



LINES AND LEADERS

CFFA

SEPTEMBER 1980

Vol. 7 No. 6

Connecticut Fly Fishermen's Association

Meeting Notice

CFFA's first fall meeting will be held at 7:30 pm, Wednesday, September 10, at the Holiday Inn on Roberts Street in East Hartford.

Mr. Peter Minta, Anadromous Fisheries Biologist with the Connecticut Department of Environmental Protection will present a slide program and discuss the Atlantic Salmon Restoration Program in the Connecticut River system.

The evening should be interesting and informative because of the successful spring run and the completion of work on the Leesville dam. We should also be able to learn more about efforts to establish a Shad run on the Shetucket River system.

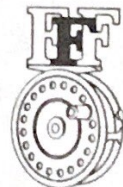
Random Casts

The first meeting of the Eastern Council of CFFA will be held on Wednesday, September 24, at the Mansfield Middle School, Spring Hill Rd., Mansfield, CT. Meetings will be held on the fourth Wednesday of each month from September through April.

The club is in need of volunteers who will be willing to demonstrate their fly tying skills for members and guests prior to monthly meetings. A sign up sheet will be available at the September CFFA meeting.

Lines and Leaders is in need of stories, articles, fly patterns or anything else of interest to the members for future editions. Please forward all materials to the editors: Ed Fidrych, Box 145, Glastonbury Rd., Portland, CT 06480 or Larry Johnson, 60 Willard St., Hartford, CT 06105.

'An active member club of the Federation of Fly Fishermen'



THE CORNER POOL

Ed Fidrych

Larry Johnson

Welcome back to our regular schedule of CFFA activities. Once again we would like to call your attention to the success of a CFFA member. The fall issue of FLY TYER features an article about Ken Thompson's deadly FOAM BEETLE. Ken sent samples and instructions to CFFA member and author Gary LaFontaine in Montana. When Gary tried the pattern he was so impressed that he sent the information to the editors of FLY TYER. Congratulations Ken!

Leo and Mark Leggitt have decided to take a sabbatical this year and will not be writing their monthly column, "Under the Tyer's Lamp." Their articles have been a mainstay of Lines and Leaders for the past three years, and we want to take this opportunity to thank them on behalf of the entire membership for their contributions to the newsletter and to CFFA. We hope that they will resume their articles in the future.

We also hope that those of you who have always intended to write something for the newsletter, but have never quite gotten around to it, will get their pens and typewriters in motion. Many CFFA members have indicated a desire for a larger newsletter, but this will not happen unless all of you start to work right now!

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THE STREAM SCENE

by Ken Thompson

This is the first of what I hope will be a running column on stream ecology and entomology. I'm sure most of you will agree that since a vast majority of a trout's diet consists of insects it follows that a knowledge of some basic entomology can pay off. The "pay off" is not simply more fish caught, but can also be a better understanding of the structure and function of the stream environment we have grown to love. Perhaps the main purpose for this column is to provide you with this background information, to make you more aware of what makes a river tick.

To date, much of this material comes from scientific journals and texts. Many people do not have access to, nor desire to wade through this sea of information. Bits and pieces can be found in some angling texts, but most folks I know that own books of this type, rarely read them anyway. Hopefully, these articles will be informative and easy to understand. I can't promise to avoid all Latin words however, since sometimes this is unavoidable when referring to a particular species of insect. Many different species of insects have the same "common name", but there is only one Latin name for each species. It's less confusing if I refer to it by its correct scientific name.

Now that the preliminary stuff is out of the way we can get down to business. This first article will introduce you to stream ecology. The word ecology comes from the Latin word "oikos" which means "home". The "ology" part of it means "study of". Therefore, we are going to study homes or to use another word, environments.

Groups of individuals of the same type (plant or animal) are referred to in ecology as populations. Populations of many different types of plants and animals form communities. When we then concern ourselves with the non - living factors, (i.e., temperature, humidity, chemical elements etc.) and interrelate with the community, we are looking at an "ecosystem". The reason I brought this up, is that in order to gain full appreciation of a stream ecosystem, (or a forest, lake, desert, ocean, or tundra for that matter) we have to look at the entire system. You might have heard that "no man is an island"; well, in nature no individual or group of individuals can stand alone. Everything and everybody has some impact on the whole system. Millions of years of evolution have fine - tuned the system to work with incredible precision. It is a delicate balance, and one monkey wrench thrown into it at any level, can disrupt the function of the entire system. Please remember this, for it pertains to any and all life on this planet.

