

TROUT IN NORTH-WEST FRONTIER PROVINCE

by

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History. *The work of introduction of Brown trout (Salme fario) has been centred on Kagan Valley, Swat and Chitral. It is estimated that about 1100,00 fries of this species reared in the hatcheries of Shinu, Madyan, Jaghoor and Bombret and have been released in the cold water streams of this area since the commencement of this work.*

Kagan. Brown trout (*Salme fario*) was first introduced in N.W.F.P., by the Forest Department in 1928. 30,000 eyed ova were imported from Kashmir and placed in nursery tank in the Shinu hatchery in January. Only 380 yearlings were obtained at the close of the season. Of these 330 were stocked in the Kunhar River above Naran in November, 1928 and the rest were left in the tank. In 1929, 10,000 eyed ova were again obtained from Jabori hatchery; 1,285 ova died in transit and 265 fries died at the close of the year; the rest were left in the hatchery tanks. The first stripping was tried by the Forest Department in 1930. From 35 adult trout 8871 eggs were taken which yielded, 5,500 fries. The available yearlings were stocked in 1931 into the upper portion of Kunhar River. In 1958 the hatchery was transferred to the West Pakistan Fisheries Department and for the first time fully trained staff became responsible for its management.

Swat. About the same time Swat State also become interested in the introduction of trout. At the instance of Col. H. R. Hay, Political Agent Malakand, the first attempt was made in 1930 at Kukarai, 4 miles south of Saidu Sharif (elevation 3300 feet). 18,000 fries and 200 adults were imported from Kashmir and released in rearing tanks fed from springs. All the fish died probably due to high water temperature in summer. In 1933 fingerlings of trout were stocked directly in the main river at Puldhere but they all died within twenty four hours.

Another effort to introduce the species was made in 1953, under the guidance of a person who had been trained in Shinu hatchery. 13,000 eyed ova were brought from Shinu, hatched in the main stream in Kalam and then transferred to rearing tanks fed from stream water. The fries survived only for about two weeks.

Realizing the futility of this work without expert advice, the services of Agha Ghulam Hussain, then Senior Research Officer, Central Fisheries Department Karachi

¹ Assistant Director of Fisheries, North-West Frontier Province.

were obtained in 1958 to survey the Swat River for the introduction of trout. A detailed survey of the river and its springs was later carried out by Assistant Director of Fisheries Northern Zone, Lahore. In 1961 the author constructed the hatchery at Madyen and brought 3,720 fries and 54 adults from Shinu hatchery. The first stripping was conducted in January 1962 and 7,900 fries were obtained. In May 1962, 250 one year old trout and 300 fries were stocked in Utror stream but the results were not satisfactory. Since then trout has regularly been reared in Madyan hatchery and released in the Swat River and its tributaries.

Chitral The introduction of trout in Chitral was initiated by Captain B. Woods Ballard. Assistant Political Agent Chitral, in 1930. He established nurseries near Mastuj and imported 136 adult trout from Giza (Kashmir) but could not succeed in breeding from them due to lack of technical knowledge. In 1931, 2000 eyed ova were imported from Sirinagar and placed for hatching in metal tanks at Jaghoor near Chitral. In 1935 four year old fish from this rearing tank were transported to the Lutkoh River. Most of the fish died in transit and the few released in the river near Mogh also died soon after stocking.

Interest in this work was revived in 1944 by Major B.H. Cobb, Political Agent Gilgit, who sent a person from Sirinagar to survey the possibilities of trout introduction in Lutkoh River. In 1945 Major Cobb sent 120 adult trout from Giza via Shandoor Top. Out of these 54 died in transit and 66 were planted in the Lutkoh River at parabik, 9 miles from Garam Chashma. In 1946 Major Cobb confirmed the success of this operation by catching the fish with line and hook at different places. The work in real earnest was started in 1961 and 1962 with the establishment of hatcheries at Jaghoor and Bombret by the Fisheries Organization.

MANAGEMENT OF TROUT FISHING

Trout fishing is now available in Kagan, Swat and Chitral.

Kagan.

Division in to fishing Reaches.

The trout reserved waters of Kagan extend from mile 1 to mile 84 from Balakot on the Kagan Valley road.

They are divided into the following reaches;

- | | |
|----------------------|---------------|
| 1. Kagan, | Mile 1 to 42 |
| 2. Pludrian, | Mile 42 to 48 |
| 3. Naran, | Mile 48 to 54 |
| 4. Sojh, | Mile 54 to 84 |
| 5. Lake Saiful Maluk | |

Laws and rules.

The control on fishing of trout in Kagan is exercised under the provisions of West Pakistan Fisheries Rules promulgated under the West Pakistan Fisheries Ordinance, 1961.

