



Department of
Primary Industries

Snowy update on NSW trout strategy & research



Update of Trout Strategy :

- The government is committed to the ongoing maintenance and development of high quality trout fisheries in NSW in conjunction with stakeholders.
- Significant challenges to all freshwater fisheries due to drought, fire and COVID
- Reasonable rainfall in most areas and more predicted!



Drought & Fire Impacts Summary

- Trout Strategy implementation has continued through science and hatchery development.
- Dutton, Narrandera and Albury staff heavily involved in fish rescues in Menindee, Macquarie and Gwydir.
- Temp monitoring obviously in the context of drought
- Major impacts on central and northern trout stocking. Dutton only stocked 42% of numbers 2019/20 season
- Both Trout Hatcheries threatened by fire with Dutton losing boundary fences
- Minor fish kills at hatcheries and need for emergency stocking when temp reached 29C
- Hatcheries better placed to deal with high temps this year and additional work is under way



Trout Strategy Key Goals - Improving trout fishing in NSW

Angler engagement

Research

Management

Hatcheries & Stocking

Fish Habitat

Continue native fish stocking



Angler Engagement

- **More regional meetings**

We will continue to work with stakeholders, angling groups and individual anglers to communicate the status of the trout fishery and trout fishery programs. Repeat meetings in in each region in 2020

- **Communication Strategy**

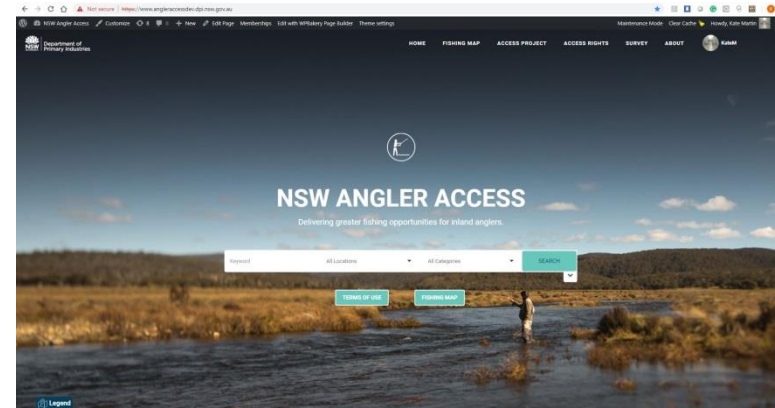
We will engage in a positive way with anglers to ensure that our communication is clear, concise and timely. By improving our communication we will ensure that anglers are aware of the current issues and trends that affect trout fishing across the State.

Acc. Societies, fishing clubs and individuals

Continue to work with acclimatisation societies on stocking decisions and involve the broader angling community in habitat restoration and citizen science associated with tournaments and club events. Have been key in advice on suitable water during drought.

Angler Access Website

NSW DPI Fisheries has developed a fishing access website to identify points of legal access to waterways. This is delivered on a river reach basis to provide anglers with information that will assist them to legally access waterways for recreational fishing. www.angleraccessdev.dpi.nsw.gov.au . Working on specific Monaro sites with Snowy Monaro Council.



Management

A number of management activities will be reviewed to determine if they are relevant and contributing to a vibrant trout fishery in NSW.

- Changes to the fishing season in areas of high stocking density and early spawning activity.
- Standardise conflicting trout stream categories.
- Explore providing fishing access to tailrace fisheries and open up waters to year-round fishing, especially near regional towns and centres. SNOWY below dam wall will get extra browns last year.
- Review bag size, gear changes and closures.
- Work co-operatively with the trout acclimatisation societies to categorise and prioritise rivers to be stocked to optimise trout stocking effectiveness. A scorecard of relevant water quality features will be developed to assist with stocking decisions.
- Undertake and facilitate monitoring and research on a range of aspects of the trout fishery in order to provide data for informed management decisions.
- Continue with effective compliance and educational programs.



Stocking and Hatcheries

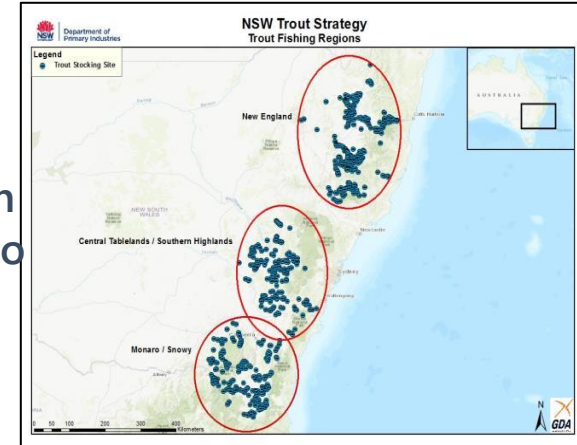
Improved hatchery facilities

- Investing in re-circulation systems, shading and heater/chiller units to provide a temperature controlled environment for fish in order to increase fish metabolism and enable fish releases to be conducted when environmental conditions are at their optimum.

Increase the size of fish stocked (where beneficial)

- In impoundments where Redfin are present, stock larger trout to mitigate the negative effects of this pest species. Stocking larger fish is extremely popular with fishers, and provides a short-term boost to local tourism. Tagging program providing real answers but need to know minimum size for best stocking.

Note: there are significant limitations on the abilities of the hatcheries to produce and transport large numbers of larger trout and the majority of trout stocking will continue to be based on fry and fingerlings.



