Water Allocation Statement

15 August 2019

NSW Murray and Lower Darling

Water allocation update

General security allocations in the NSW Murray and Lower Darling regulated river water sources **remain unchanged**.

Rainfall in the latter half of July has yielded little improvement in resource. As a result, the current NSW Murray resource remains unchanged from the previous assessment.

The main outstanding commitment for 2019/20 is to the NSW Murray conveyance licence category before lower priority general security allocation can commence. Conveyance has received 60,000 megalitres (ML) toward its 165,000 ML target.

River Murray System inflows have been in the lowest third of historical inflows. A majority of system inflows in July have been from Victorian tributaries, and therefore have aided Victorian resources. Resource improvements for NSW Murray users have been limited by requirements to meet obligations under the Murray Darling Basin Agreement and increased forecast evaporation losses from Lake Victoria.

The Menindee Lakes system remains critically low - under 1 per cent full - holding just 14,600 ML. Remaining supplies are restricted to critical needs only. Information on Lower Darling drought contingency measures is provided in the drought stage section below. The widespread cease-to-flow conditions pose significant challenges and a high risk to water supply, particularly when conditions warm in spring and summer.

Inflows into the Darling River, upstream of the Menindee Lakes system, in May and June reached Wilcannia in mid-June and receded until the end of July. These inflows have not reached the Menindee Lakes system and therefore have not yielded any noticeable improvements in resource in the Lower Darling.

2019-20	High Security	General Security	Average Carryover	Drought Stage
Murray	97%	0%	18%	Stage 2
Lower Darling	30%	0%	19%	Stage 4

Drought stage

The NSW Extreme Events Policy facilitates a staged approach to managing extreme events, such as severe droughts or poor water quality events.

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The **NSW Murray** regulated river water source is in Stage 2 drought criticality, meaning that drought operational planning has commenced in preparation for extreme dry conditions that may continue through 2019-20. Accordingly, a Critical Water Advisory Panel has been formed for southern valleys to advise on drought management options and will convene as required, in conjunction with public drought meetings to be arranged later this year.

The **Lower Darling** regulated river water source is at maximum Stage 4 drought criticality, with no foreseeable inflows and restrictions limiting usage to prioritise critical needs.

Measures include:

- A temporary water restriction that took effect on 4 December 2018, and was renewed on 1 July 2019 for 2019-20, to restrict water use to town water supply, domestic use, stock watering, permanent plantings.
- Broken Hill's water supply needs are now being met from the Murray using the Wentworth to Broken Hill pipeline.
- Essential Water is using Copi Hollow to provide for Menindee and Sunset Strip.
- Releases from Weir 32 were stopped in mid-February 2019.
- Access to water along the Lower Darling is from pools created by temporary banks.

The temporary water restriction is likely to remain until resources improve in the Menindee system. Follow this link for further details on the reasons for the temporary restriction: **www.industry.nsw.gov.au/water/allocations-availability/temporary-water-restrictions**

More information on NSW's Extreme Events Policy and related drought stages can be found at: **www.industry.nsw.gov.au/water/allocations-availability/droughts-floods/extreme-events**

Storage levels (as at 13 August 2019)*

- Dartmouth Dam is 61 per cent full – falling – holding 2,338,000 ML.
- Hume Dam is 38 per cent full – rising – holding 1,152,000 ML.
- Lake Victoria is 67 per cent full – rising – holding 455,000 ML.

*** NSW share of this water is approximately 28%, 49% and 29% for these storages respectively, or 34% in total.**

State sharing of the Murray resource

The forecast end of July accounts indicate that 4,200 gigalitres (GL) of total shared Murray resource is available in the extreme dry (99th percentile) case, of which about 1,970 GL is needed to run the system. The NSW portion of this shared resource is 740 GL based on rules in the Murray-Darling Basin Agreement. Following adjustments including trade, tributary inflows and usage to date, the assessment results in 720 GL of water being available for NSW.

