



Fly Lines

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Fly Lines

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Members as well as guest writers are invited to submit articles, photographs and artwork related to the pursuit of fly fishing. Send unsolicited material, with a self addressed stamped envelope for return to:

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On Our cover . . .



An array of classic Atlantic salmon flies dressed by Art Lingren.

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President's Message



Working with Others

Ah winter is here! Outside it's generally wet, cold and uncomfortable – with maybe a dribble of snow here on the coast. There's plenty of indoor time in which to think and brood about life's nifty little sinkholes of dark and gloomy pessimism. Terrorism, bird flu and the great pandemic, the shifting of the tectonic plates and the “big one”, an asteroid collision with the earth and – the future of angling as we know it. There's certainly a lot to angst about!

One thing that some of us in BCFFF have been thinking a lot about is working with others. What does this mean? Well, the issues facing anglers in BC are so numerous, complicated and important that no one angling organization can be effective in influencing the powers that be. Realistically, we have no other choice but to work together with others. BCFFF is a small organization with a few dedicated souls who, from year to year, do their very best to address all of the demands. Are we effective? Somewhat, I guess. We are fortunate that we are still recognized as a “player” by some of the decision-making bodies (Provincial Government). We have been “front and center” for many years on Provincial Government initiatives. However, it's getting harder to do this, since our ability to recruit fresh “cannon fodder” is more difficult than ever, and the oldies are getting threadbare and worn out. So, given that joining forces may be a necessity, who do we jump into bed with?

There are several groups that easily come to mind. The BC Wildlife Federation is a 30,000 member group with considerable political clout, a fine record of achievement over the decades and a fisheries side that is now getting more attention. The BC Federation of Drift Fishers is about the same size as BCFFF, a little younger and works hard on fisheries issues. Their program “Pathways to Fishing” recently won a prestigious Federal Government award for encouraging youth and others to try fishing. The Steelhead Society of BC is cautiously re-emerging after a period of doubt. They aim to keep things simple by focusing their limited resources on habitat (acquiring/rebuilding/monitoring) and have been active in monitoring Thompson River habitat as well as other issues. Other groups that we may want to ally with are Trout Unlimited and the Sport Fish Defence Alliance.

Fly fishers haven't always seen eye-to-eye with some of these groups. In the days ahead, in-fighting amongst BC's angling groups will be a recipe for failure to get government attention on issues that are basic to all angling groups (i.e., conservation; access to angling waters; declining recruitment of new anglers to the sport, with few new “soldiers” to take on the future fight for the angling resource). Joining forces with others doesn't mean that we forget about what we believe in. For example, with some fragile fisheries, there continues to be a need to restrict angling methods in order to reduce impacts on the fish and still allow for an angling opportunity. However, we do need to agree with the other groups to set these arguments aside, for other times and places, while the larger issues are attended to.

We have been talking with the angling groups about getting together to “brainstorm” what issues are of common concern and how we can best deploy our limited resources more strategically. This will happen in the New Year. Acronyms are wonderful things, so this initial coming together has been termed “MOM” –Meeting of the Minds. More simply, it will be the start of working together.

Reports, Upcoming Events, Notices and Items of Interest

Coastal Cutthroat Trout Symposium

by Don McDermid

I attended the Coastal Cutthroat Trout Symposium (CCTS) on behalf of the BCFFF. It was put on by the American Fisheries Society (AFS) and held at Fort Worden State Park in Port Townsend, Washington. This was the second such symposium, the first being held in Reedsport, Oregon in 1995.

There has been a very subtle change in the CCTS in that the 1995 symposium was called the Sea-Run Cutthroat Symposium and dealt mainly with the migratory form of the species.. In attendance were about 150 people, largely biologists and students although a fair number of recreational anglers from Washington were present. Among some of the notables were Steve Raymond, Bruce Ferguson, Les Johnson, Bill McMillan, Preston Singletary, and Pat Trotter. Some of our provincial government people were there: Ron Ptolemy — Victoria, Randy Dolighan — Nanaimo, Tracy Michalski — Nanaimo, Mike Ramsay — Williams Lake, Jim Roberts — Surrey, and Susan Pollard - Victoria.

The gist of the CCTS was various papers stating results of current studies / research projects extending from Alaska to California. Initially papers were presented giving the status of Coastal Cutthroat Trout in Alaska, B.C., Washington, Oregon, and California. The paper giving the status in B.C. was presented by Allan Costello who is with the Native Fish Research Group — Dept. of Zoology at UBC. Allan feels that



"... the majority of cutthroat populations in British Columbia are likely 'secure', while those located in the densely populated Georgia Basin appear to be particularly at risk and are deserving of additional conservation measures." The underlining is mine not the author's.

As some of you are likely aware, about 5 years ago Washington State put in some fairly restrictive regulations requiring mandatory release of cutthroat in marine environments and a limited 'kill fishery' only in streams where populations permitted. The question was asked about what effect that these regulation changes have had on cutthroat populations. The answer was that the authorities don't know as they don't monitor this.

The other papers dealt with research projects run by various government and university groups. The range of subjects was very wide but much of the data was limited to establishing some baseline data for future studies.

A piece of information that I found interesting was that the biologists were experiencing great difficulty in distinguishing between rainbow, steelhead, cutthroat and hybrid fry. This led to difficulty in establishing accurate population data for cutthroat in many headwater streams.

Another interesting piece of data was that streams that had healthy populations of Coho juveniles had poor populations of cutthroat juveniles.

Finally, I can't help but feel that while all these biologists study these fish to death we are continually losing whole populations of sea-run cutthroat trout. If I were a person whose responsibility it was to establish some regulations to protect these fish I would have come from this symposium without any data to help me do so.

Fisheries Committee Update

By Gil Sage

At this year's AGM it was decided that the 1st vice president would take over as chairman of the Fisheries Issues Committee. I must admit that I have been extremely lax in reactivating the committee. However, the Federation has not been inactive on fisheries matters and the executive is working on the following items.

1. Thompson River Steelhead (TRS)

We have attended numerous meetings and are more than prepared to continue doing this. The BCWF will be spear-heading three meetings on TRS; Peter Caverhill has sent many e-mails to the BCWF attempting to receive the dates of these meetings so we can participate. He did finally get a response. At the time we still have no confirmation on dates for the meetings. We have been told that there will be two public meetings rather than three as originally reported. The first meeting will be held in Spences Bridge in late January 2006.

We are staying on top of the Nicola Water Use Management Plan process. I attended a meeting in Merritt on Oct 1 and I am keeping on top of the minutes that we receive from the process. However, the group meets almost every second week so attending the meetings on a regular basis is impossible for us.

I will attend the Dec 10 meeting of the Spences Bridge Steelhead Advocates Association, where the guest speaker will be Dr. Brannon will be giving a presentation entitled "The Salmon Steelhead Hatchery Fish Controversy".

2. Bait Ban in streams

Peter Caverhill forwarded the BCFFF position to the ministry. The latest information we have is that there will be no public meetings as was indicated in the fishing 2005/2006 regulations. The ministry received a considerable amount of input the majority of it was against implementation of a provincial wide bait ban. Our understanding is that waters will continue to be regulated on an as need basis.

3. Skagit River

A number of BCFF members and other anglers attended a February meeting seeking input into the recreational use of the Skagit. This was a consultation meeting initiated by a



consultant for the Skagit Environmental Endowment Commission. I was not happy with the answers I received, when pointing out that fishing was the primary activity on the Canadian side (they believed otherwise). We are awaiting the consultant's final report.

4. Dean River

The Federation continues to monitor and respond to issues that might impact this fishery. The Federation will have a representative attend the Dean River Advisory meeting (called by the Province) to be held in Williams Lake in early December.

5. Quality Water Strategy Process

This is a Provincial Government initiative. Development of the review process and strategy to classify waters has been a long journey, going back two or three years and the Federation has had a representative on that committee. The government will soon adopt the committee's recommendations and the establishment of the regional committees is now underway.

6. Steelhead Stream Classification

The Federation hasn't forgotten this issue and continues to pursue the Provincial government for details on the final draft.

7. Upper Pitt River garbage dump problem

Peter wrote regarding the lack of action in addressing the clean up. The cleanup while somewhat late in getting started has been completed, but it did highlight just how slow government can be in dealing with certain issues.

8. Cheakamus River Spill

The Federation is monitoring the situation regarding the development of a recovery plan

and are awaiting the opportunity for stakeholders, such as ourselves, to provide input.

9. Coquihalla Opening

Peter provided input as to why the branch's suggestion to change the regulations on the Coquihalla, if it opened, from fly fishing to artificial fly was not in the best interest of the fishery. The fishery did not open this season.

10. Rockfish Conservation Areas (RCA)

Peter sent the directors and club contacts information on DFO's proposed RCAs. Some RCA proposals, if implemented, would close areas to all fishing including fishing from the beaches. One important area that would be impacted is the Oyster River.

11. Marine Conservation Area (MCA)

The Federation recently received notification of public meetings on this topic by Parks Canada. This could impact on our opportunity to fish. Peter sent out info on these meetings to all board members and club contacts. I will be attending the Nov 29 meeting in the Lower Mainland.

DFO Proposed Rockfish Conservation Areas (RCA)

(An e-mail of concern that BCFFF recently received on this issue)

Nov 27/05

Hello,

My name is Mark Poppe and my wife, son, and I are members of the Westcoast Flyfishers out in Sooke. I have read the latest message forwarded to our membership regarding the proposed restrictions on beach fishing. I have looked at the DFO website listing the proposed closures. To be frank, I am deeply concerned. I pay my taxes, pay all the necessary fees, and even joined a club because I believe we need to do our part to support conservation. I cannot afford a boat, nor can I afford to pay for a charter. My, and our, only opportunity to enjoy saltwater salmon fishing is from the beaches! I have never caught a rock cod. I have caught a few sculpins, and even fewer salmon. Beach fishing is a fun, healthy activity for my family from which I hope will strengthen the bonds between us and give my son and younger children a true appreciation of how precious our natural environment truly is.

I do not agree with the "knee jerk" response by DFO to block all fishing from the beach based on the alarming rate by which the rock cod stocks are declining.

Why is it so easy for DFO to be willing to shut down an important recreational fishery when they are not willing to control salmon farming in response to the solid research submitted by Dr Morton and the sea lice problems caused by salmon farms?

I don't want to sound cynical, but I believe the large corporate interests which hold the farming licenses are doing the same thing the tobacco companies did for decades. Using their resources to stall the inevitable.

We, as recreational fishers, do not have the same financial (ergo political) clout. DFO is hoping we don't raise the alarm.

I thank you for your continued work in this area. If you can, throw this challenge out to the DFO. Challenge them to come up with creative ways to protect the RC stocks,

without sweeping closures on areas that are important to family development to those who cannot afford other means.

Sincerely,
Mark Poppe
Sooke, BC

Nov 27/05

Mark - Thanks for expressing your concerns regarding the potential for a loss of angling access to saltwater beaches resulting from the proposed Rockfish Conservation Areas (RCAs). You had sent your message to our Secretary via the BCFFF website. It was then forwarded to me.

