

AFFE Fly Fishing Lesson Plans

BACKGROUND AND RATIONALE

These lesson plans are tools that can assist instructors in effectively teaching the sport of fly fishing to students. The words *teacher*, *instructor* and *mentor* are used interchangeably throughout.

These lesson plans have been derived and distilled from the First Cast Curriculum by the late Phil Genova. *The Federation of Fly Fishers Instructor Handbook (FFFIH)* and *First Cast-Teaching Kids to Fly Fish* are the main texts for these lesson plans. These correspond directly to the chapters in each. Specific pages are highlighted throughout each lesson for easy reference.

Specific recommended time periods for each lesson are general, because the extent of coverage is up to the individual teacher.

The lesson plans were designed to be user friendly to each instructor's skill level. Seasoned fly fishers may wish to use these as a simple outline for an educational program. Novice fly anglers can choose to follow along closely with the text while being confident that the important points of a fly fishing education program are covered.

Detailed information on fish species, habitat types, food cycles, entomology and conservation is not included. A thorough coverage of these subjects would be impossible for our purposes. If you desire in-depth information on these topics contact your state Department of Fish and Wildlife and state Aquatic Resource Educator. High quality, locally focused educational resources of this type are very readily available from them.

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The Mentor and the Apprentice and Community Programs

Corresponds to Chapter 1 and 10 in “First Cast- Teaching Kids to Fly-Fish”

Refer to text pages 3- 21 and 261-302

This unit provides the justification and reasoning, as well as the developmental tools, to plan an entire fly fishing course. This unit introduces students and instructors to the concept of mentoring. It serves as a resource for anyone working with volunteer based initiatives.

The chapter is intended to provide instruction and foster discussion of topics that are the foundation for passing on fly fishing to the next generation. Mentoring is crucial to developing future stewards of our environment. Mentoring, Youth Program Development and definitions of necessary life skills are summarized from the 4-H Sport Fishing Curriculum.

The Fly Fishing Mentor

The mentor and apprentice relationship is central to learning to fly fish. From the historical beginnings of fly fishing, mentors have instructed apprentices. The structure of Izaak Walton’s *Compleat Angler* is the tale of a mentor teaching a neophyte. The “River God” by Roland Pertwee is a marvelous story that illustrates this relationship at its best.

The Mentor Outreach Program is designed to provide the critical elements for a successful youth program through partnerships. Benefits of participating in a MOP program are three fold. First, the partnership spreads the work load among the widest possible number of participants. Second, the division of duties allows participants to focus on what they do well, and third, the limited commitment to annual programming provides both focus to community efforts and limited commitment of time and resources.

Successful mentoring by a group of instructors requires similar understanding how young people learn and the unique needs of youth. A focus on the specific needs of youth can meet the elements crucial to success. A sense of safety and structure is essential to a MOP program.(unit 10 community programs)

We all must feel physically and emotionally safe to learn. Beyond have a clean, well lighted place and easily accessed toilets, there are simple things which group leaders can do to assure that all participants enjoy activities. Include families in youth programs and encourage parents and siblings to join in. Match the personalities of volunteers with the kids being taught. Some partnerships click, others do not. Look for inattentiveness, frustration, or failure to communicate as indicators of a poor match. Look for intensity of effort and focus on the task by both parties for a good match. First and foremost, look for shared laughter.

Check the suitability of all instructors through your state troopers. You are responsible for screening your volunteers. For their own protection in these litigious times, have instructors complete Youth Protection Guidelines Training. (4-H, BSA, BBBS, National Mentoring Center, etc.) Provide clear instructions on expected behaviors and outcomes for both the instructors and students.

Establish rules for safety and an atmosphere of mutual respect that values diversity. Finally, be consistent in approach and enforce expectations: a good mentoring relationship relies upon a partnership of un-equals.

Even so, success depends upon each participant having a sense of belonging, acceptance, and ownership. We join with others to feel a sense of community, to learn and to become empowered in our sport. A successful mentoring program will assist all participants to offer their best achievements while valuing each member's contributions and successes. A primary task of the group mentor is to include all members in discussions and decisions, while providing appropriate guidance.

To be a successful mentor involves helping students achieve a sense of self worth while safely experiencing novel situations, developing meaningful interpersonal relationships, and establishing and expanding values and ethics. If our ultimate goal is to affect the long term behavior of young people, then this last role of the mentor is, perhaps, the first. As 4-H sport fishing training states: "Development of personal values and ethics takes place most effectively through interactions with others in "safe" places where young people feel respected and valued."

Ideal Youth Programming

The most successful programs are attractive to kids, parents and volunteers. One or two leaders focus on the program as a whole. Others attend to planning, details and program delivery. There needs to be clear roles for volunteers. Parents should be integrated into activities as volunteers or participants.

An ideal mentoring program has clear goals and objectives toward accomplishing well defined tasks. Each lesson is well thought out and delivered by one of the partners or group of volunteers. Spreading responsibility for lesson delivery among the greatest number of partners keeps the POV of the lessons fresh and prevents burn-out among the leaders.

Groups are kept small to facilitate the mentoring relationship. The focus should be youth development through fly fishing. Gaining competency in the craft of fly tying, casting, entomology and fishing is secondary to developing strong, trusting relationships. Given those friendships, competencies in fly fishing will follow. Begin with a round robin discussion of why we play this silly sport.

LESSON 1:

Why fly fish?

BACKGROUND

Fly fishing is a difficult, wonderful, hopeless sport. It is the premier lifetime sport because you never know everything. Many older fly anglers insist they learn something new every day. You may begin by focusing on catching your first fish on a fly of your own design, but don't be surprised to look back in thirty years and find yourself collecting and writing books, tying flies or building your own rods. Or, like the hopelessly addicted among us, doing all of these and rarely getting to fish!

LESSON PARAMETERS

(30 minutes) chairs gathered up, leader at eye level, seated.

- Open a discussion of fly fishing as a sport with some of the absurdities we all know so well:
- Why do we fish for flies? What do we do with them when we catch them?
- What is this about letting fish go? Why bother?
- The kid with the bent pin catches more fish!
- What is the logic behind hook sizes?
- Leaders get smaller as the number gets bigger and hooks get bigger as the number gets smaller.
- What's with "the least important part of fly fishing is catching fish"?

Contrast this discussion with Karl Johnson's:

The Virtues of Fishing

This short piece by Karl Johnson can be a very fertile resource for discussion (*see pages 3-5 in First Cast*).

The Ten Youth Development Virtues of Fishing are:

- 1) Fishing engages the mind
- 2) Fishing engages the whole self--body, mind, and emotions
- 3) Fishing teaches ethics
- 4) Fishing thwarts delinquency
- 5) Fishing initiates the young into culture
- 6) Fishing unifies people across barriers
- 7) Fishing encourages humility
- 8) Fishing encourages a commitment to quality and excellence
- 9) Fishing fosters the appreciation of nature
- 10) Fishing is fun.

Ask the group what they want to learn in the next few months, and use their comments to establish a schedule for the club. Integrate their comments and interests into the planning to establish their ownership of the club. Make clear the responsibilities all club members share for its success.

And mention the mentor apprentice relationship. Ask them what they think is different about this unique friendship.

LESSON 2: *The Mentor's Duty*

BACKGROUND

As part of youth development inherent in our goals, we need to provide the understanding of how mentoring works as well as the opportunity to teach others the basics of tying and casting. Students should be encouraged to teach those patterns they tie well, and assisted in this with positive, constructive comments. Review lessons and techniques prior to their giving the lesson and save discussions of their lesson delivery until an appropriate time.

