

# Post Stocking Survey Report

## Dawson River

Taroom

Survey 1 - 9 November 1999



 **Queensland  
Government**  
FISH Department of  
799.11 Primary Industries  
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Dawson River, Taroom  
Survey 1

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**QI 00056**  
**ISSN 0727-6273**

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# ACKNOWLEDGEMENTS

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Assistance from members of the Taroom and District Fishing and Restocking Club recording data from the electrofishing survey was greatly appreciated. The number and enthusiasm of members that arrived to assist our officers was very encouraging. Without this assistance the post stocking survey would not have been possible.

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# SUMMARY

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This document details results from the post stocking survey conducted at Dawson River on 9 November 1999. Only electrofishing was performed at this survey.

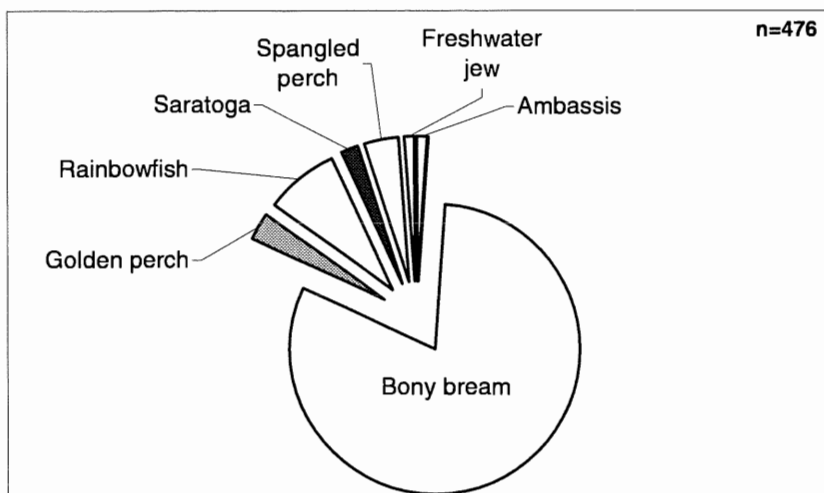
**Survey results**      The purpose of this survey was to:

- determine the status of the sleepy cod population;
- gain information on the fish community in the upper Dawson River;
- measure the relative abundance of angling species.

After 63 minutes ('power on' time) of electrofishing, the total catch consisted of 476 fish. Bony bream dominated the catch (386 fish), followed by rainbowfish (36), spangled perch (19), golden perch (16), freshwater jew (eel-tailed catfish) (6), saratoga (8), glass perchlet (3) and both black bream and eel (1 fish each). No sleepy cod were caught in this survey.

The catch effort rate for electrofishing was 7.61 fish/minute ie, approximately 8 fish were caught for each minute of 'power on' electrofishing.

## Species composition of total catch from this survey



**Stocking**      In general, fish stocking of weirs can be viewed as stocking of a river system. Fish will migrate upstream in flows and in a flood flow they can successfully move downstream. The primary purpose of stocking golden perch and sleepy cod in the upper Dawson River is to balance the impact that the six Dawson River weirs have had on these two stocked species. Golden perch is a migratory spawner and requires an uninterrupted flood flow to successfully reproduce, whilst sleepy cod has previously been recorded in the upper Dawson. It is a shame that construction of the weirs has led to a localised extinction of sleepy cod in this section of the river.

Stocking, under the Freshwater Recreational Fishing Enhancement Program, commenced in the upper Dawson River in 1987. A total of 201,000 fingerlings have been stocked (refer to Appendix 4) with 79,000 fingerlings stocked in the past five years. In the last five years stocking densities have ranged from 25 fingerlings/hectare/year (in both 1994/95 and 1995/96) to 65 fingerlings/hectare/year in 1998/99. During this period the stocking composition has been 83% golden perch and 17% sleepy cod.

**Estimated Surface Area** To gain an understanding of the comparative levels of stockings from year to year and the relationship with stocking in other impoundments, an estimated surface area has been calculated. Glebe Weir has a surface area at full supply level (FSL) of 542 hectares however the storage capacity is regularly maintained at a lower level.

Glebe Weir impounds 30 km of water, above which there is a further 54 km of river to Taroom. Stockings in the past five years have also been undertaken for a further 50 km upstream of Taroom. This provides an estimated stocked river distance of 104 km upstream of Glebe Weir.

Upper Dawson 104 km (pools for 50% of distance) x 25 m.....	≅ 130 ha
Glebe Weir [maintained at 75% FSL].....	≅ 406 ha
<b>Total.....</b>	<b>approx. 536 ha</b>

**Recommendations** The optimum stocking density for a weir/river is difficult to estimate. Whilst the fingerlings are generally stocked into the weir pool, we are really stocking a section of river. The best we can do, at present, is to base stockings on creel survey data from impoundments. From this data, maximum stocking levels appear to be between 100 to 200 fingerlings per hectare per year.

