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A Companion Volume by the same Author

TROUT FISHING

A Study of Natural Phenomena

By WILLIAM EARL HODGSON

NEW EDITION

Containing a facsimile in Colours of a "Model Book of Flies," for Stream and Lake, arranged according to the Months in which the lures are appropriate.

Some Opinions of the Press

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Truth.—"It is beyond doubt the most fascinating and original contribution that has been made to angling literature for many years."

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SALMON FISHING

WILLIAM HODGSON

SALMON FISHING ON THE DEE

FROM THE PICTURE BY JOSEPH FARQUHARSON, A.R.A.

In the possession of THOMAS J. BARRATT, Esq., London

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1907

SALMON FISHING

BY

William
W. EARL HODGSON

AUTHOR OF "TROUT FISHING"

WITH A FRONTISPIECE BY JOSEPH FARQUHARSON, A.R.A.,
A FACSIMILE IN COLOURS OF A MODEL SET OF FLIES FOR
SCOTLAND, IRELAND, ENGLAND AND WALES, ILLUS-
TRATIONS OF ANGLING SCENES CHARACTERISTIC
OF THESE PARTS OF THE UNITED KINGDOM,
AND PICTURES OF SALMON PASSES

A. & C. BLACK, LTD.
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1920

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First published in June 1906

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H57
1920

TO
‘MISS WINSOME’
NOW MY WIFE
THIS BOOK
ON A SPORT SHE DELIGHTS IN
Spring, 1906.

M846417

PREFATORY NOTE

In writing this book I have, with permissions, made use of papers that I had the honour of contributing to "The Times," "The Cornhill Magazine," "The Pall Mall Gazette," "The Monthly Review," "The Fishing Gazette," "The County Gentleman," and "The Evening Standard and St. James's Gazette." I trust, however, that the volume will not be regarded as being a compilation of writings already published. It is not so. The book is not produced merely because the papers had been written. The papers were written as a preliminary sketch of the book. Excepting in the case of the contribution to "Cornhill," "The Otter's Stone Pool," only portions of them have been used, and the

portions have been recast and developed. Besides, these, although the acknowledgments make them seem a good many, constitute only a very small part of this volume. That is to say, this is a fresh work.

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The first of these is the fact that the
the second is the fact that the
the third is the fact that the
the fourth is the fact that the
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These, a NICHOLSON and a DUSTY MILLER, are presented in order to show
the range of sizes in general use.

SALMON FISHING

CHAPTER I

SPIRIT OF THE CHASE

Cosmos and Man's Mind—A Quality of Living Literature—Stag-Fright—Salmon-Fright—The Judge's View—Experience Teaches—Off to the Fishing—A Jovial Millionaire—"Wanderin' i' the Mind"—How Fishing Differs from all Other Sports—A First Salmon—In Trouble on the Dee—The Vividness of Memory.

A POET, as the themes came in the progress of the year, wrote an ode to Spring, an ode to Summer, an ode to Autumn, and an ode to Winter. His friend declared the cycle very fine indeed; but might he put a question? Graciously the minstrel bowed permission. "Well," said the prosaist, "I find that in each poem you proclaim the season you are writing about to be the best of all the year. This you do in good set terms. In Spring you flout the languors of Summer; in Summer you shudder at the crudity of Spring; in Autumn you sing of a lush ripeness, the lack of which

left Summer immature; and Winter has a dignified serenity that neither Summer nor Autumn, and not the Spring, can equal. Now, that is perplexing. Surely each of the seasons cannot be the best? Besides, in your praise of each to the detriment of the others, you have denounced them all. What are we to make of that?" To myself, awe-stricken witness of the colloquy, this speech seemed dangerously inconsiderate; and I expected an answer in wrath, perchance in violence. The poet's hazel eyes flashed fire; but the emotion was not anger. It was ecstatic understanding. "You mean, How do I reconcile the odes?" he cried. "I don't do it at all! Not jesting, but speaking in deep seriousness, I say that I, with the seasons, am like that great man Lord L—— with the ladies. He always said he never was in love but once, and that was with the last one. So it is with myself. Each of these odes is the perfection of sincerity. Each is a faultless expression of feeling at the moment of utterance. They are all true! What matter if the truth be variable? There is no real conflict or incongruity. There is no discord. There are only those differences which constitute harmony. If my odes seem to be in conflict among themselves, that is because you hear them in a single hour. Nature herself would be a turmoil if all the seasons were simultaneous. Nature, in her orderly variableness, is latent poetry. Poetry, the articulation of Nature, is chaotic to the logician because logic is the science of the dense. Poetry

has no appeal for the level-headed. To the level-headed there is no statement, however profoundly true, that is not demonstrably absurd. That is what logic does. It applies itself to elemental things, which are never all of them present at any given moment, and becomes grotesquely arrogant in its unconscious incompetence. Truth of any value is never captured by the level-headed. That is a lesson which Poetry is constantly striving, though in vain, to teach. Take this subject of the odes. Is it the case, or is it not, that each season is the best? I say it is the case." "As presented by Nature, perhaps it is," said the critic; "one certainly would not have summer in December or winter in June." "As presented by Nature? Of course!" answered the poet. "How otherwise could we deal with it?" "Art?" the critic suggested. "Ha! Your canons of Art, then, are but the limitations of the practical mind—defects of the mind in relation to reality, which is infinite? The Scot, with his logic, is as far astray as the Irishman, who has none!" "I cannot but observe," said the critic, "that you use logic to destroy logic." "Reason, not logic," said the poet,— "reason to destroy logic." "You split a hair?" "What then? It may be a very important act. The distinction may be vital. It is the small distinctions that are most easily overlooked. But what has size to do with the fundamental truth of things? Nature, the universe, the infinite, has no quality of size. Otherwise I should point out to you that the whole solar system

is in the universe less than as a group of boroughs in this island. You take an untruth for granted when you speak of hair-splitting as if the phrase proved something. Nature has no relevant traffic in sizes. Size is no more than a convenient delusion of the practical human mind. It fits in usefully with the logic of those who, dealing with temporalities, such as architecture and politics, need to be empirically exact; but it has nothing to do with Nature. Reason has; but reason is not logic. Logic the most precise may be misleading; but reason, never. Reason is the sensitised imagination in conscious contact with external nature, receiving impressions and pondering them. Art is the reproduction of these impressions in symbols—colours and forms, words and sounds. Logic! Art, being a mirage of Nature, Nature reflected in the wondering human mind, has none of it. Reason? That is the beginning and the end of Art! Why? Because Nature, while never logical, is always, and supremely, rational.”

There is comfort in recalling this conversation. It is good to feel assured that the spirit of the sportsman is in one respect identical with that of the supreme rationalist, the poet. The sportsman has the poet's illogicality; he has also the poet's vindication. Unquestionably the best of all pursuits by flood or field is that in which he chances to be engaged. “But why,” some one may ask, “should there be any comparison at all?” It would have been well to have on this point an opinion of counsel,

the poet. I think I can divine what he would have said. The mind of the artist is something more than a sensitised plate. It is a plate that has been used before. It compares one set of impressions with another set or other sets. The contrast is necessary. There could be no reasoning, no art, without it. That explains and justifies certain undertakings often flouted by superior persons as ridiculous. It accounts for each and all of the many "best hundred books"; for the fact that our most equitable men cannot propose Science as a subject at the Universities without speaking despitefully of Greek; and for the inevitability with which the School of Humanities uphold the Classics by denouncing Science in terms that cannot be printed on a page so polite as this. Contrast is essential in all critical or artistic actions of the mind. Has some one, for example, stalked the red-deer and written a narrative of the chase? It may be that there seemed to be no conscious contrast with anything else in his enjoyment of the actual sport; but his narrative, if it be artistic, will be found to derive piquancy from a skilfully conveyed sense that the sport was a delightful interlude in humdrum occupations. Probably he will go so far as to treat his particular recreation as the best of sports. Why not? If he does, he falls in with a usage of the mind which, though it may be the source of antipathetic fallacies, has a result to be warmly welcomed. He becomes enthusiastic, as a poet is when at his best, and says what he has to say in words which, being the most cunningly

arranged and the most attractive possible to him, are close to the truth as he perceives it. Literature born to immortality is in most cases, I think, of roseate hue and happy on the whole.

The immortals, as a rule, seem never to have time for field sports. The few exceptions I can think of at the moment are Walton, Sir Walter Scott, Mr. Lang, and Mr. Blackmore. A passage in Sir Walter here and there shows that the neglected vein is rich; and "My Lord the Elephant," which has the atmosphere of sport, though not the motive, is the happiest of Mr. Kipling's tales. What a book on Salmon Fishing we should have if a poet essayed the subject! Sport, like a battle, being not in rhythm, he would not write in verse; but he would bring to the task a gift in which we pedestrians of the prose plains are lacking. An ordinary vagabond, such as myself, sees all that he would see, and feels all that he would feel; but it is not easy to weave the countless incidents and circumstances, none omitted, into a life-like pattern of words. From the poet's hands, the printed page, with all these thrown orderly upon it, would be a rousing magical lantern.

Emotions to be recollected in tranquillity are plentiful in the sport. A salmon on is a singularly agitating crisis. It is, I think, the most deliciously terrifying in the whole range of British sports. "Do you know stag-fright?" I may be asked. Yes; I do know stag-fright, of which I have had seven attacks. I had it, of course, when first, after nearly

five miles of wary scrambling up a mountain, I found myself within range of a red-deer. "Now!" whispered the crouching stalker, meaning that I was to fire when he should put the stag up, and make him fair game, by whistling. He whistled. Fire? That was the one act of which I was incapable! I could not even raise the rifle. I could not think. I was vacuous. Volition was gone. It did not return until the stag was trotting over the sky-line. Stag-fright is no superstition. It is a cerebral state involving a strange and paralysing play upon the nerves. Still, I think that the equivalent excitement in salmon fishing is quite as lofty. It is not so dramatic; but that is only because in salmon fishing you are even less a voluntary agent. There is not the same long working-up to the critical moment. You know when you are at the red-deer, and then are struck as with a palsy, but you have no warning as to when the salmon will be at you, and are perforce comparatively resigned when he is. He lies unseen, and comes unexpectedly; and you are not so much as in deer-stalking dependent upon yourself. The stag cannot be shot by any action of his own; but the salmon may be hooked without deliberate effort on your part. Often he hooks himself and the issue is joined before you have time to be alarmed.

Nevertheless, there are known cases of salmon-fright. Any one who loses his first fish is liable to the infliction. On Loch Voil one of His Majesty's Judges was catching trout. Suddenly, while he was

drifting down the submerged river from Loch Doine, a strange commotion arose. His Lordship's line cut whizzing through the water round the bow of the boat; the rod bent violently; twenty yards off, a great fish leaped into the air. When it crashed into the loch again the rod and the sportsman unbent. A salmon had come and gone. Next season, in the same month, the Judge and I were fishing on Loch Earn. That is a water in which salmon are very rare. The fish are plentiful in the Earn, almost up to its very source, which is the loch; but they are hardly ever found in the still water. Some say that this is because the loch is impregnated with minerals obnoxious to the salmon; but, as the minerals would go with the water into the river, in which the fish thrive splendidly, that cannot be the explanation. The absence of salmon in the loch is, I believe, accounted for by the excellence of the Ruchil, a stream joining the Earn a little way below the source, as a spawning ground. Instead of taking to the loch, the fish run up the Ruchil. Well, that morning we had not expected heavy baskets. Though April was well advanced, winter lingered. There was a strong wind from the east; the sky was heavy with a grey cloud; snow fell persistently. Still, as is often the case in spring, the trout were rising. We could not see any flies on the water; but our own sufficed to raise many a fish. As we were drifting along the south shore, what should I notice, opposite the ancient Keep of Edinample, about fifty yards off? A salmon! He

rose out of the water. There was no mistaking. At least one salmon had strayed into Loch Earn. He was in a direct line from my companion, who was seated at the stern of the boat, while I was at the bow, nearer the shore. That is to say, if we went on as we were going the learned Judge's flies would ere long fall over the fish. An evil thought beset me. Had his Lordship seen the rise? Perhaps not. He was not saying anything. His gaze was assiduously fixed on the water where his flies were falling. As he was so much absorbed, I might possibly, without being caught in the act, give the oars a touch and send the boat three or four yards out. Then I myself, rather than he, should have a chance of the salmon. This was a quickly fleeting rumination. That fish was clearly his Lordship's bird. I banished the sneakish thought, and inwardly rebuked myself for having allowed it to arise. Silently on we went; silently; silently—until we were very nearly within casting distance of the fateful spot. Then, his line hanging loose in the water, his Lordship turned towards me and ordered me to pull in. "Didn't you see it?" he growled, wrathfully. His tone and his countenance wore the thunderous aspect that would have been the befitting response to a practical joke. Indeed, he believed that I had such a prank in hand. He actually thought I had been wilfully leading him into the salmon's way. Although, the wind being fresh, he was armed with his "storm rod," fourteen feet of cane and lancewood, his Lordship was shirking the chance of again encountering a salmon!

Who shall blame him? When he has caught one salmon, the Judge will be as ready for the next as any seasoned sportsman; but it is not astonishing that recollection of his first battle, in which he was worsted, made him regard the prospect of another with trepidation. Any man who has fought and lost may well have salmon-fright until he has fought and won. The initial and imperfect experience makes a lasting impression on mind and nerves. Indeed, I think it is only because of knowledge that the great fish will probably be vanquished that any of us makes the venture. A fair analogy may be derived from meditation on fisticuffs. Many a one, I think, would be ill at ease if he knew he had to meet a noted bruiser to-morrow; but all is well when you are comfortably fighting. Anticipation is worse than the event. In salmon fishing the reassuring experience often comes through sheer good luck. A fish rises; he hooks himself; whether you wish it or not, you have to go on with the affair. You pull through successfully, and are a salmon fisher for ever afterwards. You will read eagerly every salmon-fishing book or article or paragraph that comes your way; often, when immersed in prosaic affairs of business or of politics or of society, your thoughts will wander to the water; and thither you will go whenever a holiday can be snatched. The prospect of sport is hardly less cheering than the sport itself. How joyful the afternoon that is spent in preparation for catching the Scotch Express! You do not travel by day. That would mean arriv-

ing at night and going to bed before going to fish, which were a procedure much too uninspiring. You are to travel by night, and to be on the water soon after the close of the journey. Tackle-shops have to be visited. Perhaps you want for nothing in the way of gear; but the zest has caught you, and the inclination to see what new flies there may be, whether any one has a new line or a new reel, how the gut crop has turned out, is not to be denied. Regularly a man of my acquaintance, when he has resolved to give himself a few days off, a week before the time of his departure takes all his rods, all his boxes of tackle, his gaff, and even his basket, to be looked to by a professional expert. Usually they are in no need of overhauling; but he cannot resist the opportunity to have grave deliberations about them. At ordinary times this man is engaged in the occupations of the working millionaire; but during the whole of that week nothing is allowed to distract attention from the great topic of the time. That pervades his thoughts and all the hours. Often I have been with him on his expeditions. Instead of retiring to rest in a Pullman car, as an ordinarily decorous Cræsus would do, he begins to unmask his batteries the moment the train is under weigh. The joints of every rod have to be examined; the flies have to be minutely discussed; the casts have to be tested. This, with the careful packing up again, keeps him going until York is reached, or Carlisle; at which place a morning journal is urgently needed. To see what Parliament has been doing? or

what has chanced on the foreign Stock Exchanges? or whether some crisis in international statecraft is being composed or becoming acute? O no; all these have become affairs of no importance. It is the Weather Forecast that is wanted. If it is favourable in relation to needs of the time, all is well: this man, no longer a mere merchant prince, a gleeful schoolboy for the nonce, pictures to himself, and to me, the water at exactly the proper level, the wind in precisely the right direction, and the sky in ideal shades. If the forecast is unfavourable, why, all may still be well. The Meteorological Office is an absurd department. Over and over again it has gone wrong. It says, "Variable light airs, or calm; a continuance of dry weather may be expected"; but just look at the clouds! Isn't that a watery moon? Without doubt there's rain in the wind. The whole Highlands may be in a flood before we touch at Stirling. A slight tendency to doze overtakes him when we have crossed the Ochils; but it is not what it seems. High spirits are not exhausted. We do not now need to quit our seats until the journey is ended, and the butterfly sleep is only a way of saying to himself that we are practically at the riverside. At breakfast, after a bath and change of clothes, the gamekeeper, to our town-jaded eyes and ears a man of singularly brisk aspect and intelligence, sits, cap in hand, a cheerful glass before him, assuring us, in elaborate detail, that the river never was in better ply or so much astir with fresh-run fish.

All this is hardly less delightful than what we expect to follow. How is the spell of the sport to be explained?

Many would say that it springs from joy of the open air. At ordinary times they live in towns, engaged in the bustle of commerce or of social pleasure: to be amid fresh scenes, fresh sounds, fresh silences, is a relief. This one can understand; but it is scarce sufficient. Mr. H——, who resides in the Temple and is Recorder of a great town in Yorkshire, is one of those to whom fishing is pleasurable simply because it is a change of occupation. He came with the learned Judge and me to Loch Lubnaig, and one morning had been fishing by himself. I asked his gillie, who had come for some particular fly, how the Recorder was getting on. "No vera weel, sir," said Angus, sighing. "His e'en are no' on the flees for mair than a second at a time. He's aye for lookin' at the ha'ks an' the craws, up the hull. His Worship is an oarnithoaloger, or a penter, or somethin' o' that sort, maybe; but he'll niver be a fisher. The Recoarder's wanderin' i' the mind." Angus made this report with sad gravity, and, after examining the new fly, went away with no spring in his gait.

He was, I think, quite right. Some men are born to be sportsmen; others are not. To any one who has the instinct of the chase, the first salmon, probably caught at a time when his nature was most impressionable, is an undying influence. It was a unique event. It was a surprise, something wholly

different from any other experience. It was a successful effort of a peculiarly personal kind. His was the skill that raised the fish; his the nerve that fought and vanquished. Even the first ride to hounds, however glorious, is not equal to one's first salmon. It is the dogs, not we ourselves, who hunt; in good truth, though it may seem otherwise amid the glee with which the merry god Pan fills his children, we are onlookers rather than actors. It is we alone who fish, however; we really, not in appearance only; and in fishing, more, perhaps, than in any other sport, we "find ourselves." Sometimes, with the first salmon, the discovery is amid perceptions that in after years acquire an amusing fixity of tenure. That was my own case. In a rough part of the Fife Eden, during a Lammas flood, my phantom minnow, wielded by a trout rod, was arrested. I struck, expecting a trout, and seemed to be fast in a rock. That was only for a few seconds. Something of unusual weight and resolution moved across the pool, and then tore down-stream with a ferocity never before known. Up the high bank I scrambled while the reel whirled, and was off after the fish at a speed outpacing the wind. Across the stubble between a mill lead and the main stream, a boy, rod in hand, came flying to my assistance. On the other side of the river a white-haired gentleman in unworldly orders, out for a walk, quickened his steps towards a plank bridge a hundred yards off. When at length we were able to see the salmon, the boy, representing that the want of a gaff

was a grave drawback, generously proposed to insert his tackle and grapple the fish by the tail. That would make sure, he said. The minister, beside us by this time, supported the suggestion; but my silence was not taken as consent. I felt that if the fish got off the disaster would be great; yet I was equally unwilling to have only a share in its capture. After much agitation, that salmon, not a large one, lay safely on the bank. Then the minister, who had been very pleasant in his remarks during the struggle, lifted up his voice and his silver-topped cane, and delivered an address. Upon my word, he did. I was to take a solemn lesson from what had happened. Patience and perseverance. They had overcome that salmon. They would overcome all the difficulties of life. Care, diligence, assiduity; no undue haste, which would always defeat its purpose. Even as I was to be a devoted servant of duty, so, in duty accomplished, I was always to be temperate in satisfaction. This discourse, to which I listened with downcast eyes, was strangely discomposing. It awoke, as if with a tug at the roots of thought, the analytic and critical spirit. It fanned dim dubiety into reason. The chastening could not have been more severe if I had lost the salmon. There seemed to be something wrong in the doctrine. I could not understand how any one could be reasonably held up as an example to himself. It was not, however, a sense of injustice that perturbed me most. What did that was a feeling of something weird, something neither human nor divine, in moral solicitude on an

occasion such as that. Was there no happiness in this world that could do without "improving"? When the minister went away, the other boy laughed heartily and made grimaces, which was a natural and not unwise way of taking the incident; but I question whether he could have acted so had he been the hero and penitent of the hour. To myself, whose nerves and mind had by the struggle with the salmon been toned up into a state of acute perceptiveness, the incident was neither amusing nor evanescent. The white-haired gentleman wore a wideawake hat. Ever since then his school of thought and his type of head-dress have been depressing things, from which I have been inclined to flee.

This reminiscence is not set down with oblique intent. It is not primarily designed to deride Wideawakery. It is intended to show how sensitive the mind is when exalted by the excitement of sport. Sensations experienced then endure in memory as few others do. They are so vivid, so indisputable, that one must take them to be the closest possible approximation to knowing the truth of things. If by chance some apprehension of ethical phenomena presents itself amid the bustle, as it did through the reverend gentleman's exhortation, that, I think, is as much to be trusted as the singularly complete and exact picture of scenery and incident which is impressed upon the brain during a struggle with a salmon. In the joy of battle the imagination of mediocrity glows into perceptive genius.

True, this genius may sometimes present an odd embodiment. On the Dee I was the guest of a boy whose father was tenant of a fine stretch. Early in the morning we were met at the riverside by a tall and shaggy gamekeeper; taciturn, business-like; not ill-natured to look at, but certainly not so cheerful as many a gillie is; resentful, I have no doubt, at having to attend on youngsters. When he saw my rod, that with which I had been successful on the Eden, his frown deepened into irritated contempt. I had come to think my rod, which was of green-heart and thirteen feet long, sufficient for all occasions. If it could manage a salmon in one part of the country, what had I to fear in any other? Thus I had proudly reasoned, if at all, in setting out for Banchory. My satisfaction, it seemed, was foolish. Not speaking a word, the gamekeeper held out a hand for the rod, and, with a wave of the other, called my snubbed consideration to the grassy bank behind him. There lay two rods, salmon rods, with huge reels, lines run through the rings, and enormous flies ready to be used. I had never before fired a salmon fly in earnest; but with that majestic Highlandman looking on, still silent, and not complimentary in spirit, this was no time to seem confused or hesitant. Calmly, therefore, with aplomb, I stooped towards one of the rods. It was much less easy to lift than I could have supposed; but with an effort, while the gillie's back was turned towards me, soon I had it erect. Holding it against my right shoulder, I stepped over the pebbles,

steadily as I could, to the water's edge. What was to be done next? The salmon were rising just in front of me. I saw them. I had never seen so many in one pool before, and I have never had such a spectacle since. They were not leaping. Merely they were constantly coming up, gently breaking the water with their heads, and in some cases, as they dropped, making swirls with their tails. They were exactly like gigantic trout feeding in a well-stocked pool. There was I standing gazing at them, inactive. That, however, was not for more than a minute. I knew that the discomfiting visage of the Highlandman in the rear would be upon me, and that it was not a white feather I held aloft. To work, then! Cautiously I let the long rod droop; unloosed the very large fly; with help from the torrent, let out a good many yards of line; and was prepared for action. I cast. It had been a sound intuition that made me hesitate. A salmon rod, even if it be an inheritance from times long gone by, is not of insupportable weight; but if it be of the Shannon build, heavier in the middle than at the butt, it calls for a skill in balancing that is not yours by nature. Just as I saw the fly about to fall into the thick of the fish, about twenty yards out, I felt my bodily equilibrium being not less disturbed than the mental. The great rod, with the fat nob at the end wedged against the pit of my person, was a lever. Head first, I followed it into the river. As the pebble bank was shelving, the water into which I went was not deep. I remember wishing that it were. Death

by honourable drowning would be preferable to beholding again the countenance of that Highlandman. His shaggy cheeks would now be relaxed in sarcasm. He helped me out, and that by the ignominious heels. When I was once more upstanding, "You should go home," he said, not ungently. His tenderness was cutting. Home, indeed! Still, I could not well begin again just there. Yearning for solitude, to be unseen, I wandered off in the direction of Balmoral, leaving my host and the Gael to make the best they could of Banchory. I did not go far. Within quarter of a mile I came upon a temptation. A ledge of scraggy rock stretched out into the river. From the point of this natural pier I should be able, with ease, to cast upon an attractive patch of water. Thither I picked my way, and then let out the line. At the very first cast, delivered with desperate resolution, I found myself in a trouble which, though less unheroic, was more serious than that from which I had just emerged. In the black water, where the fly was stemming the strong current, I saw a heaving gleam from out the depths, and instinctively raised the rod. Lo! I had hooked a salmon. At first his behaviour was sedate. He ran across towards the other bank, and slowly returned to his holt. Then, after a pause as if for reflection, he began a movement straight towards me. He came as it were foot by foot, deviating neither to the right nor to the left; I reeling up in strict accordance with his leisure; deliberately he came, until he was at my

very toes, in the dark depth gurgling in the lee of the perilous jetty. There he rested. To keep in touch with him, I had to hold the rod straight up. Sometimes, as it moved slightly, or as I did, the taut line brushed my face. For many minutes the fish lay still. How long was this to go on? The query was not without dire suggestiveness. While the salmon sulked, I realised, I should, unless I took action, be imprisoned on the demn'd damp, cold, uncomfortable Dee. There was no one looking. I would make a bolt for freedom. The ledge of rock was so narrow and so scraggy that I had had much difficulty in walking over it when comparatively unencumbered; but it was just possible that if I ran in bold long bounds fortune would favour my footsteps. Holding the rod so that the winch would be free to act, cautiously I wheeled right-about-face, and made for the shore in haste. When I was half the way to safety the salmon turned tail and fled, and of course my risky foothold failed. The fish was going down-stream, and keeping well in towards our own side of the river; which, in water much deeper than myself could measure, helped me to keep afloat and to gain a footing. There was now no lack of liveliness in the proceedings. The line whizzed hither and thither through the broad flood; it was wagged in violent jerks from side to side; the salmon leapt again and again, and his splashings were heard above the breeze. Suddenly, at a bend of the tree-fringed bank, I came within sight of the Highlandman and my host. In the

river and not well-groomed, I alone, it would appear, was for the moment visible. "Tamnation! Here he is again!" I heard the Highlandman exclaim. Instantly, however, seeing things truly, he changed his tune. "Reel in, reel in!" he cried, "or she'll be roond that rock and cut ye!" I saw the risk. Although manifestly affected by what had befallen, the salmon, head to the torrent, was moving steadily, sideways, towards the other bank, near which a jagged rock churned the water into foam. If he won his way beyond it on the upper side, and then dropped down, I should be undone. With all my might I checked him; rod, line, and cast stood the uncompromising strain; desisting, the salmon rolled over and over, as if in rage, lashing the water with his tail; and ere long, almost at the very spot where little more than an hour before he had landed the fisherman, the Highlandman gaffed the fish.

This incident, even to the minute details, lives in the memory, and so does many another affair of the same kind. The vivid permanence of the impressions is rather puzzling. At the time of fishing the eyesight seems exclusively engaged upon where the flies are, and one does not pay much heed to the scenery; but, somehow, the scenery is included in the picture. What a spectacle a full-flowing river is! There it goes, now roaring through a mountain pass; then becoming quiet as it finds a plain; here and there resting in a broad black pool. Wherever the salmon is at home the scenery of our land is big. The very aspects of the weather, mists, clouds, storms of rain

or of snow, wind, and even stillness, have a large thoroughness and perfection of their own. Fair are the streams of pastoral England; but theirs is a tame beauty when compared with that of a salmon river. Meadows the most richly decked with flowers are not so stimulating as the mountains. A great river is as it were a thing apart from the ordinary phenomena of the earth. Always in motion, it seems to throb with vitality; though constantly changing, it is not less persistent than the hills; in some ways it strikes the imagination as having a majesty, or enclosing mysteries, greater than the majesty and the mysteries of the sea. I know of no sight more quickening to the pulse than a salmon leaping on the rapid flood. Usually it springs into the air from out of the deepest and wildest rush. The fish seems to revel in the strength of the river, and in its own greater strength, which no torrent can subdue. The river, and the salmon showing, are life, life, life at the highest pitch! They send a thrill through body and brain. Memory of them haunts one far away in the busy town, and whets expectation of a holiday; but salmon fishing is not, as some things are, a joy greater in retrospect or in prospect than in reality. It does not pall. If you live within reach of it, time does not hang heavy on your hands. The call of the river is incessant and irresistible. The water was hardly high enough yesterday, and there has been no rain in the night? What matter? Salmon are kittle cattle. You can never be really sure about them. They may be on the move to-

day. To-day, therefore, sees you by the river. Urgent work has to be done? Yes; but what a good morning is this! The weather is quite unusually auspicious. That idea about work must have come from the nerves. Why hurry? There's time for duty and a little sport as well. The work will be all the better for a few hours' freshening of the mind in the open air. That day also is spent upon the water. So the days, the weeks, even the months, wear on. Had one good luck yesterday, or last week? That gives hope for better. Has one had no luck for a time? There could not be a clearer reason for expecting a little now. In the neighbourhood of a salmon river prudential considerations, the very best of work-a-day resolves, vanish as summer mists at sunrise. When the season is over the landscape is not quite what it was. It will not be so witching again until the spring. This, when you reflect, is singular. One cannot think of any other pursuit, either in business or in pleasure, that holds the mind so keenly and so constantly. This is the more striking inasmuch as other sports have adventitious attractions that are absent from salmon fishing. The joys of other sports are largely social. A man does not often go shooting by himself: nearly always he is one of a party. Who for more than once in a way would go alone to hunt the fox? Sports and pastimes of the ordinary kind are of an illusory nature. Much of the pleasure attending them arises from something other than themselves. It comes of the social instinct. Pan

certainly is at work in the hunting-field; but when we are there it is in large measure social emotions that Pan is stimulating. Out with the rod by a riverside or on a lake one has no illusion. There is no sophisticating mixture of sensations. One is a solitary. Nevertheless, there is as much of the eager joy of life as could be found in the most exuberant throng. It is in fishing that one is most delightfully possessed by that mysterious force, the spirit of the chase.

CHAPTER II

THE ELUSIVE QUARRY

His Nomadic Life—Does he Feed in Fresh Water?—Opinions of Mr. Huxley and other Scientific Naturalists—A Humorous Analogy—The Old-fashioned Understanding—Foible of the Intellectuals—An Instructive Rise—Salmon give Sport just after Running—What that Implies—Slack Time in Summer—Simple-minded Anglers—Flaws in the Scientific Teaching—Hunger and Emotional Impulse Alternately?—Mr. Rudyard Kipling's Testimony—"Shannon's"—Balance of Probabilities.

THE salmon leads a double life. He is at home both in fresh water and in salt. It has not been ascertained to which of these he was originally native. His nomadic habits are a source of perplexity to any one who would discourse scientifically on the art of catching him. His ways and instincts are unlike those of all fish other than the sea-trout. For examples, the mullet lives in the ocean, and the trout in water that is fresh. That is something to go upon when one wishes to catch mullet or trout. In such a case the lure must, presumably, be an appeal to appetite, and the salinity of the water, or its freshness, determining the dietary, restricts the range of choice.

Dwelling alternately in fresh water and in salt, the salmon is subtler game. At once he is more attractive and much less easy to attract.

Compare him with the brown trout, which, being a close relation, he might naturally be expected to resemble in ways of life. The trout is not flighty. He is well content with the place in which he was born. Either he stays in his native stream, or, at the most adventurous, should the stream flow out of or into a lake, migrates thither. He does not seek regions unknown to his ancestors. He is home-staying. He does not wilfully travel beyond the waters that are fresh. Sometimes, it is true, he drops down into the estuary, where the water is brackish, and inconstant in the direction of its flow; but does he bear himself differently then? He does not. He is not a changed trout. His coat may have acquired a lighter brilliance; but still the blood is true, the heart is Highland. He has not ceased to know us or to be affable. He does not reject our flies if they are offered tactfully. His appetite is sound, and his bearing rational.

The salmon behaves in no such intelligible manner. His is a stand-off disposition. Although we may have played with him by the half-hour in autumn, and that on more than one occasion, he does not recognise us when he has taken up quarters beyond the estuary. He is proud. He ignores advances. We, he seems to say, are puny creatures of the petty land, and he is a freeman of the sea. He will have nothing to do with us. He feasts so lustily that his weight is

increasing a pound a month; yet anything we submit to his consideration, be it lurid minnow, or ruddy prawn, or sea-mouse of the most delicate fabric, he passes in disdain. He is as it were a cosmopolitan personage; and we are country cousins, to be shown the cold shoulder. When he goes back to the rural regions, which, if he be conventional, is in good time for The Twelfth, his behaviour is hardly less arbitrary. He resumes what may be called friendly relations, it is true; but why? If we are to accept the testimony of those who have studied him scientifically, he does so because his temper, or some other questionable impulse, gets the better of him. It is not, we are told, from honest hunger that he takes any of the dainties we put before him. He is, it seems, in no need of food. He will require none until he has discharged the duty that called him into the stream. During the season in the gay ocean he has been such a riotous liver that he can hold no more. He is too fat to feed. His stomach, we are assured, has struck. He takes what we offer because he is irritated, or curious, or playful. Is not this strange? The salmon ignores our offerings when he is ravenous, and they attract him when he can eat no more!

That is the practically unanimous teaching of our scientific naturalists. Is it to be accepted without question?

The subject is entertaining. If in taking a lure the salmon is moved by anger, and not by appetite, our understanding of the sport needs revision. We

can no longer regard ourselves as contemplative men engaged in a placid recreation. We are more like toreadors. Our lure acts upon the salmon exactly as the red cloth acts upon the bull. It is a challenge. It puts us on terms with him by enraging. This doctrine must have caused grave misgiving in the Elysian Fields. Dwells there the spirit of a peace-loving statesman, alluded to in "Maud," who, while reproving sports generally, fished for salmon. He was wont to justify himself as sportsman by an argument embodying the Don't-worry-Me emotion which crystallised into the principle of the Manchester School. "When I put a fly or an artificial minnow into the river, I am not," he said, "taking any action against any living creature. If a fish interferes with it, that is his affair."

Thus, we have two reasons for going into the problem. It seems dutiful to report the latest discoveries to the ancestral spirits. Such of them as had relations with salmon on the lines of Negative Liberalism must be very unquiet at the thought that they were no better than papistical heroes of the bull-ring. Then, the subject is important to those of us who are not given to probings of conscience about the intractable question as to how sport stands in relation to ethics. If the thing at the end of the line is not an appeal to appetite, but a challenge to a frolic or a fight, we shall have to consider whether its shapes and hues might not be made more piquant.

Is it certain, then, that the salmon do not feed when in fresh water?

Among the few naturalists to whom it is familiar, this question, as has been mentioned, finds an answer almost unanimous. It is said that during the period of the year which is spent in fresh water before spawning salmon have no need for food. The reasons for this opinion are impressive. In his Report for 1880 to the English Fishery Board, Mr. Huxley notes that salmon taken after having left the sea are never found to contain food. He thinks that salmon, like herring, enter upon a long fast at an early stage in the development of the roe. Between 1877 and 1880 Professor Reusch examined 2162 clean salmon taken from the Rhine, and did not find any remnant of food. He, like Sir Robert Christison, held, after careful study of many fish, that "surrounding the digestive organs, as well as within and around the muscles of every part of the body," there is "an abundance of stored-up and transposable fat which fully explains the ability of the salmon to sustain life for many months, as it evidently does, without food while in fresh water." The Scottish Fishery Board have arrived at the same conclusion. Noting these testimonies and many others, Dr. J. Kingston Barton, whose thoughts are set forth in *The Country Life Library* work on Fishing, is puzzled at the unbelief of the multitude. "The sportsman," he writes, "seems to be the most difficult person to convince, because he more than any other sees the fish vigorously take his fly or bait, and, consequently, stoutly denies that salmon wilfully starve themselves." Dr. Barton accounts for the sports-

man's opinion, and endeavours to explain it away. "Fishermen," he says, "never seem to grasp the fact how few fish come to the temptation of a bait compared with the number of fish that may have the bait proffered to them." Sir Herbert Maxwell, also, is assured that when they leave the sea salmon become abstinent from food. He enforces the doctrine by an entertaining analogy. While studying "Salmon and Sea Trout" in *The Anglers' Library*, we are to imagine him at his writing-table. What would he do if he beheld a strange and brilliant creature flitting about the room? "Why," says he, "I should *rise*, and, being furnished with a serviceable pair of hands, should employ them for purposes of capture, or try and knock the intruder down with my hat, though the last idea that would enter my brain would be to eat the unfamiliar object. All this, provided the strange creature were not so big as to cause me alarm, in which case I should either leave the room or ring for the footman. Well, the salmon acts in a precisely similar way. He, too, *rises*, for the purpose of capture; but, having neither hands to grasp withal, nor a hat to fling over the stranger, he either snaps at it with his mouth, or tries to flap it with his tail, provided the said stranger is not too big to cause him alarm. If it is, having no bell to ring, he simply lies low."

Such is the testimony on one side of the question. The other side, the view of the sportsmen whom Dr. Barton finds it so hard to convince, is modestly presented by Major Traherne. He mentions that

three grilse caught in Norway were gorged with insects, apparently daddy-longlegs; that certain Norwegians reported half-digested fish as having been found in salmon taken in their nets; and that a similar story came from Newcastle-on-Tyne. His belief is that the customary emptiness of the salmon's stomach is capable of explanation. He has "often noticed, fishing with natural bait, when a salmon is landed the bait is torn from the hooks and sent up the line a foot or more." "Does not this show," he asks, "that a salmon has marvellous power of ejecting its food? Is it not probable that when he gets into trouble, either by being hooked or netted, he will disgorge the contents of his stomach? A trout that is full of food will, we all know, do so after he is landed—and why not the salmon? . . . The absence of food in a salmon's stomach has been accounted for in one other way. A salmon may have such powers of digestion that whatever food he consumes disappears almost at once." The opinion thus suggested is quoted from the volume on Fishing in *The Badminton Library*. The editor of the volume adopts it without reserve. "From my own experience," he says in a footnote, "I fully endorse this. Salmon must feed in fresh water, or they would neither take fly nor bait—spoons, prawns, or anything else. Yet I never found anything in their stomachs; they must eject it when in trouble."

Which opinion are we to adopt?

What may be called the Badminton view is the less impressively stated. Major Traherne does

not seem to feel that the question is of much moment. The evidence which he records was gathered casually. It is not even clear whether the fish that had remnants of recent meals within them were taken from fresh water or from salt. The editor's whole-hearted declaration is equally lacking in precision. His statement that "salmon must feed in fresh water" merely takes for granted what the contributor tries, rather diffidently, to prove.

On the other hand, there are striking oversights in the reasoning of the scientific side. Immediately after his diverting argument from analogy, Sir Herbert Maxwell tells a story. A friend was fishing on the Inver, in Sutherland. The water was very low. Many fish were lying in a certain pool, but not one would move at a salmon fly, and the fisherman seated himself to rest. Ere long he noticed a white butterfly floating down the stream. A salmon rose quietly and took it. Thereupon the fisherman put on a Mayfly, and let it float over the salmon, which rose, was hooked, and was landed. Sir Herbert Maxwell's comment is astonishing. "In this instance," he says, "the salmon, having ascertained that the butterfly was palatable, doubtless did take the Mayfly," which the fish supposed to be a butterfly, not being able to distinguish between white wings and yellow, "with gustatory intent; but it is surely too much to assume that all the lures we display are seized from similar motives." As a celebrated critic of literature said when too

much disturbed to be coherent instantly, "This will never do." It is a strange sentence to find in the writings of a learned and thoughtful naturalist. His method of reciting the incident misleads. Backward gentlemen of the Badminton school might not consider themselves bound down to the assumption that lures taken by salmon are in all cases taken to be eaten. Perhaps they would admit the possibility of another motive occasionally. They must know that a cat does not always eat the mouse it kills; that a terrier leaves the slaughtered rat; and that the otter sometimes hunts mainly for the pleasure of hunting. On reflection they would acknowledge the possibility of similar actions on the part of salmon. Besides flouting a philosophy that has never been specifically advanced, Sir Herbert Maxwell, by his method of exposition, pulls a screen over a highly relevant moral deducible from the success of his friend. It is he himself who makes a questionable assumption. If the salmon took the Mayfly "with gustatory intent," what becomes of the theory which Sir Herbert has adopted? The fish was in fresh water; it had eaten; and it was meaning to eat again. Nevertheless, knowing that one salmon did feed in fresh water, he assumes that no other salmon ever does.

At this stage of our inquiry the possibility that salmon seize a lure from some motive other than hunger has nothing to do with the case. The real questions are: Do salmon in fresh water ever, before spawning, take a lure with intent to eat? and, if they do, how often?

There is some reason for fearing that, in common with many a new theory, the doctrine we are considering is pushed to an unwarrantable extreme. The habit of exclusive opinionativeness is entertainingly observable in connection with subjects of wide variety. It is that of a class of persons who on every occasion like to feel themselves, in virtue of peculiar insight, other than the commonalty. "Alcohol is a poison!" vows Sir Frederick Somebody; whereupon all precisians know, with pride of the seclusive spirit, that Mahommedan liquors are the only fit drink for those who are not by long heredity inured to stronger potions. "The race is degenerate!" shouts Sir Somebody Else; and, instantly, to perceive the race degenerate becomes a modish mark of knowledge. "People forget that society is a living and growing organism," says *The Times*, impatiently; and thereupon the intellectuals go about pessimistically scorning the populace for not knowing that they are something other than themselves. The comparatively new theory about the salmon seems to belong to the class of opinions of which these dogmas are contemporary examples. It is novel. It is not a theory such as an ordinary person would arrive at by himself. To adopt it is to be enlightened, notable, detached from the deplorable ignorance of the times; if to be disillusioned also, it is bracing mentally and morally, as giving one something to endure in behalf of Science struggling against the errors of the age. To push it to an extreme is to allow the foible to run the usual course.

Sir Herbert Maxwell, we have seen, cites a case in which a salmon rising at a lure was moved by desire to eat. Why does he treat it as exceptional? That, as I shall endeavour to show, is a crucial question. Let us suppose that the fisherman had not seen the butterfly; that simply it had occurred to him that a Mayfly might prove appropriate to the size of the river; and that the Mayfly raised the salmon. How would Sir Herbert have interpreted the incident then? Would he have said that the fish rose with "gustatory intent"? It is safe to feel assured that he would not. He would not have perceived in the incident anything to disturb his understanding that it is not in the expectation of something to eat that salmon rise at flies. Not knowing all, he would not have understood all. A salmon caught on a Mayfly! He would have been more than ever confident that it is not to appetite that any selection from the tackle-book makes appeal. It is probable, indeed, that he would have regarded the incident as a dramatic proof of the theory that salmon do not rise to feed. The accident of his knowing about the butterfly enabled him to interpret the matter truly. When, in such cases, is our knowledge approximately complete? Sir Herbert Maxwell would be the last to say that it is so often. The most vigilant eye cannot detect all that happens on even a few yards of salmon river. Reviewing his successes with the fish, Sir Herbert would be able in only a very few instances to be sure of what

it was that attracted one on the occasion of the rise immediately preceding that which set his rod a-quiver. In only a very few instances, that is to say, could he speak with certitude about the intent with which the salmon rose. Judicially considered, the entertaining case which we have been examining is a remarkable evidence of how little, apart from abstract theory, there is to be said for the notion that "gustatory intent" is as a rule not among the impulses at the bidding of which salmon seize a lure. It leaves us perfectly free to imagine it possible that the desire for food, or at least an assumed desire, is as often as any other feeling the motive of a salmon's action.

