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IN BRIEF

World Record Brown Trout

A 39 pound nine-ounce brown trout landed last summer in the North Fork of the White River in Arkansas, USA, has been authenticated as the all-tackle and eight pound line class world record for this species. The giant brown trout measured 39 inches with a 27 3/4 inch girth, and the big fish fell to a marshmallow and kernel corn bait.

Research Grants Announced

The Minister for Resources, Senator Peter Cook, recently awarded two major research grants, totalling \$185 000 over a three year period, to the Inland Fisheries Commission through the Commonwealth Department of Primary Industries and Energy. The research will be led by Dr Peter Davies and involves a study of the effects of land use on stream hydrology and on survival of trout, and an investigation of the effects of pesticides on freshwater invertebrate fauna. The projects were recommended by the Australian Water Research Advisory Council under the National Priorities Research Program.

Atlantic Salmon

A further 103 400 Atlantic salmon were released into Great Lake on 21 April 1989. The fish ranged from 6 to 10cm in length with an average weight of 11 grams. The salmon were surplus to requirements at the Wayatinah salmon farm and were generously donated by Salmon Enterprises of Tasmania.

Tasmanian Freshwater Fishes

The Commission's Hobart based Senior Scientific Officer, Wayne Fulton, has recently completed a handbook titled *Tasmanian Freshwater Fishes*. This will soon be published in the *Fauna of Tasmania* series produced by the Zoology Department of the University of Tasmania. The handbook features descriptions and illustrations of all native and introduced freshwater fish species

EVANSVILLE GAME FARM

The Inland Fisheries Commission recently granted Wholly Private Fishery status to a private trout fishing development located near Lake Leake, between Swansea and Campbell Town.

Although Evansville Game Farm has offered private trout fishing to guests for several years, the Wholly Private Fishery registration will enable anglers to take full advantage of several new developments.

Proprietors Tony and Jill Evans are the first to register a fishery under new regulations recently announced by the Minister for Inland Fisheries. Although wholly private fisheries have long been recognised under the Fisheries Act, confusion previously existed as to whether certain fisheries qualified in this category. Recent amendments to the Act have clarified this situation and now, only those fisheries formally registered by the Commission are afforded this status.

Evansville Game Farm is now in its fourth year of operation and from all reports the concept has met with overwhelming public support. Four well appointed family cabins accommodate up to thirty people at around \$20 per night. The main attraction of the farm is deer hunting for trophy

stags and approximately 1 000 deer are held on the property. Evansville operates a licensed slaughter-house and specialises in game meats. Game roasts are a specialty and functions and day trips can be organised by arrangement.

Guests staying at Evansville are welcome to fish for rainbow trout in two well stocked artificial lakes, Lake Evans and Halls Lake; each water covers an area of approximately 27 hectares. Guests fishing these waters must provide their own tackle and fishing is restricted to the use of artificial lures (spinning and fly fishing). The catch limit is two trout per person per day.

At Kalangadoo Bay on the shores of Lake Leake, Tony and Jill Evans have also developed an extensive 51 lot subdivision which includes 39 sewered 3/4 acre lots and 12 larger 5 to 30 acre lots. Thirty blocks have been sold and many cabins are already under construction – the Evans family also offers a building service.

A major shop, restaurant and service station complex has also been completed as part of the Kalangadoo development. The Kalangadoo Mini Market features local souvenirs and game food, and a pleasant picnic ground with barbecue facilities has been established nearby.

The Kalangadoo complex is complemented by two further private fishing lakes which add to the



Tony Evans ready to 'Trick-a-Fish'

in Tasmania and includes keys to their identification. *Tasmanian Freshwater Fishes* will soon be available from the University of Tasmania and the Inland Fisheries Commission.

Brook Trout Ova

Due to limited numbers of broodstock and poor fertility among brook trout at Salmon Ponds, the

Commission undertook to collect ova from wild fish at Clarence Lagoon. On 8 May 35 brook trout were captured, stripped, weighed, measured and scale sampled before release. The largest fish recorded was a male weighing 2.7kg. Some 30 000 ova were subsequently laid down, and from the excellent appearance of the eggs it is felt that the genetic base of the Salmon Ponds brook trout stock will be improved by this exercise.

extensive public Lake Leake fishery.

The Trick-A-Fish Pond is a small 'put-and-take' or 'fish-out' pond which is regularly stocked with 500 gram rainbow trout. Tony Evans estimates that 1 500 trout have been caught from this water since it was officially opened by the Premier on 6 March. Visitors can purchase a \$4 ticket from the Mini Market, and no prior experience is needed to catch a trout from the pond with the rod and line provided. According to Tony Evans, the response

has been very good and many elderly and handicapped people have been able to catch a trout, to their obvious delight.

For the more skilled angler the extensive 80 hectare Lake Yallena offers larger rainbow trout on a \$20 day-ticket basis. Permits can be obtained at the shop and anglers may fish during daylight hours using artificial lures and flies. The day-permit entitles the angler to retain two trout, but further fish can be taken on a \$9 per kg basis.

