

On the Rise



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New legislative reforms for Inland Fisheries management

The Minister for Primary Industries, Water and Environment, David Llewellyn, recently announced the introduction of new inland fisheries legislation which will reform the management of the Inland Fisheries Commission in line with recommendations of the Inland Fisheries Review conducted in the mid-to-late 1990s.

The legislation was passed by Parliament the first week of December and is expected to be proclaimed as an Act of Parliament before Christmas.

The *Inland Fisheries (Amendment) Act 1999* abolishes the Inland Fisheries Commission and replaces it with an Inland Fisheries Advisory Council (IFAC). The Council has a broader role in policy

formulation and direction setting, and its membership will enable coverage of issues from across the entire spectrum of inland fisheries management. Its critical role is to advise the Minister on fishing policy and assist the Director in strategic planning, with the goal of building and enhancing the State's inland fishery resources.

As part of the reforms, the organisation will be renamed the Inland Fisheries Service (IFS), and the Commission's existing statutory powers will be exercised by the Director of Inland Fisheries.

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Arthurs Lake big fish

Arthurs Lake is giving up some of its larger fish this season. Angling pressure has seen some excellent catches and one of the more recent was a brown Trout taken by Grant Garwood of St Leonards.

Grant was spinning from a boat in Phantom Bay when he thought his line was snagged on a piece of wood until he brought the fish to the surface. The fish rolled on top of the water and upon seeing the boat – took off. Grant played the fish for about 15 minutes before being able to net it.

The fish was 76 cm long with a 40 cm girth and weighed in at 4.875 kg!

Grant Garwood of Launceston with his trophy fish from Arthurs Lake



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Christmas Message from the Minister



I would like to take this opportunity to wish you all a happy Christmas, and safe fishing and boating over the summer season.

The beginning of the new Millennium marks a period of significant change for the Inland Fisheries Commission, beginning with the renaming of the organisation to the Inland Fisheries Service.

The recommendations of the Inland Fisheries Review undertaken in the mid-to-late 1990s continue to be implemented. The recent passage of legislation to reform the Inland Fisheries management structure and the current strategic planning being undertaken by the Service, are of most significance.

Under the amended legislation, an Inland Fisheries Advisory Council has been established to replace the previous Commission structure. With its expanded membership, the new Council will play a critical role in fishery policy formulation and direction setting for the Service, and will deal with issues from across the entire spectrum of inland fisheries management.

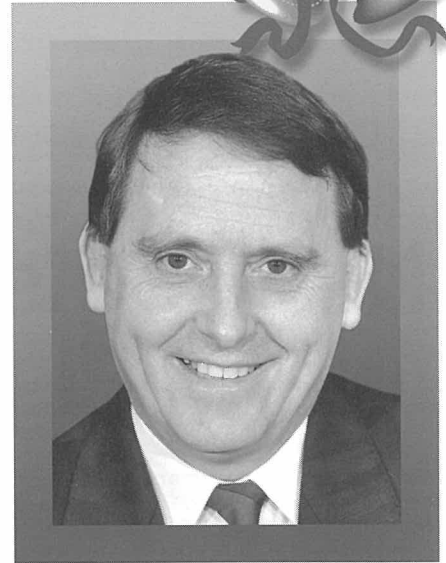
Planning for the sustainable management of inland fishery resources is now a primary focus of the Service as we enter the new era. The planning process, which involves key stakeholders and anglers, will result in fishery management plans for priority waters

and fisheries throughout the State. Fishery management plans are now in progress for Four Springs, Little Pine and Brushy Lagoon, and I recently approved the public release of a scoping document for management of the Western Lakes wilderness fishery area.

Another good omen for inland fisheries management is the unique partnership which was recently forged between the University of Tasmania, through the Tasmanian Aquaculture and Fisheries Institute (TAFI), and the IFS. This is sure to result in a more coordinated research effort and enable greater efficiency and cost effectiveness in the delivery of research projects in the area of inland fisheries and aquaculture.

More good news for anglers is the start of comprehensive works to redress the water quality and trout fishery problems at Lake Sorell which have been exacerbated in recent times by dry climatic conditions and the introduction of carp. The Lake Sorell and Crescent Restoration Project, funded by the State and Commonwealth Governments to the tune of about \$1.4M over the next two years, encompasses environmental works at Lake Sorell and ongoing carp management at both lakes.

I hope that you will join me in my optimism for the future management and improvement of Tasmania's inland fisheries, under the professional approach of the new



Service, and I look forward to reporting on the successes in the coming year.

Happy New Millennium,

David Llewellyn

Minister for Primary Industries, Water and Environment

Farewell to the Commission from the Director

I wish to express my sincere gratitude to the members of the now disbanded Commission, particularly the most recent Associate Commissioners, Jim Ferrier, Les Monson and Bob Ward, for their invaluable assistance to me since I joined Inland Fisheries earlier this year.

The role of the previous Commission has been expanded with its replacement by the Inland Fisheries Advisory Council, of which Jim, Les and Bob are members for a fixed term in order to provide management continuity amongst stakeholder groups.

I would also like to thank the staff of the Inland Fisheries for their professional and hard working approach to inland fisheries management in 1999, and their patience over the past two years while administrative changes have been finalised.

On behalf of the Inland Fisheries Service, I wish you all a Merry Christmas, good summer fishing and a Y2K 'bug free' New Year.

Greg McCrossen
Director Inland Fisheries

Cassy Dodds (Admin. assistant) and Greg McCrossen, Director pictured with past-Associate Commissioners, Jim Ferrier, Les Monson and Bob Ward



Free Fishing Day

Wednesday January 26
Australia Day, 2000

Don't miss the 'Free Fishing Day' which will be held on Australia Day, Wednesday 26 January next year. It's one day in the year when you don't need a licence to fish for trout in open inland waters in Tasmania!

This special day, offered by the Inland Fisheries Service and supported by the State's angling clubs, is designed to encourage people to 'have a go' at fishing and hopefully, get hooked on the experience.

Inland Fisheries will stock selected lakes with adult rainbow trout in preparation for the day and angling clubs are organising local events at these sites to encourage families along, and to provide advice and practical assistance to first-time anglers.

For more information contact the Inland Fisheries Service or your local angling club.

