



NEW WATER SUPPLY FOR SALMON PONDS

Inland Fisheries Commission officers have recently completed the construction of a new pipeline to convey water from the Derwent River to the historic Salmon Ponds hatchery.

Construction of the 1.7 km pipeline has been supervised by Commission Hatchery Manager Ian Cameron, with technical assistance from J.R. Stephenson Pty. Ltd. and advice from the Rivers and Water Supply Commission. The State Government funded the project at a total cost of \$90 000.

The Salmon Ponds is Australia's oldest trout hatchery and in May 1864 was the site of the first successful trout hatching in the Southern Hemisphere.

The name 'Salmon Ponds' arose from the original intention to breed Atlantic salmon, but attempts to acclimatise salmon failed. However, the small consignment of brown trout transported to Tasmania with the first successful ova shipment flourished, and, with several subsequent shipments, resulted in the acclimatisation of this species.

Brown trout hatched at Salmon Ponds provided the initial stocks for the waters of the Australian mainland and New Zealand.

Traditionally the Salmon Ponds water supply has been provided by gravity flow from the Plenty River. However, during dry summers severe water shortages have limited the capacity of the trout hatchery and rearing ponds.

To eliminate this problem a pipeline has been laid from the Derwent River and electric pumping equipment installed.



The scheme consists of 1 700 metres of 300 mm diameter pipe and a 55 kw Ajax pump, supplied by J.R. Stephenson Pty. Ltd. The water is drawn from the Derwent River and pumped at a rate of 5 000 litres per minute, to the Plenty River upstream of Salmon Ponds. A lift of 32 metres is involved.

The pipe selected was 300 mm diameter UPVC class 4.5 with solvent joints. It was the only type of pipe considered as it is cheaper than other products, is made in Tasmania

and provides ease of handling, jointing and flexibility. Fabricated class 4.5 bends were used as well as 300 mm tapping bands.

Salmon Ponds is also maintained as a place of historic interest and the State Government has provided a further \$15 000 grant to upgrade the museum and display area housed within the hatchery building.

The guaranteed water supply and upgraded facilities have assured the future of Australia's first trout hatchery.



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by Wayne Fulton

MINISTER GOES FISHING

The Minister for Inland Fisheries, Mr. Peter Hodgman, recently completed a three day tour of Tasmania's highland trout fisheries, accompanied by the Commissioner of Inland Fisheries, Dr. Robert Sloane.

The tour provided an opportunity to see first-hand recent developments and improvements which have been provided in the lake country. The Minister visited facilities which have been funded by the Government since 1982. Included in the tour were the camping grounds at Dago Point, Lake Sorell and at Pumphouse Bay, Arthurs Lake; the new 11 km access road to Cowpaddock and Jonah bays at Arthurs Lake; and a number of boat ramps at Great Lake, Lake Sorell and Arthurs Lake.

Mr. Hodgman said that he was impressed by the new facilities at Arthurs Lake and was particularly pleased to see the large number of anglers using the new camping area and the new access road. The Minister said that the Lands Department and Inland Fisheries Commission intend to complete top dressing the Cowpaddock/Jonah Bay road and concreting the Jonah Bay boat ramp by the end of April.

"A recent joint survey conducted by the Economics Department of the University of Tasmania and the Inland Fisheries Commission has revealed that some 9 000 anglers landed 145 000 trout at Arthurs Lake last season, indicating that the \$170 000 Government development of this water is money well spent", the Minister said.

Mr. Hodgman also announced that he is currently reviewing the 76 recommendations put forward by the Sport Fishery Select Committee which handed down its report in April last year.

"Although many of the recommendations have already been addressed there are a number of important aspects of the report which still require attention and I expect to make a number of policy announcements in the coming months", the Minister said.

During the recent visit to the highlands the Minister and Commissioner took the opportunity to talk to anglers at popular fishing spots to assess attitudes towards management, promotion and future development of the fishery. The Minister also investigated a number of problems facing anglers, including restricted access to Lake Echo and Woods Lake.

Mr. Hodgman stated that the visit had helped to reinforce to him the economic importance and future tourist potential of Tasmania's unique trout fishery.

"The quality of Tasmania's trout fishing was evidenced by the success of anglers and the favourable comments received", he said.

The Minister praised the work of the Inland Fisheries Commission and said he was delighted by the Commission's progressive management and practical approach, and by the cost efficient development of facilities in conjunction with the Lands Department.

VICTORIAN TROUT STOCKING POLICY

The Fisheries Division of the Victorian Department of Conservation Forests and Lands recently announced its new trout stocking policy.

* The Division will produce trout for stocking inland waters of the State.

* Stocking of trout will be confined to public waters except where recognised alternative arrangements exist or special management or research needs exist or arise.

