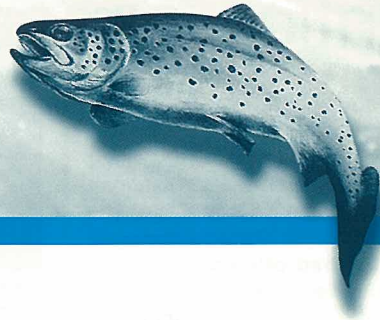


On the Rise



Volume 26 No. 2
September 1997

The Inland Fisheries review

The separation of the marine and freshwater sections of the Fisheries Act was well under way in early 1995 and it was clearly evident that there was a need for a revision of the freshwater sections of the legislation.

At the same time, Inland Fisheries Commission staff felt that there was a need to take a strategic look at all aspects of its fisheries management operations as many of its functions had changed considerably since the Act was written in 1959. For example:

- the aquaculture industry has developed significantly;
- nature conservation interests are now far more prominent;
- the public expects greater involvement in trout fisheries management.

As a consequence, the Minister announced a two-stage review of the IFC in June 1995.

1997 Open Day

The Inland Fisheries Commission held its annual Open Day on Sunday 18 May at the Liawenee field station. Open Day coincides with the brown trout spawning run up the Liawenee Canal from Great Lake, a spectacle that some 3000-4000 people from as far away as Ulverstone, Hobart, and the West Coast came to see, encouraged by reasonably fine weather.

The theme of this year's Open Day display was the variety and scope of the Commission's management responsibilities, including the trout fishery, the Salmon Ponds, the preservation of native fish species, the commercial eel fishery, and the carp eradication program. While the trout run was undoubtedly the major attraction, watching IFC employees stripping trout of their eggs and visiting the Commission's display also proved popular, especially with younger visitors, who were able to try their hands at egg-stripping.

As usual, the aquarium displays of live native fish, European carp, freshwater crayfish, and eels were well patronised, as was a demonstration of how carp are radio-tracked. However, the demonstration had to be abandoned for safety reasons when the audience became too numerous for the small area available. Anglers were keen to ask questions of IFC staff about carp; the great majority of them obviously share the Commission's concern.

More Open Day photos on back page...

Stage 1 Strategic Directions Consultancy – what needs to be done?

Stage 2 Administrative & Legislative Review – how can it be done?

The review was deliberately separated into two parts so that we could clearly focus first on what needs to be done without worrying about if or how it can be done.

The detailed terms of reference for Stage 1 outlined the scope of the consultancy. These are by now well known and are not reproduced here.

In brief, it was designed to consider all aspects of the Commission's operations under the following broad headings:

- recreational fisheries;
- tourism;
- commercial fisheries;
- freshwater ecosystems.

The review was undertaken by independent consultants Mr Frank Hussey and Dr Peter Davies, who were to report to the Minister. Their brief was to consult as widely as possible to ensure that all persons and organisations with an interest in the subject had an opportunity to put their views forward.

A report was received from the consultants late in 1996. After considering its contents the Minister released the report in May 1997.

The review continues in detail on pages 8,9 & 10 with recommendations and implementation...

CONTENTS

The Inland Fisheries review	1
1997 Open Day	1
Atlantic Salmon for Meadowbank.....	2
Bronte subdivision.....	3
Little Pine Lagoon	4
Lakes Sorell and Crescent water management.....	5
Prosecutions: January-June 1997.....	5
In Brief.....	6
Brown Trout spawning runs 1997.....	6
Carp update.....	7
The giant Tasmanian freshwater crayfish: Where to now?	11
Threat to our waterways	11



Interested visitors packed the IFC's display

Atlantic Salmon for Meadowbank

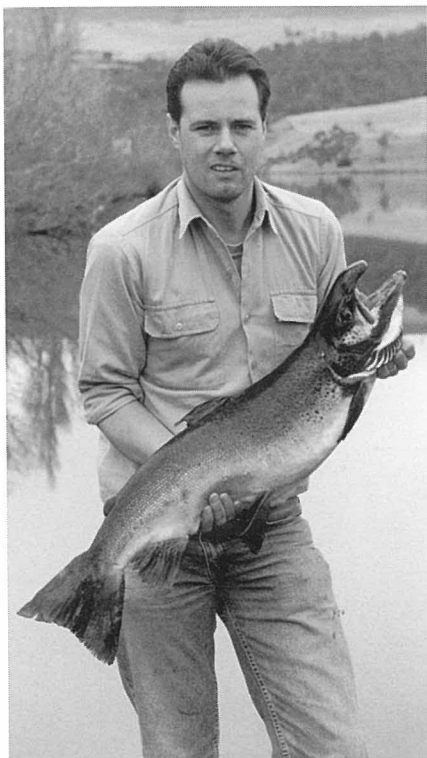
In mid-July approximately 120 mature Atlantic salmon were released into Lake Meadowbank. These were post-spawning fish from SALTAS hatchery at Wayatinah and weighed between 4.5 and 6.5kg. The company, through the General Manager, Graeme Martin, had offered the fish to the Commission for release as they were non-marketable. SALTAS reconditioned the fish after stripping them and provided their staff and equipment free of charge to transport and release the salmon. The Commission also released 50 surplus Salmon Ponds browns to 3kg at the same time.

The Commission had been offered ex-brood stock salmon in the past but was reluctant to take them for a number of reasons:

- they are generally in poor condition at this time;
- they may not readily adapt to feeding in the wild;
- food resources in the lake may not be adequate to support such large fish;
- they are being released at the worst time of the year as far as food supply is concerned;
- the Commission was concerned that if these fish lose condition before they are caught, then it would lead to negative reactions.

Despite our reservations, we decided to give them a try and ask anglers to look on it as a trial. If it is a success then it may be possible to make further releases.

There is no doubt that the early season catches have created a lot of interest and the Commission again acknowledges the support of SALTAS.



Adam Wilson of Bellerive holding a 7.5kg salmon taken from Lake Meadowbank



SALTAS staff releasing Atlantic salmon into Lake Meadowbank

Brown trout or Atlantic salmon?

It seems that some clubs allow Atlantic salmon in their competitions and others don't and some people just want to be able to tell the difference between the two species.

The truth is, it is difficult to be certain without referring to a specialist for identification. Some characteristics of the two species are given following.

While colour is generally unreliable, brown trout tend to have more in number and more prominent spots, usually with paler rings around them. They may also have red spots.

Atlantic salmon do not have spots with pale areas around them and do not have red spots.

