

Recreational Marron Fishery

MANAGEMENT OVERVIEW

The recreational fishery for Western Australia's native freshwater crayfish, the marron (*Cherax tenuimanus*), operates in freshwater dams and rivers throughout the south of the State. Stocks of marron have been extended well beyond their original range through translocation, and can now be found as far north as Hutt River near Geraldton and as far east as Esperance.

Fishing controls include licensing, bag and size limits, gear controls and a closed season. The fishing season was open from midday Saturday, 9 January 1999 to midday Sunday, 28 February 1999.

Major concerns with the marron fishery relate to its ability to withstand the existing level of fishing pressure, particularly in low rainfall periods. Post-season reviews are conducted regularly and can result in changes to management. In recent years, changes have included a bag limit reduction to 10 marron/day. Management also continues to emphasise snaring as the preferred method of capture in specific waterways.

'Snare-only' waters were first introduced in the 1990 season, and have received widespread support from fishers. A number of areas have now been set aside for snaring only.

A recreational fishing licence is required to take marron.

COMPLIANCE AND COMMUNITY EDUCATION OVERVIEW

A total of 14 breach reports were submitted by Fisheries Officers for the 1999 season. In addition, 30 infringement notices and 26 infringement warnings were issued. Infringement warnings and penalties were up on last year as a result of an intensive pre-season campaign by officers within the Busselton/Bunbury areas.

Community education was once again a priority. Local and Statewide media resources were utilised in the weeks leading up to the open season, emphasising conservation and the unique nature of the marron fishing experience, as opposed to viewing the daily bag limit as a target. Strong media coverage of several apprehensions and subsequent court appearances prior to and during the season reinforced the ramifications of non-compliance. Brochures explaining the rules were provided to licence purchasers and distributed through tackle shops, caravan parks, service stations and other outlets likely to be visited by marroners.

VFLOs assisted staff in maintaining a highly visible profile throughout the fishery. The expansion of the VFLO program within the region increased the ability to provide up-to-date information to fishers and promote responsible fishing practices and catch handling.

Compliance levels with in-season rules continued to increase in line with the fishing community's understanding of conservation requirements, however out-of-season fishing continues to be a concern.

RESEARCH OVERVIEW

Detailed research on the marron stocks in south-west rivers and estuaries was undertaken in the 1970s and 1980s. Current research involves the monitoring of stock levels both before and after the summer fishing season, surveys of catches taken by recreational licence holders and joint sampling with individual catchment groups. These data enable trends in stock levels to be monitored and adjustments made to the fishing season when necessary.

The following status report is based on these research findings.

Fishery Status Report

Main Features

Catch current season (1999):

Approximately 158,000 marron overall (minimum weight 19.7 tonnes)

Participation rate for year 1999:

21,330 licences issued for the 1999 season (as at April 1999), compared with 18,155 issued for the 1998 season

Catch projection next year (2000):

15-30 tonnes (estimated)

Boundaries and Access

The recreational marron fishery extends from the Hutt River north of Geraldton to waters near Esperance. There is a specific annual licence for the open season during January and February. In 1999 the season was open between 9 January and 28 February.

Some waters have been declared 'snare-only' in order to reduce the effect of an increase in licence numbers and thus effort. These waters are: Warren River National Park (since 1990); Shannon River (1990); Margaret River (1993); Harvey Weir (1994); Wellington Dam (1996); and Samson Dam (1996).

Catch

Main fishing method

One scoop net (preferred for dams), or six drop nets (rivers) or one snare pole (snaring only applies to some

waters). Anglers can only use one gear type at a time. Dimensions and mesh sizes of the scoop and drop nets are specified.

Landings

An estimated total of 158,000 legal-sized marron (minimum of 19.7 tonnes) were taken in the 1999 season (1998: 206,000 marron, 25 tonnes).

Fishing effort

The number of licences issued for the 1999 season was 21,330, with an estimated 13,899 of these (unusually low at 65%) used to make one or more trips, at an estimated average of 2.9 trips/licence holder. A total of approximately 40,910 trips were made, comprising an estimated 12,675 trips to dams and 26,661 trips to rivers. (1998: 52,914 total trips, with 11,787 trips to dams and 41,127 trips to rivers.)

Catch rate

The average catch rate in 1999 was estimated at 3.84 legal-sized marron/licence holder/night (1998: 3.66). The increase in the catch rate coupled with a decrease in total catch is probably due to a decline in fishing effort in rivers in 1999.

Stock Assessment

As the marron fishery operates on a series of discrete river and dam stocks where growth and productivity differ, the stock assessment process treats the river and dam sectors separately. Further, stock levels are affected by rainfall patterns, with higher winter rainfall resulting in larger catches in the subsequent summer. Marron catch and effort data are collected and assessed from logbook records from recreational fishers, an end-of-season telephone survey of licence holders, and pre- and post-season research sampling. In 1999, there was also a pre- and post-season survey of the Blackwood River conducted by the Blackwood Basin Group and volunteers in conjunction with Fisheries WA.

Total numbers of landed marron are calculated by using the mean number caught/trip from the logbook and phone survey data. This number is then multiplied by the number of active licence holders.

A minimum total weight of landed marron is calculated using the average weight of a legal-sized marron (76 mm carapace length - 125 g) to convert the estimated catch in numbers to biomass. As a result, the total catch in weight may be an under-estimate as larger, and therefore heavier, marron are likely to be captured during the season. However, more precise information would only be obtained by research surveys to all marron areas (approximately 96 individual stocks), which is logistically impractical.

The estimated numbers of trips (effort) to dams and rivers is calculated in a similar manner.