Climatic outlook

The Bureau of Meteorology seasonal outlook for August to October, issued on 25 July 2019, indicates that the Murray catchment is likely to experience drier than average conditions, with headwater parts of the catchment likely to experience the largest rainfall deficiencies. Temperatures over this period are likely to be above average.

The Bureau indicates that the El Niño-Southern Oscillation (ENSO) remains neutral. Modelling suggests that the ENSO is likely to remain neutral over the remainder of 2019. Positive Indian Ocean Dipole (IOD) conditions are forecast for the remainder of winter and

spring. A positive IOD will likely mean below average winter-spring rainfall and above average temperatures.

For further details: **www.bom.gov.au/climate/outlooks/#/overview/summary**

Trade

In the Murray, trade across the Barmah choke remains restricted to **'no net trade downstream'**. Downstream trade opened on 1 July with the balance of Snowy water savings volume that would not be delivered downstream, however; that initial trade capacity has now been consumed and downstream trade in 2019-20 will open to the extent of the volume of any upstream trade.

The trade restriction helps to protect existing downstream entitlement holders from an increased risk of delivery shortfall due to the limited physical capacity of the Barmah Choke. Water users are encouraged to monitor the Murray-Darling Basin Authority (MDBA) website (**www.mdba.gov.au**) for information about the trade balance and status of trade.

The Menindee Lakes system is effectively empty. Temporary trade with the Murray is closed and typically remains closed until the system recovers to above 640 GL and becomes part of the shared Murray system. Trade within the Lower Darling water source is allowed, although there is no regulated water delivery.

Trade **out** and **into** the Murrumbidgee Valley is open. Water users should monitor the WaterNSW website (**www.waternsw.com.au**) for daily information about the IVT account balance and status of trade.

Next announcement

The next water allocation statement for the NSW Murray and Lower Darling valleys will be on **Monday 2 September 2019**.

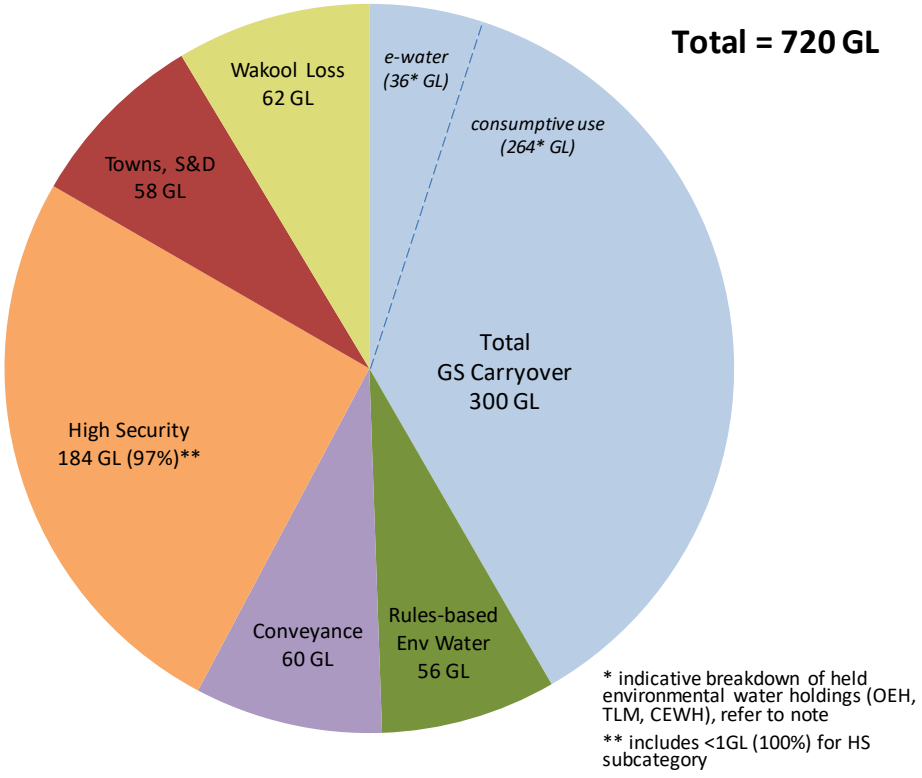
The next updated probability analysis showing likely improvement in water availability under different inflow scenarios, including the rocket diagram will be issued on 16 September 2019.

