

NSW DPI Fisheries
Trout Strategy Consultation Report
August 2018

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OUR EXPERTISE.

SEFTONS

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EXECUTIVE SUMMARY

Like many trout fisheries around the world, NSW faces challenges such as environmental impacts and climate change, pest species, access restrictions, habitat degradation and more. With growing evidence that trout fishing in NSW is under threat the Minister for Primary Industries has recommended the development of a state-wide trout strategy to determine how to best address the many challenges facing the recreational trout fishery. To assist in the development of the strategy, NSW DPI Fisheries has engaged with anglers and other trout industry stakeholders, seeking feedback about the current issues facing trout fisheries in NSW and how these challenges can effectively be managed to ensure a sustainable future for this important industry.

In May 2018, the NSW DPI Fisheries ran a series of workshops with key stakeholders to discuss issues surrounding the current state of the trout fishery in NSW. The workshops were held in Armidale (15 May), Bathurst (16 May), and Jindabyne (17 May) and were attended by 121 people, representing anglers, retailers associated with angling, and industry representatives/fishing guides. Each meeting ran for 4 hours and was structured around key questions and broader discussions on areas of interest. In addition to the workshops a number of individuals and groups provided written feedback. A survey was also circulated to those stakeholders unable to attend a workshop. This survey generated 87 responses. The workshops and broader consultation provided a wealth of feedback to the NSW DPI Fisheries about the current state of the trout fishery in NSW, the range of threats to the sustainability of the industry and proposed strategies for addressing future challenges.

Current state of the trout fishery

The trout fishery was universally acknowledged to be under threat, with some areas considered poorer than others. Trout fishing conditions were often described as 'variable', 'patchy' and 'mixed'.

Causes of the fishery threats

According to the public feedback from the consultation program, fishery threats can be broadly captured as:

- Climate change impacts
- Degradation of the riparian zones
- Access issues
- Insufficient data to enable trout fisheries/stocking practices to effectively address the fishery threats

These factors in turn lead to trout fishing becoming less attractive as a recreational pursuit, with reduced catch rates and a lack of understanding of where anglers can fish, which creates barriers to the activity for newcomers.

Addressing fishery threats

There was broad consensus across all groups about the strategies that need to be implemented to address threats to the NSW trout fishery. While there was clear recognition that some factors (for example, climate change) cannot be reversed, participants put forward strategies that could mitigate some of the impacts of climate change and other factors that are outside of their direct control.

The strategies to manage and/or reverse the threats were broadly categorised under the following headings:

- Stocking
- Partnerships
- Research
- Pest Control
- Education and promotion
- Trout fisheries management
- Fishing practices
- Revegetation

The overarching feedback was that there is still a lack of scientific data to enable effective management of trout fisheries in NSW. Research was almost universally seen as key to addressing the challenges currently facing the sector and all other solutions flowed from this. There was a shared view that the trout strategy must be based on *'good science and a strong understanding of the fishery as an ecological system.'* A brief summary is provided below:

Science: There was a widespread view that the causes of changes in the trout fishery are not adequately understood. Research and monitoring extends across all aspects of trout fisheries – from fry survival rates to decreases in fish size and number, the causes of reductions in aquatic insects to how releasing stock can be better managed to achieve the best outcomes. Participants in the workshops and survey respondents highlighted on maps the areas which they believed should be a priority for research.

Stocking: There was significant support for stocking larger fish and for site and region-specific stocking programs, rather than what was perceived by some anglers as a “scattergun” approach to fish stocking. In addition, upgrading trout hatchery infrastructure that would enable stocking of fingerlings rather than fry was also seen as part of the solution.

Trout Fisheries Management: Participants were keen to see the appointment of a full time trout fisheries manager with a scientific background.

Partnerships: This was a key theme that came through very strongly that trout fishing challenges could only be addressed through collaboration between the various stakeholders. It is important to note that anglers did not feel that it was solely the responsibility of the NSW DPI Fisheries to resolve these issues. There were many and varied proposals put forward to demonstrate how anglers, landowners, local communities, the trout fisheries and the Department could work together to address the various challenges facing the trout fishery.

Education and promotion: There was a strong sense that trout fishing is seen as complex, governed by multiple rules and regulations. This acted as a barrier to participation for a number of reasons – newcomers to trout fishing were put off by the complexities of understanding in when, where and how they can fish for trout and landowners were unclear of their rights and liabilities on anglers accessing waterways via their land, resulting in many angler access restrictions. In addition, better promotion of trout fishing and the associated economic benefits it brings to the regions was seen as key to maintaining social licence and a secure foundation for trout fishing into the future.

Pest control: Redfin and carp were seen as major threats to trout fishing and there was broad support for effective management of these pests. The potential release of the herpes virus to control carp infestations was mentioned across all meetings as being a positive measure that would help address the impact of pests on trout fishing.

Fishing practices: There was strong support for enforcing good fishing practices as a means of managing the threats to trout fisheries. This included catch and release fishing,

banning the use of treble hooks and making changes to the fishing seasons to protect vulnerable trout populations.

Revegetation: Improving the riparian zones was seen as key to helping to mitigate some of the impacts of climate change, including increases in water temperature.

Recommendations

These recommendations are based on the feedback from the consultation program and informed by Seftons' understanding of the State Government's role in the trout fisheries as a facilitator and enabler, rather than as the main driver for the sector.

Role of NSW DPI Fisheries

- ☐ Management and Research – work with the sector to develop an appropriate management regime and research framework
- ☐ Support role - facilitating partnerships, communication of research findings and promotion of trout fisheries
- ☐ Trout strategy to provide 'big picture' framework for sector, but stakeholders need to take ownership of future direction
- ☐ Transparent communication around the role of the NSW DPI Fisheries, what is within their remit and resources to deliver

Development of a trout strategy:

- ☐ Trout strategy to be the foundation for all activities relating to trout fisheries and the strategy is referred to when communicating to all stakeholders
- ☐ Structured around the key themes that emerged from consultation – Partnerships, Research, Management, Education and Promotion

Partnerships:

- ☐ Facilitate partnerships between key stakeholders and work together to set directions and solve issues
- ☐ Establish and facilitate industry meetings and or regionally focused meetings for stakeholders to share information

Research:

- ☐ Undertake targeted research to assess trout fishery status
- ☐ Engage anglers in citizen science trout monitoring projects

Management

- ☐ Recognise trout fishery threats in partnership with stakeholders
- ☐ Establish clearly defined, measurable outputs and outcomes to address main threats with regular reporting on progress

Education and Promotion:

- ☐ Development and implementation of a communications strategy, including development of educational and promotional resources
- ☐ Involve the fishing community on decisions involving fish stocking, habitat restoration and science
- ☐ More effective and streamlined communication around research findings

REPORT

Introduction

Like many trout fisheries around the world, NSW faces challenges such as environmental impacts and climate change, pest species, access restrictions, habitat degradation and more. With growing evidence that trout fishing in NSW is under threat the Minister for Primary Industries has recommended the development of a state-wide trout strategy to determine how to best address challenges facing the fishery. To assist in the development of the strategy, NSW DPI Fisheries has engaged with anglers and other trout industry stakeholders, seeking feedback about the current issues facing trout fisheries in NSW and how these challenges can be effectively managed to ensure a sustainable future for this important industry.

Methodology

The engagement program comprised community workshops and an online survey that was distributed to stakeholders unable to attend a workshop. Three 4-hour workshops were held in May 2018 – in Armidale, Bathurst and Jindabyne. These locations were based on their strategic importance to the trout fishing industry in NSW. The workshops were facilitated by Robbie Sefton, of Seftons. Presentations were given by:

- Cameron Westaway, Senior Fisheries Manager Inland, Recreational and Aboriginal Fisheries
- David Ward, Fisheries Manager, Aquatic Environment
- Luke Pearce, Fisheries Manager, Aquatic Environment
- Dr Martin de Graaf, Research Leader, Freshwater Ecosystems
- Dr Nathan Miles, Fisheries Scientist, Freshwater Ecosystems
- Josh Hutchins – Bathurst guest speaker
- Steve Starling – Armidale guest speaker
- Matt Tripet – Jindabyne guest speaker

Matt Tripet, Josh Hutchins and Steve Starling provided their time and expertise pro bono. NSW DPI Fisheries wishes to thank the guest speakers for their valuable contributions. An online survey, comprising of 26 questions, was distributed to individuals that either registered to attend or expressed an interest in attending one of the three meetings but was unable to attend on the day. These questions were the same as what was asked of participants attending each of the three meetings. The survey was publicised via traditional media and social media to increase participation from stakeholders. In addition, a number of written submissions were received from stakeholders. These are included in the Appendix.

Trout fisheries in NSW

NSW trout waters extend from the New England tablelands to the Snowy Mountains, including the Central tablelands and Southern highlands. These waters range from snow-fed streams, upland rivers, inland lakes and tailraces below impoundments. NSW is renowned for having some of mainland Australia's best trout fishing locations. Good trout fishing can be found within two hour's drive of most major NSW cities and towns, with fisheries ranging from accessible areas to remote wilderness locations. As such, the trout fishery in NSW provides a range of important social, economic and historic values and benefits for regional communities.

Recreational fishing generates around \$3.4 billion of economic activity a year in NSW. Fishing for salmonids (the species of fish to which trout belongs) makes up around 40% of expenditure on freshwater fishing in NSW. Each year around \$15.5 million is generated from recreational fishing license sales. Approximately 30% of the license fee revenue goes to the Recreational Fishing (Freshwater) Trust for inland recreational fishing programs, and \$1 million of Freshwater Trust revenue is invested in the trout fishery program. This funding is matched by \$1 million in State Government contributions towards trout fishery production, management, research and compliance. While the Snowy Lakes has a formal trout strategy, there is currently no state-wide strategic approach for the trout fishing industry. This consultation program and the strategy which will result from it, is designed to address that gap.

Key issues and themes

There was broad consensus amongst workshop participants that trout fishing in NSW is under threat. Some areas are considered poorer than others, with conditions described as 'variable', 'patchy' and 'mixed'. *Note: The quotes (shown in italics) are reproduced verbatim as provided in writing from workshop participants. Any typographical errors or abbreviations have not been corrected, in order to maintain authenticity.*

Key threats to trout fishing

The perceived threats to trout fishing varied both in terms of their nature and impact and are considered in some cases to be location-specific. However, there were common themes that emerged strongly and were shared across all locations. These included:

The impact of climate change/changing weather patterns

The impact of climate change was raised as a significant issue by all participants at each session. Various expressed as 'climate changes', 'unreliable weather patterns', 'low rainfall', 'irregular rain and flows', and 'changes in water temperature through climate change'. There was a strong and consistent message that climate change was impacting on water quality, water temperature and water flows.

"Our rain is not as heavy or as frequent anymore and the little bit we're getting is being captured before it gets into the streams."

"There is not much water about anywhere."

"Climate change.. having an impact on the fish."

"That trout stream doesn't hold trout anymore and is never likely to hold trout again under the current climatic conditions."

"Climate change is obviously (a) big one."

"Unreliable weather patterns, low rainfall."

Agricultural activities

The impact of farming practices on the river system was referenced by participants at each session. The impacts ranged from chemicals leaching into waterways and erosion of river banks from trampling, to farm dams restricting stream flows and land clearing removing shading from the river.

“Increasing agricultural run-off, removal of trees, stock access – unfenced and associated erosion impacts.”

“Poor land management.”

“Habitat degradation [due to] livestock.”

Access

Access issues were a common theme amongst participants in the workshops. This is a complex issue with many contributing factors – changes in property ownership, landowners’ lack of understanding of associated rules and regulations and changing attitudes of private land owners are all having an impact.

“One landowner said “I don’t understand how I could let you on my property now that I’m a high-level biosecurity”.”

“...the attitude of farmers – what they believe is where they can allow fisherman.”

“Access was another major issue, and not just TSRs but also in terms of biosecurity.”

“As far as a trout fisher is concerned, if you can’t get access, there’s no fish to fish for.”

“Access issues – property ownership changes and different attitudes of new owners, government selling crown roads, Biosecurity Act 2015 changes.”

“Access – TSRs’.”

Lack of knowledge/understanding of regulations/over regulation

The complexity of the rules and regulations governing trout fishing was cited as a barrier for trout fishing and closely connected to access issues. Anglers are not always confident they know where they can fish, and landowners are not always clear about the regulations (particularly in relation to biosecurity and insurance protection issues), which can make them reluctant to provide access to waterways on their land.

“Over-regulation.”

“Knowledge of where to go fishing. We need more information for the fisherman about where they can go fishing.”

“Having access is great, but we’ve also got to know where [we] can go, what’s okay.”

“..Complexity of going trout fishing – too many rules!”

“Over regulation is a result of the continual changing of regulations that are only confusing anglers.”

“Trout fishing has become unpopular – because...anglers can’t understand where you can and cannot fish!”

“Lack of knowledge – rules and regulations.”

Research and trout fishery management

There was a general perception that more research is needed to understand the complexities that are affecting trout fishing success. This relates particularly to the need to better understand fry survival rates, decreases in fish size and number, the causes of reductions in aquatic insects and how releasing stock can be better managed to achieve the best outcomes.

“Underutilised hatchery – better management of releasing stock.”

“Need better data.”

“The traditional rainbow trout spawning run in early spring has become relatively non-existent in recent years... What are the reasons for this considerable reduction in fish numbers?”

“Why are so many of the rainbow’s in particular not living to maturity?”

Pest species

Invasive species such as Redfin and carp, as well as birds, are perceived as having an impact on trout numbers. Redfin is seen as a significant threat, while carp infestation is increasing.

Other factors

Changing leisure interests, with less young people participating in trout fishing and a perceived lack of ‘social license’ for trout fishing were also cited as causes in which affect trout fishing success in NSW.

Improving trout fishing in NSW

Common themes emerged in relation to how some of the causes affecting trout fishing success can be managed, while others can only be mitigated. The following comment from one of the group participants captures a shared view across all workshops:

“Invest in greater infrastructure, technology to breed, maintain and distribute larger fish to suitable waters and then a mechanism to record changes in fishing results, target research. An app or advisory material that can be disseminated to farmers about what funding is available and resources to kick start the process of river restoration.”

Revegetation

Revegetating and maintaining riparian zones was seen as a potential mitigation to issues arising from erosion of river banks. Increased vegetation provides shade for the waterways, helping to reduce or maintain optimum water temperatures for trout.

“Increase riparian vegetation to reduce temp.”

