

Fish Stocking Strategy 2021-2025

June 2021

Introduction

The Victorian Fisheries Authority (VFA) is committed to getting more people fishing and enjoying Victoria's local seafood, growing healthy and sustainable commercial fishing and aquaculture sectors, and contributing to Victoria's social and economic prosperity.

Every Victorian should have the opportunity to fish, and the Victorian Fisheries Authority (VFA) is proactive in encouraging people from all different backgrounds to have a go at recreational fishing. The State Government continues its commitment to recreational fishers in Victoria, by investing in improving recreational fishing opportunities and getting more Victorians fishing, more often.

For fisheries to thrive and for opportunities for anglers to grow, the VFA carefully manages our Victorian fisheries using a suite of fisheries management tools, including stocking native and salmonid fish into selected public waters. Stocking can help recover threatened species populations, reduce vulnerabilities of fisheries to changing climatic conditions, facilitate environmental recovery and improve existing fishing opportunities. Importantly, stocking provides capacity to support sustainability of our native fisheries and to create innovative fishing opportunities and experiences where natural fish stocks are insufficient or non-existent.

This document outlines the strategy behind Victoria's program of fish stocking. The strategy is aligned to the [VFA's Strategic plan](#), [Victoria's Freshwater Fisheries Management Plan](#) and the Snobs Creek Advisory Board's [Inland Fish Production and Stocking in Victoria](#) plan.



Vision

The VFA's stocking program will work with the community to expand and improve the effectiveness of fish stocking to recover threatened species and improve the recreational fishing opportunities for Victorians, in a responsible and ecologically sustainable manner.

What is fish stocking?

Fish stocking is the practice of releasing hatchery-reared fish into a public waterway. It is one of a suite of strategic tools used by the VFA to sustainably manage and enhance Victorian fisheries.

Why do we stock fish into Victorian waters?

The VFA has a long and successful history of growing and stocking fish to recover threatened species, build fish populations and create fantastic recreational fishing opportunities in Victoria. Fish stocking is an essential and powerful tool for creating and maintaining fish populations for good fishing, alongside river restoration activities, including habitat rehabilitation and environmental flows, as well as managing fishing effort through bag and size limits.

Recovering native fisheries

Victorian fish populations have been profoundly influenced by the water and land management practices of the last 200+ years. As a result, our waterways are highly modified, with barriers such as weirs and dams and altered flows, meaning they perform differently to how they did before European settlement and in many cases they are no longer conducive to natural fish breeding and movement. Well targeted fish stocking combined with habitat restoration can recover and re-establish native fish populations.

Supporting resilient fisheries in response to environment change

The world's climate is changing at an unprecedented rate. Changes to ocean temperatures, currents, winds, rainfall and more frequent extreme weather events are being observed across South East Australia. The impacts of these changes on our fisheries are presenting challenges. Victoria's rivers are already affected by drought and these conditions are expected to intensify as rainfall decreases and temperatures rise. We are observing reduced flows, reduced water quality, and increased salinity in our systems. River regulation, including unseasonal flows and intervalley transfers, will continue to affect many of the natural processes that native aquatic plants and animals need to survive, feed and breed. The rapidity of environmental change is predicted to exceed the ability of many species to adapt or to disperse to more climatically favourable surroundings (Olden, Kennard, Lawler, & Poff, 2011). The VFA needs to plan for these predicted chronic species recruitment issues through careful management. Conservation of vulnerable species may require both managed relocation of individuals to locations where the probability of their future persistence may be higher and targeted stocking programs to improve the resilience of fish stocks to change.



Developing new recreational fisheries in modified waterways

Historically, native fish populations had broader distributions and greater abundances. Many fish species such as redfin, trout and carp were introduced into Victoria from other countries. Whilst they compete with and predate on native species, some of these species are now among our most popular freshwater recreational fish species making a strong social and economic contribution to Victoria. In modified waterways, fish stocking of both trout and native fish species can create exciting new recreational fisheries close to population centres.



Growing recreational fishing participation

Recreational fishing makes an important social and economic contribution to our communities. Stocking new and diverse waterways creates enhanced opportunities for people of all ages, skills, abilities and backgrounds to enjoy a fun and healthy activity and build social connections. Fishing produces strong economic returns and creation of new fisheries increases the economic returns for Victorian communities.

Authorising environment

The VFA board approves this stocking strategy, which describes high level priorities for stocking programs. This includes matching demand for fish stocking with future infrastructure needs.

The *Fisheries Act 1995* and Fisheries Regulations 2019 provide the authority for the VFA to stock fish into Victorian waters. The VFA CEO is the ultimate decision maker regarding stocking proposals. Stocking proposals into new waterways are assessed by an independent Translocation Evaluation Panel which provides advice to the CEO before stocking decisions are made.