* Waters will be considered for stocking with trout where all of the following conditions are satisfied:

1. sufficient acceptable or marginal habitat for their maintenance and / or growth exists;

2. natural reproduction is insufficient to support a fishery;
3. the fish are accessible to anglers;
4. there is a reasonable expectation that enough anglers will fish the water to justify the expenses involved.

* Priorities for waters considered for stocking will be determined according to habitat suitability criteria, existing or potential population levels and needs of the angling public.

* Where a water is selected for stocking, trout of the largest size possible will be used.

* Stocking with trout will be excluded from waters in the following categories:

1. where the released fish may constitute a threat to a population of a species of special concern or where a unique faunal assemblage exists;
2. where natural reproduction adequately supports a fishery;
3. waters east of the Snowy River catchment;
4. waters identified as unacceptable habitat.

GO FISH AUSTRALIA

Warwick Freeman Productions, in association with the Australian Recreational Fishing Confederation, is producing a thirteen part television documentary series titled 'Go Fish Australia'. The international television rights have been acquired by FILMCO LTD. and locally the series will be seen on ABC television.

The brief for the series is ambitious and covers all types of recreational fishing throughout Australia - from the Cape to the Reef - from Port Arthur to Port Phillip - from Yabbies to Marlin.

Each episode concentrates on a particular aspect of Australian recreational fishing with local experts acting as guides. Subjects covered will include an overview, getting started, estuaries, rock and beach fishing, underwater, boats, inland waters, fly fishing, big game, cooking the catch and safety.

Director Bob Foster and his crew recently visited Tasmania to shoot some footage of sea fishing and trout fishing. Rob Sloane and Jim Allen were co-opted to find them some wild Tassie brown trout on the fly.

The crew stayed overnight at Bronte Park and were treated to some good fishing at Bronte, Binney, Tungatinah and London Lakes. Despite a very windy day seven trout were taken 'on camera' and the crew seemed pleased with the results. Three of the trout were caught whilst 'tailing' in the shallows and the remainder were taken using the polaroiding technique.

The Recreational Fishing Confederation is also compiling a 'Go Fish Australia' book. This will be a paperback of about 220 pages which will be published and distributed to coincide with the screening of the television series expected in the latter half of 1987.

WORLD FLY FISHING CHAMPIONSHIPS

The World Fly Fishing Championships will be staged in England for the first time in May 1987. The first World Fly Fishing Championship to be organized by the world body, the Confederation Internationale de la Peche Sportive (C.I.P.S.), was held on Lake Echternach in Luxemburg on 3 October 1981.

Subsequent championships have been held in Spain in 1982 (the Narcea River) and 1984 (the Tormes River), Italy in 1983 (the Sesia River), Poland in 1985 (the San River) and Belgium in 1986 (the Ourthe River).

Twenty two countries including Australia, New Zealand and the United States have confirmed participation in England this year. The Patron of the event will be Her Majesty, Queen Elizabeth the Queen Mother, a noted angler.

Teams consist of 5 anglers and a manager, and essentially are judged according to the number and size of fish landed on competition days. Competitors are closely supervised and are constrained by tight rules which determine how and where they may fish and the types of flies, lures and rods to be used.

The coordinator of the 1987 Championship is Tony Pawson, the 1984 World Champion and former England Test cricketer. Tony Pawson visited Tasmania last March to attend the Australian Freshwater Fisherman's Assembly (A.F.W.F.A.) meeting held at Great Lake, and he stated that he considered Tasmania to be an ideal venue to host a future World Championship.

Subsequently the A.F.W.F.A. has approached the world body C.I.P.S. to hold the 1988 Championships in Australia, and Tasmania's Central Highlands has been proposed as the venue.

The Inland Fisheries Commission has given its full support to the proposal and a decision is expected at the May Championships in England.

SALMON PONDS TROUT LIBERATIONS

Set out in the table below are details of yearling and fingerling trout liberations recently conducted from Salmon Ponds.

The summer release of fingerlings was carried out at a smaller average size this year due to a persistent chronic bacterial infection which resulted in continual low daily mortalities. The high water temperatures experienced at Salmon Ponds for much of December made it impossible to completely control the outbreak.

Approximately 8 000 brown and rainbow trout triploids, as well as 5 000 normal rainbow trout have been retained at Plenty for on-growing.