Research

There was a shared view that the trout strategy must be based on *“good science and a strong understanding of the fishery as an ecological system”*. There were a range of areas that participants believed required more rigorous investigation, including:

- Reviewing closure dates for trout spawning in light of scientific research
- Studies into the interaction of brown trout and Macquarie Perch
- Better understanding of the trout in the Snowy Lakes – food sources, growth rates, maturity, impacts of lake level changes, impact of current legal minimum sizes etc.
- Monitoring of the impact of salt gritting of roads/snow seeding on water quality and trout populations, especially in the Thredbo Valley

“Research - why are streams not performing, doesn’t appear to be over fishing?”

“Citizen science to address streams not performing.”

“Research the effects that predators have on fish stocks.”

“Snowy hydro review of environmental factors.”

“Bigger is better, fingerlings rather than fry...We have no stats to measure any improved catch rates...create a dated line of info. for comparison.”

“We’ve been talking about climate change and a possibility of the brown trout going in a higher temperature and I think additional research into those sorts of things...”

“More research into where and when trout are spawning in this area and how successful the recruitment is..”

“Some research needing to be conducted as to why streams don’t perform, so streams you know of where they’ve been heavily stocked and they don’t seem to be overfished, yet there’s not much fishing value there.”

“If we stock larger fish, fingerlings, we’d have a much better survival rate, but we have no real research on what the survival rates are.”

“We’d like to see more research and statistics so that we know what we’re trying to achieve, what we are doing and actually going in the right direction.”

“Increase research/monitoring – feedback from anglers.”

“Genetic improvements in stocked trout to survive and thrive in higher water temps.”

“Monitor catch rate, release vs kill rates, citizen science.”

“Research the effect that predators have on fish stocks.”

Partnerships

There was a strong sense amongst participants that reversing the decline in trout fishing was a shared problem that requires cooperation and collaboration between different stakeholders if it is to be effectively addressed. This partnership approach was reflected in two ways – the need to improve collaborative efforts that are already underway (for example, better communication between anglers and fisheries management and increased cooperation with

landowners around access issues) and the opportunity to involve other stakeholder groups (such as the tourism industry) in driving a thriving trout fishing industry.

“We’d like to see a landholder/stakeholder/angler collaboration for access agreements.”

“Working bees with farmers to assist with their riparian development; assist at the hatchery when needed.”

“Involvement in citizen science in that catchment area of data...involvement in field days and workshops.”

“..Adopting a river and doing the citizen science and getting one of the landowners to come on board.”

“Engage with the landowners in a cooperative manger, help NSW DPI Fisheries stocking streams, adopt a stretch of river, and taking responsibility for habitat improvement and maintenance.”

“If you’ve got resistant landholders who don’t want to participate in a stream side fencing or rehabilitation or whatever, if you built a whole community support and respect for the tourism dollar...broadening the angling activity and identity within the community... You could recruit citizen scientists, you could engage in schools and local government..”

“Things like better contact with other organisations such as Landcare.”

“Looking at potentially citizen science, addressing these streams that aren’t performing and recording some catch data.”

“A forum like this is a brilliant idea...a good step in the right direction.”

“Landholders/stakeholders/angler collaboration.”

“Better angler communication with fisher’s management.”

“Communication with landholders to assist in river restoration.”

“Stream rehabilitation in conjunction with landowners.”

“Access/stakeholder negotiation.”

“Farmer/fishermen cooperation.”

“Clubs can adopt an area/river for citizen science.”

“Actively engage landowners to promote benefits of fishing.”

“Involve local government and fishing clubs.”

“Process to allow anglers to report issues.”

Stocking

A change to stocking practices was the most commonly cited solution to addressing the challenges to trout fisheries in NSW. Closely linked to the call for more research, stocking recommendations focused around stocking larger fish and taking a strategic approach (rather than a 'scattergun' approach) to stocking. This strategic approach was expressed in terms of identifying marginal areas and adapting stocking practices accordingly.

"Increased stocking/smarter stocking of bigger fish for lakes and rivers."

"Upgrade the hatchery's infrastructure to enable the fish to be released at a greater size, which is retained longer prior to release."

"Get back stocking sites that have been lost for environmental reasons – e.g. due to frogs."

"Strategic stocking, flexibility of stocking/releasing."

"More stocking of larger fish."

"Better fish management of certain areas rather than a 'shotgun' approach."

"Larger fish stockings/grown-out fish."

"Larger trout stocking."

"Focus on improving certain areas rather than the whole picture. Focus on stocking more effective/worthwhile areas...best chance of survival."

"Stocking native species as well as trout."

"Stock more trout."

"Site and region-specific stocking programs."

"Stocking larger fish for Redfin affected areas."

"Public consultation on species/qualities/location of stocking."

"Better quality fish – better restocking practices."

"Increase/smarter stocking, bigger size fish."

"Allow private stocking."

"Bigger fish stocked in Redfin areas...Better delivery of fish into lake when stocked."

"Stock larger fish – as growing fish provides better fishing outcomes."

"Increase stocking density."

Management of trout fishery

Many participants saw the appointment of a full time trout manager with specific scientific knowledge of trout fishers as being part of the solution to the decline in the industry. Viewing the fishery as a diverse entity rather than considering it as a single fishery was also a recurrent theme, which participants felt would lead to a more strategic approach to management and stocking. Expansion of infrastructure to enable fisheries to 'grow out' stock, so that more stocking can be done with fingerlings rather than fry was also a common view.

"An immediate [appointment of a] trout manager with a strong research [background] in trout management and in-stream and repairing habitat re-veg on our rivers and lakes.."

"Implementation of a trout manager, with scientific knowledge of a trout fishery."

"Identify key areas and sustain the fishing in those areas during the down times."

"Infrastructure/equipment to allow accurate data."

"Upgrade Gaden hatchery infrastructure to enable fish to be released at a greater size – is retained longer prior to release."

"Strategic approach – rather than consider the fishery as one single fishery, divide it into areas and focus on the specific areas that need help."

"Be waterway specific. Do not treat whole fishery as one – if an area needs help, do that, keep a keen eye on what is happening."

"Regional grow out facilities to enable stocking of fingerlings rather than fry."

"Real time management of our resources. Specific trout manager to focus on the sector."

Education/promotion

Education about and promotion of trout fishing was seen as critical to creating a sustainable industry, not only to attract more participants to angling, but also to support the sector's social licence to operate. Educating communities about the value that trout fishing brings to a region, educating anglers and landowners about access, educating new anglers about good practice – these kinds of activities were all thought to be critical. Promotion of trout fishing – through partnerships with the tourism industry, publication of material such as maps showing trout fishing locations etc. – was also seen as part of the solution.

"The greatest threat by far is the lack of public value as the fishery declines. So as the fishery declines, the public value declines, which will result in declines in funding?"

"Education to help new entrants, because we want to grow the industry to help them preserve and improve the industry, but also encourage them to catch and release to know how to do it well so the fish actually survive."

"Educate landowners to the value of fishing to the local economy."

"Address negative perceptions of trout fishing within the community (social licence)."

"NSW DPI Fisheries to provide specific actions anglers can take to comply with land owner biosecurity requirements."

“Greater education for landowners 0 grey area – around ruling, section 38.”

“Increase the value of trout fishing in streams through councils and community attitudes.”

“A map of fishing locations at tourist centres.”

“Actively engage landowners to promote benefits of fishing and address myths, e.g. Insurance/biosecurity risks.”

“Education to preserve/promote the industry.”

Pest control

Redfin and carp were seen as significant threats to trout fishing in NSW that needed addressing.

“Release the carp herpes virus.”

“Remove Redfin and carp.”

“Keep pest species out.”

“Carp control and herpes virus.”

Fishing practices and specific rules

Changes to fishing seasons, education of anglers on best practice (catch and release for example) and options such as banning treble hooks and changing rod limits were seen as important measures that would help address some of the challenges facing trout fishing.

“More catch/release waters, fly/lure only waters, more access to dams – public/private, changes to closed season.”

“Shut Eucumbene River April – November, Open Tantangara – Eucumbene tunnel. Fish with permit for Tumut region. Size limit for trout 35cm. Protect the rivers and creeks the trout spawn in.”

“Catch and release in spawning streams.”

“Treble hooks banned in rivers.”

“Rod limits reduced in lakes to one, releasing bigger fish, lower bag limit.”

“Increase legal catch lengths.”

“Catch and release is needed, too many people catching and keeping large numbers of fish.”

“Review seasonal closures to reflect the current fishery – open previously closed streams for the release of fish.”

“Education to anglers on fishing courtesy and understanding land owner requirements and rights e.g. Anglers to produce fishing licence to land owner.”

“Close fisheries in the middle of summer.”

“Increase size limit to 30cm, seasons shut by the beginning of May to September.”

“To encourage new entrants – value of catch and release.”

“Fly only rules in blue ribbon streams to prevent catch and keep fishing – promote catch and release.”

Trout monitoring sites

The following locations were highlighted by participants at the trout strategy workshops or online as key trout population monitoring locations in NSW. The waters marked with an * are currently preferred by the NSW DPI Fisheries as they were most often selected by participants and offer a suitable monitoring location due to previous sampling, presence of river gauges (for temperature/ flow) and stocking allocations. This short list will be narrowed down to approximately 5 waterways that will be selected based on logistics and the monitoring methods utilised. Should you wish to recommend changes / additions, please contact the NSW DPI Fisheries Scientist nathan.miles@dpi.nsw.gov.au

Southern NSW	Central NSW	Northern NSW
Numeralla River/ Kybayan River*	Campbells River*	Guy Fawkes River*
Tom Groggins Creek	Fish River*	Styx River*
Goobagandra River*	Duckmaloi River*	Gwydir River*
Goodradigbee River*	Molong Creek/ Bell River	Mulla Creek
Thredbo river*	Meglo Creek	McDonald River
Eucumbene River*	Cox's River*	Manning River
Swampy Plain River	Abercrombie River	McIntyre River*
MacLaughlan River*	Cudgegong River*	Boorolong Creek
Mowamba River*		Laura Creek
Towney's Creek/ Quenbeyan River		Georges Creek
Yarrangobilly River		Moredun Creek
Snowy River*		Wollombi River*
Murrumbidgee River (near Adaminaby)*		Cobrabald River

Discussion Topics

Armidale

- 4pm – 8pm, 15 May 2018
- 31 attendees

What do you believe to be the current state of trout fishing in this region?

- Tamworth/Walcha – poor and declining
- Inverell – very variable, patchy, good fishing in some areas, poor in others. Brought about by poor weather conditions.
- Variable, changing & not for the better (climate change). Lack of water, still relatively viable (i.e. reasonable for novice to catch trout).
- Precarious, vulnerable, climate dependable. Not as well acknowledged for trout fishing. Well supported by Dutton Hatchery.
- Hard work, stagnant, lock outs (access), declined.
- Limited waterways – lack of water/environmental. Declining interest e.g. other sports.
- Mixed - Good around Ebor, poor in other areas.
- Marginal – less places more pressure.

What do you perceive are the greatest threats to trout fishing in your region?

- Blue/green algae, reduction in water quality, unreliable weather patterns, low rainfall.
- Climate changes, vegetation clearing, blackberries, chemicals and loss of habitat, herbicide spraying landholders, noxious weed clearing, lantana, spraying out of noxious weeds - (spraying on aquatic life, toxic to fish species) willows acid and toxicity of falling leaves, cormorants taking fingerlings and culling stock access to creeks, nutrients going into the creek, erosion from trampling.
- Access issues – property ownership changes and different attitudes of new owners, government selling crown roads, Biosecurity Act 2015 changes, insurance, land clearing and habitat change.
- Climate change, access (TSR's), maintaining fisher's interests, attitudes – recreational take.
- Biosecurity & access impacts and land ownership. Lack of knowledge – rules and regulations.
- Climatic change, irregular rain and flows, too many farm dams (restricting stream flows).
- Less young people participating (interested in other species), access – no public access (private property), attitudes, competition – other sports interests.
- Climate change, water quality (flat, levee's nutrients), Redfin/carp, access, lack of participation/social license.

How would you like to see trout fishing improve in your region and NSW?

- Get back stocking sites which have been lost for environmental reasons – e.g. due to frogs.
- Help with angler access through private property.
- Educate land owners to the value of fishing to the local economy.

- Habitat replacement/improvement.
- More public water (better access), more brown trout. more catch release waters, fly/lure only waters, more access to dams – public/private, changes to closed season.
- Improved access to rivers, strategic stocking, flexibility of stocking/releasing.
- More stockings, improved habitat, larger fish, stocking in not allowed (frogs) areas
- Knowledge of where to go fishing and more stocking of larger fish.
- Improve access – info and promotion, seasonal changes, habitat, water quality, bigger trout in Redfin waters, management/info.

To improve the future of trout fishing in this region, what do you believe are the key priorities / requirements?

- Rain and more mountains.
- Increase riparian vegetation to reduce temp.
- Quantify dollars in tourism, improve catch rate, access, biosecurity.
- Improve access – physical access, open season.
- Research – why streams not performing, doesn't appear to be over fishing.
- Habitat/riparian zone/fencing.
- Stocking larger fish – as growing fish provides better fishing outcomes.
- Communication with landholders to assist in river restoration, how do you start this process, what advice is there to help engage with private property owners – better knowledge of trout fishing locations.
- NSW DPI Fisheries to provide specific actions anglers can take to comply with land owner biosecurity requirements.
- Maps to anglers showing fishing access spots
- Stream rehabilitation in conjunction with land owners.
- Review seasonal closures to reflect the current fishery - open previously closed streams for the release of fish.

What steps do you believe should be taken to address these threats?

- Funds and manpower to improve habitat.
- Repair riparian zones, more targeted stocking.
- Negotiate with landholders, signage for access, styles, increase stocking density, incentive riparian regeneration, better contact with other organisations (Landcare), tool for measurement of catch, develop a code of conduct.
- Organised activities, farmer/fishermen cooperation's
- Access officers (NSW DPI Fisheries) – road closures. Research – open seasons.
- Citizen science to address streams not performing
- Focus habitat rehab works – clubs can adopt an area/river for citizen science and habitat funding grants.
- Stream improvement works – habitat improvement.
- Drought proofing water ways, deepening holes, providing more depth in streams, shading by planting more trees.
- Re-introduce more habitat, stream structure.
- Increase the value of trout fishing in streams through councils and community attitudes.

- Invest in greater infrastructure, technology to breed, maintain and distribute larger fish to suitable waters and then a mechanism to record changes in fishing results, target research. An app or advisory material that can be disseminated to farmers about what funding is available and resources to kick start the process of river restoration.
- A map of fishing locations at tourist centres e.g. Access areas/stocking sites
- Actively engage land owners to promote benefits of fishing and address myths e.g. insurance/biosecurity risk.
- Education to anglers on fishing courtesy and understanding land owner requirements and rights e.g. anglers to produce fishing licence to land owner.
- Involve local government and local fishing clubs.
- More funding for river fencing and off stream water points.
- Research the effect that predators have on fish stocks.
- Where to fish app.
- National Parks to highlight fishing areas more specifically.

