

# *Summary of management policies and fisheries regulations for Murray cod in the Murray-Darling Basin*

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### *Introduction*

As part of the information package distributed to workshop delegates prior to the workshop, the current status of policies, stocking practices, management regulations and research projects in the fisheries agencies within the Murray-Darling Basin was compiled. An information sheet for Murray cod was also prepared (Appendix 3 this proceedings).

### *Recreational Fishing Controls and Regulations*



Some fisheries regulations are standard across the Basin with a daily bag limit of two cod, no difference in bag limits between streams and impoundments, and a closed season in force in all Basin jurisdictions (commencing on 1 September)(**Table 1**). Other fishing controls vary slightly between jurisdictions. For example, the minimum size limit of 60 cm in Queensland is slightly larger than the 50 cm limit in all other Basin jurisdiction, and the closed season in South Australia extends until the end of December, rather than the end of November elsewhere. However, there are some notable discrepancies between jurisdictions in other fishing controls such as the legality of set lines, use of maximum size limits, and special bag limits (limiting the number of fish that can be retained over a specified size) (**Table 1**). The minimum size and use of set lines is under review in NSW.

### *Stocking Programs and Policies*

All Basin jurisdictions except South Australia have active stocking programs for Murray cod (**Table 2**), with private hatcheries producing cod in all jurisdictions except the ACT.

All jurisdictions with stocking programs release cod into impoundments, but the ACT does not stock streams. Stocking by private individuals or fish stocking groups and clubs is controlled by permit or licence in all jurisdictions. The majority of cod are stocked as fry (approx. 30-50 mm length) although some stocking of yearlings or advanced fish occurs in Victoria (**Table 2**).

### *Monitoring programs and approaches*

Victoria, New South Wales and the Australian Capital Territory all have assessment or monitoring programs for stocked cod populations, although the program is limited in Victoria and New South Wales (**Table 3**). There is no consistency in monitoring approaches for wild cod populations, with Victoria and New South Wales lacking a regular agency-based monitoring program for wild riverine cod stocks, although the Sustainable Rivers Audit is anticipated to provide some information. The monitoring or assessment programs that are operating across the Basin utilise a variety of techniques, with creel surveys and cod fishing competitions increasingly popular. The involvement of anglers in monitoring approaches varies between jurisdictions.

### *Research projects*

There have been a variety of recent research programs that have provided information on the ecology or management of Murray cod, although in most cases cod were not the primary target species (**Table 4**). In the last two or three years there has been an increasing focus on Murray cod by researchers and funding bodies, and knowledge of cod is growing rapidly.

Table 1. Relevant fisheries controls for Murray cod across the Murray-Darling Basin

	ACT	VIC	NSW	SA	QLD
<b>Relevant legislation</b>	Fisheries Act 2000	Flora and Fauna Guarantee Act 1988 & the Fisheries Act 1995	Fisheries Management Act 1994	Fisheries Act 1982	Fisheries (Freshwater) Management Plan 1999
<b>What is the bag limit per day</b>	2	2	2	2	2 (in possession)
<b>Is bag limit in streams the same as dams and impoundments?</b>	Yes	Yes	Yes	Yes	Yes
<b>Are there any special bag conditions?</b>	No	Yes, only one greater than or equal to 75cm	yes, only one > 100cm	No	No
<b>Is there a separate possession limit?</b>	No	No	yes, 2 days bag limit	No	No (see bag limit)
<b>What is the min. size limit</b>	50cm	50cm	50cm (under review)	50cm	60cm
<b>Is there a max. size limit, and if so, what is it?</b>	No	No	No	Yes, 100cm	Yes, 110cm
<b>Is there a boat limit?</b>	No	No	No	yes, 6 per boat	No
<b>Are set lines allowed?</b>	No	No	Yes, 4 per person, not allowed in Murray River (Yarrawonga to Tocumwal) and impoundments (under review)	Yes (commercial fishers only, and can't target native fish)	Yes, (6 set lines per person)
<b>Is there a closed season?</b>	Yes	Yes	Yes	Yes	Yes, but only in Barwon, Macintyre and Dumaresq Rivers
<b>When is the closed season?</b>	1 Sept-30 Nov	1 Sept-30 Nov	1 Sept-30 Nov	1 Sept-31 Dec	1 Sept-30 Nov
<b>Are there any special closed waters declared for Murray cod?</b>	No	No	No	No	No



Table 2. Stocking programs for Murray cod across the Murray-Darling Basin

	ACT	VIC	NSW	SA	QLD
Is there a Murray cod or State stocking policy	Yes	Yes	Yes	No	No
Is there a State Government operated hatchery producing cod	No	Yes	Yes	No	No
Are there private or commercial hatcheries producing cod?	No	Yes	Yes	Yes	Yes
Are cod stocked into dams and impoundments?	Yes	Yes	Yes	No	Yes
Are cod stocked into streams?	No	Yes	Yes	No	Yes
Can private individuals/clubs stock cod?	Yes	Yes	Yes	Yes, only in enclosed waters	only fish stocking groups
Is a permit required for private individuals/clubs to stock cod?	Yes	Yes	Yes	Yes	Yes
Average numbers of cod stocked/yr since 1990	25,000	186,000	200,000	0, to the River Murray	32,000
Are cod stocked as fry (30-50 mm TL)	Yes	Yes	Yes	No	Yes
Are cod stocked as yearlings or advanced fish?	No	Yes	Not at this stage	No	No
What is the dominant size stocked? (fry, yearlings etc)	fry (3-5cm)	fry (3-5cm)	fry (3-5cm)	—	fry (50mm)