The salient features of these rules are given below:

1. Licence fee for single, double and family rod:

(a) For single rod and single licence!

| | |
|-----------------|---------------|
| (i) Per day | .. Rs. 6.00 |
| (ii) Per week | .. Rs. 35.00 |
| (iii) Per month | .. Rs. 120.00 |

(b) For double rod and family (Husband & Wife)

| | |
|-----------------|---------------|
| (i) per day | .. Rs. 10.00 |
| (ii) Per week | .. R . 60 00 |
| (iii) Per month | .. Rs. 120 00 |

The number of fish which can be caught per day is 6 on single rod licence and 12 on double rod and family rod licences. No fish less than 9 inches in length can be retained and it is obligatory on the permit holder to put it back. If the fish caught is badly injured and not likely to survive it is counted towards the fixed quota.

2. Fishing is permitted by means of lure of the following kinds;

- (a) Artificial fly
- (b) Artificial spinning bait, including spoon:
- (c) Artificial worm.

3. No fishing is allowed from the 10th October to the 9th April. Fishing licence is issued by the staff of fisheries posted at Shinu and Naran.

Number of fish caught.

Following number of fish have been caught in the trout reserved waters of Kagan under the authority of fishing licences since 1968-69;

| Year | Number of licences issued | Number of fish caught | Licence fee realized (rupees) |
|---------|------------------------------|-----------------------------|-------------------------------------|
| 1968-69 | 687 | 4,700 | 4,763 |
| 1969-70 | 783 | 4,400 | 5,672 |
| 1970-71 | 1,201 | 4,698 | 8,368 |
| 1971-72 | 1,248 | 7,206 | 8,962 |
| 1972-73 | 1,668 | 9,727 | 12,727 |
| Total : | 5,587 | 30,731 | 40,484 |

Number of fish stocked.

Following number of trout have been stocked in these waters during 1968 to 1973:

| Year | Eyed ova | Fries/Finger- lings. | Adults |
|---------|----------|-------------------------|--------|
| 1968-69 | 32,300 | 60,800 | 292 |
| 1969-70 | .. | 39,200 | 184 |
| 1970-71 | .. | 39,646 | .. |
| 1971-72 | .. | 15,000 | .. |
| 1972-73 | 28,160 | 53,000 | 89 |
| Total : | 60,490 | 2,07,646 | 565 |

Swat.

Division into Fishing Reaches. The trout waters of Swat for the purpose of fishing are divided into the following reaches;

1. From Peshmal to Bhon bridge/Ushoo
2. From Bhon to Gabral and below down to Bagh Dheri bridge (Reserved)

Laws and rules.

The control on fishing of trout in Swat was enforced by Commissioner Malakand Division, in 1971 subsequent and instructions issued from time to time. Salient features of these instructions are given below:

I. Fishing permits are issued by the Tehsildar, Kalam on behalf of Deputy Commissioner, Swat. The rates are as follows;

(i) Locals of Kalam area Rs. 3.00 per rod per day

(ii) Non locals Rs. 6.00 per rod per day

2. No person is allowed to fish in trout waters with live baits, only the following artificial baits are allowed:

(a) Artificial fly

(b) Artificial spinning bait, including spoons;

(c) Artificial worm

3. Fishing is allowed only from 1st April to the 30th September

4. On one permit no person is allowed to catch more than four fish and less than 9" in length .

Number of fish caught.

Following number of fish have been caught in the trout reserved water of Swat under the authority of fishing licences since 1968-69:

| Year | Number of licences issued | Number of fish | Fee realised (rupees) |
|---------|---------------------------------|-------------------|--------------------------|
| 1968-69 | 8 | 32 | 160 |
| 1969-70 | 125 | 450 | 990 |
| 1970-71 | 178 | 680 | 2,238 |
| 1971-72 | 208 | 634 | 1,848 |
| 1972-73 | 189 | 712 | 2,280 |
| Total : | 708 | 2,508 | 7 516 |

Number of fish stocked.

The following number of trout have been stocked in Swat trout waters since 1968-69.

| Year | Eyed Ova | Fries/ fingerlings | Adults |
|---------|----------|-----------------------|--------|
| 1968-69 | .. | 42,698 | 36 |
| 1969-70 | .. | 69,000 | .. |
| 1970-71 | .. | 75,000 | 330 |
| 1971-72 | .. | 40,000 | 24 |
| 1972-73 | 10,000 | 32,480 | 38 |
| Total : | 10,000 | 2,59,178 | 428 |

Chitral.

Division into Fishing reaches. For the purpose of fishing the trout waters of Chitral are divided into the following reaches:

1. Lutkoh River;
2. Bombret and Ramboor stream;
3. Shishi stream;
4. Golain stream.

Laws and rules. The control on fishing of trout in Chitral was enforced by the Commissioner, Peshawar Division in 1967. Salient features of the rules are given below:-

1. Fishing permits are issued by the Extra Assistant Director Fisheries, Chitral at the fee of Rs. 5.00 per single rod on which a maximum of 6 fish can be caught.
2. Fish less than 8 inches in length have to be released back if caught.
3. Only the following artificial lures are allowed;
 - (a) Artificial fly;
 - (p) Artificial spinning bait/including spoon!
 - (c) Artificial worm.

4. Fishing season commences from the 10th of April and extends up to 9th of October.

Number of fish caught.