LIBERATION OF YEARLING AND FINGERLING TROUT 1986-87

Date	Number	Species	Location	Liberation Point	Average Weight (g)	Average Length (mm)
20.11.86	1 108	Triploid Rainbow*	Lagoon of Islands	Boat Ramp	132.0	220
21.11.86	10 000	Domestic Rainbow	Craigbourne Dam	Northern End	50.0	100
24.11.86	4 000	Brook	Clarence Lagoon	Northern End	2.8	50
15.12.86	38 000	Brown	Lake Crescent	Western Shore	0.8	40
17.12.86	5 000	Triploid Rainbow	Lake Dudley		0.4	40
17.12.86	5 000	Triploid Rainbow	Lake Chipman		0.4	40
17.12.86	5 000	Triploid Rainbow	Little Blue Lagoon		0.4	40
17.12.86	10 000	Triploid Rainbow	Lake Botsford		0.4	40
17.12.86	15 000	Triploid Rainbow	Tin Hut Lagoon		0.4	40
08.01.87	30 000	Brown	Lake Leake	Kalangadoo Bay	1.0	40
09.01.87	10 000	Brown	Penstock Lagoon	Western Shore	1.0	40
09.01.87	40 000	Rainbow	Great Lake	Canal Bay	0.9	40

* Adipose finclipped

TASMANIA'S ENDANGERED FRESHWATER FAUNA

by Wayne Fulton

This article summarises a paper presented to a recent 'National Conference on the Conservation of Threatened Species and their Habitats'. The Conference was jointly organised by the Australian Committee for the International Union for Conservation of Nature (ACIUCN) and the New South Wales National Parks and Wildlife Service.

The effective conservation of Tasmania's freshwater fauna faces problems in two major areas: the first is essentially scientific and involves taxonomic and ecological considerations, whilst the second relates to community acceptance of the value of, or need to conserve particular species. Both groups of problems influence the role of freshwater managers in various ways.

Scientific Problems

Tasmanian freshwater animals have received little scientific attention. A revision of the galaxiid group of native fishes was published by Andrews in 1976 and identification of the known fishes was then possible. At that time 20 freshwater fish species were known from Tasmania; since then another 5 species of freshwater fish have been described and a large amount of new information relating to their distribution has been collected.

However, the basic life history of many of these species is still unknown. Of the 12 endemic (restricted to Tasmania) fish species, published life history details exist for only three. Detailed information has also been collected for the golden galaxias *Galaxias auratus* but is not yet published. This leaves about two thirds of the endemic fish about which only scant life history details are known.

The Inland Fisheries Commission is currently undertaking an investigation of whitebait stocks, which consist of six main species of native fish. An immediate result of this work has been that a previously unknown life history stage of the Tasmanian mudfish *Galaxias cleaveri*, has been found to be abundant and widespread in whitebait migrations.

The whitebait research is the first intensive study of native fish life history, population genetics and ecology that has been mounted in Tasmania and has resulted from the Commission's success in obtaining external funding of approximately \$150 000 over three years. However, it is perhaps ironic that the source of this funding, the Fishing Industry Research Trust Account (FIRTA), is backed by the commercial fishing industry, and it was the potential commercial significance of the whitebait species that justified the grant.

It is thus considered that the identity and distribution of our freshwater fish is generally well known but ecological information is deficient. In contrast, detailed identification of Tasmanian freshwater invertebrates is indeed difficult and ecological details are very sparse. The freshwater crayfish group has probably received greatest attention, but even here our knowledge is not complete.

For example, a PhD Thesis completed at the University of Tasmania late last year by Pierre Horwitz suggests an increase in the number of species in the genus *Engaeus* (burrowing crayfish) from four to fourteen. From my work on benthic invertebrates in Great Lake ten out of thirteen species of oligochaetes (freshwater worms) were later described as new species, yet subsequently, a number of these species have been found in many other parts of the State with at least one being virtually statewide.

Social Attitudes

Conservation values of the higher animal orders are perceived as more tangible by the general public; for instance an animal may be valued because it is large, cute or cuddly, whereas problems facing conservation are more pronounced when dealing with small and often cryptic invertebrate species.

The need to conserve freshwater animals is more readily accepted if commercial or recreational importance, or perhaps large size can be assigned to the species concerned and there is consequently a better chance of obtaining research funding and justifying its conservation to the public. However, with the lesser invertebrate groups even restricted distribution becomes less important and reliance on a characteristic such as 'unique group' or 'ancient lineage' is required to justify conservation.

Endangered Species Lists

The scientific and social problems associated with conservation become compounded when attempting to compile an endangered species list for management purposes, and although several have been published, no such authoritative list exists for the Tasmanian or Australian freshwater fauna as a whole. Before referring to the lists that have been made, some comments on endangered species lists in general are appropriate.

It is vitally important that any endangered species list, if it is to be of any value at all, must reflect the true situation in relation to the fauna concerned. Therefore, a species should only be listed after thorough consultation with the appropriate subject authorities. A species should only be listed in a category of some significance if it has received sufficient study and adequate collections or observations have been made to confirm its identity and determine its distribution with reasonable surety.

Such a list should not be made in haste simply to draw attention to the need for conservation of endangered fauna, as gross inaccuracies immediately ruin the credibility of a list and reduce its impact and effectiveness for those species that are genuinely in need of protection. If such criteria as a minimum cannot be met, then there is little value in listing endangered species.

It is acknowledged that the authors of the lists that have been published for Tasmanian freshwater animals do point out the preliminary and tentative nature of their lists. Nevertheless, this does not alter the consequences as the contents are usually subsequently quoted and reproduced without such qualification.