In the same way our automobiles need energy to run, the ecosystem requires energy also. All the energy used in the ecosystem comes originally from the sun. Without the sun there would be no life. The energy arrives on earth as invisible rays, or wavelengths of light. Green plants are able to utilize certain wavelengths of this solar energy to run the chemical reactions necessary to produce their own food and plant tissue. Through their roots the plants take up water and inorganic (not of biological origin) chemicals; the building blocks also needed for their growth.

From the air they take up carbon dioxide and using the sun's energy, chemically combine it with water to produce their food. So the plants have collected solar energy and chemical elements, and have transformed these into living tissue. It is important to note that not all of the energy collected by the plants was transformed. Much, (60-90%) was lost as heat, because, just like us, plants must respire, reproduce etc., and all this uses energy too. Therefore we see from 10-40% of the original energy collected actually available for the next food or " trophic " level. This next level, the things that feed directly on plants are called the herbivores. Herbivores are responsible for transforming the plant tissue (energy) into animal tissue (energy).

Notice that the word energy keeps cropping up. This is the key word and the most important concept to understand when trying to learn about structure and function of ecosystems. What we are looking at is energy flow through the system. This is the common denominator. Now back to business, hope I haven't lost anybody yet.

We all know that cows eat grass. I would rather get my energy from a hamburger than from eating my lawn. The cow therefore, performs a needed role in the environment by transforming plant tissue into animal tissue. Without herbivores a lot of carnivores (meat eaters) would be in trouble. Remember that just as in the case of plants much energy is lost by herbivores due to body maintenance and is therefore not available to the carnivore population as food. The carnivores represent the top level in this so called "food chain". They get their energy by eating herbivores and other carnivores. Because only a fraction of energy becomes available to the next food level within the food chain, the effect is compounded and as a result there are usually no more than five links in the chain. An example in a stream context might be; plant - mayfly - stonefly - trout - man.

There is another very important part of the food chain which past ecologists have given second billing. This part consists of the decomposers (also called micro-consumers). Decomposers (e.g. bacteria, fungi) feed on dead organic matter. Plants and animals at all levels of the food chain eventually die and become prey to this group. The decomposers regain some of the energy left in dead material, and also perform the vital task of breaking down their organic food back into its inorganic chemical components. These inorganic components are then available to the plants and can therefore be recycled through the food chain again.

The above is a simplified explanation of what goes on in all ecosystems. Now let's get a closer look at what happens in the stream. Although streams do contain some green plants, such as algae, these plants do not usually produce enough food to fuel the entire system. Therefore streams for the most part are dependent upon an external energy source. This source is the forest within the watershed. These plants trap

nutrients and solar energy, and in the autumn, their leaves either fall on the ground or enter the stream directly. Those that drop in the water are immediately attacked by the bacteria and fungi that live there. These dead leaves as well as sticks, bark etc., and their associated bacteria and fungi are collectively referred to as "detritus". Detritus is the fuel which the river food chain runs on. Even the leaves and other plant material that fall on land leach dissolved organic food into the river. This happens directly as storm run-off or indirectly via the water table. You should see that autumn is a very important time for the river community. It is the time of the year when the river's food supply is replenished.

Many aquatic insects feed on detritus. The plant material portion is difficult for insects to digest and by itself represents a low yield energy source. It is the easily digested bacteria and fungi (and to some extent microscopic algae called diatoms) associated with the decaying plants that provide the insects most of their energy. This is a most important point. When an insect consumes detritus, it is doing so primarily to eat the bacteria and fungi which have colonized it.

The insects also perform an important task by breaking down or shredding large particles of detritus into much smaller particles as they ingest it. High energy bacteria and fungi are stripped off whereas the plant material passes through relatively untouched. These chewed up particles with their increased surface area are quickly recolonized by the micro-organisms and are again available as high energy food to small particle feeders. There are a host of fine particle feeders that depend on the shredders to break up their food for them. Many of these spin nets to trap this material as it floats downstream, (e.g. Hydropsyche and Philopotamid caddis and black fly larvae).

