November 14, 1992 Mr. Paul Schullery Division of Research Box 168 Yellowstone Park, Wyo. 82190 Dear Paul: Thanks for the paper on the Firehole, which is full of good information. If you should also learn the date of the chlorine spill, I'd be grateful for it. Scotty was deeply impressed by all the big trout he found dead. My personal guess is that the fish-&-insect kill did set fishing back for a while, and that increased fishing pressure then masked the recovery. I fished the river heavily for a few years in the '60s, caught lots of trout (mostly browns), and saw few over a pound in weight -- none over 15". By comparison to the '40s, this was of course a major change, but one that could be explained by fishing pressure. People actually ate Firehole trout in those days. Hard to believe, if you've ever tasted one. Scotty will greatly appreciate getting the copy of his diary and says that it will furnish the date of the fish-kill. Thanks also for the research papers on wolves and the northern range. The first impresses me as conclusive. What a shame that the original wolves were exterminated! By now they would know the Park's boundaries as well as the elk, perhaps minimizing problems for the ranchers. The paper on the northern range, alas, raises problems that I'll note on a separate page. Let's go fishing. Yours,

Comments on 4/92 Report on Yellowstone Northern Range 1. p.13: "...ungulate grazers ... facilitate and enhance plant growth.... " And p. 21: "The grassland studies cited above indicate that the range is not overgrazed." This looks like circular reasoning. (Some plants thrive on grazing; those grasses become "range" to persons interested in ungulates; ergo, grazing is good for range.) But grazing has certainly not enhanced the growth of aspens and willows. 2. "Willows and Aspen" section, beginning p. 15, strains to reach conclusions that will not bear scrutiny. a. Climate change: Willows and aspens are doing fine outside the Park, at similar elevations, where they have been protected from grazing. b. Paper refers to "a shorter form" -- meaning, from my limited observation, a shoot that pushes up in warm weather and gets eaten to the ground in winter. (No wonder they're short.) c. "... have not changed appreciably since 1959...." Ask the beavers and ruffed grouse, which I saw frequently in 1959. Maybe they are still around, but I have not seen them. They depend on willows and aspens.

10/21/92

Datus:

I've asked around a little about the changes in the Firehole. So far we seem to have at least these possible factors. I imagine all of them had or might have had something to do with it.

- 1. Scotty's chlorine spill. This certainly would have been a hit; whether it would have caused the river to recover in a different ecological state than prior to the spill is something that aquatic biologists might have interesting things to say about. As you observe, the Firehole is unique, not like a typical stream, and might have segments unusally affected by a spill.
- 2. The earthquake. This is the great culprit in the minds of locals, of course, because it supposedly caused the river to heat up and may have changed the chemistry.
- 3. Stocking was ceased in the 1950s. The locals mostly ignore this. It simply had to change things, not necessarily because bigger fish were stocked, but because the species would sort themselves out and reapportion the habitat, with all sorts of effects on age-class distribution and habitat use, which I imagine could result in smaller fish. I assume that what Dick Vincent found in his study of the effects of stocked fish on native fish in the Madison would have some relevance here.
- 4. As an effect of #3, one person has proposed the possibility (not even a hypothesis, just a thought) that the fish being stocked prior to 1960 were of course hatchery trout that were bred for fast growth to large size. The native fish in the Firehole are relatively short-lived, and will perhaps simply not grow to as large a size.
- 5. To some extent or other, it may be that the changes aren't as severe as people think. I know that when they electroshocked Sentinel Creek recently (after the fish had left the main stream to move to the cooler tributaries), they found a lot of big trout. The fish may be getting harder to catch, or may be leaving the river at different times than they used to.

Of course most people prefer simple answers (sort of like with the aspen and the elk, I guess), but everything I've learned about ecology in the last 20 years makes me suspicious of simple answers. I assume that changes have occurred. In a stream as geothermally influenced as the Firehole, I'd be surprised if they hadn't. I also assume that a lot of factors had to do with it. Scotty's theory may be the best one. I don't know.