LESSON PARAMETERS

(30 minutes) chairs gathered up, leader at eye level, seated.

Discuss the traditional role of the mentor as a:

- Guide
- Facilitator
- Companion
- Role model

(see pages 14-15 in First Cast)

The Future of Fly Fishing

Points, questions and topics *(see pages 18-21 in First Cast):*

- Fly fishing is truly more than just catching fish.
- What do we gain from fly fishing?
- Why teach fly fishing to others?
- Are there already too many folks using the waters of the US?
- Why encourage anyone to join us and crowd things even more?
- Why offer this sport to others racially, sexually and ethically different from ourselves?
- Why take time to share with a beginner?
- What is the importance of fly fishing tradition
- Are fly fishers resource stewards?

LESSON 3: **Protecting Our Resources**

BACKGROUND

If we do not care for the health of our waters, we will have no fish to catch. To successfully fly fish you must know a great deal about the fish you seek. You need to understand where they live, what they eat and how each species perceives its world. As fly fishers gain this understanding, they grow in concern for the continued health and preservation of aquatic environments. Someone who both uses a resource well and cares for it to pass it on to the next generation is a steward of the resource. Respect for the resource is the key to becoming a competent and caring steward. Proper respect for the resource is built on a firm foundation of knowledge and ethical behavior (see pages 8-14 in *First Cast*).

LESSON PARAMETERS

(30 minutes) chairs gathered up, leader at eye level, seated.

This is an introduction only.... the lesson should define behavior for the club

In 1330 an Italian writer called fishing with rod and line “the emperor of all sport.” He broke fishing into three competencies; know what fish eat, develop the skill to catch fish and understand the season of fishing.

These remain the skills we need to successfully fly fish:

- 1) The successful fly fisher must **know fish well** (see page 10 in *First Cast*, FFF: 4/7 insects as food for trout; 10/1-6 Bass;7/2-4 trout 11/1-13 salt water species):
- 2) The successful fly fisher **must know tackle** and how to use it: (FFIH 3/1-7 casting, 4/25 strategies; 6 nymphs;7 dry fly; 7/13 presentation; 7/16 stealth7/17 strategies);
- 3) The successful fly fisher must **understand the ecology of fisheries**: (FFIH: 4-7 insects as food for trout; 7/ 1-7; 8/3 distinctions between streams and lakes; 4/1-20 ecology of trout)

Knowing these things help the fly fisher cultivate:

- ownership of this experience
- a stake in keeping the environment sound
- respect the natural world
- empowerment to work for the resource
- a true concern for the health of the resource

Outdoor Activity:

BUGS in the Stream!

The surest ways to interest kids in fly fishing is through the study of aquatic insects.

Today, any number of great programs get kids looking at bugs. Three widely available resources are the Izaak Walton League of America (<http://www.iwla.org/index.php?id=118>) Adopt-A-Stream (<http://www.streamkeeper.org/education/index.htm>) and state fish and wildlife agency quick look stream surveys. Find your potential state partners at: <http://areanet.org/> Complete lesson plans are available from these partners.

LESSON 4:

Ethics of angling

BACKGROUND

WE CANNOT TEACH ETHICS! Ethics are absorbed, more than learned, lived more than taught: Walk the walk.

Our ethics are the product of the relationships we have with each other, our society, the media, schools, churches... and our mentors. Ethics change, but they do so slowly, as our experiences and influences vary over time. All a lesson can do is introduce a theme: the obligation of the mentor is to use all of the elements of the club and his/her behavior to move the apprentice further along the road toward examining who he or she is as defined by his/her behavior and developing a sense of ethical behavior in the out of doors.

Simple definitions of ethics:

Ethical behavior is what you do when no one is watching.

Your ethics are a gift you give to yourself.

The respect you show the natural world reflects the respect you have for yourself.

LESSON PARAMETERS

(30 minutes) chairs gathered up, leader at eye level, seated.

Describe and discuss ethical acts in the outdoors. Include:

- Picking up litter whenever you see it on the stream
- Following laws on access.
- Limiting your catch as well as your harvest.
- Respecting other anglers.
- Taking only the fish you will eat.
- Respecting the fish, the land and other anglers.
- Obeying the law.
- Passing on your knowledge.
- Sharing.

Sample questions for group discussion:

- Whose ethics are being discussed?
- What authority prescribes the ethical code to be followed?
- In the outdoors, is the game warden the ultimate ethical authority?
- Why should we care about the ethical behavior of others?
- Do our ethical decisions effect others?
- How far does our ethical responsibility go?
- Should an adult set the ethical standards for a teen?
- Is there one code of ethics for us all?
- How does ethical behavior begin?
- What is the mentor's role and responsibility in teaching ethics?

Discuss the ethical responsibility a fly fisher has to (see page 12 in *First Cast*):

- other anglers they meet
- their fishing club
- other users of the resource
- landowners
- the local community
- the sport or tradition of fishing
- the individual fish and other aquatic organisms
- Fish and Wildlife agencies

ACTIVITY:

30 minutes

Break the group into tables of six to eight individuals. Explain the chivalric roots of fly fishing, and relate the sport to the stories they know of King Arthur and his round table. Explain that the Knights set their own code of behavior before leaving on their quests. Ask each group to develop two standards of behavior for the club and be ready to discuss them with everyone.

Bring the groups back together, look for commonalities and draw up an angler's code of behavior from the group's lists. All club members should agree to this set of rules. Rules may be changed by the group as the season progresses. (The only caveat is that the group may not require anyone to break any laws.)

Fly Tying Tools and Materials

Corresponds to Section 5 in “Federation of Fly Fisher’s Instructor Handbook” and Chapter 2 in “First Cast- Teaching Kids to Fly-Fish”

Refer to text pages 22-51

Content Outline and Procedure- presentation method

INTRODUCTION

Fly tying is a great way to begin the sport of fly fishing. Anyone can construct a crude fly and achieve a level of satisfaction before they can cast with any degree of accuracy.

For many anglers, fly tying is the most creative part of the fly fishing experience. Because fly tying is usually performed indoors, it can be enjoyed and practiced regardless of the weather conditions.

Fly tying is an integral part of the fly fishing experience and is a required skill if the student is to fully master the sport. The materials include natural feathers and furs gathered from many different birds and mammals, as well as an unending assortment of synthetic materials. The fly tier’s materials include an incredible diversity of shapes, colors, textures and smells.

These materials are combined together on the hook to mimic the foods that fish prey upon.

The first fly tying lesson should begin with a discussion of the things needed to tie a fly (see Unit 3). They can be broken in three groups: Tools, Materials and Hooks.

LESSON 1:

Basic Tools

(5-1 in FFFIH)-30 minutes

Identify the tools:

- **Vise**
- **Scissors**
- **Bobbin**
- **Bobbin tube cleaner**
- **Bobbin threader**
- **Hackle pliers**
- **Bodkin.**

Discuss the various styles, qualities and uses.

A local fly shop is the ideal place to stage this type of lesson.

Each tool and its use should be fully explained. Include advantages and disadvantages of each type. Several examples of actual tools should be used.