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Any comments, suggestions, contributions or ideas for articles would be most welcome and should be addressed to:

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or on the Internet at www.ifc.tas.gov.au

Towards a Western Lakes Wilderness Fishery Management Plan

The Minister for Primary Industries, Water and Environment, David Llewellyn, recently approved for release a scoping document for the Western Lakes Wilderness Fishery Management Plan. The document seeks to redefine the Western Lakes Area to include the significant Clarence Lagoon and its catchment, as well as several headwater streams that feed the area but are situated outside the current management boundary.

"The Clarence Lagoon addition is to ensure the conservation of habitat of the endangered Clarence galaxias and the sustainable management of the significant brook trout fishery," Mr Llewellyn said.

"The inclusion of the headwater streams and the Clarence Lagoon catchment represents best practice catchment management planning.

"The document also takes account of the objectives of the World Heritage Area (WHA) Management Plan 1999 since the whole area falls within the WHA, making it attractive to anglers seeking a wilderness fishing experience.

"The planning process currently being undertaken by the IFS will enable management to address the range of issues relating to the use of the Western Lakes area, and to consult with stakeholders and user groups in the preparation of the Fishery Management Plan (FMP).

"The scoping document directs the FMP to consider the impacts on water quality and quantity, the conservation of rare and endangered species and their habitat, and the introduction of pest species, through to the area's use for recreational fishing.



A typical Western Lakes Wilderness Fishery.
Photo: N. Brown

"The issue of bait fishing in the WHA has been partly considered by the Parks and Wildlife Service in the WHA Management Plan 1999. However, specific actions related to bait fishing will be dealt with in the Western Lakes FMP providing an opportunity for all stakeholders to have input to the decision making.

The IFS and TAFI become partners in research

The Inland Fisheries Service has forged a unique relationship with the University of Tasmania, through the Tasmanian Aquaculture and Fisheries Institute (TAFI) for an enhanced and better coordinated research effort in the area of inland fisheries and aquaculture in Tasmania. From a practical view, the alliance will enable greater efficiency and cost effectiveness at a time of significant financial pressure on research organisations in Tasmania.

A Memorandum of Cooperation is due to be signed by the Director of Inland Fisheries and the Vice-Chancellor of the University to formalise the collaborative research relationship. This will provide a commitment from both parties to resource sharing, with the broad aim of fostering a culture of enquiry and learning related to inland fisheries and aquaculture in Tasmania.

The Memorandum allows for post-graduate research student supervision by the IFS, through the appointment of IFS research staff as Honorary Research Associates of the University. It also establishes mechanisms that encourage individual IFS staff to participate in the research activities pursued by TAFI and *vice versa*; enables the planning, development and execution of joint project proposals for external research funds; and provides for the streamlined administration of joint research applications through the University's Research and Development Office.

Tasmania's Threatened Fauna Handbook: What, Where and How to Protect Tasmania's Threatened Animals

A newly released Threatened Fauna Handbook containing information on 167 threatened Tasmanian animal species is set to help all Tasmanians learn about and help protect our threatened animals.

The handbook was written by Sally Bryant from the Parks and Wildlife Service and Inland Fisheries' Native Fish Biologist, Jean Jackson, and published by the Threatened Species Unit, DPIWE.

Threatened freshwater species include six species of freshwater fish, three species of burrowing crayfish, the giant freshwater lobster and several aquatic insects and snails.

The handbook also contains information on land and marine mammals, insects, snails, velvet worms and lizards. It describes how to recognise the species, where and how they live, and perhaps most importantly, the steps we can take to help ensure that they survive and thrive into the future.

The handbook is available by mail order with order forms at Service Tasmania. Contact the Threatened Species Unit for more details on (03) 6233 6556.



NATIVE FISH NEWS

Jean Jackson, Scientific Officer,
Native Fish Conservation

More native fish species to be listed as threatened

The Minister for Inland Fisheries, David Llewellyn, has recently approved the listing of six species of small native fish under Tasmania's *Threatened Species Protection Act 1995*. Such a listing recognises that the species which are found only in Tasmania and occupy very small areas, are subject to processes which threaten their natural survival and may result in extinction if allowed to continue.

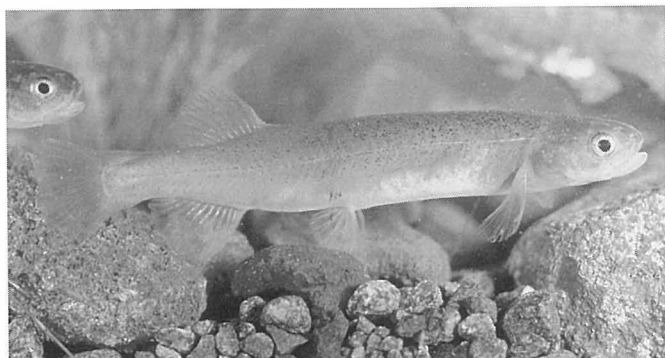
The six species – described below – join those already listed as threatened, including the Pedder galaxias, Swan galaxias, Clarence galaxias, Saddled galaxias, Australian grayling and Dwarf galaxiid. Funding will be sought to prepare a recovery plan for these species describing actions needed to ensure their survival.

The swamp galaxias (*Galaxias parvus*) will be listed as Rare. It was previously listed on Commonwealth threatened species legislation and is included in a recovery plan currently being implemented by the IFS. This species occurs only in swampy areas at Lake Pedder and small tributaries of the Huon River, Lake Gordon and Lake Pedder. Populations have declined since the flooding of Lake Pedder. Threats include loss of habitat due to flooding, predation and competition from trout and climbing galaxias, and potential invasion of habitat by redfin from Lake Gordon.



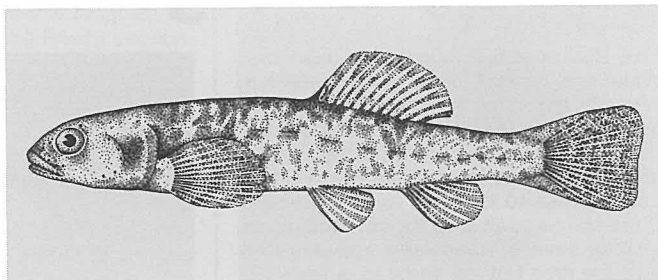
Swamp galaxias, *G. parvus*

The golden galaxias (*Galaxias auratus*) will be listed as Rare. It occurs only in lakes Sorell and Crescent where it is currently abundant. Threats include habitat degradation due to low water levels, high turbidity and the effects of carp. In addition it is a favourite food item of trout and the impact of such predation is unknown although the species has been able to maintain high numbers to date.