So far all I've found out about the chlorine spill is that other people have heard about it. I have a call in to our historian, who would have the records of it in the archives, assuming there were records (I assume there were), and assuming some subdistrict ranger didn't toss them out on a slow day.

Faul

liece n (>3c (al) flator Shits 1-212-779-5289 - Do es flahlance or portra: + / Straight forus a s. -3+0 Protos acaptable? - Ray Perjavan ayle. Mention ontloor Life? - Staty critice of RB. Montion? Matin Mit like Baileyi Scrot. Don't supposit. We floshbacks - Text blocks. Different type force? It scrapfor artist - New? 012? Use R3 name 12/2 outloor 1:1.

OL april '39, p.74. Outile Dypictue of Soff. "S with is a Yellowstone Park Rouge and an artist with the fy rod, making a cent Shich course the fig to post in a natural manner vitront drug." Fish I WRay Pergunan from Donk 40/41 for west 11-years. End of for fishing t may by hatches come in (47/4 8?) Then swinning pool wer cleaned with some chalring compand (parchlaine?) in er ourin stayt. Di f. Ch k:11 - + some may the never reterme 2. See In Montine and cla SA annual '12. First on Stalking from Sanks. Show a much betten Non Johing from wid-stream. First trip for FI. Collin to rellowatore took 9 hora in '27 ober our poses rook. Had to wait out wyo. wind that below the wall T till he had to trove in 12ho. wind gea. Next year he cut the top of the model T +

Visite 2 rellorsstone first 1927, + I was a fishing must the "Fishes it I almost the Land I. No trils Olong nisen. moder Told. Took 10 dag from Ft colling a good sind From rood. There were few by Ly Lohemen. a few fellows called thousaldes repueble dishere. Startes to become popular in late 30's. Recome a stangen june 1930. Fished Firehole a Dt-hill he entered du army in '45. Dag years Dondard fishing. Fisher of ordered man. See first afield fishing and 1942. antick by D.m., portu y osc O.L: Le May 39. a tiele by Ray Bey ma p. 28. Picture of Swith on Frebelo. "... more of p.justo fish to the mile than I've see in any other stream."

Bargura en chap war

4/39 - "an antist with the fly 102"

"ness a seen anyone" (so good at asoiding trag).

1, 3/38 - "Scoty war of fisherman The could make

a dry fly do tricks."

Marting '42 - "Scotty trefums his for to

The water"

Scothy Story (Chapman) - Keeps trout a he get han No hat - 1: Rp: n: (+ one of
the 1st catch -+ release augles. Fee old Story) - Park "Stage mit set" for wolver yet. Need soul - Fires would have burned Sholo good in (?) years es er Shen attempt made to put all fire out.

October 22, 1992

Datus:

I've done some more looking, and here is some more information on the Firehole, though not what you need most yet.

As it turns out there has been a lot of research on the Firehole in the last 40 years. Charlie Brooks and who knows who all else more or less missed it all, but starting in the early 1950s all sorts of chemical and invertebrate work was done. In fact, some of the invertebrate surveys were redone in the 1970s or later, and showed no real changes in the species of insects since the 1950s. This stuff has appeared in a number of scientific journals, and as you know most of the popular writers don't even look for that stuff.

None of the biologists here know why a chlorine spill would be able to permanently change the population of a stream; a couple of them have actually watched streams get completely poisoned out and come back just the same. The only difference with the Firehole is, of course, that it is different... But even there, a good stretch of the thermally altered Firehole is upstream from where the chlorine would have come in, and so it should have restocked itself with the native invertebrates that were unaffected by the poisoning. So what happened to the Brown Drakes, then?