Among sportsmen who like their craft to be scientific it is not only Sir Herbert Maxwell who issues indeterminate reasoning. There is Dr. Barton also. After the imposing array of authoritative citations in favour of the theory that salmon fast when in fresh water, he remarks that "practical sportsmen know well enough that it is only after fatigue that salmon can be at all tempted, and that the appetite only remains a few hours or days at most after a fish has moved up into a new pool." This reads as if Dr. Barton were admitting an insignificant exception and triumphantly establishing his theory of a general rule. The implications of his statement are that salmon do not move about very much; that when they find a comfortable pool they tend to tarry; and that, flitting infrequently, being fatigued only on rare occasions, it is only on

rare occasions they incline to rise. The rarity of rises most fishermen will admit; but at present that is not exactly the subject. What we have to consider is whether salmon are as slothful as Dr. Barton assumes. Are they? Does each fish, when it arrives from the sea, find aholt to which he is as devoted as the trout is to his hover? It chances that, at the instance of Mr. Augustus Grimble, an observant sportsman of much experience, this question has been the subject of an enlightening discussion. Mr. Grimble doubted the accepted understanding that salmon, when they run into the rivers, quit the sea for months, and ultimately became convinced that the suspicion was justified. The evidence was derived from what happens in a West-of-Scotland stream. Often during the season there is very little water, and not a salmon is to be seen; but when the rains come upon the mountains the stream swells and salmon swarm. Where were the fish in the time of drought? Mr. Grimble could not but think that they had dropped down the stream. A gillie who knows the water well bore picturesque witness encouraging to this conjecture. Until 1850, when the Fishery Board began to do its duty, the cottagers were wont to take enormous baskets of salmon and sea-trout from that stream, and the means of capture which they used showed that they too held the theory broached by Mr. Grimble. They built "an oblique but not high dyke of stones across the river, which they repaired as each spate damaged it. They were fully alive to the fact that the fall of the water,

not its rise, was their opportunity. As each spate came, the ascending fish easily swam over the low dyke, to mass themselves together in the pool immediately below the impassable fall. As the flood subsided, and the volume of water rapidly diminished, the whole body of fish began to drop back to the sea—tail first, as is their usual mode of descent;—then, meeting the dyke, with its top wall above water, they coasted along it until they arrived at cunningly prepared openings at either end. These traps were less than a yard in width, deepened for the purpose, and fitted with rough nets, into which many of the descending fish dropped.” That seemed to leave but little room for questioning. Apparently it showed that salmon ran into the stream when a flood came, and dropped back to the sea when the flood was falling. If this were so, and the rule were general, the discovery would be important. In framing the fishery laws, Parliament, as Mr. Grimble says, never contemplated that salmon should incur the danger of the estuary nets more than once a year. Therefore, if Mr. Grimble’s theory were acceptable, there would be a strong case for amendment of the laws by considerably curtailing the privileges of the net fishers. If salmon run up and down the rivers with every flood, Parliament acted under a serious misapprehension in deciding what scope could be safely given to the nets, and inadvertently arranged for a gradual diminishing of the stock of fish. The question was, Could Mr. Grimble’s theory be accepted? There was a good deal to be

said in its support. The gillie declared that in the days of plenty "several hundreds of salmon could always be seen swimming in the sea round the mouth of the river; that in periods of flood this school came up the river, and could no longer be seen in the sea; and that, as the river fell, and the fish returned to the sea, this school was seen again, in diminished numbers, hanging about the salt water at the mouth." Then, there was Mr. Grimble's own experience. Between September 1 and September 9, not fishing every day or carefully, he caught five salmon. Whence had they come? For three days before, the stream had been without rain, "and the bottom of every pool could be as clearly seen as if it were dry land." During the time of low water he had searched the whole stream, and had not come upon a single fish. "I think, then," Mr. Grimble wrote, "it may be taken as proved that fish do ascend and descend some rivers several times in the course of a season." Discussion of Mr. Grimble's theory did not leave it quite intact. It turned out not to be applicable to all rivers. These may be regarded, broadly, in three classes. There are large rivers, such as the Dee, the Tweed, the Shannon, the Avon, and the Tay; considerable streams which are tributaries to rivers of the first class; and self-contained small ones, of which that on which Mr. Grimble had been fishing was an example. It was shown that after entering a river of the first class salmon stay there until they have spawned, and that salmon in waters of the second class drop down to the main streams in times of

excessive drought. Mr. Grimble's theory, however, was perfectly true as regards many rivers of the third class. As the streams rise and fall the salmon do undoubtedly move up and down. Now, what are these streams? The class includes a few in the West of England, a few in Wales, and nearly the whole of the salmon rivers in the West of Scotland. As to the variability of their volumes there cannot be any doubt. One of the best of them, the Add, in Argyllshire, has been described by Mr. A. E. Gathorne Hardy as "just an ordinary type of West Highland stream, only fishable with any prospect of success immediately after a spate," and "hardly in fishing order for more than a couple of hours."

What are we to think of any theory about the habits of the salmon that leaves out of account the fish of these streams of the third class? Excepting the particular tribe mentioned by Mr. Grimble, which are off-colour now and then, they are not in any respect degraded fish. They are as distinctly salmon as those of any great river from the Exe to the Thurso. All who are acquainted with them know that they come freely at flies or other lures whenever there is a flood, and as long as the water is high enough to make retreat towards the sea unnecessary. As it is admitted that in doing so, after a fatiguing run, they mean to eat the things they seize, this is practically equivalent to saying that they feed at all times when in the streams.

It is more difficult to have an equally confident opinion about the salmon of the great rivers. Their

comings and goings are much less easily ascertainable. One cannot peer into the Dee or into the Wye as exhaustively as Mr. Grimble examined the stream near the coast of the West Highlands. Even at their lowest the great rivers have pools which the eye of man could fathom only from some point of vantage at which the fish would see him before he could see them; and they would not wait to be inspected. Indeed, from about the middle of May until the first flood in August, a period which is usually almost rainless, we know but little about the salmon in most of the waters that are not netted. It is certain that there is not much sport during that time. One conceives it possible that there would be more if more were sought. Excepting as regards a few rivers, which, with all the many others, will be considered in later chapters, it is generally taken for granted that to cast for salmon at any time between the spring fishing and the autumn fishing would be useless, and only here and there does an angler think of trying. Perhaps, therefore, the understanding that such fish as may be in the pools then do not show any interest in lures is partly attributable to lack of experiment. Even in spring and autumn it is difficult to entice fish when the waters are very low; and perhaps in the middle of the year it is the inappropriateness of ordinary tackle, rather than a rigorous fasting of the fish, that renders the effort hopeless. On each of four days at the very beginning of a recent season, when the water was at summer level, I myself caught a salmon on a large

trout fly. The captures were noteworthy, and mention of them is relevant now, because on the particular days three or four other fishermen, all of them using ordinary large salmon flies or trolling lures, went empty away from the stretch on which I had not wholly failed. May it not be that this was due less to any abstemiousness on the part of the fish than to untimeliness of the lures? Then, it is a fact within my own knowledge, though not bruited abroad as the tidings from great rivers are, that at the very height of summer a salmon is not uncommon in one or another of the many heavy baskets of sea-trout, which are borne home after night-fishing with gentles on the tidal reaches of certain streams falling into the North Sea. The streams alluded to are open to the public; the sport they yield is taken as a matter of course by generation after generation of dwellers in their neighbourhood, one of whom told me that, fishing with worms during the fall of a flood, he caught ten salmon in a single day. Most of these "local anglers," who hardly ever fish anywhere else, and are not scientific students of natural history, have probably not heard that it may be from some impulse other than a wish for food that salmon take the lures; and, consequently, their instincts on the subject, which are not without importance, have never been formed into thoughts.

It will, I trust, be noticed that in these pages there is nothing like an absolute rejection of what has become the accepted opinion of the scientific

authorities. The arguments in favour of that opinion are much too weighty to be treated with disrespect. When men so eminent as Mr. Huxley say that salmon quit the sea with masses of stored sustenance sufficient to maintain life without food for a period of months, we must incline to believe them; and it seems to have been shown, by systematic experiments, that while in the river the fish do not increase in weight.

That, however, is really all that can be said in favour of the modern theory. The arguments on the other side are at least equally considerable. In 1891 the Scottish Fishery Board was, through its experts, committed to the statement, that on leaving the sea the salmon underwent a change in the stomach which made the taking of food quite impossible. That statement did not stand the test of evidence. Dr. Barton, who is convinced that the fish do not feed when in the rivers or the lakes, says that he himself has "proved conclusively that the digestive organs of salmon taken by rod and line in the spring, summer, and late autumn were absolutely normal." The digestive organs being normal, how can we be certain that they have no function? That would be abnormal, and nature is never systematically so.

There is also, surely, a strangely suggestive incompatibility between the opinion of the authorities and the language in which they set it forth. Sir Herbert Maxwell, as we have seen, says that it was because the butterfly had been "palatable" that the

Inver salmon took the Mayfly. What is the palate but a guide as to that which may be eaten? How is it possible to conceive the function of the palate in exercise without an impulse from the stomach?

There is another authority whose opinion is strikingly contradicted by the language in which it is expressed. Mr. Abel Chapman, author of *Wild Norway*, a well-reputed student of nature, is positively assured that salmon in fresh water do not feed. Nevertheless, he considers "the assumption not unreasonable that the fish take the fly or other lure for some object on which they have been accustomed to prey whilst in salt water." He thinks that "the tinsel and gaudy feathers, it may be, recall pleasant memories of the week or month before, and *Salmo salar*, with reawakened rapacity, but without pausing to consider the anomaly of thus finding a prawn inland, or a starfish stemming a rapid, dashes at the intruder, and gets the hook." What evidence in favour of the scientific dogma can we find in this? If any creature rushes ravenously at something which is taken to be a familiar article of diet, and because it seems so, is it possible to refrain from assuming that power to eat, or desire to eat, is the motive of the action?

The more closely we examine the scientific doctrine as set forth by the authorities, the more suspicious becomes its resemblance to those other opinions of that peculiar class, the intellectually exclusive, who are unable to be content with the commonplace or the obvious. These opinions, and all others of the

same kind, are modified by time. Losing novelty, they are gradually dropped by the elect themselves. Even as it will soon be perceived that alcohol is not a poison in the ordinary sense of the word; that the race is not degenerate; and that the people, though capable of regimentation, are not an organism, Science may ere long see its way towards modifying its deliverance on this fascinating problem in sport.

I think that its ultimate judgment will be a compromise.

Why should it be deemed improbable that a fish takes a fly from hunger at one time and from some emotional impulse at another? To say that salmon flies are not like any insect is hardly a persuasive plea against the thought that they may seem good to eat. Only three or four generations ago men fished for trout, and caught them, with flies three or four times larger than the insects which, very clumsily, the lures were designed to imitate. Then, are salmon to be thought of as for certain differing from all other animals whose moods we understand in respect that they are incapable of irritation, or of curiosity, or of playfulness? A remark by Mr. Rudyard Kipling, in a private letter to myself, may, I think, be mentioned without impropriety. Mr. Kipling speaks of "fish rising from nasty temper, which," he says, "I have seen a salmon do more than once." An implication obviously is that at other times they rise from another impulse. Indeed, there is reason for believing that sometimes they rise in a rage and eat at leisure

what they seize. As the testimony of intelligent observers is not less valuable than deductions from theory, I will cite a striking case as presented in *The County Gentleman*. Narrating experiences on an Irish river, "Shannon" writes: "It is by 'spotting' fish first of all, and letting the prawn come down to them from a distance, that the best sport is obtained. It is very interesting to watch the habits of different fish. Some, though few, fly away at sight of the bait. The majority sulk, some even to the extent of allowing the prawn to touch them. Others go at it at once; but the most exciting time is with the fish who gets gradually angry. Fish of this sort begin by waving the fins and knocking the shrimp away, sometimes a yard or more; often they sail round and come back to the same 'lodge,' when the same thing is repeated; generally it ends in the fish being caught. Some fish are very savage. I saw one tear two prawns off the hook in succession, and eat them in mid-water. He was caught on a third prawn. There are different kinds of prawns; the pale pink ones are not well taken, but the short dark red ones, especially with eggs on them, are taken greedily."

Then, what are we to make of the familiar fact that on practically all the "autumn rivers" throughout the United Kingdom sport invariably becomes brisk just before the close of the season? As the final weeks are often a time of drought, the good sport cannot be regarded as proof of Dr. Barton's theory that salmon rise at fly only when they have been running and are fatigued. As I write, just after the

close of season 1905, the rivers have been rather low for more than a month, and the fish have not been moving much; yet, as usual, the baskets of the final three weeks were the heaviest of the year. How is that to be explained away? Does the irritability of the salmon wax as the time of spawning approaches? It may; but one feels it more natural to believe that the activity of the fish is attributable to hunger following the gradual consumption of the stored-up sustenance of which Mr. Huxley speaks. Trout also rise particularly well just before the close of the season, and it is never supposed that in their case the impulse is other than that of sharpened appetite arising from increasing need of nourishment.

In all the writings of the men of science I have not found the slightest reference to a consideration that is of more importance than all the pros and cons we have surveyed. Although the origin of the salmon is not definitely known, it is generally believed that the fish has always been native to fresh water, and that at the early times of the species it lived in that water exclusively. If that be so, the salmon must originally have found all its food in lakes and streams. It feeds now, we know, in the sea, and its habits may have become modified; but is it unreasonable to believe that it may feed in the rivers and the lakes as well? To believe this seems more than reasonable. It seems imperative. One of the most prominent doctrines of modern natural science is, that it is as difficult to be quit of a hereditary instinct as it is to acquire a character novel to the race. Is it not, then,

necessary to assume that when a salmon rises at a fly, or seizes a sunken bait, he is, occasionally at least, repeating the action of remote progenitors that fed and flourished in the very pools where we are seeking sport?

The appetite of his eye may be greater than that of his palate; it may be a disembodied impulse, illusory; perhaps it arises in racial reminiscence rather than in actual need. Still, appetite of some kind, true or false, it does really seem to be. Mr. Huxley, who viewed the salmon broadly, and not in their habits as they live for sportsmen, probably did not know that as a rule they rise particularly well at and about sundown. The possibility that the fish have a regular hour for feeding, or trying to feed, is conceivable; but the theory that they have a regular hour for being in a rage could be accepted only as part of a revelation that universal life is a grotesque comedy.

The possibility that the fish rise from curiosity or in playfulness is not so easily disposed of. Certain animals, such as rabbits in the evening, frolic at regular times, and it is conceivable that salmon may have a similar wont. On the other hand, trout, which late in spring and throughout the summer rise particularly well in the evening, rise then, it is known, to feed; trout and salmon are kin; and it is not easy to believe that while one set of fish are rising to feed the other set are rising in frolic only.

All the considerations weighed, it does seem approximately certain that, though there may not be good digestion to wait on appetite, the salmon, when he rises, usually means to eat.

CHAPTER III

ROD, REEL, AND LINE

Analogy from Golf—Built-Cane—Greenheart—Other Woods
—A Delicate Instrument—"Balance"—Flexibility—
How Distributed—Grip of the Rod—Throwing a Fly—
Correct Casting Rare—Tapered Lines and Untapered—
An Accidental Solution.

A FIRST-CLASS authority, Mr. John James Hardy, has said that "one sixty-fourth part of an inch more or less in the butt of an eighteen-foot rod will make or mar that rod." The statement may be astonishing; but it will not be scouted by fishermen who have used many rods observantly. Implements of certain recreations have subtle qualities which, though the study of many years might not give perfect understanding of them, are sometimes revealed by happy accident. Take, for example, golf. Not long ago a friend told me that he had become a member of the Hampstead Club. Would I go, there and then, to try the course? My sticks were not within easy reach. "O, never mind," was the cheerful answer. "I'll get the professional to lend you a set." Off we went, then, and soon were at

the game; and after the drive from the third tee I was convinced that I had mistaken my calling. I should have been a golfer. I had never driven such long balls before, and could not remember having seen any one else drive so. In my amazement I was shy; but my host and opponent was not reticent. "Are you too big for your boots?" he asked, as my ball flew gaily over a hedge far beyond the ambition of any man with a handicap. "I am" said I, embarrassed. "I don't understand this at all. I'm above myself." My friend laughed merrily, and explained. The driver I was using was one quite by itself. He too had played with it. Then he had asked to buy it. As the professional would not sell, he had offered double the ordinary price for an exact duplicate. The duplicate was made, and in appearance was exact; but it was a failure. Among all the drivers in Hampstead there was only one that suddenly turned amiable persons into sufferers from swelled head. That was the one I was using.

Fishing-rods also have individual qualities. At first one thinks that any rod by a good maker will cast any ordinary fly or flies; but strange knowledge comes with experience. It came to myself on Lochleven. Thither I had taken a twelve-foot built-cane rod. It is of the class generally assumed to be the best, and certainly it is pleasant to the hand. That day the trout were not rising well. By two o'clock, indeed, my companion and I had caught only one each. Just for luck, I would try that other rod which Mr. Harris, of the Green Inn, had lent to me,

with a quiet recommendation, as we were leaving his hall after breakfast. What a difference! The new rod put spirit into the work. Out flew the flies with a fresh decisiveness, and back they came with ease and tidily. Ere long we had six other fish in the boat. As I had caught only half of them, the success could not be attributed altogether to the change of rods. It was mainly due to the fact that the trout had "come on the feed." Still, the greater ease with which one managed the flies when using Mr. Harris's rod caused reflection. That rod and my own were of the same length, and apparently almost equal in weight; whence the difference in their actions? The answer was not far to seek. While my own rod was of built-cane, the other was of greenheart.

Besides being beautifully finished, a built-cane rod is very strong, so strong, indeed, that mine has never been broken, has never had a loose joint, since it was given to me nine years ago; but, even although it is "steel-centred," it does not have the highest possible power. If you have to cast against the breeze, as sometimes on a stream, the rod, being very pliable, lacks force; if you are casting with the wind, as nearly always on a lake, it is similarly hard put to it in recovering the line and the flies. A greenheart rod, on the other hand, has at once less flexibility and a liveliness peculiarly its own. It is not, like the other, a thing of shreds, compact of wood that has grown from several roots: it is a naturally solid unit, and seems somehow to retain

the life it had when the sap rose through it in the recurring spring; you can, as you cast, actually feel it quivering, not with weakness, but with a spirit as of tempered steel. In short, when there is even a slight wind to be contended with, a built-cane rod, although it be of the best type, seems rather languid; but, even in a considerable wind, the greenheart thrills and is game.

This, which I discovered on a trout lake, is partly true on a salmon river. The greenheart is the more mettlesome weapon. On the other hand, the difference between salmon rods is not so perceptible as that between trout rods. As the built-cane rod grows in size it seems to grow also in the quality that is desirable. That, I daresay, is partly because it has a larger and sterner heart of steel. At all events, it is so good that one could scarcely wish for a better. You can use a built-cane rod in practically absolute confidence that it will not break. Paradoxical as the statement may seem, the built-cane rod, though each piece has six strips, or it may be eight, is more nearly a natural product than a rod of any other wood. Hickory, greenheart, and lancewood pieces are sawn from a plank, and only by a very rare accident are they ever, when finished, perfect. Plane and file have had to cross the fibre, and not infrequently the pieces are apt to snap. Besides, however long and carefully they may have been kept before being manufactured, these woods seem never quite to settle so much, in losing sap, that they can shrink no more. Thus, in course of

time the ferrules become loose. Now, when a ferrule becomes loose, even slightly so, which may happen without the owner of the rod noticing the change, the wood within its grip is in a position like that of a walnut within a pair of crackers. Suddenly, when in use, the rod will fall in two. It does not need a heavy fish to bring about the calamity. When a rod shows signs of overwork, it is not from battling with fish that it has suffered. Weakness or lack of straightness has been brought about by long struggles with its own weight and with the atmosphere. A rod is subjected to considerable strain in the simple act of your throwing a line into the water or drawing it out. All of the few breakages which I myself have suffered, instead of happening at the instance of fish, have been on such occasions. They were pieces of greenheart that gave way. My three built-cane rods, the oldest of which has been in use for nine seasons, are still inviolate. The centerings of steel, while contributing to the good result, do not altogether account for the toughness of these rods. That is due mainly to their natural constitution. Their outer surfaces have never been touched by saw, or plane, or file. The skin, which is the hardest part of the wood, is retained. Moisture does not penetrate, and the material does not rot. The cane itself seems never to shrink by a hair's-breadth. The ferrules are as firm as they would be if they were natural and inseparable growths.

The apparently invincible strength of the steel-

centred built-cane rod may seem to many an ample compensation for its defectiveness in the characteristic quality of greenheart. In salmon rods, though not in trout rods, it seems so to myself; but I am not meaning to urge this view. Preference for greenheart is easily understood, and there are professional craftsmen who work so well with it that any rod supplied by them may be trusted to have a good sporting chance of unimpaired life for many years.

Much more important than the comparative merits of the woods is the dynamic character of the finished product, whatever the material may be. A first-class modern rod is an extremely delicate instrument. Mr. Hardy's remark about the importance of a very minute fraction of an inch in thickness of the butt illustrates the wonderful subtlety of the whole. There are a few specifications that may be set down roughly. A salmon rod, to be used for fly-fishing in a large river, should be about eighteen feet long; if made of cane it should weigh rather less than two pounds and a half, or if of greenheart a little more; and it should enable you to cover rather over thirty yards. On smaller rivers the befitting rods are of smaller size, weight, and power. When we have said that, however, we have gone but a little way into the problem. I can imagine a rod that would cast a fly beautifully thirty-five yards, and cast it half that distance clumsily. Such a rod, it is scarcely needful to say, is not ideal. The fly has to fall neatly, at whatever

spot it is aimed. How is a rod to be endowed with this versatility of action?

In as far as it is a concern of exact science, the secret is in the hands of a few makers; but it is questionable whether any one of these could build a perfect rod on unaided scientific principles. He could not, although provided with ample materials and the finest tools, simply set to work and say of the result, "Now, that is exactly as it should be." He would have to try the rod before he could be sure. At the first cast it might show some defect of what he would call "balance." "Balance," in this connection, is a makeshift word. It applies not only to the graduated weight of the rod; it applies to the spring of the rod as well. That also is graduated; but the graduation is peculiar. The flexibility of a perfect rod at any point is not in proportion to its relative thinness at that point. If it were, the upper half of the top-piece could be bent into a circle without breaking. Exactly how the flexibility is distributed I cannot tell in anything like scientific terms; but it is not impossible to say how the flexibility should feel. It should begin in the butt, a few inches above the winch; it should not be felt as being in the top-piece, though it is there; in a particular measure, as you cast, you should be conscious of it as active in the middle yard of the rod. Of course, the power which drives the fly comes mainly from yourself; but it should set going a fresh force, that of resilience, about the middle of the instrument. If it does, it is a good rod that you

are using. Whether you have fifteen yards of line out, or thirty, or any length between, it will serve you pleasantly and with precision.

This, of course, is said on the assumption that you know how to handle a rod. The stance at golf and the grip of the driver are hardly, if at all, matters more important. There is a certain similarity between wielding the rod and wielding the club. Once, at St. Andrews, I asked a scratch man, noted for long shots off the tee, how he held the driver. I had understood that good players gripped tightly with the left hand and very lightly with the other. "O," said my scratch man, "I think I hold pretty tight with both." Now, it is credible that a man might hold a fishing-rod in that way and throw a fair line. If he did hold it so, however, he would be wasting strength. To grip tightly is to expend energy, and energy applied by the left hand to a fishing-rod does not communicate itself to the line. I think that, on the contrary, it may possibly neutralise some part of the energy of the right hand, just above the reel. The energy of the left hand tends, if anywhither, in a direction opposite to that in which the right hand is engaged. We hear of single-handed rods and double-handed rods; but, I think, the truth is that all rods, properly used, are single-handed. The appearances deceive. A trout rod you hold in one hand, and to a salmon rod you apply both hands; and you are apt to assume that to cast a salmon fly you use both arms. This is true only in a manner. You use the left hand to

help the right in holding the rod ; but that is all that the left hand does, or should do. It is through the right hand that the propelling force goes, or should go. The other is, or should be, merely a rest for the rod.

How, then, should the right hand act? Think of golf again, and the answer will suggest itself. However truly hit the ball might be, it would not go far if it were driven by a club held loosely by both hands. It would go a few yards only. The full energy of the muscles can reach the ball only if the muscles and the ball are in close contact. If the club were held loosely at the moment of impact, there would, however swiftly the weapon might be travelling, be a breach of continuity. The energy received by the ball would be little more than the inertia of the head of the club. The energy of the muscles would be lost in the breach.

A miscarriage exactly similar is possible in fishing. Unless the right hand is held in the right way the best of rods will be a failure. The way is variable, but the principle is plain. If you wish to cast only twelve or fifteen yards, little force is needed, and you must not grip tightly: by a tight grip you would, if the length of line allowed, overshoot the mark. If you wish to cast thirty yards you must grip tightly. Only so can the energy of the arm be communicated to the rod. In that case, indeed, rod and arm are as one.

There, I think, we have the whole truth about that puzzling subject, "throwing a fly." Many

writers have striven to explain it, and have not succeeded. Others, wiser perhaps, have touched upon it only to say that it is inexplicable. This further attempt to solve the problem may, therefore, seem daring. I admit that it is; yet I venture. It will be noticed, I trust, that this chapter is not ambitious in the customary manner. It does not contain an exposition of the "overhead cast," or the "loop cast," or any other. Elaborate instructions as to each of these are to be found in earlier works. There you shall see photographed experts expository in the acts. Now they are in the "first position," with rod held parallel to the surface of the water; then in the second, with rod erect and line streaming in the wind behind; anon in the third, with the fly hurtling forward in the way it should undoubtedly go. You shall also find how to place your feet, in what pose to stand, and how to hold the rod when the fly is "fishing." All this is admirable; but in the midst of the elaboration the essential principle is obscured. The principle is, as has been said, that the rod and the arm are as one. The rod is the arm continued. That principle must be grasped decisively. You could not throw a stone if your arm were dislocated at the elbow. Similarly, you cannot throw a fly unless hand and rod are taut. A loose grip is dislocation. It leads to bungling and vexing of spirit. Think. You have a catapult, and are aiming. The shaft is in the right hand, forward; in the other is the leather bag enclosing a bullet; the elastic is well stretched out. If you

drop the shaft the moment you let go the bag, the bullet will not travel far. It will hardly travel at all. Well, there is in a fishing-rod a principle akin to that of the catapult. The rod is elastic. The elasticity is meant to be used. It is not used when the rod is handled timorously. It is brought into play only when the handling is firm.

All this, when set down, seems fairly obvious; yet to many a person seeking to catch a fish it does not come by the light of nature, and sometimes never comes at all. Any one who frequents trout streams or salmon rivers cannot fail of being struck by the rarity of correct casting. Usually the angler, with wide and graceless waves of the arms and of the body, is engaged in a ludicrous labour. Instead of using the rod to fling the fly, he seems to be flinging the rod itself. Sometimes a favourable slant of wind sends out the line as wished; but more often the gut falls in a coil, probably in a splash, and nearer to himself than the fisherman designed. The source of the mischief is his wide and graceless waving. His body should be erect and almost rigid; his left hand, rest for the end of the salmon rod, should hardly move at all; and the right, gripping tightly and aiming with confidence, should move as little as is compatible with the energy required to liberate the forces of the weapon. The gingerly and clumsy manner in which a rod is often used may sometimes come from an apprehension that it would not stand the strain of the usage theoretically correct. If the rod is a good one the fear is needless. The

pressure it will stand, if the pressure be steady, is enormous. If it is a bad one, the sooner it is destroyed the better. By luck rather than by good guiding, it may land a fish now and then ; but on the whole it will be a cause of sorrow and an encouragement to bad style.

If this analysis of the dynamics of the rod be sound, there is no need to adorn these pages with figures of an expert caught by the camera in various stages of his action by the waterside. When once the essential principles are understood and adopted, overhead cast, loop cast, and so on, will really come by nature. There is no mystery about them. They are not like figures in a dance, which are artful actions, to be acquired only through teaching ; they come as naturally as throwing stones. Even the "Spey cast" is not excluded from this general assertion. Wandering along by the edge of a river, looking for rises, you suddenly come upon an opportunity. A salmon has shown himself. The bank behind you, however, is very high ; or there is a tree too near. What are you to do ? If you cast in the ordinary way, you will be caught up by the bank or the tree. How is the fly to be dropped over the fish ? Your line is out and trailing downstream. Why, all you have to do is to raise the rod, let it lie back a little over your head or shoulder, and switch it forward. The impulse given to the part of the line which is out of the water will recover the cast and toss it across-stream. This is a readily obvious adaptation of means to end. It is not

much more complex than child's-play. Over and over again the "Spey cast" is discussed as if it involved some secret lore not less august than that of the highest Masonry; but it is a natural and simple action which would have come to pass, independently, at the instance of almost any intelligent fisherman, although it had never been heard of in rumour or in literature. Is any good purpose accomplished by making a mystery of the craft?

The craft, to be sure, has what may be called secrets; but these, as far as this chapter is concerned, are trade affairs. The reel and the line have to be, as regards weight, in certain proportions to the rod. Much mechanical ingenuity has been applied to the perfecting of the reel, which is now, in certain modes, nearly as elaborate as a watch. My belief is that almost any modern reel is well-nigh as good as can be.

What the reel holds, however, or should hold, is a subject less easily understood. This is one of a class of questions which arise when, after a few days by the river, you begin to be critically concerned in the details of fishing gear. It is not so simple as it seems on a visit to the tackle-shop. An equipment that looks perfect there may disclose troublesome peculiarities by the waterside. What's in a line? A novice, or even an old hand who has not thrown a fly for a long time, may think that one is as good as another; but that is not the case. The first principles of the subject are only now beginning to be understood. For many generations fishermen

took it for granted that a line should be as light as was compatible with reasonable strength. Until comparatively recent times, therefore, what may be called the accepted line was one of plaited horsehair. Slightly elastic, it was stout enough to hold any reasonable fish; and it was lighter than any ordinary cord. It sufficiently commended itself by its lightness. Suddenly, however, after it had been in use, to the contentment of all, for many decades, the line struck some original thinker as imperfect. Prickly ends of hair stuck out all over it, and these were the frequent cause of vexatious tangle. What was to be done? The obtruding ends, no doubt, could be put down and kept down by coils of thread; but the thread would have to be resined, and the resin would have to be varnished, and that would mean a serious loss of lightness. Clearly, then, the ideal line must be of some other material. Hemp? Yes; that might be tried. Soon it was found wanting. The hemp line went through the atmosphere and fell on the water just as prettily as the line of plaited hair; but it did not last long. The old line had been good for several seasons; the new one became rotten in a few months. This gradually led to the line as we have it now, hair and silk or hemp blent and waterproofed, or simply plaited silk well oiled and varnished.

Experiment led to more than that. It led to the discovery, that in regarding lightness as desirable in a line mankind had been wrong from time immemorial. Besides being much less liable to tangle,

the new line, heavy though it was, actually went through the air more pleasantly than the old one, while the fly or flies dropped upon the water just as lightly. Man had taken hundreds of years to discover that weight in a cord helps its projection through the atmosphere, especially when the air is adverse; and the discovery was accidental, a result of luck rather than of intelligence. One is obliged to think of such facts as this when enthusiasts sing the marvellous advance we have been making in the mechanic arts. Perhaps progress seems stupendous only because, not being able to see what is to be going on next century, we are without the means of comparative criticism. At any rate, one may entertain some doubt as to whether we have now the perfect line. The authoritative scriptures seem to stand in need of revision and correction. They clash in not a few respects. For example, what are we to believe on the question whether a line should be solid or hollow? The expert of *The Badminton Library* is for solidity. "My objection to a hollow line," he says, "is this: that should there be a flaw or bruise, the water will gradually find its way into the hollow, run down the whole length of the line, and as, owing to the outer coating being waterproof, the line cannot be dried, it will therefore become quickly rotten." On the other hand, experts equally respected favour the hollow line, which they esteem for its softness and pliability. Which doctrine are we to adopt? It is hard to tell; but at the moment one is inclined in favour of the Badminton. Pliability is good;

but to attain it by having a hollow must involve expansion of the line, and a thin line cuts through the air more easily than one of the same weight less thin.

Then, we cannot always be quite sure about the doctors even when they say the same thing. Nearly all of them urge that a line should be tapered. Should it? The theory seems correct. The gut cast is tapered, and it is not unreasonable to assume that for four or five yards the line also should be tapered. That is a mere extension of the principle. If the cast alights straight and gently by virtue of being tapered, the line, made on the same principle, should act similarly. Unfortunately, it does not. Save when there is a wind at your back the tapered line is a trouble. It is difficult to send forth upon the water. It is limp. It will not stretch out and be straight. The fact is, the very thin part of the tapered line is too light. It wavers with the slightest puff of wind. Now, how did this truth-conveying heresy arise? Scientific reflection? It did not come through that. Like many a discovery, it came about in the result of "muddling through." I had a new rod, and the line attached to it was exquisitely tapered. Day after day I fished with that rod and line, and day by day there was something wrong. Evening after evening, before taking down the rod, I detached the cast by cutting off a bit of the line. I regretted the habit as being wasteful; but eventually it saved the credit of the rod, and brought enlightenment. Next season, after a few days of

seeming extravagance, suddenly that rod and line began to work in harmony, just as, in theory, they should have been working all along. The explanation is that I had at length, by snippets, abolished the exquisite taper !

In a pause during the writing of this chapter I came, with gladness, upon a confirmatory remark by Sir Herbert Maxwell, who is an exceptionally skilful and observant salmon fisher. "Some use tapered lines, which are reckoned specially good for switching or underhand casting ; but for ordinary purposes a plaited silken line, even from end to end, is hard to beat."

CHAPTER IV

ON RIVERS

Rage, Curiosity, or Playfulness?—Flies—How Salmon Flies Differ from Trout Flies—An Empiric Craft—The Dusty Miller's Success—Salmon have Marked Preferences—Flies of the Seasons—An Incident on the Tay—Its Possible Significance—Is the Gut too Thick?—Eyesight of Salmon—Mr. Andrew Lang's Surmise—The Weather—Trout, Char, and Salmon—Where Salmon Lie—Times o' the Day—Simultaneous Appetite or Anger—Spring—Autumn—Highland Rivers Clear—Harling and Trolling—Mr. Gladstone, Mr. Curzon, and Mr. Malloch—A Wonderful Discovery.

It was not from idle curiosity that we so closely considered whether salmon when in fresh water feed or abstain from food. Any understanding on that problem at which we may arrive determines a very practical question. If in rising when he sees the invitation a salmon is moved by something other than hunger, or what Mr. Carlyle called "artificial appetite," we are only, though the sport is centuries old, mere novices in the craft of luring. The alternatives to hunger or fictitious hunger have been discussed. The salmon may be inquisitive. He may

be enraged. He may be frolicsome. Which? If he be inquisitive, what shapes and hues and sizes pique him? If he be irritable, what are they that infuriate? If he be playful, by what good luck do we tickle his humour? The questions have only to be stated in order that their nature may be perceived. They are not definitely soluble. Our own motives are often so obscure that any endeavour to elucidate the motives of a fish would be ridiculous. At any rate, *The Psychology of Salmon* is no subject for this hesitating quill. Fortunately, there seems to be considerable reason for believing that it may be eschewed with confidence. Although we cannot tell whether a salmon has temper, or curiosity, or a sense of fun, we need not, in despair, abandon the study of his ways. It is beyond all question, I think, that often, when we come upon him in river or lake, he is in a mood to eat or to try to eat. He may not be able to eat, but he thinks he is. That is something to be reckoned with. Besides, it is all we have to go upon.

As regards flies, it is not much. I allude to flies such as those which are pictorially presented at the beginning of this volume. These were made by Mr. P. D. Malloch, Perth, who is a supreme master of all the lore, craft, and handicraft of salmon fishing. In every respect they are absolutely perfect. The steels, of proper bend, were made and tempered and sharpened specially for the purpose of this book. The feathers, the furs, the hackles, the silks, and the tinsels are of the finest. The busking is exquisite.

Some of the flies are of Scotch patterns; some of Irish; some of English. The flies are types of texture and of shape. They are not standards of size. Size ranges between that of the large and that of the small fly shown on the last in the series of pictures. Why salmon flies differ so much in size I will explain immediately. Meanwhile it is to be noted that only seventy-six flies are depicted on the plates. Where are the other hundreds? They are scattered all over the British Isles. It may be thought that our pictures of salmon flies are too few. Instances of successful fishing with many a fly that our plates exclude will be recalled. In making our selection Mr. Malloch and I have not been unmindful of that consideration. Quite well we know that many a fisherman will find that his favourite fly has been rejected. The fact is that a fly with which a salmon might possibly be caught could be made of any conceivable mixture of fur and feathers. In essaying a presentment of trout flies it is possible to be explicit and exhaustive. The flies are imitations, approximately exact in colour, size, and shape, of insects on which the trout are known to feed. Such are the flies the images of which appear in *Trout Fishing*. Exactitude of similar kind is not possible in a work on Salmon Fishing. Whilst the science of trout flies is natural, that of salmon flies is empiric. Nature, outside the mind of the trout, tells us exactly what trout flies should be like, and exactly how many they should be; but Nature, outside the mind of the salmon,

is on that subject dumb. In fishing for trout we see insects and the trout rising at them, and thus, by a simple process of thought, know what artificial trout flies should be made of; but in relation to the salmon we have no such guidance. We do not see any fly at which the salmon habitually rises. "He likes something to snap at," we say; "it is probable that the more luscious the offering seems the more it will be approved; let us, therefore, blend colours appetisingly." That argument, or something like it, is the genesis of every fly that has been cast upon a salmon river. The argument indicates why salmon flies are much more various than trout flies. As Nature shows us nothing to copy, the scope for speculation and invention is practically unlimited. Fishermen have been for ages, and still are, devising new combinations of tinsel and feathers and fur. The whole of this volume would not give space enough for pictures of all the flies with which salmon have been tempted.

How, then, it may be asked, is the selection now presented to be justified?

It is to be justified by the fact that really, after all, we do know a good deal about the salmon's taste as regards flies. How the knowledge has been gleaned may best be illustrated by an incident. Two men, one of whom was Mr. Watson Lyall, who told me the happenings, were fishing on a river from the same boat. By lunch-time one rod had caught seven salmon, and Mr. Lyall had caught none. All the fish had been taken on a Dusty

Miller. As it was the only Dusty Miller on board, "I'll give it to you for the afternoon," said the successful fisherman, "and try some other fly myself." With that Dusty Miller in the afternoon Mr. Lyall caught six salmon, and his friend, using other flies, had none. The hook was broken at the bend by a seventh fish. It was nearly nightfall then; but had the Dusty Miller held out, other salmon would have come in. They kept rising at the barbless lure, which for a little while longer was cast to them in wonderment at their determined preference.

This incident affords very clear proof that salmon do not rise at random. One fly is not at all times as good as another. The fish do undoubtedly have preferences. It was on the basis of vigilant and comprehensive observation of these preferences that the task of selecting flies for presentation in this volume proceeded. The selection has been made with extreme care; considering the guidance of which I have had the privilege, I may say, also, that it was made from the richest and most minute knowledge. Although there are other flies which are successful now and then, those which are figured in this book, it is confidently believed, are types of the best flies known within the United Kingdom. For each of them there has been, and will be again, many an occasion as propitious as that which befell the Dusty Miller.

Even so, we are still far from an approximately complete philosophy of experience as regards

salmon flies. Few though they be in relation to the whole of the flies in use, absolutely they are many. "Seventy-six of them!" I can imagine some one exclaiming. "It would be a week's work to give each a half-hour's trial! How am I to know which four or five to trust when I have only a day to spare?"

That question cannot be answered precisely. All the knowledge we possess is general. Large flies are appropriate in spring and autumn; in summer smaller flies are best. Flies with silver bodies begin to be attractive as the colder weather comes. The lower the stream, the more sombre should be the lure. When the river is tinged by flood water the gaudiest flies are the most likely to be successful.

These are general rules, dependent, of course, upon normal conditions. Usually the rivers are fairly full early in the year; usually they are small in summer; usually they begin to rise as autumn is approaching. Sometimes, however, the normal order is broken, and then we find that the rules are not without exceptions. Here again an incident may be helpful.

Just as Jock, in the estimate of Serjeant Mulvaney, was "a deceivin' fighter," the Tay is a deceivin' river. Almost every part looks as if it would be excellent for trout; but that is judging from experience on ordinary streams. The Tay is not ordinary. It is an enormous burn rather than being a river. Contrast it with the Thames. That is a temperate stream, sedate, not often in a terrifying

flood, and hardly ever extremely low ; but sometimes the Tay is so small that in certain broad parts you could wade across, and at other times it rises twelve feet in as many hours. The Thames is within stable banks ; those of the Tay are frequently broken, and every flood makes changes in some of its channels. Thus a stranger in Tayside must often find himself at a loss. He may say to himself, "This side-stream, much less rough than the main flow, will hold some good trout," and then find, after delicate casting of his flies, that evidently it holds no trout at all. It would never occur to him that, far from having been for ages as he finds it, the side-stream was not there until a few weeks before, when, being in violent mood, the Tay cleft a few new bypaths for itself. On the other hand, some of the side-streams, long-established ones, yield excellent sport. Not far from Aberfeldy, for example,——

The idiosyncrasies of the Tay, however, are so many that I must do no more than suggest their nature. Were I to dwell upon them in detail, I should have to defer a pleasant task, which is to say how we fared on the afternoon of March 1, 1905, when the trout fishing season opened in Scotland.

Miss Winsome and I had resolved to visit a certain pool which in September had yielded us on the average a brace of trout, usually about 2 lb. each, daily. Lest that should seem sport too mild for consideration, it may be well to mention that until that time Miss Winsome's part had been with the

landing-net, which she wielded with unfailing dexterity; she had not yet used the rod. Many a time the year before, after fishing the whole of that pool, about a quarter of a mile long, without even the modest reward of a rise, we had succeeded well enough on going over it again. Only a very few times had we left it with an empty creel, and on three or four occasions we had caught more than two trout. That opening day it gave not a single rise. Why? My own belief is that, though the pool is a favourite haunt of the fish in summer and for a month or two afterwards, they are not there at the beginning of the season. The rush of water is rather heavy, and I think that for a good many weeks after returning from the spawn-beds the trout lie in places where the current is gentle.

What was to be done? If excessive sport did not detain us, we were to take tea not far off at five o'clock. It was now nearly four o'clock. Should we give over for the day, or should we try that other pool about half a mile down? To try the other pool would be flying in the face of local precepts. Even Angus, the gamekeeper, who is an optimist, had declared it to be hopeless. In the deep water on the south side of the island just above it there are large pike, which, he and every one in the neighbourhood believe, make raids. The repute of the pool is so poor that nobody with local knowledge deems it worthy of a serious trial.

Still, there would be no harm in letting the flies flit over it. The pool was on the way to the tea-cups.

It turned out that there was indeed no harm. At the fourth or fifth cast a fish rose and was hooked. Not having been very hopeful, I had not been attending so carefully as is always desirable; but as the fish turned to plunge I saw a flicker of what I took to be his tail, judging from the size of which I assumed that we had come upon one of the two-pounders so common in the Tay. Miss Winsome was in high glee.

"I knew this must be a good place!" she exclaimed, flourishing the landing-net.

"So did I," said the angler, with that profound sagacity of which one becomes conscious when other critics are discomfited.

"Where in all the Tay could we find a better-looking pool?"

"Nowhere. I question whether there's a better in the world."

A good many minutes passed in agreeable converse, and the fish had not yet shown himself.

"There can be no doubt as to his condition," I remarked. "The fellow who told us that the Tay is an early river was right."

Off ran the line at a great rate. The fish seemed to be making for the pike-haunted backwater. When near the mouth of it he turned and cut across the stream. Unless we had him by the tail or by the dorsal fin, this fish, I felt, must be more than 2 lb. Was he actually, at this time of the year, going to take all the line out? It seemed so for a few moments. Fortunately, however, the Tay itself

checked him. In the middle of the river there is a bank of gravel, over the broad summit of which only half a foot or so of water was rippling. When he reached the edge of the gravel the fish paused.

"How I wish I could see him!" said my pretty comrade.

We were standing low on the bank, and the water at our feet was deep: even if I coaxed the fish close in, he might not be visible from where we stood.

"Well," I answered, "just step up to the top of the bank. From there you may see him when he comes in."

The top of the bank was about nine feet above us. Miss Winsome did as I had suggested. Slowly the fish came in; but I felt no sign of weakening. . . . It must have been nearly a quarter of an hour since he took the fly? . . . Certainly, I think I saw his tail, which wasn't bigger than would beseem a two-pounder. Yet . . .? That's a powerful strain he puts on at times! . . .?

Ruminating thus, I felt impelled to follow Miss Winsome to the top of the bank. Curiosity was awake. . . . Whizz! He was off again in a slanting direction across stream and down. I had to run some yards. When at length the fish came in again we could see him from our eminence. He was a disturbing apparition. I had been wrong about the tail. It was no trout that we had hooked. It was a salmon. He was a ten-pounder apparently.

Miss Winsome clapped her hands and danced a

step; but I was constrained to silence. Mind and nerves had received a shock. The gut was not thick. The line was not long. The landing-net was not large. The course was not clear. About fifty yards down stream, set in a tangle of scrub, was a four-barred fence. Here was a how-d'ye-do!

I ventured to say as much.

Run for a gaff and lose the fun? Not she!

Was it worse that half of us should lose the fun than that the whole of us should lose the fish?

"Go hon!" said Miss Winsome, who had been reading Mr. Snaith's novel, and liked its language. "We'll get him somehow, by-and-by."

That fence, then? No doubt she noticed how furiously the deep water was raging past. Would she kindly say how I was to get over and yet keep pace with the salmon when he should turn and run down?