Tony Evans has always been confident that the venture would succeed, but he readily admits his surprise at seeing so many regular Lake Leake anglers venturing across the road to 'trick-a-fish'. Perhaps Bill Thompson's article in this issue of the Newsletter holds the answer?

For further information contact:- Evansville Game Farm, PO Box 21, Campbell Town, Tasmania 7210. Telephone (003) 81 1148.

NETTING REGULATIONS UNDER FIRE

Current regulations on netting trout and salmon in estuaries and coastal waters are increasingly coming under fire from recreational and commercial net fishermen.

Existing regulations prohibit the taking of salmonids under any circumstances by means other than rod and line. Net fishers are required to adequately supervise their nets to ensure that any trout or salmon taken accidentally are returned to the water unharmed.

In a recent issue of 'Fishing Today' the president of the Tasmanian Amateur Fishermen's Association has called for a review of existing provisions relating to net caught salmonids. The Strahan Council has also approached the Commission claiming that increasing numbers of trout and salmon are finding their way into fishermen's nets, having escaped from sea cage farms.

The Commission's response to 'Fishing Today' is reproduced below for the information of inland anglers.

Amateur fishermen often refer to trout and salmon in estuaries and the ocean as 'sea-bred'. The term is in fact a misnomer for all trout and salmon are bred in fresh water where they originate from wild spawning or commercial hatcheries, and they grow in fresh water too for at least the first year. So it is indeed appropriate that the Inland Fisheries Commission is responsible for licensing, management, research and protection. If access to inland waters was prevented, the marine salmonid resource would disappear overnight.

The escape of sea-cage fish from fish farms, and consequent capture in amateur nets, only highlights a problem which has always existed. Current netting boundaries do not offer adequate protection for migrating salmonid stocks – hence the need for regulations which demand the close supervision of nets and the return of any net-caught salmonids.

The Commission argues that if the netting boundaries were more realistic, providing adequate protection for estuaries and river mouths, then these provisions could be reviewed.

However, if it were permissible to take trout and salmon in nets outside the seaward limits of rivers, with present boundaries amateurs could net out the sea-run stocks in all our major rivers in a matter of months.

In this context, Wayne Baker's comments on the gill-net fishery in the last issue of 'Fishing Today' are spot on. The stocks of target species are diminishing and there seems to be no desire to tackle the problem as netting is seen to be a Tasmanian right and tradition.

Whilst amateur netting is allowed in some other States, without doubt Tasmania has the most lenient regulations. The restrictions elsewhere recognise the devastating impact these activities have on fish stocks. In particular, estuaries and coastal embayments are the breeding and nursery grounds for many of our valued commercial species and these areas are afforded little protection against indiscriminate netting. And not only commercial species suffer. Bream, a highly regarded and sought after rod and line species,

is also a major casualty of inshore and estuarine netting.

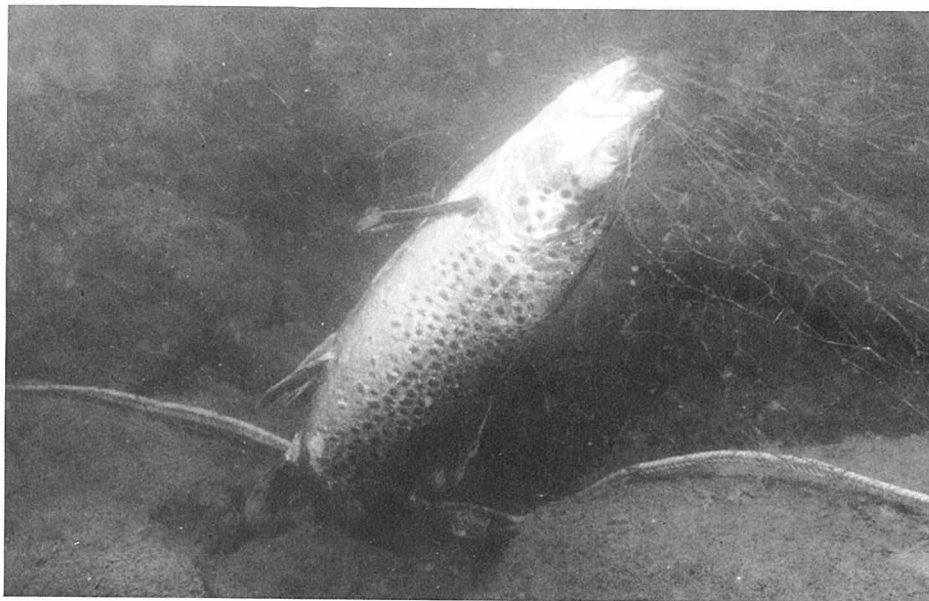
By common consent, sea-run trout and salmon are regarded as the world's top rod and line sport fish. This is the aspect we should exploit in Tasmania. By preserving and protecting sea-run trout, and by promoting the virtues of rod fishing for these fish, a valuable recreational and tourism industry could be developed.