Once these " detritivores " have transformed this energy into their bodies, it becomes available to the carnivore level. These include, among others, many stonefly and caddis species which feed on insects. The energy has been passed on to them. Many fish, among them trout, feed on these insects (detritivores and carnivores), and therefore receive their energy by doing so. Then we come along, (or a mink or otter or something) eat the fish, and as a result receive the fuel needed for our growth and maintenance. So you see when we eat a trout (I hope not too many!), we are actually getting energy that can be traced originally back to the sun. This is the reason why man cannot divorce himself from the environment. We are very much a part of it, no lesser or greater than any other part. Everything must work together in order for the system to function properly. I will leave now with that thought.

Next time, I'll begin a series of entomology articles, beginning with basic insect information. It is important to understand these basics in order to fully appreciate the finer details coming up in the

future. Don't be afraid to re-read these general articles until the information is understood.

As a part of this column, I would also like to start a question and answer section. If you have any questions about the material in this or future articles or anything else pertaining to fishing, stream ecology, or streams, please send them to me and I'll attempt an answer.

Editors Note: Questions may be sent to Ken Thompson RR # 1 Box 90
Ashford, Ct. 06278 or to either of the newsletter
editors and we will see that they are forwarded to Ken.

Fly-Line Storage Reel

by Robert Lester

A fly-line storage reel can be easily constructed in a couple of hours from common items found in ones workshop. The attached diagram outlines the one that I built for myself a couple of years ago.

The diagram is divided into two sections. The upper section is the assembly drawing showing the "storage reel" and the "stand." The lower section shows the individual parts with all the critical dimensions. The size of the storage reel is entirely arbitrary so don't be afraid to change the dimensions. The only major requirement is that when the unit is assembled, the "reel" fits freely into and turns in the stand.

A C-clamp is used to secure the stand to a table when the fly line is being transferred to the storage reel. In the fall or early winter I transfer my fly lines onto the storage reel and leave them there until spring. The reel can be removed from the stand and placed in a drawer or cabinet for the winter.

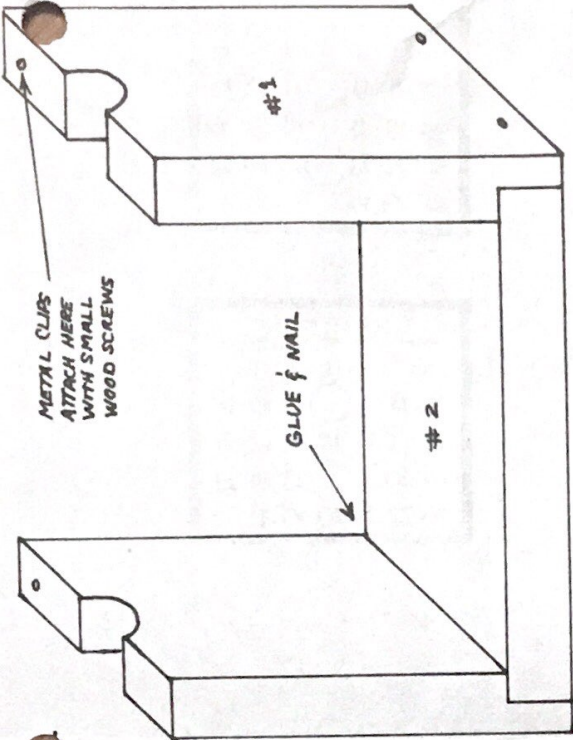
I hope that I have provided all the necessary dimensions. If something has been overlooked use your imagination or give me a call.