You have identified important concerns. It is critical that you, your club (the West Coast Fly Fishers) and other anglers that may be affected by these RCAs, and other issues threatening access to angling, attend consultation meetings, write to DFO and inform others in your community. You should take your e-mail to BCFFF (below) and send it to DFO, according to the instructions that they give on their website. Give it wider distribution!!

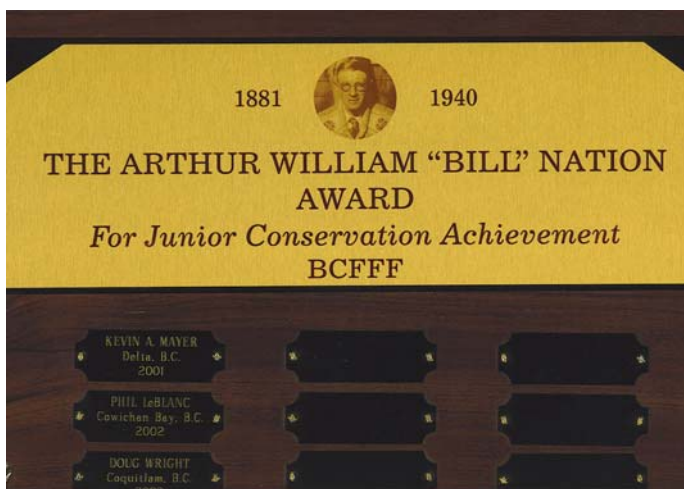
BCFFF is all of us - the Clubs and the Direct Members. A challenge for our organisation is getting more of our membership involved in fisheries issues than just the few who are on the executive. Given the emerging saltwater concerns for BC fly anglers, most of which are on the Island, we have to get more Island folks involved.

Thanks
pete caverhill
President, BCFFF

Annual Awards

It is important in the evolution of every organization to acknowledge and recognize the contributions and achievements for those few who contribute to the art and craft of fly fishing and conservation. Understanding where we are is often helped by knowing where we've been, what has occurred, and who was involved.

A look back to the people, places, and things of our past helps to give context and relevance to our organization and what we stand for. Our present achievements and future hopes are but an extension of the anglers and angles of the past. The BCFFF has a number of awards and it is time to consider who should be recognized in 2006. The BCFFF board reviews nominations at its March meeting. Please forward yours or your club's nominations with supporting documentation to Art Lingren, awards



chair at artlin8@telus.net by February 28th, 2006.

The Conservation Award

Given to that BCFFF club in recognition for their contribution to the conservation and enhancement of BC's fishery for a specific conservation-related project.

The Appreciation Award

Given to that individual, group or business in recognition for their support of the BCFFF. It is customary to give the AGM's hosting clubs this award, as well, it is given to individuals and businesses who contributed significantly to the event.

The Gilly Award

Given in recognition to that BCFFF member who has continuously given exceptional service to BC's Fishery, the Sport of Fly Fishing, and the BC Federation of Fly Fishers.

The Angul Award

Given to that individual, who is not necessarily a BCFFF member, for their outstanding contribution to the heritage of the Arte & Science of Fly Fishing in British Columbia.

Arthur William Nation Award

In the spirit of Bill Nation, given to a young fly fisher conservationist for their work in BC's freshwater fisheries.

Jack Shaw Fly Tying Award

Given to a BCFFF members who excels at the art and craft of fly tying.

Dues are due for 2006

We want to thanks all clubs and members for their past support; it is that time of year again to renew your membership. Membership is open to all who *support the objectives of the Federation*.

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Clubs: \$15 plus \$10 for each member (increased \$5 for insurance coverage)

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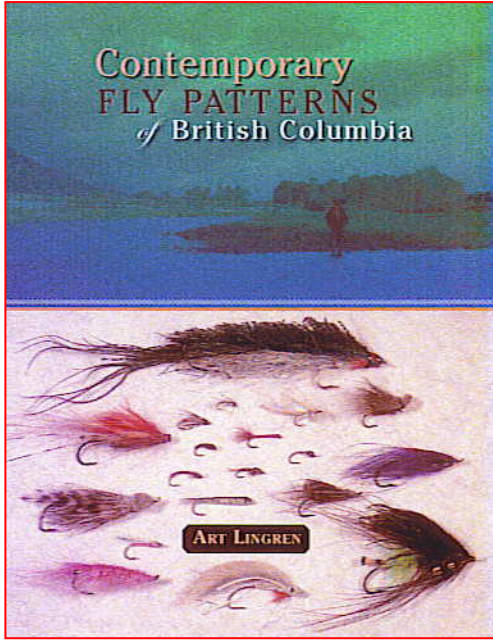
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2006 AGM

Planning is underway for the BCFFF 2006 Annual General Meeting which is taking place this year in Victoria, BC. Those members that visited the highly successful Fly Fishing Symposium last November or the 2000 AGM will be familiar with the location. Once

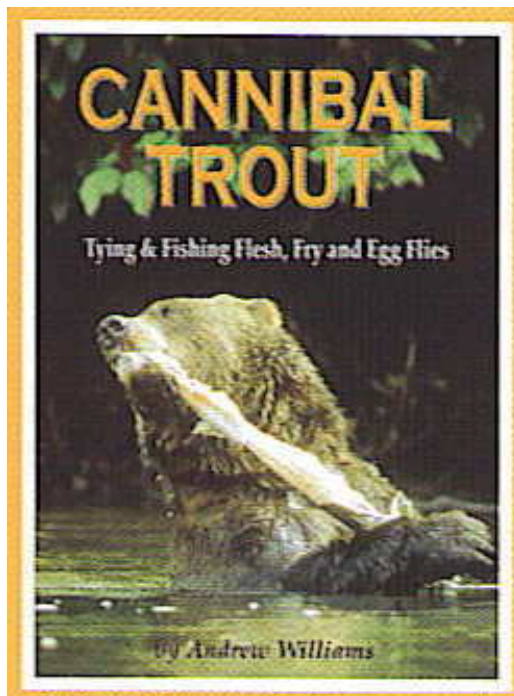
again, the event will be hosted by the Haig Brown Fly Fishing Association at the University of Victoria. This year's theme will be "Youth and Fly Fishing" capitalizing on current work of the Freshwater Fisheries Society. Book your calendars now for the weekend of May 27 and 28th .

BCFFF Club Involvement in Contemporary Fly Patterns of B C



Nearly three years ago when I was gathering information for this book I thought I would offer an opportunity for fly tiers in all BCFFF clubs to show their fly tying talent. I sent emails to all the club contacts listed in our directory and provided them information about the book and how to submit flies to me for inclusion with an example of the kind of information I was looking for. Shortly, *Contemporary Fly Patterns of British Columbia* will be released by Frank Amato Publications of Portland, Oregon. There may be members from some clubs who will notice that there are no flies from their club and wonder why? All I can say is that I provided the opportunity but you cannot force people to participate. *Art Lingren*

New Book by Andrew Williams



This is Andrew Williams' first book. In this book Andrew relates the importance of salmon--egg, fry, parr, smolt and even dead and decaying carcasses--as a food sources for coastal trout. Also he provides a selection of fly patterns that imitate these food sources. Published by Amato Publications this book is available in November 2005. Ask your local fly shop for your copy.

Hatcheries as a Consideration For Thompson River Steelhead Restoration

Bill McMillan, Board President
Washington Trout

Background: My friend Ed Fleming of Chilliwack, who is a recipient of the Spences Bridge Steelhead Advocate Association's information, asked me if I would review and make comment on a series of emails he received regarding the Thompson River Steelhead Meeting on December 10th at which Dr. Ernie Brannon (past professor at the University of Washington with its strong links to hatchery programs ever since the days of Lauren Donaldson) has been asked to provide a presentation. Washington Trout filed lawsuits in 2002 & 2003 against Washington Department of Fish and Wildlife alleging that WDFW chinook and coho/steelhead hatchery programs in Puget Sound jeopardized recovery efforts for wild chinook listed under the Endangered Species Act.

I first fished in B.C. as an 18-year-old in September 1963. My father and I boated 65 miles down Lake Babine to the Babine Weir and hiked downstream from there. I have not, however, fished any famed B.C. steelhead waters since 1988. I have seen too many American steelhead fishermen expect B.C. to provide their fishing for them without taking the responsibility to protect and restore our own instead.

Much of my adult life has been devoted to the advocacy of effective wild fish management in Washington and Oregon, fueled by the loss of wild steelhead on the Washougal River where I was reared as a boy and spent much of my adult life until the losses there were too much to endure – in large part due to two prolific hatcheries on one small river. I moved to Oregon's Grande Ronde River in the mid 1990s and then to the Skagit River in 1998. I learned snorkeling as an effective steelhead monitoring tool from my B.C. friends on Vancouver Island in the early 1980s and brought it to Washington where it has broadly spread since.

A Question:

Why would Canadians look to the U.S. for an example of how to restore a threatened or endangered wild fish resource, given the American record: an ever growing list of salmon and steelhead listed under the Endangered Species Act with no examples of recoveries to emulate?

A Look at the Evidence:

The U.S. Endangered Species Act does have some successes: Peregrine falcons, brown pelicans, gray whales, and American alligators among the better known species now considered recovered. But no ESA listed population of fish species, as an entire unit called an ESU, has yet recovered.

Regarding threatened or endangered stocks of anadromous fish in U.S. rivers, there is a good understanding of what has created salmon and steelhead depletions through what is commonly known as the "Four H's" – *habitat*-loss, *hydro*-development, *over-harvest*, and proliferation of *hatcheries*.

Of the Four "H's", no one advocates that continued habitat-loss, continued hydro-development, and continued over-harvest will ever be useful tools for wild fish

restoration. Proliferation of hatcheries is the lone exception. Hatchery advocates persist in the 130-year claim that all we need to do is fine tune them a little, operate them more scientifically, and they will provide the basic building block for salmon and steelhead restoration. It could similarly be said that a gas guzzling SUV can be a useful tool for conservation of oil resources and to lower fuel costs *if* they can be altered to get 60 mpg. Someday, maybe. Then again, before that someday comes around, we will likely have come up with a better solution once we abandon an outdated technology built on a faulty concept.

Is there any evidence that we have more wild salmon and steelhead now than we had 130 years ago, or 90 years ago, or 50 years ago? Not that I know of in the Lower 48.

For but one example, as late as the 1950s, Washington's Skagit River sports harvest was commonly 15,000-20,000 wild steelhead with total returns likely 30,000-45,000. But after initiation of the modern hatchery program in 1960, the steelhead numbers went into a long gradual decline after an initial period of seeming hatchery success in the 1960s. The total Skagit steelhead return the past five years, both hatchery and wild (with only a catch and release sport fishery and virtually no tribal harvest) has averaged only about 6,000 steelhead (range 3,000-7,000) with no up-trend in sight.