Snowy 2.0

Snowy Hydro:

Approval conditions

Recreational Fishing Management Plan 26. Within 12 months of the commencement of construction, the Proponent must prepare a Recreational Fishing Management Plan for the development to the satisfaction of the Director-General of NSW DPI. This plan must:

- (a) be prepared by a suitably qualified and experienced person in consultation with DPIE, NPWS and relevant recreational fishing groups;
- (b) describe the detailed measures that would be implemented to comply with condition 20(c) above, including:
 - a program involving the spending of \$5 million over 5 years from the commencement of the program to develop the capability to restock, and to restock, the Tantangara Reservoir and Lake Eucumbene with salmonid fish;

- a program to monitor the impacts of the development on recreational fishing in Tantangara Reservoir and Lake Eucumbene;
 - a review after 5 years of the commencement of the restocking program and detail the trigger, action, and response plan for the continuation of the restocking of Tantangara Reservoir and/or Lake Eucumbene salmonid fish;
 - (c) include a program to monitor and publicly report on the effectiveness of these measures.
27. The Proponent must implement the approved Recreational Fishing Management Plan for the development.

Gaden Update

\$3.3 Mil announced by Deputy Premier to upgrade education centre at Gaden. Will involve production improvements

NSW DPI will commence concept planning shortly.

Draft plan for water security undertaken by consultant received.

Investigating drone mapping of Thredbo and Eucumbene river siltation



Hatchery Overview-Gaden Trout Hatchery

- ❑ Fish Trap installed in late April 2020 due to an early run of brown trout- over 1000 trapped already
- ❑ Brook Trout breeding program restarted (100,000 eggs laid down)
- ❑ Brown Trout for future broodstock as well as 95,000 brown trout green ova sent to Dutton Hatchery
- ❑ Galaxias held on site since early January- decision in breeding/possible release sites to be determined in the near future
- ❑ Several upgrades to site and equipment over the last 12 months- benefit larger fish for snowy lakes program





Warm Water Egg Trials



Old Hatching Room Knockdown 2019



Galaxias

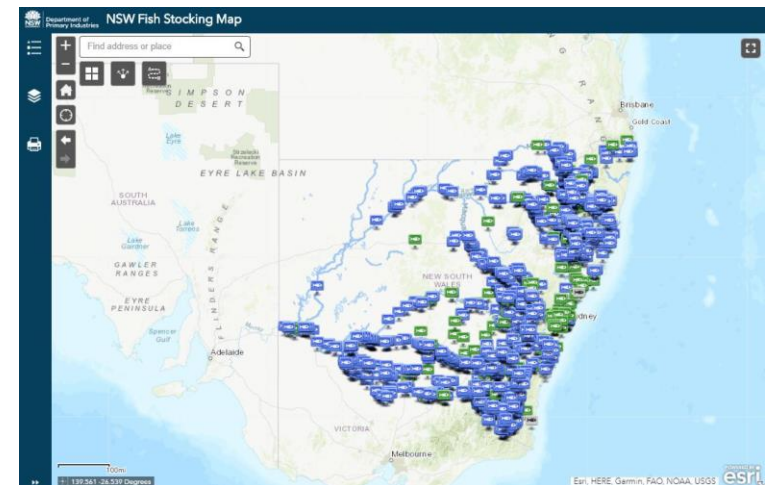
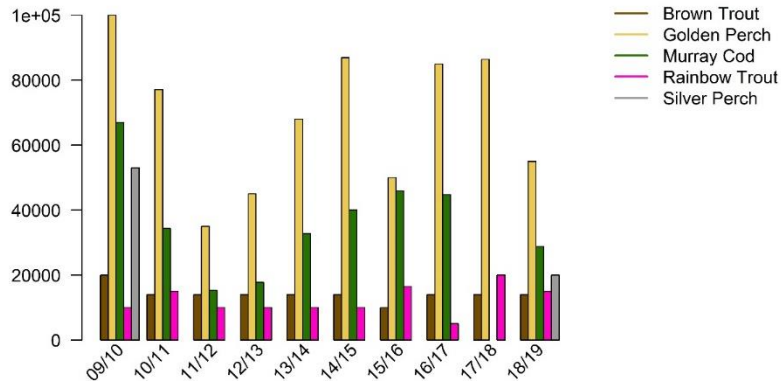


Gaden Fish Production 2020-2021

	Atlantic Fingerling	Atlantic Fry	Brook Fingerling	Brown Fingerling	Brown Fry	Rainbow Broodstock	Rainbow Yearling	Rainbow Heated	Rainbow Fingerling	Rainbow Fry	Total
MAS				30,400	125,750				29,250	147,750	333,150
OTAS				4,000							4,000
CSDA C				4,000	28,000					100,500	132,500
DPI	10,000	50,000	17,000	88,500	1,000	400	2,000	15,000	376,000	1,000	560,900
TOTAL	10,000	50,000	17,000	126,900	154,750	400	2,000	15,000	405,250	249,250	1,030,550

Fish Stocking Program Implementation 2019-20

- 1747 individual assessments for stocking proposals.
- Fish stocking orders received and stocking permits issued.
- Fish stocking database updated and audited.
- Refurbished the online interactive fish stocking website map platform including updated data.