In a recent (1986) Ecofund publication by Kennedy and Burton, the two highest priority fish species listed are the Australian grayling, *Prototroctes maraena* and the river blackfish, *Gadopsis marmoratus*. However, both these species occur widely in Tasmania, although this is not acknowledged in the list. Further, the blackfish is very common and widespread in Tasmania, not even warranting a minor classification under the IUCN system.

Problems associated with incomplete knowledge are apparent in other published lists relating to Tasmanian freshwater fauna, thus prohibiting serious considerations of these lists. For example IUCN, perhaps the most highly regarded authority on endangered species, lists eight Tasmanian freshwater species as either vulnerable or endangered (IUCN, 1983). Two of these, the mountain shrimp *Anaspides tasmaniae* and the giant freshwater crayfish *Astacopsis gouldi* are widespread and common and should not be listed at all. With further examination of the IUCN list, the vulnerable status of several other invertebrates listed could be questioned. Perhaps 50% or more of the IUCN list is inaccurate even based on information available at the time of its preparation and it can best be described as a classifica-

tion based on the unique group or ancient lineage idea referred to earlier.

The most recent published lists of endangered Tasmanian freshwater animals are those compiled by Michaelis in 1984 and 1985. The first of these listed 20 freshwater species whilst the second, published only a year later with the same source material available, listed 39 species. Again, the mountain shrimp and giant freshwater crayfish are incorrectly listed, whilst information available on many of the other species is insufficient to warrant inclusion.

Many of the species are listed as rare and this has the connotation that they are therefore at risk. This is not necessarily so, as a number of the species are quite abundant within a limited range and are not under threat. Alternatively, they have been able to cope with serious habitat change such as dam construction and exotic fish introduction. Others are simply listed as rare due to insufficient knowledge. The rare and, by implication the 'at risk' classification, is used too often in threatened species listings.

Although certainly well intentioned, the serious deficiencies apparent on examination of the available endangered species lists for Tasmanian freshwater fauna greatly reduces their impact on those persons responsible for the conservation of these animals.

Management of Endangered Freshwater Fauna in Tasmania

At a workshop preceding the 1985 conference of the Australian Society for Fish Biology, the status of Australia's freshwater fish was discussed by fish biologists from all over Australia. Threatened species were classified under a system similar to that used by IUCN. Eight Australian species, including three Tasmanian species were classified as endangered or vulnerable whilst a further five (three Tasmanian) were regarded as potentially threatened. The first three groups of that list are tabled below.

Endangered

Galaxias fontanus Fulton, Swan galaxias, Tasmania
Galaxias johnstoni Scott, Clarence galaxias, Tasmania
Maccullochella macquariensis (Cuv. & Val.) trout cod, Vic., N.S.W.
Maccullochella n.sp., East Coast cod, N.S.W.

Vulnerable

Galaxias tanycephalus Fulton, saddled galaxias, Tasmania
Pseudomugil mellis Allen & Ivanstovff, honey blue-eye, Qld.
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Morgurnda n.sp., Flinders Ranges gudgeon, S.A.

Potentially Threatened

Galaxias pedderensis Frankenberg, Pedder galaxias, Tasmania
Galaxias parvus Frankenberg, swamp galaxias, Tasmania
Chiamydogotius n.sp., Elizabeth Springs goby, S.A.
Mordacia praecox Potter, non-parasitic Lamprey, N.S.W.
Prototroctes maraena Gunther, Australian grayling, S.E. Aust.

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Prototroctes maraena Gunther, Australian grayling, S.E. Aust.

It is considered that sufficient information is available to justify the classification of Tasmania's freshwater fish and this list has been accepted by the Inland Fisheries Commission; the Tasmanian species concerned are currently the subject of a number of research funding proposals.

The Commission has adjusted trout stocking policy to avoid conflict with sensitive native species and has alerted and lobbied other Government authorities to recognize and acknowledge the distribution of such species. It is also pursuing the creation of a reserve, in conjunction with the Forestry Commission, for the protection of the Swan galaxias, whilst populations of Pedder galaxias and swamp galaxias are afforded some protection because they are present in the World Heritage Area. The Australian grayling has special status as a protected species under the Fisheries Act although a permit is generally required to collect any native fish in Tasmania.

The situation regarding freshwater invertebrates is far more complex. At this stage there is insufficient information available on the invertebrate fauna to formulate any realistic plan for their conservation. This situation is less than ideal.

For the reasons outlined above, an endangered species list for Tasmanian freshwater invertebrates is inappropriate. This is not to say that nothing at all should be done, and in recent years the Inland Fisheries Commission has considerably expanded its research on the freshwater invertebrate fauna. This includes general survey work as well as studies of the impact of various

processes such as forestry, mining operations and pollution on invertebrates.