For the purpose of this recommendation, the maximum stocking level has been based on the 100 fingerlings per hectare per year. Ultimately, stocking levels should become clearer as stocking progresses and returns to anglers are monitored. However, to add to the difficulty in the Dawson River, there is an occurrence of natural recruitment of golden perch and at this point in time we cannot identify either stocked or 'wild' golden perch. Accordingly we have difficulty judging the true success of the stocking.

For golden perch, a level to aim for would be 50 to 100 fingerlings/hectare (25,000 to 50,000 fingerlings) every other year. This stocking level could be achieved if your Group holds off on stocking for a year and joins forces with the bi-annual DPI stocking allocation of golden perch.

If you were to stock sleepy cod again it is recommended that they be stocked into Glebe Weir at a level of 50 fingerlings/hectare (20,000 fingerlings). The weir environment may provide a habitat that would allow sleepy cod to reproduce.

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# INTRODUCTION

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The Queensland Government's Recreational Fishing Enhancement Program commenced in 1986 with the intention to stock freshwater systems with native fish species of interest to anglers. Before stocking commenced most impoundments contained only endemic species such as eel-tailed catfish (*Tandanus tandanus*), fork-tailed catfish (*Arius graffei*) and spangled perch (*Leiopotherapon unicolor*). As part of this program the Government has committed to monitoring impoundment fisheries through post stocking surveys, creel surveys and the catch card record system.

Post stocking surveys commenced during the early years of the Recreational Fishing Enhancement Program and are presently undertaken in response to specific problems encountered within each impoundment fishery.

This document details results from the post stocking survey conducted at Dawson River, Taroona on 9 November, 1999. The purpose of this survey was to:

- Determine the status of the sleepy cod population;
- Measure the relative abundance of angling species;
- Monitor growth of stocked species where stockings can be differentiated;
- Monitor the relative abundance and species composition of forage and non angling species;
- Review and provide recommendations on management strategies for the fishery.

Results for the different fishing methods used in this survey are given as catch per unit effort (CPUE). CPUE is the number of fish caught, divided by the amount of time spent fishing. In this survey, CPUE is expressed as:

electrofishing – effort is the number of minutes ('power on' time) spent electrofishing. Results are expressed as the number of fish caught per net hour.

CPUE data are useful for comparing surveys over time as well as between dams where the same fishing method is used.



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# SAMPLING METHODS

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## 1 Electrofishing

Electrofishing was conducted using a Smith Root 7.5 kva unit mounted on a 4.3 m aluminium 'Edgetracker' vessel. Power used varied between 12 amps to 15 amps at 340 volts, and 8 amps to 11 amps at 500 volts. The crew consisted of a skipper and two net operators. Electrofishing commenced on 9 November 1999 at 12:45pm and concluded at 9:10pm. Operations were performed both during the day and night. For optimum results the electrofishing survey is performed within shallow water. Results are expressed as number of fish per electrofishing minute ('power on' time).

### Recording data from the electrofishing operation



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# RESULTS

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## 1 Electrofishing

After 63 minutes ('power on' time) of electrofishing, the total catch consisted of 476 fish. Bony bream dominated the catch (386 fish), followed by rainbowfish (36), spangled perch (19), golden perch (16), freshwater jew (eel-tailed catfish) (6), saratoga (8) glass perchlet (3) and both black bream and eel (1 fish each). No sleepy cod were caught in this survey. The catch effort rate for electrofishing was 7.61 fish/minute ie, approximately 7 fish were caught for each minute of 'power on' electrofishing. The stocked fish catch rate was 0.26 fish/minute (see Appendix 3 for a comparison with other stocked fisheries).

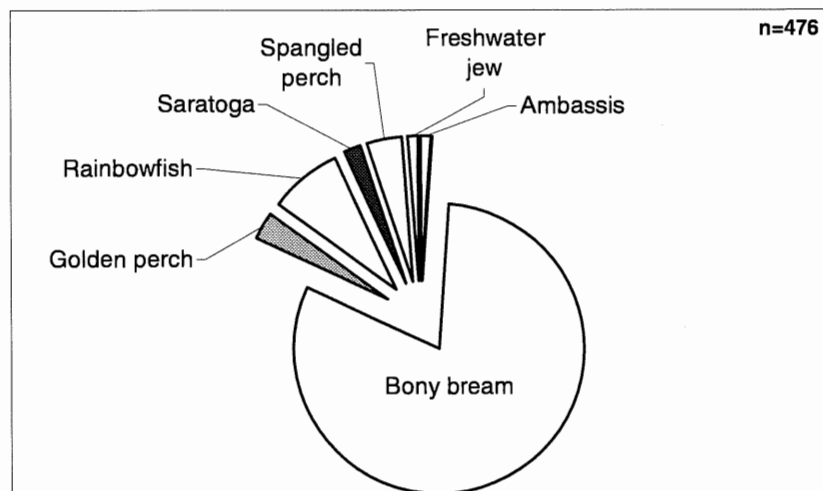
Length weight data for all fish is shown in Appendix 1. Average length of stocked species were: Golden perch 342 mm.