"O, I'll go first and take the rod while you scramble over."

Of course that was the plan. Begone, dull care! At the moment I rebuked myself for not having thought of the way out. Afterwards I found a poor excuse in remembering that, in modest fearfulness lest she should lose a trout, Miss Winsome had on all previous occasions refused to take the rod when one was hooked. I had not foreseen that she would take it now. I had not realised that she would have resource and courage in the hour of need.

The fence was passed in safety. The salmon was going vigorously, and for a moment the rod, in Miss

Winsome's hands, bent ominously ; but, remembering instructions just in time, she allowed the line to run, and our hold on the fish felt sound when she gave the weapon back.

A little farther down there is a quick bend in the river. Behind the turn the water on our side, excepting in time of flood, is shallow and quiet. By this bay we found ourselves at length. The steely spring sunshine aflash on his sides, the salmon was cruising in shallow water on yellow sand. He had been somewhat tamed in the course of his assisted passage down the torrent ; but he was still agile.

Miss Winsome, I observed, was taking off her fur jacket. She announced that she was going into the river whenever the salmon settled down. . . . She was as good as her word. Into the water she stepped as gracefully as if she were entering a minuet. Before I had recovered from my astonishment she had turned and was handing to me the salmon.

If this incident were unique, one would not on the strength of it venture any suggestion as to flies or tackle ; but it is not unique. Four times that spring we caught a salmon on a trout fly, a March Brown. I have since heard, from a friend who has fished on nearly every river in Scotland and many a river elsewhere, that such good fortune is not uncommon. This suggests a question. Why, when we know that slightly thick gut will scare a trout, should we assume that the thickest gut will not scare a salmon ?

Many men even use casts of double or treble gut. Apparently they believe that fineness of tackle is necessary only when the river is low. They do not seem to consider that when it is "fishable" at all the water, however high, is comparatively clear. It may be tinted by the essence of the peat; but it can be seen through. If it could not be seen through, salmon, which habitually lie at the bottom, never, as trout do when feeding, near the surface, would not rise. Salmon are much larger game than trout, and the heavier gear with which they are usually approached, besides being necessary, is proportionate; but can we be certain that its thickness is of no importance? Have we any reason for believing that at short range the eyes of a salmon are much less acute than those of a trout?

Is the salmon blind to a warning at sight of which the trout goes down? It is conceivable, of course, that, instead of not noticing thick gut, the salmon may regard it as being a trifling freak of nature, to be treated with contempt; yet one cannot be sure. The point is not unimportant. Some may think that, as many salmon have taken flies in spite of the thick gut, all salmon are indifferent to it; but such reasoning is not conclusive. Once I saw a small boy catching a large trout on a salmon fly tied to a string and cast by a walking-stick; yet it is not likely that he has ever had such luck again. The capture of that fish was an exception to a well-ascertained rule founded upon the wariness of trout. Is it possible that every salmon taken on thick gut

is in some measure an exception to a rule that may yet be acknowledged if we discover or invent a cord thinner than salmon gut and not less strong?

It is not in my own mind alone that the speculation has arisen. Mr. Andrew Lang, who as an angler is much less casual than readers of his buoyant writings would suppose, has said: "I once fished a Highland loch, using the same flies as a friend (the Wasp was the favourite), but employing the finest gut of the chalk stream. My friend, who used the ordinary thick gut of Highland lochs, had scarcely a rise, while for once I was lucky, and got a number of sea-trout and a salmon. The water was brown, and there was plenty of breeze; yet the fish preferred the flies on fine gut."

The moral of that statement finds support in an inference from the fact that double hooks, which give in anticipation a pleasant sense of secure hold, are generally discarded except in the case of the smallest flies. Double-hook large flies almost invariably fail. Why? Some authorities say that they fail because they are clumsy; some that they fail because the distribution of weight upsets the proper attitude of the fly in the water; there are other conjectural explanations. All theories save the correct one have been advanced. Look at a double-hook large fly head-against-the-stream, and the correct theory will make itself evident. The two hooks split the stream; they mark the water; the quivering streaks look like limbs of a weird creature with a long and tumultuous tail. If the

running water itself can be made to appear uncannily solid to the eye of a salmon, is it not conceivable that the real solidity of gut may sometimes be viewed with misgiving? The gut must seem a monstrous horn. Who is to devise the invisible cord?

The habits of trout and the state of the atmosphere are in well-defined relations, which I have endeavoured to state and to explain in *Trout Fishing*; but in relation to the weather, as in regard to flies, the moods of the salmon are in great measure a mystery. Going out of a morning, the wisest fisherman cannot have more than a surmise about what the day will bring forth. There is no sign or symptom of the weather that is also a sign as to the humour of the salmon. The temperature is significant in one respect, upon which I will touch by-and-by; but otherwise, as regards fly-fishing, no guidance is to be gleaned from barometer, thermometer, weather-cock, or wind-gauge. Sometimes there will be sport even when the exhausted atmosphere awaits the restorative touch of lightning; sometimes, in that state of weather, there will be none. We can never tell. Trout keep down in sultry weather, in which char often rise; but salmon do not then or at any other time either rise or sulk as a matter of course. The conditions by which their habits are governed seem to be within themselves, or within the water, exclusively. It is well to remember, of course, that on most of our rivers salmon are not much sought in summer.

Spring and autumn, which as a rule are the seasons, are not so often disturbed by subtle complexities of weather as are the months of summer. It is only now and then that they witness the conditions which precede, those which accompany, and those which follow thunder. When we try for a salmon, that is to say, we usually have whatever advantage there may be in weather such as is known to favour us when we try for trout.

Where shall we seek the salmon? Here again, on an unfamiliar river, the most experienced fisherman will find himself uncertain. It is not always possible to tell by the aspect of things where fish will be lying. They may be in very unattractive places. Pools the most inspiring to gaze upon may know them not. In others, which you might pass by as hopeless, they may be abounding. Usually they prefer deep lively pools, and, especially in summer, the full force of the currents there; but in a few streams flat and damlike sluggish parts are the favourite places. Then, although there are fine pools within easy reach, occasionally, if the bottom is dark, the salmon lie in stretches of water little more than two feet deep.

What is the best time o' day? On this question we have slightly more assurance. Especially in spring, "the heat of the day" is good. At all times the hour or hours of the gloamin' are very often so. To these general rules there are incalculable exceptions. Salmon are much more whimsical than their smaller kinsmen. When trout are rising you can

almost always refer their behaviour to some state of the weather with which the rising of trout is in some well-understood association; but salmon often act without regard to precedent. It is never needful to despair. Now and then they come on quite unexpectedly. Let it be noted that here we speak of salmon in the plural. The strangest aspect of their whimsicality is that, as a rule, the mood to take a lure seizes many of them, if not all, at the same moment. Evidence of this assertion is not easily found on a river, where each fisherman is likely to be out of the other's sight; but many a time it has been comically manifest on a lake, where it is possible for the vision to range far and wide. Are you fast in a fish after hours of fruitless trolling? Look round. Every rod on the water is bent and twitching under a similar strain!

In the chapter on lake-fishing we shall be concerned mainly with the spring. That, like every other, is a joyous period. It has delights peculiarly its own. I like to think of them now, not many days before I shall hear the loch a-calling; but even at this moment, in mid-winter, with snow deep upon the mountains, and beginning to whirl into the vale, I find my thoughts wandering to the months of autumn. Spring issues from winter by imperceptible gradations, and merges into summer in the same way. You cannot tell exactly when she begins or when she ends. She is shy, gentle, evolutionary. Autumn is different. He is dramatic. His announcement of himself is sudden. He comes with a rush

or with a snap. For a long time the atmosphere has been close, languorous, comforting only to the indolent; but with the Lammas Flood there arises a sudden change, which brings joy to the active. The Flood has the habit of punctuality. It is not like the frost and the snow that are traditionally associated with Christmas. These are so infrequent as to be practically obsolete outside certain cherished literature; but the Lammas Flood is in most years unfailing. However wet or dry May and June and July may have been, there will be a flood between the first and the thirteenth of August. The thirteenth is Lammas Old Style, and the first is Lammas New Style. The Flood, in its time of arrival, favours now one calendar and now the other. Last year it began on Thursday, the third, and was at its height on Saturday. Then summer gave way a little. The wind, which had been from the south-east when the rain came on, was from the north-west, and high and cool. It brought a feeling that had been unknown for three months. That was the touch of autumn. Summer would advance again, and again, and again, withdrawing between-times, until October was well on the way into the past; but with that north-west wind, following upon the storm of rain, we perceptibly entered upon the third period of the year. After it, more rain and more chill breezes were to be expected at any time. One was agreeably wakened up. The earth had become fresher and fairer. The grass and the trees by all the waysides had been washed free of dust, and had

become rich - green. The atmosphere, which had ceased to be stagnant, had in it a joyous tune. So had the river. It was three feet higher than it had been for many weeks. Islands of sand and gravel that had been familiar all that time were no longer seen. The water was over them. It was over meadows and a few fields also. Dark, gurgling, gushing, sparkling in the sun, what a spectacle the river was !

It was really a river now. We had said no word against it throughout the summer, knowing that it could not help itself, and that the fish, though extremely difficult to find, must be somewhere ; but in truth it had been a secret sorrow. One of the largest in the kingdom, it had dwindled so much that it seemed little more than a burn. Now it was itself again, large and lusty, in fitting proportion to the rugged land through which it flows ; no longer dwarfed by the spaciousness of its own bed ; brawling in the narrow passes, lingering impatient in the pools. It was the right thing in the right place. It had restored order and harmony. It carried to all the land along its course a sense of animation. The very cereals of the fields looked livelier because the river had risen in its might. Humanity also was quick in response to the vivifying touch of autumn. From castle and cot it went eagerly forth with rods and lines and lures. It was not disappointed. The fish had been expecting the flood. They had long been exiled, and sulky, in the recesses of their domain ; and they exulted in the freedom which the

freshet brought. They quitted the deep pools, to which they had been confined for months, and roamed about over places which a few days before you could have crossed dry-shod. These are the very places into which the shrewd fisherman first casts his line. The fish run to them during a flood as instinctively as they seek the gravelly shallows in the spawning season. It is not natural that at any time of the year there should be great stretches of dry sand or dry gravel in the bed of any river. How these have come to be common will be shown in another chapter. In a state of nature the whole of the bed, or nearly the whole, would be under water. Migrating to unwonted places, the fish are merely reverting to the habits of their ancestors. We are sometimes told that salmon do not begin to "take" until the flood is falling. That is true of certain streams, those which, having towns or many villages in their watersheds, bring down much foreign refuse in the first gush of a flood; but it does not hold good on rivers in regions, such as the Highlands, where the rain finds uncontaminated ways down the hillsides. There, very often, the salmon rush at lures whenever it becomes clear to them that a flood is really coming. They are not particular as to lures, and are ready to show sport on very casual provocation. There are many of them in the lee of every peninsula and on the gravel-beds or sand-banks which the river has submerged.

Having reached the autumn, our pen has involuntarily broken from its habitual diffidence. It has

been treating of sport as certain. Perhaps that is not far wrong. They are foolish who encourage the imagination to droop into gloom and decadence merely because the summer solstice has once more come and gone. It will come again. Meanwhile, the Parliament having risen, and many vigorous minds having been thereby and otherwise freed to think about the affairs of sport, there are discussions about what are the proper lures. No one challenges the fly. Many challenge all other means of capturing a salmon. "Harling" and trolling are particularly suspect. Harling is practised only on very large rivers. Many a time, in reading some book on sport, I had wondered what "harling" meant. I knew that it was a method of angling much practised on the Tay, and that it was pursued from on board a boat; but I had been unable to visualise it. If "harling" meant trolling a minnow, the boat must be moving up-stream; and would not that make too great a commotion even in the wide Tay? So I had ruminated. Well, strolling up the river with a trout rod, in September the year before last, suddenly I came upon two lithe young men, gamekeepers, launching a boat. As a pair of salmon rods lay on the bank, it was obvious that they were going to fish. I had seen the boat before. It was of the coble type, and very broad in the beam. It had been a matter of wonder to me to think that such a craft could be held against the heavy rush of the pool by the side of which it had been lying. Behold! in the very middle of the torrent the craft rested on

the Tay as lightly as a skiff rests on the Thames! Being nearly flat-bottomed, it drew very little water. Without much effort, one of the gillies was keeping it in position. His companion was putting out the lines. On one of them was an artificial sand-eel; on the other, a Jock Scott. Both lines having been let down the stream for thirty or forty yards, the rods were laid across the stern; then, oars in the hands of each, the gillies set about their harling. Immediately I perceived that harling was in principle the same as trolling. Only one of the details was different. Instead of making the boat move bow-forward to keep the lures in motion, the gillies allowed it to drop down-stream, very slowly, about three or four yards a minute; the force of the water was sufficient to keep the Jock Scott floating, or nearly so, and the sand-eel from sinking to the bottom. From side to side of the river, too, the boat moved, thereby causing the lures to search every likely spot. This revealed the motive of harling. Even such considerable rivers as the Don, the Severn, the Avon, the Helmsdale, and the Thurso, can be fished by casting from the bank; but the Tay is so broad that most of its pools could not be fished thoroughly without the aid of a boat. Before the pool, which is about three hundred yards long, was half-covered, the gillie nearer the stern dropped the oars, which hung on pins; leapt from his seat, and seized a rod. A salmon had taken the Jock Scott. Quickly the other gillie, having reeled up the second line, pulled ashore; and he and his comrade landed.

Within half an hour the salmon also reposed on the pebbly beach. He weighed slightly over 20 lbs.

Fishing of that kind is much disliked by sportsmen whose experience entitles their judgment to high respect. It was a fly that caught the salmon in the harling just described; but the other lure, it is held, was not innocently occupied. Routing about near the bottom of the water, it may have scared, or pricked, or annoyed many a salmon. If fish are harried by the gear of the troller, how can they be expected to be in blithe mood when the fly fisher approaches? Even a Tsar or a Sultan cannot rise at a constitutional fly when his hover has been searched by the tackle of the anach. How is a salmon, timid creature, to be bolder? As a matter of fact, he is not. He lies low. In Norway and in Scotland the symptoms are well known. Wheresoever, on a river, trolling is practised, fly-fishing is of little avail. Unquestionable proof of this is afforded by the Tay. On certain stretches of that great river only the fly is allowed; on others, minnows and prawns and sand-eels are not banned. Taymount, Stobhall, and the Islamouth water are in one class; Kinnaird, Dalguise, and Dunkeld are in the other. None of these stretches has any natural advantage over any neighbouring stretch; yet it is only on those of the first class that a fly can be thrown with a prospect of reasonable success. In relation to running waters, then, the argument for fly-fishing and nothing else seems indisputable.

The civilised world will be astounded to learn

that the ultimate cause of trolling, systematically practised, was none other than Mr. Gladstone. He was staying at Butterstone, in Perthshire. Mr. George Curzon, afterwards Viceroy of India, also was visiting in the neighbourhood. He was exceedingly anxious to have a Tay salmon to present to Mr. Gladstone. Naturally, therefore, he called in the help of Mr. Malloch. Fish being plentiful in the river at the time, Mr. Malloch led Mr. Curzon forth with confidence. To make quite sure of success, he broke his use and wont by taking with him a few minnows and prawns. Instead of beginning with flies, Mr. Malloch and Mr. Curzon began with minnows. They fished over the best of the water without having a touch. Then they tried prawns. Prawns were of no use. The day ended, and a salmon for Mr. Gladstone had not been caught. Much vexed, Mr. Malloch set about seeking the cause of failure. It occurred to him that the explanation might lie in the temperature. This surmise was strikingly justified. It is morally certain that Mr. Curzon's ambition would have been fulfilled if, instead of trying minnows and prawns in their eagerness, Mr. Malloch and he had used flies. The scientific warrant for this assertion is best stated in a note with which Mr. Malloch has favoured me. "The temperature of the water," he writes, "was 60°. I have taken temperatures ever since, and now know why we failed. With the water at 60° it is a waste of time to try minnow or bait of any kind. With the temperature above 50° fish do not take

bait well; fly is much more deadly. I never now think of using a bait until the temperature is under 50°. The following is from my Diary for ten days after it occurred to me that temperature was the explanation:—

Water 47°, 7 fish with prawn; raised 6 with fly;
lost 2.

- „ 47°, 10 fish with prawn; none with fly.
- „ 51°, 2 fish with prawn; 4 with fly.
- „ 46°, 6 fish with prawn; 4 with fly.
- „ 46°, the same day another angler fishing
behind me took 5 with spoon.
- „ 51½°, 2 fish with prawn; 1 with fly.
- „ 50°, 2 fish with prawn; 3 with fly.
- „ 51°, none with prawn; none with fly.
- „ 50°, 2 with prawn; 3 with fly.
- „ 46°, 3 with prawn; 2 with eel tail; none
with fly.

“Every day the fly was used in the morning and the prawn in the afternoon; the same water was fished in succession. Had I stuck to the fly when the water was above 50° I should have done better. I do not mean that fish will not take bait when the river is at a higher temperature; but I do mean that only an odd fish can be caught when it gets near 60°. We can catch fish in the Tay all spring with bait until about May 15, a few between that and the end of the month, and almost none in June and July.

“During the last six years the average temperature of the Tay during May was 48.4° ; June $53\frac{1}{2}^{\circ}$; July 59.4° ; August about the same as July. Sometimes the weather is so warm in September that fish will not take a fly.”

CHAPTER V

ON LAKES

Spring in the Highlands—Lakes near the Sea and Lakes Inland—Is “Feeling Cold” an Illusion?—The Boatman’s Craft and Subtlety—What the Salmon may not See—A Remarkable Incident—Do Salmon Dose?—Whence they may See a Minnow—Colours of Minnows—Large Lakes—Possibilities of the Deeps—Wind and Waves—What Fish are Rising?—Salmon take Flies Unobtrusively—The Beds of Lakes—Submerged Rivers—A Lesson on Loch Nell.

To go salmon fishing in the Highlands before Easter calls for courage of a Spartan kind; yet, especially if it be on a loch you would seek your sport, that is when you had better go. Loch fishing, which on the earlier waters begins in the middle of January, the depth of winter, is practically all what is called “spring fishing.” On lochs not far from the sea, of which Loch Shiel, in Argyllshire, is an example, there is autumn fishing also; but on the others, far inland, such as Loch Tay, the first quarter of the year is regarded as the only time. That, I imagine, is because the autumn fish in inland lochs, instead of resting there, are merely passing through to spawn-

beds in the recesses of the watersheds. In August and September a loch a few miles from the sea is to the fish just as a pool in the river, a pleasant place to rest in and explore; but a loch in the heart of the country is quite another thing. The fish progress towards it by easy stages, resting for days in many a pool, moving on, indeed, only when a flood tempts them forth; and by the time they reach the loch they have but little leisure in which to tarry away from the breeding grounds. The fish that run from the sea in winter or early in the spring have other habits. Many of them go, without loitering, to the lochs, and stay there for a long time. That is why, if we would visit the inland lochs, we must do so early in the year.

Scotland stands high on the map, not very far, indeed, from the Arctic Circle. Just think of fishing there at a time when even the Home Counties are still liable to the nip of frost and to showers of sleet! The thought is disquieting; but it is needlessly so. Although the best of the salmon rivers and lakes are far north, the mean temperature of their neighbourhoods during the early months of the year is not much lower than that of England, where, in pursuit of jack and perch and roach, and other "coarse" fish, thousands of men are out upon the waters daily from the beginning of autumn until the dawn of spring. Perhaps the belief that winter must be very rigorous in Scotland comes from knowledge that sometimes it is very rigorous in London. If Middlesex is cold, what must Perthshire

or Sutherland be? That is the line of reasoning. It is not justified by the facts. Does the reader remember the wonderful description of the coming of a snowstorm in Doone Valley? Mr. Blackmore, who describes weather more minutely and more vividly than any other novelist, tells that for days during the great frost there was a strange boom in the still air. Only twice have I myself heard this mysterious sound, sign of temperature approaching zero; and one of the occasions was in London about eleven years ago, when there was bearing ice on the Serpentine for six weeks. Besides, while the inland parts of England are just as liable to sharp frosts as Scotland is, a low temperature in the South is usually more telling on the nerves than a similar temperature in the North. In the South it is often accompanied by fog, which is moisture; and that makes it much more penetrating. One hears that in Canada it is possible to be quite comfortable with the mercury at zero, or even below. That is because there, as at St. Moritz, the atmosphere is comparatively dry. The atmosphere of our own Highlands is not so little saturated with moisture as that of Canada or that of the South of Europe; but certainly it seems to be much less so than that of the Midlands and the South of England. At any rate, it is quite possible to fish on a Scotch river or loch in winter without being much inconvenienced by the frost. Perhaps the nature of the occupation partly explains this peculiarity. Civilised man is subject to some strange illusions. In darkness, for

example, he thinks he is smoking long after the tobacco in his pipe has ceased to burn. Blindfolded, he is as likely as not to be unable to tell a glass of port from a glass of sherry. These facts show that the palate is partly dependent upon the eyes. Similarly, it is more than possible that in the open air the sense of being cold may be due less to a low temperature than to boredom or to knowledge that time is passing wastefully. When the mind is agreeably employed the nerves are astonishingly unconscious of chill airs.

Is this happy condition usual among the circumstances of salmon fishing early in the year? I think it is. Are the sportsmen on a loch as cosy as they would be at their own firesides what time the mountains close by are invisible in the blast of snow? I think they are. Oft expectation fails where most it promises; but in angling, while the expectation is aglow the body is aglow as well. Sometimes, when the rains hold off unseasonably, one has not much hope even of a river in the autumn; but at the beginning of the year clean-run salmon are almost certain to be found in the lochs. It is, therefore, at the earliest part of the season that the angler is best equipped against the slings and arrows of our climate.

How, as regards the basket, is he like to fare? This question is perhaps best answered by a record of experience. A friend fished on Loch Tay for a few days in February. On the 5th he caught eight salmon, 28, 23, 23, 21, 20, 19, 18, and 16 lbs. ;

on the 6th, six salmon, 32, 20, 20, 18, 19, and 17 lbs.; on the 7th, four salmon, 20, 19, 23, and 18 lbs.; and on the 9th, six salmon, 32, 17, 22, 19, 21, and 17 lbs. His basket for the four days was 24 salmon, weighing 502 lbs. It is not at all certain that one who goes fishing, on Loch Tay or elsewhere, will find such sport as that; but, equally of course, it is possible that he will. If he does, he will be kept in sufficient activity to prevent him suffering from the weather; even if he does not, he will find at the end of the short day that the hope of sport is not much less sustaining than sport itself.

Experience enough to keep this expectation active is perhaps necessary to full enjoyment on the wild water; but the angler need not be highly skilled. Success with the salmon depends upon conditions different from those of success with the trout. In trout fishing you must be able to tell, by intuition or from experience, where fish are likely to be hovering, and you must be nimble in the use of rod and line and flies; but in salmon fishing the boatmen provide the knowledge of the haunts, and it is self-control in excitement, rather than dexterity, that does the rest. Indeed, it may be said that all men are equal on a salmon loch. The lines of all are baited with minnows, the various types of which are chosen more by fancy than by science; the lines, instead of being cast as in fly-fishing, are trailed behind the boats; and the boats, as a rule, are rowed in courses which the professional attendants

think best. That is the practice. I am not certain that it is the only way in which salmon in still waters could be sought successfully. Often, on almost any loch which holds them, you will see the fish rising briskly; not infrequently, when casting for trout you will hook a salmon. Is it to be taken for granted, then, that salmon flies would be useless on the lochs? One can, it is true, perceive a reason why a salmon fly on a loch would be not so effective as the same lure on a stream. The stream helps you in the process of getting the fly away from yourself a goodly distance; but in a loch it lies where it falls until you begin to drag it, which can only be towards the boat. This, however, is not a complete proof that casting a salmon fly on a loch would of necessity be a futile endeavour towards refinement of the sport. Salmon are not sharper in eyesight than trout are, and trout are not prevented from rising at a fly by the proximity of a boat. On the other hand, there may be an important difference between the position of salmon and that of trout. When the trout-creel is filling quickly, the trout are feeding, and when they are feeding they are poised only a few inches below the surface of the water; but, although salmon often leap into the air, their normal position is much below the surface. That being so, one can understand why fly-fishing for salmon on a loch would probably yield comparatively poor results. The salmon and the trout stand in relation to the boat at widely different angles. As the eyes of both salmon and trout look up, besides looking in other

directions, the fish that are well below the surface will see the boat long before it comes within the range of vision of the fish that are poised high. Thus it would appear that, though not uncommon, the rising of a salmon at a trout fly is an exceptional incident. Bringing fierce joy and much alarm, it happens only when the fly chances to fall over a salmon that is at once looking away from the boat and is in a humour to snap at the lure.

It seems probable, then, that the professional attendants are right in believing that a minnow trolled behind a boat is the best lure on a loch. Is it equally probable that they are right in believing that the boat, instead of being rowed straight forward, should go forward in a series of curves? I am not sure that they are. The reason for the usage is obvious. If the boat goes straight forward, the lure, trolled behind, will always be in water that has been disturbed by the craft and the oars; it seems reasonable to suppose, indeed, that, if the water is not very deep, every fish that lay in what has become the track of the boat must be scared off. On the other hand, if the boat goes forward in curves, the lure, at the end of forty or fifty yards of line, instead of following the curves, touches your track at intervals only, and for the rest is spinning through water that has not been disturbed. The gillie has implicit faith in this procedure. "It's aye at the turn ye hook a fish," he assures you, meaning that it is only when the minnow has come into one of the undisturbed bits of water that you have a

chance. One is obliged to respect the gillie. His theory looks eminently reasonable; and, to carry it out, by rowing in cunning curves he puts himself to considerable pains. Still, I cannot be so confident as he is. Often you hook a salmon when, the day being nearly over, you are going directly to the landing-stage. If the straight course is the wrong course, how does that happen?

This is an interesting problem. I perceive three suggestions towards solution. One of these, which I shall mention last, has been, in *Trout Fishing*, offered by myself. Each of the others is wholly original, and will probably be considered untenable by such as are given to quick judgments.

In the first place, I can conceive it possible that in water about thirty feet deep, or deeper, a boat might be rowed right over a salmon at the bottom without the fish seeing it. Any one who has studied the ways of salmon in a river must have noticed signs of certain peculiarities of their vision. If by any means, such as by being in the stream, you can approach a salmon straight in the face, you may get within three or four yards of him before he sees you and flashes off; this indicates that, though the fish does see in front of him, he does not see far in that direction. If you approach sideways, as from the bank of the stream, he darts off much sooner, though not so soon as a trout would; this indicates that his lateral line of vision is longer than his line of vision to the front. As we have already had occasion to note, he sees upward also; but how far upward does

he see? Hitherto anglers generally seem to have taken it for granted that fish of the salmon-kind, howsoever deep may be the water in which they are lying, see straight upwards into the air; but this assumption is questionable. Does not one of the characters in *Aylwin*, that witching romance, begin his preparations for trout fishing in a Welsh tarn by anchoring his coracle in one of the deepest parts? He does; he is about to fish with worms, too; from which it is obvious that Mr. Watts-Dunton believes it possible, where the water is deep enough, to catch fish of the salmon-kind from a perpendicular position, just as the seaman catches cod. We must not, however, give much weight to this evidence. Perhaps the passage referred to is one of the accomplished writer's lapses from accuracy, which are rare. More conclusive is the fact that if, instead of approaching your salmon from the front or from the side, you approach him from above, he is unconscious of your presence until you are very near. The position is difficult to get into; but it may be roughly attained, sometimes, by standing on a bridge over a stream. Is there a salmon just below the rim of the bridge? You will not scare him if you hang over the rim and wave your arms. His upward line of vision does not reach you. Why, then, should our gillie be certain that the boat is seen by a salmon lying thirty feet, or more than that, below? Although he may be unconscious of the presence of the boat, the fish may see the minnow which is following in the depths.

In the second place, there actually seems some reason for believing that a disturbance of the water is not always a disadvantage to the angler. I have never myself had any experience to suggest this possibility, and I have not witnessed any in the sport of others; but I was much impressed by a narrative, suggesting the possibility, which, nearly two years ago, was published in *The Field*. The writer told how he had fished a certain salmon pool for hours, and that in vain—not a fish would rise. Then a man came to say that there was to be blasting by dynamite in a quarry close to the other side of the stream; would the angler kindly move away until the rocks were riven? He went apart to a safe distance; the explosion sounded and resounded; a large fragment of the rock dropped with a great splash into the pool. At the very place where the stone fell, and almost before the ripples of the disturbance had died away, the angler raised and hooked a salmon! This set him thinking; and he came to the conclusion that the fish had risen because of the fall of the large stone, not in spite of it. His theory is that the salmon are sometimes languid, or indolent, disinclined either to rise at a fly or to seize a minnow, and that a shock of astonishment may wake them up. At first I suspected him to be joking; but I have since come upon a responsible statement that seems remarkably like corroboration. In *Almond of Loretto*, a very attractive biography of a singularly shrewd genius, Mr. Robert Jameson Mackenzie writes: "One of the Alstons was a good caricaturist,

and our master's eccentricities furnished him with many a subject. In one of these sketches, as I happen to remember, the Head was represented as holding up his trousers with one hand, and stoning a salmon pool with the other. His gillie—John Macleod, or the humorous old water-bailiff, John Macdonald—stood beside him with the rod. The practice of stoning pools, like many other original devices, was suggested by an accident. He had been fishing a pool in the Kirkaig one day when a blast from a neighbouring quarry threw some stones into the water. Soon afterwards he caught a fish. Acting on the hint, he made further experiments, and came to the conclusion that the method of stoning was among the resources of the complete salmon angler." That, apparently, was in 1877, fully a generation before *The Field* chronicled an exactly similar incident. If we may accept the conjecture entertained independently by the writer in that journal and by Mr. Hely Hutchinson Almond, there is an obvious explanation of a salmon coming at a minnow trailed in the wake of a boat. It may be that the fish had been dozing, and was excited to curiosity by the passage of the craft and the splash of the oars. I myself am not prepared to endorse this view; but among the familiar phenomena of the sport there is a fact by which it may possibly be regarded as encouraged. Salmon, like trout, almost invariably come into sportful humour when the normal condition of a river has been disturbed by a flood. May this be because the increased volume of

water, flowing at a rate greater than is usual in the stream, buffets them, or teases them, or stimulates them, and revives the predatory instinct? There is, I know, another theory to account for the improvement in sport that is brought by a flood; but it is only fair to the writer in *The Field*, and to the memory of Mr. Almond, to mention a possibility tending to show that their conjecture is not so absurd as it may have seemed to many readers.

In the third place, it may be that the salmon which takes a lure trailed in the wake of a boat has not been lying in the path of the boat. He may have dashed at the minnow laterally. That is my own surmise. It should be remembered that, as we have seen, the eyesight of the fish is mainly lateral. It should be remembered, too, that an artificial minnow is a very conspicuous object. Not only is it, as a rule, flagrant in colour: also it spins, and, should it be tinselled, flashes. It can be seen from afar on either side of the course in which it whirls along. After thinking over the possibilities, I am strongly of opinion that every fish that takes it has been lying aside from the track of the boat.

Why any fish should take it at all is a question equally entertaining. It would be wrong to repeat in an affirming sense the commonplace statement that all artificial minnows are unlike any creatures of nature. Some of them, though exaggerated in size and less delicate in hues, are modelled after living things. The action of the artificial minnows, however, is quite unlike that of the real ones. Real

minnows may dart about at a quick rate ; but they do not keep up the pace. They do not travel three miles in an hour. Sometimes they catch and reflect the sunlight, and so seem quiveringly active ; but they are not for ever spinning. They do not spin. Artificial minnows do all these things. They travel for miles, and never, when in the water, rest ; and as they cleave through the deep they rotate as busily as a kite that has lost its tail. Why are the salmon attracted by such singular apparitions ? My own belief is that the fish take the things to be living creatures in distress, and rush at them in obedience to the instinct which impels the strong of any class to kill or to persecute the weak.

This conjecture will fall in either with the understanding that salmon, like trout, feed all the year round, or with the theory that they feed only when in the sea. The fish may be meaning to make a meal of the strange thing that has swum into his ken, or he may be meaning only to make an end of it. In relation to the practical purposes of the sportsman, that is a side issue. If only the fish rush at his lures freely, he is not, for the moment, concerned as to why they do so.

For every loch there is a particular minnow recommended by the gillies of the place ; in some cases there are two or three that they consider worthy of trial. Many a river, in the same way, has its special lures. It is probably rash to suppose that the local traditions are superstitious. One cannot but think that there must be experience behind

them. Still, there are first-class salmon anglers who will have none of the traditions. Instead of adopting the precepts of the gillies, they follow their own fancies; and sometimes they are justified by results. Experiments on the Tweed, where local preferences are particularly definite, have strengthened the sceptical notions. The sceptical notions, however, are themselves empirical. They prove no more than that certain local traditions do not contain the whole truth. They are not in themselves the whole truth. In as far as they would lead us to believe that it does not matter what fly, or what minnow, or what other lure, one uses, they are probably, indeed, a negation of the truth. Salmon must have definite instincts in their choice of things to seize. Clues to some of these instincts readily yield themselves to well-informed scrutiny. A friend on whose loch I sometimes fish told me, when first I went thither, that there were only two minnows which were very successful. One was all brown; the other was brown on the back and red in the belly. "Do you use them indifferently?" I asked, "or do you put on one at one time of the year and one at the other?" "O," he answered, "when I go out I just try one, and then, if it doesn't do, I try the other." My friend did not know that there is a minnow, common to many streams and lakes, which, almost altogether brown at ordinary times, becomes red in the belly, with a tinge of gold, when it is about to spawn. This information, which was confirmed by a study of the minnows native to the

place, systematised the lures for that particular water.

Salmon lakes, as a rule, are large tracts. One feels rather at sea on a first visit to Loch Tay, or to Loch Ness, or to Lough Derg; even smaller lakes present a problem. Where are you to begin, and whither go? Gillies acquainted with the water have no doubt. They will keep pretty close to the shores, and skirt round islands. That is not wrong. Many salmon do certainly lie near the land. It is there that most of the rises are. I am not sure, however, that this suggests a complete answer to our question. Salmon do not shun the deepest pools in a river, some of which are much deeper than the margin of a lake. Indeed, very deep pools on a river are favourite haunts of the fish. Nevertheless, it is generally assumed that they frequent the shallower parts of a lake exclusively. This belief might be accepted without suspicion if it were not that a similar belief about the habits of trout is open to question. Trout are sought and found all over Lochleven; but Lochleven is exceptional. Whilst the whole of it is comparatively shallow, most lakes are shallow only at the sides, and on these it is along the shores that the boats of the trout fishers drift. It is thought that to go farther out would be a waste of time and effort. That, I admit, would be the case in a breeze sufficiently high to tip the waves with spray. I have tried often enough to be sure that in such weather, or in rougher weather, you cannot, on the deep parts of a lake,

expect the trout to come at flies. When the wind has fallen, however, and the water is calm, you will, in summer, if the other atmospherical conditions are favourable, see, from the marks, that fish are rising all over the lake. Where were the fish when the winds were out? There are two possibilities. It may be that fish were then, as now, all over the lake, in the deeps as well as in the shallows, but that, for some reason not yet discovered, those in the deeps do not rise when the water is rough. It may be, on the other hand, that the fish spread out all over the lake only when the weather is dead calm or nearly so. A friend who habitually lives by the side of a fine lake advances this view. He says that the trout, usually gathered in the shallows all round the water, go out hunting the flies in times of calm, and he explains the lack of sport far from the land at other times by the simple belief that the fish are not then there. This understanding does not seem sufficient. If trout follow the flies as trade follows the flag, it is in time of wind that we should find them far out on the lake. Most of the flies are aquatic, born either in the comparatively shallow parts of the lake, most of which are along the shores, or in the tributary streams. Unless they wander when the atmosphere is calm, it must be when there is wind that they go forth upon the water. I do not think they wander. I think that when out on the deeps they have been blown thither. This thought seems to be justified by the fact that very soon after putting off from the shore you are quit of that

exasperating insect, the Highland Midge, which during calm weather in spring and early in summer is found in stinging myriads where land and water meet. It seems probable, then, that throughout the period of the year in which the surface of the whole water is equably warm, the trout, though in wind they rise in the shallows only, are distributed all over the lake. If this be so, why should it be supposed that the salmon, which are of the same race, are not similarly dispersed? I can imagine an answer. "If salmon lie about all over the lake, as trout sometimes do, why are they never seen rising there when the water is calm?" This looks convincing; but it is not so. We cannot with certainty distinguish between the rise of a salmon and the rise of a trout. In the case of every salmon that has honoured a fly of mine, the rise, as far as one's sight could tell, was just like that of a trout. Hand, arm, and nerves usually knew better in an instant; but the vision was uninformed. It is just possible, then, that some of the spreading rings on the surface of a calm lake notify rises of salmon. If these fish ever do take a real fly, it is morally certain that they take it quietly. To say that they often leap into the air would be beside the point. When they leap into the air salmon are "rising to themselves," and not, as far as can be seen, at anything to snatch. When they rise at a fly they are much less acrobatic. Often, indeed, they take it without breaking the water. All the salmon with which I myself have had to battle in a lake have come on not far from

the shore ; but that may be only because, time being precious, I have usually sought sport where some fish were known to be, instead of experimenting where others might possibly be. A consideration supporting the surmise that some salmon may be far out while others are close in occasionally suggests itself early in the period of the spring fishing. Sometimes the lake is covered by sheets of ice, sheets that were once a single sheet, separated by channels of open water. It being impossible to fish through the ice, any salmon that comes on does so, of course, in one of the channels, which as often as not is a good way from the shallows by the shore. As it is probable that the fish prefer to lie where the water is not ice-bound, this is not conclusive evidence as to the locality of their haunts ; but it is worth mentioning. It shows that sometimes at least the fish do lie in the deeps.

Even if it were certain that they did not, we should frequently err by fishing along the shores exclusively. Casually looking at a lake, which is almost geometrically perfect in superficies, and seems to deepen from the shore outwards according to a gradation roughly regular, we are apt to suppose that it is symmetrical below. It is not. Its inner configuration is not like that of a bowl. It is irregular. If the water were miraculously removed, it would be seen to be the configuration of hill and dale. Here and there would be an extensive plateau. There is one, for example, in the middle of Loch Lubnaig. Thus, it is not only near the

shores in every case that a lake is shallow. In many cases it is shallow, or comparatively so, far out. Where it is, as above the great bank in Loch Lubnaig, salmon as well as trout habitually lie.

Here and there we come upon a lake that is not exactly as it used to be. Man, or some process of Nature, has raised the level of the land over which the water goes at the outflow. The depth of the lake has been increased. The water has expanded on all sides. In particular, it has pushed up at the head of the lake. Part of the inflowing river, perhaps a long part, has been submerged. Peer into the lake as you drift down from where the river now merges into the still water, and you will see the channel. It is a distinct groove through what bears traces of having been something in the nature of a meadow. Even, it may be, there is still grass on both sides of the channel. That is a good place over which to fish. If there are any salmon in the lake, some of them will be there. It is the path of their ancestors from time immemorial. Hereditary instinct as to locality is as strong in salmon as it is in birds.

Although some salmon certainly lie along by the shore, it would be a mistake to suppose that any bit of water near the land is as good as any other. A few years ago, having set out on Loch Nell, in Argyllshire, I wished to go to the south shore. There, near the end of the lake, I saw a long ledge of high rock. It looked, I thought, the very place for the sea-trout I expected to catch, and for the

salmon which were possible. Quietly the gillie protested. "They'll no' be there, I'm thinkin'," said he. "Salmon and sea-troot dinna lie muckle whaur there's rocks or trees. They like the open pairts. It's nearly aye jist opposite a bare bank, and no' a vera high bank, that ye get them." That was a striking remark. I had thought of trout, in the conventional way, as preferring the shady streams and pools, and still more assuredly of salmon as making their haunts in as rugged scenery as they could find; but on Loch Nell I realised, by repeated experience, that what the gillie said was true, and I have since perceived it true in every other lake I have visited.

CHAPTER VI

ARE THE SALMON DECLINING?

The General Belief—Is it Well Founded?—A Characteristic of Popular Opinion—Reasons for Misgiving—Reasons for Hope—Survey of the British Islands.

IN all parts of the United Kingdom one finds a general belief that the salmon is not to be long in the land. If one may judge by the general tone of conversation among sportsmen, there is not a single river that is as good as it was, and the common expectation seems to be that before very long most of the rivers will be without any salmon at all. Like the Red Indians in America, the salmon of the British Islands are regarded, even by those who would fain think otherwise, as a doomed race.

Is this opinion based on facts? Is it only a symptom of that insular odd pessimism which, from time immemorial, has inclined many Britons to be convinced that the country is "going to the dogs"?

The subject was well worth investigating. General opinions on any question that does not concern the vital interests of the nation are usually, when probed,

found to be singularly lacking in reason. Was this belief about the salmon one of them?

It was impossible to be sure. True, I had hardly ever met any one who, convinced that the days of salmon fishing would soon be over, could give specific grounds for certitude. Requests for these particulars had been met by a look of astonishment, as much as to say, "Do you really want proof that twice two are four?" That is our British habit. We affirm much more than we reflect. We habitually believe the worst, and the worst is its own evidence. At the same time, I well knew that certain rivers had been declining. There could be no doubt on that score. At every country-house there is a game register, and that is not a misleading tome. Most men, especially the elders, think that the past was better than the present, and that the future will be as bad as possible. General impressions of that kind are to be distrusted. The registers, however, are to be believed; and they are proof that on many a river the sport is, as a rule, less good than it once was.

On the other hand, it was not clear that there was no river that was not improving; perhaps a good many rivers were exceptions to what was generally taken to be the rule. Besides, the interest in angling had been spreading very rapidly; was it conceivable that this had not been accompanied by efforts to redeem waters that had been well-nigh ruined? The Thames, flowing through the largest city in the world, had been purified sufficiently to

allow salmon to live in it once again; was it to be thought that this example had been neglected everywhere?

Why not put those questions to a test? Why not make a survey of the main rivers in the United Kingdom?

I have done so. The results will be found in chapters immediately following. The information set forth, it will be noticed, is in all cases given on authorities that are unquestionable. In another chapter, on Storage and Passes, I will discuss the chief fact brought out in our survey of the rivers. My endeavour will be to show that all the troubles disclosed are ultimately due to a single condition, the want of a natural, equable flow; and that for this condition a remedy has been found. Meanwhile I may perhaps venture a belief that salmon fishing is now, as grouse shooting seems to have been fifty years ago, a sport only beginning to be scientifically understood and systematically cultivated.

CHAPTER VII

SCOTLAND

Dee — Don—Deveron—Ugie — Nairn — Findhorn — Spey —
Beaully—Spean—Lochy—Moidart—Ness—Loch Ness—
Waters of the Hebrides—Ullapool—Carron—Cannaird—
Oiskaig—Polly—Alness—Conon—Berriedale and Lang-
well—Helmsdale—Borgie—Naver—Halladale—Hope—
Loch Hope—Strathmore—Kinloch—Loch Naver—Fleet
—Carnach—Brora—Inchard—Laxford—Stack—Inver—
Kirkraig—Thurso—Orchy—Awe—Baa—Dhu—Shira—
Aray—Barr—Etive—Shiel—Loch Tay—The Tay—Loch
Lubnaig—Teith—Voil—Doine—Clyde—Leven—Loch
Lomond—Cree and Minnoch—Stinchar—Luce—Girvan
—Nith—Cairn—Annan—Tweed—Teviot—South Esk
—North Esk—Charters.

HIS Majesty the King has long stretches of the DEE, and I have gracious permission, conveyed by Lord Knollys, to give an account of the river as it is known to those who fish in the neighbourhood of Balmoral and Abergeldie.

Mr. Arthur P. Grant, Head Stalker at Balmoral, who has had duty on the waters for forty years, writes:—

“Until four years ago we had a bad year

occasionally, but could generally reckon on a good year following an indifferent or a poor one. For four years, however, the fishing has gone from bad to worse. Last season's was undoubtedly the least satisfactory I have experienced. I do not think that this is caused by any diminution in the numbers of fish entering the river: during the same period sport on many of the lower reaches of the river has been very good. It seems rather to be owing to the fact that the fish do not proceed to the upper reaches as early or in as large numbers as they used to do. It would be difficult to assign a reason for this; but I may make a conjecture, and one more expert in the 'habits and instincts of fishes' may be able to say if there is anything in it.