It seems ironic that when 'catch-and-release' fishing for migratory salmonids is the talk of other developed countries in temperate zones around the world, Tasmania's recreational sea-fishing lobby appears intent on netting them. Can't we learn from the mistakes that other countries recognised a generation ago?

The real argument is about amateurs netting, and netting boundaries in particular. So, the Commission confirms its willingness to address the problem. Perhaps the Commission could join the Department of Sea Fisheries in a review of existing regulations relating to net caught salmonids.

If so, here are some suggestions for such a review:

- 1. Shift netting boundaries seaward in all major estuaries to minimise capture of bream and salmonids – priorities include the Derwent, Huon, Gordon, Pieman and Mersey rivers.*
- 2. Establish a buffer zone where only daytime netting is permitted.*
- 3. Identify important coastal embayments and inshore reefs which serve as nursery areas for valued marine species, and protect a number of these from netting to ensure future recruitment.*
- 4. Regulate amateur net meshes in particular areas to protect important juvenile fishes (eg consider banning mullet nets in areas where juveniles of important commercial species, such as trevally, are at risk).*
- 5. Licence amateur nets.*



Nets could threaten wild sea-trout

- 6. Restrict licence holders to the use of one 30 metre graball net.*
- 7. Require nets to carry an identification tag.*
- 8. Return all net licence revenue directly to research and management of Tasmania's recreational fishing resource.*

TROUT ORIGINS

Origins of the Tasmanian Trout by Jean Walker, honorary historian to the Southern Tasmanian Licensed Anglers' Association, is the fascinating story of the first introduction of brown trout to Tasmania and thus to Australia and New Zealand.

It tells of the people involved in the early unsuccessful attempts and of those who finally solved the problems of bringing the delicate salmon ova alive through the tropics.

However, according to Jean Walker, the first live brown trout ova to reach here, a timely gift from English enthusiasts, were added rather grudgingly to the 'Norfolk' cargo of salmon ova more or less at the last minute – and consigned by James Youl to Melbourne. But their custodian, William Ramsbottom, stubbornly refused to leave them there, bringing them instead to Hobart – and to a delighted Morton Allport!

So, the Salmon Ponds became the nursery for our first trout and has continued as a hatchery until it is now the oldest continuing one in the Southern Hemisphere.

Those who gave the land for the Ponds and those who were its keepers are also remembered in Jean Walker's book.

Obtainable from the Inland Fisheries Commission, *Origins of the Tasmanian Trout* is recommended as a really good read. At \$5-00 per copy, it should be part of every trout angler's library.

LAKE LEAKE

A look at the past and present fishery by Bill Thompson

Bill Thompson is a Research Assistant at the Commission's Liawenee Research Station.

Lake Leake is an artificial storage constructed in 1883. At that time it was the largest man-made lake in Australia. The lake lies midway between Campbell Town and Swansea at 2 000 feet above sea-level. It forms the headwaters of the Elizabeth River and has a surface area of 550ha.

Lake Leake was first stocked in 1903 with 210 rainbow trout yearlings liberated at the mouth of the Snowy River. The lake remained closed to angling, for stocking purposes, until it was officially opened on 1 December 1907.

The trout soon established themselves and in 1907 the first stripping of wild rainbow trout in the State was carried out. Although the fish were only three years old, they averaged 7lb and some 20 000 ova were collected. A small hatchery was constructed at the dam outflow and from 1908 to 1920 some 50 000 rainbow trout fry were produced from ova collected during the spawning runs at the lake.

During this time Lake Leake rated as the foremost rainbow trout resort in the Commonwealth and to cater for public demand, two accommodation houses were constructed. Angler's catches averaged between 4 and 5lb, with rainbows up to 10lb being common. This was certainly the boom period for anglers at Lake Leake.

Due to the success of the rainbow trout two other varieties of salmon were introduced. Unfortunately, the 3 000 Atlantic salmon fry liberated during 1906 and 1907 and the 620 sebago salmon yearlings liberated during 1916 and 1917 failed to acclimatise.

In 1921 the first stocking of 30 000 brown trout fry took place, though brown trout were first recorded several years earlier in 1915, with a 12lb fish being caught. At first the appearance of brown trout was a rarity, although by 1920 they were common, so much so that by 1923 the ratio of brown trout to rainbow trout in anglers catch had risen to 1:1.

The first recorded spawning run of brown trout took place in 1919, brown trout ova being collected from spawning fish in the Snowy River, when fisheries officers were hunting for sebago salmon which were due to spawn at the time. The appearance of brown trout prior to any stocking records remains a mystery. However, the Elizabeth River, east of Campbell Town, was heavily stocked with brown trout during the early 1900's. Wet winters causing Lake Leake to spill may have resulted in brown trout moving upstream from the Elizabeth River and gradually establishing themselves in Lake Leake.