Species caught are listed below:

- Black bream                      *Scortum hillii*
- Bony bream                      *Nematolosa erebi*
- Eel                                 *Anguilla* sp.
- Freshwater jew                 *Tandanus tandanus*
- Glass perchlet                 *Ambassis* sp.
- Golden perch                    *Macquaria ambigua*
- Rainbow fish                    *Melanotaenia* sp.
- Saratoga                         *Scleropages leichardti*
- Spangled perch                *Leiopotherapon unicolor*

Catch details for the electrofishing operation are given in Table 1. For interest, electrofishing results are compared with results from surveys performed on a number of other impoundments in Appendix 3.

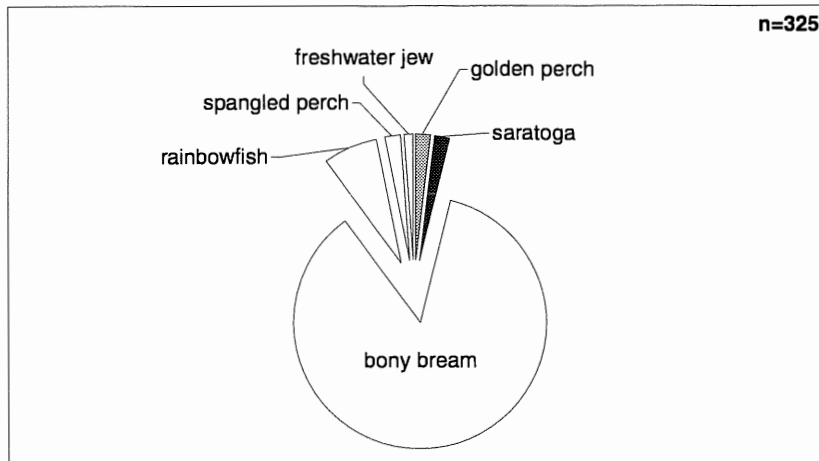
**Figure 1 Species composition of total electrofishing catch**



Electrofishing operations were performed both during the day and night. Details of the data from the day and night electrofishing operations are in Appendix 2.

**a) Day operation**

The total catch for the day operation was 326 fish. The catch rate was 7.74 fish/minute (approximately 8 fish were caught for each minute of 'power on' electrofishing). Fish caught included: bony bream, freshwater jew, golden perch, rainbowfish, saratoga and spangled perch (Figure 2). One eel was also caught.

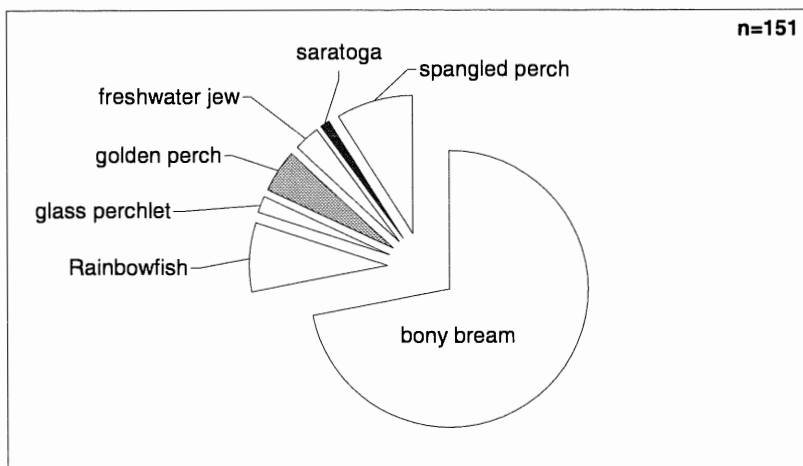


**Figure 2 Species composition of day electrofishing catch**

**b) Night operation**

The total catch for the night operation was 151 fish. The night catch rate was 7.33 fish/minute (approximately 7 fish were caught for each minute of 'power on' electrofishing). Fish caught included: Ambassis, bony bream, freshwater jew, golden perch, rainbowfish, saratoga and spangled perch (Figure 3). One black bream was also caught.