"For years past hundreds of fish have been taken from the upper reaches and stripped of spawn, which is removed to the hatcheries lower down; the fry are restored to the lower reaches. What I should like to know is whether salmon thus reared would have a tendency on their annual visit to haunt the pools where they spent their days as fry, and not to push on to upper reaches of the river. If this is so, it might account for the scarcity of fish in the upper waters in spring. Last year—for the first time, I believe—some of the fry were restored to the upper reaches; but time alone can show whether this is to have any effect.

"What fish are in the water are much more difficult to take now than formerly. This may be accounted for by the consideration that during their leisurely

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THE DEE NEAR BALMORAL.

progress from pool to pool they have again and again presented to them every possible lure."

Writing in more general terms, Mr. John Michie, M.V.O., His Majesty's Agent at Balmoral, says:—

"It would be risky to state that the number of salmon entering the river has diminished or sport generally deteriorated in recent years; but certain it is that for the last four seasons fish have not run up to the higher reaches, above Ballater, so early as they frequently did in previous years, while there have been more fish in the middle and lower reaches.

"The cause of this is probably not clear; but I am inclined to think that the practice of taking spawn from fish in the upper streams, hatching it artificially, and putting the smolts into the river low down, has a tendency in that direction. It ought to be mentioned, however, that some of those artificially reared smolts have been taken up to higher tributaries. What proportion of them ever reach the mouth of the river it would be difficult to say, or even to guess at.

"I am no believer in artificial rearing of young salmon. Spawning fish, in my opinion, should be left undisturbed on the natural spawning beds. There should be no interference beyond careful protection of the fish, and, perhaps, improvement of the beds at some other time than the spawning season.

"I believe there is very little poaching—except, perhaps, the taking of a few fish from spawning

streams; but these are supposed to be pretty well watched.

“The Dee, I believe, is very free of pollution above Banchory. The Town Council of Aberdeen look well after the river above that point, for the sake of the purity of the town water.

“Hill drainage is of so small extent about and above Balmoral that it cannot appreciably affect the flow of the river to produce sudden flooding in times of rain or half-dry channels in protracted drought, as is the case in some rivers.

“Any record that may be kept of salmon caught on the Balmoral water would be of no use from a statistical point of view: angling is intermittent.”

Of the Mar and the Glen Dee waters, Mr. William MacIntosh, the Agent at Banff, by desire of the Duke of Fife, writes:—

“I have now heard from Ronald M'Donald, Head Forester at Mar, with reference to your inquiry. M'Donald, who speaks only for the upper reaches of the Dee, is of opinion that there is very little difference in the catch of salmon during the last fifteen years. He thinks the salmon are rather later in coming up the river. From the end of March, however, the river seems as well stocked as it was fifteen or sixteen years ago.”

Of the river as a whole Mr. Alexander Copland, Aberdeen, who has been studiously familiar with it for sixty years, writes:—

“The Dee has its sources in the Cairngorm Mountains, and, after a course of about eighty-five

miles, falls into the North Sea at Aberdeen. The salmon fishings in the river and its tributaries, and on the sea coast adjoining, are important and valuable. The rod fishing during the past thirty years has greatly improved, and the Dee is now one of the finest rivers in Scotland. This result has been achieved in large measure by the sagacious policy of the owners of the fishings, who combined in 1872 to form a voluntary association for the purpose of renting and withdrawing the nets formerly used in the river from Banchory Ternan, about eighteen miles from Aberdeen, down to near the tidal waters, about three miles from the mouth. This arrangement secures a free passage for the fish, after they have left the tidal waters, to the streams and pools above and to the spawning beds all along the river, its tributaries, and upper reaches; whereas formerly fish that during the weekly close time had passed the lower net fishings were captured between the tidal waters and Banchory by the many nets. The Dee District Board, impressed with the necessity of guarding the river from pollution and poaching, give close attention to these and all other matters that affect the increased prosperity of the fishings."

The Don, in Aberdeenshire, is in a slightly unsettled condition; but the outlook is bright. Seventy-eight miles long, and of good flow, it was a first-class river once, and may be so again. Lord Kintore writes, quite hopefully:—

"Adverse circumstances—obstruction by dam

dykes, improper enlargement of leads, and pollution near the mouth—have engaged the close attention of the Fishery Board; and riparian owners, acting with me, have so far been uniformly successful in the Court of Session in an action against the Messrs. Pirie for taking so much more water to their mills than they are entitled to. The judgments in the Court of Session are appealed against, and the appeals should be heard in a few months. I am sanguine that the judgments will stand; and, if I am right, then, instead of 29,000 gallons a minute being taken into the mill, the amount will be restricted to 7000 gallons. The pollution also is being attended to. Thus I can confidently say that the prospects for improved fishing on the Don are very bright. The same I can say for my river farther south, the North Esk. Efforts to improve all the passes for salmon are likely to take definite shape immediately; and a good pass is to be made by Lord Dalhousie at the Gannochy Loups, which will open quite fourteen miles of grand spawning ground to the fish, enabling them to go up into Loch Lee and beyond. There is a chance that an association may later be formed to get rid of the nets altogether.” Further particulars of the design as to the North Esk will be found in Chapter xi.

The DEVERON, flowing through the counties of Aberdeen and Banff, began to fall off, as a salmon river, about fifteen years ago. As will be perceived from the following note, its ups and downs have a peculiar interest. If the theory is correct, trout

and salmon, like crabb'd age and youth, cannot live together. Mr. Henry Goschen writes:—

“While the Deveron still maintains its high reputation for trout, the removal of the cribs near the mouth does not seem to have improved the salmon fishing in the measure expected. Only a few fresh fish are caught in the spring, although kelts are so plentiful as to be a nuisance when you are trout fishing in April or in May. Some salmon are taken in the autumn; but it would seem that there is truth in the notion that a river cannot be good for salmon and for trout at the same time. It has been said that in years past, when trout fishing was practically free, there were many salmon; but, now that trout fishing is strictly preserved, it may be that the number of large trout has much increased, and that there is a consequent increase in destruction of salmon spawn.”

The UGIE, in Aberdeenshire, does not show any serious symptoms. Writing in behalf of Colonel Ferguson of Pitfour, who was abroad, Mr. William Ainslie gave a cheerful account. “There appears,” he said, “to be a slight falling-off. Perhaps that is due to the fish on the coast having been less plentiful than usual. Besides, for two years the river has been low during the angling season. There has, however, not been any falling-off in sport. We had a specially brisk ‘finnock’ season, and there was a very good run of sea-trout in the autumn. Smolts in large numbers have gone seawards every spring for three years. The river is entirely free from

pollution, and the protection afforded to fish by law is effective. It is generally believed here, among anglers, that early spring salmon do not take this river. I am informed by the watcher that this is a mistake. In the cruives he has taken four or five fish, varying from 5 lbs. to 12 lbs., with sea lice on them."

The NAIRN, a beautiful little river, rises in an "outlier" of the Monadh Liadh, "grey mountains," a range of hills between Strathdearn and Strathnairn, in which the Findhorn also has its source. After a course of some 27 miles down the picturesque strath of its name, it flows through the harbour of Nairn into the Moray Firth. Once the mouth was farther east of Nairn; but, about eighty years ago, the town authorities, thinking that the stream would tend to wash away the constant silting-up of the harbour, made a charter of agreement with the proprietor of the embouchure, whereby, in consideration of certain fishing rights granted to him, they were permitted to divert the course of the river. Like all short swift-running rivers, the Nairn requires plentiful, periodical, and opportune rainfalls to render it good for angling. Though I have fished on the Cawdor Castle stretch, which has excellent pools, my own acquaintance with the stream is slight. Brodie of Brodie informs me that the number of fish caught has not varied much for many years. When the river is low the sea-trout and the salmon lie in the estuary waiting for a flood. When that comes opportunely sport with both fish

is good. Major Rose of Kilravock favours me with interesting notes. In the opinion of the water-bailiff, a man of many years' experience in the watching of the river and the habits of salmon and sea-trout, there is about the same stock as there was twenty years ago; but the fish seem smaller. The bailiff has observed that the season immediately after a severe winter, when the river was ice-bound for some time, has always been exceptionally good. He thinks that the ice tends to keep the fry warm, and protects them from their natural enemies, such as certain birds. There are, however, hostile influences on the stream. Every May the Nairn fishing boats drop down to the mouth of the harbour on the way to the west coast. At the end of June they return, and refit for the east-coast fishing, for which they sail in the early days of July. While the boats block up the mouth of the harbour the salmon, unable to run, are caught in the sea nets. The sea netting extends for seven miles and a half along the coast. There are close on fifty nets to be evaded by fish seeking the river. The outrigger bag nets, which float far off the coast, are a great evil from the anglers' point of view. Then, there are otters up about Craggie and Brin; while gulls, herons, and other birds, it is believed, destroy very large quantities of ova, fry, and smolts. The running of fish would be much facilitated were the three or four weirs on the river provided with sensible passes. On the other hand there have been improvements. The sewage of the town and the refuse from a distillery are now

carried far out to sea in a large pipe, and this year the sea nets, in compliance with an Act, have to be lifted at 12 noon instead of at 6 P.M. on Saturdays.

Major Rose adds: "About nine years ago—I think in August—I had strange luck. There having been heavy rain for two or three hours in the morning, I dug up a few worms and went down to the Holme Bridge to fish under its arch for sea-trout as soon as the spate should come down. On arriving I found the water in the pool, 10 or 12 feet deep, quite clear; fish at the bottom were visible. While I was waiting for the spate a salmon jumped just opposite me. Without any idea of catching him, I cast my baited hook into the ripple. In a second the line was taut, and shortly after I gaffed a fish of 5 or 6 lbs. Three others followed quickly. Finally—a big fellow carried away my tackle. A minute later the flood came roaring down, yellow and foaming, two or three feet high, and I had hastily to clear off from under the bridge with my captures. No doubt the salmon were momentarily expecting the river to 'come,' and mistook my bait for a sign that it was beginning."

The FINDHORN is famous for the suddenness and amplitude of its floods. Lord Moray, who has been associated with it since 1901, very kindly states his impressions. "I am sorry to say," he writes, "that there are no trustworthy figures of what was done by my predecessors, with which one could compare what is done in these later years. Of course, there are stories told by old keepers and gillies; but I do

not much rely on them. My own opinion is that the Findhorn suffers somewhat, in common with a good many other rivers in Scotland, from too much netting in the narrow fresh-water in the river and from the sea nets being worked too close to the mouth. Considerable improvement in the boats used on the sea coast has, I believe, been made during the last forty years; and I think I am right in understanding that, owing to this, nets are able to fish in places where, because of the rough water, they were unable to fish before. If the fishing by nets in the narrow fresh-water were somewhat restricted, and the area where sea nets are allowed to fish were pushed back quarter or half of a mile on each side of the river where it enters the sea, the Findhorn, as well as a good many other rivers, would, I think, derive considerable benefit." Lord Moray, I believe, does not put the state of affairs too hopefully. Major Rose of Kilravock has shown to me a letter from his cousin, Major John B. Rose, in which it is said that within the last five years the Findhorn has greatly improved. "In the first of these," the letter runs, "I got only four fish; in 1904, I had twenty-seven; and in 1905, in about five weeks, twenty-one, four of them over 20 lbs. The improvement has followed upon the nets at Sluie Pool having been taken off. Prawn and gudgeon, which used to do well on the Nairn, do not seem to be successful on the Findhorn. They are also, I have noticed, of little use on the Conon or the Oykel."

The SPEY, rising in Inverness-shire, and flowing through Elgin and Banff, is in one respect, being a hundred miles long, the second river in Scotland. Naturally it is capable of being at least equally distinguished as regards sport; but there seems a difficulty in the way of declaring it to be so. By the authority of Sir John Ramsden, who says he is, "unfortunately, no fisherman," Mr. John Carr, Head Gamekeeper at Strathmashie, and a master of the salmon rod, sends a note:—

"Speaking of the river from Grantown upwards," he writes, "I may say it is within my knowledge that there has been a falling-off in sport, and in number of fish, for twenty-five years. However much pollution might be a trouble in the lower reaches, it cannot have anything to do with the stock in the upper reaches, where, I think I may say, the river is quite free from anything of the kind. In my opinion the main cause of the decline is excessive netting at the mouth."

On the other hand, I have a highly favourable account of the Spey as represented by the stretches belonging to the Duke of Richmond and Gordon:—"I am glad to let you know that very good sport was got last year. As regards salmon, the results were thirty-eight per cent better than the average of the five years from 1900 to 1904, inclusive; while the number of grilse caught was four per cent above the average for the period mentioned. The average weight of salmon last year was the same as from 1900 to 1904, inclusive; but that of grilse

was four per cent above the average from 1900 to 1904, inclusive. It appears probable that these favourable results are to be accounted for by the river being in a state of greater purity than it once was. The riparian proprietors have been enforcing the laws against pollution."

The BEAULY, formed by the confluence of the Glass and the Farrar near Struy, at the entrance of Glenstrathfarrar and Strathglass, is a first-class river. Apart from a small stretch on the north bank of the Glass near Cannich, the fishings on all the waters mentioned belong to Lord Lovat. The Glass, with its tributaries the Cannich and the Affric, drains Strathglass; the Farrar issues from Loch Monar and drains Glenstrathfarrar. The Beaulay, which is twelve miles long, flows into the Beaulay Firth. At the Falls of Kilmorack, in a rocky gorge of great grandeur, there are passes which enable fish to have a free run practically at all times. The lower reaches, which include the Falls beat, the Home beat, and the Downie beat, afford the best sport early in the season. On these beats, in 1864, the late Lord Lovat caught in one day 33 salmon, and in five days 146. In 1894 the Duke of Portland had 21 salmon to his own rod in a day; in 1904 Mr. R. H. Duff had 20 salmon in a day, and 180 in a month. After the middle of June excellent sport is found on the upper reaches. In the season of 1905, 376 salmon were taken by rod on the water above the Falls. Before 1892 the river was regularly netted; but since that year the netting has been restricted to two after-

noons weekly during the run of grilse, in June and July. In 1900 Lord Lovat acquired the fishing rights at the mouth of the river, and had the nets there taken off. Since then the fish have had a clear run. A hatchery, capable of rearing 300,000 young fish every year, was erected in 1899, and it has contributed to improvement of the stock. There is no pollution.

The SPEAN, flowing out of Loch Laggan, in Inverness-shire, has a high reputation. It is the chief tributary of the Lochy, into which it falls at Muccomer Pool, seven miles from the sea. Sir John Ramsden's Gamekeeper at Dalnacarry, Mr. Robert Carr, writes :—

“Salmon run to Monessie Falls, nine miles above Muccomer. There are not so many now as there were long ago, when ten to a rod in a day were not wonderful. Endeavours to increase the stock are constant. There are about 100,000 ova artificially hatched every year, and the parrs are put into the river. All the natural spawning is well protected, and poaching is practically abolished. The sole cause of the mischief is that fish in large numbers are taken every year in the bag nets on the coasts. Until the nets are taken off there will be but little chance of lasting improvement. Nets are not allowed at the mouth of the Lochy or elsewhere within the jurisdiction of the Lochy District Fishery Board.”

The LOCHY, in Inverness-shire, is a first-class river. Mr. Thomas Allison, Inverlochy, writes :—

"It flows out of Loch Lochy by an artificial channel, and, after a course of about eight miles, falls into Loch Eil near Fort-William. It belongs almost entirely to the trustees of the late Lord Abinger, who have the right to practically all the salmon fishing in the lordship of Lochaber. Spring and autumn are both good for salmon on the river, which affords excellent sea-trout fishing also. The salmon vary from 9 lbs. to 47 lbs. The river and the estuary are carefully protected; but there is considerable difficulty in suppressing poachers in the estuary. The stock of fish has not increased in recent years. It has been practically stationary. The lack of progress is chiefly attributable to the increase of stake and bag nets on the coast."

The MOIDART, an Inverness-shire stream about six miles long, has a loch of about ten acres on its course, two miles from the mouth. For three miles above the loch it is deep and sluggish, flowing through peat. Then it has a rapid fall to the sea, with seven or eight pleasant little salmon pools. Mr. J. C. Stewart, Glenmoidart, writes:—

"A good many salmon and sea-trout run up in spring and summer, and some of these remain in the pools below the loch; but most of them run straight into the loch and into the deep water above. The sea-trout fishing in and above the loch is very good. Salmon do not often take in the loch; but they rise rather freely in the sluggish water above. Below the loch they take well when the river is in order. It rises and falls very quickly. Salmon run about

10 lbs., and sea-trout up to 8 lbs. There are no nets in the estuary; but the loch is sometimes netted, and good catches are made. The number of fish has not varied more than in similar streams on the west coast during the last twenty years. There is always a good stock for the size of the river, which is entirely contained in the estate of Kinloch-moidart; and there is no poaching or pollution."

The NESS, from loch to sea, is only about seven miles long; but the salmon angling is particularly fine and very valuable. Writing in behalf of Mr. Baillie of Dochfour and others, Mr. Hugh Graham, Inverness, says:—

"As at present regulated, it is a late rather than an early river. The biggest and best run of fish begins in January, and is practically over before the angling opens, on February 11. There have been efforts to get the river opened earlier. An extensive inquiry into the subject was held, in behalf of the Secretary for Scotland, towards the end of last year; but the result is not known as I write. It is admitted on all hands that of recent years there has been a falling-off in the number of fish caught. In order to bring about improvement in the stock and in the sport in the rivers and lochs of the district—which include, besides the loch and the main river, the Moriston, the Garry, the Oich, and Loch Oich—the proprietors and lessees combined to lease the net fishings at the mouth of the Ness and in the river itself; and before the angling began last year

the whole of these nets were removed. It is hoped that good results will be manifest ere long."

LOCH NESS, over twenty-two miles long, is one of the largest lakes in Scotland. It is also one of the deepest. Until a few years ago it was not much thought of by anglers; but recently it has come rapidly into favour, and the baskets now reported compare well with those made on other and more popular waters. An Association of proprietors, formed two years ago to preserve and improve the stock, has been doing good work. It was at a meeting of the Association that the proposal to acquire and remove the nets at the mouth of the river was suggested, and it is largely owing to the Association and its members that the scheme was successfully carried through.

The LUSKENTYRE, with its chain of lochs, the HORSACLETT, the OBBE lochs, and the FINSBAY waters, all in South Harris, are the subject of a pleasant note by Lord Fincastle. He writes:—

"These waters are steadily improving. Within the last two years hatcheries have been established, and many young salmon reared in them have been turned down; but the results cannot be fully known just yet. The salmon caught never weigh over 15 or 16 lbs.; the sea-trout run up to 8 or 10 lbs. The last three years have been very droughty. This, while affecting the salmon fishing rather severely, did not much lessen sport with the sea-trout. The takes were as follow:—

1903	.	.	.	90 salmon ; 2263 sea-trout.
1904	.	.	.	77 salmon ; 2818 sea-trout.
1905	.	.	.	51 salmon ; 3215 sea-trout.

“Some of the waters are so far from the shooting lodges that they have hardly been fished on at all ; but the others are yielding better sport every year. This is due to stricter supervision and various improvements in some of the rivers. Apart from these the bags depend entirely on the amount of water. Although the salmon are on the average small when compared with the fish caught in the large rivers of the mainland, those fishermen who have enjoyed the play of a heavy sea-trout on a light rod would bear witness to the fine sport obtainable in these waters of the outer island.”

Some of the waters mentioned by Lord Fincastle are fished by members of the Hebridean Sporting Association, a club formed in Glasgow not very long ago. Mr. George D. Stirling, the Secretary, sends a pleasant note.

The waters leased by his Association are the Obbe Lochs, attached to Rodel House, and the Finsbay Lochs, attached to Finsbay Lodge. “The fishing is partly in tidal waters, and partly in fresh-water lochs. There are no rivers, the fish obtaining access to the lochs by short streams or runs, in which they do not rest before reaching the lochs. There is no pollution, and disease is unknown. The Association leased the fishings in 1903, and their experience thereof is limited to

the three seasons 1903-4-5. During the first two seasons various improvements in the way of making new lochs and opening up the streams were carried out, and possibly this may, for the time, have disturbed the running of the fish. The catch of salmon, which average about 6 lbs., was nearly equal during 1903 and 1904; but that of 1905 shows a considerable falling-off, due, I should say, more to the weather than to anything else. On the other hand, the catch of sea-trout has increased, though the average weight was somewhat less last season. The brown trout are very plentiful; but the average weight is small. They have been allowed to increase unduly, and new blood is required. The crofting inhabitants have derived considerable advantages from the work of the Association and from the visitors thereby attracted to the place, and most of them now actively assist in the preservation of the fish. These lochs, so near the sea, differ from many others in that they give good sport in autumn. Indeed, August is usually the best month. The fish remain in the lochs until the need to spawn impels them onwards. Only fly is used."

The ULLAPOOL, the CARRON, the CANNAIRD, the OISKAIG, and the POLLY, in Ross-shire, are reported on by Major E. W. Blunt MacKenzie, Castle Leod, Strathpeffer, who writes:—

"I cannot say that there is any very marked change, excepting, perhaps, in the case of the Polly. That certainly has been yielding more fish

since a dam with a sluice-gate was built, in 1901, at the outlet of Loch Shinaskaig. By this aid we can send down enough water to induce fish to leave the sea when, as so often happens on these short, rapid-falling streams of the west coast, there is too little water for the fish to run. I am taking steps in the same direction in the cases of the Cannaird and the Oiskaig, though these are not so easily managed. There is a hatchery at Drumrunie, from which, since 1901, from 100,000 to 150,000 salmon and sea-trout have been distributed every year among the three rivers. Since 1901, also, a third of the bag nets have been removed, and there is no net within two miles of a river mouth—except one about a mile from the mouth of the Oiskaig, which is mainly sea-trout water. We only get ten or a dozen grilse on it in the year. I suppose that salmon do go up; but they are never caught. I have undertaken the work too recently to be able to give any decided opinion as to results. One thing does seem certain, and that is, that the fewer nets get just as many grilse and salmon. 1905 was a great grilse year; which, I suppose, was the consequence of a wet season and a big run of fish up the rivers in 1902. The results of the seasons 1906 and 1907 should tell us whether the work done is to be reproductive. There is no pollution of rivers, which flow entirely through our own forests and sheep ground, and are well looked after.”

The ALNESS has been falling off for three years. Mr. John R. Meiklejohn, Novar, tells me that the

net fishing at the mouth has decreased in value by probably 50 per cent. He thinks that the cause is the bag-net fishing farther seaward, outside the Sutors of Cromarty. The nets have been increased a hundredfold within the three years. It is noticeable that the net fishing at the mouth of the river is fairly good, after the weekly close time, on Monday mornings; during the rest of the week it is indifferently.

The CONON, in Ross-shire, is by nature a fine river. The many pools are attractive both to salmon and to sportsmen. Within quite recent years they yielded ample baskets. Latterly, I learn, the angling has fallen off. Colonel Stewart-Mackenzie of Seaforth attributes this to excessive fishing by nets in the sea, and especially by those off the Sutors of Cromarty.

The BERRIEDALE and the LANGWELL, in Caithness, join each other just a little way from the sea. They belong to the Duke of Portland. For six recent seasons sport was equal to the average; but it was not so good last year, when the rivers suffered from drought. It was evident from the produce of the stake nets in the estuary that the stock of salmon and grilse had not diminished. Sometimes, especially when the wind is from the east, the mouth becomes banked up with shingle, even in fairly good water, and that keeps back the fish.

The HELMSDALE, in Sutherland, affords a remarkable and very instructive instance of river management. A carefully detailed account will be given

in our chapter on Storage and Passes. Streams on the Duke of Sutherland's estate falling into the sea on the north coast suffer considerably from the very successful working of bag nets.

The BORGIE, which flows east, has, especially in spring, improved during recent years. That is due to the making of new pools, the improvement of old ones, and more careful watching.

The NAVER, the largest river in Sutherland, flowing north, affords excellent sport during spring and in the summer months of a rainy season. It is carefully watched. Schemes of improvement are under consideration.

The HALLADALE, flowing north, is an early river, but it is uncertain. It soon floods and soon runs out. When the water is in order good sport is found. The angling has not improved within recent years, some of which have been dry.

The HOPE, LOCH HOPE, and STRATHMORE WATER have improved since the withdrawal of the nets at the mouth, in 1887; but recently the sport, though fair, has gone back a little. The angling is at its best in July and August. Salmon fry turned down in the spring of 1905 should wake up the fishing ere long.

The KINLOCH, a short river, flows into the head of the Kyle of Tongue. Angling is late, and during the last two seasons, which were dry, the sport has rather gone back.

LOCH NAVER, which is best during spring, began to fall off a few years ago; but there was a slight recovery last season.

The FLEET, flowing east, is a late river. Salmon and grilse begin to run in July. When the water is in order the sport is fair. Sea-trout are plentiful. On the CARNACH, a tributary of the Fleet, there is, at the Torboll Falls, a salmon pass, nearly four hundred yards in length and ten feet wide on the average. The fish go over the steepest part by a series of twenty-three pools.

The BRORA, also flowing east, is a splendid river. Both in spring and in autumn it yields excellent sport. The best fishing in spring is on the lower part, where there is a succession of fine pools. This part of the river the Duke of Sutherland reserves for himself and guests after August 10 and in April. Sport seems to be unfailing. The record for eight years is as follows :—

1905	.	.	382	1901	.	.	331
1904	.	.	348	1900	.	.	535
1903	.	.	449	1899	.	.	282
1902	.	.	348	1898	.	.	380

From a hatchery at Carrol salmon and Lochleven trout are turned into the Brora every year.

The INCHARD, a short stream flowing to the west, yields, in July and August, fair baskets of salmon, grilse, and sea-trout.

The LAXFORD is much the best of the rivers flowing to the west. Its sources are LOCH STACK and LOCH MORE. Between Loch Stack and Loch Laxford, only three miles, there are a dozen first-class pools. These, in some years, have yielded from 300 to 350 fish between June and the end of the season ; but

the sport has slightly declined. Removal of bag nets from the estuary and an extra slap of twenty-four hours a week from July 1 are doing good. Loch Stack sea-trout are plentiful and large. Fully a thousand, many of them over 5 lbs., are caught yearly. Along with Reay Forest, the loch and the river are let to the Duke of Westminster.

The INVER, flowing to the west out of Loch Assynt, is a late stream. It is of little value before June. In July and August, when there is plenty of water, sport is brisk. Salmon and grilse are to be caught in the loch.

The KIRKAIG, flowing west, is, two miles and a half from the sea, blocked to salmon by falls 50 feet high. Below the falls there are pools on which good sport is found from July until the end of the season.

The THURSO, in Caithness, is an exceptional case, which will be stated and discussed in Chapter xi.

The ORCHY, flowing out of Loch Tulla, in Argyllshire, and into Loch Awe, has a bright future. Hitherto it has been a spring river below the Falls of Orchy and an autumn river above. Soon, it is expected, salmon will be abundant in both seasons all over. Lord Breadalbane is familiar with the Blackmount water, in which, he says, there are only four pools of any note. He goes on:—

“The river is a very good one at present when you get it in order; but the cream of the fishing is the Craig water,—that is, the portion which is below the falls,—where very good sport is obtained. This

water I have never fished. Arrangements have been made for taking the nets off. Therefore, looking to the past and the sport that has been got on the river, I think there is very little doubt that in a year or two it will rank as one of the best salmon rivers in Scotland. This seems to be the general impression of those in the neighbourhood. The lower portion is let with the Dalmally Hotel. Then comes the piece let with Succoth shooting; next, the Craig water; then the Inveroran water, let with the Inveroran Hotel; next, the Auch water, let with the Auch shooting; finally, the water that belongs to Blackmount. The river will be immensely improved by the falls on the Kinglass having been blasted. The removal of the obstruction has opened up a considerable extent of very fine spawning ground."

The AWE and other waters in a very wide region which includes it are favourably reported on by the Duke of Argyll. The course of the Awe, very brief, is thrilling. Almost every yard of the four miles, from the loch in which it rises to the arm of the sea into which it falls, looks as if it must be the holt of a salmon. The river is rapid, and seems hardly ever to be low. The mountainous, wild aspect of the country on either side is very grand. There is netting on the river; but neither on that account nor on any other is there much serious hindrance to the natural habits of the salmon. Some of the fish are very large. The Duke states that one caught last season weighed 42 lbs. It must have put the captor to the extremity of his strength and

skill. There are so many jagged rocks in the lively stream that the chances are with the fish. The river is somewhat peculiar in that it is neither late nor early. The best time is from May until the end of August. The Duke's rights in the Awe are derived from charters granted by The Bruce.

LOCH BAA, in Mull, three miles long and three-quarters of a mile broad, has salmon, *salmo-ferox*, sea-trout, and brown trout. The salmon, which rise well, are rather small. The best fish of last season was a grilse weighing $10\frac{3}{4}$ lbs. The trout are heavy.

The BAA, a three-mile river flowing through the loch, yields good sport of the same kind.

LOCH ASSAPOL, a small water in Mull, seems once to have yielded salmon; but now the Duke of Argyll speaks only of grilse and sea-trout. A stream flows through the lake. I gather that sport is fair both on the running water and on the still.

LOCH DHU, near Inveraray, is affected at the lower end by the tides of the sea. Being connected with the salt-water, it has a peculiar race of brown trout, plumb and strong. Sea-trout are often abundant, and I am told that in favourable seasons good baskets of grilse are to be expected.

The SHIRA, rising in the Accurach Hills, and falling into Loch Fyne, is reserved by the Duke of Argyll for his own use. After rain in July, or in August, or in September, it yields as good baskets of grilse and sea-trout as ever.

The ARAY, which rises in the Hills of Tullich and falls into Loch Fyne, holds many grilse, which now

and then rise freely. Often loch-trout flies are attractive to the fish, which, the Duke of Argyll mentions, run up to 15 lbs. Now and then the sport is at its height in midsummer.

The BARR, in Argyllshire, although only five miles long, is a good river; but recently the salmon have been fewer than would be natural. "It is difficult to get at the root of the matter," Major C. B. Macalister says; "but I will state a few reasons which might, each or all of them, account for the decrease. I do not consider the trawlers' three-mile limit a sufficiently proscribed one, and at nightfall the boats often draw much nearer to the mouth of the river than even that allows. I feel sure that many salmon fall victims to the nets. The limit should be at least five miles. As there is so much irrigation on the sheep farms nowadays, the Barr comes down in fuller spate, which lasts but a short time, and I think it possible that the great volume of water may dislodge some of the salmon spawn and destroy it. It is just possible that in the higher reaches the salmon fry are taken out in large quantities. They are very easily caught by means of an ordinary bait."

The ETIVE, in Argyllshire, maintains a good reputation. Mr. Ian T. Malcolm of Glenetive, who has fished it regularly for six seasons, writes:—

"As far as I am able to judge, there has been no marked change in the sport. Like most West Highland rivers, the Etive rises and falls quickly; but when it is in condition I find that salmon and sea-

trout rise freely and well. There appears to be a good stock of fish, especially of sea-trout, and they run very large for so small a river."

The SHIEL, in Argyllshire, is as good as ever it was, and that is saying much. Mr. C. D. Rudd of Ardnamurchan tells me that, although the sport of any month, most notably September, varies much from year to year, the annual results are fairly uniform.

LOCH TAY, in the heart of the Highlands, has long been a subject of perplexity. Opinions as to whether it is as good as it once was, or may again be so, are almost hopelessly at variance. The opinions to which I allude are the best available. Lord Breadalbane himself, who is owner of the loch, could give me only a general impression; but he very kindly asked the keepers of the hotels along the shores to contribute their judgments, and these, though in all cases quite sincere, are such as would puzzle the wisest expert in evidence. Mr. William Bennett, at Bridge of Lochay, thinks, from the comments of boatmen and anglers, that the sport "is seriously deteriorating." According to Mr. Peter Campbell, at Ardeonaig, who founds his belief on figures, it is improving. Mr. H. J. Knight, at Killin, is less definitive. Having tabulated the figures of fish caught year by year since 1898, he says: "You will see from the above that the sport varies very much. 1900 was the worst season we have had; in 1893 we had 221 salmon, weighing 4352 lbs., which was exceedingly good. There is no doubt that the

James Temple.

ON LOCH TAY.

fishing is not nearly so excellent as it was some ten or fifteen years ago ; but I have every hope of it improving. The netting down the Tay harms the loch very much indeed ; but the taking-off of the nets from Friday night until Monday has done some good, and is a move in the right direction."

Pondering these statements, I perceived that the variation in the number of fish caught from year to year might be partly explicable in a simple manner. If there were not so many anglers on the loch in one year as there had been in another, a difference in the sport would be accounted for without any speculation as to whether the stock of fish might be diminishing, or as to whether the fish were becoming more difficult to catch. It turned out that there was no help in that conjecture. The boats on the loch, of which there are about twenty, are, and have for a long time been, as much in use one year as they were in any other. Some of them are always in use during the best months of the season, which begins on January 15. Where was enlightenment to be found ? So I asked, and ask again. Lord Breadalbane's general impression, which is that salmon fishing in all waters is going down, was not compatible with a statement which, at his own very obliging wish, has been made out and sent to me by his agent, Mr. James Glen. Here is the statement :—

[LOCH

LOCH TAY SALMON FISHING

WATERS.	NO. OF FISH.	WEIGHT IN LBS.
<i>Season 1903</i>		
Kenmore	10	135
Killin	55	933
Bridge of Lochay	21	370
Ardeonaig	11	189
Remony	1	17
Reserved water—East End	2	39
Letterellan	4	77
Total	<u>104</u>	<u>1760</u>
<i>Season 1904</i>		
Kenmore	21	403
Ardeonaig	23	428
Bridge of Lochay	21	389½
Fernan	1	14
Killin	109	1951
Letterellan	6	108½
Remony	4	58
Reserved water—East End	14	270
Total	<u>199</u>	<u>3622</u>
<i>Season 1905</i>		
Kenmore	17	348
Killin	122	2062½
Ardeonaig	15	250½
Bridge of Lochay	18	324
Reserved water—East End	5	90
Letterellan	9	164
Total	<u>186</u>	<u>3239</u>

One would have to be a stern and unbending pessimist to find in these figures any indication of decline. I have investigated further. I find that in 1873 the salmon caught numbered 779; in 1875, 913; in 1877, 869; and in 1878, 851. At first these facts seem to show that there were halcyon times between twenty and thirty years ago, and so, indeed, there were; but reflection counsels caution. Statistics of sport may easily be as misleading as those of the Board of Trade after editing by a zealous politician. The basket of 779 salmon in 1873 has to be thought of in relation to one of 293 the year before, and to one of only 114 in 1871; between 1875 and 1877, two rich years, there was a basket of 476, which was comparatively poor. The records I have studied, which cover thirty years, are fruitful only in a negative suggestion. It cannot be shown that time has anything to do with the variations of sport on Loch Tay. The figures rise and droop incalculably. Not being very much acquainted with the famous loch, I must not be venturesome in suggestion; yet I may, without immodesty, air one timorous theory. All salmon fishing on Loch Tay is spring fishing, and spring fishing has a peculiarity of its own. A sybarite would call it wintry work. Men not given to neurotic apprehensions about their health have been known to wear duplicate clothing of ordinary kind and two or three overcoats when engaged in it. Often all the mountains round the loch are snow-clad, and sometimes when your salmon

leaps into the air a blizzard screens him from the eyes. Botanists and poets might deem spring in these regions to be a figure of speech. Occasionally, however, it is something more. Now and then the south wind melts the mountain snow-drifts very early in the year, and, through processes of Nature too complex to be explained at present, the temperature of the loch becomes higher than the temperature of large streams falling into the Tay. What happens? Instead of running into the tributaries of the river, such as the Lyon, the spring fish take the loch. Any one disposed to flout this thought is invited to pause until he has read a passage from the writings of Mr. Archibald Young, advocate, Commissioner of Salmon Fishings in Scotland. "The Scottish rivers flowing into the German Ocean," Mr. Young wrote, "are almost all early rivers. They have comparatively long courses, and fall into the sea at considerable distances from their mountain sources, after running for some part of their career through districts not greatly elevated and possessing a moderate climate. But the German Ocean, into which these rivers flow, is a cold sea; and in winter and early spring the river temperature is, in ordinary seasons, much the same as that of the sea, and therefore salmon ascend these rivers early in the season. On the west coast, on the other hand, the rivers that fall into the Atlantic are all late. They have short courses, and their sources are much tilted up, as they rise in that lofty and singularly picturesque chain of mountains which, beginning not

far from Cape Wrath, skirts the shore of Sutherland, Ross-shire, and Inverness for more than a hundred miles at distances varying from five to twenty miles from the western sea. In winter and spring these mountains are snow-clad, and every partial melting of their snow brings down torrents of ice-cold water, which rush through the short channels of these rivers into the sea. But the water of that sea, unlike that of the German Ocean, that washes our eastern shores, is warmed by the soft influence of the Gulf Stream, and the salmon consequently prefer to remain in it until the snow water has run off, and the milder weather of June and July has raised the temperature of the river waters, and then they begin to ascend." All this is to say that early in the year salmon run into water that is comparatively warm. It seems clear, then, that again and again, when the weather is propitious, which is not to be expected often, the salmon will go into Loch Tay as plentifully as they ever went, and that thirty-one fish in a week to the rod of Colonel Murray of Polmaise may yet cease to be a "record."

This account of Loch Tay was written at the close of 1905. Now, when reading the proof-sheets, on March 5, 1906, I am able to state that the theory which it presents has had very remarkable justification. During December and January the weather was exceptionally mild. The temperature of Loch Tay was higher than that of the tributaries of the Tay below the loch. The spring salmon, therefore, ran into the loch, instead of running into

the tributaries; and the season on the loch, as far as it has gone, has been as good as the best of which there is any chronicle.

The TAY, about 126 miles in length, is the greatest river in Scotland. I have not known it intimately long enough to be able to say from my own knowledge whether it is as prosperous as it used to be. My impression is that there must have been a falling-off for a few seasons before I became intimately acquainted with it a few years ago. This surmise is based upon what Mr. Watson Lyall, who knew the river thoroughly and fished it often, used to tell. Once he caught nineteen fish, salmon and grilse, weighing over 200 lbs., in a day! Though reasonably proud of this feat, he did not speak of it as if it were unprecedented. I gathered that it was hardly more than about twice as good a basket as a man might expect any day in a moderate September. There have been no tales so thrilling since I have known the Tay. It is not easy for one observer, however vigilant, to give more than a general account of so great a river. I will, therefore, recite what I have learned from three thoroughly competent actors and witnesses of sport on the magnificent stream.

Mr. C. A. Murray, who has Lord Mansfield's stretch at Stanley, says that there is a falling-off. He believes that this is due partly to over-fishing, and largely to fishing with sunken lures, such as prawns. Mr. Murray thinks that only fly-fishing is proper.

Colonel Edmund R. S. Richardson, owner of fine reaches at Ballathie, is less absolute in judgment. He writes:—

“The autumn results for the past two seasons have certainly been most disappointing. The catch has been little more than half of the usual quantity. I attribute this very much to the fact of our not having had the customary floods about the third week in August. Floods about that time—‘Lammas floods’—used to be looked forward to regularly every year. They thoroughly wash out the bed of the river below Perth, which, being towards the top of the tidal water, gets into a most objectionable condition from the immense quantity of town sewage accumulated throughout the summer season, when floods are not usual. I don’t think salmon mind a reasonable amount of sewage; but the collection below Perth is too much for them. In an ordinary season, when we get floods at the normal period, there is not, I think, any falling-off in the number of fish taken, compared with what were caught, say, twenty years ago. At that time there were not nearly so many boats on the river daily. I am bound to say that if the total catches of these boats were added together, quite as many fish would be accounted for daily on each mile of water as were taken twenty years ago. I think the stock of fish in the river is quite as good as ever. No doubt it has been maintained greatly in consequence of the nets above the Lynn of Campsie having been removed some years ago. Fish now

pass up to the higher reaches earlier in the season than was possible formerly. When fish come beyond the tidal water in September and October a great many are so heavy and lazy that they cannot run far, and content themselves with spawning in the first gravel beds they reach. These beds are, as a rule, exposed to the heavy floods, and a great quantity of the ova must be washed away. As a proof that the stock of salmon is not diminishing, I may state that last season, 1905, the Tay Syndicate nets caught considerably more than double the number of fish that were recorded in their books five years ago. The spring fishing in these parts is certainly better than it used to be. This I attribute partly to the fact of fish now getting up the river to the spawning grounds earlier in the season. It is, I think, reasonable to expect that the progeny of early-spawning fish may be inclined the same way as their parents."

Mr. P. D. Malloch, tenant of Lord Ancaster's stretch at Stobhall, is highly optimistic. As he is almost constantly on the river, which he knows from the source to the sea, his judgment is especially important. Mr. Malloch writes:—

"During the last five years sport on the Tay and its tributaries has increased at least 100 per cent. The causes are the removal of nets, the making of the hang and toot and hall nets illegal, the curtailing of the nets for six days in the autumn, and the control of the nets having been given almost entirely into the hands of the Tay Salmon Fishing Company. Apart from the increase of sport, there are from

twenty to fifty fish in the river for each one there was when the Company began operations six years ago. I have not the least doubt that during the next six years quite as great an increase will come about."

The EARN is one of the large tributaries of the Tay. Lord Ancaster informs me that on that water, as on the main river, the stock of salmon has largely increased during the last few years.

The TUMMEL is another large tributary of the Tay. Mr. A. E. Butter of Faskally, who owns the best part of the Tummel, enables me to give a statistical account. "As the result of a careful inspection of the records for the last eighteen years, it may be fairly said," writes Mr. Charles B. Robertson, at Mr. Butter's wish, "that there has been within that period no marked tendency either towards improvement or towards deterioration. It happens that in the first and last years of the series—1888-1905—the fishing was continued over a similar period—about five months: from February to July in 1888, and from January to June in 1905. The number of fish caught with the rod in these two seasons is practically identical. There was one less in the later year. The average weight in 1888 was 15·20 lbs.; in 1905, 16·97 lbs. The average for the whole period has been 16·37 lbs. The weights of individual fish ranged from $9\frac{1}{4}$ to $25\frac{1}{4}$ lbs. Any variations in the number of fish caught from year to year can easily be accounted for by the varying periods during which fishing has been carried on in the seasons, and by the different conditions of

rainfall. Although the records of fish caught indicate no improvement in the fishings on the river, the keepers are inclined to think that there have been more fish running up during the last two or three years than ever before. There is little or no poaching, in any systematic way, on this water; and pollution is now unknown, the sewage of Pitlochry—the only considerable township on the Tummel—being treated on a sewage farm before discharge into the river. The run of fish is well maintained, and if netting were still practised the hauls would doubtless be as heavy as ever they were. Those who have known the river for a length of time are of opinion that fungoid disease has been increasing in recent years. The falls on the river just above Faskally House form a serious obstacle to the ascent of fish, and there is no recognised salmon fishing above that point. Nevertheless, a good many fish do get up. Some are occasionally caught in Loch Tummel and in Loch Rannoch. John Macdonald, gamekeeper at Kynachan, Strathtummel, mentioned that he had seen about 200 fish lying in a pool below the weir at Dalcroy, below Tummel Bridge.”

LOCH LUBNAIG, in Perthshire, is a water which one is always glad to visit. It lies picturesquely beside Ben Ledi, and until quite recent years had a good head of fish in the spring. Lord Esher, who remarks that our questions relating to the preservation of the salmon constitute an important subject, informs me that there is a falling-off in the stock and

in the sport. The cause he believes to be netting on the TEITH, flowing from the loch to the Forth. Lord Esher's opinion is confirmed by statements from other sources. Mr. J. B. Baillie Hamilton of Cambusmore, a very expert angler, writes :—

“I am a considerable proprietor of salmon fishings on the Teith, and have been a member of the Forth District Fishery Board for thirty years. Twenty years ago my average catch to my own rod was from twenty to thirty spring salmon, and double that number in autumn, besides all the fish that many friends got. Now the number is reduced to, say, three fish in spring, and, say, ten in autumn. Our Fishery Board joined with the Tay Board three years ago, and got a decision in the House of Lords that the hang or drift nets used in the Forth were illegal. Since then the Board have been busy interdicting the fishing by those nets, and we are gradually getting the better of them; but it is difficult work. The upper proprietors have also purchased, at great cost, the cruives and fishings of Craigforth, and have thrown them open for the free passage of fish at all times. This must benefit the fishings.”

Colonel Robertson, C.B., Callander, who has been familiar with the Teith for thirty years, writes :—

“There is a terrible falling-off in the stock, and the river is scarcely worth fishing now. I attribute this to the nets in the Firth of Forth and in the river below Stirling. The state of affairs is simply disgraceful. The Teith is naturally one of the finest salmon rivers in Great Britain. It has

splendid spawning ground, and many good pools close together."

An extract from Colonel Robertson's Diary, showing how he fared in 1891, indicates that he does not exaggerate the natural capacity of the Teith. In the first column are the dates of fishing; in the second, the names of the pools; in the third, the weights of the fish caught; in the fourth, the number of fish caught each day.