Anyway, the Aquatic Library, in the U.S. Fish and Wildlife Service office here at Mammoth, has a really fine collection of the material on the Firehole and on all other research on park fisheries. It's in the U.S. Fish and Wildlife Service Office, all indexed and nicely organized on shelves. They are on the third floor of the administration building. I don't have time to go through it all right now (though that would be great fun), but you could certainly talk to them and come up and look through it sometime. Talk to Lynn Kaeding or Ron Jones.

Lynn has done a lot of the research on the Firehole, including some really neat stuff about the tolerances of the fish for warm water and on the changes in the fish population after stocking stopped in 1955.

By the way, research on the Firehole continues, funded partly by federal global change funds. It is a whole world of ecological knowledge that is more or less bypassed by most people, who of course have no way of knowing to look at the technical literature on the park.

I'm still checking on the chlorine spill. Everyone has heard of it, but I haven't reached the historian yet, who would have the best chance of finding any administrative records.

I also discovered that after I made a copy of Scotty's diary for the Museum, I sent a copy to the park, and it (a photocopy), along with Scotty's original cover for the diary, are also in the Aquatic



Library. This makes me all the more sure that I either 1) offered a copy to Scotty and he said no thanks, or 2) sent him a copy (or the original). But that doesn't matter. If he can't find it, he should be given another, and I will call Alanna at the Museum and work on it.

I'll let you know if something turns up about the chlorine spill. Sincerely,

Faul

. - . . .

June 10, 1986 Paul Schullery 414 West Chinook Street Livingston, Montana 59047 1-406-222-2541 Datus Proper 1914 North Johnson Street Arlington, Virginia 22207 Dear Datus: As you know I'm a big fan of your book and really don't have any serious criticisms of it. I have gone through it and will offer these comments though I don't know that any of them can be incorporated in corrections. They are more a part of our continuing conversation, but this is at least an excuse to put them down on paper and send them now. page 17 - a terminology problem occurs here. It may be my problem rather than yours. I discuss a few terminology problems in my fishing history, not using any examples, and this is one of them. I agree with Austin Hogan (us agreeing is something to begin with!) that a streamer is a streamer, not a streamer fly. We call a nymph a nymph, not a nymph fly. If "dry" wasn't an adjective (if for example we had originally named floating flies frobishes) we would probably not say dry fly (or frobish fly). We do often just say dry (as we would say frobish). By offering this I am not intending to suggest that streamers are or are not flies. I only mean that whatever they are they are sufficiently described by the word streamer, as "nymph" sufficiently describes nymphs. I should write a long essay on this someday, exploring how we got this way. I could call it the etymology of entomology. page 41 - I think that the first complete paragraph, first sentences, overstates how much Ronalds accomplished. I know I haven't fished over there, and haven't kept up on the entomology of the British Isles, but it seems to me that the important modern entomological studies of that place have all been written since Ronalds. He did the important thing by outlining a fundamental structure, but I don't know that he "largely sorted out" and you seem to disagree with yourself in the third sentence when you say that Harris did it. page 48 - Among the things we don't seem to know about is how trout perceive current. Does it matter, at all, to a trout whether a nymph (let's say for argument's sake that it is a good attempt at imitation of prevalent naturals) is going directly with, or across, the current? What do we really know about drag? In dry flies, are we sure that it is the cross-current direction that spooks the fish, or is it more likely that the disruption of the surface caused by the wake of the dragging fly that does it? With a nymph, or a downstream wet fly, there is no

wake that we know of (perhaps the trout can sense one). I guess my question is one of those like "What does the trout make of a leader?" If a trout takes naturals that are moving up and down through the current, and sometimes moving sideways as well (like the strong swimmers you describe), how much significance will the fish attach to a swinging artificial's motion? I sure don't know, but I wonder if it is as much a problem with sunk flies as it is with dry flies.

page 49 - for similar reasons I also wonder about your intriguing statement that fish on the bottom are less selective. There is a common thread among writers on nymph fishing - not all but many - that nymph fishing in general requires fewer patterns. I know this can be a semantic mess, but I wonder if trout are less selective to nymphs than to dries when so many writers have also said that you only need a few patterns in various sizes to catch most fish that can be caught on dries.