Only one in-depth assessment of Washington's hatchery steelhead program was ever made. Interestingly enough, it was by Canadian Loyd Royal in 1972. He forewarned that on the Skagit River and several other streams in Washington, hatchery smolt releases had created a "density barrier" adversely affecting steelhead survival. He indicated wild runs were dropping as a result and hatchery returns suffered increasingly poor survival as the hatchery releases increased.

Yet, hatcheries have operated throughout the past 130 years with the same promise: they will eventually provide more than nature ever could *when* operated correctly. At some point that *when* has to be made accountable, and 130 years is probably well past the point of useful accountability.

Thompson River steelhead are an inland race similar to the "B" run steelhead historic to portions of the Snake River system – large steelhead averaging 14 pounds. In the case of the Snake River, there are two theoretical justifications for hatcheries:

- 1) 55% of former habitat in the Columbia/Snake is blocked by dams without ladders; and
- 2) Nearly all remaining Snake River steelhead habitat is above eight major hydroelectric dams that deter migrations to and from the ocean.

However, neither of these justifications applies to the Thompson. Both it and the Fraser remain undammed. Unfortunately, once you accept hatcheries, you leave the door wide open for dams. Hatcheries have continually enabled the lie of providing effective mitigation.

At present, the Thompson River has only two of the Four "H"s working against its wild steelhead population: damaged-habitat (not lost-habitat), and over-harvest. The former is related to agricultural development on the Deadman and the Nicola; the latter is due to incidental steelhead harvest during the commercial target on sockeye in the Fraser, combined with a growing concern toward Native fisheries that may target steelhead.

So why add a third "H" – a hatchery – that Thompson wild steelhead would have to compete with for survival? The restoration idea is to reduce the Four "H"s, not to increase them.

Concentration on hatcheries in the U.S. has perpetually bled funding for fish restoration efforts that would have been better spent in solving three basic problems:

- 1) Conserving and restoring fish habitat through a combination of: riparian land agreements or purchases; purchase or lease of water rights; providing agricultural aid for fencing and/or better grazing rotations; and aid for less damaging and more efficient irrigation systems (such as drip irrigation).
- 2) Development of efficient selective harvest methods for commercial fisheries that can target stronger stocks while protecting weaker stocks (traps, seine nets, fish wheels, etc.)
- 3) Tearing down dams or otherwise altering their operation to safely pass fish, both upstream and downstream, combined with investments in stimulating energy conservation and research toward alternative energy development.

In the U.S., once the commitment has been made to hatcheries, they have perpetually stolen the monetary resources that should have been spent to solve the very problems which would deny any need for hatcheries in the first place. 40% of all Bonneville Power Administration funding for salmon and steelhead recovery on the Columbia/Snake River system goes to hatcheries, the single largest expenditure. But still the wild stocks continue in decline. Why? Because the primary investments have been made in perpetuating the problem rather than solving the problem. By 1997, three billion citizen dollars had been spent in the name of Columbia River Basin fish and wildlife restoration since 1981, primarily investing in a "solution" that was identified as a primary contributor to historic depletion of wild salmon and steelhead – the fish hatchery. It likely represents the single biggest conservation/restoration failure ever made on the planet.

Have there been *any* wild steelhead bright spots in the Columbia River Basin after restoration efforts began in 1981? Yes, there are important examples, but only at the subpopulation level of individual streams. One of those is Oregon's John Day River. It is the only larger subbasin with a healthy wild steelhead population in the Columbia Basin. Some years it has had estimated run sizes of 30,000-40,000. Of significance, it is the only large Columbia subbasin that has never been planted with hatchery steelhead.

Joseph Creek is another bright spot. It is a tributary of the Grande Ronde River. Primarily in Oregon, Joseph Creek's wild steelhead subpopulation is considered healthy (2,000 wild steelhead in better years) within the otherwise ESA-listed Snake River Basin ESU. Like the John Day, Joseph Creek has never been planted with hatchery steelhead. Joseph Creek steelhead must pass eight dams each way to the Pacific and back.

There is also the example of Washington's Wind River, whose wild steelhead were among the most depleted in the ESA-listed Lower Columbia ESU. After years of hatchery steelhead releases begun in about 1960, the Wind River wild summer steelhead population fell to snorkel counts of only 40 fish at times in the 1990s -- from historic run size estimates of 2,500 made in the early 1950s. In the latter 1990s hatchery steelhead releases were finally eliminated, and hatchery strays are trapped out of the system. The steelhead have responded. For the first time in many years, Wind River will likely have a

catch and release angling season in 2006. Escapement estimates of 500-1,000 wild steelhead have returned over the past five years.

It is no accident that these three wild steelhead success stories in the Columbia Basin have occurred in the absence of hatcheries. Unfortunately, the managers have yet to broadly apply similar strategies elsewhere due to a lot of vested interests in hatcheries by state, tribal, and federal agencies combined with corporate businesses such as logging, agriculture, and real estate developers that prefer hatchery mitigation for degraded habitat rather than provide the habitat protections that any fish restoration requires.

Washington has more fish hatcheries than any state in the Union. The result has been 13 ESUs (each comprised of numerous individual subpopulations) of ESA listed salmon and steelhead that state, local, and federal governments are responsible for. Ten of these are in the Columbia Basin, where the greatest investments in hatcheries have occurred.

Puget Sound is the area of the state with the second greatest proliferation of hatcheries. Annual releases of about 500,000 steelhead hatchery smolts occur into both the Skagit and Snohomish systems alone. The Puget Sound steelhead ESU has recently been petitioned for ESA listing. There is compelling evidence on the Skagit that increased hatchery steelhead smolt releases are linked to its steelhead declines. Puget Sound steelhead will likely be listed as threatened due to their dramatic depletions in the past decade. When that occurs, nearly the entire state will be blanketed with listings.

This is some of the sorry history of the once prolific wild steelhead populations from the Lower 48 where business-as-usual economics have driven fishery management to continual investments in the lie of fish hatcheries. We provide a page from the book of fishery management that those looking for restoration of Thompson River steelhead would do well to tear out and put beneath the kindling of the next campfire.

Hatcheries have lived on the reputation of providing a decade or two of seeming increases in returns, but they invariably have failed as the wild populations plummet to levels lower than at any time in previous history. In effect, the end product is a virtual replacement of wild fish with hatchery fish followed by a continual long term decline of both, due to placing all of one's eggs in the hatchery basket rather than in protection of habitat. There is never enough money to adequately fund both. It boils down to an either/or.

The greatest single threat to steelhead is actually not even part of the previous argument beyond the fact that hatcheries always mask more primary problems. We have an increasingly looming fifth "H" – HEAT in the form of global warming that will be pushing all cold water fishes to the latitudes closest to the poles, or to mountain headwaters as resident populations disconnected from salt water elsewhere. This will pale anything we have yet seen regarding conservation of cold water fish.

We in the U.S. are the global worst-case citizens. We have twice voted for a government that has distanced us from the planet-wide responsibility to act on global warming. This is the same government that has embraced hatchery salmon and steelhead as effective replacements for wild fish in hopes of breaking the back of the Endangered Species Act and its restrictions on big business and unimpeded development and resource extraction. To date, we to the south deserve no name better than "Yank" and the fish hatchery is our appropriate symbol as a country of minimal values beyond the once mighty buck. Canadians can do better than our example.

The Spey Cast or Welsh Throw: History in Great Britain, Roots in British Columbia and Popularity in North America

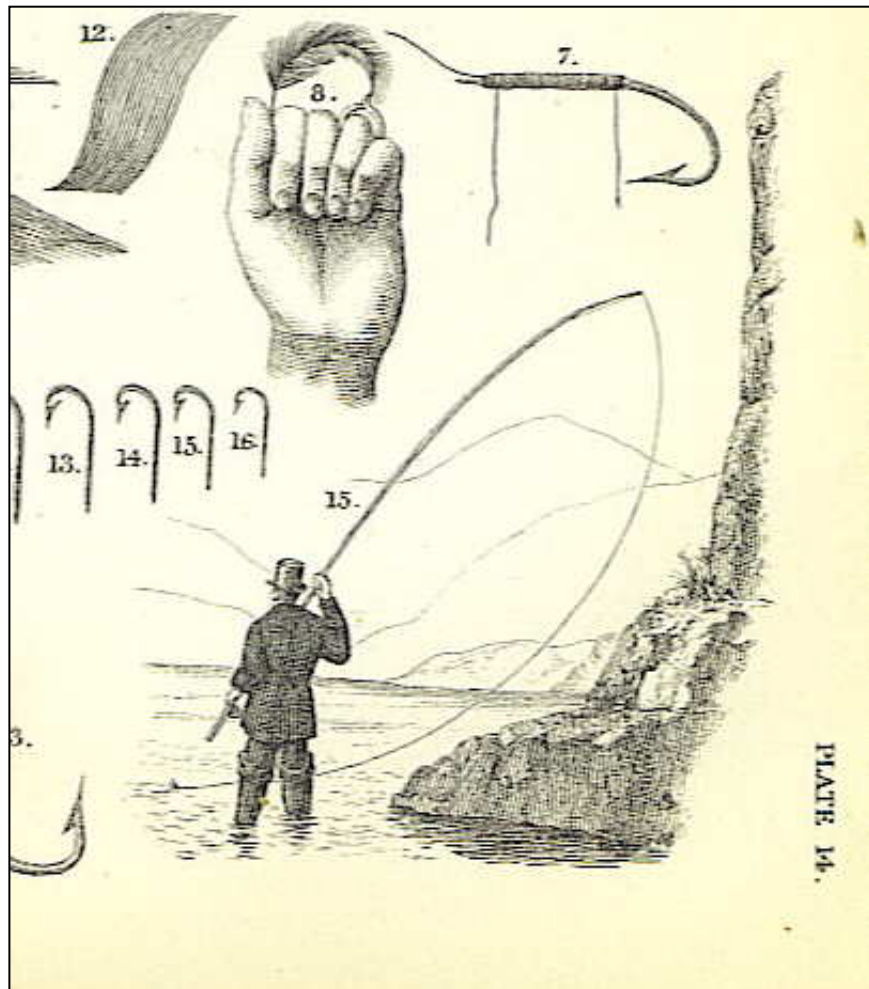
By Art Lingren

Part I: The First Hundred Years: Fitzgibbon, Francis, Kelson, Taverner and Scott

In the last ten years Spey casting with a two-handed rod has spread throughout the steelhead fly fishing world. This is a very old cast, originating on the salmon rivers of Great Britain. It was first mentioned in *The Book of the Salmon* (1850) by Edward Fitzgibbon, who wrote under the pen name of Ephermera. He said that in the Spey or Welsh throw, the fly is first to touch the water. However, in Fitzgibbon's book there is not enough information about this particular cast from which one could learn the mechanics to perform it.

Francis Francis was one of the more distinguished editors of *The Field* and it was Francis who made the first attempt to describe the mechanics of the Spey or Welsh throw. Eric Taverner in *Salmon Fishing* (1931) credits Francis with attempting to put into words 'switching' or the Welsh or Spey throw and says that it was a very difficult thing to do.

