
INTRODUCTION OF EXOTIC FISH TO SWAZILAND

By D. CLAY

Fisheries Officer, Ministry of Agriculture, Swaziland (July 1972)

THIS paper is based on original files, letters, and minutes of the Swaziland Angling Society (a), as well as on personal communications (b). Since Swaziland was under British Protectorate status and her indigenous population held the belief that fish were snakes and thus inedible, little real effort has ever been put into developing her fisheries resources.

The following are events pertaining to fisheries in Swaziland and are arranged in chronological order.

In 1904 the Transvaal Fisheries Ordinance was applied to Swaziland. In 1908, after the successful introduction that year of trout (species not specified but believed to have been rainbow trout (*Salmo gairdneri*)), an additional ordinance was passed to protect these trout. A reference is made to Mr. B. Nicholson having stocked Lake Adelaide¹ in 1910. It is assumed that rainbow trout was again the subject.

An attempt was made in 1914 to obtain 500 rainbow trout fingerlings from the Trout Acclimatisation Society of Johannesburg. Due to a freak storm the hatchery was flooded and no fish were sent that year. However, in 1914-1915, 6 000 rainbow trout ova and 3 000 brown trout ova (*Salmo trutta*) were received from the Jonkershoek Hatchery in Stellenbosch, Cape Province. Exactly what happened and where these were stocked is unknown. Between 1908 and 1930 Mr. Nicholson is reported to have planted 40 000 trout fry, although no self-sustaining populations resulted.

On May 15, 1933, Mr. Nicholson received 18 largemouth black bass (*Micropterus salmoides*) from the Pirie Hatcheries in Kingwilliamstown, Cape Province. These were placed in Lake Adelaide, and by spring of 1934 spawning was noted. During 1935 over 400 largemouth bass fingerlings were distributed to dams and streams in Swaziland.

Both the Sidokodo River² and the Tubungu River³ were stocked, as well as a pool at Hlatikulu.⁴ It was planned that further stocking of southern Swaziland would follow from the Hlatikulu source.

Later in the same year, August of 1935, arrangements were made to send 29 largemouth bass of 7 to 15 cm (3 to 6 in.) to Zululand in an attempt to stock Lake Sibaya.⁵

In the following years the production, stocking and exportation of largemouth bass continued to grow. In 1936 Forbes Reef Dam⁶ was stocked with 10 fingerlings. In the following year 125 adult largemouth bass were introduced. These were reported spawning by the next year. During this period fish were exported to various regions of Southern Africa.

In 1937 the Protection of Freshwater Fish Act was passed, regulating fishing for trout and largemouth black bass.

The Swaziland Angling Society in 1938 received 25 smallmouth bass (*Micropterus dolomieu*) from the Jonkershoek Hatchery at Stellenbosch, Cape Province (c). Subsequently, two years later, in 1940, the Act of 1937 was altered to protect the smallmouth bass.

Largemouth black bass fingerlings were exported in 1938 to Zululand (250) and Rhodesia (810) and stocked below the Hawane Falls⁷ on the Black Umbeluzi River.

In 1939 blue gills (*Lepomis macrochirus*) were imported from an unknown source and by 1940 were well established and breeding. In 1940 a less successful introduction of 26 spotted bass (*Micropterus punctulatus*) was achieved. These fish were received from the Cape Provincial Hatcheries, Stellenbosch, and although they bred and were stocked, they were never angled successfully.

During the years of the Swaziland Angling Society members were required to report monthly catches. Thus although most of the largemouth black bass caught were in the neighbourhood of 450 gm (1 lb.), a 1,8 kg (4 lb.) fish was angled in 1939 and a 2,25 kg (5 lb.) in 1952.

In 1940 smallmouth bass were stocked in the Moutjane River,⁸ and smallmouth bass and 40 bluegills were stocked above the Hawane Falls in the Black Umbeluzi. This latter river was similarly stocked again in 1942.