Brown trout, once established, proceeded to dominate, despite the fact that rainbow trout numbers were replenished by continual stocking. The Snowy River being the only spawning stream at Lake Leake eventually proved to be the downfall of the rainbow population. The river has a limited catchment area and therefore flows fluctuate drastically, depending on rainfall. As brown trout spawn during late autumn, flows were assured, but since rainbow trout spawn during spring, even if there was enough water for spawning fish, too often the river would dry up before hatching fry could migrate downstream and a year's recruitment would be lost.

With the presence of both species, the average size dropped considerably, from 4lb in the early 1920's to under 2lb in the 1940's. With the drop in size and condition, anglers' interest in the once-great water declined.

In 1947, Dr A.G. Nicholls of the CSIRO was appointed to investigate a suspected deterioration

in the Tasmanian trout fishery. Dr Nicholls collected information on anglers catch and spawning runs at Lake Leake from 1949-1959. This information has been used by the Inland Fisheries Commission in order to evaluate more recent changes in the fishery.

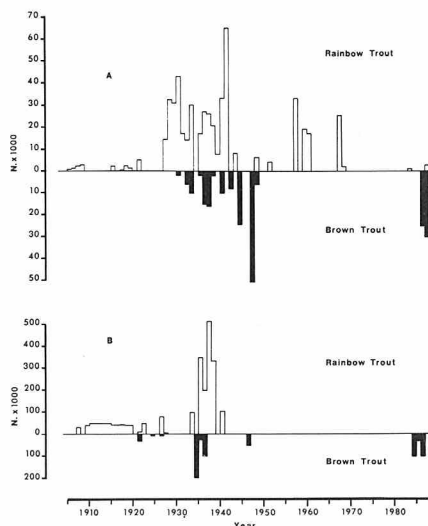


Figure 1

Lake Leake stocking records; A-fingerlings; B-fry

Fishery Management

Due to limited spawning facilities and limited natural recruitment an intensive stocking program continued until 1960, with 2.3 million rainbow fry, 465 000 rainbow yearlings, 320 000 brown trout fry and 67 000 brown trout yearlings being released (Fig 1).

Rainbow trout stocking succeeded in increasing the proportion of rainbows in the anglers catch from less than 20% during the mid 1920's to as high as 90% in the early 1940's (Fig 2). No brown trout stocking took place from 1949 until 1979; however, only a small amount of rainbow trout stock was released and this had virtually no influence on the proportion of rainbows caught. Since 1970 rainbow trout catches have plummeted to the lowest on record, with anglers catch ranging from 0 to 10% rainbows.

In the mid 1960's a controversial decision to manage Lake Leake as a rainbow trout fishery was implemented. During 1964, 1965 and 1966 brown trout fry were trapped and removed from the Snowy River, and in 1967 the entire brown trout spawning run, consisting of 6 576 spawners, was culled. It was hoped that this procedure would reduce the viability of the lake's brown trout population. By stocking with rainbow trout the latter would have the chance once again to be the dominant species. Two main factors contributed to the failure of this program.

Firstly, brown trout had maintained a self-supporting population for over 40 years in Lake

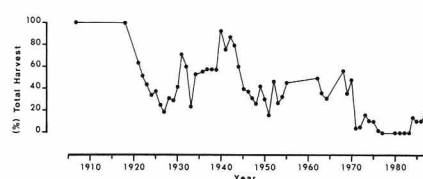


Figure 2

Proportion of rainbow trout in anglers catch

Leake. The removal of only one year's spawning population and three years' recruitment proved ineffective in reducing the population. A similar program of removing brown trout spawners from the main spawning run at Great Lake over 20 years, showed no significant effect on the number of spawning fish in subsequent years.

Secondly, the initial stocking of 25 000 rainbow trout yearlings in 1967 and 2 000 in 1968, proved to be inadequate. It managed to increase slightly the proportion of rainbows in the anglers catch for about two years, however, by 1971 it had dropped to the lowest on record. In 1940 when the proportion of rainbow trout in the catch reached its highest point since the introduction of brown trout, approximately 90%, the amount of rainbow stocking was 20 times that which was attempted in 1967.

Public outcry over culling spawning trout resulted in the policy being abandoned and from 1972 Lake Leake has been managed as a brown trout fishery.

Anglers Catch

Angling catch statistics during the study period (Fig 3), were obtained from several sources. Records prior to 1950 were compiled from diaries kept at the accommodation houses. For the season 1949-1953 returns were obtained from anglers who completed special creel census licences arranged by Dr A. Nicholls, and records during the 1960's were collected from creel censuses carried out by officers of the Inland Fisheries Commission. Figures from 1985 to 1988 were obtained by questionnaires sent to randomly selected groups of 2 000 anglers at the completion of each season.



Figure 3

Records of angler catch per day

Anglers catch per day at Lake Leake has progressively dropped since the establishment of brown trout in the 1920's. At that time it ranged from three to four fish per day, whereas today it is approximately one fish per day. Three main peaks have occurred, in the early 30's, early 40's and late 1960's. These peaks were due to the increase of rainbow trout in the catch, which was the result of intensive stocking. Two main decreases have also occurred, between 1945 and 1960 and from 1970 to 1988. Over these two periods stocking of rainbow trout was virtually non-existent, resulting in a decrease in the proportion of rainbow trout in the catch.