page 179 - There is a confusion of terminology, not here as much as most places, in skater and spider. If you have Ernie Schwiebert's Trout you might check to see the distinction he tries to make. It is a confusing pair of terms, and Hewitt used them, at least at times, interchangeably. My first record of the spiders is 1936, when they appeared in a little catalog Hewitt put out. I gather that some people make a distinction: the skater is thin, what Vince described, with a sharp "edge" to the hackle that is only one row of hackle points wide. The skater is more like a variant tie of a palmered dry fly. I shy away from this confusion in my history. It needs a good deal of space with historical development. As far as what you say here, you might consider changing the date to 1936, but it is true, as far as I can tell, that he didn't write about it in a magazine until 1937. There is that 1936 catalog.

page 221 - It seems to me that Theodore Gordon changed his mind and decided that the Royal Coachman imitated something, or that he started out believing that it did and then changed his mind. I just spent half an hour or so going through my copy of his "book" but I could not find anything. My index, which I made up while reading, is not especially complete.

page 208 - I'm not sure what a traditional Adams-type fly is. I don't know if you mean the standard modern dry fly design, or something else. The modern Adams, in many places, is tied more or less like any other standard dry fly - a Light Cahill, a Red Quill, and Adams, all with the same body size, hackle density, proportions, and everything. The original Adams (this is the traditional Adams, I think we should say) was a large, bushy, sloppy fly, overhackled and overtailed, and still appears in some fly shops (Sig Barnes in West Yellowstone used to tie it this way, and I think some of the western shops are likely to have it tied this way, though probably fewer all the time as they are owned by younger and younger people more likely to be loyal to more modern design styles. Anyway, there is something wrong with referring to the "traditional Adams-type" of fly. I think there must be a better term, but what it is?

marke and ano while

Mot Goog.

Darke Thus.

intropologo.

I don't think any of those are real complaints or require changing, and my only real criticism of the book is not going to be the kind you can do anything about. Like many books, the illustrations are idealized and sometimes confusing. The drawings show what must be about 8x-light hooks, and flies dressed extremely lightly. Compare the drawing of a fly with the corresponding fly as shown in the photographs. They are like different things. The Hard-to-believe stonefly is a good example. Bill Elliot dresses his drawings like a Catskill artist should. The Coch-y-Bondhu beetle in the drawing on page 225 is different in proportions and shape from the photograph. The hackle in the photograph is much longer than the hackle in the drawing. Both the drawings and the photographs are nice but they conflict.

That is all I have. Most of it, probably all of it, is not really criticism that can be "corrected" in the printing. Most of it is just talk. It is one of my favorite books, one I find myself browsing through as I do through a few more such as Vince's and the books of Skues and Gordon. I am pleased that Nick is reprinting it.

Let me know when you are here. Caught a few on the Firehole last week on nymphs and streamers.

Sincerely,

Paul Schullery

Will enclose some dage slides of Vinese M. Me are scattum chy you don't heed. (an make originals available but would prefer to do so only when a tank needed. (Have had a ditor lose prefer to do so only when a tank needed. (Have had a ditor lose them.) Don't lenn it amy of these are good enough.

Dear Paul,

Thanks for your letter of June 10. I'll give you some reactions, which may be helpful in your own history project.

Streamers: much better with the "fly" deleted, as long as the context makes clear what we're talking about. Strictly speaking, they aren't flies but feather minnows, of course. Which reminds me: the worst etymological horror in current usage is "caddis" for the adult fly. Caddis means case, not to put too fine a point on it.Calling a caddis-fly a caddis is about like calling a stonefly a stone. I like sedge for the adult fly. Shorter and more descriptive.

Ronalds: I've made some changes for clarity. He's awfully good, though. Really did have the mayflies largely sorted out but didn't give the readers enough help in identifying them, which is where Harris came in. Ronalds was more complete, I suppose, than any angling entomology we have for the U.S. in 1986 -- which just goes to show how much bigger our problem is.