Discuss the following selection of fly tying tools, be sure to cover; types and styles available, tips on how to buy and take care of tools. Some of the simpler tools may be constructed by the students (see pages 25-31 in *First Cast* for detailed information):

- Vise- “work horse” tool used in creating every fly.
- Scissors- be sure to discuss suggestions on how to keep your scissors useable longer:
 - Use tips for only easy to cut materials (hackle tips, thread, etc.)
 - Try to cut as far back into the blades as possible for most materials.
 - Avoid dulling the blades on the shank of the hook.
 - Keep another inexpensive pair around to do much of the heavier cutting.
 - Nail clippers can also be used for the heavy work.
- Bobbin- used to hold your tying thread
- Bobbin threader
- Bobbin tube cleaner
- Hackle pliers
- Bodkin
- Desk type lamp
- Small needle nose pliers
- Hair stacker
- Tweezers
- Material clip
- Whip finisher

LESSON 2:

Fly Tying Materials

(5-6 through 5-25)- 30 minutes

Basic Materials

Choosing and using materials

A study of the art of fly tying can begin with an introduction to the materials used in tying the first flies.

Examples of hackles (wet and dry), peacock herl, marabou, pheasant, bucktail, deer body hair, squirrel tails, calf tails, chenille, yarn, fly tying thread, and others suggested by fly tiers and used locally. A local fly shop is the ideal place to stage this type of lesson.

Each material and its use should be explained as it is encountered in tying, or as students ask about it. (see pages 32-44 in *First Cast*). Include a list of basic materials (especially those that are useful in the local area) and examine several examples of actual materials. Explain why the properties of each material make it suited for a particular use: wet flies (sinking- absorb water readily) and dry flies (floating- do not absorb water readily).

Some fly shops may even offer kits that contain the materials, hooks, etc. needed to assemble several flies of a specific pattern. This may be an economical alternative and get students producing flies while keeping storage problems to a minimum.

If you are tying with a group on a regular schedule, have the student or their parents be responsible for assembling kits from bulk materials. Provide the volunteer the material and a material card listing how much of each ingredient to put in each zip-lock bag. Assignments should be made two weeks in advance, to be turned in a week before their needed. (You should have one set of bags assembled in reserve, just in case.) In the case of small strands or loose material, have the volunteer tape the items to a 3x5 card placed in each baggie. If you are keeping track of volunteer hours, be sure to count this time spent by volunteers to speed up the tying process and keep students on track.

Discuss advantages of synthetic materials (strength, color, variety, etc) over naturals (see pages 41-42 in *First Cast*). Discuss advantages of natural over synthetic (classic materials in flies, beauty, other desired properties).

Tips on how to select quality materials and take care of them should be included. Discuss what properties make a material most useful (straight long hair, stiff barbules, thin flexible and strong quills, etc.).

If fly tying materials come from a variety of locations, it is wise to store them separately. Pack materials in heavy zip lock plastic bags; moth balls or crystals can also be added.

Natural hides provided by hunters are also good sources of fly tying materials. Care should be taken to be sure these materials are pest and contamination free. Cook them quickly in a microwave oven or place them in the deep freeze for a few days. "Fresh" skins must also be de-boned, cleaned and cured with Borax. Avoid salt cures as it may weaken hooks.

Discuss how and where animals live and the affect that will have on their hair or feathers (for example: duck feathers float well).

This discussion lends itself well to questions and answers and group participation.

LESSON 3:

The Fly Tier's Hooks

(5-2 in FFF Instructors Handbook)- 20 minutes

Brief history of hooks

A brief discussion of hook origins and devices used before hooks can include mention of other events that took place at those times. (see pages 44-45 in *First Cast*).

Styles, designs, qualities, uses and parts of a hook

Begin the in-depth look at modern hooks by going over the parts of a hook using a large hook, handouts, blackboard, or all of these. Ask students to see if they can guess the names of the hook parts (see pages 45-48 in *First Cast*).

Each type and style of hook and its use should be fully explained. Include several examples of actual hooks. Explain why the properties and design of each hook make it suited for a particular use.

Discuss advantages of one design over another for local use.

Discuss advantages and disadvantages of barbs (easy into fishes jaw and easy out of clothing or angler's skin). Stress the point that if a fish is played properly, all things being equal, the hook with a barb will not hold a fish better than a barbless hook.

Tie all student flies on de-barbed hooks. The small bump will help keep many lightly hooked fish on while minimizing trauma when the child gets hooked.

This discussion will lend itself well to questions and answers and group participation.

- The barb holds the bait and is used to forge the hook.
- It takes more force to set a barbed hook than a barbless one.
- Barbless hooks result in more hook-ups.
- Sooner or later you will wear hook jewelry.
- Students must use eyeglasses and a hat when fly fishing.

Hook sizes

Discuss hook sizes by using actual examples of as many sizes as possible. Why are there so many sizes of hooks?

There is no exact, uniform system of hook sizing found among hook companies. The fly tyer and fly fisher should have a good grasp of the concept of hook sizes. Make the point that fly fishers refer to hook sizes all the time in communications between each other when describing fly size, bait size, insect size, and many other items (see page 48 in *First Cast*).

Explain the number system used by manufacturers and fly fishers (*actual* sizes will vary between manufacturers):

- numbers decrease, size increases, size usually in even numbers (some manufacturers use the occasional odd number)
- (smallest) 32 to 1
- after size 1 begins larger sizes 1/0 up to 19/0 (largest size hook made)
- number increase, size increases (both odd and even numbers used)
- 1/0 hook is larger than a 1.

Draw a line on the blackboard with an arrow pointing up and one pointing down. Explain that the line goes between size 1 and size 1/0 (see page 48 in *First Cast*).

Below the line as the number gets larger the hook gets smaller. Above the line the numbers have a /0, after them (pronounced “one ought,” “two ought,” etc.) and the hooks get larger as the number increases.

Ask students: “Which is larger a number 4 or 6? 1/0 or 3/0?”

LESSON 4:

Sharpening a Hook

10 minutes

Debarbing

A hook should always have the barb crushed and be sharpened before it goes into the fly tying vise. This is a very important habit to form early on in the student's fly tying education (*see pages 48-51 in First Cast*).

When you are at the water-side and ready to fish it is not the time to be sharpening your flies for the first time. Hook points should be checked before being used and periodically while fishing. Points should be kept "sticky sharp" and touched up with a file or hone while fishing.

Small files made especially for use with hooks work well as do nail files for very small hooks and hardware store files for very large hooks. Hook hones and stones can also be used.

Start by giving a demonstration of proper hook sharpening technique.

Class should stand in front of the instructor.

Crush the hook barb first. Use larger hooks (1/0 or so) for demonstration.

Hold the hook by the shank and aim the point into the jaws of the pliers. Crush the barb flat with as little damage to the shank as possible. Don't hold the pliers across the shank; that will weaken the metal and may cause the hook to break.

Explain how flattening the barb helps the hook go in easier for quicker penetration (especially with a very flexible fly rod) and come out easier to release fish. It will also come out of clothing and skin easier than a barbed hook. Explain that fish will not be lost if played correctly.

Sharpening

The next step is to either clamp the hook into a fly tying vise with the bend up and point fully exposed or hold the hook in between the thumb and index finger of the right hand. Encourage students to use the hand-held method because it will be the method employed on the water to touch up hook points.

Run the file or hone a few strokes on either side, **under** the point and a few strokes **on top** of the point making four cutting blades on the point. Be sure to run the file from **the point back** toward the bend. Running it toward the point will weaken the metal.