In addition to the work of the NSW DPI Fisheries, what are you able to do at a local level to assist in improving trout fishing for the region?

- Nundle Fishing club – organise local fishing clubs, co-ordinate/social media.
- Citizen science: App & web page reporting (temp, water temp, numbers/sizes).
- Would help in community days to plant trees etc. – NSW DPI Fisheries to work with clubs/land care/river care
- Citizen science –(clubs, guides).
- Field days/workshops – habitat and biosecurity etc., crown roads access.
- Adopt a river & do citizen science at club level – prioritizing areas in different catchments. Check native fish strategy ‘adopt a river program’ Murray Darling Basin (office of conservation) demonstration reaches.
- River rehabilitation with the land holder in conjunction with the ‘adopt a river program’
- Utilising corporate knowledge.
- Attend NETAS meetings.
- Offer tree planting working bees, assist at hatchery when needed.
- Engage with land owners in a co-operative manner. Helping NSW DPI Fisheries stocking streams.
- Adopt a stretch of river and take responsibility for habitat improvement and maintenance (e.g. Like Clean Up Australia Day).
- Local fish access maps, promote fishing through local paper articles (e.g. Letters to the editor), apps.
- Club promotion, NSW DPI Fisheries facilitate promotion to relevant land holders, reduce predation, rain.

Bathurst

- 4pm – 8pm, 16 May
- 27 attendees

What do you believe to be the current state of trout fishing in this region?

- Fishery State – Representative to a hot summer (fair)
- Poor in patches e.g.: Abercrombie, however in upper Montana areas population are going ok. Lake Lyell – not performing well plus introduction of Redfin, travelling to other areas to fish.
- Declining and poor

What do you perceive are the greatest threats to trout fishing in your region?

- Noxious pests (Redfin, carp, birds) removal of willows without alternate replacements (poor land management), pollution (blue green algae) poor monitoring, cows in stream beds, 4x4 vehicles, large companies – power stations, coal mines, council sewage plants, lack of access – black berry bushes/weeds, climate change, pine forest, habitat destruction.
- Habitat destruction/ climate change: tree removal, upstream siltation, invasive species/Redfin/carp, farming practices e.g. fence cattle, invasive vegetation, land management, water extraction
- Stream condition (willows, cars, misuse of water, rubbish, pine forests, mining), pest fish/birds, access, forestry practices, farming practices, stocking practices/fish to small/research.
- Pest species – Redfin, habitat – warm waters – willows removed & no replacement, lack of research restocking – fry survival rate – Redfin fodder, lack of aquatic insects

How would you like to see trout fishing improve in your region and NSW?

- Better fish management of certain areas rather than a 'shot gun' approach.
- More rain across the region.
- Remove Redfin and carp.
- Release the carp herpes virus.
- Address negative perceptions of trout fishing within the community (social licence). More identifiable areas to fish as known areas are under increasing fishing pressure.
- Reduce decline through the poor periods.
- Identify key areas and sustain the fishing in those areas during the down times.
- Habitat (stream/lake) – water: mining, irrigation, forests; willows: re veg, erosion, livestock, and pine, more research and stats, carp/Redfin removed. Larger fish stockings/grown out fish – cost?
- Better land management: farmer's control of livestock & fencing; forestry. Larger trout stocking
- Focus on improving certain areas, rather than the whole picture. Focus on stocking more effective/worthwhile areas – better communication – where to stock, best chance of survival. Greater angler access – greater education for land owners – misinformation. Grey area - around ruling, Section 38 of the FM Act 1994.
- Stocking native species as well as trout.
- Regional grow out facilities to enable stocking of fingerlings rather than fry.

- Increase research/monitoring – feedback from anglers.
- Site and region-specific stocking programs.
- Rain
- Land holder, stakeholder, angler collaboration – access agreements.
- Stocking larger fish for Redfin affected areas.
- Process to allow anglers to report issues.
- Control livestock, weed eradication programs, habitat sustainability. Burrowing frog – review.
- Declare Upper Cox's River as derogated spawning river (recognition).

To improve the future of trout fishing in this region, what do you believe are the key priorities / requirements?

- Water quality (priority)/monitoring.
- Monitor catch rate, release vs kill rates, citizen science.
- Fishery management transparency/forums for feedback.
- Habitat restoration/funding.
- Access/stake holder negotiation.
- Threat to trout – trout still seen as an introduced species/trout social licence, native fish/as temperature rises = death of trout.
- Government sell off of hatcheries.
- Any help needed to improve trout fishing.
- Food chain in our lakes and rivers – what is in them to sustain them, fish storage contents are very important.

What steps do you believe should be taken to address these threats?

- Monitoring sites – Upper Cox's River above Lake Wallace, Mid Cox's River between Lake Wallace and Lake Lyell
- Provide info on local dollars spent on gear etc. licence fee's too low.

In addition to the work of the NSW DPI Fisheries, what are you able to do at a local level to assist in improving trout fishing for the region?

- Habitat protection (4x4 on rivers), community awareness (gone fishing day event), happy to do surveys, consult with stakeholders for special access, stock rivers & dams, provide feedback, communicate with power stations, promote get hooked program, instream signage, involved with NSW DPI Fisheries citizen science
- Grow out fish in a local area – cages, fish farm.
- Lake Canobolas – 7-year willow eradication & replacing with natives; stocking Lake Canobolas with Golden Perch to reduce Redfin population; monitor water temps/water quality; pressure local councils to pressure land owners to fence off pastures; action groups comprising NSW DPI Fisheries/Chamber of Commerce/council/schools/LLS/National Parks.
- Citizen science, arrange access to trout waters for scientific surveys, employing temperature loggers
- Identification & communication of trout areas requiring habitat improvement & invasion of noxious species impeding access to quality streams.
- Habitat restoration.
- Monitor catch rates (Bass Catch).
- Retail outlets – monthly comps, online/social media, apps. Water quality testing, ph. below pine plantations.

Jindabyne

- 4pm – 8pm, 17 May
- 63 attendees

What do you believe to be the current state of trout fishing in this region?

- Declining fishing, could be better.
- Mismanaged – is a key issue. Public value decline.
- Lakes – no steady lake levels, snowy hydro up/down. In stream and riparian habitat. Brown Trout trend is higher.
- Macroinvertebrates activities changing. Fishing Lake Jindabyne margins are going well and the Thredbo River fish are starting to move up the rivers to spawn. Some fish species appear in poor condition or unhealthy (long, stringy). By contrast the condition of some fish are in excellent health and waters are clear and flowing e.g. Brindabella. Tail race fisheries e.g.; Swampy Plain, Tumut flow impacts for irrigation may not contribute with fish aquatic life processes. Monaro – eastern side in decline. Very poor boat ramps, too much sand in rivers. Boat ramp facilitates for lake shocking – complaints from visitors, leave in disgust.
- Generally agreed the fishery is declining, decrease size and number and habitat.
- Access is ok.
- Low dam level = more Eucumbene River to fish in at spawning time.
- Declining – economic and environmental – water levels Jindabyne and Eucumbene, food sources (daphnia/midge etc). catch rates decreasing so people not coming. Climate – rivers with low flows. Trout fishing popularity decreased.
- Not as good as 6/7 years ago, poor – Eucumbene providence portal end, Tumut impoundments have declined, Rainbow catch in Jindabyne has markedly declined, Monaro is the best since the 1980's, High altitude streams above 1700 metres fishing well for smaller fish, fragile on low land rivers, vanishing rainbows, number of fishers has declined at Jindabyne, number of fishers has increased on Monaro
- Poor – small catches, small fish across lakes and rivers. Poor lake effects river fishery, lack of respect and pressure on landholders around rivers, move from sheep to cattle moving onto banks – causing erosion.

What do you perceive are the greatest threats to trout fishing in your region?

- Pest species, lack of measurement, lack of reaction to declines, lack of public consultation, lack of funding, public value of the fishery decline.
- Invest research, understand better low Thredbo Lake systems. Immediate program to repair riparian and river zones - need immediate research in both lakes and rivers. Full time trout manager with science background.
- Increase of sediment and load, storm water runoff, oil, nutrients and eutrophication, water temps through climate change, increasing agricultural chemical runoff, removal of trees, stock access – unfenced and associated erosion impacts, increased predation and habitat destruction.
- Climate, pest species and general angler awareness of catch/release are main issues.

- Riparian zone vegetation and private property access, angler pressure to some areas causing issues due to access e.g. Thredbo River, increased number of fisheries inspectors.
- Redfin as a significant threat, carp infestation increasing, over regulation, poor land management, lack of interest in fishing of younger generation, environmental groups wanting to stop fishing/stocking etc. bad fisheries management, commercial netting in Lake Eucumbene/Jindabyne being allowed (rumour mill).
- Poor management, lack of promotion, climate change, habitat degradation (livestock), underutilised hatchery (better management of releasing stock), Carp/Redfin.
- Lack of statistics on fish systems – reproduction/lifecycle.
- Insufficient resources NSW DPI Fisheries, water levels, Snowy hydro 2.0 – may cause Redfin/carp, slow government action.
- Population and tourism growing – pollution, buildings, people around.
- Open slaughter on Eucumbene River on spawners and tread on eggs, political apathy from politicians, we don't know what the fishery is worth, climate change – habitat degradation.
- Need better data, destruction of riparian veg on Monaro streams, pest species – Redfin and carp. Snowy 2.0.
- Silt and sand have destroyed the spawning gravel areas and killed the insect life on the Thredbo, fish stocking – can we go back to old impoundment stocking.

How would you like to see trout fishing improve in your region and NSW?

- Consistency of access to trout waters, dedicated biologist to the snowy river.
- Infrastructure/equipment to allow accurate data.
- Public consultation on species/qualities/location of stocking.
- Technology enhancement.
- Open more access – particularly KNP.
- Genetic improvements in stocked trout to survive and thrive in higher water temps.
- More consistent and stable water levels in impoundments.
- Increase in size and quality trout in both rivers and lakes.
- Upgrade Gaden hatchery infrastructure to enable fish to be released at a greater size i.e. retained longer prior to release.
- Stock more trout
- Shut Eucumbene River April – November. Open Tantangara – Eucumbene tunnel. Allow private hatchery. Fish with permit for Tumut region. Size limit for trout 35cm. Protect the rivers and creeks the trout spawn in.
- Better angler communication with fisher's management e.g. more information to public. Better quality fish – better restocking practices.
- More stable water levels in lake
- Headhunt some Victorian fisheries personnel to assist
- Implementation of a trout manager (with scientific knowledge of a trout fishery)
- Catch and release in spawning streams
- App for reporting illegal fishing activities
- Treble hooks banned in rivers
- Thredbo river year-round fishery, catch and release (closed from hatchery down from June – October long weekend) more accessibility for those with a disability
- Rod limits reduced in lakes to one, releasing bigger fish, lower bag limit.

- Look at VIC/NZ models, boat launching facilities both lakes, public access to foreshore.
- Measure methods of improvements, increase/smarter stocking, bigger size fish, promote winter fishing lakes, improve survivability of wild fish and introduced fish, increase legal catch lengths.
- Need more water – but climate change. Allow private stocking. Real time management of our resources. Specific trout manager to focus on the sector. More fish available to be caught. Funding for research. More hatchery out product. Bigger fish stocked in Redfin areas. Stop fishing when spawning. Better delivery of fish into lake when stocked. Improve regulations e.g. Be waterway specific. Do not treat whole fishery as one – if an area needs help do that, keep a keen eye on what is happening.
- We need to retain our wild fish stocks, trout habitat in rivers, catch and release, very dependent on climate as well. Keeping pest species out.
- Close Monaro streams earlier – (1st May to 1st Sep suggested).

To improve the future of trout fishing in this region, what do you believe are the key priorities / requirements?

- Boat ramps, boggy, carpet being put down to stop cars from getting bogged.
- Catch and release is needed, too many people catching and keeping large numbers of fish.

What steps do you believe should be taken to address these threats?

- Close fisheries in the middle of summer.
- Education to preserve/promote the industry.
- Increase size limit to 30cm. seasons shut by the beginning of May to September.
- To encourage new entrants – values of catch and release.
- Carp control and herpes virus.
- Fly only rules in blue ribbon streams to prevent catch and keep fishing – promote catch and release.
- Snowy hydro review of environmental factors.

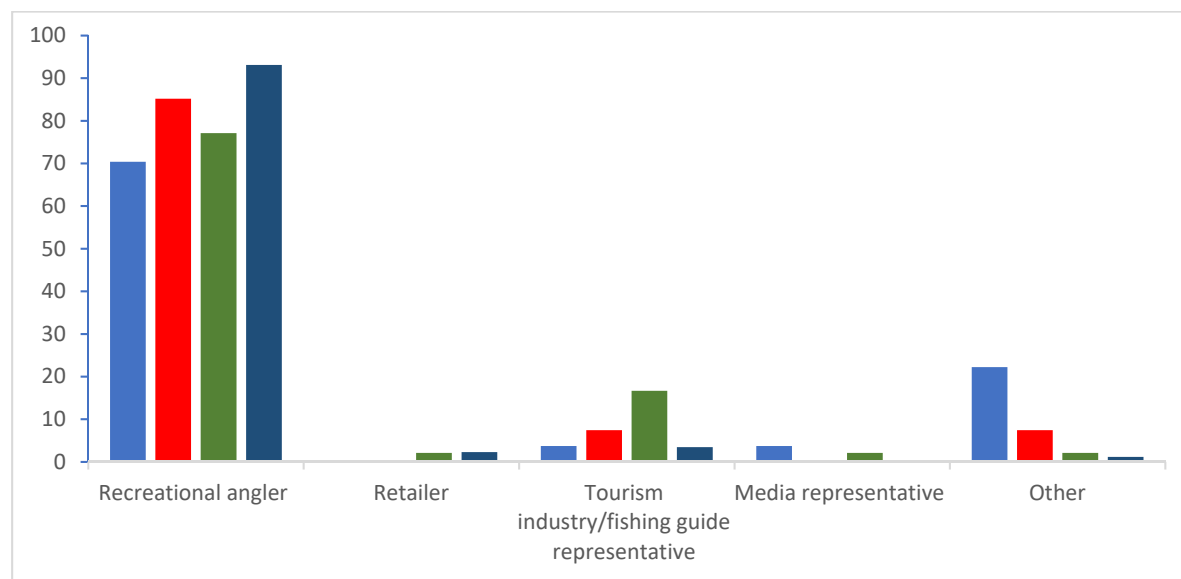
In addition to the work of the NSW DPI Fisheries, what are you able to do at a local level to assist in improving trout fishing for the region? As a club or individual habitat work and/or citizen science.