However in the absence of reliable information on our freshwater invertebrates, and because it is difficult to publicly justify conservation of individual bugs and worms, a management authority must take a practical approach and attempt to conserve whatever it can, wherever it can, within its means. In this regard a habitat approach is considered far more realistic.

We must assume that the preservation of diverse natural stream and lake habitat types should offer a basic protection for freshwater invertebrate communities. The protection of these stream and lake environments are often more acceptable publicly for their aesthetic value than for the status of the cryptic species which occupy them.

To this end, documentation of freshwater fauna in parks, reserves, remote lakes and wilderness areas is extremely important. The Commission is presently conducting surveys where possible, such as recent work in the Walls of Jerusalem area, the South West World Heritage area, Cradle Mountain National Park and a planned Central Plateau survey. Recent widespread stream survey work is also a significant step forward.

The Future

The greatest priority and challenge is still to unravel the mystery of what we have in Tasmanian freshwater and where it is found. The greatest limitation and hindrance to this objective is the

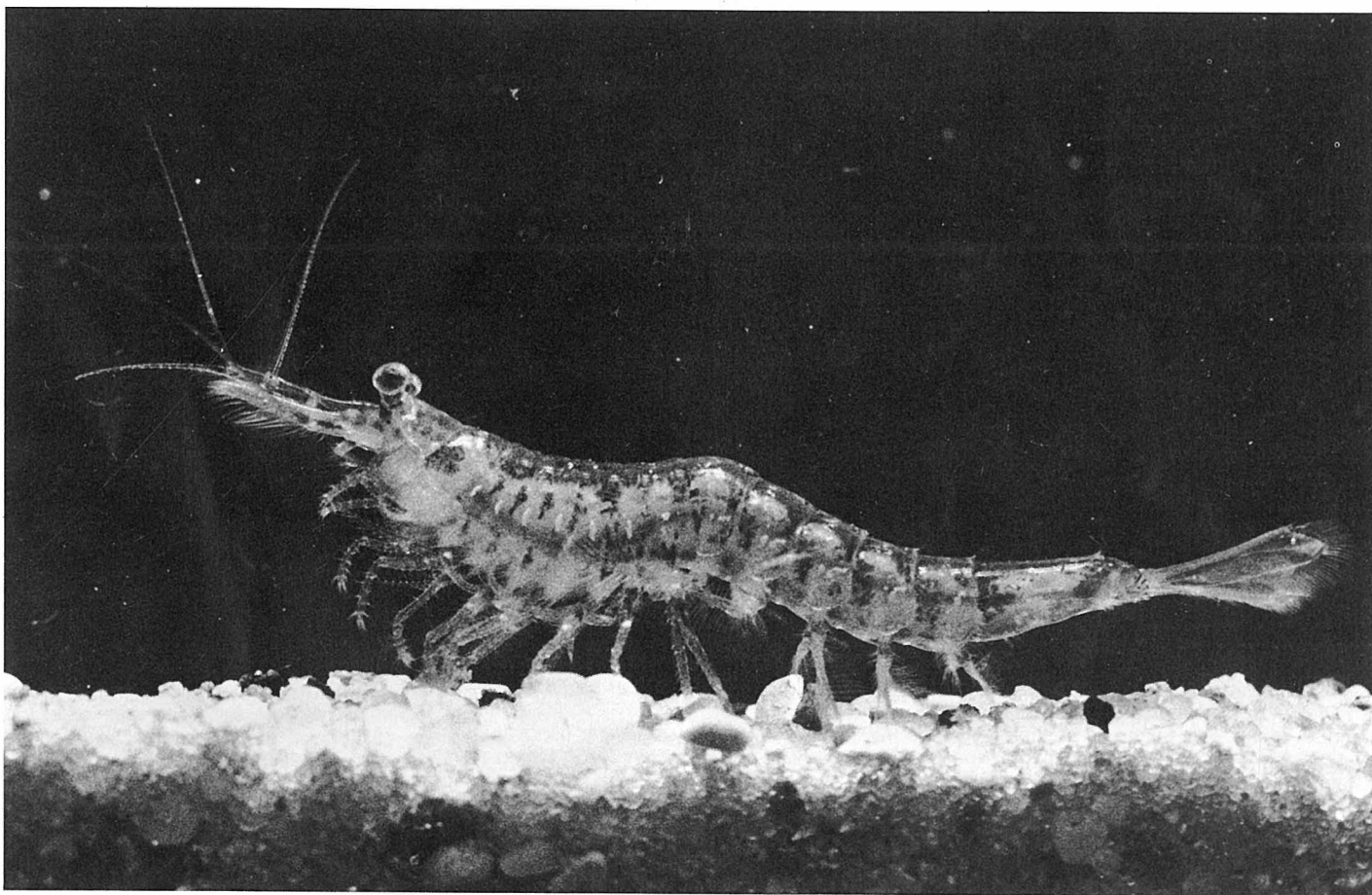
difficulty in obtaining funds to complete the necessary work.