**Figure 3 Species composition of night electrofishing catch**



**Table 1 Catch effort ratios for electrofishing**

<b>Species</b>	<b>Power on time (minute)</b>	<b>Number</b>	<b>Fish/minute</b>
Black bream	62.7	1	0.02
Bony bream	62.7	386	6.17
Eel	62.7	1	0.02
Freshwater jew	62.7	6	0.10
Glass perchlet	62.7	3	0.05
Golden perch	62.7	16	0.26
Rainbowfish	62.7	36	0.57
Saratoga	62.7	8	0.13
Spangled perch	62.7	19	0.30
<b>Total</b>	<b>62.7</b>	<b>476</b>	<b>7.61</b>

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# DISCUSSION

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## 1 Stocking history

Glebe Weir was constructed in 1971 to supply irrigation water to the Dawson Valley Irrigation Scheme. Stocking was commenced in the upper Dawson River to: enhance the population of the recreationally targeted species, golden perch; to introduce an additional species (silver perch); and to attempt to reintroduce sleepy cod. Golden perch numbers were considered to have declined with the construction of the six Dawson River weirs, particularly the higher structures of Neville Hewitt (1976), Gylanda (1987) and Glebe weirs. The recreationally-targeted endemic species present in the upper Dawson include golden perch, saratoga and jew. Eels, black bream and spangled perch are also present however these species are not considered primary angling species, although they are regularly targeted by anglers.

To date it is difficult to judge the success of stocking golden perch as we are unable to identify stocked or wild fish. Silver perch stockings in the Dawson River have failed to establish a recreational fishery. This is common with riverine stockings elsewhere in the Fitzroy Catchment. In contrast there have been two successful impoundment stockings of silver perch within the Fitzroy Catchment. There is evidence that sleepy cod (endemic to the Fitzroy Catchment) were present in the Upper Dawson however the stocking of 23,000 sleepy cod has, to this point, failed to establish a recreational fishery.

The Freshwater Recreational Fishing Enhancement Program commenced in the Upper Dawson in the 1986/87 season. A total of 201,000 fingerlings have been stocked. Golden perch has accounted for 81% of all fingerlings, silver perch 16% and sleepy cod 3%. For details of upper Dawson's stocking history see Appendix 4.

In the last five years (since 1994/95), a total of 79,000 fingerlings have been stocked: 74,000 golden perch and 5,000 sleepy cod. In this period the stocking composition has been 94% golden perch and 6% sleepy cod. On average, this equates to 28 golden perch/hectare/year and 2 sleepy cod/hectare/year. Total stocking densities for the upper Dawson River have ranged from 0 fish/hectare in 1994/95 to 49 fish/hectare in 1996/97. For a complete stocking history refer to Appendix 4.

## 2 Survey results

The primary purpose of the electrofishing survey was to establish the fate of sleepy cod stocked into the upper Dawson River and establish whether there had been any recruitment of this species. Sleepy cod were first stocked in the upper Dawson in 1994 and to date 23,430 have been stocked without any confirmed returns by anglers. Whilst this is disappointing, stocking numbers have been low and anglers need to specifically target sleepy cod to capture them. Only 5,000 sleepy cod have been stocked in the past five years and overall only 44 sleepy cod per hectare have been stocked in this section of the Dawson River. Sleepy cod are a species that, given favourable conditions, will reproduce in good numbers and after entering the fishery, produce specimens of up to 1.3 kg.

Capturing 16 golden perch, 8 saratoga and 6 eel-tailed catfish was a positive return for the survey and the numbers were above the average results of the netting surveys undertaken for the past two years. Golden perch ranged from 90 mm to 390 mm which indicates a number of year classes. The 90 mm fish would have been spawned in the summer of 1998/99 with the larger fish being at least four years old.

### **3 Recent Surveys**

The Glebe Weir Stocking Group has participated in the National Heritage Trust funded project *Water Quality in the Fitzroy Catchment* where four sites were regularly surveyed each quarter for two years - two of which were in the upper Dawson River. This opportunity is taken to present a report of the results to you. The project had two components, one of collecting water quality data from the catchment (both physico-chemical and biological) and the second extending catchment information to the community through the promotion of integrated catchment management.

The river monitoring activity focused on the Dawson River and assessed two paired sites: an impacted site (weir impoundment) and a less disturbed adjacent riverine site. The sites for the fisheries surveys were Moura Weir / Woodleigh and Glebe Weir / Wide Water. As well as fisheries sampling, sites were examined for:

- physico / chemical parameters (temperatures, DO, conductivity and pH)
- nutrients
- pesticides residues
- algae
- aquatic plants
- invertebrates
- zooplankton

#### **Purpose**

The fisheries purpose of this project is to gain an understanding of fish communities of the Dawson River, in comparing impacted (weir) sites to less impacted riverine sites. The surveys were conducted quarterly for two years, through which a comparison of the sites was made: mid verses upper Dawson, weir verses riverine, as well as seasonal variations in both the species present and total populations of each species.