- Assist research by providing accurate real time data on catch details.
- Citizen science through water quality temp and food loads monitoring.

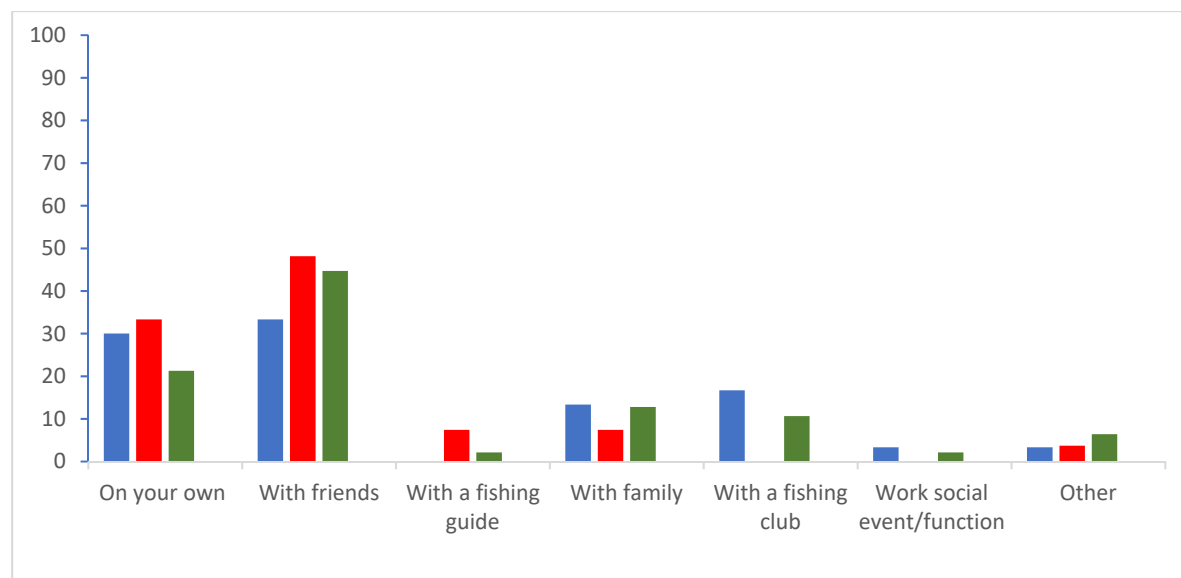
WORKSHOPS & ONLINE SURVEY

Results of workshops and online survey are displayed in the following graphs. Light blue represents the Armidale workshop, red represents the Bathurst workshop, green represents the Jindabyne workshop and dark blue represents the online survey.

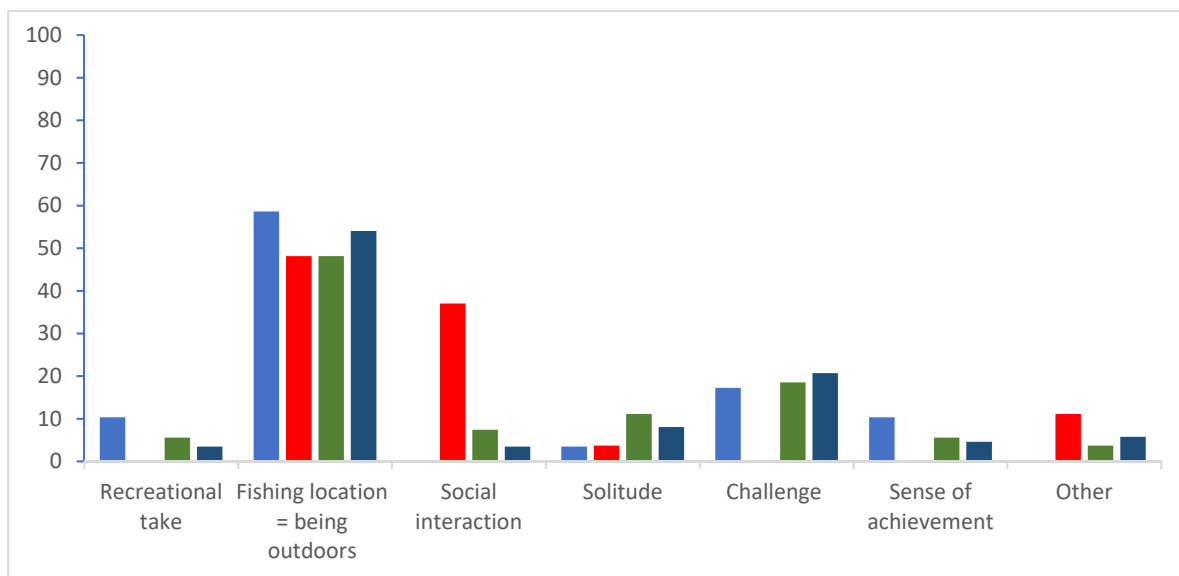
1. Which category best represents your interest here today: (Multiple Choice)



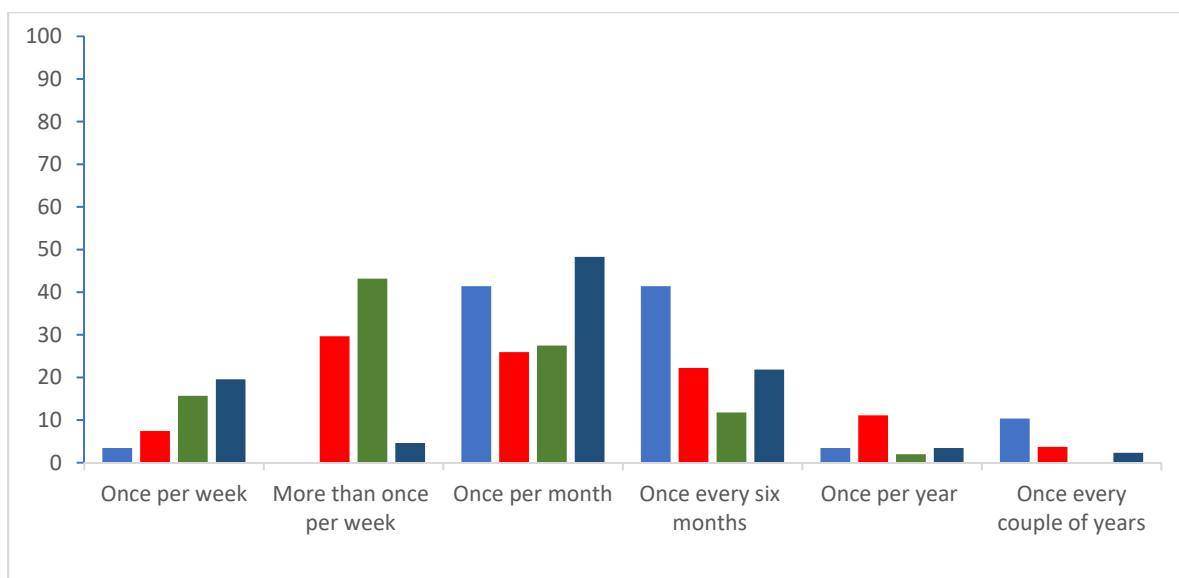
2. Which of the following best describes the circumstances surrounding your fishing outing? (Multiple Choice)



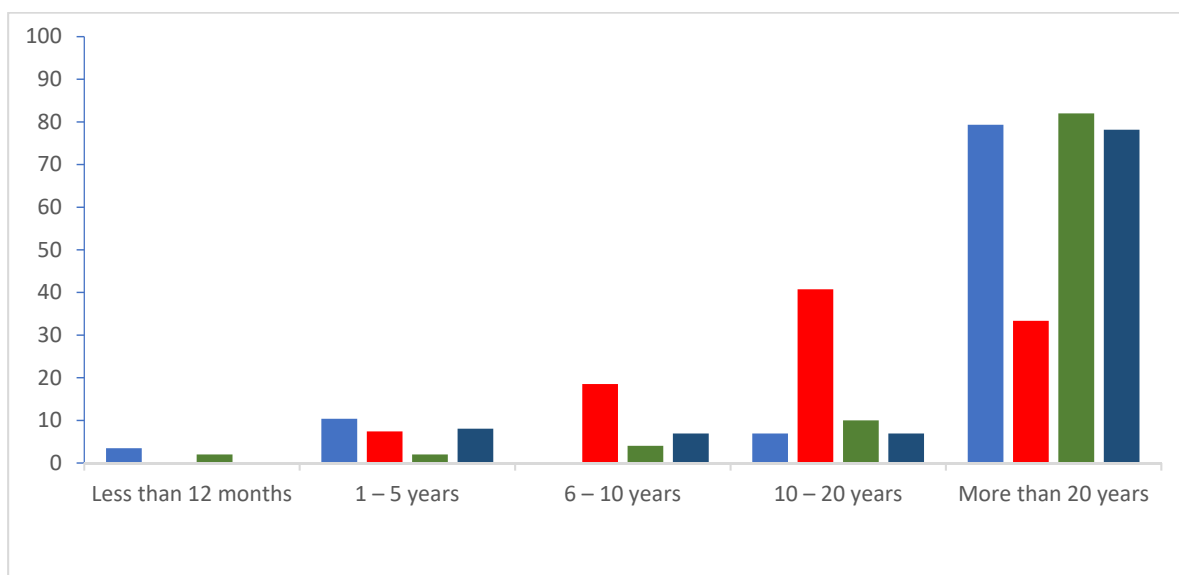
3. What things do you value most about trout fishing? (Multiple Choice)



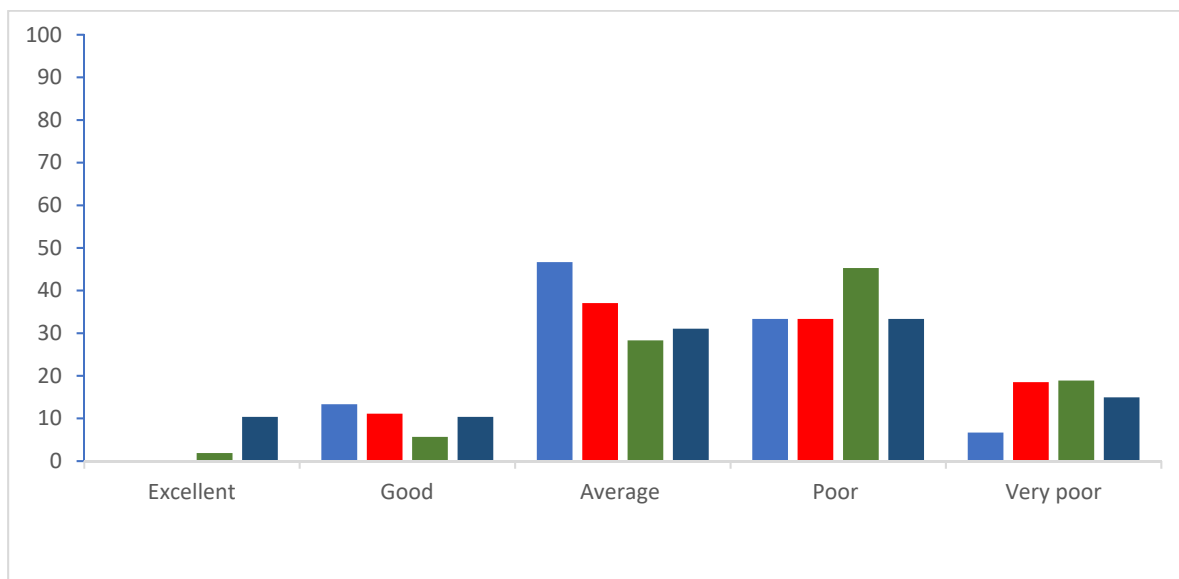
4. How often do you go trout fishing each year? (Multiple Choice)



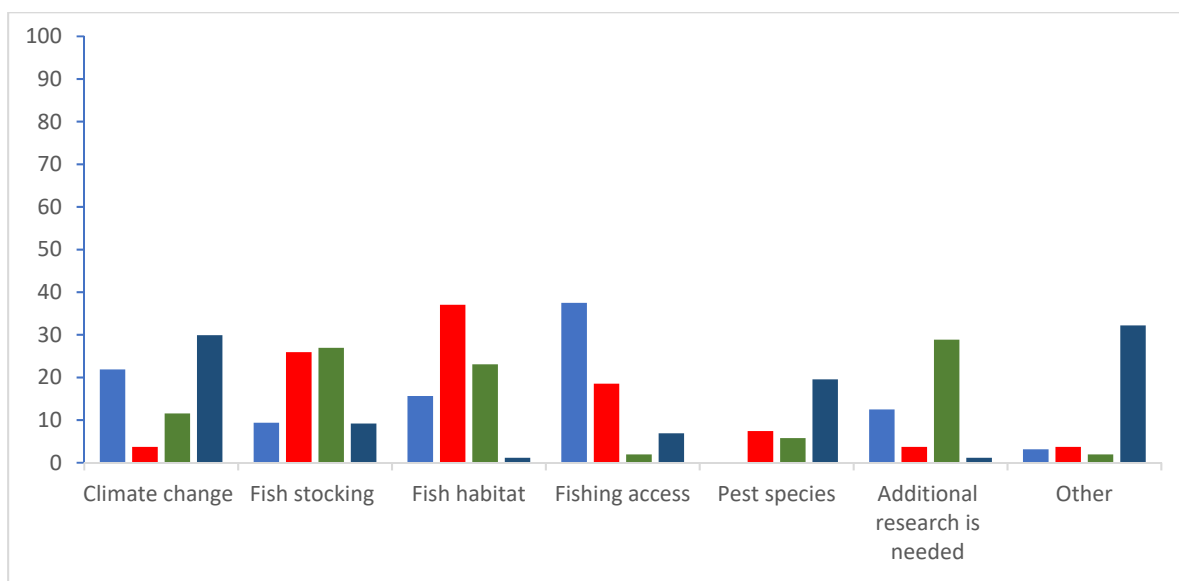
5. How many years have you been trout fishing? (Multiple Choice)