Breeding Stock Levels

Breeding stocks are protected from recruitment over-fishing by the minimum legal size limit and gear escape meshes. Most females in dams are capable of breeding once prior to attaining legal size, while those in rivers are capable of breeding twice. Small animals and females carrying eggs and young are fully protected and greater emphasis was placed on compliance activities prior to the 1999 season to increase protection of the stock during the peak breeding season.

Catch Projection for Year 2000

The catch for the 2000 season is dependent on summer water levels from 1999 winter rainfall, juvenile abundance in the preceding year, and the total effort expended during the season. Catches in rivers and dams may decline slightly at current levels of effort. The expected catch in years of low rainfall can be expected to be near 15 tonnes, while in years of high rainfall it is expected to be closer to 30 tonnes.

Based on climate patterns alone, the catch projection for the 2000 season is likely to be higher than for the 1999 season. Bureau of Meteorology data suggest that the expected rainfall for 1999 in the south-west of Western Australia has a 55% chance of exceeding the historical median rainfall for the area. However, post-season surveys of certain areas (Harvey Weir, Blackwood River) detected very low numbers of under-sized marron. Thus, fewer legal-sized marron are expected in these areas for the 2000 season. Overall, it is likely that the 2000 marron season should result in catches similar to, or slightly lower than, those from the 1999 season.

General Comments

There is a gradual increase in the average size of marron being caught, which can be attributed to snare fishers selecting larger animals. This is likely to be a result of more snare-only waters, with anglers selecting larger animals. Other areas should be considered for declaration as 'snare-only' for the long-term maintenance of the fishery.

Retention of under-size marron and pre-season poaching continue to be of concern and will require ongoing management. Pre-season patrols resulted in a number of convictions that were widely publicised. Pre-season patrols should be maintained and possibly extended for the 2000 marron season.

Yabbies, a potentially serious threat to the marron fishery, have been recorded from a number of areas within the marron recreational fishery. The most threatening report is of yabbies in Harvey Weir, a renowned snare-only fishery. Although the impacts of yabbies on marron in large dams are unknown,

biological information and previous experience suggest that yabbies could pose a potentially serious threat as they reproduce at a younger age than marron, produce more eggs and can reproduce several times a year. Further, there is a possibility of yabbies spreading the disease *Thelohania* throughout the recreational marron fishery. Monitoring should continue and control measures should be considered in order to protect the marron fishery.

Recreational Freshwater Angling

MANAGEMENT OVERVIEW

A south-west freshwater angling licence was reintroduced in July 1992. A licence is required for all freshwater fishing (other than for crustaceans) in waters south of latitude 29° S. Juveniles under 16 years of age are not required to hold a freshwater angling licence.

Management controls include closed seasons and closed waters for trout spawning streams, bag and size limits and gear controls. These controls aim to protect juvenile fish and ensure the available catch is shared among anglers. The bag limit for trout is four, which is consistent with the community view of trout as a prized fish species, and also helps to distribute the stocked public resource to maximise community benefits.

A trout stocking committee, established in 1994 to maximise angler returns on fish available for stocking into public waterways, continued to operate successfully during 1998/99. The committee consists of agency officers including the Pemberton hatchery manager, and representatives from RFAC, the WA Trout and Freshwater Angling Association and the general freshwater angling public.

COMPLIANCE AND COMMUNITY EDUCATION OVERVIEW

Compliance in this fishery was good in this period. The increased interest and participation in the fishery has continued, both by individual fishers and through dedicated fishing competitions organised by freshwater fishing organisations. This fishery is monitored by staff from the Bunbury, Busselton and Albany offices.

A number of VFLOs in the Bunbury area are members of freshwater angling and trout clubs or associations and are playing a key role in the education and awareness programs in place.

RESEARCH OVERVIEW

Fisheries WA Research Division projects on trout involve the production and distribution of trout fry, yearlings and excess broodstock to public waters. In

addition, a number of research projects are currently being undertaken at the agency's Pemberton hatchery. Research is being undertaken to produce sterile trout with enhanced growth to provide superior angling fish. Further, comparison of the success of stocking fry versus stocking yearlings is being evaluated in several water bodies to reduce the predation rate of stocked fish, thus providing more angling opportunities. Genetic research into enhancing the quality of trout from the agency's hatchery facility is also under way comparing the tolerances of the hatchery strain, a small reproducing stock and hybrids of rainbow trout. Finally, rainbow trout yearlings have been allocated for trialling in inland saline waters, which may in future lead to additional recreational fishing opportunities. Research information from these projects, and the annual report from the manager of the Pemberton hatchery, have been used to compile the following status report.

Fishery Status Report

Main Features

Catch current season (1998/99):

Not assessed

Participation rate for year 1998/99:

11,906 licences (including 8,243 umbrella licences) issued for the 1998/99 season (as of April 1999), compared with 10,332 issued for the 1997/98 season

Catch projection next year (1999/2000):

Not available

Boundaries and Access

The south-west inland fishing licence includes trout, red-fin perch and freshwater cobbler (but not marron). Waters with public access are limited to the major rivers and Government irrigation water supply dams. The only public rivers and dams that are stocked are those with a long history of trout stocking. Private waters, mainly large gully farm dams and waterlogged and salt-affected south coast areas, are also regularly stocked by private owners as part of the tourist put-and-take fishery. Rainbow trout yearlings are also being trialled for their potential in inland saline waters, for both aquaculture and recreational/tourist purposes.

Catch

Main fishing method

Angling with rod and line.

Landings

Not assessed. At present, there is no monitoring of the success or effort of this recreational fishery. However, a survey and logbook project are planned for 1999/2000.