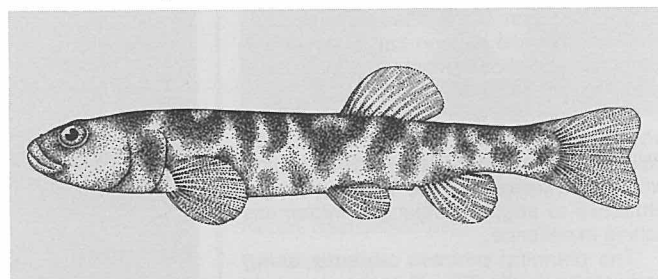
Golden galaxias, *G. auratus*

The Great Lake paragalaxias (*Paragalaxias eleotroides*) will be listed as Vulnerable. It lives only in Great Lake and Shannon and Penstock lagoons. Threats include water level changes due to lake management for hydro electricity, trout predation and the possibility of redfin in Great Lake.



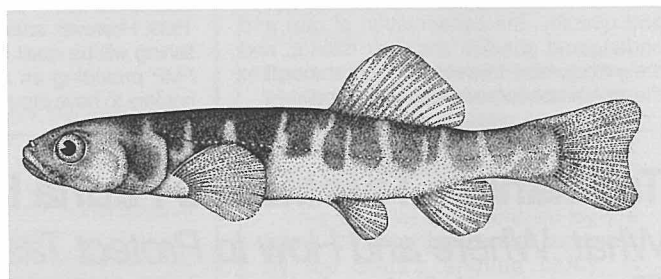
Great Lake paragalaxias, *Paragalaxias eleotroides*

The Shannon paragalaxias (*P. dissimilis*) will be listed as Vulnerable for the same reasons. It also occurs only in Great Lake, Shannon and Penstock lagoons.



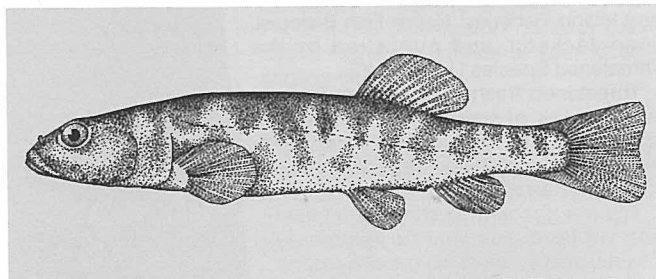
Shannon paragalaxias, *P. dissimilis*

The Western paragalaxias (*P. julianus*) will be listed as Rare. This species occurs only in parts of the Western Lakes. Threats include trout predation and/or competition as well as water level changes associated with hydro management of Lake Augusta.



Western paragalaxias, *P. julianus*

Arthurs paragalaxias (*P. mesotes*) will be listed as Rare. It occurs only in Arthurs and Woods lakes as does the Saddled galaxias. Arthurs paragalaxias has apparently declined in numbers in the last decade, particularly in Woods Lake. Threats include trout predation, and water level and water quality changes due to management of the lakes for irrigation and hydro electricity.



Arthurs paragalaxias, *P. mesotes*

Another new native fish Technical Officer

The last newsletter announced that Alastair Morton had replaced Brett Mawbey as Technical Officer on native fish. Shortly after that Alastair moved on to saltier pastures at TAFI and Andrew Harvey has now taken up the technical officer position.

OTHER THAN TROUT

A regular article on animals of interest to the angler

A new mayfly from Tasmania

by Emeritus Professor Nigel Forteath

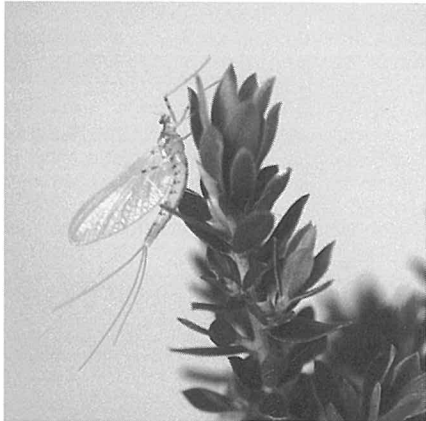
As a small boy, the nymphs and winged stages of mayflies held a great interest for me. After graduating from fishing with a worm to dry fly, this interest became a fascination; something probably held by many anglers. University studies in entomology accompanied by research work on insects enabled me to gain further knowledge of these ancient creatures.

Mayflies have a very ancient history. Fossil evidence shows that they were present in swamps during the Carboniferous Period (360 to 286 million years ago). They were a faunal component of the Gondwana super-continent which was later to break up into Antarctica, South America, Australia and other continents or islands. Most of Tasmania's mayfly fauna have close links with species in South America which makes these delicate animals even more special. Just think, the mayflies walked with the dinosaurs!

In 1984, Professor Andrew Osborn and I recognised that Lake Pedder was home to several species of mayfly but one yellow



L. pedderensis – nymphal cases Photo: Prof N. Forteath



The newly discovered Pedder yellow mayfly, *Loamaggalanga pedderensis* Photo: Prof N. Forteath

coloured species in particular, attracted our attention. We presumed scientists had found and named this large yellow dun before our discovery. However, it was not until recently that we realised that this was not the case. We had discovered a new genus of mayfly which is part of the Gondwanaland assemblage belonging to the family Leptophlebiidae.

The nymphs of this beautiful insect found at Lake Pedder are present in Trappes Inlet and the Serpentine. The nymphs live in deep water and start to emerge in October continuing through to May. Strangely, the duns pull themselves out of the nymphal case (exuviae) before reaching the water surface. The dun seldom rest on the water surface for more than 30 seconds before flying into the thick vegetation along the lake edge. They moult into a handsome spinner within 24 hours.

