

## THE LIESBEEK RIVER

*(There have been so many questions recently, more particularly from newer members, about the river in general and about the releases of mature trout into it, that some notes on the Liesbeek would seem to be useful.*

*This stocking used to be an annual event after the very early stockings, but in the last two or three years it has not been done as suitable fish have not been available. It is hoped, however, that a few fish will be introduced before the next season opens.*

*In the meantime the following extracts from earlier numbers of PISCATOR, more particularly from an article by A. C. Harrison and Dale C. Lewis in No. 74, should be of interest to the members concerned.—Ed.)*

In 1925 the Liesbeek River, flowing through a large suburban area of Cape Town, was badly polluted and considered by residents to be an evil-smelling open drain in summer and a serious flood menace in winter. The City Council was then induced to take the matter in hand. The polluting effluents were suppressed at their sources and rubbish dumping in its course forbidden. The flow in the dry months in the middle and lower reaches was improved by the constant addition of excellent spring water, and the winter flow was partially tamed by canalisation and embankment of affected parts. The Liesbeek was restored to its natural condition of an upland stream capable of holding the imported trout.

The improvement in 1925 would appear to have been brought about by the boiling over of a simmering state of public exasperation regarding the neglected condition of the Liesbeek in the midst of a civilised community.

On April 29, 1925, the Mowbray Ratepayers' Association wrote to the Administrator of the Province of the Cape of Good Hope expressing dissatisfaction at the continued neglect of the City Council to rectify the serious menace to health constituted by the Liesbeek River and asking for his assistance in this matter. This had been a serious complaint of Rondebosch, Mowbray and Observatory Wards for very many years; and although the City Council had made many promises of improvement they had not remedied the cause of the nuisance. Private persons and manufacturers were unlawfully polluting the river with the full knowledge of the Council's servants; and the quantity of spring water which should be passed down the river in accordance with the Ordinance was not legally sufficient. Actually action in the Council had already been sparked off in March and Mr. E. H. Croghan, M.A., F.I.C., Consulting Chemist (later Chief City Chemist), had been retained to conduct the investigation.

Mr. Croghan's river pollution report was a shining example of how such things should be done, a really great piece of work which was completely effective in gingering up the City Council to rescue the Liesbeek for posterity. The key points on the river given in Mr. Croghan's report are mentioned below as they are still useful today.

He said that the sources of pollution of the Liesbeek were obvious and preventable. It would be possible to restore the river to something like its primitive condition of purity without costly engineering work. He made six main recommendations, *all of which were carried out by the Council with complete success*:—

- (1) Dumping of rubbish, etc., into the river bed to be prohibited.
- (2) Owners of premises without adequate connection with the sewers be required to make alterations, and regulations be promulgated regarding the disposal of washing waters.
- (3) Owners of factories to be required to stop discharging trade wastes, etc., into the river, and the City Engineer to go into the matter of recovering such effluents into the sewers.
- (4) The Council to clean the river bed each summer.
- (5) All dams put into the river bed by owners to be abolished.
- (6) As soon as possible (with the expected increase of the water supply from the enlarged Steenbras Reservoir scheme) the use of Albion Spring water for public supplies be discontinued, and all spring flow run into the river.

The bad state of the Liesbeek was cured by stopping pollutions at their sources and by routine cleaning. As Mr. Croghan put it to A.C.H. in January 1954—"Simply by sticking to Nature!"

### THE CONSTRUCTION OF THE LAKE

In the late 1930's there were some particularly heavy floodings of properties in the vicinity of the Liesbeek River from the winter rains, and the City Council began an extensive improvement scheme to keep the river under control.



One of the items was the impoundment of excess flood water in the lower river in a balancing dam about two miles above the estuary on Table Bay. This was achieved by putting in quite a small weir across the river just below the road bridge leading to the Royal Observatory, with a crest 10 feet above sea level. This inundated part of the swampy green fields and formed a narrow lake of about half a mile long with an area of about 11 acres, with a depth of 15 feet in the centre. The higher banks surrounding the lake were laid out as park land with shade trees planted to form a permanent open space as a public amenity. Below the lake weir, which presented only a jump of about three feet for a trout, the Liesbeek continued to wind through water-meadows for over a mile before it joined the Black River.

This lake was completed in 1945 and it was filled during the winter rains of that year. At that time no carp were known to occur in the Liesbeek, although they were plentiful in the natural lakes on the southern side of the Wynberg watershed where streams flowed to False Bay. The indigenous fish of the Liesbeek were the Galaxias, previously mentioned, and the Cape Kurper, *Sandelia capensis*, mainly in the lower part of the river, with the possible ascent of mullet. When the new lake was examined in October 1945 it was a fine sheet of clear water, beginning to develop a good supply of invertebrate fish food items, including water snails. The platanna or clawed frog *Xenopus leavis* had become enormously plentiful.