#### **Survey Method**

At each survey all nets were set 2½ hours before official sunset and retrieved 2 hours after sunset. Six multi-panel monofilament gill nets were used, each net consisting of 3 mesh sizes: 50mm, 100mm and 150mm. Additionally, four fyke nets (drum nets) with a mesh size of 25mm were also set. Traps were set 4 hours before sunset, cleared every 2 hours and lifted at sunset.

#### **Results**

To present a comparison of the data from this project with the results of the electrofishing survey, the angling species of golden perch, saratoga and jew are presented below. They are reported on a seasonal basis with the average catch making an interesting comparison with the catch of the November 1999 electrofishing survey catch. In addition a species list for Widewater and Glebe Weir is provided for the eight rounds of sampling.

**Table 2 Angling Species Captures: Project and Electrofishing**

	Widewater			Glebe Weir		
	Golden Perch	Saratoga	Jewfish	Golden Perch	Saratoga	Jewfish
Autumn	6	3	0	1	4	1
Winter	14	10	3	12	6	2
Spring	2	4	3	2	12	6
Summer	1	4	5	2	4	0
Autumn	11	5	2	3	9	0
Winter	15	1	3	14	4	0
Spring	10	10	2	3	11	1
Summer	10	6	1	3	3	0
<b>Total</b>	<b>69</b>	<b>43</b>	<b>19</b>	<b>30</b>	<b>53</b>	<b>10</b>
<b>Average</b>	<b>8.6</b>	<b>5.4</b>	<b>2.4</b>	<b>3.7</b>	<b>6.6</b>	<b>1.3</b>
Electrofishing	16	8	6	-	--	-

**Table 3 Complete Species List for May 1997-May1999**

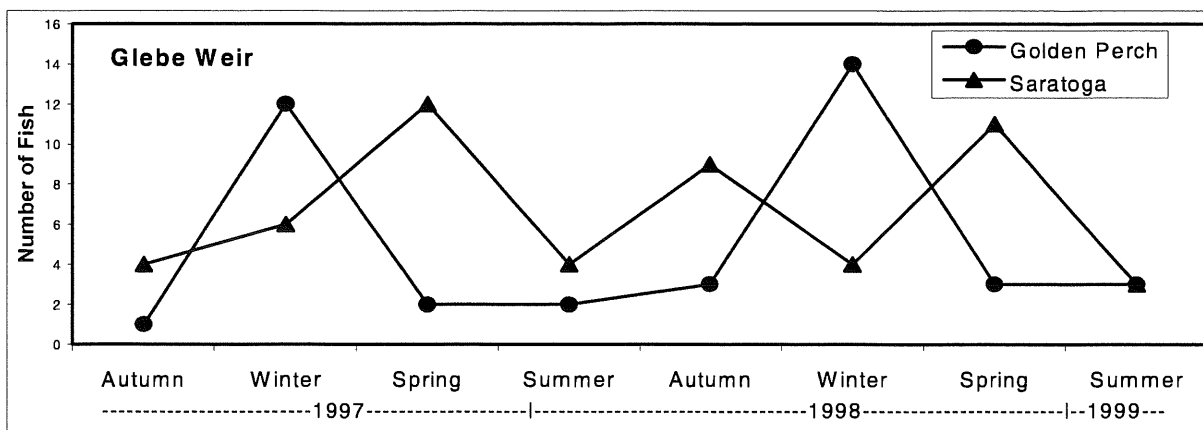
Glebe Weir	Widewater
bony bream	bony bream
saratoga	saratoga
Hyrtl's tandan, butter jew	Hyrtl's tandan, butter jew
golden perch	golden perch
jewfish, eel-tailed catfish	jewfish, eel-tailed catfish
eastern rainbowfish	eastern rainbowfish
	fly-speckled hardyhead
glassfish	glassfish
black bream	black bream
spangled perch	spangled perch
	banded grunter
Midgley's carp gudgeon	Midgley's carp gudgeon
western carp gudgeon	western carp gudgeon
	big-headed gudgeon, flathead gudgeon

As can be seen from the results above, three fewer species were identified at Glebe Weir than Widewater. Weir pools provide an artificial environment in which fish habitat is not as diverse as riverine sites. Accordingly species diversity is not as great. In the two year study both golden perch and saratoga were captured at both sites and on every occasion, however jew were not always caught and were always in far lower numbers.