In fisheries management it is unrealistic to expect the licence fees of freshwater anglers to be devoted to this purpose. Governments too are generally not keen to fund and promote work related to conservation of native freshwater fauna and the general acceptance of the need for conservation of lesser known faunal groups, not only in the public mind but also by funding organisations, also limits funding alternatives.

In conclusion the general lack in the availability of external sources of funding for basic research is seen as the greatest current limitation to progress in the conservation of Tasmania's freshwater fauna.

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The Great Lake shrimp, *Paranspidetes lacustris*, a unique Tasmanian invertebrate.

TRIPLOID TROUT STUDY

The Inland Fisheries Commission's investigations of the production of sterile 'triploid' trout have been boosted by the announcement of a \$16 000 Commonwealth Marine Sciences and Technologies (M.S.T.) Grant. The grant has been secured for a joint study with the Tasmanian State Institute of Technology (T.S.I.T.) in Launceston.

The study will concentrate on the production of triploid rainbow trout for the sea cage culture industry. The problem of early maturation of rainbow trout severely restricts the potential of mariculture in Tasmania, and commercial hatcheries require assistance in refining techniques and testing the commercial viability of sterile salmonids.

The production of triploid trout has an addi-

tional recreational benefit in providing ideal sterile stock for trophy trout waters which lack natural spawning streams. The Commission has for several years been experimenting in this field and the progress of sterile fish in the wild is being monitored at a number of waters.

T.S.I.T. graduate Jane Andrew, who has been employed on the Commission's stream survey team, has enrolled to undertake postgraduate

studies on triploid trout at the Zoology Department of the University of Tasmania. Her work will include aspects of the commercially orientated M.S.T. Study, as well as an assessment of triploid production and stocking programs for the recreational fishery.

It is anticipated that her involvement will effectively combine the expertise available through the Commission, T.S.I.T. and University of Tasmania, and will lead to close cooperation between commercial hatcheries which will be encouraged to participate in the study.

PESTICIDE STUDY FUNDED

The Inland Fisheries Commission has been successful in obtaining a \$77 000 grant from the Department of Resources and Energy, under the auspices of the National Water Research Program, for a two year study into the sublethal effects of pesticides on fish in northern Tasmanian streams. The Australian Water Research Advisory Council recommended that the project be funded.

The study will be led by Scientific Officer Dr. Peter Davies, who joined the Commission in 1984 after completing postgraduate studies in toxicology at the University of Tasmania.

The main aims of the project are to:

1. Examine the effects of the widespread spraying of agricultural chemicals on freshwater fish in Tasmanian streams on the predominantly agricultural north coast of the State. The extent to which brown trout, the common jollytail *Galaxias maculatus*, and the river blackfish *Gadopsis marmoratus*, are affected by release of pesticides into streams will be assessed by examining a number of sublethal stress indicators.
2. Test the relationship between levels of pesticide residues in streams and their sublethal effects on wild fish populations after spraying operations.
3. Critically examine Australian water quality standards in the light of the responses of the above freshwater fish species. Since these species are common to most of South-Eastern Australia in agriculturally developed areas, the results will have considerable utility outside Tasmania.

There has been a steady increase in the number of documented and anecdotal reports of fish kills in the agricultural north coast region of Tasmania over the past 5-10 years. A recent estimate of crop protection chemical use in Tasmania put the 1985 expenditure at \$20 million, an increase in use of 92% since 1982.

A recent creel census of the Tasmanian brown trout fishery put the total annual harvest of brown trout in 1985/86 from the top 7 ranking stream fisheries in the State (all on the north coast) at 154 000 fish. This catch resulted from the expenditure of 68 000 angler days fishing effort and is equivalent to an economic value of approximately \$2 million. There is a widespread feeling among anglers that this resource is being deleteriously affected by the release of agricultural chemicals into streams.

The river blackfish supports a locally important recreational fishery, the size and significance of which, is unknown. It is a species characteristic of slower flowing sections of northern Tasmanian coastal streams, especially where forest debris is present. Nothing is known of the susceptibility of this species to the toxic actions of agricultural pesticides.

The common jollytail is the most widespread member of the diverse galaxiid family of fish which comprises some 25 species throughout Australasia. Along with the small marine fish, *Lovettia seali*, it forms the basis of the whitebait run when, as a juvenile, it migrates in spring into the estuaries in huge shoals. Two major factors

appear to be involved in limiting the successful recruitment of the jollytail and other galaxiids into the fishery - obstructions to fish migration preventing the passage of juveniles upstream to maintain the adult breeding stock; and land management practices, principally pollution, leading to a decline in the brood stock. It is consequently of considerable importance to assess the extent of the effect of crop protection chemicals on adult jollytail populations.