Testing

The final step is to check for sharpness by running the hook point down your thumbnail slowly. If it catches and sticks, it's sharp. If the point glides over the nail without sticking, the sharpening procedure should be repeated.

Pass the hook around to the students and be sure each of them runs the hook properly over their nails testing the point and understanding how to perform this test for sharpness.

Pass out the hooks and files. Sizes of hooks used and class arrangement will vary with the individual size of the class and age of participants. This exercise is not recommended for students under 6 years of age.

Fly Tying: Flies and Instruction

Corresponds to Section 5 in “Federation of Fly Fisher’s Instructor Handbook” and Chapter 3 in “First Cast- Teaching Kids to Fly-Fish”

Refer to text pages 52-80

PREREQUISITE

Operational knowledge of fly tying tools and material, understand fly recipes.

OBJECTIVES

Upon completion of the lesson students will understand how to set up a fly tying session and have a working knowledge of several basic fly tying terms and skills associated with tying a Woolly Buzzer wet fly.

Site Considerations

Fly tying is best done indoors.

Even a slight breeze can scatter lightweight materials and will cause the constant disruption of a session. Adequate lighting is essential, whether from overhead or individual lights.

Consider final clean-up when choosing a room. Fly tying hooks and materials are easier to clean from a tiled or wooden floor than a carpet.

The site should have enough tables and chairs to adequately accommodate the class. Plan on installing vises at comfortable intervals around the tables, allowing for at least 30 inches between tiers. One chair per student.

Table(s) must have an edge narrow enough to accommodate vise clamps. Thicker tables can be used if a narrow board is fastened in some fashion to the edge of the table. Be sure to provide for this well in advance of the class.

LESSON 1:

PRELIMINARY SETUP

30 minutes

Arrange for mentor(s) or other educators, assisting the main instructor, to arrive at least a half hour before the program is scheduled to begin. Provide an assistant for every 5 or 6 students. The assistant(s) should assemble and arrange all needed supplies, tables, chairs and other equipment.

Tables and chairs should be arranged to facilitate:

- access to individual students
- ease of getting in and out chairs
- best use of existing light

Assemble the fly tying kits, materials, books, samples of finished flies and copies of the Woolly Bugger recipe.

Tape a white sheet of paper in front of each vise as a background to profile the fly and as an aid to the instructor. If the class will be bringing their own tools the sheets should still be taped to the table at the appropriate intervals.

Be sure that students have a clear view for the initial fly tying demonstration. The instructor's equipment can be set up on a separate table in front of a large class or the opposite side of the table for small groups.

Program Timeline Total: 2 hours

INTRODUCTION

15 minutes

After the group is seated, present the session topic and introduce assistants. Begin the first class with a discussion of fly "recipes" and how they are used. The instructor should give some background to the pattern (in this case the Woolly Bugger), its uses and the specific materials used.

DEMONSTRATION

30 minutes

The instructor should demonstrate the process of tying a fly from start to finish, emphasizing important points along the way. Students will watch the first fly being tied.

Invite participants to come closer to the instructors' vise. Encourage questions. Use a video camera and monitor for very large groups.

Points concerning hooks (including de-barbing), and material choices should be made throughout the fly tying process. Review as needed fly "recipes" and how they are used. If necessary, include a description of fly tying tools and their uses.

Include in the demonstration

- Set-up and assembly of tools
- Parts and adjustment of the vise
- Fly tying hooks: history and parts
- De-barbing and sharpening hooks
- Placement of hook
- Explanation of fly to be tied
- Proper handling of materials
- Placement of material: introduction of tying techniques
- Construction of the fly
- Finishing knot techniques
- Use of head cement

At the conclusion of the demonstration, students return to their seats to tie a fly step by step along with the instructor. Assistants should be ready to help students.

Materials can be assembled ahead of time in packets with enough material for several flies or distributed individually by the assistants.

Fly Tying (Group)

1 hour

Assistants will be constantly monitoring students. In addition, assistants should be aware of the following:

- sharpen hooks *before* placing in vise
- pliers and files available for de-barbing and sharpening of hooks
- place hooks in vise level with the tying table.
- vise adjustment
- assist students in material selection, proper cutting and application
- bobbin threaders handy for broken threads

When doing the finish knots, make sure the student has mastered the knot before cutting the thread. If cement is used it is the last step in production. Be sure top is secured on cement bottle when not in use.

Encourage participants to tie a few more flies of the same pattern. Assistants continue to help wherever possible. Have film canisters available for fly storage if the student does not have a container or fly box.

Clean up should be included as part of the program.

Conclusion: 15 minutes

An explanation of how the fly is fished and a lively discussion of fly fishing techniques is always a nice way to conclude any tying session. Hand outs and other visual aids are helpful.

Discuss local sources of materials, equipment, and books.

Introduction to Fly Fishing

Corresponds to many Sections in “Federation of Fly Fisher’s Instructor Handbook”
and Chapter 4 in “First Cast- Teaching Kids to Fly-Fish”

Refer to text pages 81-96

PREREQUISITE

Knowledge of basic spin fishing and a willingness to learn about fly fishing. Consideration regarding age must be addressed.

OBJECTIVES

Following this lesson students will:

- understand the differences between fly tackle and conventional tackle
- understand how flies can be used on a spinning rod
- understand the concept of a balanced system as it applies to fly tackle
- learn how to test the action of a fly rod
- understand the function and construction of fly rods and reels
- learn the types of fly rods and reels available
- learn how to select appropriate tackle

Site Considerations

Tables and chairs adequate to accommodate the class and sufficient lighting is needed if the class is to be indoors. A long table (6-8') may be needed to display different examples of tackle. AV equipment (DVD/VCR) for presenting videos.

MATERIALS

- a selection of open faced spinning, bait casting and spin casting tackle
- a selection of fly rods (graphite, bamboo, fiberglass and others if available)
- a selection of fly reels (single action, multiplier, anti-reverse, automatic and others if available)
- Necessary Handouts

PRELIMINARY SETUP

10-15 Minutes to set out the different example of gear and to distribute any needed handouts.

Program Timeline: One Hour

INTRODUCTION

10 Minutes

- Explain the difference between fly fishing and spin fishing
- Explain the difference between fly fishing and spin fishing tackle
- Explain the difference between graphite and bamboo rods
- Explain that flies can be used with a spin casting rod using a casting bubble or added weight.

LESSON 1:

Difference between Spin Fishing and Fly Fishing

10 Minutes

Spin fishing is a popular angling method. Most youngsters have some knowledge of the sport. Go over the differences between the types of tackle.

Spin fishing is different from fly fishing in that the **weight of the lure (sinker, etc) is what carries the line out in spin fishing; in fly casting it is the weight of the line that carries the fly to it's intended target.**

Spin fishing equipment can also be used to deliver a fly by fastening the fly to the end of the monofilament and attaching a very small float or a split shot placed a foot or so above the fly.

Students should be introduced to a brief history of fly fishing and tackle evolution. This is a great opportunity to include important events that took place at the same period in history (see pages 44 in *First Cast* and *McClane's Standard Fishing Encyclopedia*- A.J. McClane ed. New York, NY Holt, Rinehart and Winston 1965 for more detail).

LESSON 2:

Fly Tackle Discussion

10 Minutes

Fly fishing differs from all other types of angling in one important aspect: the weight of the line carries the lure (fly) to the fish. To achieve this, the fly outfit must be properly “balanced”. The line, rod and reel must be correctly matched so that they will work together to help make casting effortless and easy.