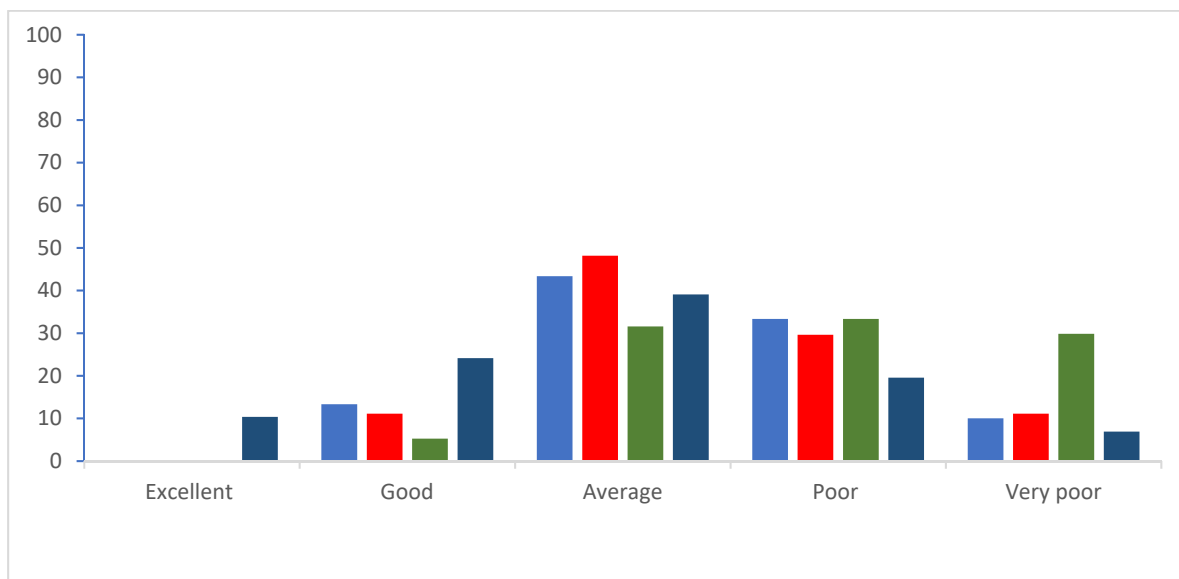
6. In your opinion, how would you describe the current catch rate for recreational trout fishing in your particular region? (Multiple Choice)



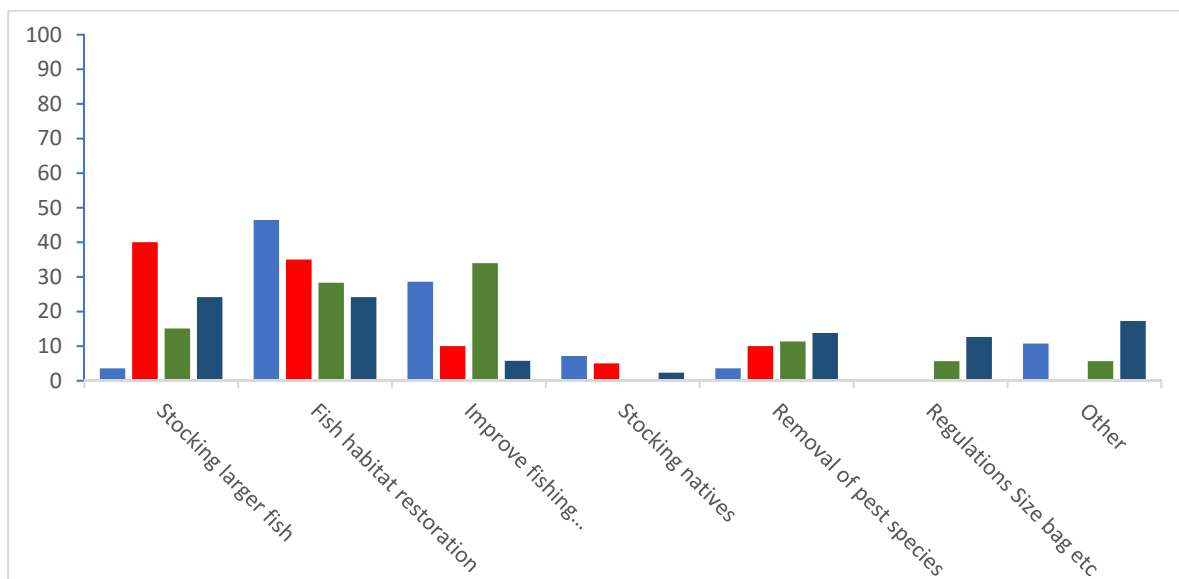
7. What do you consider the most important issue (can be positive, negative or both) affecting the NSW Recreational Trout Fishery? (Multiple Choice)



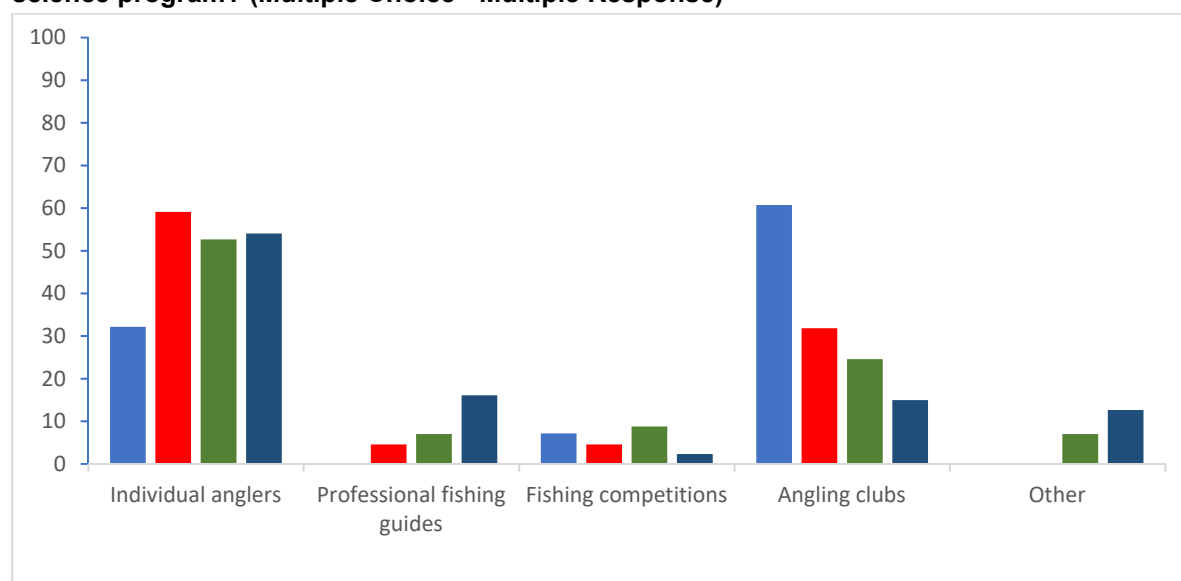
8. How would you describe the current economic and tourism benefits being delivered by recreational trout fishing in your region to be ...? (Multiple Choice)



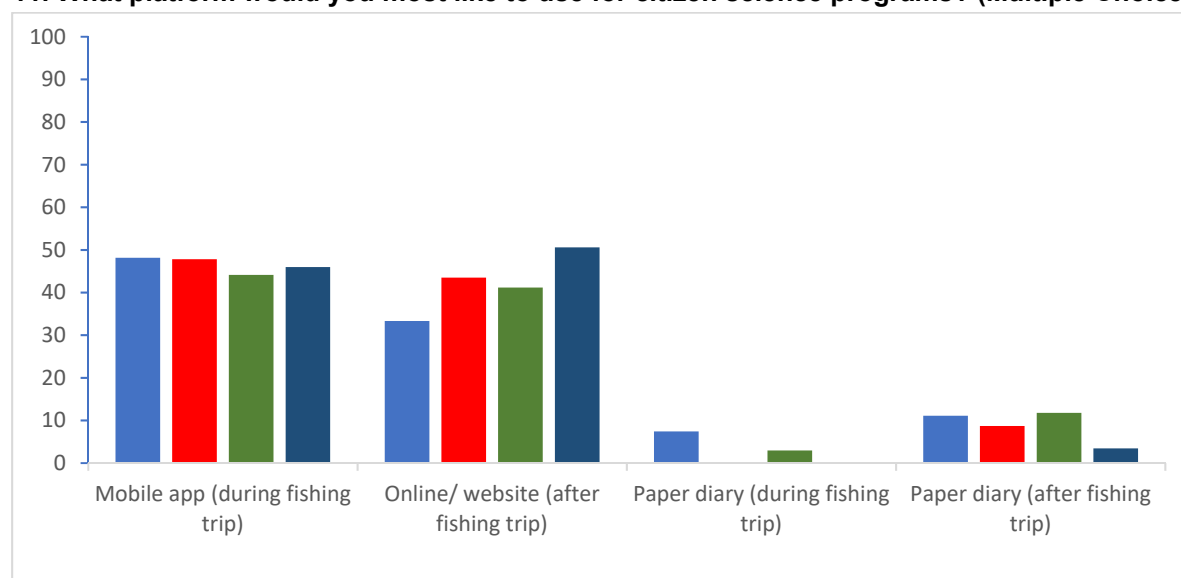
9. What do you consider the best way to enhance trout fishing experiences? (Multiple Choice)



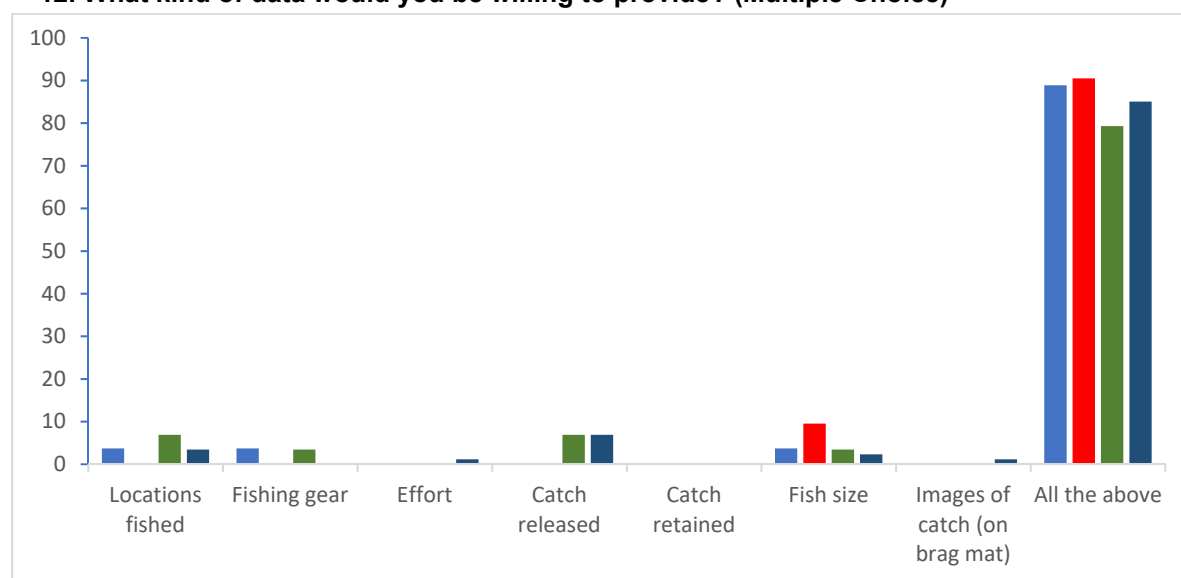
10. What is the most suitable group(s) to provide data on fish and fisheries with in a citizen science program? (Multiple Choice - Multiple Response)



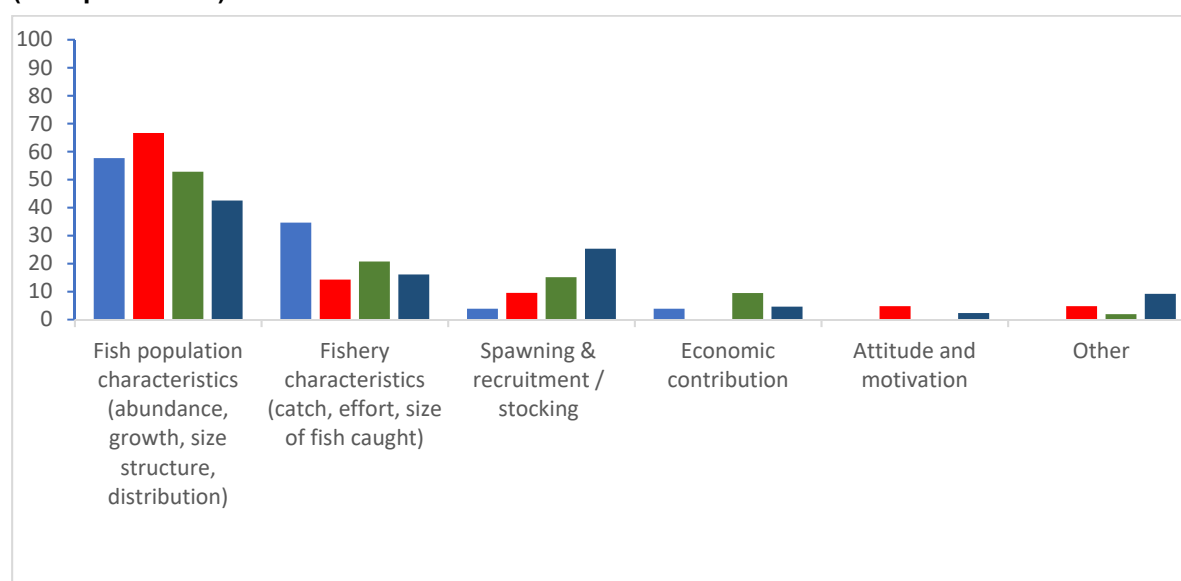
11. What platform would you most like to use for citizen science programs? (Multiple Choice)



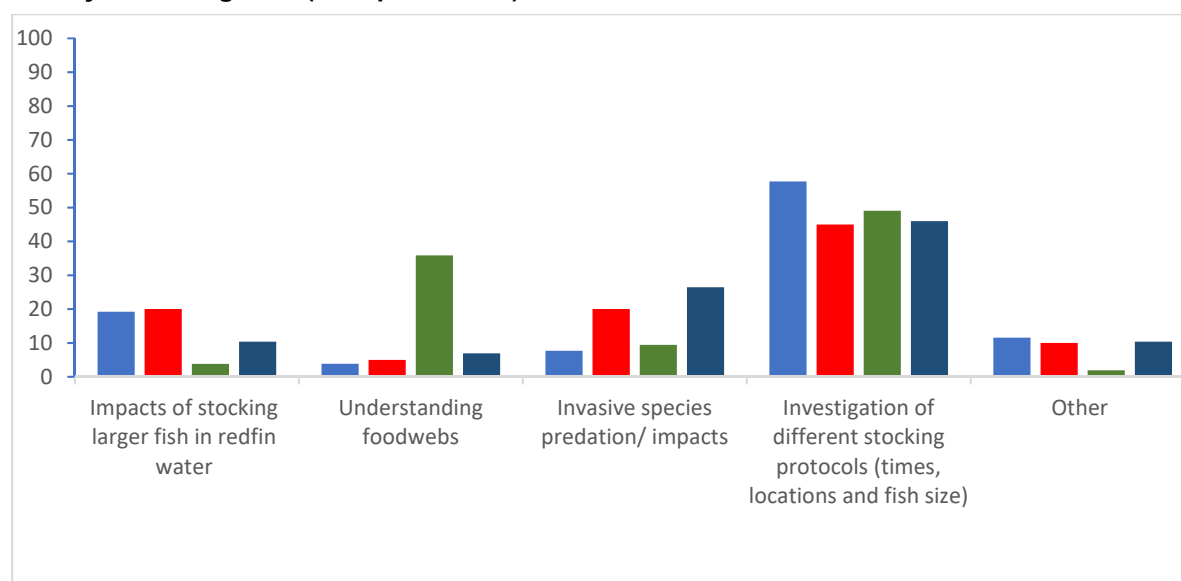
12. What kind of data would you be willing to provide? (Multiple Choice)