It is felt that this project will assist in critically comparing the sublethal and lethal susceptibilities of native freshwater fish with those of salmonids, and will allow a detailed re-examination of the established and largely derivative Australian water quality criteria for pesticides in surface waters.

The results and conclusions derived from this project will be of considerable benefit in determining the extent of the effect of crop protection chemicals on important fish populations in Tasmanian streams. It will also have direct relevance to other areas in Australia and New Zealand where the same fish species occur in agricultural areas where these chemicals are in use. It should assist in the reassessment of Australian water quality criteria in the light of the responses of the native fish fauna.

PERCH VIRUS HITS N.S.W. TROUT

A recently described iridovirus of redfin perch has now been isolated from diseased juvenile rainbow trout in several New South Wales trout farms.

Clinical signs reported have included loss of stability when swimming, disorientation and inappetence. A low proportion of fish were reported to be dying, approximately 12-15/20 000 per pond per day in 16 ponds. Gross examination showed slightly distended abdomens and protrusion of the peri-anal region on occasions.

The presence of a virus has been confirmed by electron microscopic examination of infected material by the Australian Animal Health Laboratories, Geelong. The morphology of the virus is identical to the virus of epizootic haematopoietic necrosis of redfin perch.

Concern is expressed at the isolation of this virus from trout in Australia. This case represents the first occasion that any virus has been isolated from normal or diseased salmonid fish in Australia.

Clinical disease has previously been restricted to redfin, in which species massive mortalities occur. The isolation of the virus from diseased trout under natural conditions in the absence of other pathogens is prima facie evidence of pathogenicity for this species and its occurrence in trout may indicate virulence for trout and other salmonids.

Immediate consequences of the occurrence of this disease are the potential for spread to other trout farms, to wild salmonids, and to native Australian fish species including those in the Murray-Darling catchment.

There is no evidence that the disease occurs in Tasmania. No significant redfin perch kills have been reported, and trout hatcheries have been regularly monitored for viral disease with negative results.

Every effort must be made to prevent the spread of this disease to Tasmania. There is a total ban on the importation of live salmonids and their eggs, and other freshwater fish such as redfin perch can only be imported with the permission of the Inland Fisheries Commission.

It is also illegal to transfer live fish of any kind from one water to another without authorisation from the Commission, and the use of live or dead goldfish or perch as bait is strictly prohibited in Tasmania.

Anglers can assist by reporting fish kills in

the wild, or unusual mortalities in aquarium or pond fish. Anglers returning or visiting from interstate should thoroughly cleanse and dry their nets, lures and fishing equipment before returning to Tasmania.

IN BRIEF

CRAIGBOURNE STOCKED

The new 210 ha irrigation storage Craighourne Dam has been stocked by the Inland Fisheries Commission. 100 000 brown trout fry and 10 000 40 gram rainbow trout have been released. The Minister for Inland Fisheries authorised the stocking on the clear understanding that Craighourne is first and foremost an irrigation storage and trout are of secondary importance. Anglers must accept that the dam will be drawn down during peak irrigation periods.

BROOK TROUT TRIALS

Commission hatchery staff have conducted experimental releases of brook trout fingerlings and yearlings in the Anthony-Henty catchment on the West Coast. If trial releases prove successful an attempt will be made to establish brook trout in the new lakes Langdon, Newton and Anthony. Research staff will assess the viability of this species during the next two years. Angling for brook trout in this system will not be encouraged until the new lakes have filled and are open to public recreation.

OPEN DAY

The Commission's Liawenee Field Station at Great Lake will be opened to the public on Sunday 3 May commencing at 12 noon. Visitors will be able to inspect the Commission's laboratory facilities and view the brown trout spawning run. Staff will be available for informal discussions and brown trout eggs will be stripped on the day. All are welcome.

REMOTE LAKES STUDIED

Research staff have recently completed a survey of the fish and invertebrate faunas of a number of remote wilderness lakes. Previously there have been no systematic collections made in these areas. In South West Tasmania lakes visited have included Lake Daphne (Florentine catchment), Twin Lakes (Florentine), Lake Rhone (Gordon), Windy Lake (Gordon), Orb Lake (Serpentine), Croaking Lake (Davey), Lake Surprise (Huon), Promontory Lake (Huon) and Lake Venus (Cracroft). A number of lakes in the Cradle Mountain area have also been sampled including Lake Dove, Lake Hanson, Lake Rodway, Lake Lilla, Crater Lake, Twisted Lake, Flynn's Tarn and Wombat Pool. The work has been assisted by a \$10 000 grant from World Heritage Funds administered by the Tasmanian National Parks and Wildlife Service.

CLUB REARING PROJECTS

Devonport Branch has successfully raised 53 300 brown trout fingerlings, releasing 16 000 in Lake Barrington, 9 000 in the Mersey River, 2 400 in Lake No Where Else and 25 900 in local farm dams. The Ulverstone Branch raised 54 570 brown trout fingerlings at its North Motton hatchery, releasing 20 000 in Lake Barrington, 6 700 in the Guide Dam, 10 000 in the Pet Dam, 5 120 in the Leven River and 12 750 in local farm dams. Circular Head Branch raised 4 046 fingerlings and released them in local farm dams. Full details are available from the Inland Fisheries Commission.