Date.	Pool.	Weight.	No.	Date.	Pool.	Weight.	No.
Sept. 9.	Island Crow	6 $\frac{1}{2}$	. 2	Oct. 21.	Crow	. 9	
" 11.	Crow	. 29	. 1	" "	Island	. 14	
" 28.	Dam	. 20	. 1	" "	Dam	. 7	. 5
Oct. 7.	"	. 17		" "	"	. 7	
" "	"	. 8 $\frac{1}{2}$	. 3	" "	"	. 9	
" "	Island	. 9 $\frac{1}{2}$		" 23.	"	. 14	
" 8.	Dam	. 25		" "	"	. 8 $\frac{1}{2}$	. 4
" "	"	. 19 $\frac{1}{2}$	. 4	" "	Kelty	. 17	
" "	"	. 7 $\frac{1}{2}$		" "	"	. 6	
" "	"	. 6		" 24.	Crow	. 14	
" 9.	"	. 7		" "	Dam	. 11	. 2
" "	"	. 16	. 4	" 26.	"	. 8 $\frac{1}{2}$	
" "	"	. 10		" "	"	. 8	
" "	Island	. 8		" "	"	. 6 $\frac{1}{2}$	. 5
" 12.	Kelty	. 9		" "	"	. 24	
" "	Dam	. 10		" "	Wood	. 14	
" "	"	. 15	. 6	" 29.	Crow Stream	. 14	
" "	"	. 7		" "	Wood	. 16 $\frac{1}{2}$	
" "	"	. 19		" "	"	. 18	. 5
" "	"	. 5		" "	Crow	. 18 $\frac{1}{2}$	
" 14.	"	. 9		" "	Kelty	. 14	
" "	"	. 12		" 30.	Rush	. 16	
" "	"	. 16		" "	"	. 20	
" "	"	. 9	108 lbs. 8	" "	Rock	. 17	. 5
" "	"	. 13 $\frac{1}{2}$		" "	Crow	. 8	
" "	"	. 14		" "	"	. 13 $\frac{1}{2}$	
" "	"	. 16		" 31.	"	. 7	
" "	"	. 19		" "	"	. 15 $\frac{1}{2}$	
" 16.	Kelty	. 5 $\frac{1}{2}$		" "	Kelty	. 14 $\frac{1}{2}$	
" "	Dam	. 18		" "	"	. 13	. 7
" "	"	. 16	6 fish	" "	Dam	. 6	
" "	"	. 22 $\frac{1}{2}$	100 lbs. 7	" "	"	. 18 $\frac{1}{2}$	
" "	"	. 15 $\frac{1}{2}$		" "	Crow	. 7	
" "	"	. 19 $\frac{1}{2}$					
" "	"	. 8 $\frac{1}{2}$					
" 19.	"	. 22 $\frac{1}{2}$					
" "	"	. 13					
" "	"	. 16 $\frac{1}{2}$					
" "	"	. 10 $\frac{1}{2}$	122 lbs. 9				
" "	"	. 7 $\frac{1}{2}$					
" "	"	. 17					
" "	"	. 13 $\frac{1}{2}$					
" "	"	. 14					
" "	"	. 7 $\frac{1}{2}$					

This statement is inspiringly suggestive. The extent of river fished was well under three miles. Even now the Teith and many another stream could be speedily restored if only the salmon had a fair chance, which would not ultimately cost any one a penny.

LOCH VOIL, a very beautiful water from which flows the river that maintains Loch Lubnaig, suffers, of course, from the causes mentioned by Lord Esher, Mr. Baillie Hamilton, and Colonel Robertson; and so does LOCH DOINE, which is connected with Loch Voil by a short channel. Still, as the angler sometimes finds when he is hoping for trout only, salmon are not as a rule scarce in spring. Grilse, however, are not to be seen in Voil or Doine. Their absence, I learn from Mr. Stewart-Macdonald of Monachyle and Craiguie, is due to their inability to leap over the Falls of Leny. "In a dry season," Mr. Stewart-Macdonald writes, "the fish lie in the pool below the Falls and make the water boil. If a pass were built over the rocks, or the rocks were blasted, grilse as well as salmon would have a free run." That would benefit the whole system of lochs and rivers, the lower as much as the upper. "The otter," my informant adds, "is a bad poacher on the Leny and the Teith."

The CLYDE, the LEVEN, and LOCH LOMOND have now the advantage of being cared for by an Association of sportsmen having headquarters in Glasgow. Mr. Henry Lamond, the energetic Secretary, writes:—

"Until the Clyde is purified it must remain

barred for migratory fish. In the estuary to the south, as far as the river Ayr, there is no salmon river. On the north, except the Echaig, with its intermittent flow, there is none but the Leven. That river opens, at Dumbarton Rock, a gateway to the watershed of Loch Lomond. This great district is not under the control of a District Board. The Loch Lomond Angling Improvement Association, however, taking a broad view, leased the fishing rights of Loch Lomond and the Leven nets, abolishing the nets, and now leases the Clyde nets, working them to clear the rent. The Association, besides its netting statistics, receives approximately correct reports of fish caught on the loch. A fair estimate can thus be made of the total yield. In 1904 the nets lost through the Leven running high. In 1905, a season of drought, the nets gained and the loch lost. The *cumulo* returns show a great increase of stock. In 1904 there were taken by net and rod 592 salmon and grilse and 3104 sea-trout; in 1905, 1083 salmon and grilse and 6054 sea-trout. The increase is partly due to the Association's hatchery. Certain of the loch shores have thereby been restocked. At Luss, in October 1904, twenty-one sea-trout were marked with silver badges. It is believed that in October 1905 nine of them were seen. It is just possible that a few of these were the same fish appearing more than once; but it is certain that five of them were counted once only. The sole obstacle to a splendid increase is pollution of the Leven, which in a dry season makes

that river impassable. The average size of sea-trout is going up."

The CREE and the MINNOCK, uniting about seven miles above the top of the tide, are naturally very productive, and there is an early run of fish ; but the long, narrow estuary is so thickly beset with nets that in 1899 the stock of fish showed unmistakable signs of failure. An Angling Association of six persons obtained a lease of the whole net and rod fishings for twenty-one years. The nets throughout the water were removed ; a sixty-hours' weekly close time was arranged with the owner of a stake net in the bay ; the spawning beds, previously poached without mercy, were placed under protection of a trustworthy superintendent and four watchers. The immediate result was a fine run of salmon and grilse ; the narrow upper waters were closely packed with fish, making an astonishing display in times of drought. On the death of the principal proprietor, in 1901, his successor brought an action in the Courts and ousted the Association from the tenancy. The defect in the lease consisted in a provision inserted for the benefit of the proprietor. The members of the Association, desiring only the spring and summer fishing, had agreed that the proprietor should resume his rights every autumn, so as to let the fishings with his various shootings. The Judges held that this right of re-entry altered what would otherwise have been one lease for twenty-one years into twenty-one leases of nine months each, which, of course, it was *ultra vires* of a proprietor to grant

beyond the term of his own life. Accordingly, the rivers passed out of the hands of the Association at the close of the season 1902, before any benefit had accrued to it from three years' protection of the spawning fish. The nets are now at full work again throughout the ten miles of tidal water, and, although netting has been stopped in the two or three pools above the tide which were formerly netted, the river seems likely to relapse. The want of a close time for smelt or sparling fishing promotes misfortune. Smelts ascend to the head of the estuary, to deposit their spawn, towards the end of April and in May, at the very time when the salmon smolts are descending. Thousands of smolts are netted along with the smelts at this season. That is an evil which the Association provided against by establishing a close season for smelts or sparlings during the spring months. This was done with the full concurrence of the sparling fishers, who find that the fish travel very badly to market in warm weather.

Lord Galloway, whom I asked for information on these streams, referred my queries to Mr. James Drew of Craigencallie, for forty years Agent on the Galloway estates. Mr. Drew answered:—

“The Cree, with its tributary the Minnock, is entirely dependent for sport upon the weather conditions of each particular season. Salmon run in the Cree in April and May. If there is heavy rain they are abundant and sport is good. If these months are exceptionally dry the season may be written down

as a comparative failure. The Cree is essentially a spring river. It has no autumn run. One season being taken with another and an average struck, the Cree has remained practically the same, as to stock of fish and sport, for twenty years."

In sending Mr. Drew's note, Lord Galloway favoured me with a lively and interesting letter. "I don't agree with all he says," Lord Galloway wrote. "In regard to both the Cree and the Minnock (which falls into the Cree about fifteen miles from the sea), he is right in saying that they are spring rivers; but I think if we have rain in June and July good sport will be had. Unluckily, of recent times there has been practically a severe drought from the beginning of May yearly. In the autumn I have seen the river full of fish, perhaps twenty or more jumping in one pool; but they will not look at a fly then. I remember some twenty years ago crossing the river in the month of December on the ice in a hard frost, and seeing at least a dozen salmon frozen in the ice! In my opinion the falling-off in the fishing is principally due to the ridiculous over-draining that has taken place on the estate, in order to grow corn, which, when grown, does not pay. The consequence is that a spate lasts but a few hours, and all the rain has gone to the sea, instead of, as was the case when I was a boy, the river remaining in order for three or four days. The effect of the over-draining has been to spoil the fishing, ruin the snipe and wild-duck shooting, load the estate with debt to pay for the

draining and do no earthly good to any one, just because some idiot thought he was wiser than the Creator, and said that a man was a benefactor to mankind who made two blades of corn grow where one grew before, ignoring the fact that the soil might not be suitable for corn, and that the expense of cultivation would take away any profit. One thing, I think, might be done to benefit the rod-fishing by legislation, and that is to do away with all net-fishing in rivers. Compensation might be given to net-fishing riparian proprietors by the assessing of the rod-fishings, which would thereby benefit. I don't know how this would affect me personally if it were done, as I own most of the rod-fishing on the Cree and all of the Minnock, except at its source, and, I should think, most of the net-fishing near the sea; but it would be equitable, as a riparian proprietor near the sea, especially when there are no spates and where the river is not wide, can every tide get hold of all the fish that wish to run up, but have to return to the sea for want of water. The tide in the Cree runs up some four or five miles, and in some places the river is very narrow. There is one thing that Mr. Drew has not mentioned, and it is a very important one. Most of the poaching is high up in the waters, where the fish run to spawn. It is there that watching is principally required. Poaching is easy work with a gaff."

Lord Galloway notes, in a postscript, an instructive fact. "Lord Stair or his son, Lord

Dalrymple, could tell you about the Luce and the Stinchar, which are both on his estate. The Stinchar, curiously enough, though only three or four miles from the Cree, is an autumn river; but then it flows to the west of Wigtownshire, and the Cree to the south."

The STINCHAR, the LUCE, and the GIRVAN suffer from instability of flow caused by the draining of the moors. Lord Dalrymple deems that to be the only serious influence at work against them. Before the drainage there were three or four days of sport after rain; now there is only one day. He mentions, without definitely accepting, a local belief that some of the Girvan salmon quitted their own stream because of pollution, and took to the Stinchar. That stream has a shifting mouth, and the peculiarity may be perplexing to the fish. Colonel the Hon. North de Coigny Dalrymple Hamilton writes:—

"As far as I can gather, the sport in the Luce has improved of late years. It seems to have resumed its old character as regards both salmon and trout. I can assign no cause in particular. Sport on the Stinchar varies a good deal. As a rule the fish are shy. The best period for this river in the lower reaches is October and November; in the upper reaches, September. There is no spring fishing. By arrangement, made periodically, there is no netting of the pools, except in the case of one proprietor, who declines to join his neighbours in the compact. I do not consider that, as a general rule, the fishing has either improved or

deteriorated. The Girvan suffered from pollution, which has now been put an end to; the fishing of the upper waters, I understand, improved while it continued. The fishing on the whole suffered; but steps towards restoration are being carefully considered. The pools are not netted at present. That is in virtue of a five years' agreement, which has been once renewed."

The NITH, many years ago, had a deservedly high reputation. Tradition tells that thirty or forty years ago the fish were so plentiful that in certain places they could almost be lifted out. Now, alas! but little of this opulence remains. Mr. T. G. Salmon, an experienced sportsman, writes:—

"For ten years the salmon have been becoming fewer, and for three the river has been a failure. On the twelve miles of upper water in Dumfriesshire three seasons ago the catch was only twenty-two salmon; next year it was about a dozen; this year, 1905, as far as I can find, only four. The lower waters have been not less unprofitable. The only nets on the Nith are at its entrance into the Solway at Glencaple. This year has been ruinous to the lessee. Sea-trout and herling were fairly plentiful until about three years ago; but the Nith never could show a large run of herling, such as can be seen, for example, in the Annan. Grilse have been absent for a good many years. This state of matters can hardly be attributed to pollution. True, nearly every day there may be about an hour when there is a suspicion of coal gum, supposed to come from work-

ings in Ayrshire ; but fishermen do not attach much importance to that. The explanation seems to be, simply, that not many fish enter the river. Whether the stock in the Solway is lessening or not I cannot say. Of late years we have been unfortunate as regards floods. The Lammas rains used to keep the river full for ten or twelve days, and then, with the nets removed from Saturday evening at 6 o'clock until Monday morning at 6, we were sure of a run. Any flooding of late years has often been in the beginning or in the middle of the week, and by Saturday there has been no water to entice the fish. Any time that salmon have been fairly common in the pools or on the redds has always been far too late to permit of rod-fishing. It has been said that salmon go back to the place of their birth. If that be so, there must be a decrease in the stock of the Nith. The draining of the hills brings the water and sand down with great force, and often the spawn beds are injured. Restocking from hatcheries is the only resource."

The CAIRN, which rises in Mr. James M'Call's estate of Caitloch, and flows into the Nith near Dumfries, yields a salmon now and then on the lower reaches.

The ANNAN has been declining for twelve years. Mr. Edward J. Brook, Hoddon Castle, Ecclefechan, writes :—

"It used to be quite worth while asking people to come here for salmon fishing. Provided there was water, they were pretty sure of sport. Now

in my own water, which is probably the best stretch on the river, only from ten to twenty fish are caught in a season. We had an exception in 1903, when some sixty-five fish were taken. Several causes for the falling-off can be named. The floods are of shorter duration and more violent than they used to be; that is in consequence of the draining of the hills. The fishing season, as regards both nets and rods, is too long; I am inclined to think that this has made the run of the fish later. I fear that there is a great deal of poaching in the upper waters; and some proprietors allow night fishing, during which many parr may be killed as trout. The mouth of the Annan is a bad entrance. The mud banks, which are constantly shifting, tend to drive the fish out into the channel of the Solway, and so up to the Esk, which has a good entrance not far off. Of all the adversities on the Annan, the violent rise and fall of the river, I think, does most harm. Much spawn is destroyed by the torrents."

The TWEED has long been suffering severely. Sir Herbert Maxwell favours me with a very interesting exposition of the trouble and of the remedies that should be applied:—

"The fecundity of the Tweed as a salmon river is amazing. Drastic netting goes on in a long tidal course during the open season; there is irrepressible poaching with drift nets at the mouth during the close season; rod-fishing is prolonged until the end of November, when the fish are in a gravid state;

spawners are openly destroyed in the upper waters; grievous pollution of the main river comes from the mills at Galashiels, and of its chief tributary, the Teviot, from those at Hawick. That combination of adverse agencies might be expected to bring the race of salmon near extermination. Such diligence in destruction, if applied to rats, must have most satisfactory results. For a series of seasons previous to 1903 it seemed as if the natural result was on the eve of consummation. The spring rod-fishing had long ceased to count for much, except in the lower reaches, from Floors downwards, where such fraction of the early fish as managed in floods to run through miles of nets still effected a lodgment; but the autumn angling had fallen away miserably. Then came the *annus mirabilis* 1903—the memorable wet summer and autumn, when multitudes of large fish appeared from goodness knows where, and thronged the pools as soon as the nets were off. I myself only fished two short days that autumn, in the Mertoun water, beginning at eleven o'clock each day. The result was seventeen fish, averaging 19 lbs. In face of such a season it is impossible to pronounce the Tweed past redemption. Nevertheless, I consider it in a parlous state.

“A spirited attempt has been made to restore the stock of fish by artificial hatching. Unluckily, there is no single instance, either in this country or in America, of demonstrable results of such an operation. People are coming surely to the conclusion that the money spent in hatcheries

would be applied far more beneficially to protecting the spawners on the natural redds. Nobody who has witnessed the descent of smolts in a salmon river can fail to realise that the liberation of two or three million alevins, or two or three thousand smolts, can have no appreciable bearing upon the total of fish returning from the sea. If the supply of ova for the Tweed hatcheries were taken from the upper waters, about Innerleithen, no harm would be done, because these fish generally meet with a violent death before completing the process of reproduction; but if, as I believe to be the case, the spawners are netted in the lower reaches, where they would not otherwise be interfered with, there is no advantage to compensate for the mischief done by disturbing fish at a most critical period.

“To restore the Tweed to its former excellence as a spring and summer angling stream, the following measures seem to be necessary:—

1. Prohibition of netting above Thomas's Island, where the tide stops.
2. Rod-fishing to cease on November 15 at latest.
3. Stringent application of the Rivers Pollution Act, or the exercise of such powers as those whereby the Thames Conservancy have purified their river.
4. The application of money now spent on the hatchery to an additional force of watchers to repress the poaching with drift nets in the sea during the close season.”

What Sir Herbert Maxwell says as to the crying need for remedial action is confirmed by the Duke of Roxburghe, who informs me that, from a careful study of records, he is convinced that there has been a marked falling-off in the stock during the last twenty-five years. He excepts from this generalisation the autumn of 1903, when salmon were extraordinarily abundant. The Duke thinks that public sense of the importance of enforcing the laws against pollution and otherwise preserving the fisheries is seriously on the decrease.

The statements by Sir Herbert Maxwell and the Duke of Roxburghe imply that sport on the Tweed used to be splendid. This is amply borne out by an interesting MS. which Mrs. Grant of Househill, Nairn, has found among her family papers. A first cousin of her grandfather, Mr. John Laurie, was, in his day, known as "The Champion of the Tweed." He lived in New York, and made a fortune there; but his mother had an estate near Kelso, to which he often returned. The faded letter to which I have referred runs thus :—

"In 1842, on the 14th March, I left Edinburgh, accompanied by Mr. William Shiels, and proceeded to Kelso, for the purpose of enjoying a few days' salmon fishing in the Tweed. Alexander Low, Esquire, had given me permission to take possession of his cottage at the boat-house, and to have the uninterrupted and exclusive fishing of what is called Rutherford Waters, being three miles of the Tweed. The cottage is about six miles above Kelso. Mr.

Low had written to his boatman, John Aitken, to give me full use of his rods, lines, flies, and boats, and had, moreover, instructed his boatman to exert himself to the utmost to give me good sport. We arrived at the boat-house cottage on the evening of the 14th, and at daylight on the 15th I commenced fishing at the rapid stream immediately below the ruined tower of Littledean; and during the day I killed twelve salmon, weighing from 4 lbs. to 16½ lbs. The three largest weighed 14¾ lbs., 15½ lbs., and 16½ lbs. The wind was from the west; the sky clear, with occasional passing clouds. 16th.—Wind south-west. Killed six salmon, from 4½ lbs to 6 lbs. 17th.—The wind westerly; cloudy; and the Tweed clear and in fine condition for sport. This day I killed no less than seventeen salmon, weighing from 4½ lbs. to 17½ lbs. The largest gave great play, and it was fully twenty minutes from the time of hooking him until he was safely on the bank. Another I happened to hook in the side, and he took me down the stream a quarter of a mile before I could land him. 18th.—Killed eight salmon; average weight of the three largest was 12 lbs. Wind easterly. 20th, Monday.—Fished nearly all day, and killed six salmon, the two largest weighing 11¾ lbs. and 14½ lbs. This day I hooked eight fish besides those I killed, and lost them after a less or more run; and this was the more remarkable as on the previous days I lost very few in that way. On the 21st I returned to Edinburgh, having killed in five days' fishing forty-nine salmon, which was considered remarkably good

sport, and indeed I could hear of no one on Tweed-side who had surpassed my day's work of the 17th. Mr. Shiels fished but little, and only killed four salmon during the five days."

The TEVIOT, in the shire of Roxburgh, is the subject of a sad tale. Mr. Walter Haddon, who has fished the river and its tributaries within a ten-miles radius of Hawick for over fifty years, writes:—

"Since the formation, in 1881, of the Upper Teviotdale Fisheries Association—a combination of the riparian proprietors of the Teviot and its tributaries above Ancrum bridge—I have acted as the Secretary of that body, the object of which is to protect the fresh-water trout and improve the angling in the waters under its control. In the 'forties and early 'fifties the waters in this neighbourhood were most plentifully stocked with fish of all kinds. There was abundance for everybody. In the later 'fifties and during the 'sixties and 'seventies the falling-off was lamentable; it is so even now. With all the protective measures adopted by the Tweed Commissioners, the Upper Teviotdale Fisheries Association, and Angling Societies, the stock in the Teviot is only a small fraction of what it was fifty years ago. I attribute this to the destruction of fish and spawn by pollution from towns and villages. The effects of that contamination are enormously increased by the draining of agricultural land. About fifty years ago, after a few days' heavy rain the Teviot ran in flood for a week or ten days; but now the drains bring the water off the land with

such rapidity that within twenty-four hours of the rain ceasing the flood water has passed away, and the streams are running almost as low as if there had been no flood. The result is that during the summer months the river becomes much lower than it used to be, the water more stagnant, and the pollution more serious. For many miles below Hawick not a fish is left alive. The salmon and sea-trout fishing above Ancrum Bridge is now almost of no value. I have not had much experience of it below that point; but I think that the number of salmon and sea-trout in the lower reaches must be small."

The SOUTH ESK, in Forfarshire, which rises in Glen Clova and has a run of forty miles before reaching the North Sea, has for a few years suffered from drought. Lord Southesk writes:—

"In recent wet seasons the catches have been good, probably better than ever, the whole course of the river being taken into consideration; but data regarding the whole river are impossible to obtain. As far as I am personally aware, the average number of fish in the river remains much the same as it has been in the past; as also the average weight, which may be stated as 17 lbs. for autumn fish and 7 lbs. for spring fish. There is no doubt that the South Esk has always, especially during the last seven years, been handicapped by the discharge of sewage from the town of Brechin. Arrangements which should have the effect of removing or greatly diminishing this drawback are now in progress."

The NORTH ESK has its source in LOCH LEE, and, after a course of close on thirty miles, falls into the sea about two miles north of Montrose. Mr. David Lyall of Gallery, who was brought up on the banks of the river and is now nearly eighty years of honoured age, courteously gives me an interesting note:—

“For the first fourteen miles, or thereby, the North Esk is in Forfarshire, and within the lands of Lord Dalhousie, on both banks. On entering the next estate, The Burn, it forms in a general way the boundary betwixt the shires of Forfar and Kincardine. I say ‘in a general way,’ because at three points at least the Forfarshire estates cross to the north side of the river, carrying the county march with them, and about two miles from its mouth, at Kinnaber Haugh, Kincardineshire extends to the south bank. The riparian rights of the estates are very intricate after leaving the Dalhousie territory. In no case should lands be purchased on either bank without the most careful inquiry as to the fishing rights. These are not usually corresponsive with the frontage to the river. The sporting capacities of the river are naturally of the best; but the salmon do not have fair play. The river has been converted into a ‘manufacturers’ stream.’ There are five weirs—Arnhall, Pert, Kirktonhill, Craigo, and Morphie. These have ‘passes’; but some of them are far from efficient. Over the one at Craigo fish get only when there is flood water. The autumn seasons of 1904 and 1905, dry times, were very poor.

Indeed, 1904 was the worst on record. It yielded only 205 salmon and 58 grilse, with a few sea-trout, for the whole river. There is a proposal, promoted by Lord Dalhousie, to remove the nets, of which, it is hoped, we shall have seen the last before these words are published. That, with reform of the passes, will improve the river greatly."

The DUKE OF ARGYLL's rights in his best river, it will have been noticed, are held under a charter of The Bruce. At first I thought that the Duke must have mentioned this merely because the title deed was interesting on account of its antiquity. Soon afterwards there was cause to think that the remark might have another significance. The incidental suggestion came with a letter from Colonel —, whose residence and sport are not a far cry from Loch Awe. The entertaining document runs thus:—

"If No. 1 makes No. 2 pay a rent to himself, for No. 3's property, is it right? Here is an example: I was fishing in the — on Mr. C——'s property, of which I had the lease. A man comes up and orders me off the water, as rented from Lord A—— to the — Hotel. Mr. C—— then applied to the Crown for a rent of this bit of his own river, subject to any prior claim. He got the rent. Lord A—— was discomfited. He had no charter. There are many others doing the same as he did. Afterwards I leased the water at a rent of £30 a year for five years, and Lord M—— let the other side. I should be much surprised to hear that either of the proprietors has a charter. If my own

experience is such, how many others are plundering the Government?"

Excepting in the case of the gentleman who let to the Colonel the water which he was ordered to quit, successors to the estates of all the persons figuring in this strange tale are contributors to our chapter on Scotland. Therefore, I leave blank the proper names. It would ill become me to do anything that might revive the memories of wrath. At the same time, the episode is much too good to lose. In answer to a letter expressing sympathy with him in the thought of what he had suffered from the lawless chieftains, the Colonel wrote:—

“What is really wanted is that the Crown should call for, and make a record of all charters, and then take possession of all the waters not under charter and let them on lease, with first option to proprietors, and, if they decline, option to some one else. This would bring in to the Government many thousands a year. I should much like to see something done to improve the fishing.”

The subject thus amusingly raised is of much public as well as being of much private importance. It is worthy of consideration by the House of Lords, which within recent years, as over the Bill to establish a close time for trout in Scotland, has shown a promising interest in the rivers of the United Kingdom. Happily, in any effort to preserve and improve fresh-water fishing, the House of Commons seems always willing to follow the lead of the other Chamber.

CHAPTER VIII

IRELAND

Brosna — Shannon — Feale — Erne — Bundrowes — Lough
Melvin — Drowes — Sligo — Ballysadare — Owenmore —
Burrishoole — Claregalway — Galway — Ballynahinch —
Lough Furnace — Lough Feeagh — Bunowen — Doo Lough
— Fin Lough — Bundorragha — Erriff — Tawnyard Lough —
Screeb — Furnace — Maigue — Lee — Laune — Lough Leane
— Flesk — Blackwater — Suir — Nore — Slaney — Boyne —
Glyde — Owenea — Gweebarra — Bann — Bush — Foyle —
Strule — Derg — Mourne — Claudy — Teelin — Bunduff.

ON a bright September morning, as I crouched on the bank of the *BROSNA*, casting at a fish which was rising, rising, rising, suddenly I heard a musical voice, saying, "Well! I see you've found Adolphus!" Having risen and looked round, I beheld a very beautiful girl, in whose smiling dark eyes happy amusement rippled. The sunshine, falling through the leaves of a tree, shimmered over her. She was a startling vision, more like a fairy than an ordinary human being. For a few moments I could only stand looking at her, astonished; but soon, having collected my wits, I

THE SHANNON AT KILLALOE.

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knew who she was. She must be the daughter of a man to whose house I was that day going, with my hostess, her aunt, whose dwelling was two miles off, to luncheon. I had been told to fish the river up to her father's lawn, and had done so. She had come out, in the gracious Irish way, to welcome me. "Adolphus?" I remarked. "Yes; Adolphus: the trout." Then, with merriment, she explained that I had probably been misled. Uncle and Aunt were the best people in the world; but they lived mainly in London, only now and then in Ireland, and they did not know much about the river. There used to be many trout, and some salmon; but now there was only one fish in the Brosna for at least two miles below Ballycumber. That was Adolphus, rising there; and nobody could catch him. Even the poachers had given him up.

This information, despite the piquancy of the circumstances amid which it was conveyed, seemed grotesque. Only one trout in the Brosna, which even from the railway I had seen to be a singularly handsome full-flowing river! Alack, the news, I soon learned, was true. There was order all over the country, but no law. No one so much as thought of trying to preserve game of any kind, finned or furred or feathered. Preserve game? Any man who attempted such a thing would have his ricks burned and bullets through his windows. The Police? They turned their attention to the subject only at the very rare times when they had absolutely nothing else to do, and then their interest in it was

that of the open-minded student of a controverted question.

It would be a mistake to assume, as I did then, that this state of perfect order and no law must be characteristic only of the region in which I was fishing. A very extensive inquiry brings out the fact that it seems almost to be the rule in good-natured Ireland. Here and there, it is true, the reign of unreason takes some other mode. "It is awful," writes Lord Rossmore, in County Monaghan, "the way the pike have ruined valuable waters in Ireland. The country people have actually brought pike and put them into trout lakes, as they can catch the pike but not the trout!" The survey now to be made must be phrased sedately; but throughout most of it, I fear, signs of the Celtic spirit, destructive though fascinating gnome, will be not infrequent.

The SHANNON is in a fairly satisfactory state. Mr. J. Odell Vinter, Cambridge, writes:—

"It is not easy to form any conclusion as to whether there is falling-off or improvement in the stock. My experience before 1900 was in respect to years 1893 and 1897. For those years the rod-fishing was exceedingly bad. Since 1900 I have been the tenant of two miles of the Clare side of the river from Killaloe downwards. 1900 and 1901, although the take of fish was better than in 1893 and 1897, were not good seasons for the rod. 1902 was a record year for heavy spring fish in May. The average weight of forty of the fish taken from both sides

of the river at Killaloe was 22 lbs. In 1903 the spring fish were fewer and about a fourth less each in weight on the average. The peal fishing, however, was exceptionally good. 1904 was an average year for both spring and summer fish. 1905, owing to floods in the spring, was very poor for heavy fish; but the peal season was good. I think the Shannon is a somewhat exceptional river. Probably only a very small percentage of the fish which pass into Lough Derg ever return. The river itself has many good spawning grounds, and my belief is that but for these it would soon cease to be a salmon river of importance. The amount of protection by watching the streams in the spawning season is inadequate. On the whole, I should say the stock of fish has been somewhat larger since 1900 than it was for some years before that time; and I attribute this to greater diligence on the part of the watchers."

Mr. Frederick C. Henry, London, who fishes from the other side of the river at Killaloe, believes that there is a falling-off both in stock of fish and in sport. "The principal cause," he says, "is increased netting at the mouth. A secondary cause, which principally affects the sport, is the erection of the flood gates at the foot of Lough Derg. These gates are opened and shut without adequate reason, and cause sudden rises and falls, which ruin the fishing. I think, generally speaking, that there is a slight improvement in the public sense of the importance of enforcing laws against poaching; but there is still much to be desired in this respect."

Mr. F. W. Henry obliges me with a specific statement about the flood gates. "About twelve years ago," he writes, "there was a natural waterfall where Lough Derg drops into the Shannon at the Killaloe; but, in order to regulate the height of the water in the canal, the Board of Works built a weir instead. This had a very bad effect, from which the fishing is slowly but steadily recovering. It is now possible suddenly to raise the river as much as five or six feet by opening gates, and then by shutting them to make it fall to the same extent. In time of rain the water is frequently made to rise suddenly; which, as any one acquainted with fishing can realise, puts a stop to sport. The river sometimes goes up three feet in a morning; then the gates are shut, and it drops by night. The flood gives fish time to get up into Lough Derg from Killaloe, but not time to get from Castleconnel to Killaloe. The heavy fish killed on the Shannon are very many. A system of employing the professional fishermen as bailiffs during the winter months to watch the small streams where spawning goes on has, happily, come into vogue."

The FEALE, flowing through County Limerick and County Kerry, has been falling off. Mr. C. Mark Montserrat, Kilmorna, attributes this mainly to the continuous destruction of fish and fry by poison. It was for many years customary to find the river poisoned with spurge, and occasionally lime was used. The injury was enormous. Another cause of the decline was the destruction of spawning fish in November

and December. About three years ago the protection of the river was taken up by the newly-appointed Conservators. There has been no destruction of fish since; but it has required a large staff of bailiffs continually on the river to attain this end. Mr. Montserrat suggests that compensation should be exacted from the townlands adjoining the waters where fish have been destroyed. "In this district," he adds, "we have now a hatchery, and we trust that during the coming season our river may begin to regain its old popularity as one of the best in Ireland."

The ERNE, in County Donegal, since the drainage of Lough Erne about sixteen years ago, has suffered a falling-off in its stock of fish. The season of 1905, however, was exceptionally good. That was deemed a symptom of recovery. The four miles of this beautiful river from Belleek to Ballyshannon are considered to be, during July, August, and September, one of the best waters in the north of Ireland. The Erne, carefully looked after by a Board of Conservators, is free from chemical or other pollution.

That statement, kindly sent by Mr. Joseph Thompson, Ballyshannon, is supplemented by an important note from Mr. John Swan, Manager of the Erne Fisheries. "There has," Mr. Thompson says, "been a great increase of drift-net fishing in the sea and at the mouth of the river. The drift nets capture more than half the salmon making for the various rivers on the north and west coasts of Ireland. This, as far as I know, is the only cause

that can affect the Erne. There is very good sport on the Erne. It is one of the best fly-fishing rivers in Ireland."

The BUNDROWES and LOUGH MELVIN, between County Leitrim and County Fermanagh, are in an evil plight. Colonel Vernon, Clontarf Castle, County Dublin, writes :—

"I have fished the Bundrowes for the last two seasons. The river, to look at, is as good a bit of water as one can see; but, from all local accounts, between poaching and over-netting the angling both there and on Lough Melvin is thoroughly spoilt. I killed six or seven spring fish my first season; three the second season; and I have the place for the coming season. I am not a bad fisherman. I killed 100 clean fish one season on the Blackwater, County Cork, in February and March, and have fished in Ireland for over thirty years. I consider the Bundrowes to be one of the pleasantest rivers to fish, and the worst in which to catch anything."

The DROWSE, running from Lough Melvin to Donegal Bay, yields brisk sport early in the year. Lord Clarina, who has fished it only one season, and that not quite recently, has it well looked after. He writes :—

"For the first fortnight I did not see a fish. I suspected that the river was being netted; put on a keeper and watchers; and found that there were three gangs of poachers at work. At the end of three months I had most of them caught, and their nets seized. It was not until March 3 that I landed

my first fish, and from that date until June 28 I took fifty-three salmon, the heaviest of which weighed 19 lbs. The following may interest you:—On November 6, 1888, on the Pavilion water of the Tweed, which then belonged to the Honourable Mrs. Henry, I beat the record of that water, killing eleven salmon in a day—one before lunch, the remainder after. The weights were 19 lbs., 18 lbs., 18 lbs., 18 lbs., 16 lbs., 16 lbs., 16 lbs., 13 lbs., 13 lbs., 8 lbs., 7 lbs. All but one were taken on a fly tied by myself, a sort of Silver Grey.”

The SLIGO RIVER, in some parts called the GARAVOGUE, is peculiarly interesting. For what can here be told I am indebted to Colonel W. G. Wood-Martin, Cleveragh, well known as the historian of Sligo, who owns part of the stream. Since 1871 the opening day has been January 1. Scientific investigation had shown that the fish in the river run as early as November or December; indeed, fresh-run “spring” fish are sometimes seen about the middle of October.

“It seems surprising that the Sligo and the BALLY-SADARE rivers, in close proximity, should differ so much in their seasons. The principal run of fish in the Sligo is in January; in the Ballysadare in May. The Sligo flows with but a short channel from Lough Gill; and, as has been observed by a writer on the subject, rivers issuing from large lakes afford early salmon, the waters having been purified by deposition of waste matter. On the other hand, rivers swollen by melting snows in the spring months are later in

producing fish, and yield their supply when the lake rivers are beginning to fail. Experts seem undecided as to the causes of this; but apparently the temperature of the water has considerable influence. The quantity of breeding fish in the Sligo is stated to be increasing. Angling for trout is stopped in April and May, during the descent of the salmon fry. There is a migration of smolts all the year; but it is heaviest in April, May, and June. The first grilse is taken in the Sligo about June, and in the Ballysadare in July. Salmon are taken with the grilse in the Sligo in June, and in the Ballysadare in July. The proportion of grilse to salmon in the Sligo is one to three, and in the Ballysadare fifteen to one. There are three distinct runs of fish from the sea in January, and runs in April, May, June, October, and November.

“St. Patrick’s blessing of the stream, as given in *Septima Vita, Lib. II. Colgar, Trias., Thaum.*, p. 140, xcvi., may be translated as follows:—

““Going on his journey by the sea-shore of Northern Connaught, Patrick came to a river called *Sligeach* [Sligo]. There he wished to refresh his wearied body. He asked the fishermen to spread their nets wherever they pleased, and by aid of their art to provide some fish for a meal, by which he might relieve the present need of his body. They answered that, although it seemed difficult in winter, yet, in return for the favour of having such a guest, they would like to try it. They cast their net and caught a large salmon, which, with great joy, they

brought to the man of God. He thanked them for their kind attention. He prayed for a blessing on them, and he blessed the river, praying, and while praying foretelling that fish would never fail in the river. The actual state of affairs has always afforded proof of this prophecy; for ever since that time the river so abounds in salmon that every time of the year fresh salmon are found in it.

“Carefully kept records covering over thirty years show that the productiveness of the river diminished. The causes were over-netting and poaching. Now, however, there is hope of recovery. A goodly part of the river is being nursed by Sir Charles Petrie, Liverpool, who took a tenancy a few years ago.”

The OWENMORE, which runs, through picturesque scenery, from above Corick, in the Barony of Erris, to the sea at Tullaghaan Bay, is a subject of anxiety. Mr. George Tilson Shaen Carter, Shaen Manor, Belmullet, writes:—

“In 1875, and until 1895, the catch of salmon was very large, and the river, assisted by the valuable fishery of Lough Carramore close by, was favourably known far and wide. Since 1895 there has been a falling-off in the stock of fish. That would appear to be because, in addition to excessive netting in the tidal reaches, salmon are taken in large quantities by fishing vessels out in the Bay of Tullaghaan, at the entrance of the bay, and round the coast. Certainly the river fishing will be destroyed if sea fishing of this kind continues. In

spite of adversity, salmon in fair numbers spawned in the winter of 1905-1906."

The BURRISHOOLE FISHERY, a range of loughs and rivers in County Mayo, has been falling off during the last twenty-five years. Mr. H. M. Anketell Jones writes:—

"This is most noticeable as regards spring fish, the number of which has been steadily decreasing since the year 1864. In that year the spring fish taken exceeded 300; for the ten years ended in 1889 the average had fallen to 109; at the close of the next decade it had further fallen to 80; the average for the last five years was only 71. The average weight of the spring salmon has fallen 1·5 lb. in the last five years: from 11 lbs. in 1901 to 9·5 lbs. in 1905. These averages are taken from the number of fish taken up to May 31 in each year. During the last few years, it would appear, more spring salmon have been running late in the season, with the grilse; but, salmon and grilse counted together, the decrease in the last twenty years is quite thirty per cent. It is difficult to assign reasons definitely; but the chief causes seem to be insufficient protection during the close season, the funds at the disposal of the Board of Conservators being barely equal to meeting half the present expenditure; the large increase in the number of seals, otters, and cormorants; and the difficulty of stopping poachers, the fishery laws being so lax that it is not easy to obtain a conviction."

The CLAREGALWAY, in County Galway, though it

still yields good sport, is suffering from a very peculiar cause. Writing in behalf of Lord Clanmorris, who is not a fisherman, Mr. Raoul Joyce, Glenina, who has known the river for twenty years, says:—

“The sport is not so good as it used to be; but it is still very fair in wet seasons, especially if we have floods at the end of June or in July. In dry summers there is practically no salmon fishing at all. That is mainly due to the porous nature of the bed of the river for about five miles between Cregmore and Corbally. In this stretch there are swallow holes in the bed and sides of the river, which take away all the water and leave the river for about five miles as dry as a road. The result is disastrous. At least two-thirds of the salmon that go up to Lough Corrib spawn in this river, and some millions of fry perish in that perforated stretch, besides all the trout and salmon that have the misfortune to remain there. Strange to say, above the first swallow hole at Corbally there is always a good stream in the driest summer, and the water rises again about twenty yards from the river bank, about a mile above Claregalway, and flows into the river, making a good stream thence to Lough Corrib. It would cost about £1000 to make a proper job and stop these holes with concrete. If this were done the whole fishing of the Corrib river, as well as that of the lake and that of Claregalway, would be much improved. The preservation of the spawning fish

has been much better attended to during the last six years. That is owing to the active work done by two or three Scots head bailiffs or inspectors, who keep a vigilant eye on the local bailiffs. This river is not a spring river. A few fish run up in April and May ; but I have never known more than ten caught in a season. The earliest I have known I myself caught at Cregmore on March 29. I have never known a rod take more than two in a day. After an early July flood the river swarms with grilse. I have known three rods in a day take on the fly, respectively, one eighteen fish, one twelve, and one nine. There are not many trout in the river ; but most of the few are good fish. I have had some varying from 3 to 6 lbs. My best, taken on the fly in 1903, was 7 lbs. : such a handsome fish that I had him set up and have him here. The trout are well shaped, well fed, and beautifully marked."

The GALWAY FISHERY extends from Lough Corrib to the sea. Mr. W. N. Milne writes :—

"As a several fishery including tidal waters, it commands the entrance to the whole catchment basin of the river. The basin has a catchment area of over 1200 square miles, some 800 of which are permeated by salmon streams ; and of these 135 miles have been estimated as productive breeding ground. The length of the several fishery to the sea is about five miles ; but the chief angling grounds are below the weirs, within about three-quarters of a mile from the sea. From this proximity to the sea,

and the regulating weir across the river, arises the wonderful concentration of salmon above the County Bridge on their way to the upper waters—a spectacle with which most travellers to the West of Ireland are familiar. From these causes, too, the catch of salmon and grilse on the Galway has always been remarkable as compared with that on any similar piece of water in the United Kingdom. During the last twenty-five years the average annual catch of salmon by anglers has exceeded a thousand fish. Catches of twenty, and in some cases as many as twenty-five, by one rod in one day have been recorded; baskets of from eight to twelve in the height of the season are frequent. The grilse weights are usually between 6 and 7 lbs.; the salmon weights, about 14 lbs. The heaviest fish caught during the last five years have been 32, 42½, 30½, 27½, and 36½ lbs. The catches from 1901 to 1905 for February-September, inclusive, by eight rods, were—1901, 944; 1902, 1726; 1903, 727; 1904, 1230; 1905, 1575. Besides salmon the river contains a good stock of brown, tideway, and sea-trout. Last season there was an unprecedented plenty of sea-trout. One rod, from May to August, inclusive, caught 384 salmon and 796 trout. The trout were all taken between the middle of July and the end of August. The Galway and its tributaries are well protected both in the open and in the close season.”

Mr. Scrope Doig, Oughterard, writing at the request of Lord Ardilaun, says :—

“Most people now recognise the fact that the preservation of salmon and trout is a national asset, and of the very greatest importance to the district. The desire to poach is naturally still rampant; but it is kept within narrow limits by Boards of Conservators and private agencies. As the fishing is free in the greater part of this district, the private agencies are on the increase, the value of the fishing being fully realised.”

The BALLYNAHINCH is going down. Mackerel nets kill the fish at the stage midway between smolts and grilse. Unlimited drift nets are set all round the Irish coast for the sole purpose of taking salmon. “This,” Mr. Arnold Matthews, Ballynahinch Castle, says, “is a subject calling for immediate legislation.”

General Beresford, Wolsey Ho, East Molesey, who sends a statement similar in effect, adds: “There is no netting for salmon at, or anywhere near, the mouth of the river. At spawning time the fish are carefully protected. There has never been disease.”

LOUGH FURNACE, a moiety of LOUGH FEEAGH, sometimes called Treenlaw; the BUNOWEN RIVER FISHERY, sometimes called the Louisburgh Fishery; DOO LOUGH, FIN LOUGH, the BUNDORRAGHA RIVER; the ERRIFF RIVER and TAWNYARD LOUGH, sometimes called the Aasleagh Fishery, are properties, in County Mayo, of Lord Sligo, at whose wish his son, Lord Altamont, obligingly writes, as follows:—

“In Lough Furnace and Lough Feeagh there is a falling-off in the stock and in the sport. That is owing to constant poaching with nets in Lough

Furnace, which is tidal. The fishings are let, and, consequently, the owner cannot have the mouth of the outlet of the upper lake properly watched.

“The town of Louisburgh is about a mile from the mouth of the Bunowen, which has a rapid fall. The river is systematically poached in every pool of the lower reaches by the whole town and countryside. Naturally one of the best rivers in the west, it is in such a state that many years will pass ere it recovers. In the neighbourhood of the town the fish are speared and caught in landing nets by the light of torches, and even in broad day. The Police, until Mr. Walter Long became Chief Secretary, gave little or no assistance. The organisation of the townspeople is such that it is difficult for the Police to do much. As soon as one of the Force leaves the barrack a whistle is sounded, and when the constable arrives at the river there are neither lights nor people. Efforts are being made to procure keepers; but the expenses are heavy, and there may be but little return for years.

