

The first stocking project of the Cape Piscatorial Society. Experiments with trout in peat-stained, acid water. Transport of brown trout to the Silvermine (Muizenberg) Reservoir, on December 5, 1931.

Halt at the break-pressure tank, half-way up the bridle path. Ranger, A.C.H., A. D. Harrison and Joan Simpson.

(Photo: R. G. Simpson)



THE EARLY TRANSACTIONS OF THE CAPE PISCATORIAL SOCIETY

By A. CECIL HARRISON, Secretary since November 1931

(Reports from the Society before the publication of PISCATOR in March 1947)

First Annual Report, November 1932. After the first twelve months the membership was only 44, but many were experienced trout anglers and some had been members of the Western Districts Game and Trout Protection Association (constituted in 1902).

The executive was headed by the *President*, Hon. Mr. Justice E. F. Watermeyer; *Vice-President*, Capt. Charles Struben, with Dr. A. J. Ballantine, Dr. Keppel H. Barnard (S.A. Museum), Dr. H. M. Bosman, Dr. Fred B. Dreyer, Dr. Cecil V. Impey and Dr. P. de V. Moll and Advocate P. T. Lewis, Fred Bowker, A. T. Packham and R. G. Simpson. Valuable associates were Mr. F. G. Chaplin (Curator of the Jonkershoek Hatchery), Donald Swan (Groot Drakenstein Angling Society) and James Perkins (Worcester Trout-Anglers' Association).

One of the first steps taken was by the Society's influential Legal Sub-Committee in rectifying the weaknesses in the Cape Fisheries Ordinance and Regulations, which had resulted in failure of cases of alleged illegal fishing for trout in "private streams". As the result of their recommendations the Ordinance was amended in August 1932 with the effect that its powers were extended to all "public streams" (in terms of the Irrigation Act) and that bait-fishing for trout was made illegal and trout-fishing licences were necessary. The appointment of 25 Hon. Fisheries Inspectors (for fresh waters) was made for the Western Cape for the first time.

The field work of the Society had commenced in December 1931, with the stocking of the brown water of the Muizenberg (Silvermine) Reservoir with trout fingerlings from Jonkershoek, transported from Lakeside in two fish cans on a donkey up the mountain track. This was followed by two more transportations by the same primitive method. The brown trout adapted themselves to the peat-stained acid water, but an

experiment with rainbow trout demonstrated the tendency of rainbows to leave a water which they disliked, and they left the reservoir with the first overflow over the spillway and were held by a wire screen placed below it. None of the brown trout were involved in this downstream migration. This unsuitability of rainbow trout for stocking peat-stained, acid water was further proved when large numbers of rainbow fingerlings were planted in Steenbras Reservoir.

The Society carried out the first introduction of largemouth bass in waters of the Cape Peninsula. In September 1932, members transported 40 mature largemouth bass, netted from the Cape Explosive Works lake, Paarde Vlei, to the Little Princess Vlei at Heathfield.

In July 1932, a deputation from the Society waited on the Water Works Committee of the Cape Town City Council and received permission for members to undertake experimental trout fishing in the Steenbras Reservoir.

In that first year of work the Society published nine circulars reporting progress on the various projects undertaken.



The Second Annual Report of November 1933 was a longer and more detailed document. There had been an increase of membership to 82. The executive of officers, committee and sub-committees was continued much as before, and regular monthly meetings had been held.

On an instruction from the Annual Meeting of December 1932 the committee had organised a conference in May 1933 of representative members of the country angling associations in the Cape Western Area on the legal protection of black bass and European perch not included in the trout and other non-indigenous fish regulations. Recommendations were made in circular form and in the press and submitted to the Provincial Administration with the request that regulations be applied to the whole Cape Province. (The regulations were gazetted in November 1933.)

As the result of the Society's approach to the Provincial Secretary for information about the number of trout-fishing licences issued in the Cape Province, these figures had been obtained from the Commissioner of Inland Revenue covering the previous financial year. The total was surprisingly small, considering the popularity of trout fishing, only 284 in the whole Cape Province. It was evident that very little official attention had been paid to this measure for trout protection.