### THE INTRODUCTION OF TROUT

As the conditions in the Liesbeek River had been so greatly improved and the water in the new lake looked so attractive, it was decided to try the experiment of stocking the impounded water with trout as a start. This was mainly on the recommendation of the City Engineer, Mr. Stanley Lunn.

#### The First Batch, December 1946

The Cape Town Council purchased 500 rainbow trout fingerlings, of about four inches long, which had been bred at the Jonkershoek Hatchery in June/July 1946. These were transported to the Liesbeek Lake on December 20, 1946, and released by the City Forest Officer, Mr. Colin Gohl, and A.C.H. All the fish were vigorous on release. (On the same day a similar batch of rainbows was planted in the Orange Kloof Forest Reserve, in the Hout Bay River.)

#### The Second Batch, February 1948

Hearing of this move, the proprietor of the Vineyard Hotel, Newlands, wished to experiment with trout in the Liesbeek where it bounded the hotel grounds, and constructed some small loose-stone weirs to provide holding water. In February 1948, 150 rainbow fingerlings bred at the Jonkershoek Hatchery in June/July 1947, were released there. It was reported that these trout had grown quite well before the winter rains set in. They were a year younger than those planted in the lake in December 1946.

We were therefore in a position to study the results of the introduction of the two age groups of trout in an unstocked water.

#### Early Upstream Movement

Reports of trout in the Liesbeek River in the suburbs began to be received in 1947, and at the Annual General Meeting of the Society in August 1947 it was mentioned that a trout of about 9 inches long had been seen near Westerford Bridge, Newlands. One of about 12 inches long was seen in a pool at Rondebosch early in 1948.

After the winter rains of July and August 1948 further reports came in of trout seen in various parts of the river, including the canalised portion at Rondebosch. The City Engineer's Department reported that one of their labourers had killed a trout of 14 inches long at Rosebank, and that all their employees were warned that the trout were protected. More definitely, several members of the Society watched a number of trout in a pool under the Sans Souci Road Bridge, which were being fed with raw meat by a sympathetic lady resident! (It is feared that she had a disappointment coming on September 1.)

In the meantime, A.C.H. and other members searched the streams in the Kirstenbosch area, but no trout or disturbed gravel beds could be found in the headwaters. It was indeed highly improbable that any trout from the two batches of December 1946 and February 1948 could have negotiated the fall of about seven feet just below the Paradise Road Bridge where the water rushed down a concrete chute through the arch of the bridge. (This matter was rectified afterwards by a stocking of the upper river and the reconstruction of a series of step pools by the City Engineer's Dept.)



### The First Angling Season 1948/49

A. R. Dresser recorded the first bag of Liesbeek trout on September 1, 1948, four from the Sans Souci pool on Alexandra fly, and one from the lower river under the lake weir, and scale reading showed that they were all aged 2+ years, from the first batch released in December 1946. They ranged from 1 lb. to 3 lb. W. Harding took two rainbows in the river at Newlands on September 2, both aged 1+ years, from the second batch released there in February 1948, very fat, C.F. 56 and 58, and weighing 12 oz. and 8 oz. Several other trout were known to have been caught in the Liesbeek system, but not recorded. The river system was proclaimed a "Trout Area" on September 17, 1948.

A seventh rainbow was taken in the river at Rosebank on September 19 by S. A. M. Atkinson on Invicta fly and a remarkable one of the 2+ age group. It was a female of 19 inches long, 3 lb. 16 oz., C.F. 50, containing frog and crab remains, and with only a few unshed ripe ova. Its scales showed it to have been 10 inches long at the 1947 winter, and 17 inches long at the recent 1948 winter with a strong spawning mark, and had then added a further 2 inches of plus growth. No doubt it had run upstream from the lake. These figures are quoted, as they are typical of the growth made by the rainbows of the first planting, before the picture was clouded by subsequent introductions.

In September 1948, eight rainbows from the first batch, age 2+, were recorded from the Liesbeek lake. They all ranged from 1½ lb. to 3 lb. The largest caught by P. C. Bam on the 26th on a Dusty Miller fly was a female of 18½ inches, 3 lb., C.F. 48, full of dragonfly nymphs and frog remains. The growth indications on its scales were similar to those of S. A. M. Atkinson's fish detailed above.

And then from September 17, 1948, the straightforward growth pattern of the first and second batches in the river system was spoilt by the introduction of a number of rainbows, some yearlings and some of larger size, from the Jonkershoek Hatchery. They were released in the lake, after being marked by the amputation of the adipose fins, and there were some browns amongst them.