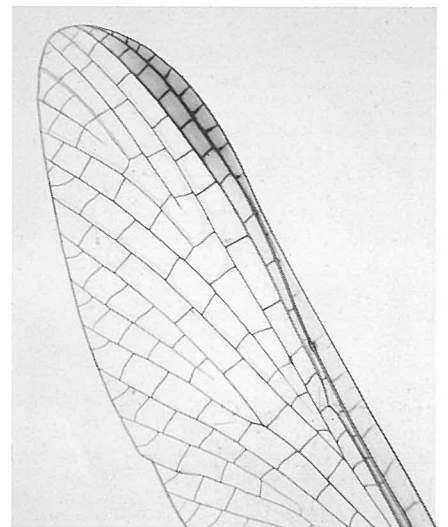
Swarms of spinners are active in the evenings along Trappes Inlet and birds such as swallows gorge themselves. Trout certainly eat the duns and probably spinners.

The yellow mayfly is very different to other duns in Tasmania which are often a grey or brown colour. We have named it *Loamaggalanga pedderensis*, common name – Pedder yellow. There may well be other mayflies which belong to this new genus and anglers who see yellow coloured duns might like to let us know.

During our work on *Loamaggalanga*, we have found other new species of mayfly in Lake Pedder and will be studying these over the next few years. A scientific paper describing *L. pedderensis* is now published in the Australian Journal of Entomology (1999) 38: 72-76. John Dean (a taxonomic expert on mayflies) is a co-author of this paper.



Spinner stage of *L. pedderensis* Photo: Prof N. Forteath



Wing of the Pedder yellow Photo: Prof N. Forteath

Government policy on inland cage culture in Tasmania

The need for more information regarding 'cage culture' in inland Tasmanian waters has arisen recently in response to representations by some in the salmon hatchery industry, regarding prospects for holding batches of parr (the stage between fry and smolt) in a lake as an alternative to a reticulated freshwater hatchery.

The reasoning is that the current capacity of freshwater hatcheries is not enough to deliver adequate numbers of smolts for their grow-out in the expanding marine farming industry. Additional recirculating hatchery capacity is being developed but is capital intensive and involves long lead times while cage culture is considered to be more quickly and cheaply established.

However, cage culture does not represent environmental best practice when compared to closed recirculating systems, and in inland waters it poses significantly greater risks of eutrophication than in coastal waters due to the additional nutrient loads. Overseas experience indicates that if this problem

becomes severe, remedial efforts maybe costly and possibly ineffectual.

In response to the need for a policy for inland cage culture in Tasmania, the Government is investigating the likely impacts and considering all the relevant issues, and will draw on overseas experience to assist decision making.

A consultant has recently been commissioned to research and document the overseas experience of cage culture in inland waters, particularly in relation to approval processes, environmental best practice, total biomass held, forms of feeding and disease control practices.

The consultancy brief also provides for an assessment of the environmental issues and risks relating to inland cage culture in Tasmania. The consultant's report, therefore, will assist the Government in making a decision as to whether to allow freshwater cage culture in Tasmania, and if so, to determine the number and location of lakes that would be made available for this use.

Report on angling around the State

Jim Ferrier, Northern Angler's Representative on IFAC

December has arrived and the fishing in the highlands is "firing".

Arthurs has been slow but with duns hatching in numbers, the fish are now locked in on them and some spectacular fishing has followed. Gum beetles too, are in the thousands and fish are feeding greedily on them.

The browns are in fine fettle with a smattering of 'monsters' of 4lb plus, though the usual run is just below 3lb. But they do fight and they are in superb condition.

A dun pattern for dry fly fishing is a must but an emerger or floating nymph can be just as effective. Before the hatch proper, a weighted nymph moved slowly about the weed beds will give good results.

The turbidity of Penstock Lagoon has improved considerably this season with much of this success being directly attributable to water level management plans devised by the staff of the Inland Fisheries Commission and Hydro-Electric Corporation.

Penstock has been in decline for a number of years with soupy water and disappearing weed beds. At the slightest blow, the water turned muddy brown. The fishing too deteriorated to insignificance. But not this season. Even after days of strong south westerly winds, the clarity remains good and anglers' confidence is returning. From early morning to sunset on most warm days, there is a sprinkling of duns with a smorgasbord of gum beetle, caddis, small beetles and spinner in the slicks. Galaxia and snail form a major part of the trout's diet along the rocky shores.

Due to the change in water management regime, Penstock now receives an annual stocking of brown and rainbow fry judiciously controlled to maintain quality fishing.

Penstock always presents a challenge with few fish being grassed but, to the dedicated angler willing to put in the time and effort, the rewards can be great.

The predictions of Four Springs Lake have proved correct. The results speak for themselves.

The best brown to date which can be verified, topped 8lb and "small fish" of 4lb and 6lb are coming too. The condition of the browns and rainbows attest to the enormous availability of food with mudeyes and damselfly nymph predominating. Early morning fishing to caenid feeders and midge is likely to try the most dedicated angler. The last hour before sunset is the best time, remembering that fishing must cease one hour after sunset.

This is a very weedy lake and bait fishers and trollers are finding this a serious handicap.

This season's stocking with brown trout fry has taken place and, at the established growth rates already experienced, we can expect this fishery to remain the premier brown trout fishery in the north.

Brushy Lagoon remains popular with limit catches of rainbows being taken. This water is stocked to allow a reasonable expectation of a catch and with bait being predominantly used, just the place to take the family to introduce children to angling.

Whitebait poaching fallout

A total of 28 offenders have been charged with 82 separate offences relating to illegal whitebait fishing over the past three months which included the 1999 recreational whitebait season from 18 September to 17 October.

The charges are the result of a combined effort by Tasmania Police, the Inland Fisheries Service and the Parks and Wildlife Service.