A strategic approach to fish stocking

The VFA's stocking priorities are driven by the four high level focus areas in the VFA's 2019-2024 Strategic Plan as follows:

- Sustainable and healthy fisheries
- Social and economic prosperity
- Effective and innovative authority
- Strong and collaborative relationships

These focus areas and their associated strategic priorities listed below guide our stocking program for Victoria. The following pages describe the fish stocking priorities for the VFA over the next 5 years.

Sustainable and healthy fisheries



Manage and improve our fisheries

- Expand and improve the effectiveness of fish stocking to recover threatened species, support resilience of stocks to climate change and improve recreational fisheries including in both freshwater and estuarine waters.
- Maintain up-to-date responsible fish stocking approaches to fish stocking including evidence-based decision making, informed by key stakeholder consultation processes, and systems to manage optimal fish health and fitness, genetic resources and disease in fish stocking programs.

Social and economic prosperity



Create more fishing opportunities

- Develop stocked fisheries to create fishing destinations and review priorities on an ongoing basis.
- Prioritise stocking into waters of higher recreational or environmental benefit, starting with Victoria's premier recreational fishing destinations.
- Utilise targeted fish stocking to encourage fishing participation and stimulate regional tourism and the economy.

Effective and innovative authority



Smarter stocking

- Utilise an adaptive management approach to stocking, including targeted evaluation of fish stocking to inform the most cost-effective stocking approach.
- Investigate the cost/benefits of a marine stocking facility for VFA to decrease reliance on outside providers.
- Develop programs to ensure continued upskilling and training in fish husbandry.
- Implement the Arcadia native fish hatchery project.
- Safeguard the supply of quality assured fish for public waters stocking while protecting and enhancing genetic fitness and health status of native fish species.

Strong and collaborative relationships



Work together for better outcomes

Ensure stocking plans are informed by strong communication and engagement across government, stakeholder organisations and the Victorian community to foster the best stocking outcomes.

Investigate ways to improve stocking outcomes by alignment with environmental restoration initiatives and partnerships.

Pursue opportunities for partnerships and projects with Traditional Owners.

Sustainable and healthy fisheries

Victoria's fisheries will be managed to ensure long term sustainable populations are maintained with all decisions made on an evidence basis, with risk principles applied. We will strengthen the participation of community in priority environmental programs that achieve tangible results for Victoria's fisheries.



Fish stocking as a tool to manage and improve our fisheries

Fish stocking is one of a suite of management tools that the VFA use to sustainably manage and enhance Victoria's fisheries in response to changes in our environment. Fish stocking is used throughout Australia and internationally to create, maintain or enhance fish populations to improve the recreational fishing experience and to rebuild native fish populations.

Over the last few decades, considerable progress in restoring fish habitat has been made by the VFA, water and land management agencies and recreational fishers. These actions, combined with fish stocking, salvage of fish from at risk waters, fishing regulations and changing recreational fisher behaviour, are helping to protect and recover fish populations and improve recreational fishing outcomes.

Historically, while fish stocking in Victoria has focussed on inland waters, marine stocking is widely practiced in other countries and a growing number of fisheries agencies in Australia are evaluating marine stocking of native fish in bays and inlets. Victoria has commenced investigations into a [marine stocking program](#) and is trialling stocking of dusky flathead and black bream through the Gippsland Lakes Recovery Plan.

Threatened fish stocking

Stocking of threatened species by VFA has made significant gains for our environment, with additional recreational experiences achieved also. For example, stocking of Murray cod, trout cod and Macquarie perch has helped address threatened populations and increase fishing opportunities. The VFA would like to increase our threatened fish stocking over the coming years to improve on gains made. Snobs Creek hatchery has potential to form a base for an expanded threatened fish species stocking program for species such as trout cod and Macquarie perch.

A responsible and risk-based approach to fish stocking

All applications to stock waters must conform to an approved Translocation Protocol and all new proposals are assessed by an independent Translocation Evaluation Panel (TEP). The TEP's role is to provide advice to the VFA CEO on the management of risks associated with proposed translocations. In addition, the VFA will maintain up-to-date responsible fish stocking approaches to fish stocking including evidence-based decision making, informed by key stakeholder consultation processes, and systems to manage optimal fish health and fitness, genetic resources and disease in fish stocking programs. The VFA uses a range of robust scientific information, databases, and effective stakeholder and agency consultation processes to inform fish stocking outcomes.