In 1941 a set-back in the stocking of smallmouth bass occurred. Although spawning occurred that year, a sudden hailstorm killed most of the eggs. In this same year bluegills were successfully established in the Poponyani River⁹ and the Mtitshane River.¹⁰ As well as local stockings, many fish were exported to such places as Transvaal (713 bass, 390 bluegills), Orange Free State (50 bass, 60 bluegills), and Southern Rhodesia (190 bass, 90 bluegills).

During the period 1941-1947 continuous stocking of smallmouth bass in the Moutjane River was carried out, however it appears to have had little success.

The following is an example of the work done by the Mbabane Hatchery of the Swaziland Angling Society, then run by Mr. B. Nicholson, Dr. Drew and Mr. Girdwood, during the five years from 1935 to 1939. Their sales of fish totalled 6 098, including 5 272 to other territories: Zululand, Malawi, Rhodesia, Lesotho, Botswana, Transvaal and Orange Free State; and 826 to Swaziland waters. Members of the Society could receive free issues.

Largemouth bass fingerlings (50) were sent, in 1947, to Lourenco Marques, Mozambique. In the next year, 1948, more effort was put into local stocking. Forty adult

largemouth bass were stocked in Forbes Reef Dam and an unknown number in the Black Umbeluzi above Hawane Falls. In this year a series of stockings of spotted bass (47) at Mission Spruit¹¹ were begun. These stockings were continued in unknown numbers in 1949, 1950 and 1951.

During all this period, plantings of small numbers of trout fry were kept up with a limited record of catches. No records were kept and the only confirmed report was one trout caught in the Little Usutu at Mantenga.¹²

In 1949 the Forbes Reef Dam was again stocked with largemouth bass and, for the first time, smallmouth bass. Twenty-eight adult fish were stocked into Lake Adelaide and Saunders Dam.¹³ The Hlambanyati River¹⁴ was stocked in 1949 with 12 largemouth bass and in 1950 with 12 spotted bass. Bass (type unrecorded) were reported caught in 1949 in the Mbabane River¹⁵ near Ezulwini.¹⁶

Throughout this period of time the Swaziland Angling Society had as its chief source of income the export sales of largemouth bass fingerlings, especially to the Transvaal. As other regions began to develop their own hatcheries, sales dropped, and so the Angling Society's source of income diminished.

In 1950, 200 largemouth bass and 60 bluegills were introduced into dams at Herefords farm.¹⁷ The last recorded Swaziland Angling Society stocking occurred in 1952 with 24 largemouth bass being taken to Mpisi farm.¹⁸

In the intervening years between 1952 and 1972 further stockings occurred, but with the end of the Angling Society in 1968 all national organised recorded efforts ended.

In the early 1950's Peak Timbers tried several unsuccessful stockings of rainbow trout. In 1952, 500 trout from Lydenburg Provincial Fisheries Institute, Transvaal, were stocked in the Popoyani River, half of these above and half below the 10 ft. high mill weir at Poponyani farm. None of these survived. It is presumed the water temperature was too high. With afforestation of the catchment and hopes for cooling of the water by shading, a further planting was tried in 1954. This time 500 more trout were planted in pools higher up in the stream bed—again with no success.

At this time, and for many years after, the Komozane River¹⁹ was successfully stocked with trout. Fish of 1,4 kg (3 lb.) were often caught up until the late 1960's, when stocking ceased.

As well as trout, Peak Timbers carried out stocking with largemouth bass in two or three small dams in 1952 and 1954. The large dam on the Lambongwenya River²⁰ was stocked with bass in 1966, and since then catches of up to 2,25 kg (5 lb.) are not infrequent.

The Usutu Pulp Company has also carried out an extensive fisheries management programme. Ova were obtained from the Lydenburg Hatcheries for rearing in their own hatchery from 1955 to 1968. At present 12 dams are stocked with trout and four with largemouth bass.