Table 3. Monitoring programs for Murray cod across the Murray-Darling Basin

	ACT	VIC	NSW	SA	QLD
<b>Is there regular monitoring of wild riverine stocks?</b>	Yes	No	Limited to tournament monitoring, but Sustainable Rivers Audit expected to provide some information on cod	Yes	Yes, but in a limited number of rivers
<b>Are there assessment programs for stocked populations?</b>	Yes	Yes, but limited	Yes but limited	No stocking, so no assessment program	Yes (impoundments)
<b>If yes to assessment programs, are they field sampling based (nets, e-fishing) or creel surveys, or targeted angling competitions</b>	field sampling	all, but increasingly focusing on creels and competitions	all	Previously dependent on the commercial catch and effort data. A fishery independent monitoring program has been set up (funded by PIRSA)	field and creel
<b>Are anglers involved in assessment programs?</b>	No	Yes	Yes	No, but through the Inland Waters Fisheries Management Committee, recreational and commercial fishers are consulted.	Yes



Table 4. Recent research projects

State	Name of research project	Funding body	Start year	Finish year	Project largely directed at M. cod? (Yes/No)	Aim of research (eg survey, breeding biology, habitat use, movement etc)
NSW	Preliminary effect of larval dispersal of undershot and overshot weirs	State Water	2004	2006	No	movement
NSW	Downstream movement of larval fish	MDBC	1997	1999	No	downstream larval movement
NSW	Quantification of native fish in water supply offtakes	MDBC	2004	2006	No	Quantification of larvae extracted via irrigation offtakes
Vic	Murray cod radiotracking	MDBC	1993	1996	Yes	habitat and movement
Vic	habitat and movement requirements of fish	MDBC, Environment Australia	1996	1998	No	habitat and movement requirements of Murray cod, Trout cod, Golden perch, Silver perch, Carp
Vic	River rehabilitation through resnagging	MD2001 Fish rehab	1999	2001	No	response of fish to resnagging
Vic	Murray river fish surveys	Various – MBDC, EA, EH, AFFA, DSE, NRE	1995	2004	No	fish surveys, esp. Trout cod
Vic	Recruitment ecology of fish	Monash Uni	1998	2002	No	larval ecology and recruitment
Vic	Campaspe flow project	CRC Freshwater Ecology	1993?	2000?	No	recruitment of several species
Vic	Thermal rehabilitation in southern MDB	MD 2001 Fishrehab	1998	2002	No	effects of thermal pollution
Vic	Assessing the effectiveness of environmental flow allocations on fish recruitment in the Barmah Millewa forest	Barmah Millewa Forum and MDBC	2003	2005	No	see title
Vic	Assessing the effectiveness of environmental flow allocations on lateral movements of native fish in the Barmah-Millewa	Barmah Millewa Forum and MDBC	2003	2005	No	see title
Vic	Protection and enhancement of Murray cod	MDBC	2004	2007	Yes	Determining the role of anabranch channels in Murray cod lifecycles
Vic	Testing the Flood Pulse Concept for rivers with variable flow regimes	ARC	2003	2008	No	See title

Table 4. Recent research projects (continued)

State	Name of research project	Funding body	Start year	Finish year	Project largely directed at M. cod? (Yes/No)	Aim of research (eg survey, breeding biology, habitat use, movement etc)
Vic	Refuge habitat enhancement: Lake Hume-Lake Mulwala	MDBC	2004	2008	No	Determining the use of off-channel habitats by native fishes
Vic	Optimum stocking size trial	Fisheries Victoria	2001/02	2005/06	Yes	determine the size at which stocked Murray cod provide optimum return to anglers
Vic	Cairn Curran Reservoir MC Assessment	Fisheries Victoria	2002	2003	Yes	Determine return to angler from MC stockings
Vic	Lake Mokoan Fisheries Assessment	Fisheries Victoria	2000	2002	No	Determine return to angler from GP and MC stockings
Vic	Future aquaculture	Our Rural Landscapes Initiative	2003/04	2006/07	Yes	Evaluate genetic diversity & develop genetic technologies for conservation management in stocking programs
Qld	Reducing delays to fish spawning migrations at barriers with fishways	AFFA/NHT	2001	2002	No	use of fishway by Murray Cod, habitat use and feeding migrations
SA	Murray cod fishery assessment	PIRSA Fisheries	2000	2000	Yes	A stock assessment report, which reviews the current knowledge on the biology and fishery biology of this species, and provides information on biological performance indicators.
	Aquatic habitat & fish communities in the Chowilla	MDBC Living Murray Implementation Program	2004/05	2006/07	No	Investigate distribution & abundance of aquatic macrophyte & fish communities. Identify potential barriers to fish passage. Research into recruitment ecology of key native species
SA	River Murray native fish monitoring	PIRSA Fisheries	2003/04	2005/06	Yes	A fishery independent sampling program is being developed to monitor the stock status of key native species (i.e. Murray cod and callop) in the SA lower Murray.