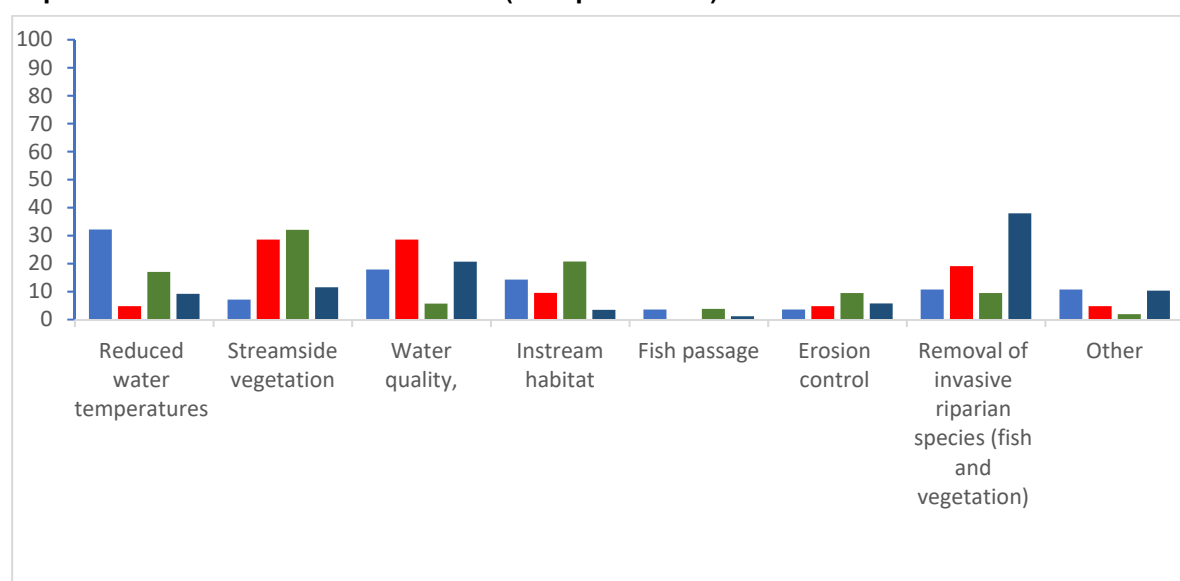
13. Which parameters do you consider important to monitor in the trout fishery in this region? (Multiple Choice)



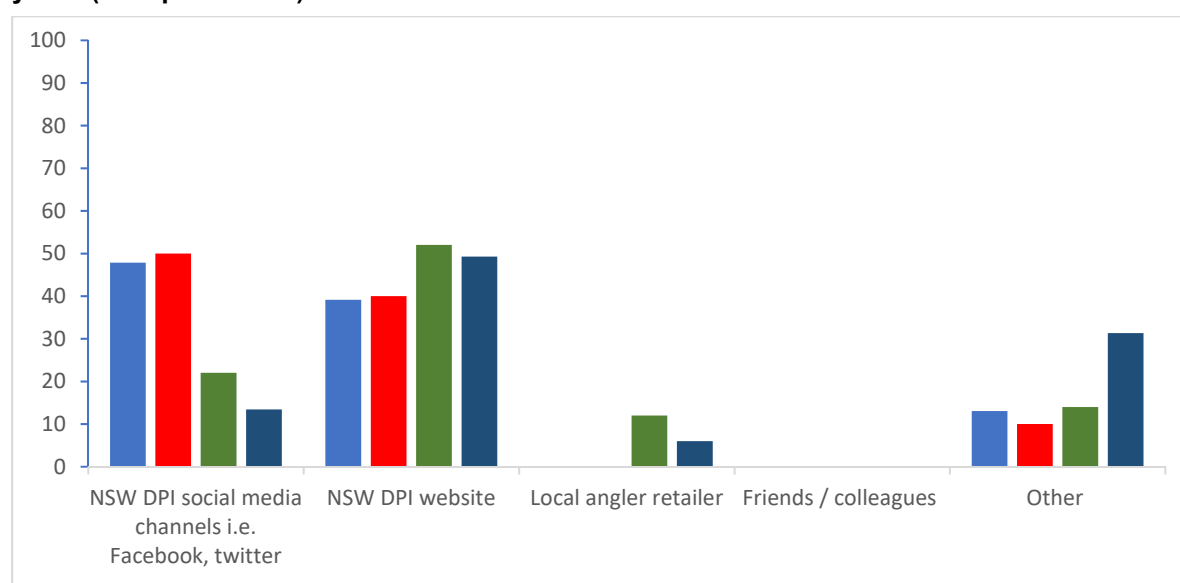
14. What do you consider the most important research priority / knowledge gaps in the trout fishery in this region? (Multiple Choice)



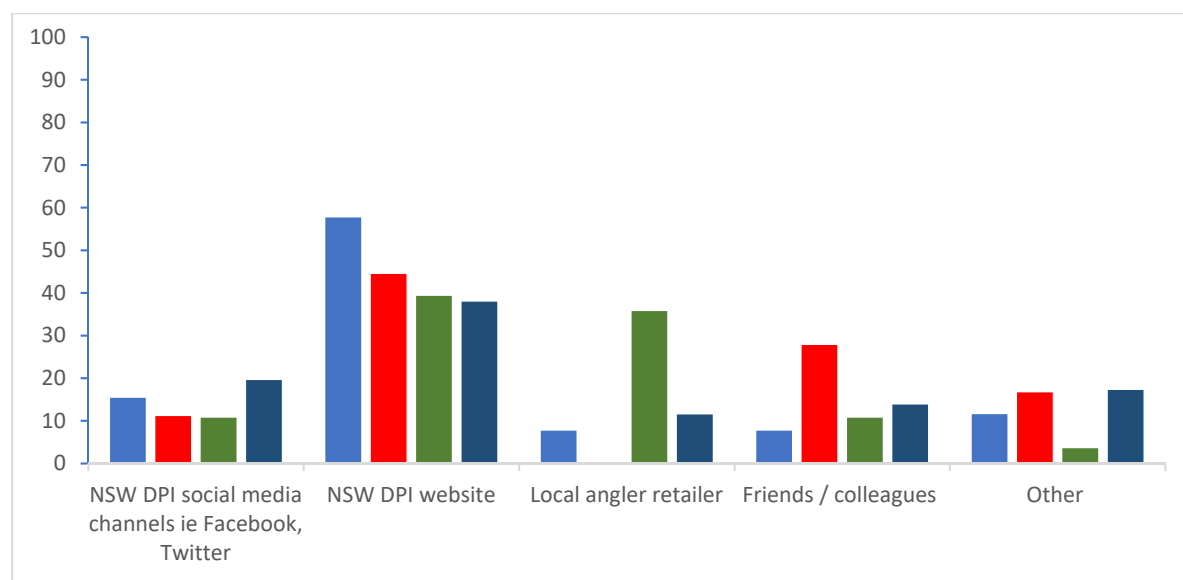
15. Thinking about your particular region, what do you consider to be the best method to improve river habitat health for trout? (Multiple Choice)



16. How would you prefer the NSW Trout Strategy and State Government to communicate with you? (Multiple Choice)



17. What channel do you most regularly use to source information relating to the NSW recreational fishing industry? (Multiple Choice)



APPENDICES

Appendix One:

Submission from Alan and Robert Steege

NSW TROUT STRATEGY WORKSHOP SUBMISSION

My brother Robert & I are long term members of Lakeside fly fishing club; Robert also being a member of Monaro Acclimation Society & living part time in the Jindabyne region.

We are both passionate trout fly fishermen concerned for the future viability of our sport. Over approx the last decade we all have noticed a steady decline in the amount of fish, particularly rainbow trout in the Monaro region in general.

Another concern is the increasing amount of sand particularly in the Thredbo River, damaging spawning gravel river beds; the levels of sand being the result of the devastating bush fires over a decade ago. Sand extraction companies have indicated that they would pump sand out of the river at no cost & possibly a small royalty could be obtained. One such location to remove the deposits at minimum environmental impact would be Paddy's Corner.

The traditional rainbow trout spawning run in early spring has become relatively non-existent in recent years, by comparison to say a decade ago. What are the reasons for this considerable reduction in fish numbers?

Recently while on a fishing trip to the Ebor region our group visited the Dutton trout hatchery & were shown around the extensive facility. A very helpful person answered many questions & advised that all the rainbow trout released in the N.S.W. rivers & dams were produced at that hatchery.

It appeared that mature rainbow stock held at the hatchery are stripped of milt & eggs to produce the fish that are then released at various ages by fishing clubs & also sent to Gaden Hatchery for their release program.

Why are so many of the rainbows in particular, not living to maturity? I have heard 1 in 1000 survive to that stage. Is it the method of release & their age at that time or are such factors as being spawned from hatchery & not wild trout that has an effect? We all know that rainbows are easier targets for cormorants & other predators than brown trout.

Maybe rainbow & also brown trout should not be released until they are older to obtain a more acceptable chance of reaching maturity.

Also releasing fish in broad daylight at boat ramps with cormorants present, seems a contributing factor to the very low maturity rate of these fish.

Surely releasing fish at numerous places on the rivers & a higher percentage released at night would increase the maturity rate.

I am sure many of the fishing clubs would be happy to assist in the distribution of hopefully larger say 25- 30cm. trout.

The fishing industry is of major importance to the tourist industry & the economy in general in the high country regions of N.S.W. Something must be done to rectify the current situation.

Appendix Two:

Submission from Jindy Trout (Jindabyne Branch of MAS)

NSW Fisheries Trout Management Plan

Response by Jindy Trout (Jindabyne Branch of MAS)

For the NSW Fisheries Trout Management Strategy to succeed it must be based on the following core principles

1.1 **Transparency.**

NSW Fisheries must commit to becoming completely transparent to the public

1.2 **Accountability.**

- A firmly agreed timeline for implementation of the plans steps must be established and agreed to.

- NSW Fisheries must acknowledge who the key stakeholders are and commit to scheduled reporting of the Trout Management Strategy achievements/failures.

1.3 **Clearly Defined Key Performance Indicators** for measurement of Success

Project KPI'S and timelines must be established.

Agreement via public consultation must clearly define how success and failures will be measured.

1.4 **A significant commitment to a change** of culture within the Management of NSW Fisheries Trout/Salmonoid operations focussed on Community Consultation and Partnering with Volunteer Groups

The old school public service culture that currently exists within NSW Fisheries Trout/Salmonoid Operations needs to be reformed at every level from Management down to individual staff work plans.

1.5 **A more proactive approach** to the use of NSW Fisheries personnel and resources to achieve the management plan outcomes.

Significant resources are available to NSW Fisheries Trout/Salmonoid Operations to focus on improving release practices.

1.6 **The NSW Fisheries Trout Management Strategy must focus on the full life cycle of Stocking Operations.**

NSW Fisheries Trout/Salmonoid Operations must focus on maximising success of Stocking of which Hatchery Operations are only a component.

It is the view of Jindy Trout members that the current public perception of NSW Fisheries Trout/Salmonoid Operations is currently very poor. The NSW Fisheries Trout Management Plan represents an opportunity for NSW Fisheries Trout/Salmonoid Operations to significantly improve public perception and become a highly valued future public entity.



In order to do this it is the view of all Jindy Trout members that the following should be considered.

- A. A NSW Trout Strategy Implementation Manager should recruited with the position being based in Jindabyne.
- B. The Gaden Trout Hatchery Management Committee should be immediately disbanded.
- C. The Snowy Lakes Trout Management Stocking Strategy Committee should be immediately disbanded.
- D. The two committees should be combined and re elected in a transparent and professional manner. Committee nominations and selection should be based on an agreed skill set criteria. The committee needs balanced representation from all angler groups, fishing clubs, retailers and only business people that can bring relevant professional management experience should be elected to the committee.
- E. The newly elected Committee must have clearly established level of authority.
- F. Future meetings must be conducted professionally in accordance with the NSW Public Service Code of Conduct. The meetings must be clearly minuted and the minutes made available to the NSW Public
- G. A more proactive schedule of meetings should be committed to.
- H. Committee members should be re elected every three years.
- I. Consideration should be given to outsourcing the running of the existing tourist operations at Gaden Hatchery to a private operator who has some buy in locally with tourism.



Appendix Three:

Submission from Steve Williamson

NSW TROUT STRATEGY 2018

Initiatives to future-proof NSW's Recreational Trout Fishery.

OVERVIEW.

For far too long, dating back over 20 years, we have been talking about the threats to our NSW Trout Fishery.

Lots of talk, but nothing has been done to future proof the fisheries.

In 2001 the Snowy Lakes Trout Strategy was put together with the vision -

"To Provide a high quality sustainable trout fisheries that provide positive angling experiences for ALL anglers"

We have FAILED in that vision!

In 2003, The Council or Freshwater Anglers put a document together with the title, "Trout Fisheries in NSW, are they under threat?"

The document identified the following as threats-

1. Conservationists (Green Movement).
2. The NSW Government with their preference for the stocking of Native Fish.
3. Other dangers due to changes made to the natural aquatic environment.
 - i. Introduction of other non-native fish species.
 - ii. Introduction to non native plant species.
 - iii. Changes to natural river flows.
 - iv. Farming practices
 - v. Pollution
 - vi. Dams and weirs
 - vii. Climatic change.
 - viii. Numerous other recreational uses other than fishing.
 - ix. Threatened species legislation
 - x. Loss of angling access
 - xi. Negative media about trout! (ie. James Woodford SMH)

However there is another more serious threat and that is –

The popularity of trout fishing in NSW is under threat.

Implications to this downturn is wide and varied however the real losers are the anglers themselves as well as those associated businesses that rely on the trout fishing industry. Such businesses as tackle shops, fishing guides, accommodation suppliers, food outlets etc. will be and are currently under threat due to the rapid decrease in the number of angler's trout fishing.

In my area, the Snowy Mountains of NSW, in 2001 the trout fishing industry was estimated at being worth \$70 million dollars annually to the area according to the Economic Survey into the Snowy Mountains Recreational Trout Fishery.