Largemouth bass are still widely distributed throughout the dams of Swaziland and make up the major predator of our waters. Trout, though limited to highveld waters, are now entering a phase of fish culture as well as sport fishing, and so should increase in the future.

NOTES

1. Lake Adelaide is a small lake near Mbabane created from old tin mining operations. It is located at an altitude of 1 220 m (4 000 ft.).

2. Sidikodo River is a stream rising at about 700 m (2 250 ft.) and flowing some 16 km (10 miles) to empty into the Little Usutu River at an altitude of 500 m (1 650 ft.).
3. The Tubungu River is a larger stream flowing 32 km (20 miles) from an altitude of 650 m (2 100 ft.) to 300 m (950 ft.) and joining the Usutu River at Sidvododvo.
4. Hlatikulu is a town in south-west Swaziland at an elevation of 1 250 m (4 100 ft.).
5. Lake Sibaya is located in Zululand (Natal) and is the largest freshwater lake in the Republic of South Africa.
6. Forbes Reef Dam is a dam of about 3 acres lying at about 1 450 m (4 600 ft.) near the source of the Malolotsha River, which flows to the Komati River.
7. Hawane Falls are located on the Black Umbeluzi, near its source, at an altitude of 1 350 m (4 500 ft.). Recently the Swaziland Iron Ore Development Corporation has built a 2 acre dam just above these falls.
8. The Moutjane River has its source at about 1 620 m (5 300 ft.) in the Ngwenya Hills and flows into the Little Usutu at 1 090 m (3 550 ft.) to the west of Mbabane.
9. Poponyani River is located in Pigg's Peak Plantations (Peak Timbers) between 1 220 m (4 000 ft.) and its junction with the Lomati at 475 m (1 400 ft.).
10. Mtitshane River flows into the Motshane River, dropping in elevation from 1 560 m (5 100 ft.) to 1 310 m (4 300 ft.).
11. Mission Spruit is located to the north-west of Mbabane, possibly near Mission Falls on the Black Umbeluzi at about 1 100 m (3 500 ft.).
12. Mantenga is an area located around Mantenga Falls, on the Little Usutu, at an elevation of 1 100 m (3 500 ft.).
13. Saunders Dam is a small dam located in Mbabane at a height of 1 220 m (4 000 ft.).
14. Hlambanyati River rises in the Usutu Pulp Company forests at an elevation of 1 520 m (5 000 ft.) and flows to the Little Usutu at about 610 m (2 000 ft.).
15. The Mbabane River rises at 1 520 m (5 000 ft.) north of Mbabane, flows through the town to a waterfall at the head of Ezulwini valley and then to the Little Usutu at 620 m (2 200 ft.).
16. Ezulwini is an area on the Mbabane River at an approximate altitude of 750 m (2 400 ft.).
17. Herefords farm is located in northern Swaziland and has many tributaries flowing into the Komati River with an average elevation of 500 m (1 600 ft.).
18. Mpisi farm, located in central Swaziland, has a series of dammed tributaries to the White Umbeluzi at an average altitude of 400 m (1 350 ft.).
19. The Komozane River joins the Komati River at about 650 m (2 100 ft.) and has a hydro-electric dam above which stocking occurred at 910 m (3 000 ft.).
20. Lambongwenya River runs past the sawmill on the Pigg's Peak—Balengana road, where the dam is located at an altitude of 840 m (2 700 ft.).

REFERENCES

- (a) The files and records can be found in the Swaziland National Archives, Department of Establishments and Training, Mbabane.
- (b) Peak Timbers Limited, Piggs Peak, Swaziland. Usutu Pulp Company Limited, Mbabane, Swaziland.
- (c) Harrison, A. C., 1936: "Black Bass in Cape Province". (Second Report on the American Black Bass in the Union of South Africa), Department of Commerce and Industry, Fish Mar. Biol. Surv., Invest. Rep. No. 7, 119 pages.