NSW Murray resource assessment data sheet

Resource Distribution (15 August) for 2019-20	Volume (GL)
Total Available Resource[1]	720
less	
Carryover[2], [8]	300
Rules based Environmental Water[3]	56
Towns, Stock, Domestic[4]	58 (100%)
Announced High Security subcategory[4]	<1 (100%)
Announced High Security[4]	184 (97%)
Conveyance[5]	60 (6%)
Wakool Loss[6]	62
Reserves[7]	0
Announced General Security[8]	0 (0%)
2020-21 high priority needs[9]	0

See notes below.

NSW Murray resource distribution 2019-20 – 15 August 2019



Data sheet notes

(1) Total available resource - NSW's state share of active storage volume (Hume, Dartmouth, Menindee and Lake Victoria) as assessed and accounted for under the Murray-Darling Basin Agreement at the time of the assessment plus any usable flows in transit plus assumed (99%ile) inflows for the rest of the year plus Snowy Hydro's assured Required Annual Release (RAR) (including any flex (pre-release) from the prior year), as well as estimated usage to date. Snowy Hydro's M1 releases to date for this water year (2019-20) is estimated to be about 260GL. NSW is in Special Accounting with South Australia (SA), details of which can be found in the MDB Agreement clauses 123-129. Special accounting is triggered when forecasts indicate that NSW is unable to meet the required reserve of 1,250GL by the end of the water year to supply SA with its entitlement in the following year.

(2) Carryover – NSW Murray general security water users can carryover a maximum account balance of 50 per cent of their entitlement into the following water year. The account limit is 110 per cent of entitlement, meaning that account credits from allocation and/or carryover cannot exceed 110% of entitlement in any water year. The limit does not include allocation trade.

(3) Primarily rules-based planned environmental water (PEW) – water required to be set aside to provide for riverine environments, as per water sharing plan and other inter-jurisdictional agreements. In the NSW Murray this includes the Murray Additional Allowance (MAA) (about 6GL) and the Barmah-Millewa Allowance (B-MA) (about 264GL – currently 100% borrowed). It also includes River Murray Increased Flows (RMIF) in Hume, accrued as part of the Snowy Water Initiative (currently about 50GL). The total commitments to B-MA and RMIF will decrease over the water year as they are released from Hume for use. Excludes 'licence-based' environmental water, known as held environmental water (HEW).

(4) The *Water Sharing Plan for the New South Wales Murray and Lower Darling Regulated Rivers Water Sources 2016* has subcategories of high security licenses in the Murray Water Source. High security subcategory licences under *Part 7 Division 2 Clause 46(2)* that are present in the Murray include community and education, research, and town water supply. At the commencement of each water year, these licences are to receive 100% allocation, while remaining high security licences are to receive 97% allocation. For the purposes of this water allocation statement, the high security town water supply allocation volume has been grouped as "Towns, S&D".

(5) Conveyance entitlement – a category of access licence originally issued to Irrigation Corporations to facilitate delivery of water through their channel systems. Allocation to this category is prescribed in the water sharing plan and is a function of current high and general security allocation.