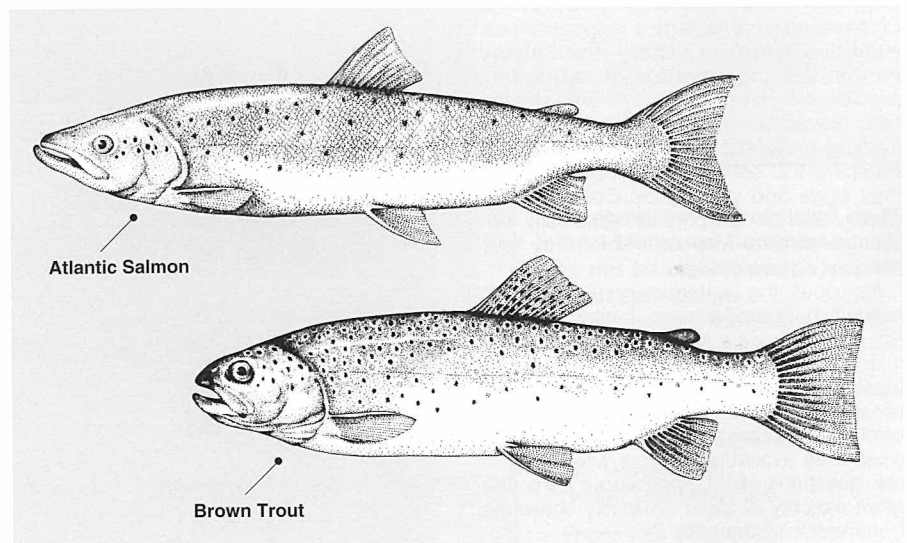
The base of the tail of Atlantic salmon is

usually quite tapered and slender and the tail fin is forked. Brown trout have a thicker tail base and adult fish do not usually have a forked tail.

The mouth of Atlantic salmon opens to just below the eye line, whilst the mouth of brown trout opens to just past the eye.

A fairly consistent difference occurs in the teeth on the central part of the roof of the mouth, known as the vomerine bone. Brown trout have strong teeth at the front on the head of this bone and along it on the roof of the mouth. Atlantic salmon do not have teeth on the head and only weak deciduous teeth along the roof of the mouth.

Put all these characters together when making an assessment and try and avoid concentrating on one in particular, especially the colour – good luck!



Illustrations from Tasmanian Freshwater Fishes by Wayne Fulton – Available from IFC for \$10

Sale of land – Bronte subdivision

There has been a lot of comment, not all of it accurate, in relation to these land sales, and there are a number of issues relating to this sale that must be set straight.

The Hydro-Electric Corporation is a corporate body that must operate profitably although it is acknowledged that it also still has links to Government and therefore some public responsibilities. As part of its rationalisation the HEC is getting rid of surplus land that is not required for its core business. However, in doing this it has done far more for the public than any private owner would do. In the case of the Bronte subdivision (this incorporates land adjoining Bronte Lagoon, Pine Tier Lagoon and Bradys Lake) it has:

- returned some key land areas to the Crown free of charge for conservation and other purposes;
- allocated some land areas to council free of charge as reserves;
- created a 10-metre reserve from maximum flood level around each lake (because of the flat nature of much of the land around Bronte Lagoon, this reserve will be up to 80m wide in places);

- created a 30 metre wide riparian easement along the Nive River to enable pedestrian access;
- allocated land around the shack areas for possible sewerage development;
- transferred shack areas to the Crown for categorisation and subdivision;
- created reserve road areas to ensure access to the lakes;
- created rights of way in some places to allow additional access to Bronte Lagoon.

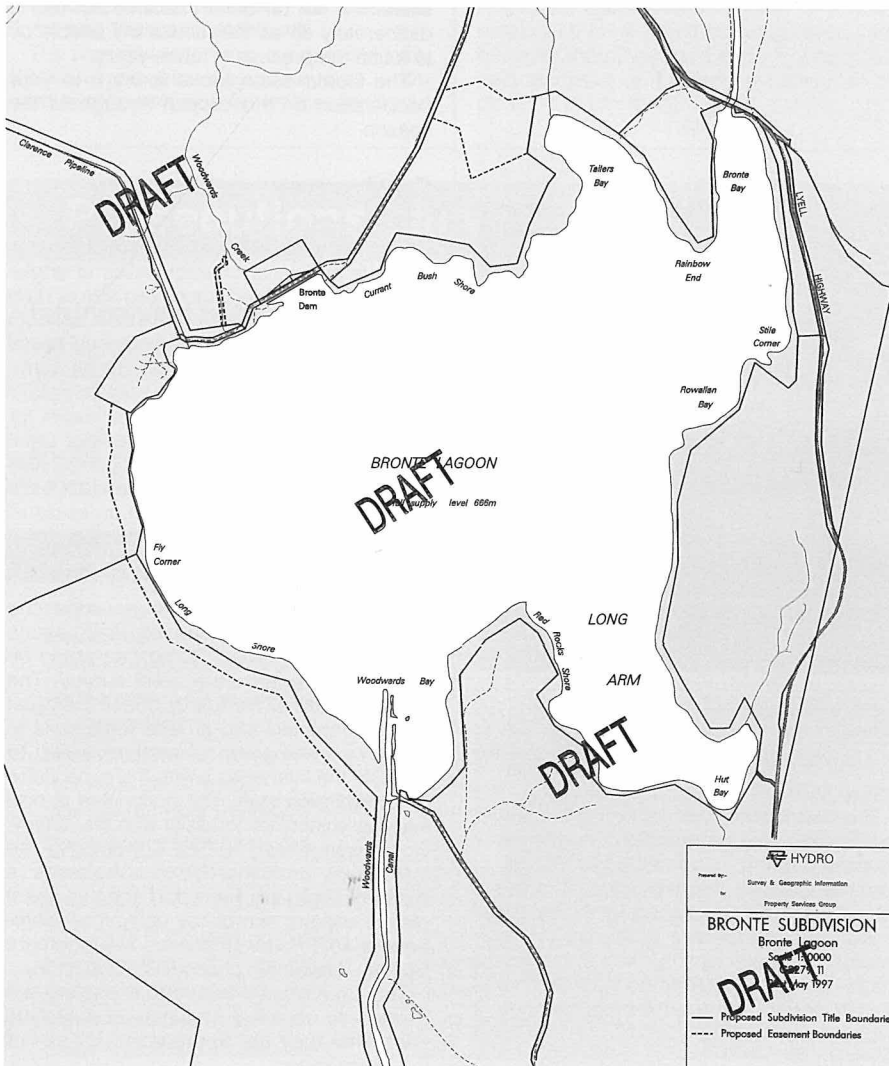
Most of these concessions are more than required of any private developer.

The subdivision involves large block sizes and, according to the Central Highlands Council planning scheme, these can only have one dwelling unit on them and cannot be further subdivided. Any development would be subject to the requirements of the planning scheme which is a document freely available for public perusal.

Further restrictions on the subdivision applied by Council in consultation with the HEC are:

- no development within 100m of the lakes;
- no fertiliser use within 100m of the lakes.

Draft HEC map of Bronte Lagoon showing approximate effective location of ten metre buffer strip.



All logging operations, if any, will be subject to normal restrictions as contained in the Forest Practices Code.

Given the above, it is felt that anglers' interests have been considered and catered for. The IFC has been strongly involved in negotiations and has certainly gained some extra concessions on top of those that had already been put forward.

The area of land given to the Council at the northern end of the lake has potentially good camping areas and is close to good fly fishing waters in Tailers Bay. The IFC has already had some preliminary discussions with Council regarding the use of this area for informal camping.