- Explain what a balanced system is
- Discuss the system that fly tackle manufacturers developed to standardize the weights of fly lines and match them to specially built rods and reels.

Fly Rod Discussion

10 Minutes

- Rod length- choosing proper length for the individual, and for the fish species you target
- Action - flexibility and relative stiffness of the rod and how to determine such features in a rod
- Components - parts that make up the rod; quality of the materials, advantages and disadvantages
- Matching a fly rod to your fishing situation
- Care and maintenance

Fly Reel Discussion

10 Minutes

- common types of reels and how they operate- be sure to include single action, multiplier, anti-reverse and automatic, the advantages and disadvantages of each
- parts and materials that make up the reel- include advantages and disadvantages, merits of extra spools and cassettes
- drag systems- advantages and disadvantages, merits of pawl, disk and turbine drags, how to use a palming rim
- matching the reel to your fishing situation
- care and maintenance

Wrap up

5-10 Minutes

- Allow students to get a close look at the provided examples of tackle
- Answer questions
- Distribute handouts if needed

LESSON 3:

Fly Tackle- the Line, Backing, Leader and Tippet

PREREQUISITE

Unit 4, lesson 1 – Introduction to fly fishing tackle: The fly rod and fly reel

OBJECTIVES

- understand the basics of fly line design
- understand the concept and use of the major fly line tapers
- learn the meaning of tip, taper, belly(head), and running line as the terms apply to fly lines
- understand full sinking/sink tip lines and the concept and use of the major fly line sink rates
- understand the system of fly line weights
- understand the function and construction of fly line backing and leaders
- learn how to choose the proper line, backing and leader system for a variety of fishing conditions
- learn how to properly care for fly line, backing and leaders

Site Considerations

Tables and chairs adequate to accommodate the class and sufficient lighting are needed if the class is to be indoors. A long table (6-8') may be needed to display different examples of tackle. AV equipment (DVD/VCR) for presenting videos.

MATERIALS

- Assortment of floating lines (WF, DT, TT)
- Assortment of sink tip and full sinking lines
- Assortment of backing
- Assortment of tattered leaders
- Assortment of hand ties leaders
- Assortment of tippet
- Handout or poster showing taper profiles
- DVD/VRC if needed

PRELIMINARY SETUP

5 - 10 minutes- Allow time to arrange materials, distribute handouts, set up AV equipment and arrange classroom.

Program Timeline – One Hour

INTRODUCTION

10 Minutes

- Identifying examples of the types, construction material and common fly line designs
- Describing the difference between fly line types, tapers and sink rates
- Describing weighting system of modern fly lines
- Identifying the design, sink rate and weight of a line by interpreting the label (What is a WF6F?)

NOTE:

If the classroom instructor is not competent in fly fishing instruction it may be necessary to enlist the aid of a local fly fisher who is willing and able to work with youngsters. Fly fishers are usually only too happy to share their knowledge and expertise. Local fly shops and FFF volunteers are a good place to start the search for instructional assistance.

LESSON 4: *Fly Lines*

15 Minutes

- Taper-: Fly lines are designed to be tapered over their length; this design has casting and fishing advantages. Sketch exaggerated line profiles on a board, discuss the advantages and disadvantages of each, and show how they apply to fishing conditions. Have students run a line through their hands feeling the change in line diameter from beginning to end.
- Sink rate- fish are found at a variety of depths in the water column. Fly lines are designed to help the angler present the fly to the fish in the most effective manner. Discuss the advantages and disadvantages of each and how they apply to local conditions.
- Discuss how a fly line is built, and the materials used.
- Fly line weight system- how it operates and how to interpret it
use- discuss the choice of a line based on perceived need and care of fly lines

FLY LINE CARE

Care of fly line is always an important consideration. Respect for tackle should be an on going concern. The instructor must make this an integral part of the course that will promote longevity of your tackle.

- Avoid practicing on gravel, concrete, and pavement
- Regularly clean the line
- Remove any casting knots that may occur
- Store at room temperature

BACKING

10 minutes

- Common types of backing- construction and use
- Use- why and how it is used
- How to load it on the reel

LEADERS

10 Minutes

- Common types of leaders- construction and use
- Leader parts and function- butt, mid-section and tippet
- Tips on matching the leader to fishing situation
- Tips on matching leader to different sized flies

TIPPET

10 Minutes

- Common tippet types
- Discussion of the "X" system
- Purpose of tippet
- Matching tippet to fishing situation
- Matching tippet to the size of fly being used

Wrap Up

5-10 Minutes

- Allow students to observe provided examples of backing, leaders, lines, and tippet
- Take questions
- Distribute handouts of necessary

LESSON 5: ***Fly Tackle- Assembling the Outfit***

OBJECTIVES

- Learn proper knot tying procedure
- Learn the proper uses for and tying procedure for the arbor knot, Albright knot, surgeons loop (or improved loop) nail knot, surgeon's knot and loop to loop connection
- Learn proper procedures in assembling fly tackle

Site Considerations

Tables and chairs adequate to accommodate the class and sufficient lighting are needed if the class is to be indoors. A long table (6-8') may be needed to display different examples of tackle. AV equipment (DVD/VCR) for presenting videos.

MATERIALS

A selection of fly rods and reels that are to be assembled (include fly lines, backing, leader material, and tippet)

A few basic tools, in addition to the fly outfits are needed for each pair of students:

- A pencil or two (chopsticks also work well)- to hold the line spools.
- Nail clippers for trimming knots.
- Pliers or hemostats: To grasp tag ends of line while securing knots.
- Knot tying procedure diagrams
- Tie-Fast tool (great for tying the nail knot)

PRELIMINARY SETUP

10 Minutes to set out materials of gear and to distribute any needed handouts

NOTE:

The instructor may wish to use knot tying practice and procedure as a pre-requisite to Lesson 3.

Program Timeline: One Hour

LESSON 6:
Gear Assembly
40 min

- Attach reel to rod using rod but only
- Be sure handle is on the correct side fro correct retrieve
- Install the backing first- arbor knot
- Add appropriate amount of backing
- Attach backing to fly line- Albright knot or nail knot
- Install fly line (be sure to attach the correct end of the fly line to the backing)
- Attach leader to fly line using a nail knot or loop to end of fly line for loop to loop connection
- Attach tippet to leader using double surgeons knot

Wrap up – 10 Minutes

- Distribute handouts
- Disassemble gear
- Questions

Fly Casting

Corresponds to Section 3 of “FFF Instructor Handbook” and
Chapter 5 in “First Cast- Teaching Kids to Fly-Fish”

Refer to text pages 117-149

PREREQUISITE

Knowledge of basic spin fishing and a willingness to learn fly casting. Dedicate one classroom period prior to casting session introducing students to fly tackle, tackle assembly, difference between fly fishing and spin casting, video or DVD of the cast to be covered in the next session.

OBJECTIVE

After this lesson students will understand the difference between fly casting and spin casting, to be able to assemble a fly rod to make ready for casting, to be able to execute a 30' pick up – lay down cast.

Site Considerations

Select a well mown lawn (soccer field, city park, etc) with lots of casting room....be aware of overhead power lines.

Don't use an area covered with black top or dirt for the class.

Repeated casting on this type of surface will damage the lines.

A gym floor is not ideal because of overhead lights, and basketball hoops.

Also, the glossy surface will not properly load the rod.

A gym will work in a pinch during bad weather.