Size and Growth, Anglers Catch

Mean weight of anglers catch gradually decreased for both species following the establishment of brown trout (Fig 4). This is the general trend with newly stocked waters; as the fish population increases, as it did in Lake Leake through natural recruitment and stocking, the average weight of the catch declines until a stable balance is reached.

Scale samples from the 1949/50 angling season when compared with scale samples examined from the 1987/88 season show practically no change in the average length per age-class. This indicates that the fishery has remained stable over the last 40 years in respect of growth rates.



Figure 4

Average weight of brown trout – A, and rainbow trout – B, in anglers catch

Discussion

It is obvious from anglers catch records and stocking records that due to unsatisfactory spawning conditions the population of rainbow trout in Lake Leake can and will only be increased by continual stocking. A self-supporting population will always be present but will constitute less than 10% of the population, with brown trout being the dominant species. A one-off stocking would only increase the population for the following two seasons. To maintain the rainbow trout population at approximately 50% of anglers catch would require a stocking rate of some 30 000 fingerlings annually. At a cost of about \$13 500 per year, such a program may not be practical.

Fry trap set in the Snowy River, Lake Leake – 1965

Conclusions

1903-1920

After initial stocking rainbow trout increased gradually in numbers. Their size and catchability made Lake Leake the number one rainbow trout resort in the State.

1920-1930

The introduction of another species (brown trout) resulted in the decline of the rainbow trout dominance. The increase in population resulted in competition for habitat and food supplies, causing a decline in the mean weight of anglers catch.

1930-1950

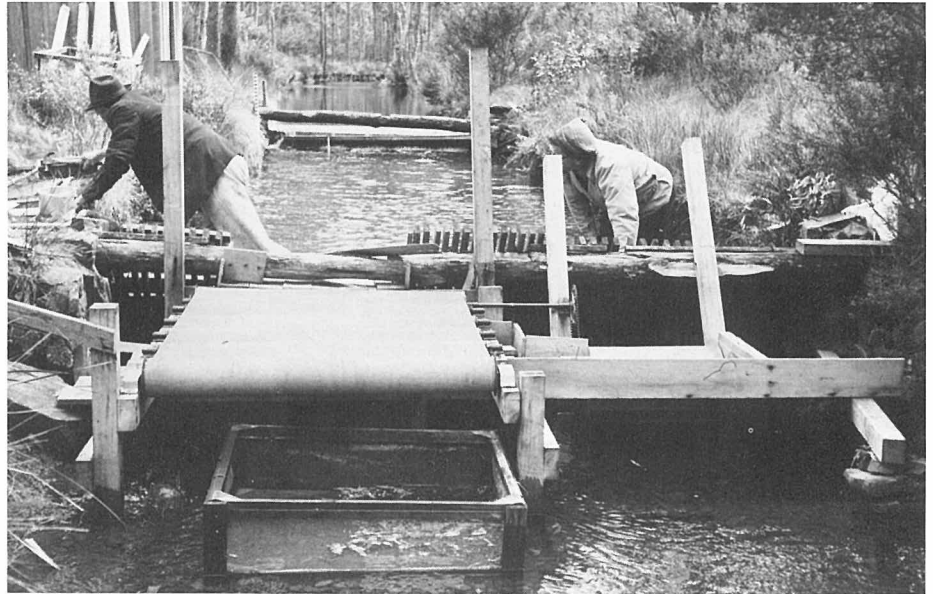
Intensive stocking of rainbow trout continued to increase the proportion of rainbow trout in the anglers catch. However, it was obvious that Lake Leake would never return to its former glory and anglers interest in the once great water declined.

1950-1988

The mean weight of anglers catch has remained relatively stable. The proportion of rainbow trout in the catch has varied according to stocking; however, over the past 15 years it has plummeted to the lowest on record. The number of anglers fishing Lake Leake is only marginally greater today than in the 1950's though the number of fish caught has significantly decreased.

Lake Leake Today

Lake Leake is currently fished by 3% of Tasmanian anglers who represent about 500 full-season licence holders. They catch an average of one fish per angler-day, which is comparable with many other well-reputed trout waters.



ENDANGERED FISH STUDY

A two year project designed to assist in the conservation of three species of Galaxias has been undertaken by the Commission. In 1985 the Australian Society for Fish Biology, acting on information received from the Commission, classified two of these species – the Swan galaxias and the Clarence galaxias- as endangered, and the third – the saddled galaxias- as vulnerable.

Because very little information was known about these species, the Commission sought external funding to support a thorough study of their distributions, life histories and environmental requirements, in order to formulate a management plan to ensure their continued existence. A grant of more than \$53000 from World Wildlife Fund Australia was received in 1987 enabling this study to proceed.