PROSECUTIONS

Successful prosecutions since the last Newsletter are listed below.

Court Date	Offender and Address	Nature of Offence	Fine	Costs	Penalty
28.8.86	Peter John HOLT St Arnaud Rd. Wedderburn, Vic.	Fishing without a licence Take fish from closed water	100.00 20.00	30.10 -	- -
18.11.86	Stephen John CLOSE 3 Terang Place Ravenswood	Fishing without a licence Representing to be licenced False name and address	100.00 25.00 50.00	21.10 - 21.10	- - -
18.11.86	Gary William FORD 2/11 Henry St., L'ton	Fishing without a licence	100.00	21.10	-
18.11.86	Tony Eric WOODBERRY 2 Terang Place Ravenswood	Fishing without a licence Representing to be licenced False name and address	100.00 25.00 50.00	21.10 - 21.10	- - -
18.11.86	Eric Sahari NAKKONEN 20 W. Tamar Rd., L'ton	More than 1 rod and line	20.00	21.10	-
18.11.86	Basil Percival STURZAKER 30 Button St., L'ton	More than 1 rod and line	40.00	21.10	-
18.11.86	Steffan SCOTT Lot 24 Caroline Ave. Cockatoo	Fishing without a licence	100.00	21.10	-
17.12.86	Geoffery Royal JONES Shaw St., Bothwell	Possession of natural bait	50.00	21.10	-
21.1.87	Frederick R. EMMERTON 18 Brook St., Smithton	Fishing without a licence Other than rod and line	100.00 20.00	21.10 -	- -
16.12.86	Gregory Earl PAGE 22 Boland St., L'ton	Fishing without a licence	100.00	21.10	-
27.1.87	Kenneth Charles COGHLAN 26 Andrews St., N. Norfolk	Fishing without a licence	40.00	21.10	-
27.1.87	David John VAGG 6 Walker Crescent, N. Norfolk	Unattended set rod More than 1 rod and line	40.00 40.00	21.10 -	- -
27.1.87	Gregory John DAWES PO Box 288, N. Norfolk	Unattended set rod More than 1 rod and line	40.00 40.00	21.10 -	- -
18.2.87	John Kenneth STEVENSON 15 Sutton St. Savage River	More than 1 rod and line Unattended set rod	30.00	21.10 Conviction Recorded	-
16.2.87	Trevor Allen DICK R.S.D. 199, Latrobe	More than 1 rod and line	40.00	21.10	-
16.2.87	Brendan S. JOHNSTON 115 Caroline St. East Devonport	More than 1 rod and line Unattended set rod	30.00 30.00	21.10 21.10	- -
2.2.87	Grant David WATKINS 3 Simpson St., Somerset	Fishing without a licence Representing to be licenced	100.00 50.00	21.10 -	- -
2.2.87	Steven Thomas ATKINSON 8 Whitford St., Burnie	Fishing without a licence Other than rod and line Attempt to take fish	100.00 20.00 30.00	21.10 - -	- - -
2.2.87	Lee Andrew DAVIS 1 Colgrave Rd., Burnie	Fishing without a licence Other than rod and line Attempt to take fish	100.00 20.00 30.00	21.10 - -	- - -
16.2.87	Michael N. CUMMINGS 2 Archer Crescent Georgetown	Take fish from closed water Use natural bait	30.00 30.00	21.10 -	- -
16.2.87	Gerald Dudley ATKINS 2 Fonthill Pl. East Devonport	Take whitebait Use a net	50.00 30.00	21.10 -	- -
16.2.87	Reginald BESSELL 19 Kaihi Pl. East Devonport	Take whitebait Possession of whitebait Possession of net	200.00 200.00 50.00	21.10 - -	- - -
16.2.87	Peter John GALE 17 Winspears Road East Devonport	Take whitebait Possession of net	50.00 20.00	21.10 -	- -
11.3.87	Ray Angus BAKER 8 Pelion Pl., Devonport	Other than rod and line Possession of net	20.00 20.00	21.10 -	6.00 -
2.2.87	Anthony Stephen BUTCHER R.S.D. 976, Stowport	Fishing without a licence Representing to be licenced	100.00 50.00	21.10 -	- -
17.2.87	Ross SMITH 12 Warwick Pl. Kingsmeadows, L'ton	Use natural bait	40.00	21.10	-
17.2.87	Val Joseph MURRAY 6 Goodwin St., Invermay	Other than rod and line	30.00	21.10	-
27.1.87	Phillip LEE 63 Montague Street New Norfolk	Unattended set rod More than one rod and line	40.00 40.00	21.10 -	- -