Fish Stocking Figures 2019-20

2019/2020 as at 24/3/20 (* denotes season incomplete)			
Government (and FAS)		Dollar for Dollar	
Species	Number	Species	Number
Trout cod	28,000	Golden perch \$4\$	212,124*
Murray cod	358,000	Murray cod \$4\$	180,253*
Australian bass	280,160	Australian bass \$4\$	30,682
Silver perch	100,000*	TOTAL	423,059
Golden perch	215,000*		
Rainbow trout	1,394,572	Independent	
Brown trout	536,150	Golden perch	6,067
Atlantic salmon	60,000	Murray cod	7,171
		Australian bass	0
TOTAL	2,971,882	TOTAL	13,238

Government Stocking Program

Salmonids Stocking Program

- Stocking cancellations for sites with poor environmental conditions.
- Down about 800,000 fish on normal historical stocking averages.
- Reduced releases with some impoundments not stocked due to forecasted low levels.
- NETAS stocked 42% and OTAS stocked 23% of their allocation.
- Full Compliment of over 3 million trout and Salmon planned for release

Native Stocking Program

- Stocking cancellations for sites with poor environmental conditions.
- Mostly northern impoundments and rivers due to low flow/levels.
- Down approximately 500,000 native fish on historical averages.
- Comprehensive Drought recovery stocking program planned for 2020/21

Redfin Predation Study – Large Rainbow Trout Tagging

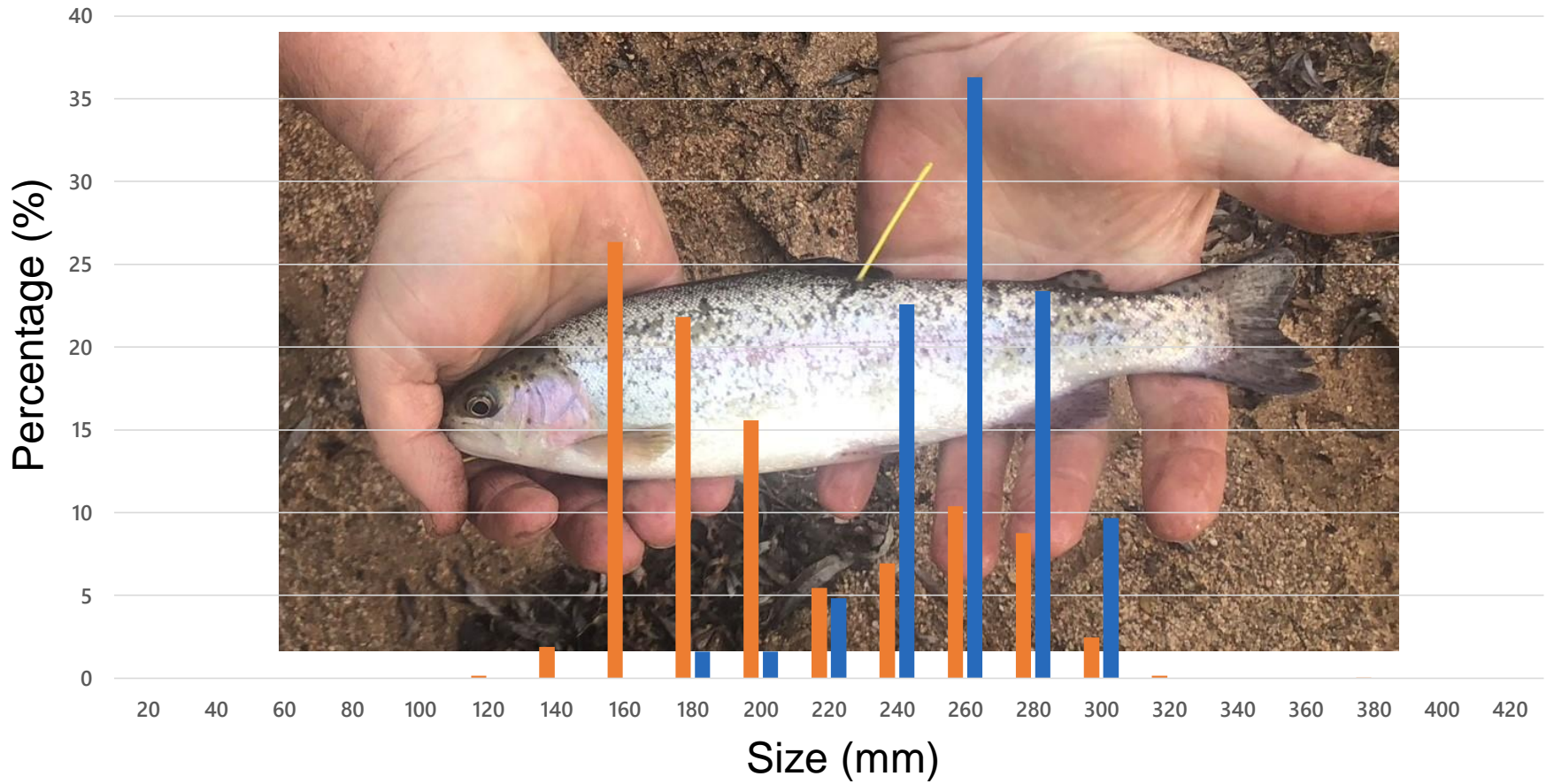
- Tagged size range between 70-418mm.
- Total Recaptures 437. Recapture return size range when tagged between 162-320mm.