About switching or the Welsh or Spey throw, Francis writes:



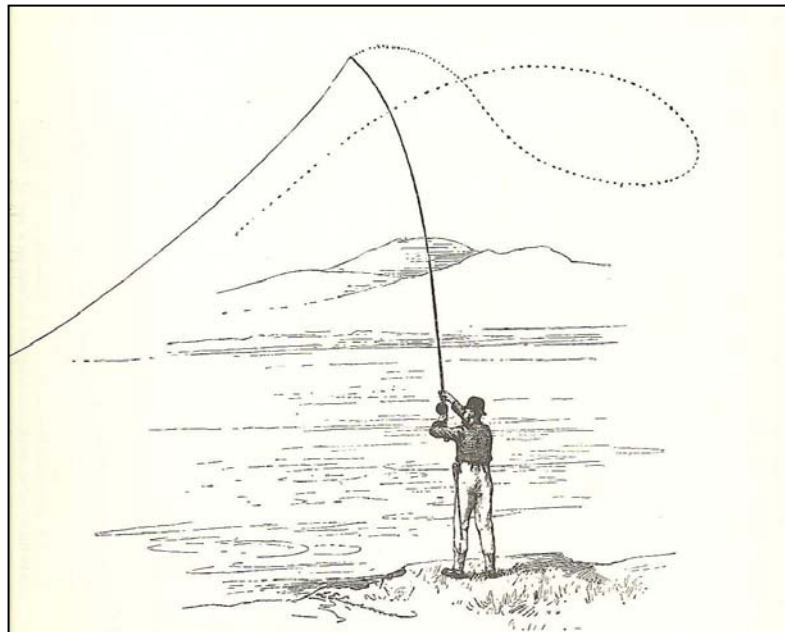
It is a species of cast that is made when there are high banks or rocks at the angler's back, so that he cannot send his line behind him. And it is one that requires some practice to make from the right shoulder, and a good deal more to accomplish neatly from the left. In switching, if the angler can contrive to wade in a yard or two, he will

be able to switch with far less danger to his fly, and more ease to himself, than when standing on the shore, as the object is to deposit the fly on the water previous to casting. If the fisher fetches his fly home only a yard further than it ought to come, he either smashes it or hooks some obstruction.

Having got a certain length of line out, somehow or anyhow, and being desirous of making a new cast, he raises his hands well up and carries the rod up to his shoulder pretty smartly ; but he does not send the fly back over the shoulder, but rather fetches it in towards his feet, and he must take care that in doing so it does not come too high above the surface of the water, or it will not catch the water again at the right spot. About two or three yards above him to his right hand, and a little in front of him, the fly must touch the water, but must go no farther. This action brings the line into the form of a great bow or arc, to which the rod is the chord. The instant the fly touches the water (and the angler must keep his eye upon it, for if it misses it and touches the bank at all he must not make his cast), a sharp downward turn and cut is made, not towards the spot you wish the line to go to, but to establish a sort of centrifugal action (somewhat after the fashion that a juggler spins a hat or plate with a stick), and the line flies towards the point required; in fact, the cast is the result of the laws of centrifugal force, the line forms the tangent to an arc of a circle described sharply with the rod-point, and the angle at which the tangent flies off is controlled by the practice and experience of the angler. It is not an easy cast to make, and requires a good deal of practice. It is hardly possible to describe it, and must be seen and studied to be understood clearly. Fig. 15, Plate XIV, will show the position of the line and the attitude of the fisherman at the most critical moment of the cast (*A Book on Angling* pp. 325-6).

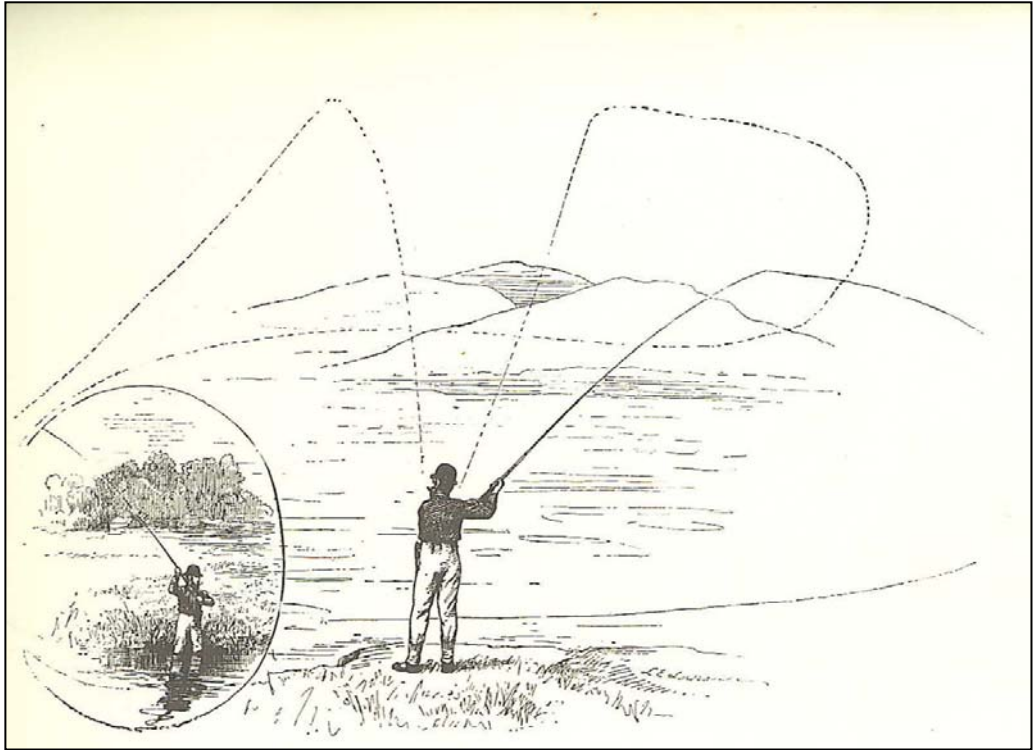
We refer to this type of cast as ‘Spey’, but in the 19th century it was practiced on rivers other than the Spey. Francis Francis in a footnote in his *A Book on Angling*, [my copy is the fifth edition published in 1880] says that “This cast is called by various names ; sometime ‘the Welsh or Spey cast’, or according to the name of some other river where it is practiced.” Those old terms such as switching and Welsh were long ago abandoned and this cast is now commonly referred to in the salmon and steelhead fly fishing world as the Spey cast. If you had not practiced the cast before, I think you would have a fairly difficult time in learning the Spey cast from Francis’ words and his one illustration.

Another two decades or more passed before another salmon fly fisher attempted to describe and illustrate the mechanics of this type of fly cast. Eric Taverner in *Salmon*



Fishing (1931) gives due credit for this to George Kelson of *The Salmon Fly* (1895) fame. Kelson devotes 40 pages to the different casting techniques of the day, with 15 pages on Spey casting and discussion about it, as well as three full-page illustrations to illustrate the Spey technique. Space doesn't permit all of Kelson's discourse. He writes about the cast's essential steps:

Now the great thing in this cast, the pure essential part upon which it entirely depends, is to compel the line to strike the water after lifting it out instead of sending it back in



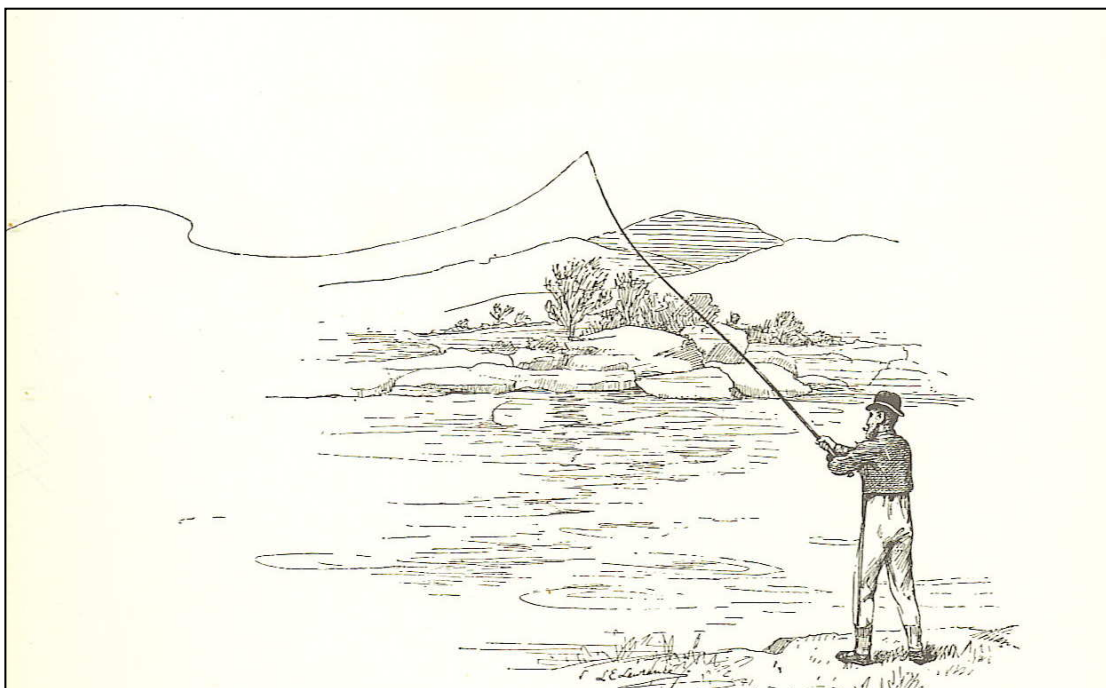
the air. Bearing this in mind, let us fix our attention on the special features of the procedure from beginning to end.

The tackle being extended down stream, you first get a *downward* curve in the portion of line out of water, by raising the rod somewhat gently towards the position seen in Illustration No. 1; then, without any intermission, you get the curve in the contrary direction (*upward*) on the eve of lifting the fly-end out, by slightly dropping the rod-point when near the perpendicular, *outwards*; and, still carrying the rod easily and regularly back and round *inwards*, so that the point of it forms the outline (see Illustration 1) of a reversed letter S, you finally complete the cast, just as the fly-end of the line is lightly striking the water near your outer side, by a hearty "thrash-down" aimed at the destined direction of the fly, as depicted in Illustrations Nos. 2 and 3.

The student should get these few words fixed in his mind and be able to follow their meaning before perusing further explanations. When he has succeeded so far, having, I take it, become intimate with the "Underhand," if only by the association of ideas, he can mentally draw comparisons between the early part of the two casts, and form a clear notion of the design and purpose for which each is done. He will realise that in the Spey cast instead of the fly being drawn out of water higher and higher from its surface until it turns up and round in the air behind the Angler, it has (with one brilliant exception) to be drawn no further up-stream than beside him. And he

will understand that by the law of mechanics as the fly has to strike the water beside him, the point of the rod *must* descend for that purpose before it finally rises to make the thrash-down. The very fact of this descent and ascent compels the fly to take an up-and-down course in the air before it strikes the water (pp. 336-340).