In all, the subdivision proposal seems a fair one although it appears that an area used by Devonport Fly Fishers and others in Hut Bay is likely to become private property. In relation to this area, the IFC has continued to negotiate on anglers behalf with the HEC, taking advantage of the delay in the sale due to independent legal action. The Commission is still hopeful of a positive outcome for this area.

STOP PRESS

Other HEC land rationalisation in the Central Highlands

Following the Bronte subdivision there is already a lot of misinformation circulating regarding the future of other HEC land in the central plateau. The HEC has advised the IFC as follows:

The Hydro-Electric Corporation is currently reviewing its land administration on the Central Plateau. This is part of the organisation's ongoing disposal of surplus assets.

The review is concentrating on land owned around Arthurs Lake, Great Lake and Penstock Lagoon. The process involves full consultation with stakeholder groups representing a wide range of activities on the plateau.

Under investigation is preservation of public accesses, recreational pursuits and protection of areas with high conservation value. The Hydro's long-term tenure of the area is also being considered.

The Commission has already had extensive discussion with the HEC and stressed the ongoing need for access to our lakes and camping opportunities. Our Minister, John Cleary, who is also the Minister for Energy, and hence responsible for the HEC, has advised the IFC that he has held discussions with the HEC about ongoing access for anglers.

The major land areas presently under discussion are north of Arthurs Lake, including Gunns Lake and Little Lake, the Sandbanks area of Great Lake, and HEC land in the vicinity of Penstock Lagoon.

The IFC will continue to be involved in the rationalisation of these lands to ensure that anglers' interests are recognised and catered for.

Little Pine Lagoon Management Plan

On 19 July 1997 the Inland Fisheries Commission advertised that it would hold a public meeting to initiate a process for the development of a management plan for Little Pine Lagoon. Little Pine was chosen for a number of reasons including its popularity, its compact size and the variety of issues involved in its management including ecological, environmental and sociological interactions.

The meeting was held at Liawenee Field Station at Great Lake on Sunday 3 August and approximately 80 interested anglers attended.

Commission staff outlined the purpose of the meeting and then briefly covered the present state of knowledge of the lagoon in relation to:

- fish populations;
- water level management;
- water quality;
- fishery statistics.

This in fact highlighted the lack of information on the fish population itself and the need to address this and how to go about collecting it through survey and detailed creel census.

The issues of concern to anglers were

The Lagoon is a popular spot



A good turnout for the public meeting

then canvassed without attempting to resolve areas of contention. This will be part of the ongoing consultation process. The need for a Code of Ethics was perhaps the notable conclusion from this part of the meeting.

To conclude the meeting an interim advisory committee was nominated by those present to assist with coordination of the creel census program and other tasks.

Those nominated to the group were:

Trevor Berne, Meander
Jules Fantarella, Devonport
Bill Beck, Magra
Garry Castles, Railton
Warren Richards, Devonport
David O'Brien, West Moonah
Charles Peck, Launceston
Ian French, Ulverstone
Stephen Simmons, Carrick
Michael Stevens, Launceston

A creel census program is under way on the lagoon and will continue throughout the season. It will be quite intensive but this is deliberately so as the results will enable us to refine the process in future years.

The Commission looks forward to your cooperation on this project throughout the season.

Creel survey

At the public meeting Inland Fisheries staff discussed the paucity of information on fish harvests and other characteristics of angler catches at Little Pine Lagoon (eg size of daily catches). Whilst the Commission collects some good information from the annual postal questionnaire, there are likely to be some inherent biases and doubts about its validity as a basis for the derivation of estimates for harvests and catch rate. An intensive creel survey would certainly provide opportunities to validate our postal questionnaire for Little Pine Lagoon, collect information on seasonal angling pressure, and provide data for a technical assessment for optimising similar future surveys in the highlands.

It was recommended to the group that one of the first actions for the Little Pine Lagoon Fisheries Management Committee would be to plan and organise a creel survey. The planning and scheduling phase has just been completed and all that remains is to gather a small group of anglers willing to conduct the interviews under the supervision of Commission staff. The committee is now seeking volunteers to assist with the survey; Commission staff will be conducting the interviews until the list of volunteers is finalised. If you are interested and can assist please contact one of the committee members or Phil Potter (Fisheries Management Officer – Liawenee: phone (03) 6259 8166).

The Commission hopes that anglers will freely give us a few moments of their time each time they are approached by any of the interviewers.

The Nixon Report

The response of the angling community to the Nixon Report has been swift and strong and certainly most reassuring for the Commission.

It is difficult to see how Nixon arrived at some of his conclusions and one can only think that, given the wide range of subjects covered, he didn't have time to adequately consider the logic or effect of the

recommendations he was making in relation to Tasmania's trout fisheries.

The Government will not be implementing Nixon's recommendations in relation to trout fishing. Minister John Cleary recently advised that the Stage 2 of the Inland Fisheries Review would shortly get underway and we are presently in the process of implementing parts of the first stage. It should therefore be clear that we do not accept the trout fishing changes proposed by Mr Nixon.

Lakes Sorell and Crescent water management

The Hydro-Electric Corporation was enlisted as a consultant to formulate a water management plan to assist in managing the carp problems in lakes Sorell and Crescent.

Aims

- In order of priority:
- To prevent the spread of carp from the lakes Sorell and Crescent catchments by avoiding uncontrolled spills and to manipulate water levels to reduce the likelihood of a successful carp spawning.
 - To allow for a guarantee of water for Bothwell and Hamilton townships.
 - To provide water, with a reasonable guarantee of supply, for irrigation purposes in the Bothwell/Hamilton district.
 - To manage the trout fishery in Lake Sorell.
 - To avoid inundation of agricultural land adjacent to lakes Sorell and Crescent.

The plan

The management plan was formulated by modelling inputs (rainfall) and outputs (evaporation and releases) for the lakes Sorell and Crescent catchments.

The plan has taken into account the possibility of extreme weather cycles, such as droughts and floods, whose predicted

impact requires the level of the lakes to be managed over a limited range.

Typically we need to keep Sorell and Crescent low over winter and raise the level in spring, and it will typically fall over summer as irrigation releases and evaporation exceed rainfall.

One result of this water level management is that it is less likely that the marshes in Lake Sorell will be flooded to the depth that anglers have experienced in previous seasons.

Implications for the coming season

We are currently raising the level of Lake Sorell to its spring/summer management level of 804.0m AHD, which is about 200mm above its level at the end of August. The Bureau of Meteorology has forecast a strong El Nino event this year, which is predicted to deliver a drought of similar magnitude as the one in 1983. The water management plan incorporates events like this in its modelling, so there is probably little risk of failing to meet downstream requirements this season. However, it is likely that over this summer Lake Sorell will fall to very low levels which may or may not have a deleterious effect on the 1997-98 trout season.

Anglers are advised to take care when boating on Lake Sorell as water levels may be lower than they have experienced in the past few years and unfamiliar rocks may be closer to the surface.