Priority – Manage and improve our fisheries

- Expand and improve the effectiveness of fish stocking to recover threatened species and improve recreational fisheries including in both freshwater and marine waters.
- Maintain up-to-date responsible fish stocking approaches to fish stocking including evidence-based decision making, informed by key stakeholder consultation processes, and systems to manage optimal fish health and fitness, genetic resources and disease in fish stocking programs.

Social and economic prosperity

Value adding in Victoria's fisheries will be supported and encouraged. The VFA is committed to increasing the number and diversity of people fishing and enjoying Victoria's local seafood, growing healthy and sustainable fisheries sectors and contributing to Victoria's social and economic prosperity.



Stocking fish creates new and enhanced opportunities for Victorians to fish

For many Victorians, recreational fishing is a popular pastime and provides a great social experience with family and friends. Recreational fishing makes an important social and economic contribution to our rural towns and regions, particularly through tourism. Stocking waters creates new and enhanced opportunities for people of all ages, skills, abilities, and backgrounds to enjoy a fun and healthy activity and build social connections.

Supporting and creating new fishing destinations

Stocking is a large financial and social investment by Government. The VFA intends to create fishing destinations through targeted stocking programs and market those destinations jointly with Visit Victoria. Destinations which will receive priority stocking programs in the next five years include:

- **Impoundment natives** - Lake Eildon, Lake Nagambie, Lake Nillahcootie, Lake Eppalock, Rocklands Reservoir, Waranga Basin, Cairn Curran and the Kerang Lakes - **Murray cod and golden perch.**
- **Gippsland Australian bass trail** - Blue Rock Lake, Lake Glenmaggie, Mitchell, Tambo, Nicholson, Avon, Macalister, Cann and Snowy rivers - **bass.**
- **Gippsland Lakes** - Gippsland Lakes and Lake Tyers areas will trial marine stocking of species - **black bream, flathead, estuary perch and mulloway.**
- **Western district trophy trout** - Lake's Purrumbete and Bullen Merri - **brown, rainbow and tiger and cheetah trout and Chinook salmon.**
- **Native fish rivers** - Ovens, Goulburn, Wimmera and Loddon rivers and Broken Creek - **Murray cod, golden perch, Macquarie perch.**
- **Southern estuary perch impoundments and rivers** - Devilbend Reservoir, Albert Park Lake, Melton Reservoir, Maribyrnong River, Werribee River, Barwon River and Lake Tyers – **estuary perch.**
- **Family-friendly and metro lake fisheries** - 80 small 'family-friendly' lakes in metro Melbourne and close to other population centres around the state - **Mixed species dependent on location.**

Further investigation of possible additional destinations will also be undertaken over the next five years.

Stocking waters contributes to economic prosperity

Stocking waters across the state contribute to the economic prosperity of regional Victorian towns and metro centres by increasing visitation and growing Victoria's reputation as a priority fishing destination.

Priority – Create more fishing opportunities

- Develop stocked fisheries to create fishing destinations and review priorities on an ongoing basis.
- Prioritise stocking into waters of higher recreational or environmental benefit, starting with Victoria's premier recreational fishing destinations.
- Utilise targeted fish stocking to encourage fishing participation and stimulate regional tourism and the economy.

Effective and innovative authority

The VFA is an innovative Authority, focussed on improving outcomes from our fisheries for all Victorians.



Innovation in fish stocking

The VFA has a long and successful history of producing and stocking fish to recover threatened species and improve recreational fisheries. In many lakes and impoundments, well-targeted fish stocking has created exceptional fishing opportunities, such as in Lake Eildon (golden perch and Murray cod), Lake Toolondo (brown trout) and the Crater Lakes (Chinook salmon, rainbow trout and brown trout).

The Victorian Government's Snobs Creek Hatchery has been in operation for more than 70 years. This hatchery helped pioneer the breeding of threatened native fish such as Murray cod, trout cod and Macquarie perch. The hatchery continues to use innovative practices to enhance fish stocking, growing record numbers of fish over the last 5 years.

Development of new training and upskilling programs in fish farming, together with quality science, will assist to ensure our stocking programs are effective in the short term, and deliver world class fish husbandry programs into the future.

Adaptive management for a modern and effective stocking program

The aquatic environment is constantly changing (e.g. water availability, water quality, contaminants). The science and practice of fish production is also evolving, as are community expectations for better fishing experiences and opportunities.

Stocking fish requires a large financial investment and improving stocking effectiveness will deliver better fish stocking outcomes and value for money. Increased understanding of the productivity of waterways and cost-effectiveness of stocking through targeted investigations (fishery independent surveys etc) and angler feedback (GoFishVic app, Angler Diary Program, creel surveys etc) can be used to better inform fish stocking decisions. Responsible and adaptive fisheries management including sustaining a modern and effective stocking program is key to good environmental outcomes.