When I read Kelson in 1981, I found that the wordiness in his descriptions and his distractions confused rather than aided me in learning to Spey cast. However, the Spey casting seed was planted.



It was left, however, to other angling writers to water that seed from which growth flourished. Eric Taverner in *Salmon Fishing* (1931) writes about earlier fly fishing writers' failure to pen a concise description of Spey casting and in his book he includes nearly four illustrated pages on how to do the single and double Spey casts. This is the earliest attempt I have found in which the author describes the two Spey casts and is worth repeating. He writes:

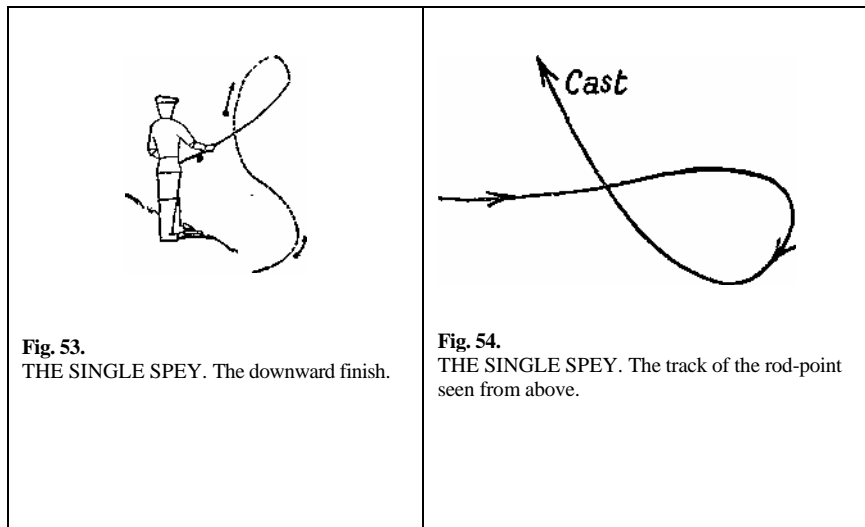
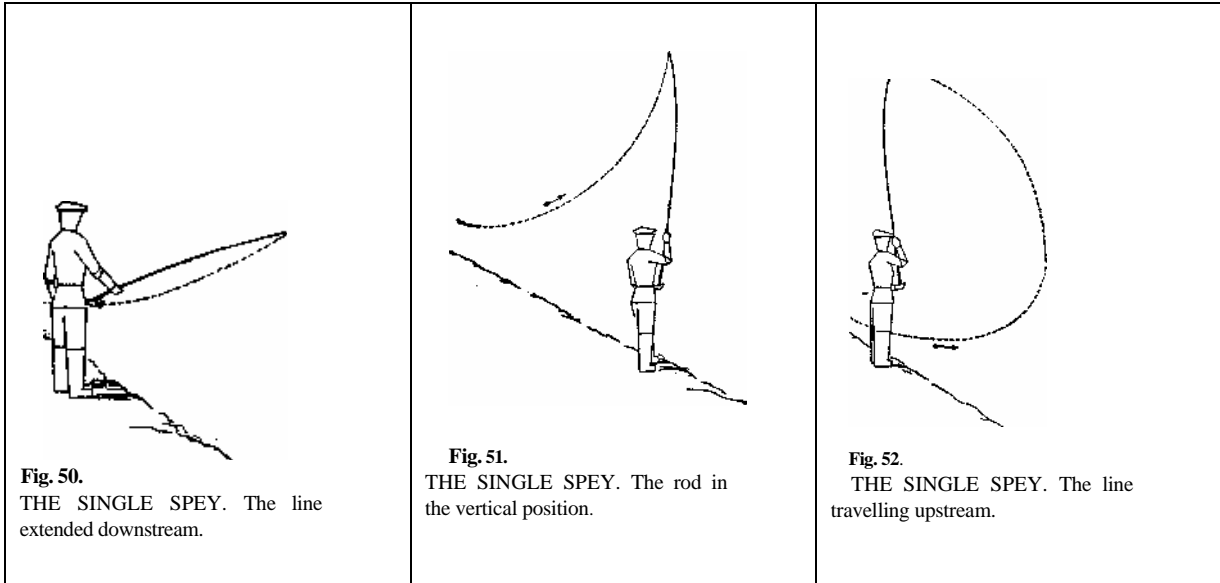
The Spey-cast.

This cast is really the same as a switch done sideways. The difference lies in attempting to place the fly outwards, over the river, instead of returning it to the same plane ; also there is far more power put into the forward stroke, so that the fly and the line may clear the rod, when the last-named is brought downwards in the new plane, viz. outwards and across the river.

Of all casts this is by far the most difficult to describe. It has been attempted several times without much success ; and these notes and diagrams are offered in the hope they will make more intelligible the teaching of an expert by the river, for that is certainly the only way to learn how to do the Spey or Welsh throw. The analysis of the actions of the cast are not intended to supplant the instructions of the experienced caster, but are meant as a grounding in the principles that will relieve him of elementary explanations and will make his teaching the more valuable.

Imagine there are behind and a few yards above you trees, bushes, or other such obstacles that in the ordinary way would constitute almost insuperable difficulties, if you employed the overhead cast. For even if you were able to throw the line sideways upstream, you would find it no light task to place the fly across the water at

the desired angle. It remains, therefore, to use either the Spey-cast or the Switch. Let us also imagine there is flowing at our feet a moderate current, which will make it possible to get the full extension of the line and to ensure the fly being near to the surface. The latter is a most important factor in the successful achievement of the Spey-cast ; and lack of an adequate flow of water, from which the fly may be easily picked out, will make this throw most difficult and sometimes out of the question.



The first thing to settle is where you wish to place the fly and then to turn your body towards it. Let the inland foot be slightly advanced. Then lower the point

of the rod, so that the distance travelling by it in being raised may be as great as possible and the maximum impetus imparted to the line.

As soon as the line is well extended downstream, place your left hand under the rubber button, so that, when the rod is in the upright position, it shall rest on the open palm. The right hand, which is to do most of the work, is to maintain a moderate grip on the upper portion of the cork-handle.

Then start lifting the rod into a nearly-vertical position, accelerating slightly to maintain the *pull* of the line at a constant strength. The line will at first follow in a downward-curving belly and the fly will be drawn to the surface and follow without actually losing touch with the water.

When the rod has arrived at a vertical position, incline it outwards and a little downwards, so that the belly receives a twitch that will cause an upward humping and the fly to leave the water and to travel just upstream and close beside the caster. Describe with the tip of the rod an ovoid path, the return portion of which comes back over the right shoulder and proceeds outwards and across to the spot aimed at.

The outward inclination of the rod is made with the object of giving time to the fly to reach a position just upstream of the angler. From there the line and fly can be propelled across the stream without getting entangled ; and the fouling of the line is a frequent danger against which you ought to guard most assiduously. You must satisfy yourself the fly is either opposite or above you, before making the cast, otherwise the hook will most likely take a firm hold in some part of your body, probably the ear. If the fly is not in this position, the line should be cleared downstream with a switch and the motions of the cast should be repeated.

As soon as the line is travelling in the desired direction, you can safely add the cut-down finish to the throw, that is, bring the rod down rather smartly with a flick of the wrist to a position a little higher than the horizontal. But, although the rod should be permitted to follow through the body ought to be consciously held back.

It is a very common fault in those accustomed to overhead casting to raise the arms as high as they naturally would in that cast; but in Spey-casting, double or single, the upper hand should not be lifted higher than the ear.

The essential part of a really good throw is the maintenance of the rod's motion throughout. There should be absolute smoothness without the suspicion of a pause or a jerk ; but the two conditions precedent are : the use of a suitable rod, limber, rather heavy in the middle and joined by splices, and of a line of a weight adapted to Spey-casting, namely, one that has a steep taper and a moderately heavy middle. Without this type of line you will find, in throwing against even a light breeze, that the fly will be projected in the right direction, but will fall short; and possibly both it and the cast will be doubled back.

Both kinds of Spey-casts are apt to throw the line on the water before the fly and also to disturb the pool unduly. You ought to try and cast at a point a yard or even more above the place at which you are aiming, which may have the effect of reducing these disadvantages.

The double Spey-cast.

When a strong downstream wind is blowing, it is dangerous to employ the ordinary Spey-cast, as the fly is carried against the angler's person when it is being

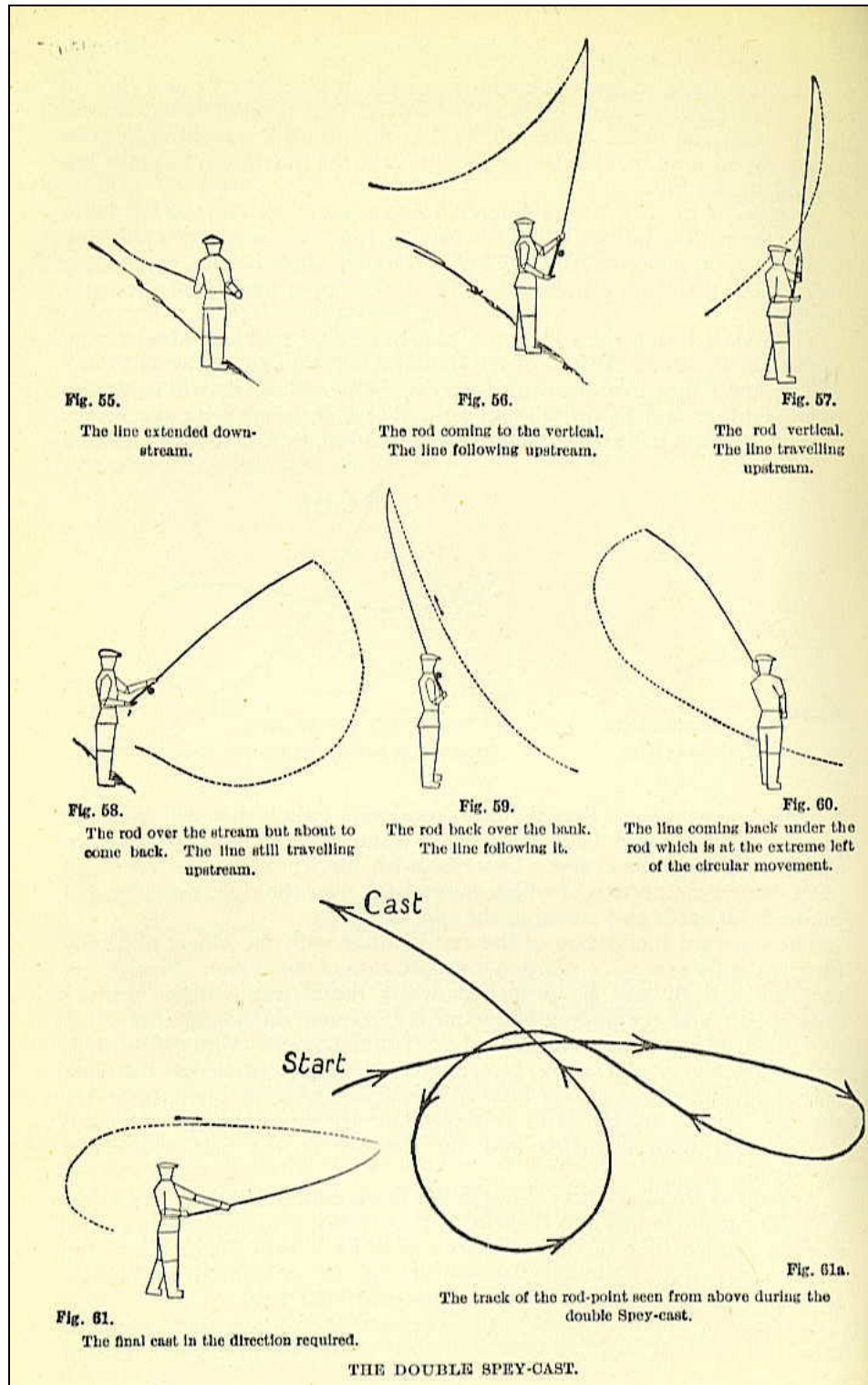
propelled across stream by the downward cut of the rod. If only his cap is hooked he is lucky ! The double Spey-throw has, accordingly, been devised, which gives the angler the power of casting a fly under these disadvantageous conditions and of casting it, if anything, often too straight across.