	Tagged	Recaptures	% Recapture
Oberon Dam	2,500	129	5.2%
Carcoar Dam	1,000	5	0.5%
Khancoban Pondage	2,599	224	8.7%
Lake Lyell	500	33	6.6%
Lake Wallace	500	46	9.2%
Fish River	150	0	0%

- Khancoban pondage tagged fish recaptures - 45% were downstream of weir.
- Data starting to show that 170mm is the minimum and above 180mm is preferred length to avoid predation.
- Need to validate with a smaller size class 140-200mm.

Khancoban Pondage

Min =
162mm

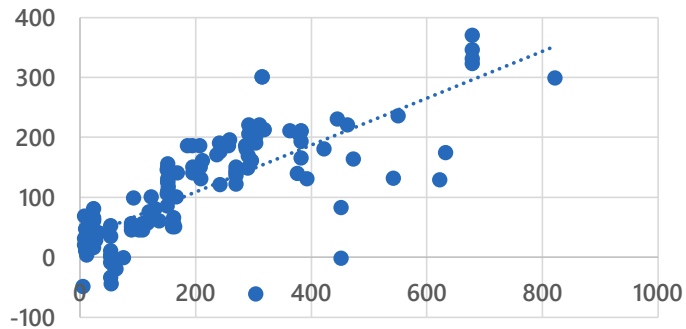


Tag returns

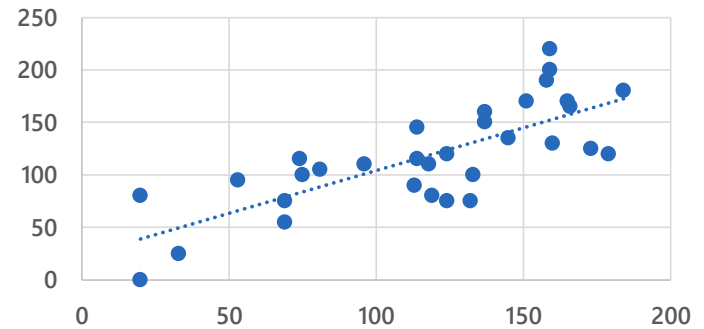


Growth Rates

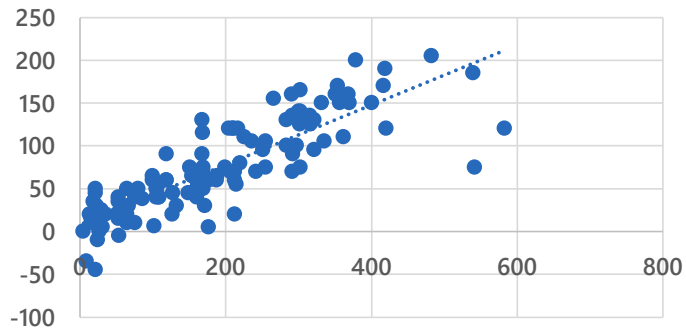
Oberon Dam