Drag: I guess we don't know quite why it bothers the trout, but we know it does bother them (with floating flies at least). I'm impressed with the ability of the little brookies in Shenandoah Park to detect the faintest drag -- even when there is nothing approaching a wake. But that's only when fishing dry. Trout are much less fussy about dragging nymphs. (I'm not clear here if you were suggesting a change to my p. 48).

Nymphs & Selectivity: maybe the previous paragraph handles this. Could go into this at length and will sometime. The behavior of the fly just doesn't seem to be as much of a problem when there's no surface tension. And behavior is the most important thing in selectivity.

skaters & spiders: which term did Hewitt use in that 1936 catalog? I suppose the distinction between skaters and spider didn't emerge till later, but is pretty clear by now

Ants: I don't know where I got the reference to Teheodore Gordon and the ant. Wish I'd kept footnotes, as I started out to do, but the advice I got (probably sound) is that footnotes would turn off too many readers. Suppose TG noticed that English ants of the period looked like the Royal Coachman - which struck me too.

Adams: agree that it's no longer a type of fly, though it may have been once. I've changed the reference.

Photos and drawings: would you believe that my illustrator made his drawings from the same real flies that appeared in the color illustrations? This is why I argued hard with the editor for both photos and drawings. They convey different information (& he agreed when he saw both). Impossible to reconcile them. In the photo, my beetle has a hackle that is too long.

Thanks again. See you sometime August 6-25.

a few of servations-Markyful About ???? words Datus C. Proper 1085 Hamilton Road Belgrade. MT 59714 (406) 388-3345 (For March issue HAPPY BIRTHDAY, NYMPH Once upon a time Americans read a fishing story and believed every bit of it. Mind you, the author was Edward R. Hewitt -- the heroic trout-fisherman of his time, a man of wealth and talent who had made angling his life's work. Hewitt's article was published exactly fifty-seven years ago, in the Field & Stream of March, 1933. It gave us what we wanted to know about fishing nymphs. The timing was perfect. By 1933, American anglers in significant numbers had figured out what to do with the dry fly and the brown trout, both of which had been imported from England late in the nineteenth century. The new fly and new trout had starte added up to a revolution (and revolutions in fishing do not redin wine happen very often). Then, starting in about 1910, our

grandfathers had read about the scandalous success in England of another new kind of fly. It was a wet fly, this time -- the nymph. A gentleman by the name of G.E.M. Skues had developed it. Naturally Americans wanted to get in on the fun. Hewitt went to England, fished with Skues, and came back to teach us. Hewitt was not the only American to make that pilgrimage, but he was the one with influence.

Mr. Hewitt may not yet have been confident of his knowledge on nymphs, however. His 1933 article started out to be on midges. He had some original, accurate things to say about those little insects. Then he got around to nymphs. On this second topic, he was again original -- but shaky on facts. There is some evidence that he did not understand what a nymph is. More on that later.

Hewitt promptly learned what his readers wanted. In June, just three months later, he did a follow-up story -- entirely about nymphs. He explained that he had "received several hundred letters" asking for more information. Even today, with far more fly fishermen in America, it is difficult to imagine hundreds of letters in response to one how-to-do-it article. (A reader wrote to me once. He wanted clear directions to my favorite brook-trout stream.)

The demand must have continued, because Hewitt turned the two Field & Stream articles into a booklet in 1934, and then into at least one book, in 1950. I bought the book a few years later,

You mght also mention that the the start to,

Great

became one of Hewitt's fans, and remain one today. He built a fly-fishing myth more successfully than anyone will ever do it again. Nothing else as important as the nymph is out there waiting to be discovered.

(Illustration idea: is there a file-photo of Hewitt?)