(That's my daughter's photo on the front cover of the report.)

Today it is worth only a fraction of that \$70 million and at best estimate it is now only worth about half that amount, about \$35 million to \$45 million.

In 2001, it was estimated that there was between 42,500 and 53,000 trout anglers in NSW and an estimated 33,800 of those fished the Snowy Mountains. It was estimated that this equated to between 450 and 700 jobs in the Snowy's.

It is often forgotten by committees that manage the trout fisheries that tourism is the most important factor that needs to be considered whenever there are changes to regulations that may have an impact on visitation into their areas.

According to the economic survey, the preferred methods of trout fishing was bait and lure making up to 75% of anglers with just 25% being fly fishers, however all trout fishing committees are made up mainly of fly anglers giving an imbalance in committee decisions made in favour of the fly fishers. (Not their fault)

In 1999 during the boom with the World Fly Fishing Championships, there were 16 fly fishing guides and 2 charter boat operators in the Snowy Mountains area. It was difficult to estimate the number of part time guides that were also operating at that time.

Today 2018, there is still 2 boat charter operators but it is estimated there is only 3 professional fly fishing guides (down by 13 guides). It is difficult to estimate the number of part time unregistered and uninsured guides and instructors however.

The trout fishing industry in NSW is certainly under great threat due to many factors. These factors must be identified before a new Trout Strategy can be implemented and this will be the task for the reviewing committee.

The committee must also consider the many other stakeholders that have an interest in the popularity of trout fishing in NSW. These other stakeholders include the tourism industry, importantly accommodation providers, caravan parks, tackle shops and food outlets and petrol stations that provide services to anglers.

So this brings me to the NSW Trout Strategy Workshops.

Trout Strategy Framework –

Initiatives to future-proof NSW's Recreational Trout Fishery.

The Trout Strategy Framework was an interesting read but the most important points are being missed.

I hope this strategy will get open debate at the future meetings in Armidale, Panthers Bathurst and Jindabyne in May 2018.

The catch phrase "Future Proof" is the objective given in strategy.

However, before you can 'Future-proof' you must firstly look back at the history as to why (it is mentioned) "for a number of reasons, (the trout fishery) is NOT what it once was".

The framework for the strategy is MISSING some major points as to WHY "the fishery is NOT what it once was".

i.e. "It is acknowledged that the NSW Trout fishery is, for a number of reasons, "is NOT what it once was."

- Drought
- Including changing water levels and flows
- Increased water temperatures
- Unseasonal rainfall
- Introduction of exotic species
- Habitat degradation
- Falling social licence (Change in community perceptions and attitudes towards trout and trout fishing)

The framework is pointing to a number of unpredictable factors that could be blamed for the downturn.

Most of the above are factors CAN NOT be controlled!

Factors that have been MISSED however are-

1. Popularity of trout fishing has decreased.
Putting aside the social reasons for the popularity decrease these are other factors.
 - a. Complexity of going trout fishing. i.e. TOO MANY RULES
 - b. Overprotection of trout. TOO MANY CLOSURES
 - c. Unpopularity of trout fishing. Due to above reasons!
 - d. Not enough marketing to target markets.
No relationships being fostered between Department of Tourism and Department of Primary Industries that would work towards a common goal of encouraging trout fishing and expanding interstate and international tourism to these areas with stocked fisheries.
 - e. Not enough industry support by fishing industry bodies such as ARFF and AFMA encouraging fishing for trout in stocked areas???
2. Over regulation is a result of the continual changing of regulations that are only confusing anglers.
We have a trout fishery where people from all over the world come to experience trout fishing in Australia.
We also have a lot of people both Australian and international visitors that travel Australia and often, while camping in a new area, would like to give fishing a go!
Too many barriers that are put in place i.e. Fishing licences, closed seasons, complicated rules (that even I cannot comprehend) sometimes deter people from fishing.
Yet every meeting I attend we discuss more regulation changes and further increasing closures!
3. Sometimes the BIGGEST THREAT to our fishery comes from people with our own ranks.
These people on advisory committees are being OVER PROTECTIVE!
 - i. Trout in Australia are OVER PROTECTED!
 - ii. Trout are an introduced species.

We manage our fishery by breeding trout at Trout Hatcheries!

We have the ability to stock trout NO MATTER what the environmental changes may be!

So why are we so worried about protecting the trout on their spawning run when we have already identified the real threats?

These threats are NOT OVERFISHING!

i.e. Drought, including changing water levels and flows, increased water temperatures, unseasonal rainfall, introduction of exotic species and habitat degradation cannot be controlled.

Why did NSW Fisheries researchers Bob Faragher and Richard Tilzey recommend that both the Eucumbene River and Thredbo River be open to fishing until the end of June annually?

If these people are the 'experts' why did certain anglers and organisations question the science and recommendations?

If you employ scientists and researchers to do a job and then you do not accept the recommendations, then why have research in the first instance?

Today, most trout anglers practice CATCH AND RELEASE! Despite what some people may think!

We have \$1 million from Freshwater Trust and \$1 million towards trout fishery production, management, research and compliance to spend each year.

\$2 million total which is not very much given the value of the tourism dollar that trout fishing brings to NSW. (Was worth \$80 million dollars annually in the Snowy Mountains) People say there are NOT ENOUGH DOLLARS to improve stocking or infrastructure at trout hatcheries.

BUT – There is so much money available through many different grants, INCLUDING TOURISM GRANTS that have NOT BEEN ACCESSED!

There has NOT been one meeting that I have attended where it has been mentioned that we should try and apply for a grant (outside the NSW Trust fund) for improvements to increase restocking and so an increase trout production which would improve fishing significantly.

I am not sure committees have even looked into the possibility of obtaining grants (outside of the recreational fishing trust) that could be used for research and restocking into the trout fisheries!

4. "Trout fishing has become unpopular!"

The main reason again for this it is seen as being all too hard!

- a) Too hard because of regulation.
- b) Too hard because trout are difficult to catch.
- c) Too hard because of longer seasonal closures.
- d) Access is too hard.
- e) Too hard because anglers can't understand where you can and cannot fish!
- f) Fly fishing is seen to be too hard to learn!
- g) Etc.

OTHER THREATS to the future management of the trout fisheries.

1. Fisheries Management

I think that at present most people would agree that NSW Fisheries Management is part of the reason that there has been a downturn in the popularity of trout fishery.

Some of the reasons have already been addressed however the MOST important point that has to be made – Government bureaucracy and the lack of action taken over the recent decline in some fisheries.

More could and should have been done with research; restocking and more attention should have been given to addressing negative media.

Basically fisheries have been TOO SLOW TO ACT!

2. Lack of interest in fishing associations by younger generation.

The younger generation are no longer interested in becoming involved with fishing clubs and associations.

The associations like the Acclimatisation Societies have an ageing and diminishing membership and within the not too distant future will become non-existent unless there is a solemn effort from the association to recruit new members.

3. Threats from other environmental groups etc.

As there always has been there are threats from the Greens, National Parks and Wildlife and Native fish movement to eradicate the trout for waterways.

With the reducing number of active trout anglers and the threatened collapse of associations and club members comes the threat that there will not be a large enough movement of trout anglers, interested enough to combat the ever increasing number of environmentalists that will eventually have their way and have trout eradicated altogether.

The only solution to this problem is to improve the simplicity to trout fish and enable anglers to catch more trout.

To achieve these goals we must first improve the catch rate of anglers and actively promote trout fishing to the younger generation.

The younger generation are an 'instant' generation so if they do not catch a trout reasonably easily then they will lose interest.

4. Objection to changes!

Trout anglers, especially the purist fly fishing movement, are those that are mainly opposing changes.

The 'old school' trout anglers find it unacceptable to change 'the way it was'.

There is also the fact that an increase in the numbers of anglers trout fishing also threaten the number of people that may be fishing a particular waterway. i.e. Intruding on 'MY fishery'!

This irritates certain anglers that would rather less competition on 'their' waters.

Yet these are the very same anglers that are most susceptible to losing 'their private' waters to activists such as the Greenies.

RECOMMENDATIONS

Threats to the Recreational Trout Fishery (*Trout Strategy Framework*)

- 1) Drought
Nothing you can do about drought
- 2) Changes in water Levels and flows
Nothing you can do about it.
- 3) Increased Water Temperatures
Nothing you can do about it. Trout will adapt to slow changes.
- 4) Unseasonal Rain

Nothing you can do about it.

5) Introduction of Exotic Species

Trout seem to be able to co-exist with most exotic fish. i.e. European Carp

6) Habitat Degradation

Removal of exotic vegetation and not replacing with native has been an ongoing problem that needs to be addressed. Partial removal and replanting with remainder of exotics removed and replaced at a later date after first planting has established is recommended.

7) Falling social licence (Change in community perceptions and attitudes towards trout and trout fishing)

Trout have also been seen as 'Feral' fish. There has always been a threat to have trout eradicated.

There are three points mentioned in the framework.

- DEVELOP
- MAINTAIN
- PROMOTE

WHAT CAN WE DO?

- ✓ *"Involve anglers! Talk to trout fishers and broader fishing community."*
Not just anglers – all stake holders importantly tourism that rely on trout anglers as part of their economy
- ✓ *"Investigate Changes to trout waters and trout seasons."*
Better access. Change dates to closed season eg. To allow fishing in September in north and centre of state where trout have already spawned.
Recommendation not only extending season in central and north but also looking at other opportunities in other southern areas as well.
- ✓ Investigate ways to maximise fish growth / sizes.
Invest \$ in better grow out facilities at hatcheries to allow this to happen.
- ✓ Continue to stock larger trout in impoundments where Redfin are present.
Invest \$ in better grow out facilities at hatcheries to allow this to happen.
- ✓ Continue to encourage stocking of native fish species in areas considered to be marginal trout waters and/or where Carp or Redfin persist to provide year round trout / mixed fishery opportunities.
From areas as high in the Murray River as Tom Groggin this has already been successful with a mixed fishery of Rainbow Trout, Brown Trout, Murray Cod and Carp.
Below Jindabyne Dam you already have a mixed fishery of Brown Trout, Rainbow Trout and Australian Bass.
- ✓ Encourage Funding Grants for Fish Habitat
Where ever possible this is a no brainer!
- ✓ Targeted Research to monitor and assess trout.
Monitoring and research priorities all tackle time and money and in the past accessing funding has been very limited. There is no use talking about funding unless there is a dedicated person chosen whose sole purpose is to look into finding opportunities and access grant money.

Further more -

In 2010 the 'Recreational Fishing Advisory Committee' commissioned the following report – "Recreational Fishing In Australia – 2010 and Beyond!"

The recommendations were –

Strategy 1

Develop new and innovative fishing opportunities, particularly in urban and regional areas.

Strategy 2

Promote recreational fishing as a family friendly activity.

Strategy 3.

Develop ways for recreational fishers to respond positively to climate change and promote reduction in carbon emissions for fishing activities.

Strategy 4.

Improve safety in recreational fishing.

Strategy 5.

Promote the role and opportunities for women, children and families in recreational fishing.

Strategy 6.

Promote the cultural heritage value of recreational fishing in Australia.

QUESTION

Will this new NSW Trout Strategy follow these recommendations?

CONCLUSION

There are two major issues that must be addressed.

- 1) All research to date has suggested that the way to 'future proof' the NSW trout fishery is to make trout fishing more popular so as there is more participation.
Both recreational fishers and the tourism industry must work together to secure a productive recreational fishing industry well into the future.
While recreational fishing will continue to compete with many other activities, it is important that we also promote fishing as an important component for the health and well-being of the Australian society.
We will not achieve the above objectives by trying to make trout fishing more difficult. Closing seasons longer and bringing in new rules and regulations are NOT going to help 'future proof' the NSW Trout Fishery.
There is ONLY one way to make trout fishing more attractive and that is anglers MUST CATCH TROUT easily!
ONLY making it easier to catch trout will improve the participation in the sport.

5. Investment must be made in our trout hatcheries to ensure that we still have trout production in the case of the uncontrollable threats being climate change, drought, unseasonable rain etc.
Given these threats we CAN NOT rely, in future years, on natural recruitment of trout no matter what we do to try to protect them by increasing river and stream spawning closures.

Investment must be made at the trout hatcheries to be able to control water temperatures, both warming and cooling water to increase growth rates and also to be able to oxygenate all ponds.

Looking at the practices of commercial trout farms will see that by warming water during the cold winter will increase growth rates thus allowing for fingerlings to be released earlier in the season before the summer heat.

Fingerling release practices into our waterways must also be improved to allow for better survival rates of the fish.

Author - Steve Williamson 2018

Appendix Four:

Submission from Queanbeyan Anglers



Angler Input for NSW Fisheries on Improvements

Please find suggestions to improve the local trout fishery with views put forward by the members of Queanbeyan Anglers. It is hoped that NSW Fisheries may see some value in the suggestions and implement them or parts of them moving forward. These are in no particular order and will hopefully generate conversation. A key premise is that the Strategy and trout management must be based on good science and strong understanding of the fishery as an ecological system.

1. The use of single hooks instead of treble hooks.

It is a belief that treble hooks do more damage to the fish than single hooks. Fish are more easily foul hooked and even when hooked properly there is greater damage caused to the fish's mouth and extra stress in time for release. Many fishing television hosts promote the use of single hooks surprisingly for both better hook-ups and improved catch and release.

2. The use of Barbless hooks.

These are thought to be a good idea for many of the same reasons as listed above but mainly for the release of the fish.

3. Review the closure dates and areas for spawning Trout

It has been suggested that the closure dates for trout spawning should be reviewed in light of more scientific evidence that is now available. It should try to include locations of spawning and gathering fish. Feeder streams may require more protection.

Is global warming shifting the seasons?

4. Total catch and release on the rivers during spawn run.

There is a view that during the spawn run on the rivers that there should be a catch and release policy in place. This will help with future recruitment and increase the fishery for future generations.

Due to hormone levels of fish during this stage it can be argued that these are not good table fish and pointless to kill at this point.

5. Negotiated access to streams and rivers with signage and Stiles

Approved angler access with signage would be better for land owners and fishers alike, this has been used in Tumut with great success. It has been implemented in Tasmania and Victoria with great success and has strong benefits for tourism. Currently huge areas of rivers are not accessible.

Small minorities doing the wrong thing have caused low opinions with some land owners, It can be argued that anglers are not being given the opportunity to do the correct thing.

6. Signs around the area promoting good etiquette along with regulations.

Stronger education is required for inland fishers to keep harmony.

7. More cleaning stations on the lakes.

Eucumbene (Old Adaminaby) and Tantangara stand out clearly. For the amount of usage these lakes and others have in the Snowy Mountains it is a poor argument from Fisheries to argue compliance with fish cleaning rules when no facilities are provided.