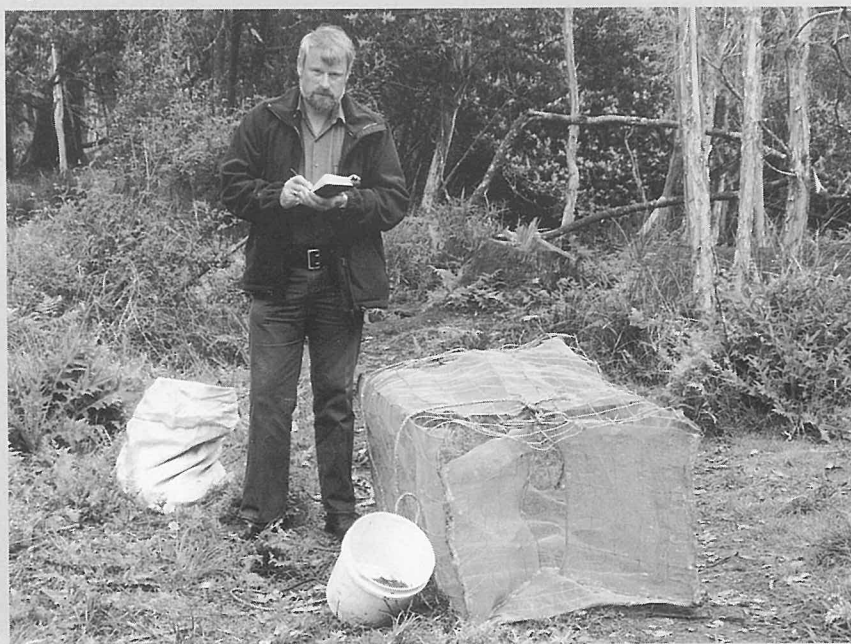
The patrolling which lead to many of the arrests, was centred in the north of the State and focused on the recent heavy poaching activities in the Mersey

and Forth Rivers, but areas as far west as Smithton were also targeted for the control of poaching.

Some recent feedback from anglers indicates that the peace and tranquility of the riverbank has returned and a few favourite fishing spots are again being frequented without fear of disruption by poachers.

The need to control poaching is in the interests of preserving the population of whitebait, particularly the threatened Tasmanian whitebait, *Lovettia sealii*, and to ensure that a recreational whitebait fishery can be managed sustainably.

Inspector Noel Wilson, records details of a seized whitebait catch at Deep Creek near Smithton



Angler involvement at Little Pine Lagoon

Little Pine Lagoon is recognised as one of Tasmania's premier brown trout fisheries and it provides a good example of how anglers are having a greater say in management decisions, at a hands-on level as well as planning the fishery's future management.

An advisory group – the Little Pine Lagoon Fisheries Management Committee – which is preparing input to a fisheries management plan for the Lagoon, has been assisting IFS staff in recent negotiations with the HEC for a water level management agreement at Little Pine. The aim is to achieve a collaborative management outcome that benefits both the environment and angling.

Besides their input to planning, anglers have also volunteered their practical expertise at Little Pine Lagoon through a recent 'Working Bee' in November, which was organised by the Liawenee Parks and Wildlife Ranger, and involved 16 anglers. The aim was to upgrade the main shack area road and build a small gravel boat ramp below the shacks.

Apparently the weather on the day was cold with a strong north-westerly - perfect



conditions for shovelling gravel! Work commenced at about 9 am and was mostly completed by lunch time, apart from some finishing touches to be undertaken early in the new year. Judging by the smiles at the end of the day, the volunteers were pleased with their efforts. The IFS is grateful to the volunteers and to the Parks and Wildlife for lending a hand.

Above: A well earned lunch break – (standing from left) Allan Miller, John Dekkers, Graeme Chappell, Ray Costello and (seated) Peter Rasmussen, Peter Ray and Ross Frankcombe

Below: Volunteers at work (from left) John Coburn (PWS Ranger), Ross Frankcombe, David O'Brien, Peter Ray, Peter Berne, Cliff Oliver and Jim Ferrier



New legislative reforms

...continued from page one

The precise functions of the Advisory Council are to:

- advise the Minister, on any matter under the *Inland Fisheries Act*, any matters referred to it by the Minister, and on the functions of the Director according to public expectations;
- provide a forum for consultation on policy matters;
- promote understanding and acceptance of the functions of the Director;

- encourage community support for fisheries management activities; and
- review management plans for inland fisheries.

Council membership consists of 11 people appointed by the Minister with:

- a representative of freshwater angling associations, as well as three others holding angling licences, each of whom represents the northern, north-western and southern areas of the State;
- a representative of freshwater commercial fisheries;
- an expert in the area of conservation of freshwater ecosystems;
- an expert in the area of tourism relating to

inland fisheries;

- the Director, chairperson and not more than two other people with expertise the Minister considers appropriate.

An Inter-Departmental Committee (IDC) on Inland Fisheries has also been established under the amended legislation to ensure linkages and cooperation between the IFS and other Government agencies. It is chaired by the Deputy Secretary DPIWE, and includes the Director of Inland Fisheries, Director Marine Resources, a representative of the General Manager Resource Management and Conservation (PWS), Director Tasmanian Aquaculture and Fisheries Institute and a representative of Tourism Tasmania.

Worthy projects funded by MAST

Marine and Safety Tasmania (MAST) allocates \$200,000 each year from recreational boating registration fees for upgrading and improving recreational boating facilities in and around the State.

This year, MAST has funded 23 projects of which six were inland water facilities. Here is a brief description of each of these improvement projects.

Jonah Bay Boat Ramp, Arthurs Lake: The existing boat ramp has been widened with gravel and the approach to the ramp has

been gravelled and graded, allowing easier access to the ramp for several boats to enter the dam at any one time.

Arthurs Dam: The car park has been improved by removing the larger rocks and regrading the car park area.

Morass Bay, Arthurs Lake: A navigation marker for the breakwater at Morass Bay has been installed.

Cramps Boat Ramp, Great Lake: The existing boat ramp was regraded and resurfaced with 120 tonnes of gravel placed over an area of 30 m by 20 m.

Brandum Bay Boat Ramp, Great Lake:

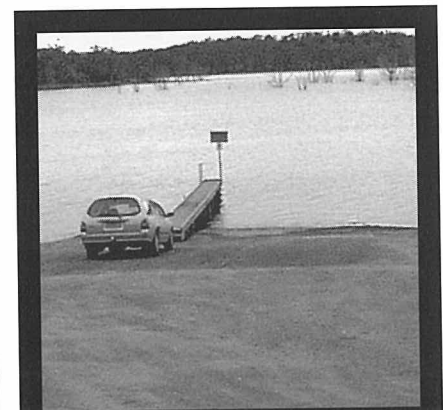
A new double width concrete boat ramp has been built. The rocky outcrop on the approach to the ramp has been removed. In addition, MAST has graded the surrounding area providing additional car parking and allowing easier access to the boat ramps.