Most Americans still believe in Hewitt. Since 1933 we have been getting his ideas either first- or second-hand, from other writers and anglers dazzled by his mixture of novelty, fact, and fantasy. I will wager that, unless you are very new to fly fishing, you have been exposed to these notions:

- 1. A stream survey found that "Over 80% of the trout food consisted of nymphs."
- 2. It follows that nymph imitations are "far more more effective than any dry fly most of the time ..." A nymph expert "could actually catch most of the trout out of a stream in going over it a few times."
- 3. But nymph-fishing is "vastly more skilful [sic] ... than any dry-fly fishing."

Pronouncements 2 and 3 are excesses of enthusiasm, easy to forgive. I can relate to a man who gets that worked up about his fishing. Besides, nymph-fishing must indeed have seemed tricky before Americans learned how to do it -- and wildly effective for trout that had never been exposed to it.

The first statement, about trout eating 80% nymphs, is a major blunder. It appears in the 1934 booklet and the subsequent book. The original Field & Stream article had a different version: "over 80% of the trout's diet consists of underwater forms." That could be accurate, assuming that the researchers measured the diet over the entire year, including the months when nobody was fishing. [Cite Needham research] But there is a big difference between 80% "underwater forms" and 80% "nymphs." A nymph is the immature form of specific insects, only two orders of which are important for stream-fishermen: mayflies and stoneflies. Add one other order -- dragonflies and damselflies -for still waters. Other "underwater forms" are not nymphs. Caddisflies do not go through a nymphal stage. Neither do midges (chironomids), alder flies, water bugs, worms, cress bugs, scuds, crayfish, snails, and a lot of other things that trout eat below the surface.

It is hard to understand how Hewitt took a plausible statement from the magazine article (80% underwater forms) and converted it to a whopper (80% nymphs). Maybe the author always had his facts wrong and a sharp-eyed editor corrected the magazine version. Anyhow, the error caught on. Today, if you want an imitation of any underwater life except a fish, you will probably find it sold as a nymph. Mr. Hewitt started more than he knew. Before him, artificial nymphs were considered wet flies. A

few decades later, the few traditional wet flies that are still sold are likely to be on the page of the catlog labeled "nymphs."

Since 1933, each of the nymphal fantasies has been repeated endlessly (though usually without attribution). The "80%" error, being precise, is the one that led me to Hewitt as the creator of our myth. When an accurate observation is repeated, you might guess that different people have discovered the same truths. When you read, year after year, that 80% of the trout's food is nymphs, you have to suspect a single convincing mistake.

Why bother with the history? Well, nymphs do have a people-problem. Fly shops still sell far fewer of them than of dry flies. If there is such a thing as a typical fly-fishing beginner, he -- or frequently she -- loves to fish with a dry fly but is not sure about the nymph. The problem could be its overheated sales job. Anglers do not know just what a nymph is or what it is supposed to do. At the same time, it is said to be incredibly effective for experts. "Incredibly" is, I guess, an accurate adverb.

Several hundred readers will either refrain from sending letters or tell me that I have spoiled a good party. In desperation, therefore, I will leave you with three methods that show where nymph-fishing is in 1990. These may or may not be nymph-fishing in any sense that Hewitt (let alone Skues) would want to recognize. At least they are underwater methods. They use

Proper

fly rods, lines, and leaders. The first of the three methods ought to catch the first trout of the year if any artificial fly will do it. The third of the methods might catch the toughest trout of summer. And the middle method might catch a few in between.

* * * * * *

Since Hewitt's time, changes in tackle have made nymphfishing (whatever it is) easier. Long, light graphite rods help
you to hold much of your line off the water, giving the nymph a
more natural drift. High-floating lines are easier to control.

Strong leader materials let you use a light tippet without
breaking off fish on the strike. None of this improved tackle,
however, solves the biggest problem in nymphing: knowing when a
fish has taken your fly.