IFC Hydro consultancy renewed

The Inland Fisheries Commission has had its biological consultancy contract with the Hydro-Electric Corporation renewed for another three years.

In place since 1991, the consultancy has previously involved routine monitoring of water quality in several HEC lakes, as well as detailed investigation of specific water quality issues – Lake Burbury copper levels, for instance, and turbidity and nutrients in the Lagoon of Islands.

However, the renewed contract includes a slightly expanded aim: to assist the Hydro to improve its approach to aquatic environmental matters.

“Some of the projects undertaken during the term of the renewed consultancy will help the Hydro with that aim,” Commissioner of Inland Fisheries Wayne Fulton explained.

“They’ll include helping develop a comprehensive water quality monitoring strategy and improving the Hydro’s water quality database.

“We’ll also help compile overview reports on environmental flows, fish migration and threatened species in order to assess the status of these matters in Hydro waterways and determine any ongoing research or action needed.”

Under the terms of the contract, the IFC will also help design an integrated catchment study for the Ouse River and conduct an integrated study of lakes in the southeast Central Plateau that have high turbidity levels, including Lagoon of Islands, Penstock and Shannon Lagoons, and Woods Lake.

“The IFC is pleased to be involved with the Hydro for three more years,” Mr Fulton said, “and pleased too that the scope of the projects we’re undertaking for them is being widened.”

Prosecutions: July-December 1996

Infringement notices

During the six months from 1 January 1997 to 30 June 1997 the following on-the-spot fines were issued.

Offence

Fish without a licence.....4
Fish with more than one rod & line.....3

Number

Court proceedings

Offences that were proceeded with by summons are listed below.

Offender	Location	Offences Summary	Total fine + costs (\$)
Mark George JOHNSON, New Norfolk	DERWENT RIVER	Unlicensed	235
Andrew James BURKE, Devonport	FORTH RIVER WEIR	Possess whitebait	235
Paul Victor HAMILTON, Devonport	FORTH RIVER WEIR	Take whitebait	785
Wayne Stephen CLAYTON, Newnham	NORTH ESK RIVER	Possess assembled rod & line	235
Kerry Max BARRETT, Launceston	NORTH ESK RIVER	Unlicensed/Possess assembled rod & line	235
Neville Robert WRIGHT, Longford	LAKE RIVER/BROWN STORE	Possess assembled rod & line/Deceive officer	970
Peter Wayne GREEN, Burnie	GREENS HOTEL, BURNIE	Sell whitebait/Possess whitebait for sale	1 850
Dean Alfred DITTMAN, Ulverstone	FARM DAM, ULVERSTONE	Fish during closed season	135
Dean Anthony SLATER, New Norfolk	DERWENT RIVER	Unlicensed	[Conviction recorded] 35
Shane Geoffrey WATSON, Lachlan	DERWENT RIVER	Unlicensed	[Conviction recorded] 35
David McGeorge Boyd BANNER, Latrobe	MERSEY RIVER	Take whitebait	735
Gary Lindsay ARMSTRONG, Ulverstone	McKENNA'S DAM, ULVERSTONE	Possess assembled rod & line	135
Marcus Robert SKELLY, Bridgewater	LAKE FERGUS	More than 1 rod & line/Natural bait	285
Paul Anthony COAD, Smithton	SMITHTON	Take whitebait	235
Roger James LAMBERT, Smithton	SMITHTON	Take whitebait	1 035
Duncan Kenneth REECE, Launceston	TODS CORNER, GREAT LAKE	Unlicensed/False statement/Natural bait	735

IN BRIEF

Tagged fish competitions

It looks like most of the major trout fishing competition organisers will be opting to spread the \$5000 prize money over more fish in their competitions this season.

The Commission has so far been contracted by the organisers of four of the competitions to release more tagged fish and spread the \$5 000 among these.

The Commission is in agreement as so far these fish have been very elusive. It would certainly be better to see one fish at \$1000 taken as compared to no fish at any prize.

Carp funding renewed

On 8 August 1997 the Minister for Inland Fisheries, John Cleary, announced that further funding of \$372 000 has been allocated to maintain the carp team within the Inland Fisheries Commission.

The Commission is very pleased with this announcement as considerable progress has been made towards controlling carp numbers and it is essential that this effort be maintained and supported by the right equipment.

Angling Code

Those hardy anglers who start their fishing in winter, or those who get their licence early, will by now be aware of the new format for the Angling Code.

It is obvious that many not only have it but are reading it too as we have had a number of questions, many of which relate to regulations that have been in place for years.

The code is certainly designed to be more user-friendly and informative so we would appreciate any constructive comments on how to improve it in the future. Unfortunately a couple of errors managed to sneak through but more time next year should see these eliminated.

Limited space will be made available for advertising next year so check the code to see how to take advantage of this direct access to all anglers.



Work experience includes trophy fish

During the latter part of August, two young lads were helping out at the Salmon Ponds as part of their work experience programs. Paul Johnson from Don College and Andrew Bayles from St Patricks College spent a busy week at the ponds learning about the day-to-day requirements of growing fish.

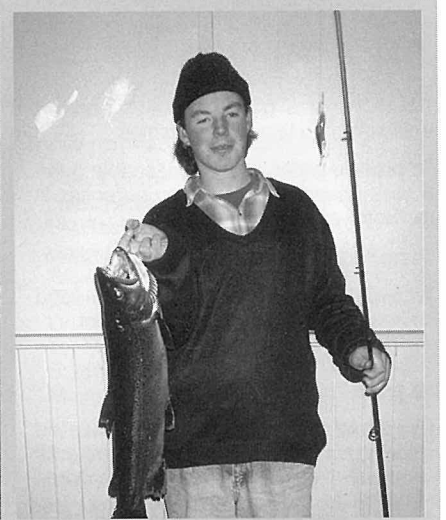
Most of the week's work involved the not-so-glamorous side of aquaculture, namely being knee-deep in mud while cleaning out the Long Ponds, then getting covered in slime while learning how to strip eggs and milt from fish.

However, the week wasn't all hard work and toil for no reward. After work the boys spent most evenings fishing along the Plenty River. On one occasion, while fishing the junction of the Plenty and Derwent rivers, Paul managed to hook and land a magnificent brownie weighing in at 4.5kg, caught during a flood period on a bright orange spinner. This was after the fish had attacked Andrew's lures on the previous evening!

After suffering much ribbing about the actual catch site and a detailed inspection "to ensure it was a wild fish", a happy Paul eventually got to take his prize home.



Andrew Bayles - with a Salmon Ponds fish



Paul Johnson - with his 4.5kg brown

Brown Trout spawning runs 1997



Part of the Mountain Creek spawning run 1997

Penstock/Lagoon of Islands

Low flow meant no fish migration at these two lagoons.

Lake Sorell

About 11 000 brown trout were counted in Mountain Creek during the spawning run which occurred from the second week in May to the last week in August. A total of 493 fish were also counted at Silver Plains Creek.