If you wish to use this cast and are still fishing from the left bank, you must place the left hand uppermost on the rod and the right hand underneath the button. The left hand will do the work of guiding, controlling and propelling. As soon as the line is well below you, raise the rod exactly in the manner of the single throw, except that the rod-point comes round to the vertical, having followed an outward path. When there is a long line out, the rod should be brought into a plane much beyond the vertical and the hands and the elbows should be crossed, left over right.

It is then taken across to the left side and inland of the body and brought round to pass over the left shoulder until it is opposite the spot to which the fly is to be thrown. The rod is then brought smartly down and the body is again held back. The diagrams will explain the path of the rod-point far more lucidly than the most careful description in words could ever hope to achieve. It is worth noting that the fly never travels in the air above the caster ; and that it touches the water just below and close to his left side, instead of just above him. The danger of his being hooked, therefore, does not exist. In this cast also the movements ought to be continuous with slight accentation, as the point reaches the vertical positions over the right and over the left shoulders and in the finish.

If there is a really strong gale blowing downstream, which is making it an impossible task to extend the line behind in the overhead cast, a double Spey-cast, employed very indifferently, is infinitely better than the former, provided the angler can carry out properly the final movement of the cast.

In making the overhead cast the importance of feeling the *tug* or *pull* of the line on the rod-point was insisted upon. The essence of all forms of underhand casts, switch and both Spey-casts among them, is that the *tug* shall proceed from the line being held down by the water. The shorter the line to be thrown, the longer ought the caster to postpone the forward stroke, always long enough to allow the fly to sink a little in the water close to him and thus get firmly enough anchored to give the *tug*. This is of prime importance. I have mentioned it in the last paragraph of the chapter, in order to emphasize it (pp. 144-8).



I found Taverner's illustrated words helpful, however, there were a couple of other works that played crucial roles in my effort to learn how to Spey cast. In 1952, Jock Scott's book *Fine and Far Off* was released and it details the casting techniques of the all-time master, Alexander Grant. Scott dedicated this book to Grant calling him "The

Wizard of the Ness” Grant grew up in the Spey Valley and learned his salmon fly fishing and casting skills on the pools of that famous river. In later life he moved to the Ness where he perfected his switch-casting technique and his style of fishing “fine and far off.” In his introductory chapter, about Mr. Grant’s fishing skills, Scott writes:

Perhaps it is unfortunate that Mr. Grant's name and methods are most frequently associated with record casts, and controversy thereon—of which, more later—but in this volume I am interested only in his methods from a fishing point of view. The value of his method lies, to my mind, in the fact that the ordinary mortal may make casts of tournament length under actual fishing conditions, if required. What he himself has done in the past merely serves to show what can be done, and what he did was far more than is needed under fishing conditions—maybe 20 yards more—for he has actually cast a fly 60 yards. However, while such colossal casts may be done under favourable circumstances, they are exceptional; but I should like to emphasise the fact that he habitually—not occasionally—hooked and killed fish at from 40 to 50 yards' range. He deliberately, and from choice, approached his fish from that distance, and his long list of catches, ranging from 6 lb. grilse to a salmon of 55 lb. from the Garry, proves that he was working on sound lines (p. 28).

Grant developed his own cast, a variation from the Spey cast of his early fishing, and called it a switch cast. That Grant was an amazing switch caster is well documented in *Fine and Far Off*. On the River Thames in the 1890s, R. B. Marston measured and recorded in *The Fishing Gazette*, a Grant cast of 56 yards. However, his longest cast took place in a competition on the River Ness in 1895 and on that day he switch cast an amazing 65 yards. Grant did not shoot line and he picked up the entire line in one effort with these amazing casts. About Grant’s casting technique on pages 98, 108 and 109, Scott writes:

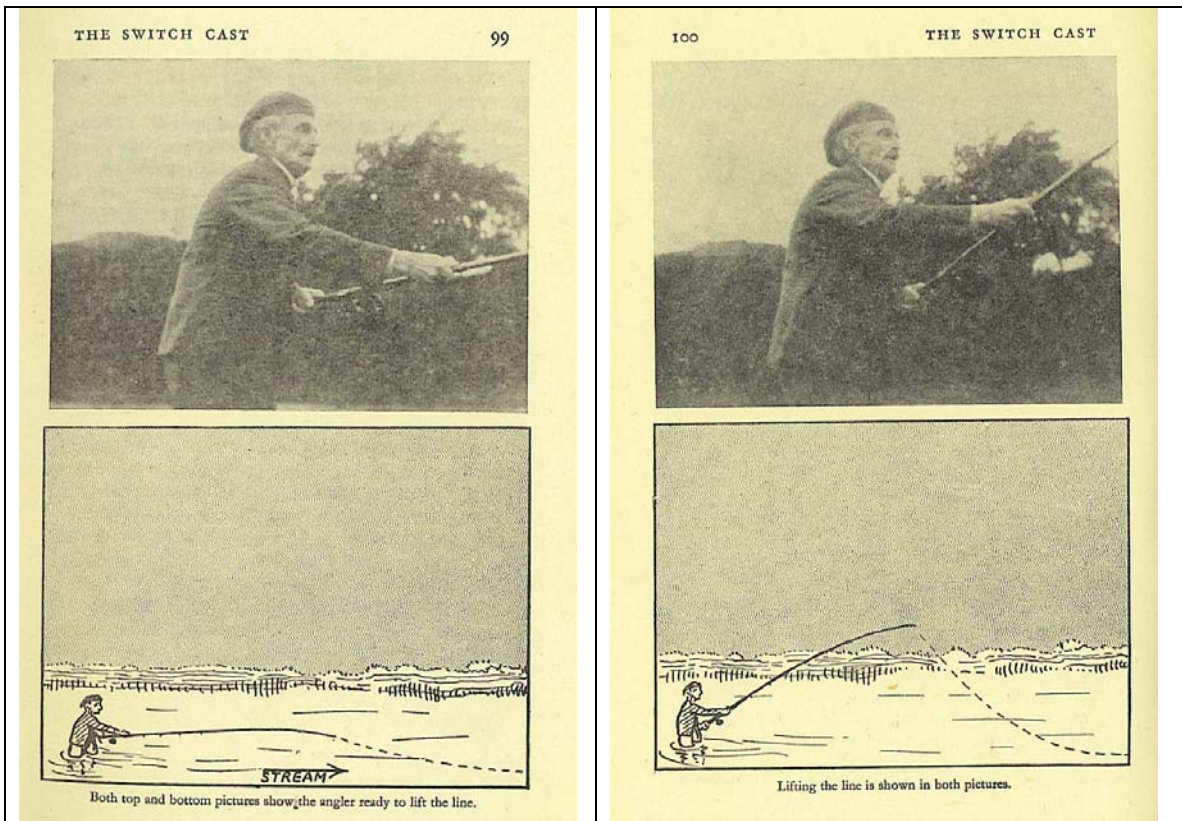
To make a cast in the Grant style, the rod is gripped as previously described The line is downstream, parallel with the bank, the previous cast having been fished out. The rod tip should nearly touch the water, and the line be tight in the stream. When you feel that you have all the weight on, *i.e.*, that line and fly are tight, very slowly raise the rod to an angle of about 60°, or rather higher, then pause. Look at the line, and judge how much is left in the water. If you think that the rod is not high enough, raise the hands until you are satisfied that the amount of line left in the water is such that you can comfortably pull it out. Having levelled the rod—adjusted its height—make sure that your leading arm is straight out from the shoulder. Now you are ready to cast.

Turn the wrists slightly outwards, so causing the rod-point to turn away from your shoulder, then, without pause, pull back by flexing the arm until the rod-butt is close up to the shoulder. Do all this slowly and without a jerk. Several things happen. The slight outward turn causes the line and fly to jump off the water by sending a little upward wave travelling down the taut line. The pull-back now brings the line flowing through the air on an absolutely horizontal line, a dead even keel, as shown in the photographs and sketches.

This turn and pull-back are the critical phase; if they are correct, the rest of the cast is bound to be so. It will, perhaps, help if I describe how the cast feels.

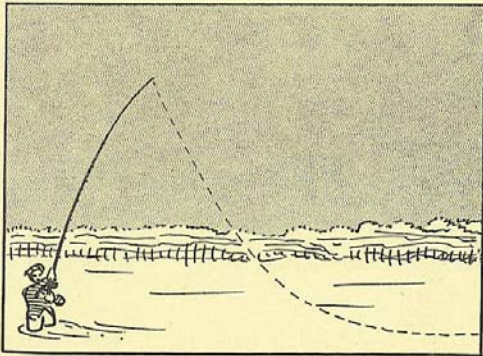
The rod is levelled ready to cast. You then turn your wrists slightly outward—not back towards you, but outwards—and feel for the weight of the line. As you begin to come back you get hold of the line and can feel its full weight. Pull away at it until the rod is close against your shoulder, and your elbow is right out with the arm doubled, then stop, as in the overhead. Suddenly you will feel all the weight go off the rod-top; the line at which you have been pulling will momentarily run off your hands and, as it were, disappear into the blue. That is the signal to make the forward shot. Immediately you do so you will find that the line has reappeared from nowhere and that you are pulling at a solid weight. Do not cast by extending the arm; merely give a short, sharp flip with the wrist, and away goes the line beautifully, easily and as straight as the proverbial die.