MATERIALS

- 8-9 foot fly rod for a five or six weight line, shorter lighter rods with smaller grips may be necessary for some students)
- hat and safety glasses
- targets and starting lines
- extra leaders
- extra yarn for yarn flies
- leader straightener
- nippers
- first aid kit

PRELIMINARY SETUP

20 minutes (time will vary in regards to volunteer numbers)

Schedule volunteers to arrive and half hour before the session start to review the program and casting field set up. Strive to have a volunteer for every 5 students.

- Depending on time restrictions volunteers can pre-assemble the rods, straighten the leaders, and attach yarn flies
- Set up casting field: Place targets (hoops, cones, etc) 30' from casting position. Align in a straight line with 20 feet between each station.
- For large groups put students in groups of two
- Keep the rods off to the side...do not hand out rods until they are sent to their casting stations

Program Timeline: One hour

INTRODUCTION

10 Minutes

- Assemble the group and introduce the volunteers
- Talk about rules and safety
- Pass out safety glasses
- Explain casting field
- Partner up // assign casting stations

DEMONSTRATION

Pick-Up / Lay Down Cast -10 Minutes

It's a good idea when demonstrating to partner up with a volunteer. This works well because if the kids are paired up (which is often the case with large groups) the instructor can demonstrate the role of the person casting and partner. This is also a good time to stress safety again...the partner who is not casting must stand next to the caster on the non casting side.

GETTING STARTED

Instructor and Volunteer Demo

- Have partner hold onto the yarn fly and walk out, pulling line from the reel as they go, and place the yarn fly in the hoop. Return to the casters non-casting side.
- Discuss grip (thumb on top of grip with reel facing the ground)
- foot position (casting foot slightly behind the non-casting foot)
- rod tip down - it is necessary to form this behavior into a habit for casting as well as line control and presentation; **always start with the rod tip low**

Demonstrate the Cast

- Back cast
- Power application *
- Straight line path (SLP) of the rod tip
- Stopping the rod *
- Pause
- Forward stroke - SLP
- Power application *
- Stopping the rod *
- Lower rod tip for next attempt
- The power application/ abrupt stop sequence of the stroke can be described in many colorful ways:
 - Flicking paint from a paint brush
 - Hammering a nail
 - Throwing a ball
 - Flicking an apple, a potato or ball from the end of a stick or a fork

After demonstrating the correct stroke, show the class what an incorrect stroke looks like:

- Bending the wrist leading to a domed or “wind shield wiper” rod tip path
- Arm held too high
- Arm going up and down
- Too long or short of a pause
- Improper power application
- For each incorrect cast ask students what the casting fault was

STUDENTS CAST

30 Minutes

- Partner up – go to casting station
- Have partner pull out line...place yarn fly in the hoop...walk back and stand next to the caster
- Students cast
- Volunteers circulate to assist students
- Be liberal with praise, and always mention what they are doing correctly when making suggestions that will cure casting faults.

WRAP UP

10 Minutes

- Applaud students for a job well done
- Thank the volunteers
- Take questions
- Disassemble gear

Knot Tying

Corresponds to man Sections in “Federation of Fly Fisher’s Instructor Handbook” and Chapter 6 in “First Cast- Teaching Kids to Fly-Fish”

Refer to text pages 150-172

LESSON 1: ***Knot Tying*** (Section 2 in FFFIH)

OBJECTIVE

- learn the do’s and don’ts of knot tying
- learn how to select and tie appropriate knots
- learn proper knot tying terms including: standing end, tag end, overhand knot
- learn the proper uses for and tying procedure for the improved clinch knot and double surgeon’s knot

Site Considerations

AV equipment (DVD/VCR) for presenting videos. Overhead projector for showing knot diagrams. Tables and chairs adequate to accommodate the class and sufficient lighting are needed if the class is to be indoors.

MATERIALS

For the demonstration:

- a section or two of rope
- a very large hook or hook eye

A few basic tools and materials are needed for each student:

- line clipper (nail clippers work well)- for trimming knots
- fly line / backing scraps
- 10-15 pound test mono (a few feet)
- large hooks (size 1 and larger) with the points removed
- knot illustrations

PRELIMINARY SETUP

5 - 10 minutes

Allow time to arrange materials, distribute handouts, set up AV equipment, and arrange classroom

Program Timeline-One Hour

INTRODUCTION

10 minutes

Why are knots important?

- They are the final link to our terminal tackle
- They are the weakest link in the entire fly fishing system
- Tying good knots is a requirement for fly fishing success
- Tying the correct knot for the angling circumstance is essential
- Fishing knots are designed as they are because they work. Don't try to modify them.
- Knots that are not securely tightened up will slip when pulled on by a fish or a snag and will break or come loose.

Do's and Don'ts of Knot Tying

Do

- Use suggested number of wraps and turns
- Lubricate thoroughly
- Snug up tightly
- Snip tag end closely
- Use a line clipper
- Retie if there is any doubt

Don't

- Use cements or adhesives to try to make the knot stronger
- Use more or fewer wraps than suggested
- Snug up knots without lubrication
- Leave knots loose
- Leave untrimmed ends
- burn tag ends to finish
- improperly tie knots
- use teeth to cut the line

Note:

If the classroom instructor is not competent in fly fishing instruction it may be necessary to enlist the aid of a local fly fisher who is willing and able to work with youngsters. Fly fishers are usually only too happy to share their knowledge and expertise. Local fly shops and FFF volunteers are a good place to start the search for instructional assistance.

ACTIVITY 1: *Improved Clinch Knot*

20 Minutes

- Explain when an improved clinch knot is used
- Demonstrate the knot using a section of thin rope or string easily visible to the students...use an eye bolt to imitate the eye of the hook.
- Hand out knot diagrams
- Students tie knots

ACTIVITY 2: *Double Surgeons Knot*

20 Minutes

- Explain when a double surgeons knot is used
- Demonstrate knot using two different colored pieces of string or backing scraps (this help students see the union of two different pieces of tippet)
- Hand out diagrams
- Students tie knots

Wrap Up

5-10 Minutes

- Take questions
- Distribute additional handouts if necessary
- Clean up

LESSON 2: *Reading the Water*

OBJECTIVE

- Understand where a fish will be located in a body of water, and why (sheltering lies, feeding lies, prime lies)
- Understand that fish have the same basic life requirements as we do (Oxygen, food, shelter, comfort, economy of effort)
- Understand how these elements determine where a fish will take up residence
- Understand the prey and predator relationship
- Understand the structure and movement in water column
- Learn the difference between cold water, salt water and warm water species
- Understand the water temperature preferences for many species of fish
- Understand the components of a stream or lake
- Understand how to safely access and move around a body of water

Site Considerations

Use AV equipment (DVD/VCR) for presenting videos. Use an overhead projector to display examples of different water situations. Tables and chairs adequate to accommodate the class and sufficient lighting are needed if the class is to be indoors. Field trips to local streams, rivers, and lakes are a great supplement to this section. Be sure to scout all prospective areas for hazards before the trip. Be sure to check into liability concerns (permission slips/hold harmless agreements) and special needs of the students (allergies, medical needs, etc). Have the phone numbers of local ambulance, and fire departments in case of emergency. Have extra water and snacks handy. Bring a first aid kit.