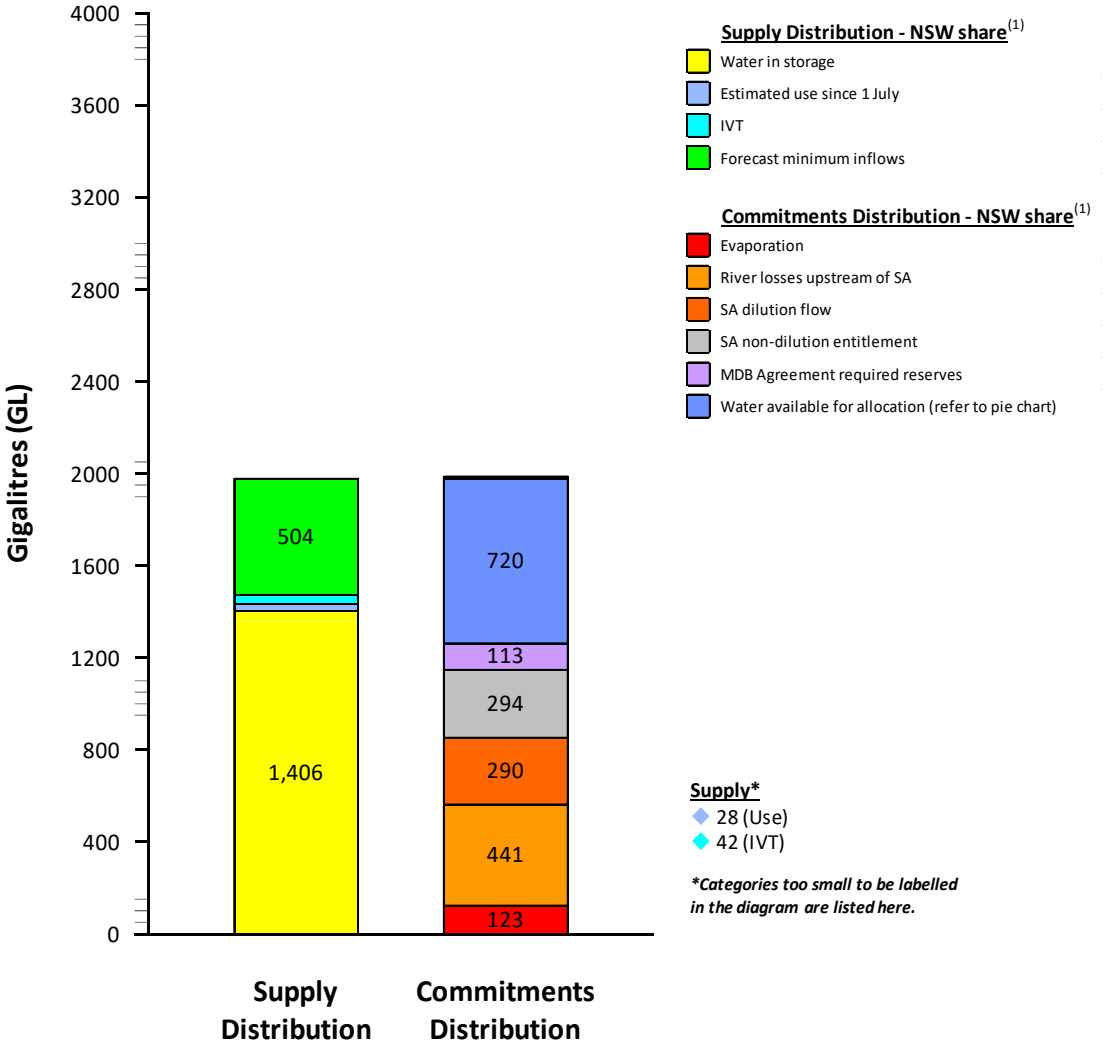
(6) Wakool Loss – a conveyance volume necessary for NSW to operate the Edward-Wakool system. Normally up to 70 GL, currently 62 GL available. This will accrue as a priority before summer.

(7) Reserves – required primarily under statutory plans, up to 61GL; set aside for critical human needs in accordance with Clause 11.03 of the Basin Plan.