Further records for the year 1948 disclose that a considerable amount of trout fishing had taken place in the Liesbeek system, as any licensed angler could fish on the municipal lands, and that there had been a big increase in the number of juvenile trout licences taken out. The latter aspect was welcomed as a move in the right direction, and indeed the future showed that many up-and-coming fly fishermen served their apprenticeship on the suburban river. It had not been possible to keep any record of the trout caught by non-members. The large trout released in the lake in September 1948 had been in rather poor condition after spawning at the hatchery, and became easy prey to the enthusiastic new anglers.

The best Liesbeek-grown rainbow handled to that date was found dead in the shallows of the lake on December 9, 1948, by S. A. M. Atkinson, and it had a fatal stab wound in the region of the vent. Its adipose fin was intact and it was perfectly fresh when picked up. It was a female of 19½ inches long, weighing 3 lb. 13 oz., and before receiving its injury and loss of fluid it might have weighed a couple of ounces more to give it a Condition Factor of 52-53. It was clean of old ova and there were the remains of a goldfish in its stomach. Its scales confirmed that it was not more than 2½ years old, with indications similar to those on the scales of the other three-pounders recorded. A. R. Dresser had taken two more rainbows in the river at Newlands, both smaller fish, but from the December 1946 stocking of fingerlings. One of them, 1 lb. 6 oz., had evidently been nurtured by the aforementioned "sympathetic lady". It contained green peas and a piece of steak, but took a Mountain Swallow fly!

Goldfish! Our anglers' belief that the lake was free from coarse fish, and a potential exclusive trout water, received a severe jolt! When the water cleared in the lake and the river below it, goldfish were visible in large numbers—shoals of them. Some were very large, quite 10 inches long, and very red, and graded down in size to bronze and blackish fingerlings. The goldfish, like the Parrot's Feather milfoil weed which was threatening to choke part of the lake and the river below, were no doubt the results of escapes from ornamental ponds. At that stage no common carp had been noticed—but that is a matter for subsequent treatment.

As previously mentioned, no trout from the first two plantings had been verified from the upper river above the fall at the Paradise Road Bridge, nor had any fry or fingerlings of wild breeding been noticed. On October 19, 1948, 1,500 rainbow fingerlings were brought from the Jonkershoek Hatchery and released in the upper Liesbeek River in the vicinity of Bishops-court. A search on the following day showed that they were well dispersed in the stony bed.

Fishing was hampered by the low state of the river in the early part of 1949 and the tremendous spread of the Brazilian milfoil in the lake, but the rains of April brought about an improvement. One at least of the surplus hatchery male rainbows with a cut adipose fin had regained C.F. 43 in the lake and weighed 2 lb. In May 1949, A. R. Dresser took scale samples from five rainbow yearlings from 5 to 7 inches long in Sans Souci pool, which revealed them to have been bred in 1948, but whether in the river or at the hatchery it was not possible to say. In any case, it showed that young rainbow stock was present in the river after the droughty summer period.



## SUMMARY OF SUBSEQUENT ANGLING SEASONS

### Season 1949/50

In September 1949, 21 rainbows were recorded from the river ranging from 10 inches to 14 inches long, and 7 from the lake including fish of 1½ lb., 2 lb. and 3 lb. Two of the marked rainbows released in the lake had moved up the river to Newlands. Some more surplus hatchery rainbows were released in the lake, and 750 fingerlings were put into the upper river in December 1949.

A very small rainbow trout fry was found in the Bishops court gravels (definitely identified and preserved), much smaller than any trout stocked, denoting wild breeding in the river. Trout were sheltering in the occasional deep holes of the upper river during the summer drought; in fact, A.C.H. tickled one of 11 inches under a tree root.

Two good bags of rainbows were taken in the lake in May 1950, six weighing 10½ lb., by R. W. Hazell, and three weighing 5½ lb., by Peter Butters. The improvement work done by the City Engineer's Department made possible the upstream movement of trout to above the Paradise Road Bridge.

In the early morning of December 14, 1950, Major R. C. L. Fitzwilliams caught a record rainbow trout near the head of the Liesbeek Lake on a Jock Scott fly. It was 20¼ inches long, weighing 4 lb. 2 oz., C.F. 50, containing three small fish and a crab. It was notable that when eaten, its fish tasted like salmon. It was not a marked fish, and its scales showed that it was 3+ years old, 5 inches/1948, 10 inches/1949 and 18 inches/1950. (This is still the largest trout recorded from the Liesbeek system.)

### Season 1950/51

On the whole the yield of trout from the river and lake was satisfactory. The best trout reported from the lake in that season were one of 3 lb. 2 oz. on September 1, 1950, by Peter Butters, and one of 3 lb. on May 5, 1951, by H. C. Saunders. Five others ranged from 1 lb. 14 oz. to 2 lb. 14 oz., and some smaller rainbows taken were probably recent hatchery releases. In the river, two rainbow females of 2 lb. each, in high condition, were taken at Newlands.