“Doo Lough, Fin Lough, and the Bundorragha River have been looked after for many years, and the fishery is in good order. The salmon have not increased; but the white trout are very plentiful. Fifty salmon and 1000 white trout are caught in a good year by the rod. Nets are not allowed. This fishing is let to a small club.

“Nets on the Erriff were taken off in 1902. Since then the river has been let to a small club. Keepers and watchers have been engaged. Poaching at

spawning time has been stopped, and the fishery is rapidly improving. A hundred salmon and from 600 to 780 sea-trout should be caught. The average weight of the salmon is between 9 lbs. and 10 lbs.; that of the sea-trout, 3 lbs. A hatchery is to be established on the river. The Board of Agriculture are assisting. The purpose is to benefit the fishing villages that border the Killary Harbour for many miles."

The SCREEB and the FURNACE, in County Galway, are severely beset by professional fishermen. Mr. Howard Bligh St. George, Clonsilla Lodge, writes:—

"Salmon and sea-trout are alarmingly decreasing off the Galway and Connemara coast. It is quite clear that the cause is netting in the open sea and the estuaries. Under the sanction and by the assistance of the Department of Agriculture and Technical Instruction for Ireland, residents along the coast are encouraged to acquire nets upon very easy terms, and where there was one net five years ago there are twenty nets now. Those chiefly used are trammel nets and drift nets, and they are at work by day and night along the seaboard and within the estuaries. The area within which it is legal to use trammel nets in certain parts of certain estuaries along the Connemara coast was last year restricted by byelaws; but the boundaries are insufficient, and net-fishing is legalised within limits that cannot fail to be destructive to the inland fisheries. Moreover, there is no provision for the enforcement of these byelaws by the Board of Agriculture, who

nurture this net-fishing. That the Board intend to develop net-fishing along the western coast of Ireland is made clear by the report for 1904, in which, after relating the gratifying increase of nets off the Donegal coast, and various captures of salmon,—including 600 salmon to one boat during a season of five weeks,—it is said :—‘A further large extension of this industry may be expected, it being the intention of the fishermen to exploit the waters to the south of the areas hitherto fished in this way.’ Thus, we may expect an unwelcome descent upon the Connemara and Galway coast. I may add that the Board of Agriculture have charge and control of both the inland and the sea fisheries of Ireland, and are supposed to be anxious to serve the interests of each. It is certain that our salmon and sea-trout have become fewer. The sea-trout are smaller. Captures in the outer sea, so attractive to the larger fish, are undoubtedly the cause of the decline. Sea-trout in large numbers are caught in spring by mackerel boats along the Galway and Connemara coast. The boats fish close to and along the coast line, and in certain places within the estuaries.”

The MAIGUE, a tributary of the Shannon, has been much injured. Sir David Vandaleur Roche, who is seventy-two years of age, and has fished in the stream since boyhood, writes :—

“I recollect when there were no fishing laws. Then the river was full of salmon. There were no nets on the tidal portion and no facilities for sending fish to markets far away. When railways were

opened and fish could be sent to English towns, nets began on the tidal portion, and effects were disastrous. The fish continued to decrease until at length almost none came to the fresh water. Two years ago the proprietors on the upper river asked the Fishery Commissioners to have an inquiry. This was held at Adare; and the result was that snap nets, the most deadly of all, were prohibited, and seine nets were shortened. The reform did good. Last year fish to a fair number were taken by rod. At the weir under my windows I see fish which in good condition would weigh 40 to 50 lbs."

The LEE, running through County Cork, naturally a first-class river, is almost ruined. At any rate, that seems to be the upshot of the information I have received. Mr. Henry Welch-Thornton, Beaurepaire Park, Basingstoke, writes:—

"I have now given up my fishing on the Lee. During the seven years I had the Nettleville fishery some seasons were good and some bad; but I do not think the river has altered much on the whole."

The river suffers from almost every known influence of a bad kind. Mr. Alderman Henry Dale, Crok, writes:—

"Since the Anglers' Club, founded in 1869, was finally given up, the river has been going back. I am of opinion that the only way to improve the salmon fishing of the country and materially increase the quantity of fish as a food-supply would be providing from some public source sufficient funds for protection."

The LAUNE is a peculiar river, as to which, through the kindness of Lord Kenmare and Lord Castlerosse, I am able to give particulars. Having regard to the number of the fish that pass through it to the Lakes of Killarney, one would expect it to be a first-class angling river; but that is not the case. There are only a few long stretches of deep water in the course of nine miles from the lakes to the head of the tide-way, and thus there is but little inducement for the fish to linger in the river. It is mainly for this reason, perhaps, that sport on the Laune has not shown that marked falling-off noticeable in the take in the commercial fisheries since 1897. There is small scope for variation. The commercial decrease has been as regards the grilse fishing in summer, rather than as regards the salmon fishing in spring. Thus, it is probable that the few pools on the river have held, of late years, almost as many fish as they held when fishing throughout the district generally was much better. There is not much pollution; in this respect the Laune is practically as healthy as it was a century ago. On the other hand, in consequence of the more extensive drainage of the catchment basin, floods pass off more rapidly than they used to do, and the river keeps lower than was its wont when the land was saturated. The vigilance of the Laune Angling Association helps effectively to preserve the river from poachers. On the whole, it may be said that, although the stock of fish in the Killarney district has diminished, the angling interest has not suffered proportionately.

LOUGH LEANE has for three years been falling-off a little as regards both nets and rods. The cause, I am told by Mr. Scully, Secretary to the Killarney Conservators, is unknown. The lough, however, is cared for well. The Fisheries Branch of the Department of Agriculture, in order that knowledge may be gained, have instituted a system of marking salmon released from the hatcheries. The decrease is the more astonishing when the enormous output of salmon fry from the three hatcheries is considered. The hatcheries have been established for four years. One of them is in Killorglin. The other two, in Killarney, are maintained by Lord Kenmare and Lord Ardilaun. The trout angling in Lough Leane and neighbouring lakes ranks with the best in Ireland, and is steadily improving.

The FLESK, in the Killarney region, has been going down. Mr. D. Cronin-Coltsmann, Flesk Castle, who owns part of the river, says that twenty-five years ago he used to catch three salmon in a day, and that now he considers himself fortunate if he has three in a month. "This great decline," he writes, "is attributable to excessive netting in the tidal waters, to poaching there during the weekly close time, and to poaching in the upper waters during the spawning season."

The BLACKWATER, in County Cork and County Waterford, before the Act of 1863, suffered greatly, with many other rivers, from over-netting. Soon after the removal of many fixed engines and the establishment of "Queen's gaps" in weirs, the fishing,

both for nets in the tideway and for rods in the upper waters, improved. A few years having passed, it fell off, especially in the upper waters. Of late there has again been improvement. The take in nets and at Lismore Weir has been large, and spring angling as far up as Clondulane Weir has been good. In the summer of 1905 the pass at Clondulane underwent improvement, and it is believed that fish will henceforth be able to get over that obstacle at any time. About thirty years ago, when the season opened on March 1, instead of opening on February 1, as now, and there was no night netting at Lismore, the angling above Fermoy was better than it has been since. For some unknown reason, fish do not run up to the higher pools so early in the year as they used to run. Winter poaching has decreased. The sewage of Mallow, Fermoy, and other places runs into the river, in contravention of the Pollution of Rivers Act; but the high floods in winter prevent it from being very harmful.

A sportsman resident at Mallow sends a very interesting letter:—

“Our grievance up the Blackwater is that the spring fish do not reach us till summer. Then the weather is becoming fine and the water low. For four years we have had no good head of fish above Fermoy until May 7. Thirty years ago there was excellent angling all along the river after about March 17. Now angling is very good from Lismore to Clondulane, Careysville, from February 1. A great many fish spawn in winter.

My theory is that most of the late-running fish are worthless except for the crop of peal or grilse they yield, and only breed fish that in their turn run late, coming up heavy in spawn at the close of the open season. I believe that an excessive capture of spring fish may turn an early river into a late one. I consider the spring fish the most valuable spawners. For the last four or five years Lord Warwick, Mr. W. G. Jameson, and other tenants of the Careysville fishery have paid £500 a-year to have the killing hatch in Lismore Weir kept open for February, March, and April. This must have let up a large number of spring fish; but, in spite of it, we do not get them above Fermoy in any quantity until May. I am quite unable to account for this. Hatcheries have been established. One, at Lismore, has been working some years. It is doubtful whether they have done any good. The Duke of Devonshire is now taking the Lismore Fishery, nets and weir, into his own hands. It used to be let to the Messrs. Foley. I hope the Duke will work it with a view to the general good of the river; but I cannot tell."

Mr. George Montgomery, Howell, Tavistock, Devonshire, who owns a goodly upper stretch of the Blackwater, and has known the river for fifty years, thinks that the great increase of sea fishing, the extra length of herring nets, and steam trawlers along the coast must scare many salmon from the estuaries.

Mr. George Carleton Foott, Carrigacunna Castle, Killavullen, has emphatic opinions. He writes:—

"When we Magistrates have inflicted fines on

poachers, whose characters are well known to us, after carefully inquiring into the charges made against them, and they having been ably defended by solicitors, on an Appeal to the Dublin Castle authorities the fines are considerably reduced, which is an incentive to further crime. Police, to my knowledge, were badly beaten, which is very disheartening to them; also bailiffs were badly beaten, and the inspectors. Some Justices of the Peace and Deputy Lieutenants know this, but will not confess."

The SUIR, rising on high land in the north of Tipperary, and falling, after a run of 114 miles, into Waterford harbour, has a chequered history. Lord Stanhope says that netting at the mouth has caused a "very considerable" deterioration. Writing more particularly in behalf of Lord Donoughmore, Lord Stanhope, and Lady Margaret Charteris, as well as for himself, Mr. William Rochfort, Cahir Abbey, who owns a mile of this great river and has been fishing since 1882, says that sport was at its best between 1882 and 1886. After that there was deterioration until 1903, when there came a change for the better, which Mr. Rochfort attributes to the activity of the Inspector of Fisheries. Lady Margaret Charteris has recently installed a hatchery near Cahir, from which, it is hoped, many thousands of salmon fry will be turned out every year.

Colonel Mansergh, Grallagh Castle, Thurles, furnishes me with a lively and able statement:—

"Very few people have any idea of the capa-

bilities of the Suir. It was evidently intended by Nature to supply food to many of the inhabitants of the counties of Waterford and Tipperary. It would do so if it were protected and its resources husbanded. The wealth derived from its fisheries would be enormous. Salmon at two shillings a pound soon 'run into money.' At present there is very little attempt at preservation. Lack of funds is the chief, but not the only reason. The spawning beds are almost completely unprotected, and not one salmon in twenty spawns. Most of the fish are killed by poachers. The spawning beds, apart from the main river, are over two hundred miles in length. To protect them properly would require nearly one hundred bailiffs and the assistance of the Police. I think the funds do not allow for more than eight men on all the immense stretches. Thus, you may say that there is virtually no protection of the spawning beds in the tributaries. The main river protects itself; it alone, practically, supplies fish now. If the spawning beds of the tributaries were protected there would be 500 salmon in the river for every one that is in it at present. The salmon in the Suir never get a chance. They are persecuted, legally and illegally, day and night; how a single fish is left is a puzzle. From Clonmel to the sea nets are at work day and night. Below Clonmel the river is good for rod-fishing only on one stand, that which is known as 'Dudley's,' where many peal are caught between July and September. The water from Clonmel up to

Holy Cross was all good some years ago ; but latterly it has been so only in a few places where the fish rest on their journey to the upper waters. About thirty years ago the Conservators attempted to protect the river generally, and the spawning beds in particular, and were very successful ; but, unfortunately, the work could not be continued. Lack of funds arose from the mistake made by the Conservators in buying a steam launch to protect the waters below Waterford, where there are some very narrow reaches, easily swept by nets at night. The launch was a costly failure. It has ever since prevented the protection of the spawning beds. The Conservators had to borrow the money to buy, repair, and keep the craft in order and in commission. In a few years the launch had to be got rid of. Had there been sufficient funds at the disposal of the Board it would have done much good in preventing poaching in the tidal waters. The launch, I think, was bought under the impression that the funds would increase ; but, unfortunately, the country became unsettled, and many of the upper fisheries could not be let. During the last sixteen or seventeen years the fishing on the upper waters has become gradually worse, and now very few men care to fish at all. In my own case the drop in the number of salmon caught has been from thirty-one to none.

“There are various causes for the decline. The chief cause is the neglect of the spawning beds. The fish are killed as soon as they have gone up.

The river is very much over-netted in the tidal portion, and, worse, in the fresh water, where no net of any sort should be allowed to fish. Net-fishing begins too early and closes too late in the year. There should be no fishing earlier than March 1, and none later than September 15. Trout should be treated similarly.

“The Suir could be made an ideal river. It has about seventy miles of first-class salmon-fishing water. It is better than most rivers. The stands are so close to one another that you can fish almost continuously. I have visited a good many rivers in Canada, Nova Scotia, and British Columbia, where I found the pools often more than a mile apart, which was tiresome. The fish in the Suir run to great weights. I have known a few, taken on the rod, weighing 50 lbs., and a good many between 40 lbs. and 50 lbs. My best fish was 34 lbs.; but I have caught a great many between 30 lbs. and 34 lbs. The average weight of one year's fish taken by me and a friend who was with me for two months was 17 lbs. for fifty-six. That was about twenty years ago, and we might have done much more had we fished oftener. March and April are the best months. As soon as the weather becomes bright in May the fishing is over. Then the salmon rise only either very early in the morning or when the sun goes down. As soon as the river is low enough the nets are at work nightly, and there is no use fishing the pools that have been swept.

“The trout fishing on the upper water from

Golden Village to Holy Cross is very good. The fish run to very high weights. I have known a few 6 lbs., and have myself caught one that weight. I have had many varying from 4 lbs. to $4\frac{1}{2}$ lbs. I think I have a 'record' in respect of a $4\frac{1}{2}$ lbs. fish taken on a dry fly, a very small Iron Blue. Sir Edward Grey was the first man that ever cast a dry fly on the Suir. He had wonderful sport. It was hearing of his performances that induced me to try what I could do with the dry fly, and I have ever since been blessing his name for many a day's sport, especially since the salmon fishing was over. The trout, alas! are much fewer than they were thirty years ago. This seems due to sudden and violent floods, consequent upon modern agricultural drainage, which tear up the spawn beds.

"Hatcheries should not be necessary on the Suir. The natural spawning beds would be ample for the purpose if they were protected. This will be seen when some Government realises the great value of salmon rivers, and undertakes the management of all that are in Ireland. The Irish Boards of Conservators have neither sufficient funds nor time enough to look after the business efficiently. There should be an Irish Fishery Department and some one, with a good salary and full authority, responsible for the proper preservation of every river. Such a Department would be more than self-supporting. It would be a source of considerable revenue to the Government."

The Nore, rising in the north-west of Tipperary,

and, after being joined by the Barrow, falling into the sea at Waterford, is certainly not improving. Captain E. K. B. Tighe, Woodstock, Inistioge, writes :—

“There has been no great diminution in the stock of fish within the limits of the tidal waters; but the very great falling-off in peal and grilse during the last three years calls for serious attention. It is probably attributable to a lack of any public sense of the importance of the laws against poaching and pollution, and to the impossibility of getting rod and net men to perceive that intelligent co-operation is necessary if the natural advantages of a water which should be one of the best salmon rivers in the kingdom are to be maintained. The efforts of private persons to do good by means of hatcheries are nullified by there being practically no attempt to protect the river or to enforce the laws as to the weekly and the annual close times. The fry which are turned down in the streams, instead of enriching the water and adding to the wealth of the country, serve only to fatten the cormorants, cranes, water-hens, and sea-gulls which infest the river. There being no measures of protection, the continuance of rod-fishing for six weeks after the nets are off enables the poachers to find a market.”

The SLANEY, in County Dublin, is doing well. Writing in behalf of Mr. R. W. Hall Dare, Newtownbarry House, Mr. John Sim states that for three seasons the fishing has been much improved. “On some of the reaches last year was the best

we have had. On the tidal portion of the river the net-men, especially during the grilse season, have been very successful. There is not so much poaching at the mouth as there used to be, and the weather has been such as to bring up the fish. The chief cause of the increase, however, is that there were many more fry turned out from Mr. Hall Dare's hatchery at Newtownbarry. Besides, for three or four seasons now during the spawning time the Slaney and its tributaries have been less or more in a flooded state, and the fish have been less liable to be killed on the redds. There is no pollution. On the other hand, the funds at the disposal of the Conservators are unequal to the full needs of the river."

The BOYNE, which receives the Blackwater at Navan, in County Meath, is in many places congested by weeds and bulrushes. Mr. R. R. FitzHerbert, Black Castle, writes:—

"I have known the Boyne for over forty years. In 1862 the sport was poor. At that time the step ladders were few and the 'Queen's gaps' fewer. After the passing of the Salmon Act in 1863 there was not much improvement for some years; but about 1870 there began a gradual increase in the number of salmon, and until 1880 there was steady progress. Between 1880 and 1886 there was a great increase. From 1862 to 1872 the number of the salmon caught at Black Castle was from 70 to 100 a year; from 1880 to 1886 the number was from 400 to 760. About 1880, despite a protest

from the upper proprietors, the Inspectors of Irish Fisheries allowed the nets at the mouth of the river to begin twelve days earlier in the year. The result was that in 1887 there was a large decrease, and that by 1890 the number of fish caught fell to 100. About that time the Inspectors took off the twelve days put on in 1880. For some years there was but little result—my experience is that it takes five or six years to bring a perceptible change; but during the last four years there has been a steady improvement. This, I believe, is largely attributable to a hatchery I have here. It is now subsidised by the Agricultural Department.

“The numbers of fry turned out are as follow :—

1895	.	75,000	First year of working.
1896	.	500,000	
1897	.	800,000	
1898	.	500,000	
1899	.	350,000	
1900	.	800,000	
1901	.	181,000	High floods; could not get fish.
1902	.	1,295,000	
1903	.	1,106,000	
1904	.	382,000	High floods.
1905	.	1,345,000	
1906		Expect to have over one and a half million.	

“My opinion is that the rivers in Ireland are over-netted, and that all nets in fresh water should be removed.”

The GLYDE, in County Louth and County Meath, seems to be in an anomalous condition. Sir Henry

Bellingham, Bellingham Castle, is not a fisherman, but he has a general knowledge of how things stand. "The fishing I let annually for netting purposes," he says, "has been very good of late years, especially the last two, and I have had an increased rent. I do not myself think the laws against poaching and pollution are sufficiently enforced." On the other hand, Mr. W. B. Thornhill, Castle Cossey, writes :—

"My cousin Sir Henry Bellingham has given me your letter as to the Glyde. For many years I have taken much interest in this river, which for its size and length is, or rather was, a very good salmon river. You can cast across it practically anywhere with a trout rod. The drainage works during the famine time, some fifty years ago, turned what was a pleasant stream into a canal with weirs; only a few stretches or pools of fishing water were left. Some thirty-five years ago on a little stretch of the fishable water one rod killed from 70 to 80 fish in the season; now 20 is a good basket for that period on the same water. The fish as a rule are large. Spring fish are seldom under 16 lbs., and 25 lbs. is a common weight. Fish from 30 lbs. to 32 lbs. are considered big. Fish up to 40 lbs. have been caught in the nets. There is in the tidal portion a weir so constructed that except at high tide fish cannot get up. A normal summer tide does not bring enough water. The river is overrun with pike and eels. There being no coarse fish for the pike to live on, you frequently see a school of salmon parr going down to the sea in the spring

being taken toll of every fifty yards, until few are left. Fish seem to spawn fairly well; but I fancy that few young fish ever get to the sea. Last season and the season before were certainly improvements on the previous five or six years. Few fish of the normal weight, however, ran up in the spring; their place was taken by 8 lbs. salmon. Over-netting at the mouth is, in my opinion, the chief cause of the falling-off. Few fish have a chance of getting up. The Glyde is an easy river to drag, being free of rocks, and having a level bottom and shelving banks. The river is 'cared for' by bailiffs and others, as it has always been; but prosecutions for poaching are few and convictions fewer. Want of funds prevents the Conservators from paying sufficiently high wages to procure good men. With judicious nursing by lessening the net-fishing at the mouth and in the sea just off the mouth, by combined effort to turn in fry, and by riparian owners taking more interest in the matter, a very few years would show considerable improvement. Poaching is rampant when fish are running, and unless the Government steps in and allows the Police and Coast Guards to act as bailiffs little can be done to stop it. The money now wasted on bailiffs could be paid over to Government and used for river-guarding purposes. The river opens on February 1, but often there is a considerable run earlier."

The OWENEA rises in a mountain lake about sixty acres in extent, and runs, through more or less mountainous land for twenty miles, into the Atlantic near

Ardara. Lord Conyngham owns a fishery worked by drift nets at the mouth of the river, and records of the takes at this fishery for the last ten years show a falling-off of about twenty per cent in the last five years. The decline is principally to be attributed to the great increase of drift-net fishing in the sea between Malin Head and Donegal Bay, which began extensively in 1900. No less than seven tons of salmon were landed in that year at one harbour twenty miles to the north of the mouth of the river. The drift nets are worked four or five miles from land, are very long, and overlap one another in the path of the salmon, which travel from east to west. Poaching has been on the decrease, partly because the falling-off in the stock of the river has reduced the temptation, and partly from other reasons. Nine years ago the late Marquis put up a hatchery, and about 200,000 fry have been turned out every year since; but so many circumstances have to be taken into consideration that it is hard to say how far the hatchery has benefited the river. If one may judge from the very much larger decrease in the number of fish in the neighbouring rivers, it is probable that there has been considerable advantage. The angling, of course, has suffered along with the net-fishing.

The GWEEBARRA rises in Lough Barra, and runs into the Atlantic about fifteen miles north of the mouth of the Owenea. Lord Conyngham owns the south bank of the river for about six of the eight miles of its course. The lease of this river having

but recently expired, accurate information is not available. It is not doubted, however, that there has been a considerably larger falling-off in the number of fish in the Gweebarra than in the Owenea. The probable reasons are drift-net fishing, more poaching, and the absence of a hatchery. In these mountain rivers the period and the amount of the rainfall affect the angling so much that returns would only mislead. The netting methods having remained the same, the commercial returns over a fair period give a trustworthy indication of the number of fish in a river.

The BANN, in County Antrim, which once yielded good sport from Lough Neagh to the sea, has come into evil days. A Justice of the Peace resident at Dunmurry, who himself, unhappily, has been prevented by illness from seeking sport during recent years, writes:—

“My sons have been fishing in the river, and have reported to me from time to time. There are three causes from which fishing in Ireland suffers: poaching in season and out of season; pollution and poisoning of rivers; and soft-headed Lords-Lieutenant, who invariably remit any fines which the Magistrates impose on law-breakers. The rivers in the north are every year poisoned by flax water for about two months, more or less, according to the state of the streams; those in the south by lime and bleaching powder. In England, I believe, crime of this kind is punished by confinement and hard labour; but in Ireland impositions of fines

suffice, and fines, as I said, are remitted by the Viceroys. The Inspectors of Fisheries are not sharp enough. There is one fishery at which a factory is driven by a turbine. A grating prevents the smolts from getting into the wheel; but as the water runs down in the tail race the salmon are left behind, and are picked up by the workers at night and at meal hours. This could be remedied by putting a fine grating to prevent the fish from getting into the tail race, and keeping them in the river until a flood should allow them to go over the weir into the main river."

The BUSH, in County Antrim, is not what it should be. Dr. Traill, Provost of Trinity College, Dublin, says:—

"I have the right of fishing in the river for three miles along my property, above the waterfall, which is about three-quarters of a mile above Bushmills. The rod-fishing along my lands is nothing like what it used to be, owing to a falling-off of fish in the river on account of occasional visitations of disease, and to the constant violations of the fishery laws on the lower portion of the river. To save a lawsuit in 1863, I took my grant under the several fishery, rather than proceed to establish my own rights. The several fishery now vests in Sir Francis and Lord Macnaghten. The agent, Mr. Douglas, constantly erects walls across the mouth of the river, so as to keep the fish down in pools, where they are drafted out by nets at every tide. They are also kept from getting far up the river on the open

days, Saturday and Sunday. Then the fish are followed up the river. A boat with nets is brought up, and the fish in large quantities are taken out between the two bridges in the town of Bushmills. They are even driven into the nets by pelting them with stones. Large fish are thus kept from reaching the spawning beds. I have called the Fishery Commissioners' attention to these things, which are illegal even in the case of a several fishery; and on one occasion Mr. Roche came down, and at once ordered the obstruction at the mouth of the river to be removed. Sir Francis does not trouble himself about the matter, and it is not pleasant to take proceedings against a neighbour with whom one is on friendly though perhaps rather distant terms. The proper remedy is for the Fishery Commissioners to be forced to look into these matters by having independent Inspectors constantly watching. Action should be taken by the Commissioners. The matter should not be left to private persons who do not want to quarrel with the owners of the several fishery."

The FOYLE, in County Londonderry, has, I am told by Mr. Thomas M'Dermott, of the Fisheries Protection Association, considerably fallen off in recent years. The cause is excessive drift-net fishing in the sea at the mouth of the river and for many miles on the coast. The nets increased from 10 in 1870 to about 400 in 1905. They are on the average about 800 yards in length and 5 yards in depth—salmon swim high in the sea—and form an impenetrable wall

against the passage of fish. There is good angling in the Mourne, the Strule, and the Derg, tributaries of the Foyle.

The MOURNE, in County Tyrone, is under disadvantages that are common to many Irish waters. The Duke of Abercorn writes :—

“There is a decided falling-off in the stock of fish. I attribute it to the enormous amount of drift nets which are now being used on the West Coast, not only by local fishermen, but also, I regret to say, by an English Syndicate, who have put a considerable number of steam drift boats just outside the Government limit. I am informed that these catch salmon to an enormous number during the early part of the year. It is absolutely wicked that this should be permitted. It destroys all inland rights of fisheries belonging to companies and to private river owners. There is certainly no improvement on my river; nor do I think that the public realise in the least the importance of being aroused to the dangers of pollution and other injuries to the fish. Everybody in this country works for his own greedy self's pocket.”

The CLAUDY, in County Donegal, has been declining for two or three years. Mr. A. Robertson, Gweedore, attributes this to the drift nets off the coast. “Last season we were obliged to charter a steamer for the purpose of patrolling the coast to prevent illegal fishing. Drift-net fishing is bound to injure all the rivers on this coast. With fair play the Claudy, though only five miles and a half long, is a good river.”

The TEELIN, County Donegal, is backward. Mr. Henry Musgrave, Belfast, writes :—

“We have found the salmon fishery at the estuary very unsatisfactory for the last five years. Since the practice of netting salmon in the deep sea was begun, the fish caught in the bay have become fewer year by year. I find that the salmon are much smaller ; which shows that the large fish do not get to the river.”

The BUNDUFF is not prospering. Captain C. R. Barton, Pettigo, County Fermanagh, who has for over twenty years superintended the fishery, writes :—

“The take fluctuates very much from year to year. There are many causes, some adverse and some favourable. The run of sea-trout and salmon is due in July. If there are a few wet days in each week in July many go up the river, which, the boxes having been done away with, is open. If there is very low water only a few get up. The waters run rapidly off the mountains, and the rivers come down drab-coloured, falling before it clears. Thus angling is precarious. In November and December, when seeking to spawn, most of the fish, if the water falls low, are gaffed ; turf saturated with paraffin is used as a torch by the light of which to see them. If the weather keeps wet, however, many spawn before they are gaffed ; if the rivers remain high they get away, and there is a good run of spring fish in June. If after a good spawning season there is great frost in February and March, most of the eggs are killed, or eaten by

fish and birds; tame ducks enjoy salmon spawn. If the summer after a good spawning season is very dry, most of the fry are eaten by rats and birds and brown trout. If the summer is dry, and the wind moves the fresh water, which floats on the top of the salt water, from the Erne River along the south shore of Donegal Bay, all the fish, or nearly all, run on it as if they were hounds on the scent of a fox; and that fishery gets them. If there are floods in July, and the wind blows the Duff water towards the Erne and the Bundrowes, the fish come to Duff. We make a large or a small fishing as these different causes produce good or bad effects on Bunduff fishery. As one of the oldest Conservators of the Ballyshannon No. 13 District, I state that the salmon are becoming exterminated by drift nets, fixed draft nets, and winter poaching. I see no hope of preserving salmon, lake trout, or sea-trout. It is unpopular and impolitic to punish any one in Ireland for killing a man or a salmon."

CHAPTER IX

ENGLAND AND WALES

Avon—Test—Frome—Axe—Yarty—Otter—Exe—Teign—
Dart—Avon, Devonshire—Erme—Plym—Tamar—Tavy
—Gralm—Walkham—Lynher—Fowey—Camel—Taw—
Torridge—Lynn—Severn—Wye—Usk—Dwyfawr—
Dwyfach—Erch—Soch—Glaslyn—Dovey—Dysynni—
Artro—Dwryd—Prysor—Mawddach—Wnion—Seiont
—Gwyrfaï—Llyfni—Dee—Elwy—Clwyd—Lune—Wyre
—Kent—Leven—Duddon—Eden—Coquet—Aln—Tyne
—Wear—Tees—Esk—Thames.

THE AVON is associated with agreeable memories. A few years ago, on returning one night to my abode, in the Albany, I found a note from a very energetic lady, to whose country-house, near Wimborne, I was engaged to go next day. She had come up to town, and was staying over-night. She was going to bicycle back to the country next day, starting at four o'clock in the morning. Would I care to go with her? My portmanteau could be sent by train. Well, it was already past two o'clock, and I had been up all night, leader-writing and editing; but what of that, after all? This was

THE SEVERN AT STAGBOROUGH HILL.

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Saturday morning. I should not have to write or edit until Sunday night. Of course I would go. I had a bath and breakfast, and was at Eaton Place punctually, to the vague astonishment of a loitering policeman, whose "Good morning!" was suspicious though sleepy. All went well for three or four hours; but there was trouble on the Portsmouth Road. One of the pedals of my bicycle dropped off, and the nuts could not be found. The energetic lady was nothing daunted. There was a smithy nine miles on, she said. I could easily manage that distance with one pedal. I did manage it, though not easily, as the rain was drenching and the wind adverse; and was very glad to find that the task of repairing a bicycle was more than the village blacksmith could undertake. We went the rest of the way by train. Arrived, naturally I thought that the lack of the possibility of exchanging my sodden clothes for other garments of my own would permit, and even necessitate, repose; but that was wrong. The energetic lady mentioned that her son-in-law was staying there. When he came in he would lend me clothes. He did, I was sorry to say. The portmanteau, of course, came in time to enable me to be present at dinner. Near the end of the meal, the hostess, beside whom I sat, announced that she had a pleasant surprise for me. She was not much of a fisher herself, she said; but she had noticed that I had been a little disappointed with the Stour last time I had been down. Well, she wasn't astonished. There were only roach, and dace, and

perch, and pike, and bream there. Now, what did I think? She had got me leave to try for a salmon in the Avon! The carriage would be at the door, to take me to the river, in twenty minutes! The gamekeeper was going with me. He had a rod and tackle all ready; also a few sandwiches and a flask. The energetic lady beamed with happiness. Very much occupied by high affairs, she knows not much, accurately, about men's pursuits, but studies them superficially, and always tries to please. I perceived, without any exchange of words on the subject, that she had heard some one say that the dusk was a good time for fishing, and that she assumed midnight to be even better. To reject her thoughtful generosity was quite out of the question. I would at least go to the Avon, and look at it, and come back. However, when we reached the river, after a long drive through mysterious glooms, things wore a different aspect. Why not try a few casts? The carriage was off to the inn, over what looked like a meadow, and the gamekeeper had gone to help the coachman. When they returned I had the honour of stating that the gaff was needed. It had been left in the carriage. Back they flew, and when they were with me again they were accompanied by the landlord of the inn, who looked astonished to behold a person in evening uniform, down to the footgear, fighting with a salmon at such an hour. The fish got off. I had him almost touching the lush grass at the rim of the river; but in the uncertain moonlight shining through clouds the gamekeeper bungled

with the gaff, and the fish slid off. The landlord was very sympathetic. He assured me that it was only "a small fish." As it had seemed one of the biggest I had ever met in a casual way, this puzzled me. Next day I learned that any salmon under 21 lbs. is a small fish for the Avon. The salmon of that river run to weight. I did not stay very long that night; but I heard, and dimly saw, a good many of them splashing about, and they seemed very large. Lord Normanton, whose residence is near Ringwood, informs me that there has been a falling-off in the stock. He thinks that the chief cause of the decline is over-netting at the mouth of the river.

The TEST has of recent years been suffering from want of rain in summer. Not so many salmon as usual have run up. Mr. Douglas Everett, Romsey, writes:—

"There is no doubt that if there was a Board of Conservators on the river the salmon fishing would much improve. Proper regulations of the hatches at the mills, and perhaps of those at the water meadows, could be arranged. A look-out might be kept in the estuary at Redbridge and on the spawning beds. The upper proprietors who own trout fishing do not wish a Board of Conservators. I cannot think why. The salmon could be kept from running farther than Romsey. Regulations as to weed-cutting would be a boon to every fisherman on the river."

The FROME has been very markedly falling off

during the last decade. The reason, Captain Radclyffe tells me, is not obvious. On the contrary, there should, it would seem, have been an increase of sport. Until about fifteen years ago a good many fish were every year taken in nets at the river mouth; but of late years the netting has been almost totally abandoned. Moreover, there have been no recent erections of mills, dams, or weirs, which might have affected the ascent of fish. "Nor is there any apparent cause of increased pollution. The old-fashioned towns of quaint and sleepy Dorsetshire which line its banks are not remarkable for growth of population. The factories remain almost as they were a hundred years ago. Fish in great numbers still run up in autumn, and spawn during winter. What is the ultimate fate of the ova, or fry, has long been a mystery. The capture of a grilse is an unheard-of event. The average weight of fish killed in the Frome has always been remarkably good. The five fish caught by myself during 1905 were no exception to the rule. The average was just under 30 lbs. The largest, a fine salmon, weighed 41 lbs.; the smallest, 22 lbs. All were taken with fly. A few years ago two or three good rods could have as many as forty or fifty clean fish in the first three months of the season. Now the same rods would consider themselves lucky to have ten or twelve. The Board of Conservators are at a loss to explain why, whilst many fish ascend the river in autumn, only a few now run during spring and summer; nor can they account for the absence of grilse. I myself have

long suspected that the steadily increasing mass of weeds in spring and summer chokes the lower reaches to such an extent that the salmon on entering the river find it almost impossible to force their way, and that they drop back into tidal waters. When the weeds die down in autumn the fish have a clear run. Scarcely one of the riparian owners for many miles on the lower reaches is a fisherman, or takes the slightest interest in the salmon or in weed-cutting, and the river bed has been sadly neglected. The absence of grilse is the more mysterious inasmuch as great numbers of salmon parr may be seen making their way to the sea. It is true that the whole river swarms with pike and other coarse fish; but that, surely, cannot be the full explanation. The lightest fish I have killed on the Frome weighed 12 lbs. The absence of small fish is peculiar to the Frome and the Avon. I cannot recall an analogy in my experience, which extends to many rivers of Britain, Scandinavia, Iceland, and America."

The AXE and the YARTY have been falling off. In the belief of Mr. W. H. B. Knight, Chairman of the Fishery Board, one of the chief reasons is that there is now no expansion at the mouth. The river where it enters the sea is only a few yards wide at low water. "Another reason, I think, is agricultural drainage, the effect of which is that the water comes down at once instead of coming gradually. In small rivers such as these this means that there is but little water running the greater part of the year, and that the fish are not eager to go up.

Yet another reason, probably, is that the spawning ground is limited, only a few fish being able to get above the weirs at Axminster, Weycroft, and Coaxdon."

The OTTER also is in a bad way, and the Fishery Board is defunct.

The EXE salmon fishing has been going from bad to worse. Mr. H. Ford attributes this to "over-fishing, both in the tidal and in inland waters, by nets; bad conditions of flow, the result, to a great extent, of the abstraction of water for towns and the large drainage operations which have been going on now for so many years, resulting in the river being after rain in heavy flood for a brief period, which used not to be the case when the land held the rain in suspension, and gradually gave it off instead of discharging it at once, as is now the case; and pollution. Within a comparatively recent time, however, a slight improvement has been noticed. This is ascribed to the taking-off of certain nets in more or less inland waters during the early weeks of the season, and to the lessening of pollution. What the future will bring forth it is impossible to say; but if further restrictions on over-fishing could be enforced, and the condition of the river, as far as pollutions are concerned, further ameliorated, we should have, practically, conditions of flow only to act as a hindrance. I have no reason for thinking that the stock of fish is otherwise than good."

The TEIGN fishery records for the past twenty-five years do not disclose such a falling-off in the stock

of fish as need cause any serious concern. Mr. Harold G. Michelmore writes:—

“The total catch has varied considerably from year to year, and it is not always the year which has been most fruitful to the net fishermen that shows the best results for the anglers. For obvious reasons a dry season is usually best for the nets, and a wet one for the rods. During the period under review the season of 1888 was the first exceptionally good one. In that year the river held a better stock than it had held at any time in the preceding twenty years. The catch of 1888, however, was eclipsed in 1893 and 1895. In the later year a record, which has not since been beaten, was established. The two worst years were 1900 and 1905; but, as against this, the season of 1903 was the fourth best in the twenty-five years. As to the future there is cause for anxiety. The improved methods of agricultural drainage render the river liable to sudden and heavy floods, which, whilst they do not last long enough to be of much benefit to the rod fishermen, disturb and damage the spawning beds. Pollution increases. The town of Newton is growing rapidly, and with its growth the condition of the Teign below the sewage outfall becomes yearly worse. Other towns within the watershed are adopting sewage schemes, in the fulfilment of which the river is to have a share. There is another trouble. By a remarkable piece of engineering many years ago, the adventurers in the East Vitiſer Tin Mine contrived to abstract nearly all the water of the North Teign, and, after passing

it through their stamps, to run it by means of a leat into the Dart. This leat has recently been cleaned out and rendered more capacious. The Corporation of Torquay has nearly completed the construction of a third large reservoir at Hennock. The object is to impound another tributary of the Teign. It is feared that the next water-scheme of some great city may mature on Dartmoor and consume the few tributaries that remain untapped."

The DART has a very good stock of salmon; but the sport varies. In 1904, owing to frequent freshets, many fish were caught; but next season, being dry, was not half so prosperous. Mr. Colin M. E. May attributes the increase in the stock mainly to the Board of Conservators having made passes and kept down pollution.

The AVON and the ERME are small streams rising in Dartmoor. Mr. A. J. Pitman, Manor House, North Hulsh, writes:—

"The Erme hardly comes under the category of salmon rivers. Salmon rarely ascend it; but peal are very plentiful in the lower reaches. Unfortunately, the upper water is much polluted by the working of a paper mill, and the stream itself is too small as a rule to allow the fish to run. The Conservators have done their best to grapple with the pollution; but the analysis of the water shows that it contains nothing actually deleterious to fish life. The smell and the discoloration lead one to an opposite opinion. The Avon, which escapes pollution, is too small, and does not contain sufficient pools, to enable

rod-fishing for salmon to be carried on successfully; but if there is a flood in November or December salmon to a very large number run up to spawn. The net fishers in the tidal waters have benefited by the working of the Fishery Act and the better preservation of the spawning fish. Details of results are not supplied to the Conservators. Rod-fishing begins on May 1 and ends on November 29; but fish can hardly ever ascend in the summer, when usually the river is low. In 1905, I believe, only one fish was taken by the rod. Formerly rod-fishing used to begin in February, and I myself used to take many in that month, March, and April; but I never caught a fresh-run fish. Peal run up in the summer, and the Conservators are making improvements in existing weirs."

In a pleasant letter the venerable Vicar of Modbury, Mr. G. C. Green, author of *Collections and Recollections of Natural History and Sport*, says:—

"Both the Erme and the Avon are prolific in sea-trout near the mouth, the Erme especially producing very large ones, up to 4 or 5 lbs. and more; but my boys and myself have chiefly given our attention to brown-trout fishing, which also is good."

Colonel H. C. Eagles kindly enables me to give an account of streams in or near south-west Devon.

The PLYM has a run of salmon in October if there are heavy floods; but often the fish do not appear until November or December, when rod-fishing has ended. Most of them spawn in the Meary Brook, above Shaugh Bridge, where the river

divides, the eastern branch being known as the Cad or the Plym. There is no pollution in either stream. Owing to causes to be mentioned in connection with the Tamar, salmon are becoming more plentiful.

The TAMAR, largest of the streams in the region of which Colonel Eagles writes, should be an excellent salmon river; but it is not. Of pollution there is practically no trace. On the property of the Duke of Bedford all those to whom permission to fish is given are forbidden to retain salmon, salmon-trout, rainbow-trout, or grayling. One never hears of a salmon being caught on any other part of the river. This is the more surprising inasmuch as fully five years ago the Duke of Bedford bought up the nets on the lower reaches of the river, including, it is believed, the tidal ones at Weir Head, and has turned into the river many parr, artificially reared. There are deep pools such as should be attractive to the salmon, and would be very attractive to sportsmen if the fish were less rare. It is difficult to understand why the Tamar is so unproductive.

The TAVY has a much increased stock of salmon. "To my mind," Colonel Eagles says, "it is one of the best sea-trout rivers in England, and it is now beginning to assert itself as a salmon river also. Evidently this is the result of the suspension of the nets in, and restocking of, the Tamar. I think that the fish run into the Tavy in preference to the larger river, because, being nearer the sea and having a much shorter and more precipitous course, the Tavy feels a fresh much earlier. The increase in the stock

of salmon has been astonishing. Where once a single fish was rather rare, some rods have now as many as a dozen fish each in the season. The river suffers from pollution. Far up on the edge of Dartmoor are tin and copper mines, from which deleterious matter is turned into the stream. Late in last August there was a small flood. High were the hopes of the fishermen. There were many sea-trout and salmon in the river, and many others in the estuary, waiting for fresh water. Alas! The accumulated refuse of two months was brought down; the fish in the estuary could not face the pollution, and those in the river would look at nothing. The mines had had a flush, and had sent down all the contents of their catch-pits. The wonder is that there was not a great disaster. The Angling Association made representations to the mine owners, but there was no definite result. The County Council seem to be quite unconcerned."

The GRALM is a much-polluted stream lying east of the Plym. Paper and cloth mills about five miles above Gralmpton distribute ruin throughout its course.

The WALKHAM, a tributary of the Tavy, holds sea-trout and a few salmon, and has no pollution. It has benefited by the causes which have tended to improve the stock in the Tavy.

The LYNHER, a Cornish stream, was for forty years utterly ruined by pollution from the mines. Since these were abandoned, about four years ago, migratory fish have begun to ascend the river, which now seems likely to recover its excellence. One young

lady of Colonel Eagles' acquaintance killed two salmon last season.

The FOWEY shows a lamentable falling-off. It is hard to say whether pollution from mines is the sole cause. Mr. W. Pease, junior, clerk to the Fishery Board, writes:—

“It is certain that the numbers of fish taken, either by net or by rod and line, have been growing smaller year by year; but until the last two years those that died died fairly, and not by poison. During the last two seasons on four or five separate occasions fish have been found dead in hundreds. My brother and I took over two dozen fry from the bottom end of a single pool. Another time the bailiff brought in three large fish. These were sent to the Board of Fisheries and Agriculture for analysis, and were found to contain large quantities of copper. The law which compels Boards of Conservators to produce the dead fish and the poisonous water actually the cause of the deaths, in order to secure a conviction,—which law will not allow a County Council to proceed against an offending mine without the permission of a higher authority, and leaves the real remedy in the hands of apathetic landowners,—must, I am afraid, eventually be held responsible for the destruction of the Fowey as a salmon river. If sufficient poison can be sent down to destroy fish of 7 or 8 lbs., what must be the effect on fry?”

The CAMEL, in Cornwall, is in a comparatively promising state. Mr. G. L. Ellis writes:—

"In spite of great difficulty and the smallness of their income, the Fishery Board, having the assistance of most of the riparian owners, who have abstained from the use of nets within their rights in the non-tidal waters, are hopeful that they have materially improved the stock. In as far as peal are concerned, sport has much improved. This is in large measure due to the adoption of bye-laws whereby certain parts of the tidal waters in the river and its tributaries have been closed against the nets. It is very difficult to obtain information about salmon. The season is very short. Fish do not seek to run in any great numbers until nearly the end of November, and the close season begins on the 30th of that month. Thus, only a few fish are taken by the rod. It is hoped, however, that early closing, with the sanction of the Board of Agriculture and Fisheries, will eventually result in earlier running of the salmon. The stock seems to be well maintained. Last spawning season very many salmon were seen in the upper reaches, and there was little or no disease. At present four or five miles of the river are absolutely ruined by washings from the tin mines, which threaten pollution of a much longer reach. The Board are keeping vigilant watch and ward."