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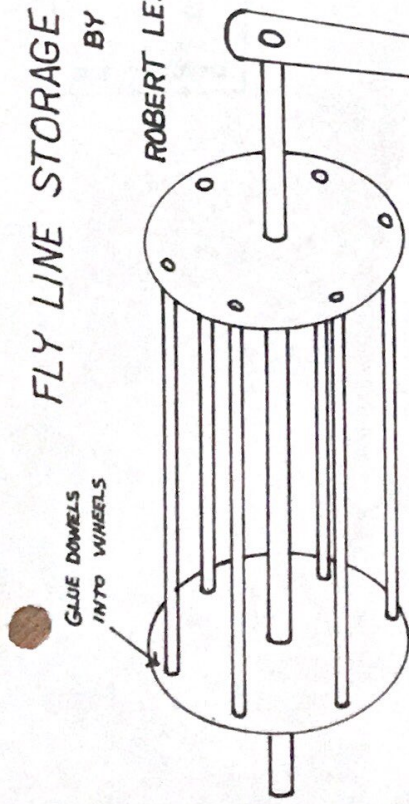
FLY LINE STORAGE REEL

BY

ROBERT LESTER

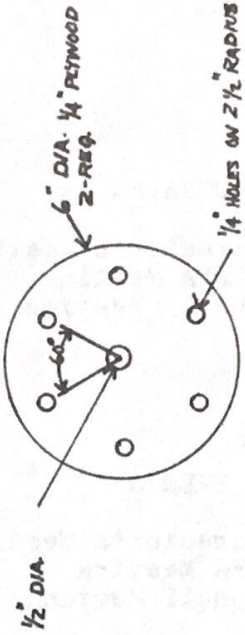


STAND



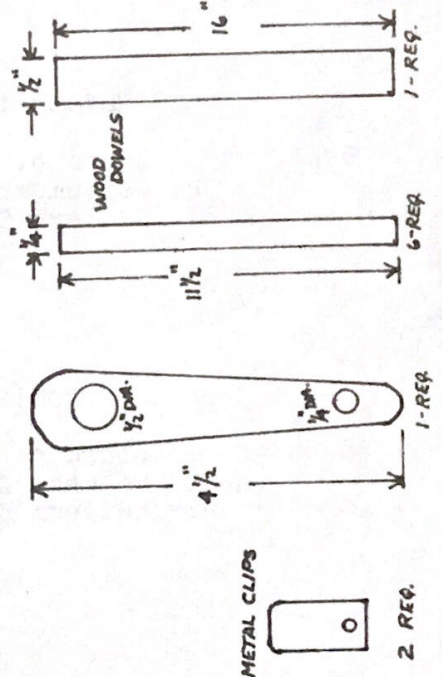
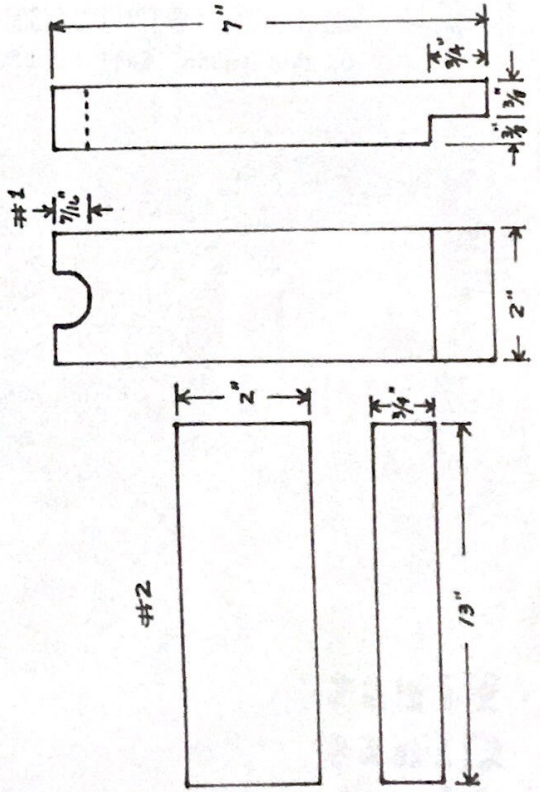
REEL

SECURE #1-20
MACH. SCREW WITH
NUTS & WASHERS
ON BOTH SIDES
OF HANDLE



1/2" DIA.

NOT TO SCALE



SEPTEMBER 1980 CALENDAR

Sept. 3 Board of Director's Meeting
10 September CFFA Meeting
24 Eastern Council Meeting

SEPTEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

COMING EVENTS

October 1 Board of Director's Meeting
8 October CFFA Meeting
22 Eastern Council Meeting

OCTOBER						
SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



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