A further concession was that the Society was authorised to obtain the names of licensees at revenue offices in the Cape Western Area. The total was only 118 licences, and it was notable that there were many omissions and in some country towns there had been no issues at all. A confidential circular from the Society was sent to the other associations, Hon. Fisheries Inspectors and some interested riparian owners.

A further recommendation from the Society was that a reduced licence fee be instituted for women and juveniles (as in Natal).

Many pages of this Annual Report were devoted to the Society's stocking and experimental work with trout in the Muizenberg (Silvermine) Reservoir, with permission from the City Engineer's Department, Cape Town. With generous assistance from Mr. F. G. Chaplin of the Jonkershoek Hatchery a number of batches of brown trout fingerlings were transported (by donkey and man power) to this very brown and acid water, as well as hundreds of brown trout eggs.

From January 1933, when young brown trout from the earlier plantings had grown to between 8 in. and 13 in. long, members of the committee did some experimental fly fishing, and brown trout were released after being marked with silver wire and a series of coloured beads for future reference. In relation to the survey of the natural food supply, a few others were killed for stomach contents examinations. Scale readings were done in many cases.

A general review of the subject of trout in acid waters was given. The average acidity of the reservoir water in Silvermine and Steenbras was pH 4.9 with temporary side streams nearer to neutrality. Eyed ova experiments in boxes in the brown water gave very poor results, with notable lack of tolerance of the sac-fry. A more elaborate test in a small pond dug out in the bottom of a side stream was also tried, with no marked success.

In the first experimental fishing season at *Steenbras Reservoir*, September 1932 to May 1933, only about a dozen permits had been issued to members, most of whom had been unlucky to pick on unsuitable weather conditions. The only brown trout stocking record at that time was of 1 000 brown trout fry planted on September 27, 1928. On May 13, 1933, a member caught a brown trout male of 18 in. long, weighing 2½ lb., on fly about half-a-mile from the top of the reservoir. Another of smaller size was lost when the hook came away. This was in a strong south-easter. The scales showed that the fish was 5 years old and was thus from the 1928 stocking. There was no record of brown trout being introduced before 1928; but in September 1930, 2 500 rainbow fry and yearlings had been released, but from the experiments with rainbows at Silvermine Reservoir it seemed unlikely that they would have adapted themselves to the brown water.

It was recommended that only brown trout advanced fingerlings be stocked in Steenbras Reservoir, reared until the end of November, as fish of that size had given good results in the similar water at Silvermine Reservoir.

No definite results were to hand in relation to the Society's stocking with 40 large yearling black bass during September 1932 in *Little Princess Vlei*, Heathfield. The turbidity of the water hindered observations, but some experimental netting had been done without taking any bass, although small indigenous fish and carp were very plentiful.

The Society had organised the stocking of Large Princess Vlei with 30 large black bass from Paarde Vlei on May 10, 1932; and for the transport of a few mature bass to Sand Vlei, Lakeside, as a breeding experiment in the temporary water at the Lakeside Pavilion before the usual summer drought set in.

With the co-operation of Mr. F. G. Chaplin the Society had sent a questionnaire to all recipients of bass fingerlings from the Jonkershoek Hatchery. It was hoped that valuable information could be collected while the history of the bass stocks was still known. The response had been excellent. This information and the results of a more detailed survey of the bass position in Paarde Vlei would be included in a report on the early stages of acclimatisation of black bass in the Cape, undertaken by A.C.H. for the Union Division of Fisheries.



After the Second Annual Report of November 15, 1933, the Annual General Meeting of November 30, 1933, altered the period of the Society's financial year to July 1 to June 30 in each year (as at present).

The Third Annual Report of August 17, 1934, covered a period of nine months. There had been an increase of membership to 93. A patron had been elected; His Excellency the Governor-General, the Earl of Clarendon, a keen and expert fly fisherman. The executive remained much as before.

The trout licence enquiry had been continued as an annual event. There had been only a slight increase in issues, but again there had been no sales at the Revenue Offices of Wellington, Ceres and Tulbagh. The Provincial Administration could not effect some of the proposed alterations on financial matters until the Licensing Ordinance could be amended by the Provincial Council.