The TAW, the TORRIDGE, and the LYNN are the rivers of a Fishery District comprising the whole northern watershed of Devonshire and a small portion of Somerset. Taw and Torridge fall into the sea through the same estuary, and the Lynn

finds its way to the sea nearer the boundary between Devon and Somerset. The rivers hold salmon and sea-trout. Of salmon, I am informed by Mr. J. M. Pope, of Spence Combe, Coppleston, there is perhaps a larger stock than there was a few years ago, and the run when the rain came last autumn was ampler than had been seen for years. Still, the fish are sadly fewer than were those of the 'seventies. The spring run has improved during the last twenty years. An excellent fisherman, one who has lived all his life on the banks of the Taw, well remembers the first spring-run salmon he ever saw caught or had heard of. The size of the fish is apparently becoming larger. One of $26\frac{1}{2}$ lbs. was caught early last year. As to the increase in the number of spring fish no satisfactory explanation has been found. The slight improvement in the number of autumn fish is probably accounted for by a decrease of poaching in the estuaries. The rivers above their estuaries are practically unpolluted; but the net fishermen complain that when the rivers are low the sewage of Barnstaple causes the salmon to return to the sea. Sea-trout, locally called peal, also have multiplied in recent years. They have partially recovered from the depletion of their stock caused by a bye-law fixing the size of the net-mesh at $1\frac{1}{2}$ inch from knot to knot. The bye-law was repealed many years ago. As drift nets, which are particularly successful against these fish, have been prohibited, a further increase is hoped for. Passes should be built at the weirs on the Torridge just above

the estuary. Two fixed engines on the Taw take a large proportion of the summer-running salmon and peal.

The SEVERN affords practically no rod-fishing. "This," I am informed by Mr. Willis Bund, an eminent authority on the habits of the salmon, "is the result of the great distance the fish have to go before any water fit for angling is reached. The canalisation of the river has tended to drive the angler upwards, and the abstraction of water by the Liverpool Corporation has made it more difficult for the fish to ascend. The idea of sport may be dismissed. As to the stock of fish, it is hard to give a clear answer. Certainly fewer fish are bred in the river. That is because the spawning season has been greatly shortened by the absence of floods, which the waterworks have prevented. The fish are unable to reach the spawning grounds, and the spawners, instead of being spread over the river, are concentrated in a few places. Thus many of the ova are lost. The abstraction of water produces another result. The salmon ascend in shoals of sexes. It is found, when the females arrive on the beds, that the number of males is often not sufficient properly to impregnate the ova. From both these causes the number of salmon bred is less now than before 1890, when the waterworks were set going. It is difficult, however, to say that the actual stock of salmon is less. There is an increase in the number of 'gillings,' salmon on their second return from the sea. These are fine large fish; but

the medium fish, from 8 to 20 lbs., are more plentiful. On the whole it may be said that, in consequence of the abstraction of water for Liverpool, fewer salmon are bred, and the total number of salmon in the river is smaller than it was. There are no grilse, and only a few old salmon. Whether the increase of salmon on the second return is enough to compensate for the decrease in the two other classes it is almost impossible to say. Where the fish now taken in the Severn are chiefly bred is one of the questions on which no trustworthy information has been found. The change in the river is, I believe, wholly, or to a very great extent, due to the abstraction of the water by Liverpool." Mr. Willis Bund, however, is not, I take it, quite certain that the change is to be eventually ruinous. He is pleased at the increase of "gillings," and seems to feel it possible that as regards salmon of other classes remedies may yet be found.

The WYE, like the Severn, has come under the influences incidental to municipal enterprise in supplying a great town with water. It seems far, however, from being ruined. In a bright and informing letter, Mr. L. J. Graham Clarke, of Glanrhôs, Rhayader, Wales, who has fished the river for thirty-five years, says:—

"The Upper Wye may be roughly considered to be the stretch of water between Three Cocks and Rhayader, and comprises the finest angling water of the river. For many years—say from 1880 to 1900—the river had been steadily going back,

until, with excessive netting in the summer, and poaching in the winter on the spawning beds, it seemed as if the Wye would cease to be a salmon river at all. The Board of Conservators, however, under their able chairman, Mr. J. Hotchkis, have gradually been acquiring the netting rights, and four years ago the nets were taken off a long stretch of the river for three years. The second year after that was wet, and the results were most encouraging in 1902. Some wonderful bags of salmon were made with the rod all over the river. 1903 and 1904 were not so good. There was little rain, and the fish came up late. Still, in certain portions of the river the sport was so brisk as to show that immense benefit had been done by the diminution of netting. This last year, 1905, has been an exceptionally bad one here; but I have heard of some of my neighbours, only a few miles lower, having done well. On the whole, the deterioration of the river in the first instance is due principally to the two causes I have mentioned, excessive netting and excessive poaching on the spawning grounds: few fish that pass above Rhayader ever return to the sea. There are several other causes—(1) pollution, (2) loss of water, (3) coarse fish, (4) otters. (1) The Birmingham Corporation have, in making their new reservoirs, introduced an enormous floating populace of between 2000 and 3000 men, with their wives, children, and hangers-on. The engineers (to do them justice) stringently forbade anything in the way of refuse being thrown into the river; but the regulations,

unfortunately, have not been carried out. The consequence is that the bed of the river for miles is covered with a collection of old meat tins and boots, while every bush has its fringe of filthy rags and tatters, old trousers, coats, petticoats, even beds; and it is easy to conceive what the result is on the fish in a hot summer when the water is low. Added to this is the sewage of Rhayader, Builth, and Hay, besides what comes down the Ithon and Irvon from Llandrindod and Llanwrtyd. Thus, pollution may be said to have something to do with the downward course of the river. (2) Loss of water must be attributed to the Birmingham works. All the flood water that should have come down the Elan has been stored to fill the reservoirs. Consequently, the fish that could get to the upper reaches were very few. (3) With the progress of pollution the coarse fish, such as dace and chub and pike, have greatly increased. Owing to the rough and rocky nature of the bed of the river, it is very difficult to net them. Our Conservancy Board contracted the river out of the Coarse Fish Protection Act. Consequently, there is no close time for pike or other coarse fish; yet, in spite of this, the increase is enormous, and in many parts of the river trout have almost disappeared. (4) The Upper Wye is seriously overstocked with otters. I think these kill more coarse fish than salmon; but they do undoubtedly injure the sport, far more than people are aware of, by putting down the fish and preventing them rising. If an otter has been through your

pools in the morning not a salmon will you raise. This place is infested by otters. The H.O.H. hunt the river; but, as they give on the average only one day in the year to each section of it, and have too much ground to go over, they do not greatly mitigate the evil. I have, as far as in me lies, given you my opinions, which must be received *quoad valeant*."

As regards the Crown waters of the Wye, Mr. Philip Baylis says:—

"There is no falling-off in the stock. On the contrary, for the last two years there has been an improvement, which, in all probability, is to be attributed to the removal of the long nets. In 1905, owing to the mildness of the weather in February and March, the fish travelled to the upper reaches of the river, where, it is believed, good catches were made. The sport in the Crown waters has been poor, for which I can assign no satisfactory reason."

The Usk has been disappointing for a few seasons. Colonel Horace S. Lyne, Clerk to the Board of Conservators, writing unofficially, says:—

"I cannot affirm that there has been a decrease in the number of salmon in the river; but there has been a decided falling-off in the number of fish taken by rod and line. In my opinion, this is almost wholly accounted for by there having been a serious drought for some years. It is true that we have to a certain extent been prejudicially affected by pollution from works and collieries; but the result of this has been greater than it would have

been if we had had the usual rainfall. Far from there being a falling-off in the number of fish visiting the river, I believe that during these few years there have been more salmon on the spawning beds than ever, and certainly there has been no decrease in the number of young salmon, locally called 'salmon pink.' If only we have for a year or so a normal rainfall, the fishing, I believe, will recover. The effect of the bad seasons has been to diminish the funds available for payment of water bailiffs; which means that poaching and killing fish by illegal methods have increased. One of the difficulties with which Boards of Conservators have now to deal is that of obtaining means to keep up the proper staff of water bailiffs."

The DWYFAWR, the DWYFACH, the ERCH, and the SOCH, in Carnarvonshire, are cheerfully reported on by Mr. David Jones, Portmadoc. "Until seven years ago," he writes, "these rivers were left almost entirely unprotected. There was a lack of proper interest in them. The Board of Conservators had no funds, no bailiffs. In 1897 the membership was reduced from 36 to 11, and the County Council appointed to the Board energetic sportsmen, who took the preservation of the rivers seriously in hand. Now we have two permanent bailiffs and sufficient funds to put on temporary men when needed. This has had a quick influence for good. I have fished these rivers for twenty years, and I find that the trout have improved wonderfully in size and number. Last season a professional angler had on several

consecutive days baskets of from 10 to 25 lbs. The fish ranged between $\frac{1}{4}$ lb. and 1 lb. We intend putting a stop to professional fishing. We have no cause for complaint regarding pollution. Salmon have not been prospering quite so markedly as the trout. The rivers had been almost denuded of the larger fish by 'burning the water,' as described in old Scots novels—night-spearing by torch-light during the spawning season. This practice has been suppressed. As our rivers have very good breeding grounds, I expect a great improvement within two years."

The GLASLYN, in connection with which there is an Angling Association, is in the district of the Dovey, Mawddach, and Glaslyn Board of Conservators. The stock was falling off until about three years ago. Then Mr. C. E. Breese put in six or seven thousand yearling trout, and these are thriving. There are not nearly so many salmon as there were ten or fifteen years ago. Then five nets were to be seen in the estuary; last season there was scope for only one. Mr. David Jones attributes the decline to the porpoises, which are common in the estuary; the bass, which have been multiplying rapidly; the pollution of the river at Beddgelert through copper mines; and bull-trout. The bull-trout have been almost all cleared out by rod-fishing at night with salmon fry for bait and by netting. One caught by Mr. H. Evans weighed $7\frac{1}{2}$ lbs.; Mr. Jones himself landed dozens, varying from 3 lbs. to $9\frac{1}{4}$ lbs. My obliging correspondent has no doubt that the bull-

trout destroys many thousands of samlets on their way to the sea. He mentions, also, that the pollution has been stopped, and is confident that the river will recover speedily.

The DOVEY, the DYSYNNI, the ARTRO, the DWYBYD, and the PRYSOR, are well preserved. Excellent sport is to be found on them, and there is no decline in the stock of fish. This I learn from R. D. Richards, Barmouth, who, in a very interesting letter, goes on to say :—"In the MAWDDACH there is a falling-off in the stock. That river, unfortunately, flows past gold mines—the only gold mines in the kingdom, I am informed—and the whole of the crushings are discharged into the stream, giving the water a milky-white appearance. The discharge of crushings, which is as fine as powder, cannot fail to affect the fisheries injuriously. It settles in the form of a pasty mass, and is sufficient, apparently, to smother the spawn beds. It cannot be proved that the sludge is actually poisonous to fish. Our Board, consequently, have no remedy. They have endeavoured, unsuccessfully, to prevail upon the companies working the mines to erect catch-pits. Also, they have petitioned the County Council, the Sanitary Authority, to proceed under the Rivers Pollution Act. The Council are averse from the thought of exercising their power. They do not wish to interfere with an industry which gives employment to hundreds of men. However, there is a large and important tributary of the Mawddach, the WYION, which flows in about five miles from

Barmouth. Brisk sport is to be had on the tributary, which is well preserved. In the summer of 1903 the Dwyryd was seriously polluted by the discharge into it of effluent from a disused gasometer tank. This did great damage. Hundreds of dead fish were counted. The Board took proceedings against the Gas Company, and gained a conviction. Since then the river has been restocked, and it is doing well. Fishing Associations have been formed in connection with each river in the district."

The SEIONT, the GWYRFAL, and the LLYFNI have suffered from drought. Mr. R. Pughe Griffiths, Carnarvon, writes :—

"When the rivers once fall it requires a great deal of rain to fill them. The declivity is in each case great in proportion to the length. Last year the floods did not come until the season had closed, and very few fish were reported to me as having been taken by rod. Our keepers state that a splendid lot of fish have been spawning. I do not see that there is any falling-off in the stock of fish, and, if one may judge by the continual increase of licenses, the popularity of the rivers is not on the wane. Still, we have difficulties. As a Board we are unable to fix any limit as to the size of fish to be taken; and until now we have been unable to keep off the professional fishermen, many of whom are neither more nor less than poachers. I am acting as temporary clerk of a committee who are trying to form an Association for the whole of Carnarvonshire. The Association will, I trust, be empowered to issue a

ticket, without which no one will be able to fish in private water. In this manner we shall be in a position to keep undesirables off the river. I need hardly say anything to you about the unsatisfactory ways of Parliament as far as fishing is concerned. We have to thank one of the Scots members—Mr. Caldwell, I think—for blocking the Bill promoted by the Lune Board of Conservators. If this Bill had been allowed to go on, there would be but little need for Fishery Boards to pray for new legislation.”

The DEE shows vitality. At present, I am told by Mr. John Simpson, Chester, superintendent in behalf of the Fishery Board, the river does not seem to have quite so many salmon as it had before 1896. Fish were fairly plentiful for some years up to that time. Then a cycle of bad seasons began. The river seemed to deteriorate in its productiveness until 1902. The season of 1903, however, opened with a splendid run of fish, and since then the river has continued to improve. Mr. Simpson mentions that spring fish “had never been characteristic of the Dee” until 1903.

The ELWY and the CLWYD are peculiarly dependent on the weather. In 1903, summer being wet, the rivers kept at a good height for the greater part of the season, and both nets and rods did well. In 1904 there was not much rain. Sport and professional fishing were alike poor. Ultimately, however, there were plenty of fish on the spawning beds. The season of 1905 was the worst for many years. All

through the best time the waters were too low to tempt the fish from the sea. The number of salmon spawning was thought to be below the average. There is little or no serious pollution, and disease has been practically unknown for fifteen or sixteen years. The draining of the uplands causes the rivers to rise and fall so quickly that they are seldom in ply for more than a day or two at a time.

The LUNE has had varied fortunes during the last few seasons; but it has deteriorated on the whole. The chief cause is over-netting in the estuary and at Skerton Weir. The weir is at the head of the tidal waters. The owner is entitled to net salmon immediately below the weir, and consequently this fishery has been termed "the key of the river." Over thirty nets of various kinds are used by the fishermen in the estuary. The estuary is seriously polluted. The whole sewage of the town of Lancaster and of the outlying district is, absolutely untreated, turned into the river. The Board of Conservators appear to understand the serious state of affairs; but their funds are small. They have, however, at last erected a grating at the foot of the tail race to Skerton Mill, and that will enable more salmon and sea-trout to run into the higher reaches. If more "diagonals," or fish passes, could be provided at Skerton Weir the river would be much improved. The riparian owners near the source could give assistance in preserving the fisheries.

The WYRE yields to the rod many sea-trout every

season, and is not deteriorating. The reason is obvious. There is no obstructive weir, no pollution to speak of, no excessive netting in the estuary.

The KENT, the LEVEN, the DUDDON, and smaller waters in their neighbourhood, continue to be in a state of fair prosperity. Mr. John Fell, Chairman of the Board, favours me with interesting particulars. "It is difficult," he writes, "to obtain accurate statistics of the netting in the large estuaries of Morecambe Bay and the Duddon; but the issue of licenses is well maintained, which affords evidence of success. Salmon of great size are rare. Early spring fish are unknown. The migration from the sea begins about the middle of June. In 1903 and 1904 there were abnormal runs of sea-trout. Excellent sport was then found by the anglers in all the important minor rivers. The Kent would be a fine salmon and sea-trout river if it were not injured by weirs and pollutions. The Board have spared no pains to overcome these difficulties, and, being aided by the Department of Agriculture and Fisheries, have now a prospect of distinct improvement. The Leven, which flows from Windermere to the estuary of Morecambe Bay, yields excellent sport, with salmon and trout, to members of a local Association; but the number of salmon caught by the rod has not been so great as formerly. The Duddon, a beautiful and rapid river, flows through fine scenery. It is to a considerable extent in private hands, and there is not much information as to its yield for anglers. The estuary has a good stock of

salmon and sea-trout. The Board spare no effort, within the measure of their funds, to improve the fisheries. Much more might be done, however, if a larger expenditure were possible. Public interest in the fishing steadily increases, and legislative provisions to protect streams from injury by pollution or otherwise are well supported."

The EDEN for two or three miles above and below Carlisle has been poor for a good many years. Mr. H. H. Hodgkinson, Honorary Secretary of the Angling Association, writes:—

"In the spring hardly any salmon have been taken by the rod. This is a result of continuous netting in the lower reaches and the estuary. In the waters immediately above those leased by the Carlisle Angling Association and up to Armathwaite, sport has been improving for a few seasons. Especially from Crosby to Armathwaite, fish are more plentiful. One rod killed forty-five salmon, nearly all in the same pool, in the spring of 1904. For thirteen seasons autumn fishing in the lower waters near Carlisle has been rather poor. Before that time you could see all anglers with fish, some having three or four in a day. In the upper reaches, save after a good flood, there are only a few salmon caught. Above Warwick Hall fish were plentiful last season, but not many were taken. Over the river generally the stock, I think, has not declined; but the fish seem to change their haunts."

The COQUET, in Northumberland, is not unprosperous. Mr. John James Hardy, who has

fished in it occasionally for thirty-five years, writes:—

“I agree with Dr. Gunther that the so-called bull-trout (*Salmo eriox*) is neither more nor less than an old sea-trout (*Salmo trutta*). The fish plentifully inhabits the Coquet and the foreshore between the mouths of the Coquet and the Aln. Of late years there seems to have been a considerable increase in the number of salmon taken, both by the nets and by the rod. This, I think, is mainly attributable to the lock at Warkworth not having been worked since about 1898, when the Duke of Northumberland discontinued its use. At present only one net is used between Warkworth dam and the sea, and both the tacksman and the Duke are satisfied with the results. The increase of salmon is remarkable. The district being purely rural there is little pollution. Still, one can hardly call the Coquet a salmon river. It is rather small, and soon, in drought, runs out of order. Although a good many fish are caught by those living on the banks, the river is hardly worth visiting from a great distance. Most of the Duke of Northumberland's water is in the hands of the Northumbrian Anglers' Federation.”

Mr. John A. Williamson, Newcastle-on-Tyne, a member of the Northumbrian Anglers' Federation, writes:—

“Until five years ago the bull-trout was almost the only migratory fish entering the river in autumn floods. During these years the number of salmon

running up has very much increased. In August and September floods, nearly the whole of the fish entering the Coquet have been *Salmo salar*. In October and November, as a rule, we have the bull-trout. It is very difficult to account for the great increase in salmon. There is no serious pollution, and it may be that many of the salmon that were wont to enter the Tyne, which is very badly polluted, now prefer the waters of the Coquet. The harbour mouth of the Coquet at Warkworth has been dredged a good deal of late years, and some think that the deepening of the channel has attracted the salmon. The river has been better guarded of late, and the fish passes have been improved."

The ALN contains sea-trout, which seem to be multiplying. Net-men who fish in the sea at the mouth do very well indeed. Now and then there is a fair rod season, and fish up to 10 lbs. are caught. The sport, however, is very uncertain. A few small salmon are occasionally to be found. The management of the lower part of the river—from Alnwick to the sea—is in the hands of a local committee, and under their guidance the stocks of sea-trout and brown trout have improved. Mr. J. de C. Paynter writes:—

"Since the harbour at Amble, in Alnmouth Bay, was deepened by dredging, the Coquet has been tending to become a salmon river. I think that if the entrance to the Aln from the sea could be deepened salmon would run up in considerable numbers. There is no serious source of pollution.

The Association occasionally turn in two-year-old trout, and the number of tickets issued annually is about two hundred and fifty. We experimented with rainbow trout. All of them went to the sea, and some were taken in the nets."

The TYNE has fallen upon evil days. Mr. J. Harbottle, Wyndale, Corbridge-on-Tyne, well known as sportsman and as man of letters, writes —

"Judging from the reports about the nets, one cannot doubt there has been a falling-off. In some years the sea fishermen scarcely earn enough to pay their licenses. On the other hand, we have sometimes had a sudden increase in a season's yield, bringing both profit to the nets and sport to the rods. That happened in 1905. The rains were timely. Over the last thirty years, however, there has been a decline. When we have had a rich season, the Coquet and the Tweed have had similar fortune. Since 1894 a good many of the nets have become less hurtful in consequence of extensive dredging of the river and deepening of the channel. This permitted the tidal flow to pass about a mile and a half farther inland, giving the fish a slightly better chance of running to the spawning beds. One of the main causes of the present unsatisfactory state of salmon fishing is the long stretch of polluted water. The fish have to face about twenty miles of tidal water heavily navigated. Then, there is persistent netting in the narrow reaches of the river and above the tidal water. Besides, the weekly slap is much too short. Further, the drainage of large

tracts of pasture land in the upper parts of the watersheds, together with the wholesale appropriation of the springs in the hills and elsewhere by a Water Company, has reduced the spawning area. In dry seasons fish cannot easily reach the beds. Rivers and burns that ran freely all the year three or four decades ago have hardly any water at the very time when the salmon should be there. What fish do reach a good redd deposit their spawn only to find it washed away by a sudden and overwhelming spate. Until there is a fair waterway from the sea to the higher reaches, with measures for protection of the fish when they get there, the troubles of the Tyne will remain. The Tyne Conservancy Board, of which I am a member, have had all these matters under consideration, and have dealt with poaching and pollution as far as their limited powers permit; but as long as the Fisheries Acts remain in their present confused state not much good will be done. Boards should have more power to deal with special local conditions."

The WEAR runs through a district in which there are many collieries and other works. It is much polluted, and, as the industrial enterprises employ thousands of people, it is difficult to cope with the trouble. Still, Colonel T. C. M'Kenzie, Chairman of the Fishery Board, thinks that there is no falling-off, but rather an improvement, in the stock of fish, which are mainly bull-trout and brown trout. Fresh blood is not infrequently introduced. Salmon have become comparatively rare.

The TEES is improving. Last season, as regards both net-fishing at the mouth and rod-fishing in the upper reaches, was the best that can be remembered. The salmon, which are of good size, are going up the river earlier every year. Last season the first fresh-run fish, weighing $19\frac{1}{2}$ lbs., was caught in March. Many salmon were taken in April and May, and there was excellent sport in autumn. Mr. T. M. Barron, Secretary to the Fishery Board, says that the earlier running of the fish is probably attributable to the removal, a few years ago, of Dinsdale Dam. Trout fishing also has much improved. Every year several thousand yearling fish have been turned down. Durham County Council and the Fishery Board are sedulous in preventing pollution, and the riparian owners have helped effectively by forbidding the taking of small trout. Good baskets have become common on the Tees and its tributaries.

The Yorkshire Esk, though small, is a prolific salmon river. It is in a splendid state. Mr. William Brown, Whitby, Clerk to the Board of Conservators, informs me that before the Salmon Fishing Act of 1861 hecks attached to the mill weir at Ruswarp, at the head of the tidal water, caught great quantities of fish, and that those which got over the dam were the subjects of wholesale poaching in the upper water. "It is questionable," Mr. Brown writes, "whether any mature fish ever returned to the sea. Whether the Esk at any earlier time had harboured salmon (*salar*) cannot now

be definitely stated; but before the Act only sea-trout and bull-trout (*eriox*) were to be seen. The Esk Fishery Association, an angling club, formed soon after that time, introduced salmon by means of ova obtained from the Tees and elsewhere. In 1875 the Esk Board of Conservators, then just formed, began to exercise the powers provided by the various Salmon Acts. From time to time fresh strains of blood have been brought from the Tweed, the Tay, the Thurso, and the Eden. The Esk is a notable example of what can be done by artificial stocking of a river."

The THAMES is of particular interest.

In 1898 a few gentlemen assembled at Willis's Rooms formed themselves into an Association, having for its object the restoration of the salmon to the river. Thereupon it was roundly affirmed by many commentators that the Thames never had been and never could be a natural salmon river. Now there is much room for hope. The action of the Association led to searching of authoritative records, and the Thames was definitely restored to the list of salmon rivers. Its history has been traced to well within living memory. Mr. W. B. Boulton, Secretary of the Association, sends a very interesting statement.

"The Calendar of State Papers," he writes, "contains summaries of enactments dealing with the preservation of the fish in the Thames since the time of King John. An Act of his reign imposed penalties for using the young salmon smolt for manure—a measure which seems eloquent as to the abundance

of the fish in those early times. It is significant that among the first things the Barons made King John relinquish were his salmon traps at the Tower. An Act of Richard II. provided a close time for the fish, by declaring 'that young salmons shall not be taken nor destroyed by nets, nor by other engines at mill-dams, from the midst of April till the nativity of St. John the Baptist.' The Abbot of St. Peter's, Westminster, claimed, and for centuries received, tithe of all salmon caught within the jurisdiction of the Lord Mayor—that is, anywhere in the river between the Yantlett Creek and the City Stone at Staines. There were Acts dealing with Thames salmon in the reigns of Edward IV., Henry VIII., Elizabeth, Queen Anne, George I., and George II.

"An entry in the churchwarden's book of Wandsworth, under date 1580, is to the effect that 'in this somer the fysshers of Wandesworthe tooke between Monday and Saturday seven score of salmons in the same fishings to the great honour of God.' In the next century Izaak Walton mentions the Thames salmon as the best in the kingdom, and speaks of the great plenty of samlets near Windsor. He records his opinion that the salmon would return in much greater numbers from the sea but for the neglect of the wise old statutes against erecting traps in the river.

"In the sale of riverside lands salmon pools were reserved as valuable properties so late as the end of the eighteenth century; and there was a recognised fishery at Temple, of which the records and some of

the implements were to be seen in recent years. The news-sheets record exceptional catches at intervals through two centuries. In 1754 it is mentioned that the take of fish at London Bridge was so great that the price fell to 6d. a pound. Twelve years later we read that 'there was never known a greater plenty of salmon in the river,' and that one hundred and thirty Thames fish were sent to Billingsgate Market in one day.

"Finally, there is 'an account of all the salmon caught at Boulter's Lock and contiguous parts of the Thames from 1794 to 1821' set out in Mr. Venable's *Records of Buckinghamshire*. That was a memorandum made by a man who fished the reach for the purpose of profit. His chronicle is that of a declining industry, it is true; but so late as 1801 he took sixty-six salmon, weighing nearly 1200 lbs. His last catch, of two fish, was in 1821. By that time the salmon had become scarce. One, caught near Windsor, was sold to the King for a guinea a pound. Yarrell records the last Thames salmon that came under his notice as having been taken in 1833.

"From these and other records it is clear that there was a very rapid decline in the salmon fishings of the Thames during the last few years of the eighteenth century and the first quarter of the nineteenth, ending in the complete disappearance of the fish somewhere about 1830. The causes of extinction must, therefore, be sought for in that period. There is no evidence of serious pollution of the river at that time, and there is little doubt that

the salmon were first driven away by the gradual canalisation of the river following the Thames Navigation Acts of 1788, 1789, and 1812. These enactments led to the continual erection of weirs and pound locks, which, unprovided with passes, eventually barred the upper reaches to the fish. Mr. Spencer Walpole, an Inspector of Salmon Fisheries in 1869, was clearly of this opinion. In his report for that year he wrote: 'The chief cause which has destroyed our rivers in a salmon sense is the existence of weirs . . . the invention of the pound lock seems to me to explain very clearly the exclusion of salmon from many rivers, including the Thames, which has taken place during the last century.' The pound lock had been substituted for the old open shoot, up which barges were wound with winches; the shoot had presented no obstacle to the fish. Immediately following the complete canalisation of the river, in itself sufficient to account for the disappearance of the salmon, came pollution during the middle years of the nineteenth century, which effectually completed the work of destruction begun by the locks and weirs.

"The efforts of the London County Council and the Thames Conservancy have resulted in a great improvement in the state of the river. Those of the Thames Salmon Association have been directed towards showing that this improvement as regards the lower waters has proceeded far enough to allow of the passage up and down of migratory fish. The canalisation difficulty is avoided by rearing the

young fish near the lower reaches and releasing them at the head of the tideway. The experiments have now been conducted continuously for six years, during which many thousands of two-year-old smolts, reared at Denham by Mr. W. Crosbie Gilbey, who has generously placed his hatchery and his valuable services at the disposal of the Committee, have been turned in. No fish has been found dead, and it has been proved season after season that the smolts live and thrive in the Thames before going down to the sea. Early in the summer of 1905 there were very encouraging reports from the mouth of the river, where grilse were assembling, presumably with intent to run up the estuary. A few fish were taken in nets. As these were all of similar weight, there is a strong presumption that they were fish which had, as smolts, been released at Teddington, and that a favourable combination of flood water in the river and high tide might have enticed them up.

“The Committee think it desirable that the experiments should be continued some years longer, especially as many details of the natural history of the salmon are still obscure, and there is great difference of opinion among experts as to the period the young fish spend in the salt water before returning as grilse.

“Meanwhile the Committee have taken a step that will be of general interest. Mr. Gilbey has successfully hatched ova of the huchen, the non-migratory salmon of the Danube, and has turned several hundred of the young into the river. The huchen

grows to a great size, and shows high sporting qualities."

Lord Desborough, Chairman of the Thames Salmon Association, thinks that the adversity from which the river began to suffer many years ago was other than that stated by Mr. Boulton. He writes:—

"The return to Teddington of the smelt, an estuarine fish, was the great encouragement we had for the salmon restoration experiment. Smelts were caught in large numbers at Richmond and Teddington just before we began. In a spate, salmon could have passed up the Thames' weirs easily enough. I agree with Archdeacon Venables that it was chemical refuse, chiefly from gas works, that killed the fish in the estuary. The estuary is now much improved in that respect. Fresh-water fish go much farther down, and sea fish higher up, than was the case some years ago. I went into the matter somewhat fully before we began; also into the question of the aeration of the water, of which, in connection with the sewage outfalls, Dr. Clowes of the London County Council keeps useful charts."

Whether it is Mr. Boulton or Lord Desborough who is right as to what happened long ago, all's well that promises to end so well as the restocking of the purified Thames.

W. B. Boulton.

YOUNG SALMON IN THE THAMES.

The small fish, natives in British waters, are four times the age of the less small, an alien from the Danube.

CHAPTER X

BRITAINS BEYOND THE SEAS

Canada—Newfoundland—British Columbia—South Africa—
Australasia.

IN the very first letter I received in answer to my inquiries about waters at home, there was a remark that suggested the desirability of extending the survey to rivers in Britains beyond the seas.

“BLACK MOUNT,
BRIDGE OF ORCHY, ARGYLLSHIRE,
17th October 1905.

“Dear Mr. Earl Hodgson, . . . Of course, it seems to be a fairly well-established fact that all salmon rivers are going down. Curiously enough, a man told me the other day, in course of conversation, that the rivers in Canada seemed to be going down in the same way as our own at home. Whether this is the case or not I cannot state. It seems to me that the only way of preventing rivers deteriorating and fish getting less is by reducing the netting. How this is to be done without somebody putting

their hand in their pocket I know not ; and, as far as I have been able to ascertain, whenever it comes to be a question of paying, nobody seems to be too willing to do so.—Believe me, Yours very truly,

BREADALBANE."

The rumour from Canada was striking. If the salmon were really declining in a land but little subject, for its vast size, to the influences of industrial civilisation, it would become theoretically possible that there was some natural cause of an evil kind at work all over the world. Thinking of this startling possibility, I sought further particulars.

"20 CARLTON HOUSE TERRACE, S.W.,
24th October.

"Dear W. E. H.,—I don't know enough about the fishing question in Canada. Ask Lord Minto—he knows. I heard, however, in Canada the other day that the fishing had declined in the Maritime Provinces. I don't think there is any one at Victoria Street who knows. . . . Yours very truly,

GILBERT PARKER."

The next despatch tended to confirm what had been said by Lord Breadalbane and Sir Gilbert Parker.

"6 AUDLEY SQUARE, W.,
1st November 1905.

"Dear Mr. Hodgson, . . . It is undoubtedly true that the rivers in the Maritime Provinces have of late years been not what they were. The river I am best acquainted with is the Cascapedia, and that has

RENDLE'S POOL, ON THE CODROY RIVER, NEWFOUNDLAND.

certainly not been what it used to be in years gone by, though it belongs to an American Syndicate of excellent sportsmen, who fish the river carefully, have it carefully watched, have bought up small riparian properties, and have bought off the nets at the mouth. I can only conclude that for some reason we do not know there has been a bad run of fish for some years. The rivers on the Labrador coast have been, I believe, good of late years. I am writing in great haste, as I leave for India to-morrow. . . . Believe me, Yours faithfully,

MINTO."

The state of affairs being not yet completely set forth, I ventured to ask the help of Sir Wilfrid Laurier, Prime Minister of Canada, who, with great courtesy, caused an inquiry to be made throughout the whole Dominion. The results are disclosed in the documents that follow :—

"DEPARTMENT OF MARINE AND FISHERIES,
DEPUTY MINISTER'S OFFICE,
OTTAWA, CANADA,
12th January 1906.

"Dear Sir Wilfrid,—A short time ago Mr. W. Earl Hodgson wrote you requesting certain information touching the comparative conditions of sport in Canadian rivers.

"The information desired was of such a character as could not be supplied at the moment from the information in the Department, as the disposal of the salmon angling privileges has long since passed from the Federal to the Local Governments, and it was

necessary to make some inquiries to elicit as much information on the subject as possible.

“Without a fixed date as a starting-point for comparison, the relativeness of the information must obviously be somewhat vague, and embrace known present conditions as compared with reports of the past.

“I have therefore prepared the accompanying memorandum, based upon data just received from the Provincial Deputy Minister of Lands, Mines, and Fisheries of Quebec, the Provincial Commissioner of Fisheries for New Brunswick, the Dominion Inspector of Fisheries for the Gulf Division of the Province of Quebec, and the Dominion Inspectors of Fisheries and Fishery Officers for the Province of New Brunswick, where the principal salmon angling in Canada obtains, which I submit for your information, as comprising fairly authentic information, which, of course, could only be procured in absolute detail from the lessees of the angling rights from the Provincial Governments.—Yours faithfully,

F. GOURDEAU.”

MEMORANDUM

ON COMPARATIVE CONDITIONS OF SALMON ANGLING IN CANADIAN ATLANTIC WATERS, 1906

Generally :—The Provincial authorities of Quebec, judging from reports of the different angling clubs

which are just being received, conclude that, generally speaking, the present condition of salmon angling is good. There may be in some streams a slight falling-off in sport, occasioned by the lumbering business, where logs are driven over the pools; but, under normal conditions, it is considered by those authorities that the angling is still very good in almost every one of the Quebec salmon rivers, especially on the north shore of the St. Lawrence, where all the rivers are reported as being in as good a condition as they were ever known to be.

The Provincial Commissioner for New Brunswick regards the subject as one requiring more thorough treatment than the limitations of a letter admit, in order to convey a full understanding of it. He says, however, that if the term "years ago" means a half century ago, it must be said that the angling conditions are not as good in some of the New Brunswick rivers now as then, while they are fully maintained in others. During the last ten years, however, the salmon angling has been fully maintained.

In the fifty-years period nets on the coast and in the semi-tidal waters have so increased as to make it a matter for wonder that any appreciable number of salmon could escape them, and ascend for spawning purposes during the open season; but this has been partially offset by the improved character and fairly faithful enforcement of regulations against destructive methods of fishing—more especially by artificial culture of salmon.

The records of the salmon-angling clubs, he adds,

show that there has been no falling-off in their catches in the last ten years. When the coast and estuary nets are taken up at the end of the open season, the stock of salmon in the fluvial rivers is increased a hundredfold by the up-running schools, and of late years these schools have also been ascending the smaller rivers formerly frequented by trout only. It is true that some of the salmon-angling rivers have fallen off because of log obstructions, laxity of guardianship, or other artificial cause; but this has been compensated for by increased catches in others, where the conditions have been more favourable, and the value of the Government salmon-river leases never was so great as now.

RESTIGOUCHE RIVER.—Besides the Restigouche Salmon Club, numerous clubs exist on these waters, and, so far as can be ascertained, the sport continues to be excellent. The season of 1896—ten years ago—is stated to have been the greatest angling year ever known on the Restigouche River, while 1902 was nearly equal to that abnormal year, and the past season, 1905, almost reached as high a point, notwithstanding the fact that the fish were two weeks later than usual in ascending the river. The Officer states that if the conditions had been as favourable as in 1896 a much larger score than that of either that year or 1902 must have resulted, as the Guardians and others are unanimous in reporting that they never saw so many salmon in the river as last year.

METAPEDIA RIVER.—This river has about held its own during the last ten years in the face of

insufficient protection and the cutting of trees to the water's edge to admit of cultivation by the settlers, with attendant pollutions and disabilities.

UPSALQUITCH RIVER. — Angling in this river is improving. The total catch in 1889 was about fifty fish, which is said to be about the average for the past five or six years; but in 1905 one hundred fish were taken, and the stream is said to be good now for about 200 to 250 fish per annum. While the number of anglers has increased, and greater art and science are brought to bear in capturing the fish in previously untried places, it is stated that the fish have also increased, and this healthy condition is attributed to the continuance of artificial fish-breeding operations conducted by the Dominion Government.

BAY CHALEUR RIVERS

CASCAPEDIA RIVER. — This river is reported to have improved in recent years, mainly owing to the cessation of net-fishing in the estuary.

BONAVENTURE RIVER. — This river had greatly run down from insufficient protection against poaching; but, owing to increased guardianship, it has considerably improved during the last few years.

GRAND RIVER. — A good salmon river; never was in better condition than at present.

There are some small and relatively unimportant rivers on the Quebec side of the bay which are not being developed as salmon rivers.

RIVERS IN GASPE BAY

ST. JOHN RIVER.—This river had much deteriorated owing to log-dams and over-netting; but, under new ownership, it is now improving rapidly.

YORK RIVER.—This river is not in good condition, owing to netting in the estuary.

DARTMOUTH RIVER.—While this river is not quite as good as it was thirty years ago, it has greatly improved recently, and is gaining through careful guardianship and cessation of netting in the estuary.

MAGDALEN RIVER.—This river is privately owned, but is reported to have run down, owing to want of guardianship.

STE. ANNE DES MONTS RIVER.—This river is reported as not being in as good condition as formerly.

NORTH SHORE RIVERS

STE. MARGUERITE RIVER.—This river is a branch of the Saguenay, and is reported as being in fairly good condition, but not as good as forty years ago.

GODBOUT RIVER.—This is a privately owned river, and is reported as being in as good condition as it ever was known to be, and there is scarcely any limit to the number of salmon that can be taken when the conditions are favourable.

TRINITY RIVER.—This river is reported as being in fairly good condition, notwithstanding considerable netting in the estuary and neighbouring coast.

MOISIE RIVER.—This is a large river, in which, it is stated, the salmon angling is as good as it ever was, notwithstanding that the estuary and neighbouring coast are heavily netted.

MINGAN RIVER; ST. JOHN, ROMAINE, AND WAT-SHEESHOO RIVERS.—These rivers are within the Mingan Seignior, and are all reported as being in as good condition as they ever were, notwithstanding considerable netting in the estuaries. The last-named river is reported as being abundantly supplied with fish.

NATASHQUAN.—This is a large river, abundantly supplied with salmon, and enormous catches are made, although the estuary and adjoining coast have always been netted.

WASHAEECOOTAI RIVER.—This river is reported as being in fine condition.

LOWER or BIG ROMAINE RIVER.—This river has afforded anglers good sport for the past few years, and has improved under guardianship.

“ DEPARTMENT OF MARINE AND FISHERIES,
DEPUTY MINISTER'S OFFICE,
OTTAWA, CANADA,
20th January 1906.

“ Dear Sir Wilfrid,—In continuation of my letter of the 12th instant, conveying information, asked for

by Mr. Earl Hodgson, touching the comparative condition of the salmon rivers of Eastern Canada from the angler's standpoint, I may say that up to the time of writing information covering Nova Scotia was not available, and an answer to Mr. Hodgson was being pressed for.

"I am now pleased to say, however, that the Officer in charge of the fish hatchery on the Margaree River—the principal salmon stream in Nova Scotia—reports as follows:—

"'Since twenty years salmon have not been as plentiful in the Margaree salmon pools as during the past summer. From the opening until the close of the season there seldom was a day but the expert angler could land several fish. Generally they were not large, averaging from 8 to 10 lbs., smaller and different in general appearance from the usual run of Margaree salmon. The remark could be freely heard, "These fish are certainly the product of the hatchery." I have no doubt but they are. Thus is the benefit resulting from the hatchery already palpable.'

"It may be interesting to remark, that the fry placed in this river by the Department's fish-breeding operations are the product of parent fish taken from the St. John River in New Brunswick.—Yours faithfully,
F. GOURDEAU."

In order to continue our survey of the Empire, I asked Sir Bryan Leighton, an expert and far-travelled sportsman, to give an account of the rivers

in Newfoundland and of those in British Columbia. His answer is very interesting :—

“UNION CLUB,
WESTWARD HO, R.S.O., NORTH DEVON,
31st December 1905.

“My dear Hoddy, . . . In Newfoundland we find exactly the same *salmo salar* that frequents our own British rivers. He is alike in every particular except that he runs smaller. I have caught the grilse as small as $2\frac{1}{2}$ lbs. A small fly is used ; the favourite sizes are 5, 6, and 7. The salmon takes the fly freely on all the rivers I have visited with one exception. That is in the case of the Humber, the largest river in the island. There the fish take the fly on one pool only. It is a big pool, 500 yards in length, below some falls about 15 feet high, and about 20 miles from the estuary. During the run in summer it is wonderful to see the salmon leaping the falls. Why they rise only in that pool I cannot tell. To look at, the lower reaches of the Humber, and one pool in particular, about 6 miles from the mouth, called the Grand Rapids, which I saw to hold many large salmon, are such as should afford perfect fishing. I camped there for ten days this year. The natives told me that the large fish never go above this pool, but remain all the summer there and spawn. I tried every lure I could think of, but never raised a fish, although the conditions were all that could be wished. A friend who was camped here in 1903 did get three fish. That is the only known instance of the salmon

there taking a fly. The pool is an ideal spawning ground.

“As regards size I would compare the Humber with the Tweed; but it runs through a huge lake, 12 miles long and 3 miles broad, beginning 8 miles from the mouth. The exceptional pool, where the fish do take, is in an upper reach above this lake.

“The rivers in which the fly is freely taken are very many. Among the better-known ones are the Grand River or Codroy, the Little River, Robinson's, Fischel's, Crabbs', Torrent, Serpentine, River of Ponds, and Harry's Brook. These are annually visited by Canadians and Americans—all fishing is free in Newfoundland—and it is the merest chance if you are left in undisturbed possession of the pool on which you are camped. I found the following, in the order named, the most killing flies: Silver Doctor, Dusty Miller, Silver Grey, Jock Scott, Wilkinson, Black Dose, Butcher, Lemon Grey. The conditions of wind and water under which each would be used are the same as those which govern the use of these flies in the British Isles.

“One curious fact struck me. The fish do not ascend the rivers when they are flooded. Invariably they wait for the water to drop to normal level before moving up. This remark applies only to fish waiting in the salt water. Most of the rivers I visited become so small and shallow 10 miles from the coast that the fish can move in a flood only.

“In almost every instance there is a large lake—

or, as the Newfoundlanders call it, 'a pond'—at the head of the river, in which the fish spawn.

"There is no doubt that the salmon are increasing in size and in numbers in the rivers best looked after; but in the more remote ones poaching is still the order of the day.

"The salmon arrives off the coast along with the capling, a fish about the size of our sprat. The fishermen tell me they have often found capling in the stomach of the salmon caught in the nets. The capling, I may mention, is the bait all the Newfoundland cod fishermen use. The arrival of the capling and *ipso facto* of the salmon is governed by the earliness or the lateness of spring. The spring of 1905 was one of the latest on record, and I find on referring to my Diary, that although we were catching odd fresh fish in the Codroy from June 7, and many mended kelts—salmon that have spawned late and been in salt water only six weeks or so—the main run of fish did not begin until June 20. In 1904 the fish ran in the same river the first week in June; in 1903 they arrived on June 10. The Codroy is looked on as the earliest river in Newfoundland.