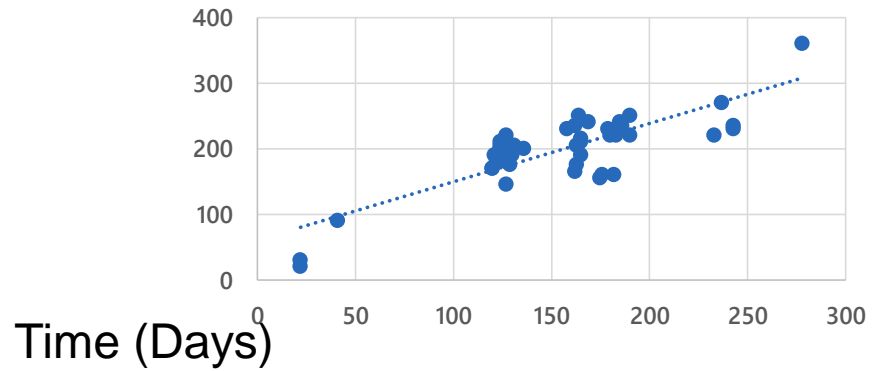
Lake Lyell



Khancoban Pondage

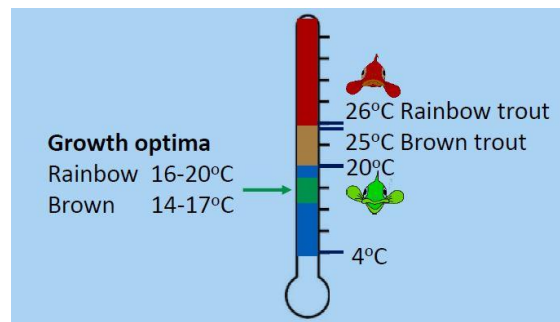


Lake Wallace



Water Temperature Loggers

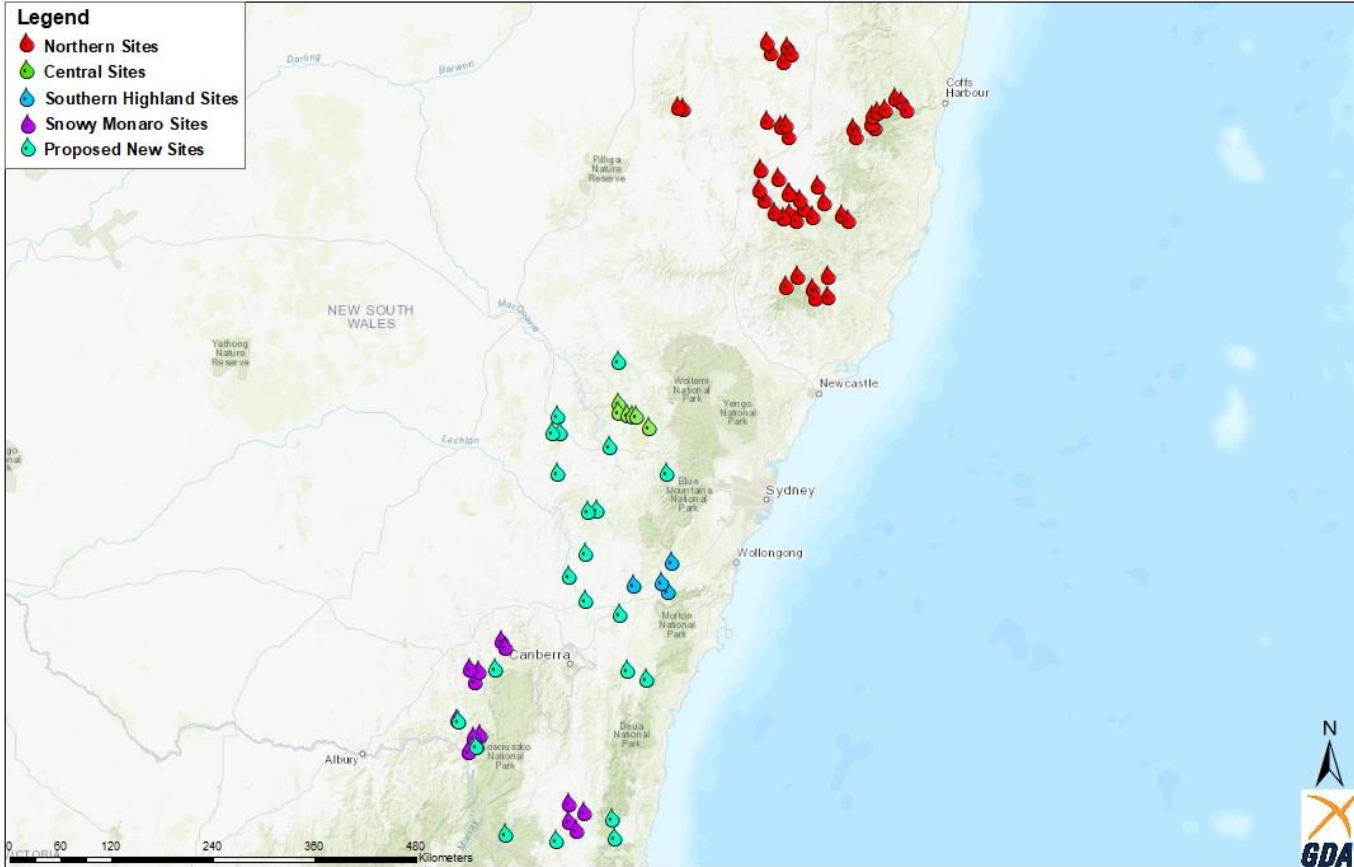
- One of the goals of the trout strategy was to determine water temperatures in trout waters through warmer months
- Research showed that trout shut down at 20°C and reach lethal levels above 25°C.
- Last summer, loggers were deployed in the northern trout waters
- Additional information is required in southern and central trout waters
- Looking to get acclimatisation societies involved in the deployment of loggers.