MATERIALS

- Video/DVD – Anatomy of a Trout Stream by Rick Hafele. Aquatic Insects by Dave Whitlock.
- list of water temperature preferences for various species

PRELIMINARY SETUP

5 - 10 minutes

Allow time to arrange materials, distribute handouts, set up AV equipment, and arrange classroom

Program Outline: One Hour

INTRODUCTION

Why is being able to read the water an important skill?

10 Minutes

- Fish will be found in places that give them the best chance for survival.
- Anglers should look for **prime lies**. Places where fish have abundant food, shelter from predators and heavy currents, and abundant oxygen. Find these lies and you'll often find fish
- Safety: ability to read water will lessen the chances of fishing injuries

ACTIVITY 1: *Sheltering Lies*

15 Minutes

- Explain sheltering lies
- Where are they found in a river, stream, saltwater, or lake
- When do fish use them
- Cue Hafele DVD to sheltering lie portion

ACTIVITY 2: *Feeding Lies*

15 Minutes

- Explain feeding lies
- Where are they found in a river, stream, saltwater, or lake
- When do fish use them
- Cue Hafele DVD to feeding lie portion

ACTIVITY 3: *Prime Lies*

15 Minutes

- Explain prime lies
- Where are they found in a river, stream, saltwater, or lake
- When do fish use them
- Cue Hafele DVD to prime lie portion

Wrap Up

5-10 Minutes

- Take questions
- Distribute additional handouts if necessary
- Clean up

LESSON 3:

Fly Choice and Presentation

OBJECTIVE

- learn to choose a fly for each individual situation encountered on any body of water
- learn the elements of proper approach, presentation, retrieve and line manipulation
- learn to execute a proper mend and wet fly swing
- execute a dead drift presentation
- learn and execute proper line management

Site Considerations

Tables needed to display different examples of flies.
AV equipment (DVD/VCR) for presenting videos. Tables and chairs adequate to accommodate the class and sufficient lighting are needed if the class is to be indoors.

MATERIALS

- Rick Hafele's DVD Anatomy of a Trout Stream
- Pan fish and Bass: Fly Fishing Basics with Larry Dahlberg
- Assortment of trout flies (dries, nymphs, streamers)
- Assortment of bass flies
- Assortment of panfish flies
- Assortment of saltwater flies
- Assortment of salmon/steelhead flies

PRELIMINARY SETUP

5 - 10 minutes

Allow time to arrange materials, distribute handouts, set up AV equipment, and arrange classroom

Program Timeline: One to Two Hours

INTRODUCTION

10 Minutes

- Importance of matching flies to fishing situation, and target species
- Matching the hatch
- Drifts, swings, and retrieves....making your fly behave like natural food
- Importance of line management

ACTIVITY 1: *Trout Flies*

10 minutes (cue Hafele's DVD to the appropriate section)

- Dry flies
- Wet flies
- Nymphs
- Streamers
- Where and how to fish them

ACTIVITY 2: *Panfish and Bass Flies*

10 minutes

- Poppers
- Streamers
- Terrestrials
- Mice
- Where and how to fish them

ACTIVITY 3: *Saltwater Flies*

10 minutes

- Tarpon flies
- Bonefish flies
- Permit flies
- Striper flies
- Where and how to fish them

ACTIVITY 4: *Salmon / Steelhead Flies*

10 minutes

- Egg imitations
- Streamers
- Nymphs
- Dry flies
- Where and how to fish them

NOTE:

More or less time can be focused on any of the above categories depending on your local fishing situation.

ACTIVITY 5: *Presentation (on water)*

20 minutes

- Line management
- Mending
- Dead drift
- Swings
- Retrieves

WRAP UP-10 minutes

Take questions, Allow students to observe flies, Clean up

Saltwater Fly Fishing

Corresponds to Section 11 in “Federation of Fly Fishers Instructors Handbook” and Chapter 7 in “First Cast- Teaching Kids to Fly-Fish”

Refer to text pages 173-186

LESSON 1:

Introduction to Saltwater Fly Fishing

1 hour

Fly tying, fly casting and related skills have been covered in some detail in Units 2, 3, 4, 5 and 6. These Units should be considered prerequisites for Unit 7 Lesson 1.

A strong foundation should be built in the essential fly fishing activities before beginning saltwater training. Unit 7 focuses on helping students learn the basic skills needed to become a competent saltwater fly fisher.

If this is the first lesson where fishing is to be done it is good to go over the suggestions on pages 82-116 in *First Cast* and FFFIH Section 3 for detailed information on selecting tackle, assembling tackle, choosing other equipment and tackle care (includes tips on how to effectively deal with concerns and procedures on a fishing trip) and pages 210-242 in *First Cast* (Field Trips) and modify them to accommodate the saltwater experience.

LESSON 2:

The Saltwater Environment

1 hour

Differences from Freshwater

The ocean is a rough neighborhood to live in and the fish are well equipped to handle the strong currents, competition for food, and the ever-present threats from a multitude of larger creatures. They are not the placid hatchery fish.

Cover the points that may make freshwater fish and saltwater fish different. Build on this throughout the lesson. Incorporate a discussion of the food web and they differ in fresh and saltwater environments. This will lead to the predators and the various individual species that are to be targeted (see pages 203-207 in *First Cast* and FFFIH Section 11-1 thru 11-15). Discussing the diverse terrains and structures found in a marine environment can reinforce fishing strategies and safety(see pages 196-203 in *First Cast* and FFFIH Section 11-16 thru 11-23). If possible a beach seining, sampling or at least pictures of the marine creatures and habitats go a long way to understanding and add excitement.

Tackle Considerations

Two important determinations must be made before proper tackle is chosen:

- Conditions that will be most often encountered (heavy surf, no surf, shallow flats, deep rips, etc.)
- Species of fish most often encountered

Gathered as much useful information on the area to be fished as possible and use this information to help determine:

- The size and type flies required
- The size and weight outfit needed
- The other equipment needed

The local tackle shop in the area is the best source of useful information. See pages 175-176 in *First Cast* for detailed information.

LESSON 3:

Saltwater Fly Tackle

1 hour

Fly Rod Outfit

The bigger the flies, the more severe the conditions and the larger the fish the need for a heavier the fly outfit. This is a good general guide for beginning a saltwater fly tackle discussion. *See page 176 in First Cast for detailed information.*

Fly outfit weight guidelines:

- 7-8-9 - medium sized and smaller “school” fish, calmer conditions, light surf, smaller (up to 1/0) flies, shallow areas;
- 9-10-11 - larger fish (depending on conditions), windy conditions, heavy current, mostly surf, flies up to 3/0, deep waters;
- 12 and up - big inshore and offshore fish, minimal amount of casting, flies up to 5/0.