Lake Echo Dam Boat Ramp: The approach and turning circle at the ramp have been regraded and gravelled.

Four Springs Lake: At the newly developed Four Springs Lake, the roads and car parks for the eastern shore ramp and disabled jetty have been gravelled to provide all weather access to the facilities.

*****MAST is calling for submissions for projects for the year 2000 – the closing date is 1st January, 2000. Submission forms are available from MAST by calling 6233 8801.**

Double width concrete addition to the boat ramp at Brandum Bay, Great Lake



The new improved boat ramp at Jonah Bay, Great Lake



Resurfaced roadway at Lake Echo Dam



Cramps Boat Ramp, Great Lake – resurfaced with 120 tonnes of gravel

Basslink impact studies

Dave Andrews, HEC Biological Consultancy

Preliminary Hydro modelling of its power generation system – comparing current operations to those under a proposed Basslink cable – indicate that management of the Hydro power generation system will differ from present, and will require increased use of the Hydro's main storages, Lake Gordon and Great Lake.

The management changes are principally due to the higher system security offered by Basslink and the reduced need to maintain high storage levels to protect against dry years. The main aquatic environmental affects of this are most significant in the Gordon River below the Gordon power station and will be assessed as part of the Hydro's Basslink Environmental Impact Assessment.

Aquatic studies are currently underway in the Gordon River to assess the potential impact of changes in discharge downstream of the Gordon Power Station. The studies are hydrological, biological and geomorphological in nature and require working in the river at low flow to assess various aspects of the river, banks

and local environs, and include the installation of temporary monitoring equipment.

The monitoring component will rely heavily on a base-line survey of current environmental conditions and will involve low level aerial photography, on-ground surveys and analysis of current hydrological conditions, and the nature and distribution of aquatic biota. Predictive analysis will largely consist of the development of computer models, and extrapolation of existing impacts in comparison to reference sites.

Study areas cover the middle Gordon River between the Gordon Dam and Big Eddy, to just below the confluence of the Franklin River. Major tributaries along this section of the river are the Denison, Orange, Olga and Franklin Rivers.

The studies are collaborative in nature, and involve personnel from the Hydro's Environmental Services team, Inland Fisheries Commission Biological Consultancy, University of Tasmania, Freshwater Systems, and the Department of Primary Industries, Water and Environment.

1999 stocking of the Western Lakes



Bob Ward, Frank Johnstone and Tony Woolley (carrying the fish) on their way to Third Lagoon.

On Saturday 20 November 1999, a crowd of keen anglers from the Clarence and Bridgewater clubs gathered at Bernacchi's Hut to greet the fish fry from the Salmon Ponds and volunteer their services to release them in the Western Lakes. The weather was fine and sunny and there was an enormous gum beetle hatch.

The fish travelled from the Salmon Ponds contained in plastic bags filled with water and oxygen. They were soon distributed among the anglers to be backpacked into the various lakes. Subsequent reports indicated that the release effort was successful with very few

losses among the advanced fry.

Lakes Chipman, Dudley and First Lagoon were each stocked with 1 000 brown trout, Third Lagoon received 500 brown trout and Little Blue Lagoon, 2 000 rainbows. All the fish were derived from wild brood stock and their size will promote a good survival rate.

Thank you to all the volunteers who assisted in the stocking. May your effort be rewarded the day you hook a beauty!

Kevin Lange
Salmon Ponds Hatchery Manager

Clarence and Bridgewater anglers waiting at Bernacchi's Hut



Old highland trapping stories

Interview with Rex Sharman

Viv Spencer, Senior Inspector

I recently received a phone call from a person asking, "Are you the Viv Spencer who wrote the story about the trappers in the highlands?" I thought, "Uh oh, someone doesn't agree with my newsletter story." I said, "Yes, that's me, what can I do for you?" A chap then came to the phone and said, "I'm Rex Sharman, if you'd like to call in sometime I'll tell you the full story about the body we found."

So a few weeks later I met Rex and this is his story.

"In 1960, my Uncle Fred Sharman decided to take me to assist with snaring in the Central Highlands.

"We used to camp at Bull Hill. Bull Hut was one room with a galvanised iron roof, timber walls and a brick chimney. We also had a tent camp in Pine Valley on a nice piece of grassy land beside a big rock about six feet high. We faced the tent towards the rock and built the fire between the rock and the tent so as to get the most out of the fire. We put bows over the tent to stop snow crushing it.

"We had to keep the fire burning all night in our Pine Valley Camp otherwise it was too cold to sleep. We had sleeping bags made from large four bushell grass seed bags, which came from New Zealand. We slept in our clothes but took our boots off.

"Fred had a beautiful dog but he was very savage. I couldn't touch him without getting bitten. Of a night when we were sitting around the fire he would rest his head on my leg but I still couldn't touch him. His name was "Tip".

"One thing I always remember after trudging around in snow for a few months, was that when I came down home I was taking steps which felt almost 12 feet long, it was that much easier to walk.

"We were never short of food. I would take a tractor and trailer up full of supplies each year. We also used to eat kangaroo steaks and kangaroo liver. If you like lambs fry you would eat kangaroo liver, it has an almond taste.

"Our water supply was just below our camp, about a 1 metre deep well and when



The gun in question – a key to identifying the human remains

you went for water you would always take the axe because the ice was sometimes up to 5 inches thick. We used to see a few fish but never saw any big'uns, about 3lb was the biggest.

"We used to run about 1 000 to 1 500 snares. It was hard work. The last time I went in with my uncle I weighed 14 stone, and when I came out I weighed 11 stone!

"We used to skin our possums as we checked the snares. We'd carry four until we got another couple, then skin up. We'd peg them out on the inside of our camp, using two and a quarter inch flat head nails. We used 54 nails for each skin and a short handled hammer.