8. Designated camp sites on Tantangara.

Due to the popularity of this lake which should be considered one of the jewel's in NSW it requires better management and improved facilities such as toilets. Camp sites appear all over the shoreline and in some cases, by minorities, large amounts of waste is left behind.

9. Better boat ramps

Eucumbene and Tantangara both have poor boat access to the lake.

10. Bringing extra fish farms in line with Gaden Hatchery.

Extra fish farms like Tumut being approved for stocking purposes being brought on line. This would give an ability to grow fish larger if required or grow more fingerlings for larger stocking projects. Currently NSW limits its ability to be versatile in stocking. Victoria seem to be able to stock larger fish and more numbers. Is it possible to have relationship with Victoria to access more fish?

11. Fish farms on some of the larger lakes

Is it possible to have a fish farm on a the larger lakes to produce extra numbers of fish for stocking?

12. Allocation of Hatchery Resources to Atlantic Salmon and Brook Trout

Reducing the number of Atlantic Salmon and Brook Trout being raised at Gaden may create space for production of more or larger Brown and Rainbow trout.

13. Greater Research

More research would better inform trout management. For instance:

- More upto date studies into the interaction of brown trout and Macquarie Perch.
- A better understanding of the trout in the Snowy Lakes – food sources, growth rates, maturity, impacts of lake level changes, impact of current legal minimum sizes etc
- The impact of salt gritting of roads/snow seeding on water quality and trout populations especially in the Thredbo Valley.

14. Improving Natural Reproduction

These might include such things as:

- Surveying trout redds with possible conservation measures
- Creating artificial redds plus perhaps investigating placement of fertilised eggs into these redds rather than raising them in hatcheries

15. Raising the Public Awareness of Trout Fishing

Specifically stocking of large trout into new sites for specific angling events to complement those occurring in New England.

16. Encouraging Catch and Release

While Fly Fishing Australia employ catch and release on its competitions, other competitions (eg the multitude on the Snowy Lakes) should be encouraged to do likewise.

It is hoped that some of these ideas can be adopted or assessed for feasibility.

Kind regards,

Queanbeyan Anglers.

Appendix Five:

Submission from Steve Terry, North Canterbury Fish & Game Council

CANBERRA
ANGLERS' ASSOCIATION

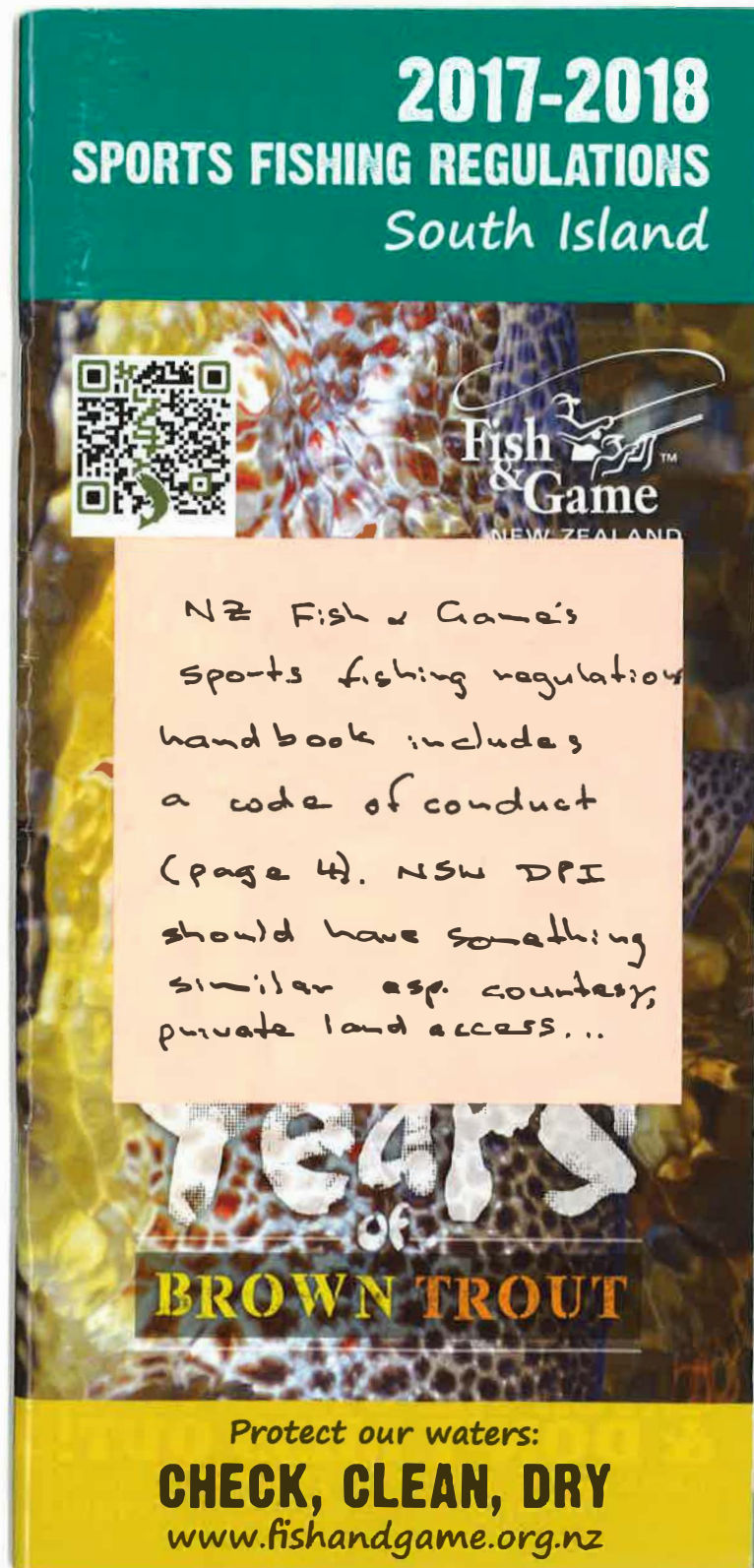
*Bringing Canberra's
anglers together
since 1945*

Dutton hatchery has a
public outreach program:

- disabled fishing day
- children's fishing day
- cancer recovery
fishing day.

Garden should also do
this to enable public
buy-in. -1-

- Introduction to the region's
waters, both fresh and salt
- Lure selection
- Bait rigs



The weather for the weekend looks very average with northerly winds and rain in the alps, which will limit opportunities for lake and back country fishing.

Tomorrow morning is the best bet for anglers wishing to head into the high country and one option worth thinking about is salmon Lake Coleridge, as salmon are starting to think about spawning and are often caught either near the mouth of the Ryton River or trolling around Ryton Bay.

Anglers only have until the end of April to take advantage of this as the lake closes for spawning in May.

Most anglers have packed their fishing gear away until next season (many of whom are eagerly awaiting opening day of the gamebird season on Saturday 5th May), however for those keen anglers that cannot wait until next season, there are a number of rivers open all year in the Eastern Zone.

Following a short closure in May to allow salmon uninterrupted spawning, there are also a number of lakes opening again in June.

Please check your regulation booklet, or the North Canterbury Fish & Game website for regulations on these waters <https://fishandgame.org.nz/assets/Uploads/Anglers-Notice-2017-North-Canterbury2.pdf>.

Anglers will note in the Regulations book for North Canterbury that after May in some sections of rivers there is a zero limit, this means you can fish but you cannot take the fish.

North Canterbury Fish & Game bought in this regulation change after submissions from a number of anglers who were wanting to winter fish rivers but did not want to harvest the fish.

Above all, always check the regulations for the waterway you are going to fish in as they will differ.

This winter season offers a special opportunity for anglers keen to brave the elements on these high country lakes.

Winter fishing is often overlooked by anglers, but this is a great time to head into the high country to fish, with snow-capped alps in the background, calmer weather and the low number of anglers about at this time of year, there can be some very enjoyable days out, but make sure you dress warm!

The most popular spot in the region is Lake Coleridge which has fished well during the winter months in recent years.

This is a great opportunity to get your boat out onto the lake on a clear day, with a popular technique to troll a bright coloured sinking Rapala, many anglers lure of choice throughout the year.

Later in the winter season, salmon fishing usually really fires up with some weighing up to five pounds caught in recent seasons, which is relatively large for Lake Coleridge.

There are also a few large rainbow trout in the lake with a number of 5-6 pound rainbow caught each season and the odd fish up to 8 pounds which is well above average for this lake.

It is also not uncommon for experienced anglers fishing Lake Selfe to catch and release many trout on some calm winter days.

Decent trout have also been spotted in Lake Roto Kohatu on the outskirts of Christchurch, Fish & Game is keen to see some results from anglers who have success from this little known waterway.

Good luck if you are heading out for a fish this weekend.

Steve Terry,
North Canterbury Fish & Game Council

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North & South Canterbury River Flows

All North Canterbury correspondence please reply to Tony Hawker: thawker@fishandgame.org.nz
All Central South Island correspondence please reply to Rhys Adams: radams@fishandgame.org.nz

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Is a "zero limit"
an option for selected
rivers in the Snowies?

Appendix Six:

Submission from Craig Martin

A reporting app could be developed to help find any potential illegal fishing activity. The app could include the option for photos and GPS locations. This would be a great benefit to the fisheries officers and people working to protect our waterways, and will enable a much greater reach to protect the rivers and streams from illegal activities.

Rivers

- Catch and release only (or over the spawning seasons)
- Treble hooks banned
- More parts of the river to be made accessible (through riding/walking trails or tracks from the main roads)
- Accessibility to more areas of the river for people with disabilities, using a Master Locksmith Access Key (MLAK) to access trails and track that are normally closed to vehicle access. This would allow people with disabilities to drive closer to sections of the river that would not normally be an option for them.

(The Master Locksmiths Access Key (MLAK) is an innovative system that enables people with disabilities to gain 24/7 access to a network of public facilities. The MLAK system has been fitted to elevators at railway stations, accessible toilets in Council municipalities and National Parks and in adaptive playground equipment across Australia. People with a disability are able to purchase an MLAK master key which will open all toilets, playgrounds and other facilities which are fitted with this specially designed lock.)

This has also been used successfully in the Denison camping ground to allow people who are unable to walk the long distance to the Eucumbene River.

Lakes

- Maximum one rod per person in lakes. This will help to stop a growing trend of people taking advantage of having many people with them that can be classed as a rod holder who are not actually fishing. For example, two families (4 adults and anywhere from 2 to 10+ children) camping on the lake. Only two are actually fishing with set lines but will have two rods in the water for each family member (two for each family member in proximity but not actually fishing). This scenario makes it possible for two people to have a much larger amount of rods in the water and are able to take more fish than are actually allowed for the two that are fishing.
- Lower bag limits: The Bag limit of 5 fish per day should be lowered to 2 per person per day, and a max of 5 in possession. This will help reduce the amount of fish taken that will only end up in a freezer for months on end. If fish are not going to be eaten fresh then there is no point taking them, 2 fish per person per day is more than fair and helps to ensure there are plenty of fish left for the next family to enjoy and for future generations to come.

Appendix Seven:

Submission from David Clarke

Recommendations

- We should only stock fingerling trout or preferably yearlings in our rivers & creeks.
- Following eradication of black or Basket willows in many stretches of the Fish River we should only stock Brown Trout because of the resultant increase in water temperature.
- With increased water temperatures we have seen prolific weed growth and shrimp gabbies mudies, tadpoles etc are flourishing and the Fish River could sustain a large increase in fish numbers.
- Why doesn't the Oberon Branch of the C.A.S. stock the Fish River as well, between the road crossing 6 kms out of Jarana and Twin Rivers where the Duckmaloi joins the Fish River.
- Failing this am I able to purchase fish from the Dutton Hatchery and release them in the Fish River?
- 99% of fish caught by me in recent times have been Brown Trout. What is happening to the Rainbow in our rivers & creek.
- Why does D.P.I. insist we only release fish where the general public have access. Why not select locations with good cover, weed beds etc. which would increase their chance of survival.

DAVID CLARKE

Appendix Eight:

Email from Wayne Power

As a recreational trout angler I'd firstly like to thank DPI for the engagement and the opportunity to contribute to the formation the NSW Trout Strategy. I was able to attend the Jindabyne workshop on 17/5 but unfortunately due to the time constraints left with a question unanswered. My question is management based with a healthy science twist if you can find the time to reply.

Whilst able to comprehend and appreciate the scientific data presented at the workshop I also understand from your personal presentation that as far as regulations are concerned you have certain "levers" you may be able to pull if evidence supports such change.

The question I wish to ask is in relation to the legal size limit of 25 cm for trout as it currently stands in NSW. My understanding of the fish size limits (both marine and freshwater) is that a legal limit is science base around sexual maturity of the particular species + 1 year which is consistent with fisheries management practices in other countries also. Having therefore general acknowledgement that climate change and reduced stream flows etc. has skewed and significantly altered spawning patterns in many waters **is there any science that would support the increase of the legal size limit for both trout species from the current 25cm up to 30 cm, or therefore sexual maturity +2/3 years, to cover for a potential missed spawning event due to low stream flows in any given year during that fish's reproducing life?**

I was able to take on board that higher temperatures equated to a stall in growth and in some stream situations, particularly marginal ones, that a 30 cm harvest size may not be attainable in a fish's life span however I don't see water temperature affecting growth as an issue in our colder snowy impoundments whilst missed or greatly reduced spawning events are both already documented and an increasing possibility as the climate changes. Could it be feasible, in the interim at least, to raise the size limit to 30 cm as part of the existing Snowy Lakes strategy whilst ongoing data collection in the feeder streams would be able to confirm (or discount) that natural recruitment increases as a result of an increased size limit? Natural recruitment would be preferred by all stakeholders and is obviously desirable from a reduction in stocking resources and financial obligation point of view to DPI

The question of consistency in regulation may possibly be asked however we already have precedence set with changes in size/bag for the lake spawning streams post May 1 and from what I understand compliance is generally quite good in that regard. Data from the most recent creel survey on Lake Eucumbene demonstrated that anglers generally released trout under 30 cm so therefore a counter argument to it being undesirable to change size limits in an isolated area of the fishery, i.e. the snowy lakes rather than wide scale, could be drawn by logically thinking that formally regulating the change would cause little issue and have widespread support from significant numbers of recreational anglers who have a strong desire to see the quality of trout fishing improve.

I hope you can give my question some thought and a return email of your view would be much appreciated.

Once again, thanks to DPI for showing a genuine willingness to consult and engage on this very important issue. Contrary to the views and expressions of a minority of over passionate individuals at the workshops there is widespread healthy respect for the department and confidence that things can turn around for the better if we all work together on this.

Regards

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