The project has now been in progress for 18 months and some of the important results are outlined below. The discovery of further populations of both the Swan galaxias and the Clarence galaxias has significantly expanded the known distribution of these species. Previously known only from the upper reaches of the Swan River, the Swan galaxias has also been found in small numbers in the upper reaches of several very small tributaries of the Macquarie River. Similarly, the Clarence galaxias which was previously known only from Clarence Lagoon, has been found elsewhere in the Clarence River system.

Also, the life cycle of these two species is now better understood. Both species are spring spawners, with a relatively brief larval stage (one to two months) between hatching and recruitment into the main population. The spawning site of the Swan galaxias is still a mystery, however, the Clarence galaxias was found to have spawned among rocks around lake margins, and particularly in inflowing creeks. This suggests that the Clarence galaxias has a spawning run similar to that of lake populations of trout. Both the Clarence galaxias and the Swan galaxias do not appear to be able to coexist with brown trout, however, the Clarence galaxias continues to remain common in Clarence Lagoon where it coexists with brook trout.

The biology of the saddled galaxias, *Galaxias tanycephalus* is not as well understood. This is one of two native species of fish found in the Arthurs Lake-Woods Lake system, the other being *Paragalaxias mesotes*. The saddled galaxias is extremely rare in Arthurs Lake, but is more common in Woods Lake. This species has a free-swimming larval stage which must make it prone to predation in the clear waters of Arthurs Lake. In the more turbid waters of Woods Lake, where there is an abundant planktonic food supply, larval *G. tanycephalus* have been collected from November through to May, with a peak in abundance in the summer months. The extended spawning season suggested by these data is very unusual in galaxiids, most of which have a relative-

ly short spawning season, the timing of which appears to be controlled by seasonal factors. An examination of the gut contents of a large sample of brown trout from Woods lake showed that the saddled galaxias forms a significant part of its diet.

More information is being sought on this subject from anglers fishing Arthurs Lake or Woods Lake who can assist the study of the saddled galaxias by noting the location and habitat of any sightings of the species, and by recording the presence of galaxias in the gut contents of trout and the site of capture of the trout.

This information may be forwarded to Andrew Sanger, Inland Fisheries Commission, 127 Davey St. Hobart 7000 (ph 236622), or given to a local Inland Fisheries Inspector. Any information received will be greatly appreciated, and may help conserve this most rare Tasmanian fish.

In an associated project, the distribution and abundance of the galaxiids of the Lake Pedder area has been examined over the past two summers. The decline in the galaxiid population of the lake has been noted by many anglers who have fished Lake Pedder regularly over the last ten or fifteen years. One of the native species, *Galaxias pedderensis*, which at one stage was the most common species in the lake, is now extremely rare even in the creeks flowing into Lake Pedder. The Commission is also examining options for conservation work on this species.

ACCOMMODATING INSTREAM FLOW NEEDS

Dr Peter Davies, the Commission's Senior Scientific Officer based at Liawenee, recently returned from a visit to Washington, USA, where he attended a number of workshops on methods for establishing flow needs in rivers for the preservation of river fisheries and stream fauna. These methods have been developed in the USA mainly as a result of the commercial value of salmon stocks and the early awareness that dams for power generation on rivers were having a major impact on salmon spawning and recruitment. The instream flow incremental methodology (IFIM) is now used for establishing instream flow needs for the maintenance of fish, aquatic insect, bird and even mammal habitats in rivers affected by damming, irrigation or water abstraction for urban supply.

Dr Davies is a member of a Federal sub-committee on instream flows which is attempting to establish a unified approach to the problem of setting instream flow requirements throughout Australia. The problem is basically conceived as an inability of biologists in the past to accurately quantify flow requirements for the maintenance of fisheries and other biological aspects of our rivers, coupled with a general lack of awareness at government and community level of a need for this to be considered in Australia, in the face of skilled engineers with easily quantifiable arguments. The problems of determining adequate flows to preserve river fish populations, for example, are very complex and some aspects are difficult to quantify. The IFIM procedure is an attempt to address previous inadequacies.

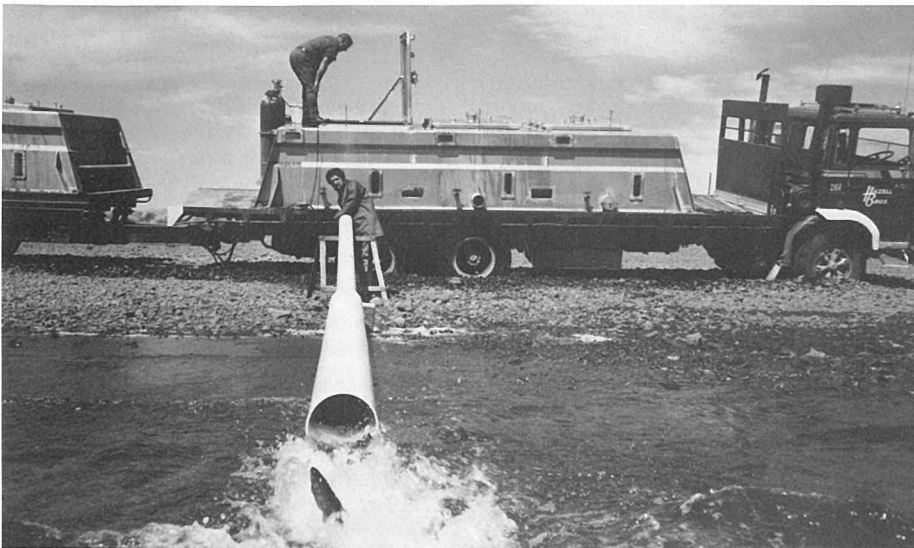
Whilst in northern California, Dr Davies spent a week in the field with a team of fishery biologists who are carrying out the studies required to make flow recommendations in order to preserve the salmon runs on the Trinity River. This involved familiarisation with a number of habitat measurement techniques as well as flow and level gauging. Drift diving using snorkel and wet suit was used to count salmon fry in the main river despite water temperatures between 5 and 8°C!