The field work in connection with trout in brown, acid waters had been continued. Up to December 1933 the various small batches of brown trout that had been transported by donkey to the Silvermine Reservoir amounted to 1 660.

The previous Western Province Angling Association had reported in 1909 that their attempts to stock this reservoir with small trout fry had been a total failure as it was believed that the platannas (clawed toads *Xenopus laevis*) had devoured them all. That may well have been the case, and they did not try larger trout. In November 1932 the Society had placed eight two-inch fingerlings in a small rearing pond. Five weeks later they were all netted out and put in the reservoir, grown considerably in length and girth, and untouched by several large platannas left in the pond. In the limited amount of fly fishing that had been allowed in this preliminary period only small trout had been caught and released.

At *Steenbras Reservoir* 13 permit holders had fished without success. The City Council had agreed to continue the stocking of this water, but only 300 brown trout fingerlings could be obtained in January 1934. Small fish, about 1½ in. long, coming through the pipeline from Steenbras and found on the screen at Newlands waterworks were the indigenous "mountain minnows" *Galaxias zebratus*—the only native fish of the Steenbras River valley.

Witte River, Bain's Kloof. The President, the Hon. Mr. Justice E. F. Watermeyer, had given the Society the control of his fishing rights on the De Beer's farms Oostenberg and Het Doolhof in the Wellington district. This upland river had long been noted for its exclusive population of brown trout from the early stockings of the 1890's. Several members of the committee had visited this river late in the season after the grant had been made in April 1934, and excellent dry-fly fishing had been enjoyed with brown trout between 1½ and 2 lb. in the low and clear water. The river-bed was found to harbour great numbers of caddis larvae, particularly the dark elephant-tusk forms. All large female trout taken in April were very advanced in spawn.

Forestry Department Fishing Permits. These had been instituted in September 1919, enabling members of *bona fide* fishing associations to obtain season permits to fish streams on forest reserves at half the usual price. Very little knowledge about this matter had existed amongst trout anglers, but in 1934 Mr. F. G. Chaplin arranged with his friend, the Inspector of Forestry, Cape Town, to put the C.P.S. in the picture. The Secretary was shown the wall maps of all the areas involved and supplied with a set of smaller copies for reference. At that time issues of these permits could only be made by the Conservator of Forests at Kluitjes Kraal, Wolseley, so arrangements were made for the Society to obtain them for members by post at 10/- per season. These permits were additional to the Cape Provincial trout-fishing licence and were, in effect, permissions from riparian owners. (Later, of course, forest permits were obtainable in Cape Town through the Society.)

Black Bass in the Cape vleis. The Third Annual Report contained references to Little Princess Vlei, Heathfield, stocked in September 1932, where developments were awaited, but an observant member had seen some in the shallows, and young fish of the year 5 to 6 in. long. No more definite results were reported from *Large Princess Vlei*.

At *Sandvlei, Lakeside*, the experiment with a small stock of breeding bass in a temporary water had shown some results. In December 1933 A.C.H. had found one solitary bass fry of only about 0.4 in. long swimming at the surface of the water off the Pavilion boating stage. It was netted and placed in an aquarium and reared to a positively identifiable stage. It was evident that at least one pair of adult bass had bred amongst the host of carp, but the shoal had been broken up. On March 17, 1934, A.C.H. accompanied Mr. Chaplin and an assistant in working a small-mesh seine net in the shallow water off the Pavilion, and one young largemouth bass of 5½ in. was obtained, with scales showing that it was quickly grown.

Great difficulty was experienced in the netting operations amongst the masses of large carp, which had been driven to take refuge in the small amount of water remaining with the advancing drought. This experiment had demonstrated that black bass are unlikely to breed successfully in any water dominated by large carp; the guarding male bass being unable to protect the eggs and sac-fry on the nest.

On that occasion one adult bass was found amongst the thousands of dead carp when the water disappeared, and the City Council workers had to remove and bury the stinking remains.

Another test with largemouth bass was made in July 1934, when 15 adult fish were transported by the Society to Olieboom Vlei, on a flower farm on the Cape Flats. There was a temporary success but the stock and progeny were lost later in the summer drought.