"My own opinion is that the salmon in Newfoundland would greatly benefit by the Government leasing rivers to private persons under the conditions on which the Canadian rivers are leased.

"Of salmon on the Pacific Coast we find six varieties—the King or Spring Salmon, the Cohoe, the Steelhead, the Humpback, the Dog Salmon, and the Sockeye. Only the first three will take a lure, and I

have caught the coho on the fly only. The steel-head I have never fished for; but I understand that it is very game, and plentiful in the rivers of Oregon and California. The king salmon, up to 50 lbs., I have caught on a spoon bait in the salt water at the mouths of rivers. The record for one caught on a rod is 72 lbs. These salmon run during July and August. The coho I have many times caught on a fly in the estuary of a river. Sometimes he reaches 22 lbs.; but his average is between 8 lbs. and 12 lbs.

“When I last passed through Vancouver city, Mr. A. Brougham, one of the best amateur fly-tiers, who resides in Vancouver, told me he had heard of a river, lately discovered, on Vancouver Island, where the spring salmon had been caught on a fly. For his size, however, the coho, I think, is the more sporting fish. In fact, I would not put him second even to *salmo salar* in point of gameness. As regards appearance he is similar. His flesh, however, is a deeper pink. The flesh of the king salmon is the most like that of the Atlantic salmon. I found that the coho took any silver-bodied fly, and that No. 4 or No. 5 was the best.

“Judging from facts I gathered on the Pacific Coast in 1903, I fancy that the canning business is being overdone, and that it is bringing about deterioration of the stock. New canneries are being built every year.

“It is, I believe, a fact that the Pacific salmon remain in the sea for four years before returning to

the river they were born in, and that then they only go back to spawn and die. I have myself seen salmon so thick in a small river in British Columbia, perhaps not more than 18 inches deep, that one could not wade across without touching them at every step. Instinct seems to make them run up the rivers as far as they possibly can. I have even seen one going on when his back fin was out of water and there was no deeper channel ahead. Of course, it is impossible to say whether such fish as that are the same that left the river as smolts. All that is certainly known is that their only instinct seems to be to get as far as possible up the river, to spawn and die.—I am, Yours sincerely,

BRYAN LEIGHTON."

In that letter there are two astonishing statements. They are that Newfoundland salmon spawn in still water, and that fish remain kelts after having been six weeks in salt water. In answer to a note on these points, Sir Bryan Leighton, wrote:—

"PASSING THROUGH NICE,
9th March 1906.

"Dear Hoddy,—I did not mean to convey to you in my letter that the salmon actually spawned in the lakes at the head of the Newfoundland rivers. I do not profess to know where they actually carry out the sexual function; but in August and September they congregate in large numbers in these lakes just before the spawning season. In the two instances I know of from personal observation they cannot,

owing to high falls, get any farther than the lake. Whether they come down again before spawning, or spawn in the lake, I leave to wiser heads than mine. I can only state what I have seen. As regards the mended kelts, as the natives term them, I am positive that these fish have been to the salt water. They are just like bars of silver, with every scale perfect. How long they have been in the salt water I do not profess to know. My own theory is that they get caught in the ice and have to spend the winter in the river, or rather in the lake at the river head, and as soon as the river is clear of ice go to the sea, which, after having spent so much time in ice-cold water, they feel unsuited to their condition, and so quickly return to the rivers. I am quite open to argument on the subject, however. Their flesh is much whiter than that of the ordinary salmon; but they fight well, and not like an ordinary kelt. . . .
—Yours ever, BRYAN LEIGHTON."

A very bright coat is no evidence that a salmon is not a kelt. In British rivers, as spring advances, many kelts become brighter than are the fresh-run fish. On the other hand, Lady Leighton mentions that the peculiar salmon under discussion had sea-llice on them, and that seems absolute proof of Sir Bryan's theory. From Newfoundland, then, we have received two very interesting problems, curiosity about which may possibly result in important discoveries as to the habits of salmon generally.

As regards South Africa, our information is at

THE LARGEST SALMON KNOWN TO HAVE BEEN CAUGHT BY A LADY.

Spring or King Salmon caught on a spoon bait by Lady Leighton in the Campbell River, Vancouver Island, in August, 1903. Weight, $54\frac{1}{2}$ lbs. ; length, 47 inches ; girth, 29 inches.

present meagre. The Assistant Colonial Secretary in the Orange River Colony wrote:—

“BLOEMFONTEIN,
13th February 1906.

“My Dear Hodgson,—I am delighted to hear from you again—but first as to business. In the rivers that flow through my particular region there are no fish of the salmon kind. Indeed, the rivers are unsuitable for these lively fish—owing to their habit of being dry for most part of the year. A breed likely to do well in our Orange River Colony must needs be amphibious, and that variety has not yet been found. In Natal, I believe, much has been done. I shall be in Pietermaritzburg in March, and I will ask some of the Natalians how the trout fare, and report the result. I will also inquire in the Transvaal. . . .—Yours ever,

BASIL BLACKWOOD.”

At the time of going to press, I am sorry to say, the particularised accounts from Natal and the Transvaal are still to come. Meanwhile it is pleasant to notice in the newspapers reports to the effect, that attempts to acclimatise British fish in certain streams of the South African Colonies are successful in unexpected measure.

As regards another part of the Empire, our chronicle, though very important in one respect, is brief. The enthusiastic sportsman who was Governor and Commander-in-Chief in South Australia for a period from 1889, wrote:—

“ST. JAMES’S CLUB, PICCADILLY, W..
23rd February 1906.

“Dear Mr. Hodgson, . . . I should have been proud to send you some notes on salmon fishing in Australia were there any salmon in those waters. Trout and some salmon are to be found in New Zealand and Tasmania, and splendid fish they are; but I have little local knowledge.—Yours truly,

KINTORE.”

It was, of course, about New Zealand and Tasmania that I had really hoped to hear. Endeavours to stock the rivers of those lands with salmon, trout, and char began in 1864; and the *Proceedings* of the Zoological Society of London, in common with other learned works, recount gratifying results. The char and the rainbow trout have not taken kindly to the Antipodes; but, as Lord Kintore indicates, not all the salmon have disappeared, and the brown trout flourish amazingly. These fish reach enormous size, and, unlike the trout here at home, which generally give over rising at fly when they become very large, they do not cease to be active as they grow. That might be accounted for by the fact, illustrated in every new lake formed in order that a town may be supplied with water, that trout in a fresh place always tend to thrive and to be much more vigorous than their forbears; but there is a further wonder in New Zealand and Tasmania, which cannot be stated more appositely than in a sentence from Sir Herbert Maxwell. “They have

acquired a sea-going habit precisely analogous to our salmon, and are taken in nets at sea of great size and with a silvery marine livery." It thus appears that, while salmon may not feed in the rivers or the lakes, trout feed abundantly in the sea. Is this a clue to the mystery discussed in our second chapter? In size, ways, and appearance, British trout in the waters of the Antipodes have become almost indistinguishable from salmon. Is it possible that salmon and trout are in reality fish of the same race, sprung from a uniform stock? If this be so, we can readily understand why, when in river or lake, salmon rise during the daily feeding-times of the trout. They and the trout are following the habit of a common ancestor.

CHAPTER XI

STORAGE AND PASSES

Improving the Thurso—Making a Lake—Results of Agricultural Drainage—Too much Water, and Too Little—Misgivings about Storage Unfounded—The Helmsdale—Remarkable Success of Storage—Loch Lee and the North Esk—Other Rivers—Conflicting Interests—Root of the Trouble—Salmon Passes—A Principle Discovered by Chance—From Despair to Hope—A Bright Prospect.

THE Thurso, which rises amid the hills bordering Sutherland and Caithness, and, after a course of about forty miles, falls into the North Sea, is being made the subject of an important experiment. In order that the water may never be too low for salmon fishing, artificial storage is being arranged.

At Dalnawillan, about thirty miles up the river, there is a tract of flat land three miles long, about half a mile broad, and narrow at the lower end. Across that narrow part a wall fitted with a fish pass is to be built. The lake thus formed on the Thurso will contain 829 million gallons. Besides this, Loch More is to be raised eight feet; which will add

FRONT AND BACK VIEWS OF BADANLOCH DAM AS ORIGINALLY BUILT.

Two feet have since been added to the height.

to its volume 1200 million gallons. The stored water will be controlled by sluices at the outflow. By means of these it will at all times be possible to have the height of the river at whatever level may be desired.

Why are these artifices necessary?

As will have been perceived from Chapters vii., viii., and ix., rivers in almost all regions of the United Kingdom have had their natural order disturbed. In Scotland, where it is particularly marked, the disturbance seems to have begun about a hundred years ago. At that time landowners and farmers awoke to the fact that the hills would carry more sheep, which would produce better mutton and richer wool, if the lands were not boggy in so many places. That was the origin of a movement which has changed the nature of the Highlands and in particular the nature of the rivers. Here and there a drain was made that the water might be speeded off; and now at length practically all the mountains and the hills are seamed with channels from the summits. The end which was in view has been attained. Many thousands of acres originally swamp now bear heather or good grass, and the sheep-carrying capacity of the hills has been greatly extended. Grouse also, and even the red-deer, have prospered through the reform. These game birds and beasts require water, and plenty of it; but, as far as can be made out, they had rather too much in the original state of nature, and they do not, as a rule, seem to have too little now. On the other hand, the fish of the rivers in the valleys

have fared otherwise. The waters are very unstable in volume. They rise to levels much higher, and fall to levels much lower, than they ever reached in the days when rain over the watersheds had to find its own way towards them. In the old times each storm of rain, the water filtering slowly, kept the rivers in fair flow until the next; nowadays, through the artificial courses, the water is carried off almost as quickly as it falls, and there is no reserve for the periods of fair weather.

On the salmon rivers, as on the trout streams, the results have been rather serious. The commercial fisheries have not suffered much, if at all; but that is probably because most of these are in the estuaries, which, at least when the tide is not at full ebb, are kept in normal volume by the sea. Sportsmen are not so well off as the professional fishers. They may become tenants of well-reputed stretches for a month or two months, or even three, either in spring or in autumn; but they cannot be sure that salmon will be in the waters, or that if the fish are there the waters will be of the proper, which is the natural, height. Even in the British Islands, the meteorological influences over which are peculiarly complex, weather has a certain periodicity, and we have phrases, such as "the Lammas Flood," which indicate that rain-storms at stated times are as much to be expected as frosts at others; but the periodicity is subject to frequent exceptions. In 1904, for example, saving over a part of Argyllshire, Scotland had no considerable rain after the beginning

of August. The result was disappointment on all the salmon rivers. Some held a few fish; but these had been so long in the water that they would not look at lures. In other rivers the salmon were not higher than the estuaries, waiting for the floods which did not come until after the close of the season.

While "too little water" is a frequent complaint among sportsmen, too much is not unheard of. There is nearly always an excess after a heavy rain. Certain rivers are so broad that they can be fished effectively only from a boat, and, even with a pair of stalwart Highland gillies at the oars, a boat cannot hold its own against the torrent which follows an abundant rain. Besides, although, as has been admitted, the net fisheries seem to be as productive as ever, it is not unreasonable to suppose that interference with the order of Nature in the rivers must eventually, if measures to neutralise it are not taken, reduce the stock. Spent fish are readily susceptible to attack from the "*bacillus salmonis pestis*"; often, when the spring rains are dilatory, their departure to the sea is delayed; every unnatural hour they spend in the fresh water is an extra risk, not only to themselves, but also to the whole stock of their particular river.

The measures which are being taken on the Thurso have every prospect of success. They are, as has been said, an experiment; but, as will be shown immediately, they are not without precedent. When storage was under discussion as a theory

certain naturalists contemplated it without much hope. They reasoned that a flood from a reservoir was not the same thing as a flood from the clouds; that fresh rain-water was highly aerated, and stored water not at all; that man might bring water to the salmon, but could not make him run or rise. These thoughts had cogency; but, happily, they have proved erroneous. After all, artificial storage is an attempt to redress the balance of Nature in a natural way. It stands to reason that most of the water which is now rushed to the sea in raging floods is waste. The volume is much more than any natural needs of the rivers claim. Why should not the excess be kept for the rainless day? When one comes to think of it, there is nothing unnatural, and therefore nothing unscientific, in the plan. It is only an attempt to restore the rivers to their original state. Of course, the system which is about to be applied to the Thurso can never be equal to the system of Nature before the lands were drained. To be of use for the whole of a river, the reservoir must be near the source. It will gather only a small fraction of the rain on the whole watershed. Still, it will gather enough to be very useful in times of drought. Indeed, the system will be a triumph if by means of it the salmon can be enticed to run into the rivers at the times of the year when they are due, and helped back to the sea when lingering in fresh water would be unnatural.

The prospective success of the experiment on the Thurso is more than hypothetical. What is being

done there, as has been indicated, is not a groping in the dark.

The Helmsdale, in the northern part of Sutherland, rises at Badanloch and falls into the sea at the village which bears its name. It is "good water" throughout practically its whole twenty miles, ten of which are above Kildonan Falls and ten below. On the Helmsdale the storage system is already established. Mr. J. B. Taylor, Sherfield Manor, Basingstoke, who took a share in the improvement, has kindly stated particulars, from which it will be perceived that the system is astonishingly successful.

We begin with a general account of the interesting river.

The right of angling belongs to the sporting tenants of Badanloch, Auchintoul, Borrobol, Suisgill, Kildonan, and Torrish. The proprietors of the lodges there having formed themselves into a body, the river is fished under rules and regulations drawn up by them. It is divided into twelve beats, six of which are below the Falls and six above. These are fished by the tenants in rotation.

In 1899 the angling tenants found that the bag nets on the east coast of Sutherland were seriously reducing the stock of fish and threatened to ruin the Helmsdale as an angling river. They resolved to buy off the nets on the east coast and to lease the river-mouth nets from the Duke of Sutherland. They made an agreement accordingly. The right to net the river has not since been exercised, and there is abundant evidence that the stock of fish has

steadily increased. In order to indicate the damage which bag nets are capable of doing to small rivers like the Helmsdale and the Brora, Mr. Taylor collected statistics from the Annual Report of the Fishery Board of Scotland for 1897 :—

The *Helmsdale*—

Salmon taken by net and coble	.	351
Grilse	„ „ „	469
Sea-trout	„ „ „	72

The *Brora*—

Salmon taken by net and coble	.	871
Grilse	„ „ „	238

The *Fleet*—

Salmon taken by net and coble	.	20
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Taken by fixed engines (bag nets) on the east coast of Sutherland—

Salmon	.	2709
Grilse	.	4779
Sea-trout	.	627

Total taken by coast and river nets—

Salmon	.	3951
Grilse	.	5486

Total . . . 9437

Total salmon and grilse taken by rods—

The <i>Helmsdale</i>	.	507
The <i>Brora</i>	.	300

It will be seen that the salmon and grilse taken by rod and line in 1897 on the two rivers numbered 807, and that 9437 were taken by the nets. The proportion is 1 to 12. It is apparent from the statistics since 1807 that unrestricted netting on the

coast cannot be carried on without seriously injuring a river so small as the Helmsdale. The number of fish taken by coast nets is more than double the average total take of fish for the fifteen years from 1882 to 1896. It is true that in particularly good years the nets on the Helmsdale took as many as 11,000 salmon and grilse; but that was quite exceptional, and it is probable that many of the pools in the river were netted at that time. The best netting seasons of which there are records were as follow:—

Year 1807, 57,805 lbs. taken; average 7·06 lbs.

„ 1816, 68,250 „ „ „ 6·13 „

„ 1883, 32,373 „ „ „ 8·17 „

„ 1895, 34,401 „ „ „ 8·34 „

Although there are records of poor seasons, the average was pretty good. We find that between 1882 and 1896 the nets on the river took on an average 3187 salmon and grilse each year. The worst seasons on record were as follow:—

Year 1839, 6139 lbs. taken; average 6·55 lbs.

„ 1847, 7490 „ „ „ 6·31 „

„ 1879, 3948 „ „ „ „

„ 1897, 6317 „ „ „ 8·24 „

„ 1898, 2830 „ „ „ 7·98 „

„ 1899, 2166 „ „ „ 7·80 „

It is instructive to note that whilst the rod-fishing yielded 1739 salmon and grilse, averaging 9·34 lbs., in 1895, only 307 fish, averaging 9·09 lbs., were taken in 1899, two years after the coast nets had

been at work; and that the number of fish caught by rod and line in 1905 was 1330. The average weight of the Helmsdale fish is $10\frac{1}{2}$ lbs.; that of grilse, $4\frac{1}{2}$ lbs.; that of sea-trout, $1\frac{1}{2}$ lbs. It is difficult to prove the size of the largest fish known to have been taken. Within recent years there have been several of from 30 to 35 lbs. The annual close time for netting is from August 27 to February 10; the annual close time for angling from October 1 to January 10.

Now we come to the main point.

When the angling tenants decided to take off all the nets they were faced with a problem. How were they to deal with the fish with which the river would be stocked? As long as there was sufficient water to enable the fish to get up to the large lochs from which the river rises there would be no danger. The lochs were of such size that they could not easily be over-stocked; but it was well known that after April the river dwindled in dry seasons. The water became so low that the fish could not ascend any considerable distance, and it was impossible for them to reach the lochs. What was to be done? It was decided to build a dam capable of storing sufficient water during the summer, and, by regulating the supply, to keep the river in order and enable the fish to reach the lochs. The dam was thrown across the outlet of Loch Badanloch. For two years there was no definite result; but that was for reasons unconnected with the dam itself. Litigation had been threatened, and the dam could

1. SALZCRAGGIE POOL, IN THE HELMSDALE.
2. 12 AND 25 LBS. SALMON CAUGHT BY MR. J. B. TAYLOR
IN THE HELMSDALE.

not be used. Within these few years, however, the dam has been carefully worked at its fullest capacity, and has been a complete success. The angling tenants built a second dam at Loch An Ruathair, and in 1905 enlarged the Badanloch dam by raising the wall 2 feet; these measures increased the storage capacity about 50 per cent. The Badanloch dam covers 2000 acres. The water level was raised 6 feet, and the quantity stored is 3,300,000,000 gallons. The Loch An Ruathair dam is about 500 acres in extent. The water level has been raised 4 feet, and the storage is 600,000,000 gallons. The cost of Badanloch dam was £700; that of Loch An Ruathair dam, £450.

The tenants sought to induce a run from the sea, and hoped that the salmon would be distributed throughout the waters of the district. Before the dams were built the only fishing on the Helmsdale was early in the spring. Generally it was over between the middle and the end of April, by which time the river had run so low that sport was impossible. The design towards improvement has been abundantly successful. The season of 1905 was one of the driest experienced in Sutherland for some years, the Brora and other streams dwindling away to mere trickles; but the Helmsdale, regulated by the dam, afforded good sport until the middle of August. The Torrish rod alone had nearly fifty salmon during the shooting season.

There are on the Helmsdale two hatcheries built on modern principles; and these now provide for

the river about a million salmon fry every year. Fish for service of the hatcheries are netted in the autumn, and kept in pens, whence they are taken at the right season. The men in charge are particularly careful to distribute the fry over as wide an area as possible in the head waters near the lochs.

The gratifying results of artificial storage on the Helmsdale give absolute assurance that the system will be successful on the Thurso. Already there are indications that it will be applied to many rivers. Lord Dalhousie and Mr. Malloch are establishing it at Loch Lee in connection with the North Esk. There, though the principles are the same as on the Helmsdale and on the Thurso, the plan is different in detail. Loch Lee is not only to be fitted with a dam that will, when required, raise it a few feet: it is also to be fitted with a mechanism by means of which the level may be lowered five feet from the summer level. The reason for this is that the lake is so deep all round the shore that a reduction, besides making the works less costly than they would otherwise be, will improve the trout fishing. If the expectations of Lord Dalhousie and Mr. Malloch are fulfilled, the North Esk, hitherto one of the worst-managed rivers in Scotland, will become one of the best.

Many rivers require something more than storage at the source, or near the source, to set them right. They have falls which salmon, when heavy with spawn, find it impossible or difficult to surmount. An instance of this trouble, on the Don, is touched

upon by Lord Kintore in Chapter vii. When a river is wholly the property of one person, as in the case of the Helmsdale, or as in that of the Thurso, the task of restoring it is easy; but when it is a divided property there are conflicting interests, ill to reconcile. On the North Esk, happily, they have been reconciled. All the falls are to be made passable. Elsewhere, unfortunately, as Lord Breadalbane has remarked, "when it comes to a question of paying, nobody seems willing to do so." Each of the interested persons has his own point of view. The lower proprietors, who have netting rights, do not see why they should not be exercised. To the distiller, the miller, the manufacturer, the river was manifestly designed to facilitate distilling, milling, manufacturing. It is to be polluted or congested exactly as the exigencies of the occupation may require. What are the interests of sport when compared with the interests of trade? This view of the subject has until now been generally accepted as inevitable. It has been a depressing state of public opinion. Besides being rather sordid, it showed a woful lack of natural knowledge. If salmon are prevented from reaching the recesses of the upper waters when Nature prompts them thither the stock is bound to decline. The lower proprietors who use their netting rights excessively are destroying their own interests, besides acting unjustly towards the interests of others. Distillers and manufacturers have in many cases been equally lacking in perception. There is practically no

waste product that cannot be turned to commercial profit. Nevertheless, as will have been gathered from our detailed survey of rivers in the United Kingdom, the ruthless conflict of interests has been going placidly on. Each has been impoverishing itself as well as the others. Although commercial instincts have been the root of the evil, it does not seem to have been realised that the rivers of our islands, which are capable of making the country so pleasant to a sporting people, are, by the same token, potentially a considerable source of national wealth. Only of the miller, among those who have contributed to the derangement, is it possible to think without sorrow. His side stream sometimes reduces the main river so much that salmon which ought to be high up are arrested and fretful in the pool below the dam; but that is hardly his affair. Others should have seen to it. The riparian proprietors, upper and lower, should have built a pass in the dam dyke.

“Built a pass!” I can hear some one echoing, in irritation. “Who could do that? Don’t you know that nearly all the passes have been failures?”

I do know this; and a very interesting point it is. Until a comparatively recent time, only a languid intelligence was devoted to the design and construction of passes. It was, indeed, by mere chance that one of the principles of the art was discovered. Reporting on a “pass” that had cost fully £1000, Mr. Frank Buckland, Inspector of Fisheries, said: “The space of about ten feet

nearest certain flood-gates was lowered about thirteen inches, with the idea of deepening the water for the passage of the fish. It was soon found that no fish could stem the current for more than about one-third of its distance; and the accident of an observer placing stones in the current, on which he might stand to watch the fish, gave the hint of creating resting-places for the fish." The hint would not have been needed had any competent man applied to the management of a salmon river, deranged by artificial drainage, half the thought that thousands of men apply to the mechanism of a bicycle or a motor-car.

Many thousands of pounds have been spent on the construction of "passes" that were useless. As a rule the problem was looked at by some engineering eye that had little or no regard to what a salmon can or cannot do. In rivers all over the country there are structures which, although Fishery Boards, proprietors, and tacksmen are perfectly satisfied with them, are of no avail to the fish. Some are too complicated; in others the gradient is too steep; some are lacking in water; others have jumps in them.

This subject being peculiarly susceptible to pictorial illustration, let us contemplate a scene on the North Esk. That shows a bad device. The pass is four feet wide at the top, two feet deep, and about seventeen feet wide at the bottom; the height is about seven feet, and the gradient is 1 in 4 at the top. What is the result? It is that at times of low water, when fish would have a chance of

pushing through the steep gradient at the top, the spread-out water at the bottom is too shallow for them to cross. When the river is high, the fish are unable to stem the current at the top of the fall. A pass of somewhat similar kind is to be seen on the Don at Mugie Moss. It is a channel, cut in the middle of the weir, with a smooth bottom and a steep gradient. The water comes down at such a pace that when they are half-way up the salmon are thrown back. They would have a better chance if the pass were closed and the water allowed to go over the weir, below which, as I write, many hundreds of salmon are probably being taken by the net. This state of things should not be allowed to go on. It robs the proprietors above, and deprives the proprietors below of the increase that would arise if the fish were allowed to go forward. Another dreadful example is the Macdonal fish-way on the Ericht at Blairgowrie. That is an American scheme accomplished at great cost. Not a single fish has ever been known to pass that way. The four passes at the outlet of Loch Vennachar, erected by a well-known engineer forty years ago, were beautiful in design and in workmanship, but they were a failure. The gradient was too steep. Many another pass is merely a slap in the weir, a slap a few inches deep. Now, a weir, as a rule, is from two to three times the average width of the river, and a large quantity of water is taken away in the mill lead. The consequence is that the water in the pass is so thin that salmon cannot get through it at any time of the

P. D. Mallock.

A BADLY DESIGNED PASS.

Craigie, on the North Esk.

year when the rain is less than normal, and that when there is plenty of water late in the autumn the fish are too weak, being heavy with spawn, to leap successfully. When the river falls, the arrested fish are easy prey to the poacher.

A proper pass is one through which salmon can go either in a high flood or when the water, though low, is sufficient to entice a run. It must be capable of inducing fish to enter it at any time. Every weir or fall is a special case, calling for special treatment. The mouth of the pass must be close enough to the fall to prevent the fish from going aside and losing the way. Many passes are successful in respect that fish enter and surmount them when, the spawning time being near, they are keen to get up; but only a few are suitable for spring fish, which will not even run on a weir until the temperature of the water is high, or for summer fish fresh from the sea, which are not much inclined to effort. All passes with barriers across them are unsuitable. Salmon will not jump over the barriers. Some of these barriers have openings at one side, each at the alternate side, giving the water a zig-zag course; but, if there is flow enough to bring fish up the river, the rush through the opening of the pass is so great that they are unable to push through.

When a pass of this kind is in working order too little water goes through it to entice the fish to enter. It does let up fish that have been a long time just below, and can proceed when the exact opportunity arises; but it is of little use as regards

either fish suitable for sport or newly-arrived gravid fish seeking to go far inland.

Of what design, then, is the ideal pass? The difficulties to be overcome not being uniform, there is no single design that will meet all cases; but the essential principles have been discovered, and are capable of being set forth by an example. When the passes at Loch Vennachar are reformed they will constitute a model system. The work is going on under the charge of Mr. J. R. Sutherland, Engineer to the Corporation of Glasgow, which draws part of its water-supply from the lake. Mr. Sutherland has kindly sent to me a copy of the design, which I present on a reduced scale. A general explanation of the principles embodied in a proper pass I give in the words of Mr. Malloch, by whom, after much expert thought, the Vennachar design was drafted.

“Having taken a great interest in fish passes during thirty years, and having inspected passes all over the country, I came to the conclusion that there was great room for improvement. After several experiments, I found that I had overcome all the defects of the existing passes. These experiments I have put into practice, and I have found them successful beyond my expectation.

“The first important difference is that in my passes the gradient is 1 in 20, instead of being from 5 to 10, as in most of the old passes. The Deanston Pass, on the Teith, which is 1 in 27, is exceptional. This came about somewhat by accident. The weir was formed before the pass, and the weir was 1 in 27.

The gradient was so flat that there was no need for a pass. All that was required was that the run of the water over the smooth pitching should be broken.

“The next most important difference is that, instead of having only one opening for the water to go through, I have from three to eight openings, according to the width of the pass. The advantage of this is that from three to eight times the quantity of water that flows through the old pass goes through the openings before any gets over the top. This great increase entices fish to enter. Even if more than double the quantity went down, the fish could easily run through; whereas, with so much, the old pass would be quite useless.

“The stones which are placed in the pass stand from 18 inches to 30 inches high, according to the size of pass. They are placed so that each row will be opposite its neighbour, breaking the force of the water 27 per cent. The fish do not have to jump over each barrier, as in the old pass—a task they detest and usually decline. They swim through the openings with the greatest ease, and never attempt to jump over the top. The gradient being so flat, they swim up the pass more quickly than one can walk; fish never remain in the pass.

“The advantages of the flat gradient and the openings are that spring and summer fish new from the sea go straight through. In this the pass differs from all other passes. Where control of the water can be got at falls the pass can be made the same width throughout; but at weirs where control has been

SECTION CD.

ELEVATION EF.

SECTION GH.

SALMON PASSES ON NORTH SIDE OF RIVER CHANNEL AT OUTLET FROM LOCH VENNACHAR AS THEY WILL BE WHEN REFORMED.

rendered unattainable by abstraction of water for mills the pass can be made double the width at the intake. In this also it differs from the others.

“The advantage is that at times when the mills do not require the water double the quantity goes down the pass. There is a similar result when the river rises. When the mill lead cannot contain all the water the pass gives the fish a free run in any state of the river. It requires no attendant from one year’s end to the other. In nearly all other passes the water requires to be regulated, and for weeks at a time fish are unable to get through.

“Not a few passes such as I have described have been erected. In every case fish have ceased to jump at falls and weirs ; no fish remains behind.”

What is everybody’s business is nobody’s business. Probably that is why the science and art of conserving rivers has made such haphazard progress. Now at length, however, there is hope. Any river that is equipped with storage and passes will speedily recover. I have dwelt on details of the subject for reasons which must have become manifest. When all is said and done, no class in particular is to blame for the sad disorder revealed in not a few of the passages in Chapters vii., viii., and ix. Agricultural drainage changed the character of many rivers. Waters that long ago used to be of considerable flow all the year round became raging torrents in time of rain, and rather stagnant brooks in time of drought. That was the origin of all the evils. Many waters had become scarcely fit to be haunts of salmon. Even

the largest rivers were seriously affected. Places in them that of old must have been scarcely noticeable obstructions became impassible to the fish in time of drought. How can we wonder that the state of affairs was regarded as hopeless ; that the lower proprietors saw no harm in taking all the salmon that came their way, that manufacturers were allowed to cast their refuse into the waters, and that towns disposed of sewage by the same means ? In some cases the rivers, as salmon rivers, were, by common consent, regarded as doomed. They were no longer as Nature meant them to be, and there was no inkling that they might become so once again. The unexpected, however, has happened. It actually is possible to put the rivers into something like the state of nature. When the possibilities of the storage system are realised, we shall soon see an end to public indifference and to the conflict of private interests. These evils will readily remove themselves when it is known that the rivers can be made to flow brimful and equably even at the height of summer. They arose from reasonable despair, and will disappear at the touch of reasonable hope. Already, most notably in England, as is shown in Chapter ix., there is a marked awakening. Even among those who are not sportsmen, there are many signs of a growing sense that the rivers should be full and pure ; and there never was a time when those who do fish, a class becoming larger and more influential year by year, were so anxious that opportunities for sport should not be wantonly destroyed. Storage, which solves the

fundamental problem, will lead to a speedy solution of all the incidental difficulties. Whenever they have a fair chance salmon multiply with remarkable rapidity and hatcheries are unnecessary. It seems not too much to hope, then, that practically every salmon river in the kingdom will ere long be as good as it was a century ago.

CHAPTER XII

THE OTTER'S STONE POOL

No Poaching !—Miss Winsome—A Charming Meal—Yellow Sally—Sea-trout and Salmon—Claret and Champagne—An Error of the Head—Two Kinds of Salmon—Whir-r-r-rrr !—A Pretty Picnic—A Valiant Game-keeper—Escape—All's Well.

THE pool had long been an attraction. Passing it often on our way to the stretch of the river which we were privileged to fish, we had always been discovering in it some fresh merit. Had there been a run of salmon or of sea-trout? If so, many of these fish were sure to be resting in the neighbourhood of the Otter's Stone. All through the season, too, brown trout were teeming there. Whenever there was a rise of fly you could see them making the black water boil in the exciting manner peculiar to the Tay. In most waters the heavy trout rise gently, making mere dimples on the surface, while the small ones leap and splash; but in the Tay, as on Lochleven, the rise of the large trout is violent. Then, if there is a hatch of succulent flies anywhere

on the river, it is sure to be near the Otter's Stone. Perhaps that is because the pool is screened on the east and the north by a semicircular knoll, and lies open to the sun and the west wind. Besides, it had always looked very easy to fish. In many parts of the Tay, when the water is normal, or lower than that, the sides are shallow, and the channels in which the fish lie are too far off to be reached easily; but in the pool, on our side of it, the water is deep to the very edge. Above all, the pool is out of bounds. It is just beyond the march, a hill burn dividing the domain of Sir John from that of his next neighbour on the south. Perhaps that was its main attraction. It may be that the fish in the pool were like the forbidden fruit which somehow always seems the sweetest. At any rate, they had been very tempting to Miss Winsome. Often, when she and I were guests at Sir John's, I had found difficulty in persuading her not to take a cast in the pool on our way to the places where we could fish lawfully. "What would it matter if we did get a fish here?" she had reasoned. "Anybody seeing us landing it would just think it had run us down from our own bit." "If the fish were anything under two pounds," I had answered, "that excuse would not work." "But they seem to be all above two pounds," she had insisted; and to that argument, taken by itself, I had found no answer. Certainly the trout, which showed themselves frequently, did seem all to be uncommonly stalwart. It was only through a charming feminine deference to the moral

superiority of man that we contrived to refrain from ignoring our neighbour's landmark.

One day, however, Miss Winsome made a suggestion in which there seemed no harm. We had been fishing in the customary parts all morning, and, with comfortably heavy baskets, had reached the end of our stretch. "You're still determined not to poach a little, I suppose," she said; "but surely we can have lunch in the Enemy's old fir-tree?"

The idea was alluring. On a bright, hot day the fir-tree was the very place for an outdoor meal. It grew out of a precipitous sandy bank just behind the fishermen's narrow track by the side of the river. It was a stately tree, from the bole of which, about twelve feet above the roots, two thick branches, like the limbs of an enormous catapult, forked out and up. Broom stood in patches on the bank. By gripping the bushes we could climb, and then step into the curves of the old tree from a branch which drooped to the bank on the inside.

"Come on, then," I said, having considered the suggestion. "You go first," I added, when we came to the spot, "and I will hand up the luncheon basket when you're in the tree."

"Just a moment," said she. "This end fly is rather worn. I think I'll put on a Yellow Sally. Sally's due about this time of the year; in fact, I saw her out to-day, just round the corner there. If I put Sally on now, she'll be well soaked when we come down again. You run up, and I'll follow in a minute."

I did as I was bidden, and from the eyrie in the fir saw my companion throw her line upon the pool and then fix her rod by the spear between two stones. She had chosen a peculiar place in which to soak a fly. Her rod hung over the point of a small peninsula slanting down the stream and carrying the main current towards the middle; her cast was moving about in slack, deep, rippling water a good many yards from the bank. I could see Yellow Sally swimming gently, but vivaciously, to and fro, a little under the surface.

Rarely had I relished a luncheon so much as that which I was soon enjoying. Miss Winsome is daring in pursuit of trout, and, as has been indicated, she has no pedantic respect for the Game Laws; but she is an exceedingly merry companion, and was surely a safe one up a tree. What more could a fellow want? Sir John's butler had done his duty well. In our basket we found a chicken, a dainty pie, other things to eat, and two bottles of wine. Here was I, after a morning of brisk sport, and with the prospect of more in the afternoon, lunching in an immemorial tree, by the bank of the grandest river in the kingdom, with a pretty girl! What more, I ask again, could a fellow want? It was like living in the Forest of Arden.

This feeling seemed to call for expression in phrases which naturally took in the blueness of the sky, the sigh of the south wind, and the songs of lark and missel-thrush; but discourse on this theme was cut short. Miss Winsome is a

damself of fine sensibilities and rather hostile to sentiment. Her interests were purely practical. She desired to be informed as to what was the difference between a sea-trout and a young salmon. How was she to distinguish? In her basket, she said, she had a fish about three pounds. It was exactly like a salmon; yet surely it was too small to be one?

"What's his tail like?" I asked, dropping from poesy with a thud.

"What has that to do with it?" Miss Winsome asked.

"The tail of a salmon is more forked than that of a sea-trout of the same age."

"Ah," she said thoughtfully, as if trying to remember, "I think the tail is rather straight. Is there no other difference?"

"On the slanting lines from the dorsal fin to the line along the middle of the side a sea-trout has fourteen or fifteen scales, and a salmon has only twelve. Do you see the birds?—

"The woosel-cock, so black of hue,
With orange-tawny bill,
The throstle with his note so true,
The wren with little quill."

"Claret," said Miss Winsome, "is a dull drink by itself. It needs something to stir it up. Lemonade has been forgotten. Please pour some champagne into my glass."

I vowed that the wines would make an evil blend;

but she showed no more respect for chemistry than she had shown for Shakespeare. "Things," she remarked, "always taste best when they are pretty to look at, and a little brightening improves the colour of claret. I've tried it often. There are sea-lice on my three-pounder. That's good! It must have come up with last night's tide."

"Yes; and what a joy it must have been to run up this wooded river in the moonbeams! And to think of it now—its next stage the cooking-range!"

"That's a wrong tack," said Miss Winsome. "Fine words from a man who's browsing on the wing of a chicken! I can't join in these emotions about animals. If I did I should have nothing to eat. Besides, it seems to be crooked thinking. Have you ever noticed that people who rejoice in their love of cats and dogs and birds are always those who can't get on with human beings?"

I admitted that they were tartars as a rule.

"I am sorry to see that Mr. Andrew Lang has taken to this sort of thing. He says that worm-fishing should be prohibited everywhere, because it's not fair to the worm. Yet I've always understood he's a good man. Of course, it may be a mere slip of judgment with him, from his having to think so much—an error of the head rather than of the heart. Men of letters sometimes get hold of wrong ideas in solitude, and then put them into print. Perhaps that comes of their being so much in the study by themselves."

"Nor doth this wood lack worlds of company,
For you, in my respect, are all the world :
Then how can it be said, I am alone,
When all the world is here to look on me?"

"By the way," said Miss Winsome, "I've found out a singular thing about maggots in the gills of a salmon. You would think that they're a bad sign; but they're not. Mr. Malloch explained the matter to me when I was at Perth yesterday for flies. There were in his place several salmon just out of the Tay. He pointed to two in particular, and said that, although he had not examined them, one would have maggots in the gills and the other wouldn't. It turned out exactly as he said. Then he asked me which did I think the better fish? Of course I said, 'The one without maggots.' 'No; that's wrong,' he told me. 'Salmon that have maggots are'—I forget exactly how many per cent—'superior'—in fatty matter, and so on—'to salmon that haven't.' I then asked how he had told the one with maggots from the one without. He said by the irregular dark spots, like small splashes, on the sides. That was the one that had the maggots. It seems that it used to be thought a bull-trout—that is, a cross between a salmon and a brown trout or a sea-trout; but now it is understood to be a real salmon."

"Of course, all that is only Mr. Malloch's opinion."

"Good enough for me. Sir Herbert Maxwell says that as regards salmon and trout he is the most learned naturalist in the country."

"Sir Herbert seems to have been a bit off the line about the spring sea-trout. Now, don't you think that, as we have had our lunch, and there may soon be another rise of fly,——"

Whir-r-r-rrr !

That represents, though feebly, a sound that suddenly rose from the pool. On looking round and down we saw that the rod fixed by the spear between stones at the edge of the water was in a lively state. It was bent and quivering, and the line was being torn across the deeps.

Simultaneously we both moved to go down; but neither of us was expeditious. We seemed to be hung dangerously high in the air. It had been easy to reach our seats on the branches; but it was not easy to quit them. For a moment I thought remorsefully about having looked upon the wine-cup when it was red and yellow; but soon I realised that the difficulty arose from just having peered down the side of the tree towards the river, which, unlike the side we had ascended, was perpendicular and of giddy height. In short, we had lost our bearings somewhat.

Miss Winsome, however, had not lost her wits. "I hope," she remarked, "it is not Yellow Sally he has taken. The knot wouldn't be all right."

"That," I said ruefully, "doesn't matter. Look !"

She looked in the direction I had indicated. "Two of the Enemy's gamekeepers," said she; "and a third coming round the bend in a boat."

"This," said I, "is a pretty picnic. Hide !"

She dived behind her particular branch, and I concealed myself behind mine. As soon as we were uncomfortably settled one of the gamekeepers had seized the rod.

"We seem to have come on they poachers at last," he said to the other. "We'll nab them this time."

"Golly, what a fisher!" I heard Miss Winsome muttering. "See how he holds the rod! Nearly straight out! It looked far better when fishing by itself."

That was true. The gamekeeper did go about his unexpected privilege clumsily. There seemed danger that the gut might snap at any moment. If the rod is not held pretty high one cannot measure the strain. Nevertheless, luck, which favours the lame and the lazy, favoured the gamekeeper. The fish stopped in his rush before the reel was empty. Then he leaped, and bored, and sulked, by turns; but it became evident that he was yielding. The second keeper was ready with Miss Winsome's landing-net, which had been lying beside the rod. He dipped it into the water when, for the first time, the fish came within a yard of the bank.

"A grilse! Under his head, you silly!" exclaimed Miss Winsome, forgetting our equivocal situation. Turning to me, she added, in a whisper: "He's big enough to jerk out if he gets a smack at the net with his tail."

Fortunately, the Enemy's troops, being deeply engaged in the diversion, did not hear this monologue; and soon the fish was landed.

"What's to be done noo, Peter?" said one, as the gamekeepers seated themselves just below our harbour. "Whaur d'ye think he'll be?"

"Dear knows, Tam," said Peter.

"At ony rate, it's weel we ha'e 'im by the heels noo," said Tam. "I'll ha'e a chance o' gettin' to ma bed, instead o' bein' oot every ither nicht."

"But ha'e we got 'im by the heels?" said Peter.

"Aweel," said Tam, "I canna' gang sae far as to say I see 'im; but he maun be i' the viceenity. Naebody but a daftie wud gae 'wa' withoot sic a bonnie rod."

"There's something in that, am thinkin'; but, Tam, he may ken what an awfu' deevil ye are wi' the poachers."

"Aye, mon; maybe," said Tam, touched by the compliment.

Peter was encouraged by his chief's complacence. "His Lordship," he said, "will be weel pleased when we tak' hame the scoonrel's name an' address. Of course, we'll tak' the rod and net?"

"Of course. It's no' exac'ly in accoord wi' the law o' interdic'; but we'll dae't."

Peter was mystified, but seemed impressed. "It's a graun' thing, book-learnin', Tam. But whaur the de'il's the poacher?"

"Ca' canny, Peter, lad. I'll ha'e 'im if I have to sit here a' nicht."

"Losh, Tam, look at yon!" exclaimed Peter, rising hastily to his feet, and pointing to the boat.

"Dodsake, aye! The laddie has a fush on! This often happens at that bend."

Off they went to the assistance of the laddie. The difficulty into which he had fallen was explicable at a glance. The Otter's Stone Pool has two almost-rectangular bends. Apparently the three game-keepers had been fishing it from the top, and, in the course of their harling, had disappeared behind the last corner when Miss Winsome and I ensconced ourselves in the fir-tree. Evidently, also, the youngest gillie had been told to bring the boat to the head of the pool again. He had left a line out, and while he was turning the corner, below which he had been keeping in the slowly-running water on the near side, the lure had been carried by the current into a place over which the boat had not passed, and had been taken by a fish. What a predicament! Even at summer level, the Tay is not to be compared with the puny Tiber or with the Thames. In many places, being a river with large margins, it is shallow and wimpling at the sides; but through the middle of every pool it pours a powerful flood. Had the laddie kept to the oars and on his course, the rod would have been overboard the moment all the line was out. It was, therefore, the rod he was attending to. The oars were hanging on their pins. The boat was drifting, helpless. Within two or three minutes it was beyond the turn of the river, and all that was left to us of the stirring scene was the salmon-rod wrigglingly erect above the bank.

This was our opportunity. We used it with

dignified leisure. The Enemy's hosts were gone. At the best they could not be expected to rescue the laddie and the salmon in less than half an hour. Thus, Miss Winsome and I were in no whit flurried when, having cut across the gorse-covered hill to the high road, we entered the avenue of Sir John's abode. True, there was a slight embarrassment afterwards. On entering the drawing-room before dinner, what did I behold? Miss Winsome in sprightly and ingenuous conversation with the Enemy! She was assuring him that, while no river in the country had such clouds of March Browns as the Tay, somehow or other the March Brown was not the best fly there. Yellow Sally was the fly for her. Sally, in real life, was a comparatively rare bird, which, no doubt, was why the trout appreciated her so highly. To this discourse the Enemy listened with rubicund and gallant courtesy. Would not Miss Winsome give Sally a trial on the Otter's Stone Pool? Although that was on his own stretch, he really did think he could commend it. Always there were big trout there; often, in autumn, grayling; and the first run of grilse was due. He did trust that next time she went fishing Miss Winsome would honour him by casting a fly on the pool. As she placed her hand on the Enemy's arm and turned towards the door, I heard her most graciously accepting the invitation.

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THE END

THE PICTURE OF
SALMON FISHING

AFTER

JOS^H FARQUHARSON, A.R.A.

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