MOUNTAIN CREEK - 14 & 28 MAY 1997

200 fish sampled	
Average length (mm)	425
Range of length (mm)	316 - 575
Average weight (g)	907
Range of weight (g)	425 - 2500

Great Lake

The combined average weight of fish in the spawning run was marginally higher

that 1996 by approximately 80g. This probably reflects the favourable conditions of elevated water levels during the 1996-97 season.

LIAWNEE CANAL - 6 & 19 MAY 1997

220 fish sampled	
Average length (mm)	448
Range of length (mm)	335 - 540
Average weight (g)	982
Range of weight (g)	450 - 1700

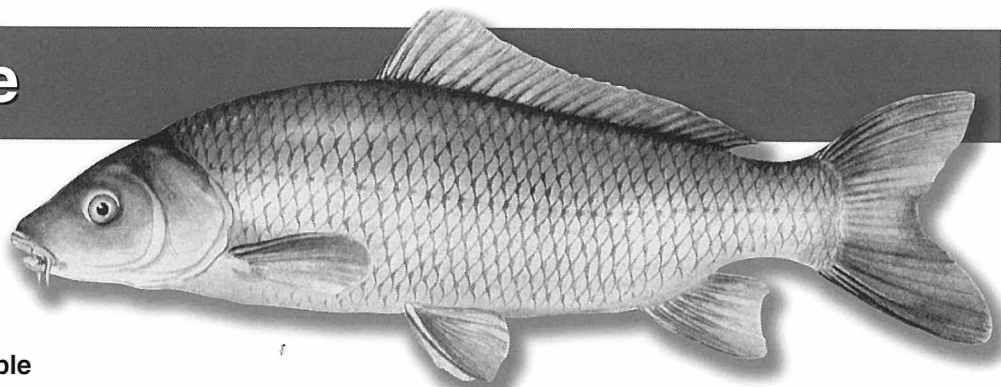
Arthurs Lake

Fish were in very good condition but average weight was slightly lower compared to the 1996 spawning run.

HYDRO CREEK - 3 JULY 1997

201 fish sampled	
Average length (mm)	439
Range of length (mm)	241 - 530
Average weight (g)	982
Range of weight (g)	175 - 1675

Carp Update



Work on the carp management program has continued over autumn and winter with several notable developments.

Radio tracking

Commission staff have continued to monitor the movements of adult carp implanted with radio tags. Our aim is to use these carp to locate aggregations of adults, which can then be removed by targeted fishing with nets and the electrofishing boat.

Movements over the winter have been extensive with little discernible pattern. In late July, all of the radio-tagged carp aggregated together and approximately 100 adult carp were captured from this aggregation. This has been the only significant capture of adults this winter.

Radio tracking work is planned to expand with smaller (juvenile) carp to be tracked in Lake Crescent, and a small group of male

regularly captured in the carp screens at the outlet of Lake Crescent. Intensive surveys targeting juvenile carp are planned for Lake Sorell as well as Lake Crescent this spring and summer. These surveys will be carried out using fyke nets. The proposed radio-tracking work will complement these surveys.

Distribution surveys

Downstream surveys have not found any evidence of carp establishing elsewhere in the catchment. Further intensive surveys will be conducted in the spring and summer, targeting juvenile carp with fyke nets and electrofishing equipment. Surveys will focus on the Clyde River, large private dams connected to the river, and Lake Meadowbank.

The levels of the two lakes are being managed in accordance with a water-management plan developed by the HEC for the carp management program. The goals of the water-management plan are to minimise the risk of spill (flooding) from the lakes, minimise the opportunity for carp to get into the marshes at spawning time, and maximise the reliability of irrigation supply. A further factor has been to aim for a reasonable level in Lake Sorell for the angling season.

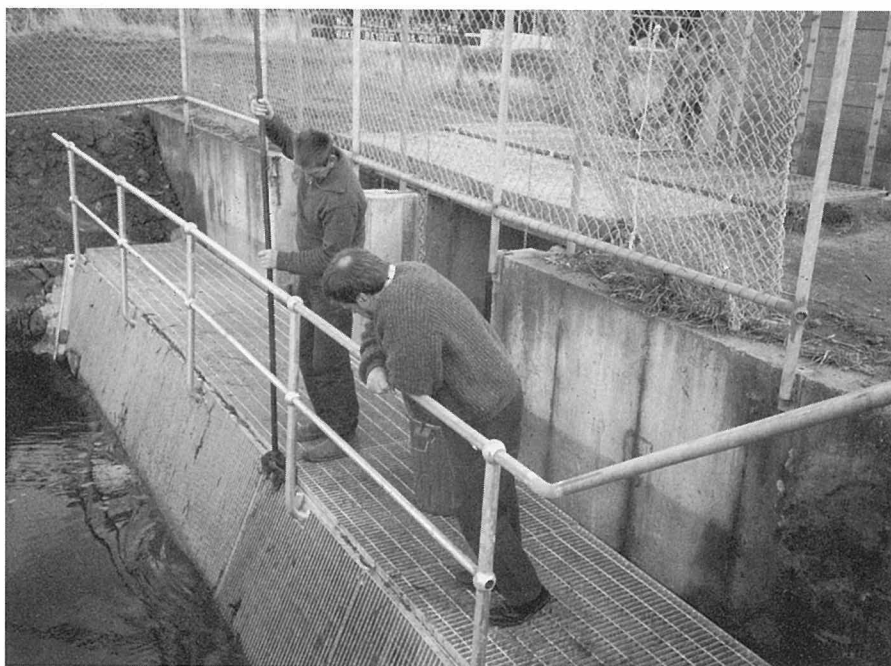
The dry conditions prevailing so far this autumn and winter have greatly assisted the achievement of safe water levels from a carp-management perspective. However, the level in Lake Sorell is low for this time of year, and if good rains do not eventuate in the spring, anglers will need to be careful of submerged obstacles (reefs, etc.) when boating. If possible the level of Lake Sorell will be raised by about 20 to 30 cm before the irrigation season. This will also lead to better angling conditions.

Rotenone consultancy

Extensive experimental work has been undertaken by Inland Fisheries Commission staff to test the effectiveness of rotenone as a means of eradicating carp at Lake Crescent and Lake Sorell. This work showed that at the temperatures likely to prevail if and when a poisoning is attempted, the carp are quite resistant to rotenone, and an extended exposure to the poison is necessary. The details of these experiments, and additional climatic, hydrologic, and logistic data have been provided to our rotenone planning consultants for incorporation into an assessment of the feasibility and cost of rotenone treatment of the two lakes. This report is expected to be completed in the near future.

Funding

The State Government has recognised the serious threat posed by carp to Tasmania, and has agreed to a continuation of funding for carp-management works. Funding has been secured for 12 months, with conditional approval for a further two years. This funding has secured the necessary operating funds to capitalise on the significant advances made so far in containing and reducing the carp population. All anglers should be grateful for the continued government support.



Carp team staff member Robert Cordwell cleaning the new Lake Crescent screens

carp to be tracked in Lake Sorell. Additional equipment is being purchased for this work.