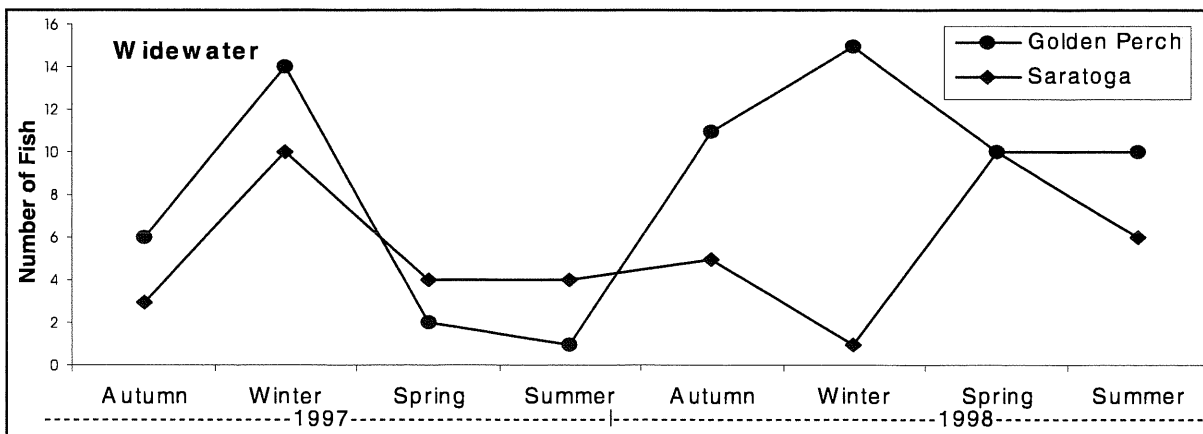
Banded grunter were captured at Widewater. Prior to this study they had not been reported in the upper Dawson River and their presence appears to be as a consequence of fingerling contamination from fish stocking. Fortunately, in the period since first being observed, their numbers have not grown significantly, as has been the occurrence under similar circumstances in several impoundments. When this species is present in large numbers, different angling techniques are required to land golden perch, saratoga and jew.

As can be seen from the graphs below (Figure 4, Figure 5) there is a seasonal pattern to the capture of golden perch with the number of captures higher at both sites in winter. This result matches that of anglers returns for this species - generally golden perch is a winter captured species except in the case on captures below structures (weirs) in flood events. There appears to be no pattern to the saratoga captures with numbers peaking in both winter and summer at both sites. Saratoga are very much a summer recreational fishery with their surface feeding behaviour allowing them to be successfully targeted.

**Figure 4 Seasonal catch of golden perch and saratoga at Glebe Weir**



**Figure 5 Seasonal catch of golden perch and saratoga at Widewater**





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# RECOMMENDATIONS

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Since the inception of fish stocking in the upper Dawson River it is difficult to gauge the success of the program in enhancing fish stocks, in part due to the inability to identify stocked golden perch. However there is obviously an increased knowledge base and understanding of fish populations and their habitat requirements by fishers and the community at large. The attempt to add to the existing multi-species fishery through the introduction of silver perch has failed and any further consideration of this species should be abandoned except in an impoundment environment.

## 1 Golden Perch

As presented in Table 1 (page 8) reasonable numbers of golden perch were captured in the electrofishing survey and the recent netting surveys. On average nine golden perch were captured in the netting surveys along with sixteen returned in the electrofishing survey. All fish captured were in good condition and the larger females were 'roed up' as they were caught during spring (electrofishing). Recent information from fish hatcheries, as well as a fish stocking group that breed golden perch, shows that Dawson River golden perch breed early in the summer months. The majority of females are usually found in a "spent" or a post spawning condition after the first summer flow when water temperatures have exceeded 27° to 28° C. This may provide some explanation as to this species behaviour.

In the past it has always been recommended that stockings of golden perch be undertaken in the upper Dawson each year to compensate for the negative impacts that weirs and river regulation have on the recruitment of golden perch. To repeat the earlier observation it is difficult to estimate an effective stocking level in weirs/riverine environments. However, successful impoundment fisheries are currently stocked at 100 to 200 fingerlings/hectare. This would equate to a level of 50,000 to 100,000 fingerlings per year in the upper Dawson, which is well beyond the resources of your Group. The other factor to consider when determining stocking rates is the effect of natural recruitment of golden perch within the Dawson system.

Accordingly this level (100 - 200 fingerlings/hectare) would be too high. A level to aim for would be 50 to 100 fingerlings/hectare (25,000 to 50,000 fingerlings) every other year. This stocking level could be achieved if your Group holds off on stocking for a year and joins forces with the bi-annual DPI stocking allocation of golden perch. If this was achieved survey efforts could be made the following winter to attempt to quantify the proportion of young golden perch in the population. This may be complicated by a 'good' recruitment event occurring during the same summer season as the stocking event, resulting in the number of stocked fish swamped by wild recruited fish.

## 2 Sleepy Cod

Sleepy cod were not captured in either the electrofishing survey or the eight netting and trapping surveys at Widewater and Glebe Weir. However to demonstrate that these sampling techniques are successful in capturing sleepy cod, they were encountered at the mid Dawson netting sites of Moura Weir and Woodleigh and on recent electrofishing surveys at Callide Dam and at Gladstone. The obvious question is 'What has happened to the stocked sleepy cod?' and 'Should there be further efforts to stock additional sleepy cod?'