The fish ladder at the Paradise Road Bridge, in the form of step pools up to the culvert, at the top of the canalized part of the river at Newlands, was completed during the winter of 1950, replacing the previous sharp drop. Several small adult trout taken above this point in the two previous seasons were probably from fingerling stocking from October 1948 onwards.

Proof had been obtained that this fish ladder was operating. In April 1951 G. E. Jones caught a female rainbow of 2½ lb. on Jock Scott fly about ¼ mile above the fish ladder, the largest yet recorded from the upper river; but a more convincing case was that a few days later he caught a male of 1 lb. above the fish ladder that had been marked by the amputation of the adipose fin, probably one released in the lake in October 1949. He also hooked and released four rainbow fingerlings of 3 inches to 5 inches long bred in 1950 in the upper river.

Early in August 1951, reports were received that large trout had been poached in the canalized sections and hawked about; evidently whilst moving upstream for spawning. Honorary Fishing Inspectors and Council employees were alerted to watch the critical sections, and one observer reported seeing trout going up from pool to pool in the fish ladder.

### Season 1951/52

No rainbow trout fingerlings were planted in the Liesbeek River in 1951 from the winter breeding of 1951 at Jonkershoek. This was done deliberately in the hope that knowledge would be gained about the amount of natural breeding in the upper river that winter. However, 250 of the newly acquired brook trout fingerlings were released at Bishops court. (As far as can be ascertained, no American Eastern brook trout were recovered from the Liesbeek.)

The 1951 river season promised well in September, and a number of rainbows around the pond were taken, although the flow was very strong.

This season was notable for the high condition of rainbows caught in the Liesbeek lake from the end of October onwards; and a number from 1 lb. to 3½ lb. were recorded before the end of the year. At that time there was no report of the unpalatability of these fish from the lake.



In January 1952, some extraordinary rainbows were taken from the lake, where the food supply was very rich indeed and the climate of its location near sea level was mild. During the evenings of January 13 to 18, 1952, nine female rainbows were taken on flies by various anglers, fish all aged 2+ years, ranging from 1½ lb. to 3 lb. with Condition Factors from 51 to 62, and there was a tenth phenomenal female of 16 in., 3½ lb., C.F. 79.34, caught by R. Mayer. Anglers reported being broken by heavy trout; and further rainbows in high condition were taken, about which data were not obtained.

Unfortunately, it was soon discovered that these beautiful trout were uneatable on account of their oily taste. Two probable sources of oil effluents were traced to garages, anglers having complained about oil film on the surface of the lake.

Another disappointing development was that reports on the appearance of common carp in the lake were confirmed.

#### Season 1952/53

As previously stated, no rainbow hatchery fingerlings had been added to the river in 1951, and again none were released in 1952, to continue the test of the existing stock breeding in the upper river. As there were several reports in the autumn of 1953 that undersized and fingerling rainbows were fairly numerous, wild-breeding by rainbows in the river was taken as proved. The records of captures of trout in the river were disappointing in the 1952/53 season, but this could hardly be blamed on the lack of hatchery fingerlings. It seemed more probable that there had been many unrecorded catches, as the popularity of the fishing had become widely known at that stage.

After one of the wettest winters in the western Cape, the river flow was very strong in spring. The best trout taken from the river on September 1, 1952, was a male of 18½ in., 2 lb. 10 oz., C.F. 44, by A. R. Dresser. A rainbow caught by Arnold Hazell in the Mill Pool, Newlands, on May 4, 1953, was 16 in., 2 lb. 3 oz., C.F. 54, age 2+ years.

Less fishing was done in the lake owing to its bad reputation regarding oil pollution in the previous season. However, a carp angler who fished the lake on many occasions reported taking 18 rainbows during the season, the largest 18 in., 2 lb. 14 oz., C.F. 50, age 3+ years. He had no complaint of oily taint.

#### Season 1953/54

The spring fishing in the river was very disappointing, and as it was open to the general public no doubt trout were caught without being recorded. The wonderful returns received during the first two or three open seasons did not seem to be likely to occur since the presence of trout had become public knowledge. But there was one thing that was certain: following the withholding of hatchery stocking in 1951 and 1952, numerous trout fingerlings were present in the river in September 1953.

A rainbow of 18 in., 3 lb. 2 oz., C.F. 54, was caught in the lake on January 7, 1954, by L. J. Greeff, on a Watson's Fancy fly, a fast-grown fish of 2+ years.

As the lake had become dominated by carp and some up to thirty pounds had been reported, application was made to have this water taken out of the proclaimed trout area to legalise the bait fishing which was going on.

(To be continued)