Life history

Two juvenile year classes have been definitely identified in Lake Crescent. These fish have come from spawnings in the 1995-96 and 1996-97 summers. Last year's juveniles are reasonably common, with small carp being

Water management

Further works at Lake Crescent have enhanced the water management and screening capacity of the outlet structures. These additional works have been very successful, and the management of water releases from Lake Crescent is now more reliable and less physically demanding and dangerous.

The Inland Fisheries review

[continued from front page]

The report

The report is not a particularly user-friendly document. It is not one that you can pick up and say "this is what we will do", partly because of its organisational structure but also partly because the reviewers have not stuck to the terms of reference and have not had due regard for the practicalities of what they were proposing.

The report does not contain a cohesive summary of any chapter or indeed an executive summary and it does not stick to the terms of reference; therefore a major part of the document is essentially irrelevant at this stage.

We have dealt with the structural problem by going through the report and extracting all its recommendations and organising these into some cohesive form. The second problem relates to references to organisational structure of the Commission. These were deliberately to be part of the second stage of the review and hence these parts of the report will be referred to the consultants for Stage 2.

Recommendations of the report

It was not easy to extract the recommendations from the report as some were more in the form of general statements whilst others were more specific. In all there were more than 150 recommendations throughout the report, about 50 of which related to recreational fishing.

The recommendations are included below in a very summarised form. Recommendations relating to Stage 2 have been omitted.

■ Recreational fishing

Recreational fishery management:

- philosophy to be defined in a strategic plan;
- various principles proposed.

Recreational fishery management plans:

- management objectives;
- management strategies;
- administration of plans.

Regional management plans:

- a management plan proposed for each of four regions in the Individual Water Management Plans;
- an individual plan for 'priority waters' should be developed.

Preparation and use of plans:

- all to be drawn up by a committee with wide representation.

The Act and Regulations:

- rewrite after development of plans;
- review to reflect management objectives;
- examine in light of philosophy of management;
- retain closed season;
- some waters may benefit from controlling or restricting spawning;
- bag limits could be reduced in some waters;
- length and slot limits should be considered.

Fishing opportunities:

- range to be provided, including:
 - high catch rate for rainbow fisheries;
 - juvenile fisheries.

Non-salmonid fisheries:

- separate management plans or assessments for:
 - bream;
 - whitebait;
 - crayfish;
 - blackfish.

Bait fishing:

- further restrictions proposed;
- reconfirm artificial and fly-only waters;
- no live bait of aquatic origin to be used (fish, frogs, mudeyes);
- no wattle grubs until assessment of collection impacts;
- no bait fishing in World Heritage Areas, National Parks, State Reserves and Conservation Areas.

Access:

- recognise right of way along rivers;
- standardise process of declaring river reserves;
- enforce declaration of reserves on river frontages on sale of land through amendment to the Crown Lands Act 1976;
- establish a MOU between agencies for access to highland lakes;
- control access to remote locations;
- prepare and disseminate information for anglers on access.

Communication and education:

- prepare a plan to:
 - provide routine information to anglers;
 - promote angling within the State;
 - provide information for external marketing by Tourism;
 - assist with developing a marketing and promotional strategy;
 - liaise with Tourism on promotion;
 - conduct educational activities on angling.

Fishery data:

- active use to be made of monitoring data;
- plans to specify monitoring and assessment programs;
- systematic collection of data on angling activity etc;
- continue postal questionnaire as routine tool;
- validate questionnaire results;
- angling satisfaction should be assessed.

■ Tourism

Definition of roles in angling promotion required

Specific development strategies proposed:

- roading proposals;
- promotional licence;
- access issues;
- anti-litter project;
- identifying development sites;
- marketing strategy for Salmon Ponds etc;
- specific events calendar;
- expand Fishing Code brochure;
- develop variety of angling experiences:
 - trophy fisheries;
 - more fly-only waters;
 - juvenile and disabled fisheries;
 - individual management of Western Lakes;
- development of private fisheries supported (not in public waters).

■ Commercial fisheries

Develop a strategic plan:

- management to stay with agency responsible for recreational fisheries;
- develop industry associations.

Commercial fisheries management plans:

- detail objectives, strategies and actions for a sustainable industry;
- increase inter agency cooperation;
- provide for recreational fisheries interests;
- disease screening program required.

A Strategic Review of Inland Fishery Management, Tasmania

Final Report to the Minister for Inland Fisheries, The Hon. Mr John Cleary M

Private fisheries:

- to be part of recreational fishing industry;
- management up to owner;
- incorporate in strategic plan;
- form an industry association;
- restrict to privately owned land and waters;
- develop a range of products.

Commercial fisheries management:

- co-opt commercial expertise from other agencies;
- involve commercial fishers in planning.

Eel fishery management:

- resource assessment required;
- effectiveness of stocking to be assessed;
- eel passes on dams required;
- develop eel aquaculture.

Aquaculture:

- Environment Tasmania to monitor industry;
- inter-agency cooperation required;
- eel aquaculture trial;
- health screening of trout required.

Aquarium Industry:

- industry association to be formed;
- simplify registration and importation protocols;
- tighten licensing and reporting;
- health screening required;
- industry to be involved in education regarding noxious fish.

■ Freshwater Ecosystems

Strategic plan required for native aquatic biota conservation and management:

- closer relationship with Parks and Wildlife Service on these issues.

Environmental issues:

- should be formally incorporated in water resource management;
- Water Act revision to incorporate environmental values;
- multi-stakeholder process for revision of Water Act;
- Water Act to be linked to EMPCA;
- environmental agreements between natural resource management agencies;
- EIA process for all major water allocations;
- irrigation abstractions to be metered;
- CWR process to be reviewed;
- HEC to support multiple-use objectives.

Research into improved water and riparian management:

- increase awareness of research needs;
- conservation and management plan for native aquatic biota required;
- endangered species programs should be expanded.

Carp control:

- decisions to be based on environmental risk;
- screen capacity should be upgraded;
- consultation to remain.

Impacts of exotic fish:

- education needed.

Fish habitat:

- co-ordinated habitat restoration program required;
- community involvement.

Land use impacts on aquatic ecosystems:

- research effort to be coordinated and increased;
- monitoring effort should be increased.

Noxious fish and aquatic pest survey:

- all farm dams and other waters should be surveyed;
- known species risks to be surveyed.

Status of native fish species:

- status of vulnerable species to be assessed.

Stocking program controls:

- tighter controls on suppliers of rainbow trout;
- tighter controls on stocking proposed;
- impact assessment of stocking programs.

Farm dams:

- EIA procedures required for larger in-stream storages;
- Farm Dam Working Group to continue.

As indicated, this is a summary of the recommendations. They vary in degree of complexity and also in some cases acceptability. Some lend themselves to immediate implementation, others will take time, and some require further thought and development.

Implementation

The implementation process will be undertaken as follows:

- acceptance and implementation of parts of the review;
- rejection of some provisions;
- part acceptance of some provisions for later implementation;
- referral of some parts to Stage 2;
- commencement of Stage 2.