The number of fish caught since 1968-69 are given below:

| Year | Number of licence issued | Number of fish caught | Fee realised (rupees) |
|---------|--------------------------------|-----------------------------|--------------------------|
| 1968-69 | 59 | 236 | 295 |
| 1969-70 | 89 | 356 | 445 |
| 1970-71 | 138 | 528 | 690 |
| 1971-72 | 64 | 284 | 320 |
| 1972-73 | 119 | 374 | 640 |
| Total : | 469 | 1,778 | 2,390 |

Number of fish stocked. Following number of trout have been stocked in different waters:

| Year. | Eyed Ova | Fries/ fingerlings | Adults |
|---------|----------|-----------------------|--------|
| 1968-69 | 21,000 | 38,470 | .. |
| 1969-70 | .. | 45,680 | 50 |
| 1970-71 | .. | 33,320 | .. |
| 1971-72 | .. | 8,092 | .. |
| 1972-73 | . | 21,388 | 20 |
| Total : | 2 .000 | ,46950 | 70 |

FUTURE PLANS

It is planned to stock the following rivers, streams and lakes of Kagan, Swat, Dir and Chitral with trout ;

Kagan.**(a) Rivers and streams**

| Name of Rivers/Streams | Stockable length (miles) |
|---------------------------|-----------------------------|
| 1. Kunhar river | .. 70 |
| 2. Manur stream | .. 18 |
| 3. Saiful Maluk stream | .. 5 |
| 4. Sharan and Nadi stream | .. 12 |
| 5. Neeli Nadi | .. 7 |
| 6. Bhunja stream | .. 12 |

(b) Lakes

1. Saiful Maluk
2. Dodiput
3. Lulusar

Swat.**(a) Rivers and streams**

| Name of rivers/streams | Stockable length |
|-----------------------------|---------------------|
| 1. Ushoo river | .. 22 |
| 2. Ploga stream | .. 4 |
| 3. Khundia stream | .. 8 |
| 4. Utror river | .. 12 |
| 5. Gujar gabral stream(i) | .. 5 |
| 6. Gujar gabral stream (ii) | .. 6 |
| 7. Battal stream | .. 4 |
| 8. Kundla stream | .. 10 |
| 9. Bhan stream | .. 5 |
| 10. Jabba stream | .. 7 |
| 11. Madyan stream | .. 6 |

(b) Lakes

| Name of lake | Area (acres) |
|------------------------|-----------------|
| 1. Spinkh .. | 57 |
| 2. Kundla (i) .. | 128 |
| 3. Kundla (ii) .. | 77 |
| 4. Sajun .. | 64 |
| 5. Daral Khwar (i) .. | 89 |
| 6. Daral Khwar (ii) .. | 70 |
| 7. Diwangar (i) .. | 77 |
| 8. Diwangar (ii) .. | 96 |
| 9. Mohodand .. | 38 |
| 10. Jabba .. | 83 |
| 11. Ushoo .. | 57 |
| 12. Andrab .. | 134 |
| 13. Mestej .. | 108 |

Dir.

(a) Rivers and streams

| Name of rivers/streams | Stockable length (miles) |
|---|-----------------------------|
| 1. Panjkora river in Roshai Sub-Valley-Thal, from source down to Thal village | 14 |
| 2. Panjkora river in main Dir Kohistan Valley from Thal to Patrak. | 17 |
| 3. Zandrai stream .. | 15 |
| 4. Gwaldai river .. | 27 |

(b) Lakes.

| Name of lakes | Area (acres) |
|---------------------------|-----------------|
| 1. Chamber | 211 |
| 2. Shar darra (Jahaz) (i) | 326 |
| 3. Shar darra (Jahaz) ii) | 108 |
| 4. Saidagai | 44 |

Chitral.

(a) Rivers and streams.

| Name of rivers/streams | Stockable length (miles) |
|------------------------|-----------------------------|
| 1. Mastuj river | 43 |
| 2. Lutkoh river | 40 |
| 3. Kaghozi stream | 12 |
| 4. Golain stream | 14 |
| 5. Bombret stream | 20 |
| 6. Ramboor stream | 16 |
| 7. Shishi stream | 28 |

The foregoing data show that there is great potential for further increase of trout culture. To stock new waters and to meet the annual requirements of the waters already stocked, the production of fries in Shinu, Madyan, Jaghoor and Bombrait will be increased from the existing 40,000 fries to 60,000 fries per annum:

Rainbow trout will be cultivated in cold waters and also in such waters where Brown trout do not flourish. Rainbow trout has greater tolerance for comparatively higher temperatures and shows faster growth rate than Brown trout. In January 1973, 20,000 eyed ova of Rainbow trout were imported from Japan. Out of these, 18,000 fries hatched successfully in Shinu hatchery. The resulting fries will be distributed amongst all the hatcheries for testing. About 5,000 adults obtained from these fries will be kept in the hatcheries for breeding purposes and the rest liberated in suitable waters of Kagan and Swat Valleys.