *The Crawfish Book*. Jackson: University Press of Mississippi, 1993.

Taylor, David A. *Documenting Maritime Folklike*. Washington, DC: Library of Congress, 1992.

Safety Considerations: Youth should have adult supervision while preparing and cooking food (help with knives, filleting, and cooking, etc.). How to properly keep fish fresh, how to safely handle fish and safe clean-up methods should be covered. Consult food safety experts at your Extension office.

References:

Camp,
Charles. *American Foodways: What,*

Lesson Outline

Ways we eat fish

Presentation

Regional Fish Foodways

Regional fish

Application

Demonstration of a local fish Foodways tradition

Make a **LIST** with members of all the ways we can eat or prepare fish and seafood. Use the list below to help you.

Bring in some spices and condiments from home that you might use when cooking or eating fish, to use as discussion points, such as catsup, mustard, lemon, horseradish, crab boil, butter, garlic, onion, curry, Tabasco sauce.

DESCRIBE a few traditions from different regions using foodways the traditions described below or some that are familiar to you.

For the remainder of the meeting time, allow your special guest to **DEMONSTRATE** his or her food custom. Ask the cook to involve your members as much as possible in the preparation of the food, such as in cleaning the fish, preparing side dishes, or adding spices in the right amounts. Have fun, and encourage members to ask questions of the cook. This should be an interactive, educational exchange.

When done, all participants can taste the food. Discuss how this food is different or the same as foods the members eat at home. What local or regional variations or personal preferences are there in your group?

Regional Fish Foodways

Regional Fish Foodways

Lesson Narrative

Ways we eat fish. The ways we eat fish and seafood are numerous! The *right* way to cook fish in Louisiana may be different than the *right* way to cook the same fish in Massachusetts. Fish and seafood dishes may be different from county to county, town to town, family to family, person to person. With your group, create a list of methods by which fish is prepared. Some words you may come up with include: baked, fried, raw, boiled, steamed, casseroles, stews, soups, chowders, salads, sauces, sandwiches, dried, smoked, pickled, salted, grilled, planked, pan-fired. Encourage members to talk about the exact kinds of fish they eat. Now create another list of food events or celebrations that revolve around seafood or seafood customs. Some celebrations you may come up with include: clambake, booya, fish fry, crab derby, oyster roast, fish boil, crab boil, lobsterbake, chowder feast oyster shucking, contest.

Regional fish foodways. Of course, there's more to it than that! Talk about the following fish foodways traditions in various parts of the country.

Bay Port Fish Sandwiches: In Bay Port, Michigan, the Engelhard family, then co-owners of the local commercial fishery, came up with an idea in the late 1940s to help sell herring at a local chamber of commerce festival: fried fish sandwiches. They sold the sandwiches from a stand in their front yard. Battered and then fried in peanut oil, the fish is placed in hotdog buns and served with mustard, catsup, or tartar sauce, and coleslaw on the side. The sandwich was so well liked that they began selling the dinners from their stand throughout the summers in the 1950s. Bay Port became known as the place for the *famous* Bay Port fish sandwich. After the children were grown, the Englehards stopped the practice. In the 1970s, the chamber of commerce again approached the family to see if they would be willing to introduce the fish sandwich at a community festival. They did, and the response was so overwhelming that now the community hosts an annual Bay Port Fish Sandwich Festival on a weekend in August. The Engelhard family is still in charge of the secret batter. With the depletion of herring in Saginaw Bay, suckers (known locally as *mullet*) are used, prepared in such a way that includes the fish bones in the sandwich. What started as a family tradition, shared with a community, has become a community festival in which many members take part.

New England Clambake: This community and family food event is a long tradition in New England, passed on by Native American peoples to the colonists. Each group that holds a clambake has its own set of customs and traditions. No two are exactly alike. The group divides up the tasks: gathering Rockwood or

Regional Fish Foodways

other fuel found along the ocean shore for the fire: the digging of a large pit for the clambake; preparing other food such as clam chowder to feed everyone while clams, corn and other foods are baking in the pit. The pit is lined with rocks which are heated by fire, then filled with layers of Rockwood and clams, lobster, and corn. After slowly steaming and baking for several hours, the group eats the meal. At some bakes, a toast, prayer or blessing is said for the bake and all the workers who helped over the two or three day affair. While people work, they also share a lot of fun by telling jokes and stories, reminiscing, boasting, and chatting. Many aspects of a clambake are not available, but they can buy the clams and still hold the bake. By helping with a clambake, participants feel linked to their region=s cultural heritage and connected to each other, and share in the joy of keeping this custom alive.

Demonstrate a local fish custom or food. Invite someone to your meeting you has made a particular recipe for a long time, and who learned it in a traditional way. Bring all the supplies need for the demonstration. Ask the cook to demonstrate as many of the steps in the process as possible within your time period. Have him or her talk about the tradition, and encourage your members to ask questions. Your group can sample the results. If it is not possible to bring someone in to your meeting, consider bringing your club to the place where the person cooks (restaurant, home, etc.).

Summary Activity

Visit a fish market and interview the person selling or cleaning the fish.

Or, visit a nearby community fish food event such as a festival or dinner in which fish Foodways are served. If possible, host or help out at a community event involving a fish food tradition.

Exhibit or Sharing Suggestions

Enter your fish Foodways project at a fair and be sure to include the background information on it.

Prepare the food, give the recipe, and provide a description of the tradition.

Community Service and Giving Back Activities

Regional Fish Foodways

If your community or local organization is planning to publish a cookbook, volunteer your club to help collect the fish Foodways recipes. Interview fish cooks to learn more about who is doing the cooking and how they learned the tradition.

Extensions or Ways of Learning More

Look for community cookbooks with local recipes from people in your community for examples of local fish dishes.

Links to Other Programs

See 4-H FOLKPATTERNS Leaders Guide and Foodways.

See 4-H Sportfishing Program Fish Cookery