"Now in relation to that bloke we found that you mentioned in your newsletter story... It was on the 8th of July 1960. We were walking back to our Pine Valley tent at about half past two in the afternoon. It was a beautiful sunny day when I trod on something in the snow. I looked down and said to Fred, "I've just trod on a human jaw bone.

"The jawbone had doubled up over the toe of my boot. We then started to search the area and within about 2 yards, we found the rest of the bones, a three-quarter length

leather coat which had almost rotted away and a Beretta 12 gauge single barrelled gun was not far away leaning beside a large rock. The gunstock had started to rot. The deceased owner had used the leather belt off his coat as a gun belt and where the leather was around the stock the wood was almost perfect. In his coat pocket there were seven brass cartridge ends, three had been shot off and four hadn't been used. There was also one half eaten gumbboot.

"When the police came up, Sgt. Reg Tillyard first took the gun and hit it around a tree three times. Finally it broke open and he checked the chamber but there was no cartridge. This ruled out suicide.

"We found out that the remains had belonged to a 24 year old Italian bloke who had been working at Bronte Park. He purchased the gun from Boons Store at Bronte the day before he went missing. Boons had purchased it from Roger Sculthorpe in Launceston. Roger had the serial number which turned out to be the only way police could identify the body.

"After the inquest at Deloraine, the Italian consol in Canberra took possession of the remains and sent them back to the man's mother in Italy where he was then buried. He'd been missing for seven years. It was a million to one chance that we found him because it was the only time we walked that way – it wasn't our normal track."

I'd like to thank Rex for taking the time to pass on this story about the old days in the Highlands.

Rivercare work on willow management

by Dave Jarvis, Freshwater Fisheries Extension Officer



Not many anglers would be aware of the Inland Fisheries' role in providing fish and fish habitat advice to community Landcare and Rivercare Groups. An extension officer, Dave Jarvis, is employed by the IFS and part-funded through the Commonwealth's Natural Heritage Trust, to liaise with these groups, providing technical information so as to enhance the river environment.

Volunteer groups are spread throughout the State, and with the aid of Trust funds, many are involved in the rehabilitation of sections of degraded rivers. Much of this degradation has resulted from past land use practices as well as the introduction of certain willow species.

Top: Removal of willows and revegetation – example of the Rivercare work

Below left: Beware! Crack willow can strike from broken twigs and branches

Below right: Problems of willow infestation in a Tasmania waterway

...don't use willow sticks to cradle your rod as you are effectively planting a new willow!

The willow species of most concern is the Crack willow (*Salix fragilis*). Willows were originally planted along riverbanks and creeks by early settlers to remind them of home, and later for bank erosion control. They were able to proliferate due to their ability to propagate from broken branches, and are now often the dominant or single

species lining many Tasmanian waterways.

Some of the negative effects of willows include their:

- displacement of native vegetation causing habitat loss for native flora and fauna;
- restriction of public access to the river due to their dense growth habit;
- removal of large quantities of water from the river through transpiration;
- unsuitability for instream habitat due to the fast rotting nature of willow wood;
- dropping of large amounts of leaf litter all at once, thus providing an abundant food supply for a short period of time;
- reduced support of insect life compared with native trees which naturally support a large range of adapted insects;
- choking of the river, often forcing the water flow elsewhere which can lead to erosion and flooding.

The aim of many of the Rivercare Groups is to remove some or all of these willow infestations along a section of river. This is done in conjunction with revegetation of suitable native species and the protection of revegetated areas by fencing.

With the return of a more natural environment, improved habitat and increased food supply, it is hoped that the fish species and fish numbers that previously inhabited these areas will return.

Willow removal is not the only environmental issue facing some of these groups. Other areas also being tackled include:

- the erosion of streambanks and streambeds;
- flooding (often associated with willows);
- the protection of remnant native vegetation;
- weed invasion; and
- water quality.

The role of the IFS extension officer is to ensure that willow removal and related activities are conducted sympathetically to the instream flora and fauna, and that existing instream habitat is maintained. Site visits are arranged to meet groups; to walk the section of river where work is proposed or is currently underway; to identify important sources of habitat and food; and discuss the most appropriate methods of protecting during the rehabilitation process.

So next time you notice a group of people removing willows and planting trees along a riverbank, offer to give them a hand as their hard work may help to produce your next fish.

And remember, don't use willow sticks to cradle your rod as you are effectively planting a new willow!



Lake Sorell and Crescent Restoration Project

John Diggie, Fisheries Biologist

Most anglers are well aware of the water quality and trout fishery problems at Lake Sorell, which have been evident over the past decade and exacerbated in recent times by dry climatic conditions and the introduction of the European carp.

Netting survey targeting carp in Lake Sorell



The IFS has successfully secured funding from both the State and Commonwealth Governments to address the various aspects of environmental degradation at Lake Sorell. Funding includes \$450 000 over two years from the State Government for capital investment, \$692 000 over two years from the Natural Heritage Trust, ongoing State funding for carp management at \$350 000

for 1997/98 and 1998/99 and a range of IFS funded works.

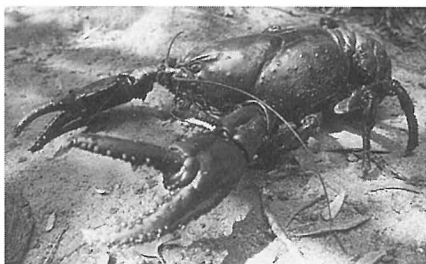
The collective funding will form the basis of the lakes Sorell and Crescent Restoration Project and will include the following specific sub-projects:

- Duplication of water outlet structures at Lake Crescent;
- Mountain Creek Channel Stabilisation and Fish Control;
- Catchment and Water Management Plans;
- Water Quality;
- Wetlands;
- Aquatic Fauna;
- Recreational Fisheries;
- Commercial Fisheries; and
- Carp Management

The projects will be managed by a Steering Committee, several specialist Working Groups and a Stakeholder Reference Group. At this stage, the Steering Committee has met on two occasions and conducted a site inspection at Lakes Sorell and Crescent.

Work on the screen duplication project is almost complete and planning for the works to Mountain Creek is in its final stages with on ground works due to commence in February or March 2000 depending on flows. The Trust components of the project focussing on water quality, wetlands and aquatic fauna are due to commence in January 2000.