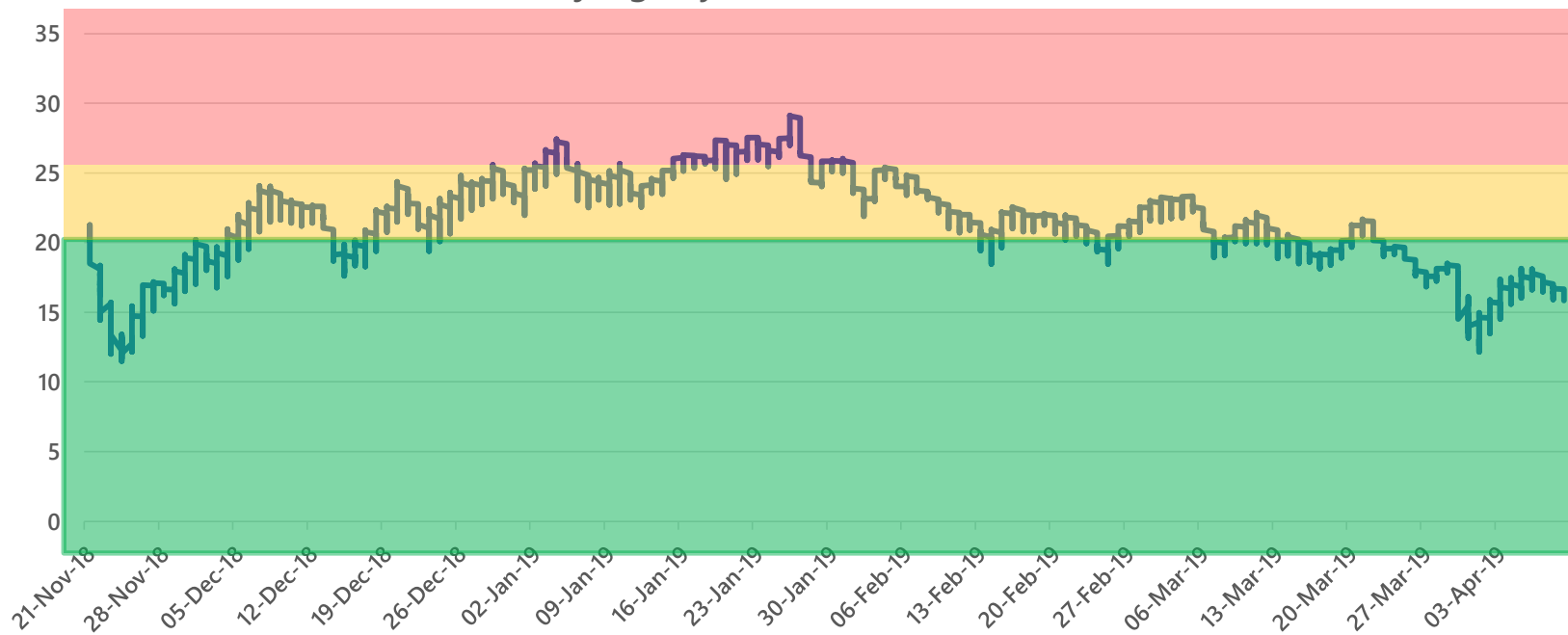


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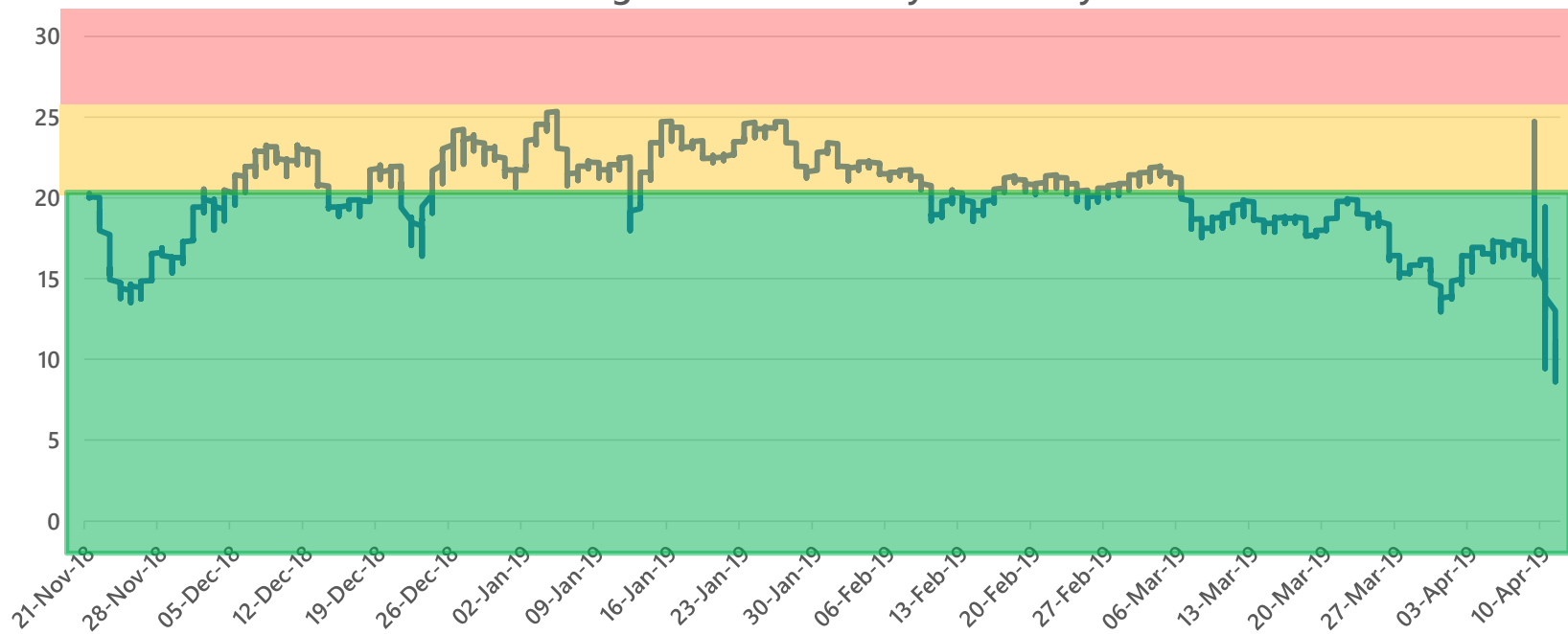
Recreational & Aboriginal Fisheries Management Map Temperature Logging Sites