The words describe the casting technique well, however, on pages 99 through 108, Scott included a series of photographs with corresponding sketches showing Grant's technique that proved to me that a picture is worth a thousand words.

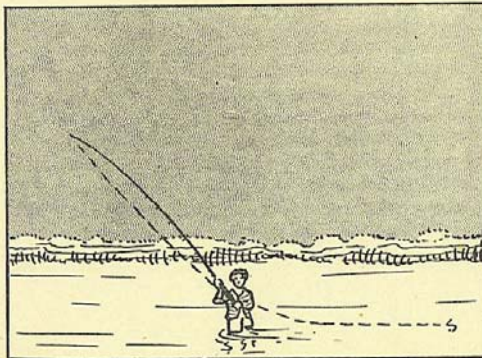
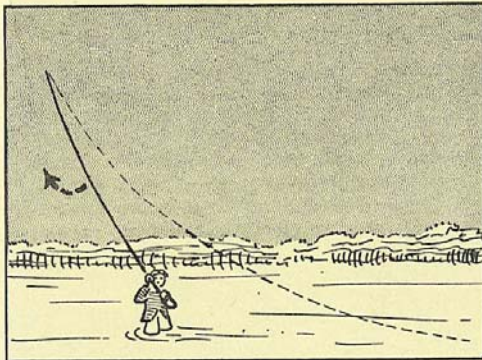
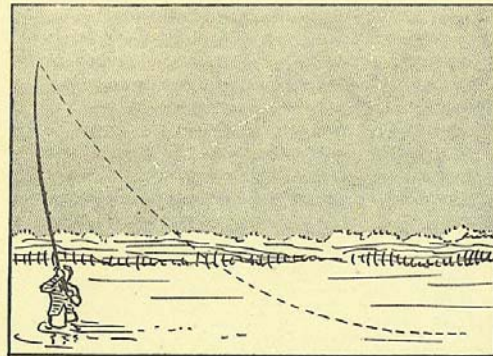




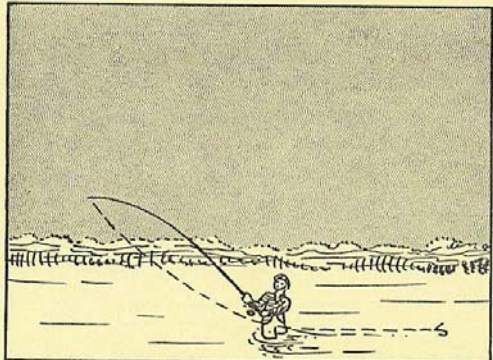
This and the following two illustrations show the line lifted and the swing about to begin.

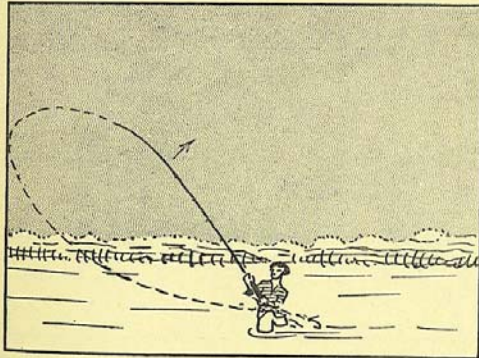
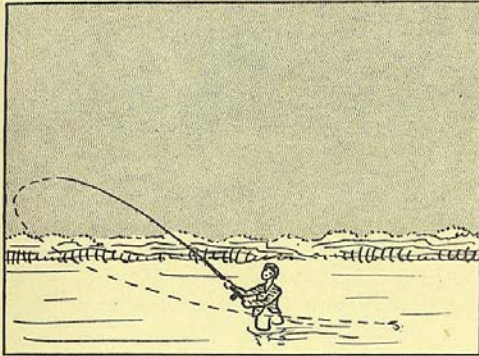


The swing beginning and continued in the two following sketches.

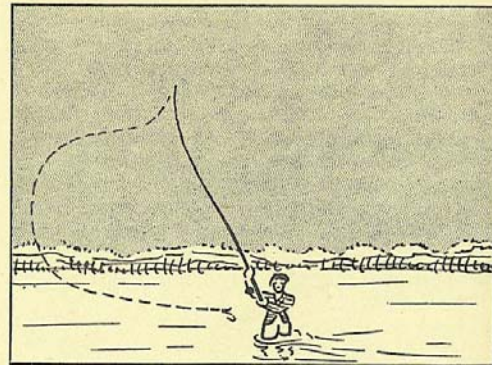


Here the swing is continuing and the action shown in the three further sketches.





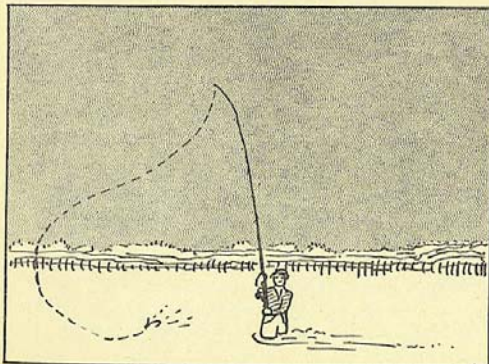
Both pictures show the rod right back and reversing its curve.



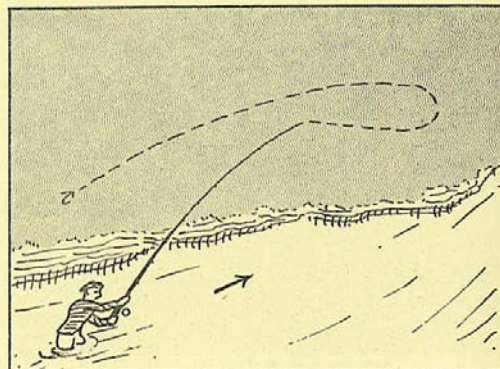
Rod reversing its curve.



Shows the beginning of the forward shot.



Rod moving forward.

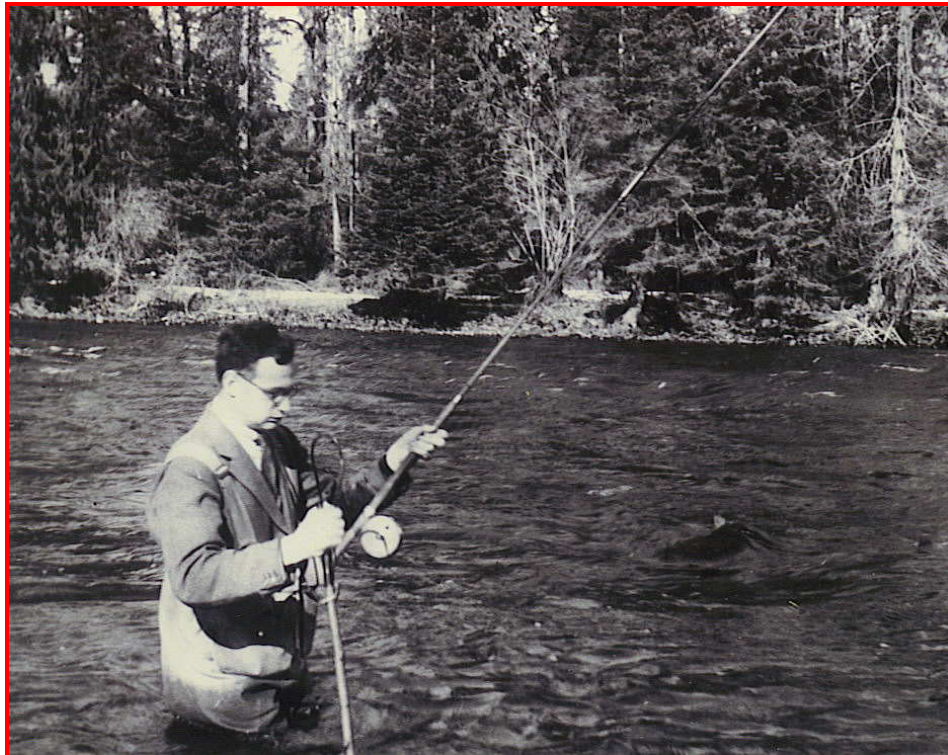


The end of the forward shot.

Grant's switch cast is similar to the single Spey and when I acquired *Fine and Far Off* in 1983 this series of pictures and sketches helped me considerably to learn the basics of the single Spey cast. Many British salmon fly-fishing authors have sections in their book on fly casting and some say that the Spey is a refinement of the switch. Most modern day books make no distinction. John Ashley-Cooper, with approximately 10,000 salmon killed on his rod, is one of the greatest Atlantic salmon fly fishers of the 20th century. In the Spey River section of *The Great Salmon Rivers of Scotland* (1980), Ashley-Cooper, about switch-casting and rods specific for that purpose, writes:

The Spey has given its name, as is well known, to a method of switch-casting which nullifies the obstacle of high banks or rock faces behind; and it is a joy to watch this cast when practised by a skilled exponent, of which there are many in the neighbourhood. A special type of rod has even been designed for perfecting this cast, the renowned 'Grant Vibration' spliced greenheart, which was first produced in the late years of the last century by Alexander Grant of Inverness. Grant, a schoolmaster by profession, and a violinist as well as a fisherman in his leisure hours, was a redoubtable champion in the fishing world of his day. He is recorded as having switch-cast sixty-five yards without shooting any line (p. 23).

In the Spring issue of *Fly Lines* look for Part II, which concludes the summary of British literature and then looks at early North American Spey casting references. You will learn who the fly fisher below is and the role he played.



Fly Tying

THE TOM THUMB

By Bill Jollymore

One of the most popular flies for B.C. waters, it first appeared on the scene about 1947. The story goes that a Californian Doctor brought it to the Jasper area. The name is credited to Colley Peacock, a Kamloops fly fisher, fly shop owner and guide who was working as a guide in that area.

Hook: Size 10 to 12

Tail: Deer hair

Body: Deer hair

Wing: Deer hair



STAGE ONE: Tie in a small bunch of fine deer hair for the tail



STAGE TWO: Tie in a bunch of deer hair on the length of the hook shank over the tail.

STAGE THREE: Fold the tip section of the body hackle hair to the front of the hook over the eye, tie down at this point.



STAGE FOUR: Pull hair tips up and tie head under hair cocking the tips forward.

Tied in this style the fly represents an emerging Caddis standing on the nymph case and when pulled along the surface it represents a scurrying traveler sedge.



VARIATIONS:

1. When the fly becomes chewed up and bedraggled, it will sink in the surface tension and is deadly in this format
2. Dressed very small, thin and with very pale deer hair the Tom Thumb is excellent in representing an adult mayfly.
3. Dressed very small, with less wing, and fished as a hatching chironomid it is very productive. Size 10, 12, or 14 works best.

Note: The master fly tyer Bill Jollymore has been dressing flies for more than 60 years and the 2004 recipient of the Jack Shaw Fly Tying Award.