Lobster awareness is on the rise in Northern Tasmania



year. He intends to cover every school in the north of the State within a few years.

"The knowledge and optimism of the children is phenomenal!" Todd said.

"They appear well aware of what is needed for a waterway to sustain a healthy

Left: Unique and spectacular – Tasmania's giant freshwater lobster, Astacopsis gouldii

Below: Todd Walsh, IFS lobster education officer, inspiring school children about conservation

population of fauna and flora yet they are always enthusiastic and very positive about the future of the waterways and are keen to promote the lobster – 'their animal' – to family and friends," he said.

Todd's school program has the children identifying problems and offering solutions in relation to the lobster and the general health and well being of inland waterways. Classes are shown a short video, slides and given information pamphlets and posters. An active discussion follows, as the class is encouraged to put their own views and solutions forward.

Todd said that the schools have responded enthusiastically to the program and are now undertaking projects such as designing flyers, posters and information pamphlets, and creating artistic lobster 'creations'.

Public awareness of the giant Tasmanian freshwater lobster, *Astacopsis gouldii*, has increased dramatically in the State's north over the last two years, with the lobster featuring in more than 30 newspaper articles since January 1998.

Since lobsters are associated with river restoration and such works are well supported in the north of the State, the lobster is fast becoming a flagship in the promotion and rehabilitation of our inland waterways.

The increased awareness of the lobster has no doubt been assisted by a joint education and awareness program funded by the Inland Fisheries Commission and the Natural Heritage Trust. The program which is centred in Northern Tasmania, aims to ensure the long term recovery of this unique Tasmanian species, listed as 'vulnerable' under the threatened species legislation.

Todd Walsh, project officer for the giant Tasmanian freshwater lobster education project has talked to more than 1 000 school children since he began in July this



Tods Corner-Great Lake boundary markers



White post marking the southern boundary for artificial lures at Great Lake

There appears to be some confusion about the Tods Corner-Great Lake boundary for artificial lures. So, to set the record straight for all interested anglers:

There are two white posts, one on each side of the mouth of Tods Corner. The northern post is on a large bolder just west of the northern shack area and the southern post is about half a kilometre north-west of the large hill that juts out into Tods Corner. Both posts are made of iron and painted white with a metal cut-out of a fish welded on top.

You can't miss them!
Tight lines.

Viv Spencer, Senior Inspector

Around the lakes: Spawner Summary 1999

Rob Freeman,
Recreational Fisheries
Section

Penstock Lagoon

As part of a new management strategy for Penstock Lagoon, rainbow trout were prevented from entering the spawning beds. Instead of fish spawning naturally, they were collected and stripped of eggs and milt. The fertilised eggs were then hatched out at the Salmon Ponds hatchery and 25 000 fry were returned to the lagoon. It is hoped that this will limit access to spawning fish and therefore minimise poaching activities. Moreover, this strategy should ensure that recruitment of wild rainbow stocks is more consistent.

The average weight of spawning rainbow trout in Penstock Lagoon was up 216 grams compared to last year. This corresponds to an average condition factor of 1.35 which indicates that the majority of fish are in good to excellent condition.

There was no successful spawning of brown trout due to low flows. However, supplementary stocking was undertaken with 250 adult brown trout being transferred from Great Lake.

Lagoon of Islands

Very few brown trout spawned due to low water levels (no data was collected). The rainbow run was very successful with the most fish seen spawning for several years. All fish were in fair to good condition.

Great Lake

A good run of well conditioned brown trout occurred in Liawenee Canal. No rainbow trout were sampled at Great Lake due to recent alterations in the trapping system in Liawenee Canal.

Arthurs Lake

The spawning run at Arthurs Lake was very successful with good numbers of well conditioned brown trout spawning in Hydro Creek.

Lake Sorell

An estimated 2 000 brown trout spawned in Mountain Creek. In general fish were in fair condition with a significant percentage of young fish present in the run. Only a very small number of rainbow trout spawned, therefore no weight or length data was collected.



Rob Freeman with a fine rainbow trout from this year's spawning run at Penstock Lagoon

Prosecutions July-November 1999

Infringement notices:

Offence	Number
Fish without a licence	4
Use natural bait in artificial water	2
Possession of rod and line of another person	1
Take more than 1kg of whitebait per day	1

Court proceedings

Offences that were proceeded with by summons are listed below.

1999 Spawner Summary

Location	Great Lake	Lake Sorell	Arthurs Lake	Lagoon of Islands	Penstock Lagoon
Sampling date (1999)	15, 20 & 26 May	19 June-17 July	10 June	13 August	14 September
Species	Brown Trout	Brown Trout	Brown Trout	Rainbow Trout	Rainbow Trout
Sample type	Combined male & female	Combined male & female	Combined male & female	Combined male & female	Combined male & female
Sample number	209	222	200	209	57
Average length (mm)	435	396	437	512	491
Range of length (mm)	304 - 522	284 - 525	332 - 547	368 - 680	403 - 570
Average weight (g)	905	706	945	1 660	1 616
Range of weight (g)	320 - 1 900	250 - 1 425	400 - 1 675	650 - 2 850	900 - 2 550
Average condition factor	1.09	1.11	1.12	1.23	1.35

Offender	Location	Offences Summary	Total fine + costs (\$)
Eric Carl TYBEREK, Launceston	Lake Augusta	Other than rod and line	235-00
Basil Percival STURZAKER, Launceston	Lake Augusta	Other than rod and line	435-00
Colin Leslie PARKER, Launceston	Lake Augusta	Other than rod and line	435-00
Phillip Francis GABY, Devonport	Mersey River	Take whitebait, possess net	435-00
Phillip John GARWOOD, Ulverstone	Mission Hill Dam, Ulverstone	Unlicensed	235-30
Leslie Bruce BEETON, Deloraine	Meander River	Possession of assembled rod and line	235-30
Bradley William RANSLEY, Bridgewater	Halls Dam, Bagdad	Unlicensed, other than rod and line, false name and address	485-30
Mathew Barry WALL, Devonport	Mersey River	Take whitebait, possess net	835-30
Damien Malcolm WEBB, Launceston	Trevallyn Tailrace	Possess net	335-30