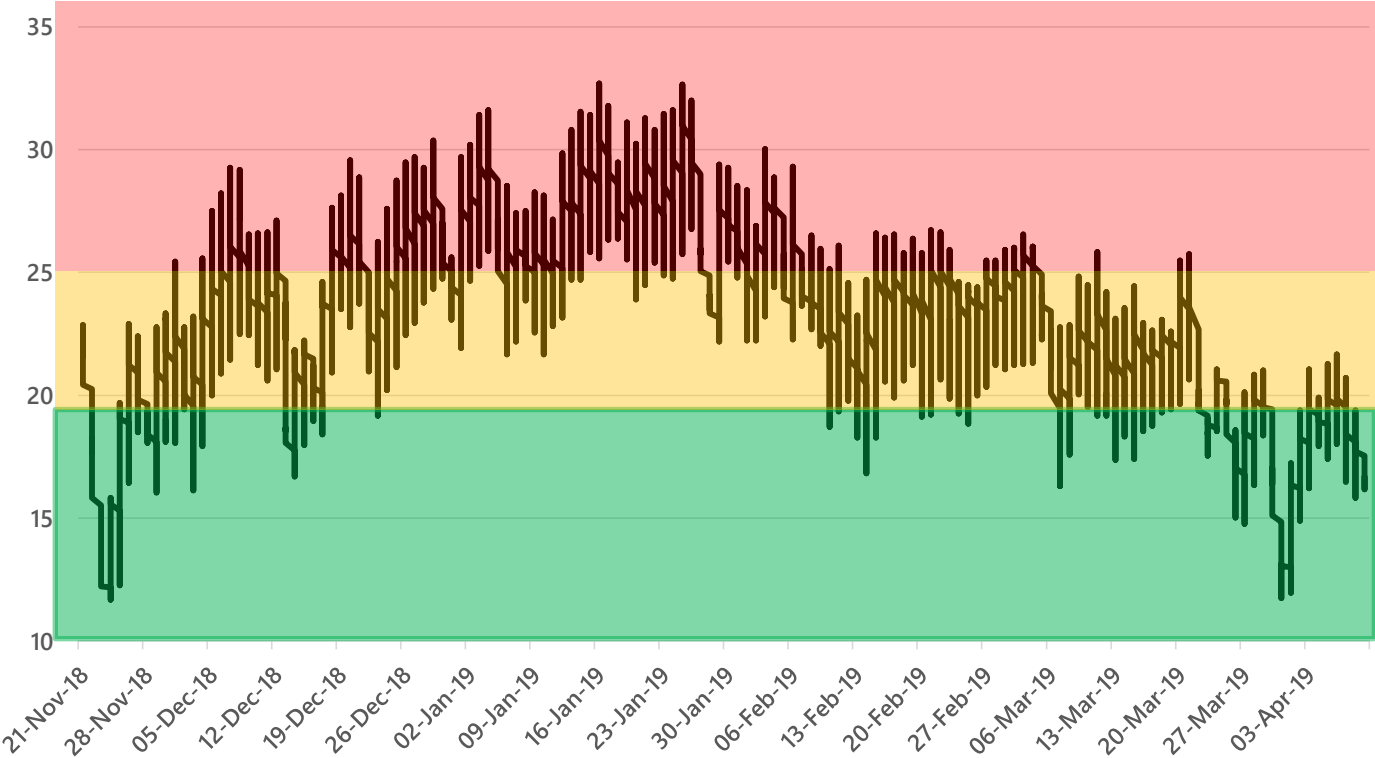
Adjungbilly Creek - Fernhill Road



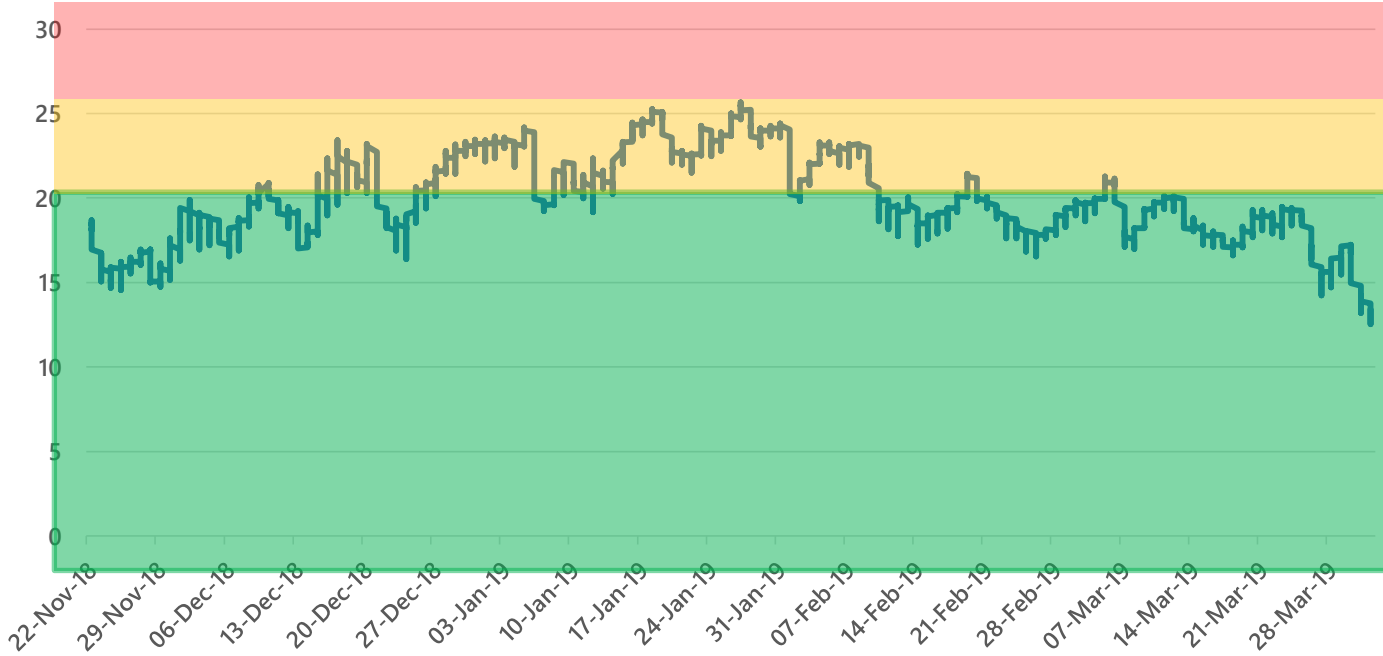
Maclaughlin River - Snowy River Way



Gilmore Creek- Batlow Road

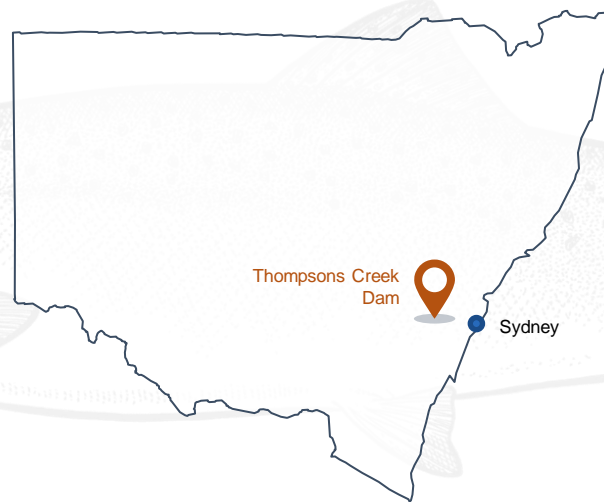


Joadja Creek – Joadja Distillery



Thompsons Creek Dam – Fishing Effort Survey About

Thompsons Creek Dam (TCD) is a privately owned medium sized dam located 2.5 hours west of Sydney near the township of Wallerawang. The dam is used to supply water to the Mt Piper Power station and is fed with water pumped from Lake Lyell or the Fish River water supply. Under a NSW Fisheries agreement, anglers can fish the dam which is also stocked by Fisheries. TCD holds trophy sized fish that attracts anglers from all over Australia.



The Project

As part of the original TCD agreement NSW Fisheries was to monitor angler use. We have done this by installing a motion activated camera at the only point of entry and recorded angler activity for