The habitat in the upper Dawson River is similar in nature to that of the mid and lower sections of the Dawson - the only real difference is that of lower temperatures. However the issue of temperature can be ruled out due to reports of successful farm dam populations of sleepy cod in the upper Dawson. It follows that there may be a life stage of sleepy cod that requires a habitat attribute that is not present in the river. Of the sleepy cod population that were reported in the upper Dawson before the construction of Glebe Weir, did these fish breed further downstream and then migrate upstream?

Several impoundments have now been successfully stocked with sleepy cod throughout Queensland and they have established reproducing populations. Accordingly no follow up stockings are required each year. If you were to stock sleepy cod again it is recommended that they be stocked into Glebe Weir at a level of 50 fingerlings/hectare (20,000 fingerlings). The weir environment may provide a habitat that would allow sleepy cod to reproduce.

# APPENDICES

## 1 Length and weight data

### Bony bream

length (mm)	weight (g)	length (mm)	weight (g)	length (mm)	weight (g)	length (mm)	weight (g)
255	198	115	20	120	38	140	44
250	197	110	18	150	49	180	81
280	260	105		125	22	80	
240	142	90	10	150	40	100	
135	35	160	45	135	25	95	
260	224	135	25	135	30	100	
250	201	230	139	145	35	150	56
170	65	185	75	235	102	90	
160	55	130	27	85		95	
175	65	95		135	33	90	
140	47	120	19	160	46	115	12
265	214	150	39	120	20	105	15
120	24	225	100	150	45	75	
190	82	150	39	130	22	100	
	60	115	22	135	32	80	
250	174	120	25	125	30	80	
115	25	150	44	140	35	95	
250	94	255	195	340	410	105	
100		165	690	310	396	145	40
155	59	135	30	125	35	150	42
135	37	150	34	260	205	275	272
140	43	100		135	38	165	71
297 counted				160	58	130	35

### Black bream

length (mm)	weight (g)
320	629

### Eel

1 counted

### Freshwater jew

length (mm)	weight (g)	length (mm)	weight (g)	length (mm)	weight (g)	length (mm)	weight (g)
420	1059	270	191	370	702	380	780
315	435	330	441				

### Golden perch

length (mm)	weight (g)	length (mm)	weight (g)	length (mm)	weight (g)	length (mm)	weight (g)
265	270	305	438	265	282	235	195
375	982	285	309	180	89	280	309
345	608	90		300	432	280	309
325	518	390	895	285	339	330	544

Rainbowfish

length (mm)	weight (g)	length (mm)	weight (g)
65	.	60	.
50	.	32 counted	
65	.		

Saratoga

length (mm)	weight (g)	length (mm)	weight (g)	length (mm)	weight (g)
285	160	590	1875	260	107
280	156	570	1774	530	1361
480	880	495	1042		

Spangled perch

length (mm)	weight (g)	length (mm)	weight (g)	length (mm)	weight (g)
85	.	165	70	135	41
105	15	180	106	130	33
120	25	160	78	120	23
135	41	140	50	130	29
140	46	120	35	100	9
120	30	130	36	140	34
135	34				

## 2 Day and night electrofishing operations

### Day operation

Species	Power on time (minutes)	Number	Fish/minute
Bony bream	42.1	278	6.60
Eel	42.1	1	0.02
Freshwater jew	42.1	2	0.05
Golden perch	42.1	9	0.21
Rainbowfish	42.1	24	0.57
Saratoga	42.1	6	0.14
Spangled perch	42.1	5	0.12
<b>Total</b>	<b>42.1</b>	<b>325</b>	<b>7.72</b>

### Night operation

Species	Power on time (minutes)	Number	Fish/minute
Black bream	20.6	1	0.05
Bony bream	20.6	108	5.24
Freshwater jew	20.6	4	0.19
Glass perchlet	20.6	7	0.34
Golden perch	20.6	7	0.34
Rainbowfish	20.6	12	0.58
Saratoga	20.6	2	0.10
Spangled perch	20.6	14	0.68
<b>Total</b>	<b>20.6</b>	<b>151</b>	<b>7.33</b>