Using an accepted methodology for assessing instream flow needs such as the IFIM is now a mandatory requirement in some eight States in the USA, and set to be so in a much larger number. The method is used to set flow regimes under nearly all situations where water is abstracted from a river or where there are in-stream dams.

In 1993, all hydro-electric facilities across the USA will undergo a mandatory re-licensing procedure. Each re-licensing application has to be accompanied by an assessment of downstream flow needs, generally using the IFIM procedure. This is done with a policy of 'no net loss in habitat', i.e. there must be no overall decline in the quality of riverine habitat for trout due to water projects. Any potential impact must be compensated by adjusting discharges or storages to mitigate expected or established habitat losses.

There is therefore, a highly visible and effective consideration of instream flow needs in many parts of the USA, reinforced by a legal framework. There is no such consideration in Australia, a country where appropriate water management should be of the highest importance. New Zealand has been incorporating instream flow requirements into water projects since the mid 1970's, but we are only just beginning to tackle this problem.

In Tasmania we have always considered ourselves to be blessed with an excess of water. Whilst this may be true for the western half of the State where most hydro-electric development has occurred, it certainly is not so for the intensively



Atlantic salmon being released into Great Lake

Rainbow Trout Stocking

The following liberations of domestic rainbow trout fingerlings have been made since the last Newsletter. The assistance of anglers in distributing the fish is greatly appreciated.

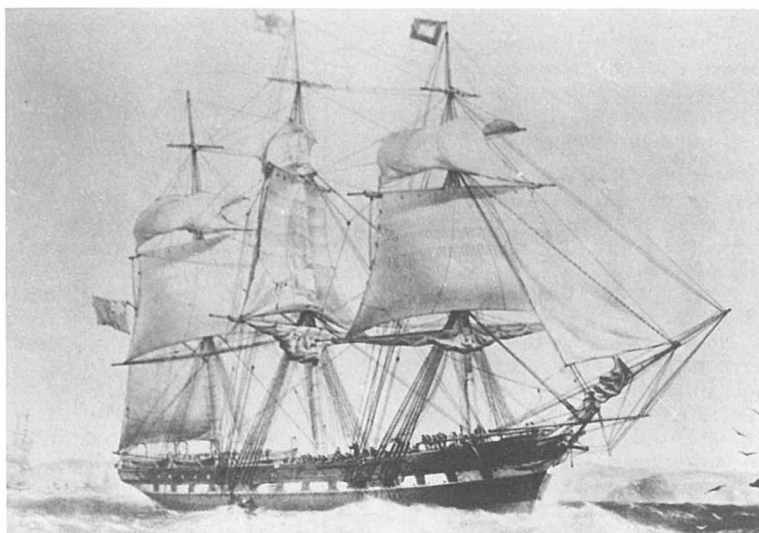
Date	Size	Water Stocked	Number
13.05.89	10 gm	Blackmans Lagoon	2 000
18.05.89	19 gm	Lake Dulverton	1 000
23.05.89	19 gm	Tooms Lake	3 000
25.05.89	14 gm	Craigbourne Dam	6 000
30.05.89	14 gm	Lake Leake	5 000
09.06.89	100 gm	Lake Crescent	800
16.06.89	14 gm	Lake Leake	2 000
16.06.89	100 gm	Lake Crescent	900
23.06.89	100 gm	Lake Crescent	400
30.06.89	15 gm	Lake Mackintosh	3 000
Total			24 100

Adult Brown Trout Stocking

Recent transfers of adult brown trout from Liawenee Canal to various waters are listed below.

Date	Origin	Water Stocked	Number
10.05.89	Great Lake	Lake Kara	300
11.05.89	Great Lake	Camerons Lagoon	50
11.05.89	Great Lake	Bruisers Lagoon	50
22.05.89	Great Lake	Carter Lakes	150
22.05.89	Great Lake	Rocky Lagoon	100
22.05.89	Great Lake	Lake Botsford	200
Total			850

The clipper 'Norfolk' carried the first trout and salmon ova to Australia



cropped regions of the north coast, midlands and the east.