Thompsons Creek Dam – Fishing Effort

Survey Recorded data

From an analysis of the captured images we were able to determine;

- 1 Estimated fishing start and end times
- 2 Estimated total fishing time
- 3 Type of fisher (Fly , Lure and Fly/Lure)
- 4 Total number of fishers

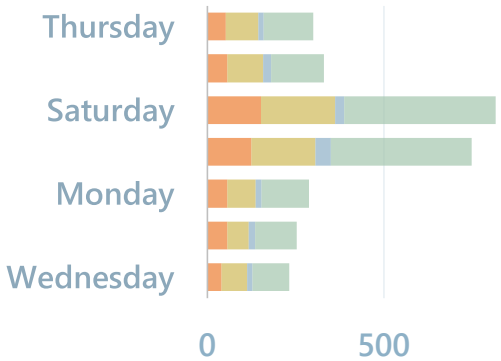
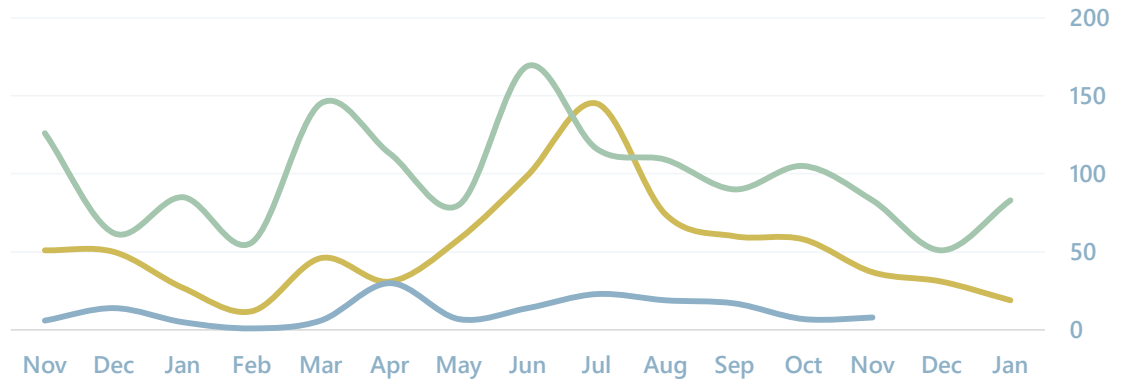
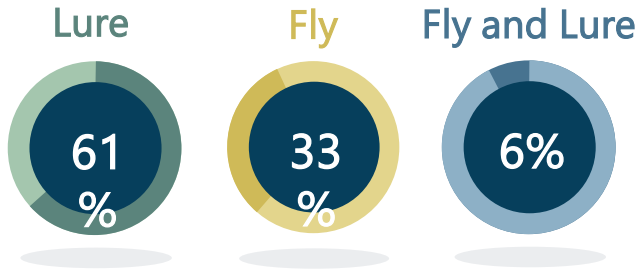
Additional data

Additional data analysis could determine;

- 1 Gender of fishers
- 2 Compliance with curfew conditions
- 3 Value of fishery (inc long term value)
- 4 Participation influences (climate, regulations, Covid, ect)



Thompsons Creek Dam – 456 Day results



2162
Visits over a year



11 hr
Longest visit



111
Busiest week



7
Anglers a day



3 hrs
Average Fishing time



45
Busiest day



12p
Average Start time



380
Busiest Month