Some issues needed to be acted upon immediately for varying reasons and these are considered further below.

■ Bait fishing

The occurrence of carp in Lake Crescent had prompted calls for a general tightening of rules that might see the further spread of exotic species. There had also been extended debate in relation to conflicting regulations regarding the use of bait in the World Heritage Area. Consideration of both these issues had been delayed pending the outcome of the IFC review.

In relation to bait fishing the review was very restrictive, overly so in the Commission's view. Consequently, the recommendations have only been partly accepted but introduced immediately due to the nature of the issues involved.

Review recommendations relating to bait fishing

- Artificial lure or fly fishing only waters to be maintained or expanded.
- Live bait of aquatic origin to be banned (fish, frogs, invertebrates including mudeyes).
- Wattle grubs banned until impacts on collection from wattle trees assessed.
- Bait fishing banned in WHAs, all National Parks, State Reserves, and Conservation Areas.

Changes to be implemented

- Bait fishing to be allowed in Little Lake Bay, Great Lake, on a trial basis.
- Use of live fish allowed in estuaries only.
- Use of frogs prohibited.
- Mudeyes and wattle grubs may still be used.
- Bait fishing prohibited in National Parks.
- Restrict bait fishing in Western Lakes to lakes Augusta and Mackenzie.
- Permit the use of two rods for bait fishing and trolling for payment of a second-rod fee.

The Commission accepts that these changes will affect a small number of anglers who traditionally fish with bait in the WHA. This is not a reflection on them personally, but a decision made for the future conservation of both terrestrial and aquatic fauna in this area.

■ Bag limits

The changes to bag limits have been implemented for entirely different reasons and they will remain quite flexible. The primary purpose is not to unduly influence catch rate at this stage, hence the extension of the initial Little Pine limit, but more to signal a change of direction from blanket management to management of individual waters. Anglers can expect more different bag limits in the future and, if population estimates dictate, some limits will change to a level that will influence total harvest.

There is always some scepticism associated with change and some anglers are becoming unnecessarily concerned with some aspects of the new bag limit regulations. The Commission will be approaching the changes with the objectives of the regulations firmly in mind, and that is to encourage responsibility from anglers. If anglers are thinking that the Commission intends to enforce regulations in situations not intended under the purpose of that regulation, then those anglers have not yet appreciated what we are trying to do.

■ Management plans

The extent of the management plan process proposed in the review was excessive in the extreme and the timeframe could only be described as optimistic. There is general public support for this direction as it does offer the opportunity for public

input, the end result of which is a document setting out the objectives of management for all stakeholders. The danger is in over-use of the process resulting in a lack of interest in the longer term.

The Commission supports a more limited management plan process but will need to wait until after Stage 2 of the review to see if we will have the resources to implement it. Ideally this would include the preparation of plans for each of our strategic areas:

- recreational fisheries
- commercial fisheries
- native fauna conservation and management.

Another level of management plans could then be prepared on a regional or other basis as required.

In the meantime we are trialing the development of a management plan on Little Pine Lagoon. This water was chosen for a number of reasons in that it involves a number of issues in a compact and manageable area. For example, some of the issues are listed below:

- fish populations;
- numbers present
- harvest levels
- recruitment
- environmental issues;
 - water level management
 - possible pollution effects
- people management issues;
- wading/boating
- access etc.

■ Fisheries habitat improvement trust fund

This is a very worthwhile idea that has come out of the review. The objective is to set up a trust fund that would be used for habitat improvement projects in inland waters.

The Commission will look at ways of kicking off this fund with a sizeable donation and will examine the feasibility of an allocation from licence revenue.

If the fund is established then an assessment panel would be formed to determine where funds should be spent. An ideal starting point for the fund would be the rehabilitation of Shannon Lagoon.

Summary

The review will be considered in more detail by the Commission once Stage 2 has been completed and we know what our organisational structure and our operating resources will be. What is clear is that there is a need to be more flexible in management across the State and manage by objectives for individual waters or areas. This will certainly mean a change of direction for the Commission and will require some adjustments, both for our staff and

for anglers, as we work through this period of change.

Review Stage 2

The second stage of the review will commence in the near future. The terms of reference are as follows.

1 In undertaking Stage 2 of the review the consultants are to examine:

- a) the role, structure, financing, and administration of the Inland Fisheries Commission and its capacity to achieve any Government-approved strategic directions; and
- b) the optimum means of coordinating the role etc of IFC with the responsibility and capacity of other agencies to achieve the approved strategic directions.

2 In examining the role of the Commission the consultants shall take into account the outcome of the Stage 1 review and undertake consultations with stakeholders to develop a strategic vision for the management of the State's inland fisheries which can both form the basis for the Stage 2 review and for the development of strategic management plans recommended in the Stage 1 review.

In undertaking the strategic vision aspect of the consultancy the consultants shall ensure that peak angling groups, relevant Government agencies, and commercial interests (representing angling guides, private fishery and lodge operators, eel fishermen, aquarium suppliers and commercial salmonid hatchery operators) are consulted.

3 In examining the structure of the Commission the consultants shall consider what is the optimum structure for delivering the strategic vision, strategic directions and consequential responsibilities. In this connection, the consultants shall examine the benefits and costs of the current structure, modification, of it, or any changed structure, in terms of its feasibility and practicability along with the financial implications for the Commission and the Government.

4 In examining the financial implications of any continuing or changed structure, the consultants should specifically consider:

- current and potential funding options;
- the financial resources required to deliver/service any changed structure;
- the nature and extent of any community service obligation appropriate to the management responsibility for the State's inland waters and fisheries.

5 Where pertinent to the above, the consultants are to make recommendations on any administrative measures which will assist in the delivery of the strategic vision and/or in the implementation of the recommended structure.

6 The consultants are to provide a draft report to the Minister by 30 November 1997.

7 The draft report will be released for public comment for a two-month period and the consultant will prepare a final report taking into account resultant comments and submit it to the Minister by 28 February 1998.

8 As noted in the Stage 1 Terms of Reference, any necessary legislative reform must be considered. This will be undertaken by Government on receipt of the consultants report.

Consultants have now been selected to undertake this stage of the review. They will be Mr Tony Ibbott and Roger Toombs of Wise Lord and Ferguson, Hobart.

It is expected that a report will be available for public release by the end of the year.

INLAND FISHERIES
REVIEW



July 1995

The giant Tasmanian freshwater crayfish: Where to now?

Background

The giant Tasmanian freshwater crayfish or lobster, *Astacopsis gouldi*, is found only in northern Tasmania. Believed to be the world's largest freshwater crayfish, its original distribution was from the Arthur River, in the northwest, across the north of the state and included all the waters flowing into Bass Strait except the Tamar catchment. Although still relatively widespread within its original distribution, concerns have been raised about the depletion of populations in a number of rivers where it was once abundant.

The crayfish inhabits lowland forested streams and relies on reasonably pristine streamside vegetation to maintain such suitable conditions as water temperature and nutrient content. Needing good quality water, it is intolerant of large fluctuations in water temperature, high sediment loads, and the removal of snags. It is very sensitive to pesticides and herbicides and does not appear to be able to live where there is bank erosion or stock access.