By examining the relative importance of our riverine trout fisheries in the light of results from our recent questionnaire surveys and in relation to the likely impacts on water availability in the near future, the Commission has highlighted a number of areas as being of particular concern with regard to the need to establish realistic instream flows.

Foremost is the *Macquarie/South Esk* drainage basin where our most important riverine trout fisheries are located. Projected irrigation demands suggest that run-of-the-river flows may become limiting for irrigation demand by around the mid-1990's in the South Esk. This does not take into account any requirements for the maintenance of rearing habitat for trout populations, or maintenance of the 'red spinner' mayfly hatches, or indeed any of the things that make this river system such an important trout fishery.

During 1988 the Mersey River emerged as one of the most pressing instream flow problems due to the then likely advent of the Wesley Vale mill and its considerable water requirement from the Mersey at Big Bend. Even though this project is now in doubt, further water abstraction from the Mersey and a number of other northern rivers, needs to be looked at in the light of flows necessary to maintain the trout and native fish populations.

It appears at this stage that cooperation between Rivers and Water Supply Commission and Inland Fisheries Commission will aid in the examination of this problem and both Commissions are actively seeking financial support for a program to establish flow recommendations.

Dr Davies is currently preparing a discussion paper for circulation to relevant Government agencies in order to raise awareness of this problem and to examine future options. Given the increasing demand for water for irrigation and other uses and the forecasts of decreased and more variable rainfall in the northern part of the State with the advent of the Greenhouse effect, it is very much time that these considerations were an integral part of any water development project. Only in this way may we be able to establish rational water use whilst sustaining our unique freshwater life and valuable trout fisheries.

PROSECUTIONS

Successful prosecutions since the last Newsletter are listed below.

Court Date	Offender and Address	Nature of Offence	Fine	Costs	Penalty
19.12.88	John FRANKCOMBE 219 Main Road Sheffield	Take whitebait Possession of net	50-00 20-00	21-10	
20.02.89	David Maxwell ANTHONY Moriarty Road Latrobe	Possession of net Take whitebait	50-00 20-00	24-10	
20.02.89	Roy William MEERS Exeter Highway Wesley Vale	More than one rod and line Unattended set rod	20-00 20-00	24-10	
20.02.89	Nigel Darren CROWDEN 11 Boronia Avenue Devonport	Fish without a licence More than one rod and line	100-00 20-00	24-10	
08.02.89	Anthony RANDALL 3 Bass Highway Smithton	Take whitebait Possession of net	400-00 120-00	24-10	
13.02.89	Gary Owen WELSH 24 Dalgety Street Claremont	Use natural bait	50-00	24-10	
15.02.89	Ronald Charles MACE 16 Foote Street Hadspen	More than one rod and line	25-00	24-10	
20.02.89	Edley Morris DEVERALL 3 Wattle Road Spreyton	Take whitebait Possession of net	50-00 20-00	24-10	
07.03.89	Donald Allan KRUSHKA Barnett Crescent Bridport	Possession of net	100-00	24-10	
20.02.89	Brian Allan LANGE 49 Foster Street Railton	Take whitebait Possession of net	50-00 20-00	24-10	
20.03.89	Wayne Peter CLARK 3/1 Illaroo Street East Devonport	Fish without a licence	85-00	24-10	
24.02.89	Ashley Dean JEFFREY 134 Gilbert Street Latrobe	Assault police Resist arrest Take whitebait Possession of whitebait Possession of net	150-00 conviction recorded 200-00 conviction recorded 75-00	24-10	
29.03.89	Ashley Dean JEFFREY 134 Gilbert Street Latrobe	Take whitebait Possession of net	500-00 100-00	24-10	
14.03.89	Anthony Paul COULSON 35 Preston Street Queenstown	Fish without a licence	50-00	24-10	
21.03.89	Grant Thomas KELLY West Moreville Road Burnie	Fish without a licence	100-00	24-10	
21.03.89	Bradley James BUTLER 23 Bowick Street Wynyard	Fish without a licence Take fish when unlicensed Take fish other than rod Attempt to take fish	100-00 100-00 20-00 20-00	24-10	
02.05.89	Deborah Jayne RUSH 5 Westbury Road South Launceston	Fish without a licence	100-00	24-10	
02.05.89	Tony Sherwood HALL 7 Laycock Street Longford	Fish without a licence	100-00	24-10	
02.05.89	David John BLAIR 44 Hobhouse Street Longford	Fish without a licence	100-00	24-10	
12.05.89	Basil OAKLEY 32 Rockheart Street Gagebrook	More than one rod and line	100-00	69-10	
11.05.89	Colin Arthur WOOLLEY 20 John Street Geeveston	Other than rod and line Possession of trout	120-00 conviction recorded	24-10	
15.05.89	Murray John HURST 101 Payne Street Burnie	More than one rod and line	100-00	24-10	
15.05.89	Ian Stewart HINKS 504 Bass Highway Sulphur Creek	Fish without a licence Possession of assembled rod	120-00 120-00	24-10	