



# Supporting Recovery of the Recreational Fishing Industry in Bushfire Damaged Areas Interim Report

## Introduction

In 2007, a Ministerial Taskforce for bushfire recovery allocated \$455,000 for a three-year project to support the recovery of the recreational fisheries in bushfire damaged areas.

This Information Note provides an interim summary of research completed in the first year of the project by the Fisheries Victoria Research Branch. A full interim report will soon be available and published at:  
[www.dpi.vic.gov.au/fishing](http://www.dpi.vic.gov.au/fishing).

The project has five objectives:

- Monitor the recovery of recreational fisheries in bushfire affected areas through an initial broadscale assessment and later via detailed monitoring
- Determine the factors that drive the behaviour of recreational anglers in the bushfire area
- Determine the social and economic values and impacts of recreational fishing for local communities
- Determine what recovery action may be taken (if any) to assist with the recovery of fisheries
- Contribute to regional promotional campaigns to encourage anglers back to bushfire affected regions.

## Results

Broadscale assessment surveys were undertaken in October and November 2007. Seventy-five sites were selected to determine the presence or absence of recreational fish species (brown trout, rainbow trout, blackfish and spiny freshwater crayfish), providing a qualitative overview of the status of the fish populations across six catchments.

In general, catchments south of the Great Dividing Range (GDR) (Thomson, Mitchell and Tambo) appeared to have been more affected by the bushfires than catchments north of the GDR (Ovens, Upper Goulburn and Kiewa). No recreational species were found at 24 of the 75 sites, with 22 of those sites south of the GDR.

*Table one: Percentage of sites where trout were found during the broadscale assessment.*

Catchment	Percentage of sites with trout
South of the GDR	
Tambo	0
Thomson	35
Mitchell	64
North of the GDR	
Ovens	72
Upper Goulburn	93
Kiewa	100

In March 2008, detailed monitoring at selected locations aimed to assess the 'recovery' of fish populations over time. Similar to the broadscale assessment work, catchments north of the GDR generally had greater numbers and diversity of fish than south of the GDR. Very few fish were found in the Wellington River (Thomson catchment). It is thought that this may be attributed to the long-lasting impacts of the severe floods that impacted the catchment in 2007.

Behavioural surveys were designed to investigate the drivers of behaviour of recreational anglers who fish the bushfire affected area. Of the anglers who fished in the area prior to the fires, 62% had returned to the area. Very few anglers surveyed (6%) cited that bushfire damage was the reason they did not return to fish. Actions that would motivate anglers to return to fish in the area largely centred on 'good news' stories about the quality of the fishing from other anglers or in angling press.

## Key findings

- River Systems South of the GDR appeared to be more heavily affected than north of the GDR – but not necessarily as a result of bushfires. The severe drought conditions and post-fire flooding also contributed to the degradation of fish habitats.
- Sites north of the GDR in each catchment with trout ranged from 72 to 100%
- Sites south of the GDR in each catchment with trout ranged from 0 to 72%

- Severe flooding in June 2007 throughout the Gippsland area caused erosion and massive landscape changes. Fish populations were affected by habitat alteration, increased sediment and the washing away of aquatic biota
- Anglers were driven by 'good news' to return to the area.

## Discussion

Climatic conditions before and after bushfire events will have a key influence on the level of impact. In the case of the 2006/07 bushfires, particularly extreme events were recorded both before (drought) and after (floods) the fire event. With ongoing extreme drought conditions, at the time of the 2006/07 bushfires many river systems were at very low flows, making it difficult for fish to escape to refuges away from the fires. This may have intensified the effects of the fires in some areas.

Trout adapt to, and respond from, environmental change. They are known to contract to the upper reaches during hot, dry years. When conditions improve and are favourable, trout normally re-colonise quickly. When historical data is reviewed, it appears that brown trout are more susceptible to bushfire than rainbow trout, this may be because bushfires disrupted brown trout recruitment during the year immediately

post-fire. Continuing unfavourable conditions, such as drought, will have an ongoing impact on the ability of fire-damaged waters to sustain trout populations.

The timescales through which fish populations would be expected to recover after bushfires will depend on many factors such as recovery of food supplies, habitat and river ecology. Catchments that were affected by bushfires, drought and flooding (e.g. Ovens, Tambo and Mitchell catchments) have limited habitat for trout and recovery will take longer than those catchments that experience bushfires as the major disturbance (e.g. Upper Goulburn).

Natural resource management agencies will continue to monitor the impacted rivers and Fisheries Victoria will advocate for the protection and re-establishment of fish habitat within riparian recovery work.

Remedial stocking of fish into suitable waters will only occur if and when habitats can support fish stocks.

The social and economic work is yet to commence, however planned for completion in 2008/09.

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