When a small fly drifts naturally in the current, trout usually take it quietly. You may have heard that you need a "sixth sense" to time your strike. Unfortunately, anglers have not improved as fast as their tackle, and none of us come equipped with a sixth sense. The news is that any fly shop today carries visual aids. We call them "strike indicators." You fasten one of them to your leader and watch till some slight movement of the indicator suggests that a fish has taken the fly. Then you strike -- very quickly but very gently. This is, I think, is the biggest change in nymph-fishing since Hewitt's time.

Proper

You would not know it from the labels, but indicators come in two radically different types: floating and non-floating. The non-floating type is, typically, just red synthetic yarn. You cut off a short piece of it and knot it around your leader two or three feet above the fly. It remains fairly visible even when it has been pulled a few inches under the surface of the water.

(Illustration: floating and non-floating indicators, with the effect they have on leaders.)

Great!

As to the other type -- well, only a fly fisherman could reinvent the float and give it a five-syllable name like "strike indicator." I suppose we dreamed this up to avoid being confused with the other anthropoids. Mainly we confuse ourselves. Float-fishing has little in common with traditional fly-fishing. If we are going to break from tradition, we might as well understand the possibilities.

When you fish with a float, the tip of your line and the butt of your leader lie flat on the surface of the water. Below the float, the leader angles down sharply. If the fly is weighted, the tippet may hang almost vertically, at an angle of 90 degrees from the butt of the leader. In streams of normal depth and speed, this is the most effective arrangement I know for bouncing a fly along the rocks on the bottom. Only the fine tippet is exposed to the full drag of the current, allowing the

I think it would take a heck of a float to stay on the surface whole the toppet bent 900/

Proper

fly to drift more naturally than one attached to a sinking line. Then, when a trout takes the fly, the float signals you to strike.

The first of the nymph-fishing methods described below uses a float; the next uses a non-floating strike-indicator; the last uses no visual aids at all.

1. Float & Sinker

Mr. Hewitt would probably have disliked this method if he had known about it. He did not. "I have found no advantage in fishing the nymph deep," he wrote, "as the trout will come to the surface for them if they will come at all."

He was wrong on that. Trout sometimes feed deep at all seasons of the year. In the colder months, trout may take almost 100% of their food near the bottom, and when they do, they typically refuse to rise. Midge larvae are the most common coldweather food in the streams I fish, followed by immature mayfly nymphs and caddisfly larvae. Usually the different insects are all mixed up in the trout's stomach, which suggests that there is little selectivity. And this fishing method is generic. It works for most deep-lying "underwater forms" -- nymphs, pupae, or scuds.

Start with a fly of modest dimensions (say size 12 through 16). Use a standard-wire hook, not a lightweight, and keep the point sharp. It should have a little lead wire under the body,

Do a few partordge partules really slow it down ? Six? Four?

Happy Birthday, Nymph

Proper

but you cannot get much weight on a fly of this size without spoiling its action. This means that you should avoid designs with stiff legs, hackles, tails, or wings -- all of which slow the rate of sinking. On the other hand, you will not be imparting any motion to the fly, so it needs some built-in feature to make it seem alive. My preference is conventional: a body of real hare's ear, if you can find it. It has short, stiff fibers that stick out and work in the current. Herl is good too: pheasanttail in the smallest flies and peacock in those a little bigger.

Paradoxically, the float provides the most efficient way to fish a small fly deep (in streams of average depth and speed). Furthermore, the method is easy because the float does so much of the work. I do not spend much time float-fishing for trout in warm weather -- although the method still works. In the winter, as thew. In the winter, as the avgue an easy method is necessary. Cold fingers make it difficult to Let His change flies and do fancy casts.

You can buy fly-rod floats that look just like little sunfish bobbers. They have the advantage of being easy to move up and down the leader when the stream changes depth. I usually prefer stick-on plastic floats in a shockingly visible orangered. If necesary, I use two of them, learning something about the fly's behavior by watching their relative positions.

In most streams, the leader needs added weight. The oldest idea is the best: split shot -- pure lead in a pure sphere, the

Eu sound sometime.