On the same day 15 largemouth bass adults were taken to Zeekoe Vlei to follow up the previous stocking in a patch of water clearer than the rest of the vlei. In July 1934 the clear water of *Rondevlei* was stocked with 10 largemouth bass from the Jonkershoek Hatchery.

Palmiet River, Elgin. From May 1933 this peat-stained river was stocked by members with some larger bass brought from Paarde Vlei, and over 2 000 fry bred in farm dams at Elgin.

First Report on the Early History of the Acclimatisation of Largemouth Bass in the Cape Province, by A. Cecil Harrison. Investigational Report, No. 4, 1934, Fisheries and Marine Biological Survey. With photographs and diagrams, 90 pages. The committee was informed that the final proofs had gone to the Government Printer, Pretoria, and that a number of separate copies would be available to members.

Research Sub-Committee. Copies of Dr. Keppel H. Barnard's papers on "South African Mayflies" and "South African Caddis-flies (Trichoptera)" had been made available to the Society. A number of specimens of freshwater fishes and invertebrates had been identified for members, and Miss Edith L. Stephens, Senior Lecturer in Botany, University of Cape Town, had offered to examine water plants. Many sets of scales from trout and bass had been examined for age determination.

A further experiment on brown trout eggs was in progress in a miniature hatching plant at St. James, using the domestic water supply flowing at the rate of 5 to 6 gallons an hour. Results would be given later.

The Fourth Annual Report of August 1935 showed an increase of membership to 118. The officers and executive remained and there had been additional appointments to the Research and Stocking and Development Sub-Committees.

The trout-fishing licence enquiry showed a slight general increase, the only notable event being one person convicted and fined for fishing the Hex River without a licence in February 1935.

Progress with the acceptance of the Society's recommendations for the amendment of the trout and other non-indigenous fish licence fees was a resolution of the Executive Committee of the Provincial Administration to be effected in 1936, viz., that the trout etc. licence be: male adults 10/- per month, 20/- per season; women and juveniles under 16 years 5/- per season; and for black bass and perch only 2/6d. per season.

A more important general matter was the submission of new consolidated fisheries regulations to the Executive Committee of the Administration embodying other recommendations from the Society, notably one relaxing the strict "fly only" rule for the taking of black bass in non-trout waters. (There was continued confusion for some years thereafter until the principle of "trout areas" and "general fish areas" was introduced.)

There was another long report on the Muizenberg (Silvermine) Reservoir project of testing the ability of brown trout to thrive in a peat-stained and acid still water. Not many members had visited the small reservoir, which involved a walk of 3 to 4 miles up a mountain track. The trout of 12 to 13 in. long had made slow growth and were not in high condition. The "tap-water" experiment with brown trout ova (from wild fish trapped at the Pirie Hatchery, King William's Town, via Jonkershoek) was successful to the extent that 92 alevins were hatched from 104 eggs, and 88 healthy fry, $1\frac{1}{4}$ to $1\frac{1}{2}$ in. long, were reared on live foods (garden pond daphnia and insect larvae) and transported in a knapsack can on the back of the Secretary up to the small rearing pond. A healthy exercise, but not of much practical value.

As the 7-acre reservoir had received some 2 000 brown trout, further stock was not added after December 1934, and the results of the following season were awaited.

Steenbras Reservoir. Very slow progress had been made with the brown trout stocking programme. There were no angling reports to be made, and the stocking done was due to the personal work of Mr. F. G. Chaplin on behalf of the Society. He had obtained 2 000 brown trout eggs from the wild fish stripped at Pirie Hatchery and reared the fingerlings for about six months. He had made journeys to Steenbras with four batches amounting to 744 fingerlings. This was really the first serious attempt to stock the reservoir with reared fingerlings—as distinct from small fry. The fish were supplied on the Society's account with the Provincial Administration, and a further 1 000 had been ordered for the next season.