A slow-growing animal, the giant crayfish was the first invertebrate species to be listed as vulnerable under both the Commonwealth's *Endangered Species Protection Act 1992* and the *Tasmanian Threatened Species Act 1995*. Studies have shown that farming and forestry practices have contributed to the animal's vulnerability, and fishing has also played its part. In 1993, the IFC reviewed the catch data for crayfish and reduced the daily bag limit from 12 crayfish to three. The taking of females was prohibited. Concurrently, the taking of crayfish was prohibited in six catchments. These restrictions remain in force.

Recent studies

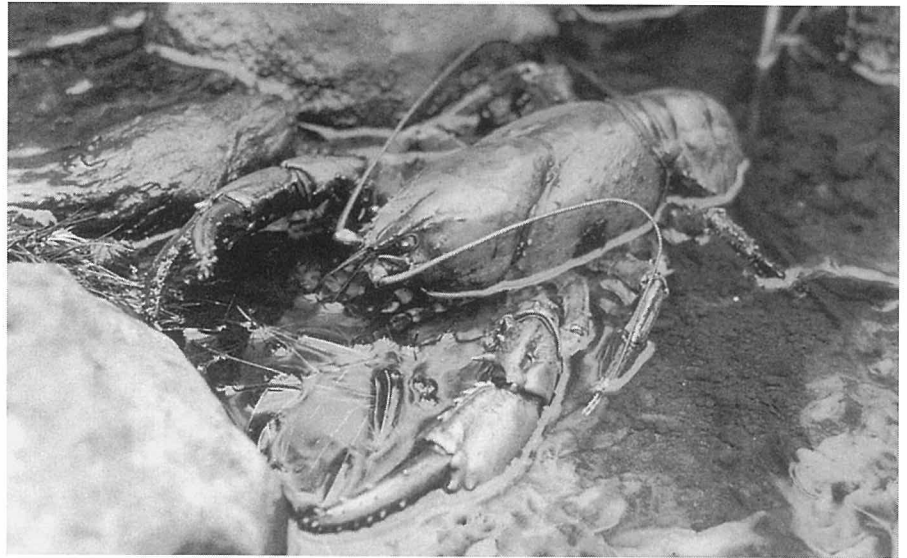
In studies recently undertaken, an IFC project team sampled a number of streams in two separate catchments. No legal-sized male crayfish were captured, and only a small number of adult-sized females were encountered. Without a core group of breeding individuals, the sustainability of the populations must be in question.

In an attempt to prevent further depletion of *A. gouldi* populations and to promote the species' sustainability, a recovery plan has been prepared by the Inland Fisheries Commission's biological consultancy as part

of the Regional Forest Agreement process. This has been submitted to Environment Australia for assessment under the Commonwealth's *Endangered Species Protection Act 1992*. The plan recommends a number of actions, some of which will affect the existing recreational fishery. The Commission is carefully considering them with a view to ensuring the recovery of the species while considering the wishes of the angling public and the requirements of the *Fisheries Act 1995*.

Recommendations

The recovery plan recommends a 14-year moratorium on any fishing at all for the crayfish. That is roughly one generation, which should be long enough for it to re-establish itself if it is left alone and provided with sufficient suitable habitat. Protection from fishing pressure for that period makes sound ecological sense and is seen as an essential



This weed's a threat to waterways

Alligator weed, considered to be one of the most serious weed threats to rivers, irrigation systems, and wetland habitats, has been reported growing in Tasmania. Now thought to occur in most Australian states, this South American aquatic weed has sometimes been mistakenly cultivated as a leafy vegetable or herb.

Its reported presence in Tasmania is of real concern because it is an aggressive aquatic weed that can proliferate rapidly in streams, rivers, and dams, forming a dense, smothering mat over the surface of the water that blocks water flow and kills fish and other aquatic wildlife. Naturalised infestations of alligator weed could seriously affect recreational fishing and boating in Tasmania.

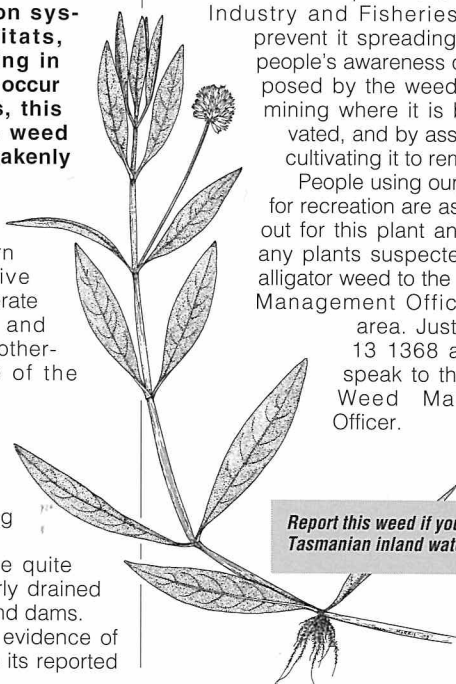
Alligator weed can survive quite well in moist areas and poorly drained pasture, as well as in rivers and dams.

At the present there is no evidence of alligator weed escaping from its reported

cultivation sites into the aquatic environment. The Department of Primary Industry and Fisheries hopes to prevent it spreading by raising people's awareness of the threat posed by the weed, by determining where it is being cultivated, and by assisting those cultivating it to remove it.

People using our waterways for recreation are asked to look out for this plant and to report any plants suspected of being alligator weed to the DPIF Weed Management Officer in your area. Just telephone 13 1368 and ask to speak to the Regional Weed Management Officer.

Report this weed if you see it in Tasmanian inland waters



first step in the recovery of the species.

The recovery plan is primarily about removing, or reducing the impact of, threatening processes. As well as the fishing moratorium, the plan recommends the development of awareness and education campaigns, significant revisions to the Forest Practices Code, co-ordination with the forest industry in terms of research and education, and a series of major research activities. These will attempt to fill in major gaps in ecological knowledge about the species and improve the information available to agencies and staff responsible for the management of the species and its environment.

The Inland Fisheries Commission has begun the process of investigating what changes need to be made to fishing regulations and management strategies to support the recovery of the crayfish. As part of this process, we would like to hear from anglers and the public about any of the issues raised that are of relevance to inland fisheries. If you have something to contribute, please send your submission to the Commission by the end of November 1997.

Copies of the recovery plan are available from the Commission. Copies of a background report, 'Reservation assessment and habitat requirements of the giant Tasmanian freshwater lobster, *Astacopsis gouldi*', are available from the RFA, or may be downloaded free from the RFA's Internet site at: <http://www.erin.gov.au/land/forests/rfa.html>

Open Day 97

Sunday 18 May, Liawenee field station



Expert hands strip eggs from a well-conditioned brown trout...



...with some help from a willing beginner



The guess-the-number-of-eggs competition was popular with small fry...



...while Longford catering service was popular with everyone



Anglers gather to check the condition of Great Lake browns

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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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