Targeted fish population monitoring and evaluation of our stocking program is an important discipline to better understand and refine fish stocking outcomes.

Safeguard supply

The VFA is overly reliant on the supply of stocked fish from a limited number of private hatcheries that are increasingly on-growing juvenile fish for food and international markets. The future supply of quality assured native fish suitable for stocking in public waters is being secured through the establishment of a new native fish hatchery at Arcadia.

Advances in genetic science is becoming a powerful and cost-effective tool to ensure fish stocking preserves or improves the genetic fitness of wild populations. The Murray Darling Basin-wide roll-out of the Fish Gen Project initiated by the VFA, ensures all public waters stocked native broodfish (and their progeny) do not compromise wild population genetic fitness.

Priority – Smarter stocking

- Utilise an adaptive management approach to stocking, including targeted evaluation of fish stocking to inform the most cost-effective stocking approach.
- Investigate the cost/benefits of a marine stocking facility for VFA to decrease reliance on outside providers.
- Develop programs to ensure continued upskilling and training in fish husbandry.
- Implement the Arcadia project fully through a staged approach.
- Safeguard the supply of quality assured fish for public waters stocking while protecting and enhancing genetic fitness and health status of native fish species.
- Monitor and evaluate the cost-effectiveness of high-value fish stocking programs, in particular stocking to enhance and create fishing destinations.

Strong and collaborative relationships

Strong relationships with agencies, community groups and individuals are core to achieving improvements in management of our fisheries.



Working together for better outcomes

Strong and collaborative relationships are supported by both the *Fisheries Act 1995* objective to encourage the participation of resource users and the community in fisheries management and the focus areas of the VFA Strategic Plan.

The VFA prioritises groups working together on fisheries related matters, including the use of stocking to improve fishing opportunities and recover threatened species. The VFA shares responsibility for resource management with other agencies including both water and land management agencies. Matters not under the VFA's direct span of control include allocation of water flows, habitat protection/improvement and waterway health. Therefore, strong and collaborative relationships are key to an effective stocking program.

Stocking programs consider the interests of stakeholders and reflects community values

Stakeholder surveys of recreational fishers have shown that fish stocking is one of the top 3 priorities for the expenditure of recreational fishing licence fees.

Fish stocking plans are developed using information gathered at annual regional consultative meetings (Vic Fish Stock meetings) developed through a consultative process known as Vic Fish Stock, which involves representatives from the VFA, the Victorian Recreational Fishing Representative Body (VRFish), Water Management Authorities, Catchment Management Authorities and other relevant stakeholders. Vic Fish Stock provides a forum for discussion and engagement on fish stocking regimes, fish population surveys and other related recreational fisheries management issues. Annual stock reports and historical stocking data are made available on-line. Where possible, angling stakeholder representatives are engaged in fish stocking evaluation through citizen science programs.

Partnership with Traditional Owners and the Victorian Aboriginal Community

The Victorian Government recognises that Aboriginal people have a strong connection to country that is central to their culture, both traditionally and today. Meaningful engagement between the VFA, Traditional Owner Groups and the broader Victorian Aboriginal community is central to recognising the rights and interests of, and economic opportunities for Aboriginal people. Opportunities for partnership with Traditional Owners will be pursued - for example in oyster, yabby, eel and Murray cod aquaculture. Further, opportunities to train and accredit aboriginal students in fish farming are being explored as part of the establishment of the new native fish hatchery.

Multiple outcome projects

Strong and collaborative relationships are in place with other environmental agencies. The VFA are trialling multiple outcome programs that help improve environmental and fisheries outcomes with combined action. VFA are working with land and environmental water managers to combine fish stocking with habitat rehabilitation and environmental flows. Partnerships are emerging with environmental agencies to breed and stock small-bodied natives in waters where they are now locally extinct.

Priority – Work together for better outcomes

- Ensure stocking plans are informed by strong communication and engagement across government, stakeholder organisations and the Victorian community to foster the best stocking outcomes.
- Investigate ways to improve stocking outcomes by alignment with environmental restoration initiatives and partnerships.
- Pursue opportunities for partnerships and projects with Traditional Owners to facilitate participation in commercial fishing activities.

Monitoring and reporting

- VFA Board approves the stocking strategy every 5 years, which describes high level priorities for stocking programs. This includes matching demand for fish stocking with future infrastructure needs.
- Progress reporting against strategic plan objectives are provided to the Board 6 monthly.
- The VFA reports progress against stocking objectives publicly in the Annual Report.
- Public Forums regularly discuss stocking priorities and outcomes with community stakeholders and partners.