Kromme Rver, Bovlei, Wellington. There was a note in this report that this small stream from the Groenberg catchment in the Berg River system, which receives the irrigation flow from the Pombers Slood from the Witte River (Breede River system) had been given 65 brown trout on May 11, 1935, on the Society's account from Jonkershoek. This was on the farm of Mr. Dan Retief, Jnr., a member. Mr. Retief had taken a 2 lb. rainbow there recently; which must have come up from the Berg River.

Witte River. During the 1934/35 season about three dozen brown trout had been recorded, between 8 oz. and 2 lb. A.C.H. had found that the average Condition Factor of the brown trout of this upland river in summer was C.F. 38 for fish from 1 lb. to $1\frac{1}{2}$ lb., against the average C.F. 43 for brown trout of similar size in the Berg, Dwars and Wemmer rivers. (This finding has been borne out with Witte River brown trout ever since this early investigation.) In December 1934, A.C.H. had made a careful count of the visible brown trout population over 300 yards of the Second tributary, recording

14 trout from 6 in. to 1½ lb., but long stretches were too fast and too bushed for examination. Undersize trout were seen rising freely in the evening in some of the larger pools, where none could be seen during the day. The committee decided that it was unnecessary to plant extra hatching-bred trout in this river as the natural stock was large, but very shy!

Black Bass, Breede River. Two members had made an examination of part of the Breede River on the invitation of the Worcester Trout-Anglers' Association in February 1935, to investigate reports that young fish were present besides the large bass which had been caught from Worcester down to Swellendam. They were able to confirm that yearlings were very plentiful and that above the Brandvlei outlet hundreds of recent breeding were found.

Little Princess Vlei, Heathfield. Stocked by the Society with large bass in September 1932. Owing to the turbid water direct observations were precluded, but members had taken bass of 10 in. to 13½ in. long and returned fingerlings of 4 in. to 5 in. long. One of 1½ lb., taken in April 1935, had scales showing that it had been bred in the vlei in 1933 about 12 months after the stocking. (The good fishing in this water was still to come.)

Large Princess Vlei. Stocked by the Society in May 1932. No definite reports had been received until March 1935, when Mr. S. F. Willmot caught and released two bass fingerlings of 4 in. to 5 in. long, taken on a spinner.

Sandvlei, Lakeside. The results of the stocking with breeding bass had been given in the previous Annual Report. In February 1935, during the removal of great numbers of large dead carp by the City Council, one bass of 2 lb. was found, one of those brought from Paarde Vlei.

The vlei was in fine condition after the winter rains, but there were no signs of fish life. The small experiment had served its purpose.

Olieboom Vlei. Stocked with adult bass in October 1934. Young bass fingerlings were seen in January 1935. In May 1935 A.C.H. visited the vlei when there were dozens of young bass in the shallows, and those taken on fly were from 5 in. to 7 in. long, but no adults were visible. (It was unfortunate that this rather promising bass fishery succumbed later to lack of water.)

Black Bass, Investigational Reports. The first investigational report on the early history of black bass in the Cape Province, by A. Cecil Harrison, No. 4, of 1934, had been published in March 1935, and 100 separates had been given to the Society. Further copies were bound with Annual Report No. 11 of the Fisheries Division.

A Second Investigational Report on the Progress of Largemouth Bass, 1935, was in preparation for the Fisheries Division. The committee had authorised A.C.H. to use the Society's resources in the gathering of information, and a second questionnaire had been sent out, as before. A great deal of additional matter had been obtained. Much of the general information given in the first report had been repeated in the second report because the Government Printer had not anticipated the public demand for the first document and it had soon gone out of print. The Division of Fisheries had made arrangements for a wider distribution of the second report.

Preliminary Report on the Groot Drakenstein Trout Streams. A general meeting of the Groot Drakenstein Angling Association in October 1934 had requested that the Cape Piscatorial Society should assist in an investigation of the causes of a lack of progress of the trout in their rivers, and make suggestions for a revised conservation policy. In the same month the committee of the C.P.S. had asked A.C.H. to compile a summary of the work he had done for some years in connection with trout-stream ecology in the Groot Drakenstein district, with suggestions for stream improvements. Circular No. 21 was issued in November 1934. (This was afterwards reprinted in PISCATOR No. 69.)

To be continued