Proper

heaviest and most compact package available. Look for it in a container that dispenses three or four sizes. Avoid lead strips, lead wire, or shot with little ears -- all of which slow the rate of sinking and increase the frequency of snagging on the bottom. Squeeze a shot or two on your leader at least eight inches up from your fly. That leaves it enough slack to behave naturally.

The leader should have a short butt. The tippet, however, should be long and fine -- between .007" (4X) * and .005" (6X) * in diameter. This lets a small fly sink quickly and bounce along the bottom with a minimum of drag.

You cannot fly-cast gracefully with a float and sinker, so for the most part you do not try. You let the current pull your line down below you, and when it is dangling downstream, you flip it up. [Ref any other article?] * The first cast goes almost directly upstream from you. The next goes a little farther out, and so on till you have covered all the good water you can reach.

Then you wade upstream a few feet and start again. You try to get thorough coverage, because this is a method for inactive fish, and you will seldom be able to see where they are.

(Illustration of the casting pattern)

2. Strike Indicator

Unlike the float, the non-floating indicator can be small enough to fly-cast easily. You might want to switch to such an

indicator when trout become active in mid-water. Under these conditions, experienced anglers may get away with no more than brightly-colored leader butts. They are one kind of indicator, but they are not easily adjustable. With yarn, you can tie an indicator a couple of feet up from the fly and move it as needed.

Because the indicator does not put an angle in your leader, it is less efficient than the float for fishing on the bottom -- but better for fishing delicately in mid-water. I like the indicator for searching good water upstream, as if I were fishing "blind" (without seeing a rise) using a dry fly. But maybe I should say the obvious: there are a great many nymph-fishing methods -- especially if you think of a nymph as any fly fished underwater. Unlike the float, the indicator can be used with several methods.

(Illustration idea: Schaldach's 1933 mid-water picture)

There is one major exception. The indicator gets in the way if you plan to give your fly motion, either on purpose or by letting the current swing it around downstream on a tight line (the old wet-fly method).

3. No Indicator

Trout behavior is much less predictable in warm weather than cold. In one Pennsylvania spring creek, trout stomachs contain

nearly 100% floating flies from July through September. Under these circumstances, dry flies are far more effective (and fun) than anything else. But then there is Humility Creek -- a springfed stream near my house in Montana. Its trout may take dry flies very well. Then again, the fish may feed all day on insects that are swimming up to the surface in order to hatch. These, now, are immature mayflies, real nymphs. The fishing method is not generic. I won't try to tell you that it is easy, either.

In Humility's shallow waters, indicators frighten the trout. They also distract the angler. The indicator is, after all, a kind of crutch, a device that keeps you from focusing on the what the trout are doing under the surface. You have to watch the fish when their take is very subtle. Humility Creek's trout can sip a nymph and spit it back out without twitching even the point of the tippet -- let alone an indicator two feet further up the leader.

The artificial nymph needs to look and behave about like the natural insects the fish are taking. The leader is a long dry-fly taper, greased with flotant except for the last few inches near the fly. The aim is to have the nymph come drifting down barely under the surface, so that when it is taken, the trout's movement will be visible.

A nymph for this kind of fishing needs a different design.

In summer, it will usually be small -- say sizes 16 through 20.

Proper

Like Mr. Skues, whose method this is, I favor a twist or two of very small hackle on such nymphs. It adds "life," but more important, it keeps the fly from sinking fast.

This old Skues method still comes closer than any other to my nymphal fantasies. It is fun visually, because there are trout to watch. It is fun manually, because the tackle is light and the casting graceful. The sun is warm, the wild irises are jiggling in a June breeze, and the snipe are practicing little drum-rolls on fluffy clouds. Furthermore, the trout also get a Humility lesson now and then. They are about the biggest of the year, on average: as big as the ones I try to catch on gigantic stoneflies, but don't.

Fish grow fast in the fertile creeks, and you still do not meet many anglers who know what the trout want. I guess they think that nymph-fishing is something else.