Of Lice and Men Continued

In the Summer 2005 issue of *Fly Lines* we had a short piece about Alexander Morton receiving the Totem Fly Fishers Roderick Haig-Brown Award and a related piece called *Lice and Men* by Rob Brown. Both of those items relate to the problems associated with sea lice and wild salmon. Rob Brown has another piece in the issue called *Lice Ain't Nice*, that compliments his *Of Lice and Men*, which first appeared in his weekly column for *The Terrace Standard*. I sent a copy of the Summer issue of *Fly Lines* to Stephen Owen my MP with a brief note saying I was disappointed with DFO and their efforts to discredit Morton and directed him to pages 26 and 31. He subsequently sent my note to Geoff Regan, Minister of Fisheries asking him to respond. This is the minister's response and following that are a few comments from Dr. Craig Orr (Executive Director of Watershed Watch). Rob Brown's piece follows Craig's comments.

Minister of
Fisheries and Oceans



Ministre des
Pêches et des Océans

Ottawa, Canada K1A 0E6

AUG 19 2005

Mr. Art Lingren
3588 38th Avenue West
Vancouver, British Columbia
V6N 2Y1

Dear Mr. Lingren:

I am in receipt of your recent correspondence to my colleague, the Honourable Stephen Owen, Member of Parliament for Vancouver-Quadra and Minister of Western Economic Diversification. You forward the Summer 2005 edition of *Fly Lines*, the official publication of the British Columbia Federation of Fly Fisheries. I will address the note you penned to Minister Owen and Rob Brown's article "Of Lice and Men."

Fisheries and Oceans Canada (DFO) is very familiar with the pink salmon research done by Ms. Alexandra Morton over recent years and is certainly aware of her determined efforts and commitment to conservation. The more we learn about the parasitic relationship between sea lice and salmon, the better we will be able to ensure the protection of fisheries resources for the benefit of all Canadians and British Columbians. Please be assured that the Department's priorities for the conservation of wild salmon, as stated in our *Wild Salmon Policy* in June 2005, will remain foremost in our actions.

"Of Lice and Men" suggests there is adequate information to draw conclusions. In our view, this is not true for the important questions about the mechanisms involved and the impact on wild salmon. Regrettably, the relationship among sea lice, salmon farms, and wild Pacific salmon in the Broughton Archipelago is not as "black and white" as portrayed in the article.

The salmon aquaculture industry had been present in the Broughton Archipelago for fifteen years before the report of sea lice on juvenile salmon by Ms. Morton in June 2001. Sea lice on adult salmon is a common occurrence, but sea lice on juvenile salmon is unusual. Our current concerns are as follows: Why have sea lice now become prevalent on juvenile salmon in the Broughton? What is the

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Canada

impact of this change? To manage the issue, however, the Department requires a sound scientific basis to support changes in how the salmon aquaculture industry functions and we have a responsibility to ensure that our actions will be effective. Despite the fact that different groups place different values on the salmon farming industry, the industry does provide important income to coastal communities throughout British Columbia.

There are three points in the article that require clarification.

Lepeophtheirus salmonis (L. salmonis) is not only associated with Atlantic salmon. This misconception probably resulted from the sea lice issue originally being associated with Atlantic salmon farming in Europe. L. salmonis is common on all adult Pacific salmon returning to our coast; it is a host-specific species of louse (specific to any marine salmonids), whereas the species *Caligus clemensi* is a generalist louse found on many species including salmonids.

While DFO has acknowledged that the paper (by Krkosek, Lewis, and Volpe) published in the *Proceedings of the Royal Society of London; Series B, Biological Sciences* is a useful contribution to understanding the sea lice debate, it cannot be considered “conclusive and unambiguous”. That study reported on one year of data, involving one farm site, and a one-dimensional model. It did not involve some fundamental scientific processes, such as testing of hypotheses, validation of a model, and repeatability of predictions. Only by testing the predictions of models and developing understanding of processes can science truly say that it has the knowledge to declare something as conclusive. By saying this, it is not meant to belittle the contribution of this study. These cautionary comments are actually a much more consistent interpretation of what the actual research paper reports than many of the comments in the media release associated with that paper. The paper does contain many comments cautioning about the conclusions drawn and limitations to this study. This is how science progresses over time.

Regarding Dr. Riddell’s comment that the article quotes, I agree that examining the farms as a source of juvenile lice is common sense given the number of open net-pen farms in that area and the experiences in Europe. However, while farms may contribute lice to the marine environment, it is a much more difficult task to prove that they increase the natural mortality of juvenile salmon. Unfortunately, direct evidence of cause and effect could take years of observation as has occurred in Europe where that debate still continues.

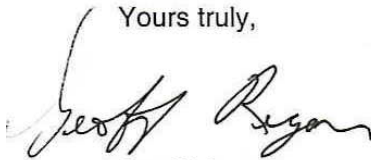
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Departmental investigations are now focused on continued research and on managing lice on the farms. Scientists are monitoring the incidence of lice in the farms and on wild fish. They are undertaking studies to understand the dynamic interaction of the farms, lice, salmon, and the environment. At the same time, sea lice incidence on the salmon farms is managed at a low tolerance to minimize any risks associated with the transmission of lice. This action recognizes that wild salmon should not be placed at risk while the scientific basis is developed.

In addition, this year, as in the past three years, we have been more closely monitoring the abundance of salmon in the Central Coast region to aid us in determining what the ultimate effect on salmon survival might be.

I appreciate the opportunity to clarify some of the points in this article of *Fly Lines*.

Yours truly,



Geoff Regan

Cc: The Honourable Stephen Owen, M.P.

Art:

Regan's response clearly represents a colossal ignorance of the subject, a deliberate attempt to mislead and waylay, or both.

Adaptive management specialists such as Buzz Holling have spent years studying people like Regan (politicians and bureaucrats) who push their "vested interests" through "deliberate use of uncertainty to maintain status quo policy", and by shifting the burden of proof to ordinary citizens. By claiming that ecosystems are complex (duh) and that more study is needed before we completely understand the relationship of sea lice and salmon and before we act, we deliberately and willfully fail to act until even more damage is done. Holling and his colleagues call this a "regional pathology of resource development and renewal resource management."

This is all curious in light of Canada being an international signatory of the "precautionary principle" which states that a lack of information cannot be used as an excuse for not acting in a cautionary manner.

Regan is also incredibly dismissive of peer-reviewed science that adds to the weight of evidence that sea lice seen on juvenile salmon originate from salmon farms and that these lice likely have population level impacts on wild salmon. This is essentially the consensus statement issued by 25 scientists who gathered at Simon Fraser University in November 2004. Is Regan saying they're all wrong? DFO scientists were also there. Did Regan provide a shred of peer-reviewed evidence that farms are not the source of lice and are not harming fish? I also see he fails to mention that the Pacific Fisheries Resource Conservation Council's 2004 annual report is critical of Regan's department for "skirting the issue of detecting whether or not there is a link between sea lice on farmed [and] wild salmon and whether sea lice are contributing to pink salmon mortality."

I note the minister also cites his concern for the economic contributions of salmon farming. Perhaps you could ask him if he's completed a trade-off analysis of the costs that farming may impose on tourism, fisheries, and ecosystem function.

Good luck in your response, and may the fish gods grant you infinite patience.

Lice Ain't Nice

By Rob Brown

Lice have never received so much ink on this side of the Atlantic as they have in the last couple of years. The lousy parasites have that indefatigable champion of the Broughton Archipelago, Alex Morton, that curmudgeonly, conservation-minded conservative mouthpiece, Rafe Mair, all those tireless warriors who make up the groups that, in turn, make up the Coastal Alliance for Aquaculture Reform and concerned individuals who know a bad idea when they see one to thank for the publicity.

Lepeophtheirus salmonis, is the big scientific handle for the little creature responsible for all this fomentation. That's *lep-the-op-the-yur-us sal-mon-iss*, if you want to affect a way cool scientific pose, or *Leps*, if you'd rather warp your tongue.

Leps have a taste for fish flesh, fish fins, skin and mucous. They've been chewing on adult salmon forever, as any river fisher will tell you. On a large fish they're an irritant but the same can't be said for sardine-sized salmon smolts.

Salmon juveniles are crippled and killed by Leps. Formerly this wasn't a significant problem since the lice rarely attached themselves to the wee salmon, but all that has changed dramatically since the introduction and expansion of fish farming in the oceans.

Since the advent of salmon aquaculture, lice infestations of juvenile salmon known as epizootics have become commonplace in Norway, the British Isles, Chile, New Brunswick and on our coast – all the locations where salmon farming is thriving. You won't be surprised to learn that in each of these locales wild salmon runs have declined.

That farms are the primary source of lice is no longer debated in Europe. In Scotland, research scientists have found that lice larvae concentrations existed only in waters that had salmon farms. In Norway, 220 million farmed salmon produced something in the order of 145 billion lice eggs during the period of wild salmon

migration. In Norway, Scotland and Ireland about 90% of all the lice come from salmon farms. The remainder come from escaped farm salmon.

Closer to home, non-government organizations hired researchers to study the situation in the Broughton Archipelago, where they found significantly higher numbers of lice on juveniles collected near the fish farms there. Not only that, the researchers discovered that the juvenile salmon did not pick up lice until they came near the farms. They also found that the lice infection near the farms was 73% higher than normal and the effect of the farm, its “footprint,” extended for 30 km out from the facility.

In November 2004, 25 scientists gathered at SFU to review the above findings as well as those from elsewhere. Their conclusion: the weight of evidence showed that the lice killing wild juvenile salmon were produced by the salmon farms.

The problems associated with lice don't end there. Parasites are notorious vectors of disease. Dreaded fish plagues like infectious salmon anemia and a dreaded piscine kidney disease called infectious hematopoietic necrosis can be conveyed by lice.

Since lice can increase stress and reduce the growth of farmed salmon, fish farmers aren't fond of them either. A typical New Brunswick fish farmer will spend about \$350,000 per crop of fish as a result of downgrading, mortality, stress-related growth reduction, labour and chemical costs in lice control attempts. And what about the cost to the marine ecosystem in pesticide contamination?

So what does our government do in response to all this evidence? They've downplayed or flat out denied the risk to wild salmon, claiming there is no “definitive proof of the link between farms and lice and their impact on wild fish”. DFO has clung onto the flimsiest bit of uncertainty like the survivor of a ship wreck clinging to the remains of a wrecked life boat, in a pathetic effort to justify the status quo. They've deviously attempted to shift the burden of proof onto the conservation organizations and the public. The department has done its utmost to dodge their own scientific responsibility in an area that clearly falls within their jurisdiction, while expending energy in a ludicrous attempt to disregard and dismiss the weight of evidence and the scientific consensus with absurd contentions, like BC is somehow different from Europe when it comes to lice and salmon.

The Auditor General has said that DFO can't be both the protector of wild fish and a promoter of unsustainable fish farming practices.

“Perhaps the largest cost of lice,” said Dr. Craig Orr of Watershed Watch, “is the loss of public confidence in the sustainability of currently favoured open net-cage farming practice and in the government itself.”