Rods

Points to make and discuss about saltwater rods. *See pages 176-177 in First Cast for detailed information:*

- usually a little faster action and stiffer in the butt
- guides are larger and sturdier than those on lighter rods
- fighting butt is attached to the butt end of the rod behind the reel seat
- unplocking reel seat
- all solid corrosion resistant materials

Reels

Points to make and discuss about saltwater reels. *See page 177 in First Cast for detailed information:*

- in most freshwater fly fishing the reel is usually not much more than a line holding device
- in saltwater the quality of the reel is more important
- be sure that it is corrosion resistant
- right line capacity
- good drag system
- good palming rim
- easy to grip handle

Terminal Tackle

Points to make and discuss about fly lines, backing and leaders for saltwater. See pages 177-180 in *First Cast* and *FFFIH* Section 11-23 thru 11-25 for detailed information:

- fly lines should always be weight forward design
- a floating line is the most useful
- an intermediate sinking line is the most versatile
- full-sink lines are useful but difficult to handle and cast
- uses of a shooting head system uses, advantages and disadvantages
- backing on a fly reel plays a much more important role in saltwater than in freshwater
- saltwater leaders are always constructed as simply as possible
- avoid light tippet (under 10 pound test)
- never use tippet testing more than the backing on the reel
- a short “bite tippet” may be attached to the fly if the species sought has sharp teeth

Tackle Care

Points to make and discuss about tackle (see pages 110-117 and 180-181 in *First Cast*):

- do not allow the reel seat, reel and line to come in contact with the beach or any other sand areas
- pay attention to where the rod and reel are being placed
- if the reel contacts the sand, rinse it off immediately using a light stream of fresh water
- be sure to give the entire reel, line and reel seat a thorough cleaning as soon as possible after a fishing trip

Shooting Basket

Points to make and discuss about stripping baskets (see pages 181-182 in *First Cast*):

- The stripping basket is about as important to the saltwater fly fisher as the rod and reel
- The stripping basket has many uses
- Standard serviceable stripping basket can be easily and economically constructed
- Be sure to coil line properly in the bottom of the basket

Other Equipment

Points to make and discuss about additional equipment used by the saltwater fly fisher. See pages 182-183, 210-215, 227-235 in *First Cast* for detailed information:

- outfitting for the saltwater beach or flat
- a small knapsack is useful
- choose equipment that can handle the salt spray; clean and care for tackle regularly
- protection against weather extremes is necessary
- hats and sunglasses are mandatory in all conditions in saltwater
- the wind, big rods, heavy lines and BIG, SHARP hooks can produce a very lethal combination, be sure youngsters are constantly reminded of this fact and dress appropriately to protect themselves

LESSON 3: **Saltwater Flies**

1 hour

Useful Patterns

For specific easy to tie patterns see pages 74-78 in *First Cast*. See FFFIH Section 11-1 thru 11-12 for species-specific flies.

Points to make and discuss about saltwater flies. See pages 183-186 in *First Cast* for detailed information:

- Baitfish in various sizes, shapes and colors make up the major source of food for most saltwater predators, and the relevance of local forage in fly selection
- Three time-tested patterns (Lefty's Deceiver, The Clouser Deep Minnow and the Bendback Streamer) when tied in a variety of sizes, shapes and colors will cover nearly all situations and most species

How to Choose the Right Fly

- Consider these three characteristics when choosing a fly:
 - Size
 - Shape
 - Color

Hooks

- Saltwater flies should be tied on rust resistant stainless steel hooks
- Crush the barbs and sharpen the points before putting them in the vise

Exploring the Aquatic Environment

Corresponds to Sections 4 and 8 in “FFF Instructor Handbook” and
Chapter 9 in “First Cast- Teaching Kids to Fly-Fish”

Refer to text pages 243-260

Content Outline and Procedure- Presentation Method

AQUATIC ENVIRONMENT

- Components
- Testing water samples
- Local influences

After physical features are described, it is important to introduce some of the basic components of the aquatic environment that sustain life (*see pages 161-166 in First Cast*).

Before going to a sampling site discuss the types of aquatic or marine life that you expect to find. This is a good time to introduce several important terms, examples of each and their inter-relations (*see pages 161-166 and 192-203 in First Cast*). Use common local names and terms for each of the examples (e.g.- *cold water species- brown trout, predator and prey- brown trout and mayflies, all stages*):

- Exotic (introduced) species
- Native (indigenous) species
- Cold and warm water species
- Pelagic
- Food web
- Predator and prey
- Stages of aquatic insects
- Nymph
- Emerger
- Adult
- Developmental stages of fish (depending on species)
- Fry
- Fingerling
- Juvenile
- Adult

Be sure to go over in some detail the equipment, methods of collection and handling of organisms (*see pages 247-255 in First Cast*).

SAMPLING AQUATIC HABITATS

- Sampling Equipment
- Sampling Techniques

Have sufficient adult volunteers to manage the group. Aquatic sampling involves exploring the outdoors and venturing to many of the same habitats that will be visited while angling. Always follow strict safety precautions. Review the Safety chapter before going into a field (*see page 210 in First Cast*).

Sampling equipment that may be needed (*see pages 248-250 in First Cast*):

- Insulated waders, boots
- Cotton-canvas garden gloves
- Dry gloves for chilled hands
- Hat, warm socks, thermal underwear
- Polarized glasses.
- Fine mesh dip-nets
- D-net
- Seines
- Minnow traps
- Capture bucket
- Six-pack cooler
- Battery operated bubbler
- White tray
- Hand lens
- Dissecting microscope

Be sure proper permits have been obtained and regulations followed (*see page 250 in First Cast*).

Once on the water body, the methods of investigation should include sampling sections of water that are representative of the environment. This can mean a number of samples from a relatively small area. The group can split into teams. Each team is assigned a section. Chemical and biological sampling can occur during the same session or separately, depending on the structure and time constraints of the group (*see pages 251-255 in First Cast*).

Once you have defined the exploration, assigned the site and handed out equipment, there should be enough time to conduct an investigation. Plan time for:

- Getting to the site
- Gearing up
- Collecting of macro invertebrates
- Identification of items in sample
- Chemical testing (if desired)
- Recording of data.

Sampling techniques (see pages 251-255 in *First Cast*):

- Dip nets: kick-sampling
- Drift nets: extended sampling of an area
- Seines: active sampling
- Minnow traps: passive capture technique
- Water scopes: direct observation

The process can take an hour or more depending on complexity of investigation, but not so long that attention wanes. Follow the sampling with a group “show and tell” and then return the samples to the stream as quickly as possible. Once the entire group has shared information, an assessment of the stream health can be done. This can be as simple as “is there life?”, or a complicated process depending on; the type of tests done, the amount of time you want to spend on the subject, and the audience. Ultimately, the assessment should refer back to how well the water body will support fish and where they might be positioned.

TEACHING ECOLOGICAL CONCEPTS

A day a stream should be a day of exploring, of shaking streamside shrubbery, turning cobbles, listening and watching. Have enough of an idea about what is out there to target teachable moments (see pages 15-18 in *First Cast*). Here are some suggestions for doing this (see pages 256-257 in *First Cast*):

- choose a concept, lesson, exploration you wish to teach
- define the key point or idea that you want to get across
- research the concept so you are somewhat familiar with it
- “ground truth” the site (go to the site and run through the event ahead of time)
- plan the itinerary and equipment needs
- plan to let the youngsters find what you already know about at the site

THE LIFE INVENTORY

Use a life inventory activity to address and teach an ecological concept (see pages 256 -257 in *First Cast*).

The life inventory is a project that will allow youngsters to discover and record how many different types of creatures live within a chosen area (see **III. Aquatic Sampling** above). Proceed by:

- Choosing a healthy stretch of stream
- Looking for a diversity of substrate characteristics, habitat types and creatures
- Ground truthing ahead of time
- Sampling spots offering different current velocities
- Discussing and recording the findings

MONITORING LOCAL WATERS

A variety of projects can be easily done with an interested group of young fly fishers (see pages 257-258 in *First Cast*):

- stream walk - casual method of collecting data
- In-depth biological and chemical monitoring- includes measuring, sampling and recording the findings
- log book- personal way of recording data including; water temperature, bug hatches, wind direction, air temperature, cloud cover and other factors