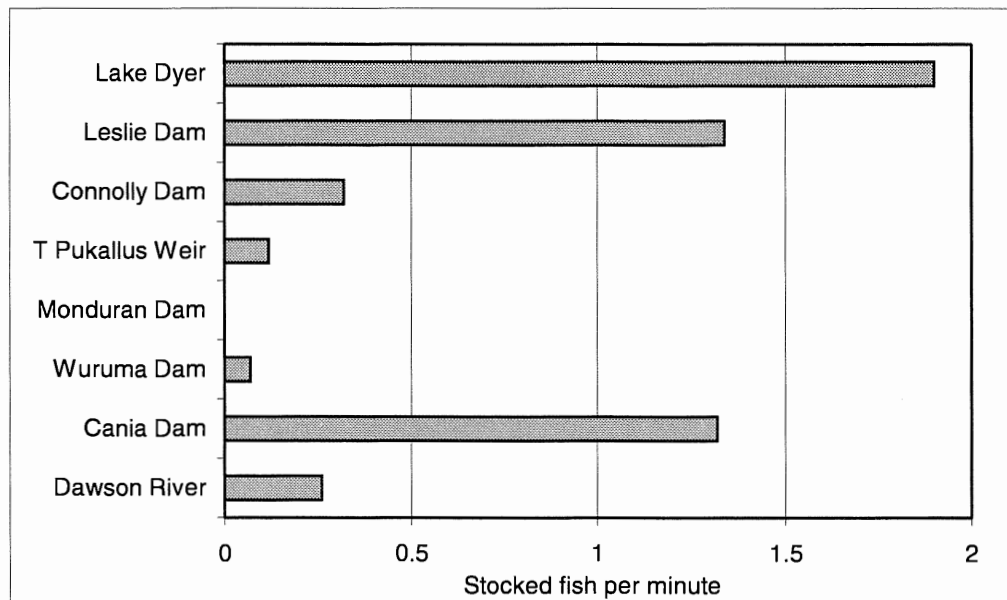
### 3 Catch effort results: comparisons

Electrofishing results: comparisons with other impoundments

Impoundment	Date	Power on time (min)	Golden perch	Silver perch	Australian bass	Cod	Saratoga	Other	Total Stocked Species	Stocked Fish per min.
Dawson River	9/11/99	62.7	16	-	NP	-	8	453	16	0.26
Cania Dam	6/8/99	40.7	20	6	24	NP	4	28	54	1.32
Wuruma Dam	9/7/99	56.6	1	0	2	NP	0	1	4	0.07
Monduran Dam	17/5/99	60.28	0	0	0	NP	0	156	0	0
T Pukallus Weir	22/4/99	33.82	2	0	2	NP	NP	8	4	0.12
Connolly Dam	9/12/98	50.60	7	9	NP	0	NP	45	16	0.32
Leslie Dam	15/3/99	52.2	25	41	NP	4	NP	42	70	1.34
Leslie Dam	8/12/98	8.2	3	1	NP	0	NP	39	4	0.49
Lake Dyer	20/5/98	6.3	-	-	-	-	-	12	12	1.9
Cressbrook Dam	16/12/97	41.7	30	-	6	10	-	-	46	1.10
Cressbrook Dam	2/4/96	78.7	21	-	8	-	-	-	29	0.37
Cooby Dam	13/12/95	53.1	44	71	NP	4	NP	-	119	2.24
Baroon Pocket Dam	14/12/95	60.3	-	-	-	1	-	-	1	0.02
Cressbrook Dam	21/11/94	52.9	15	-	3	-	-	-	18	0.34
Hinze Dam	12/10/94	63.9	11	25	52	1	-	-	89	1.39
Leslie Dam	18/5/94	43.1	58	4	NP	1	NP	-	63	1.46
Cania Dam	18/4/94	35.2	3	16	4	NP	1	-	24	0.68

NP: Not present either as stocked species or naturally

#### Comparison of electrofishing catch rates within stocked fisheries



#### 4 Stocking data-1986/87 to 1998/99

Season	Golden perch	Silver perch	Sleepy cod	Total	Stocking rate (fish/hectare)
1986/87		45000		45000	84
1987/88					0
1988/89	20000	23212		43212	80
1989/90					0
1990/91	3000 8000	4400	1430	8830 8000	16.5 15
1991/92		0	2000	2000	4
1992/93					0
1993/94			5000 10000	5000 10000	9 19
1994/95					0
1995/96	10000			10000	19
1996/97	20000			20000	38
1997/98	5000 12500		5000	5000 12500	9 23
1998/99	10000 16500			10000 16500	19 31
<b>Grand total</b>	48000 57000	4400 68212	13420 10000	65820 135212	123 252
<b>Annual average</b>	8080	5586	1800	15466	29
<b>Stocking rates</b>	196	135	44	29	
<b>LAST FIVE YEARS OF STOCKING</b>					
<b>Total</b>	74000	0	5000	79000	139
<b>Annual average</b>	14800	0	1000	15800	29
<b>Average stocking rate (fingerlings/ha/year at FSL)</b>	28	0	2	29	

FSL: Full Supply Level - 536 hectares  
 Top line: Stocking funded by Taroom and District Fishing and Restocking Club  
 Bottom line: Stocking funded by Queensland Government Recreational Fishing Enhancement Program