(8) Held environmental water (HEW) – water administered by environmental water holders is reported here, with the associated portions of general security allocation and carryover also identified in the above pie chart. This reporting of held environmental water is limited to only NSW entitlements, reporting of credits to accounts (not usage or trade), and estimated to be 0GL of GS, 24GL of HS, 9GL of conveyance allocation and 36GL of GS carryover. These entitlements are held and/or managed either singly or jointly by various environmental holder groups, including the NSW Office of Environment and Heritage (OEH), The Living Murray (TLM) and the Commonwealth Environmental Water Holder (CEWH). Details on environmental holdings can be found on individual agency websites.

(9) 2020-2021 high priority needs on 1 July 2020 - volume set aside to cover high priority needs on 1 July 2020, for 'Year 2', including potential carryover.

NSW Murray water balance – 15 August 2019



Water balance notes:

(1) Supply Distribution and Remaining Commitments – The volumes in the categories shown are only those relating to NSW's share of the resource, at the end of the preceding month. The categories include the following:

Water in storage: Volumes in the dams at the end of the previous month. (Excludes water in storage unavailable to NSW under the water sharing arrangements of the Murray Darling Basin Agreement).

Estimated use since 1 July: Estimated NSW usage to-date, reconciled periodically with hydrographic updates (meter readings).

Forecast inflows: NSW's share of forecast inflows into the River Murray System based on assumed extremely dry future conditions (includes Snowy Hydro's guaranteed inflows for the water year, and Murrumbidgee end of system flows).

IVT: Total tributary system water bought by Murray system users that is yet to be delivered.

Evaporation: Water set aside for evaporation for the remainder of the year. This reduces as the year progresses.

River losses upstream of SA: Water budgeted for transmission losses from the River Murray system upstream of the South Australian border for the remainder of the year. Generally reduces as the water year progresses.

SA non-dilution entitlement: Water to supply South Australia's entitlement flow, as required under the Murray-Darling Basin (MDB) Agreement. Reduces as water year progresses.

SA dilution flow: Water to provide South Australia's dilution and conveyance component of flow, as required under the MDB Agreement. Reduces as the year progresses, unless Additional Dilution Flow (ADF) is triggered.

MDB Agreement required reserves: Includes conveyance reserve and minimum reserve to be set aside for use in the next water year, as required by the MDB Agreement in clause 102D and 103, respectively.

Water available for allocation: NSW's bulk share of the resource that can be assigned to NSW Murray entitlement holders based on the water sharing plan. Allocation of this volume is provided in the above table and pie chart.

NSW Murray Resource Assessment – Comparison with this time last year

Item	Mid Aug 2018 (GL)	Mid Aug 2019 (GL)	Comments
NSW share of total resources	960	720	Continuation of dry conditions. Lower mainly due to lower carryover.
less			
Carryover	520	300	Lower carryover
Environmental	101	56	Primarily RMIF
Towns, Stock, Domestic	54	58	Broken Hill pipeline entitlement added.
Conveyance	60	60	Similar.
Wakool Loss	40	62	Higher due to June/July inflows.
High Security	185	184	Similar.
General Security	0	0	Same. Zero due to lack of resource.

Chances of improvement

The chances of improved general security allocation in the NSW Murray, based on a repeat of historical inflows, are provided in the following table under a variety of conditions. The forecast from August is based on all available historical data as this is historically the most likely time to receive inflows. Note: that this gives a better outlook than using just the driest one-third of years on record (dry tercile).

Historically, droughts have a higher likelihood of breaking in the winter/spring seasons than any other season, and therefore there is a possibility that the current drought may break or ease. However, if this does not occur, the forecasting will change from using all available data to using the driest third of all years (dry tercile), as was the case in the 2018-19 water year on the back of a dry winter in 2018.

It is important to note that these estimates are indicative improvements only and are not guaranteed allocations. Estimates may change based on weather variability, water management decisions and other events. This means water users should use this information with caution and at their own risk, as it projects many months ahead. The reliability of the outlook is expected to improve as the forecast period reduces.

Forecast General Security allocation (per cent)

(Any carryover water can be added to these indicative allocations)

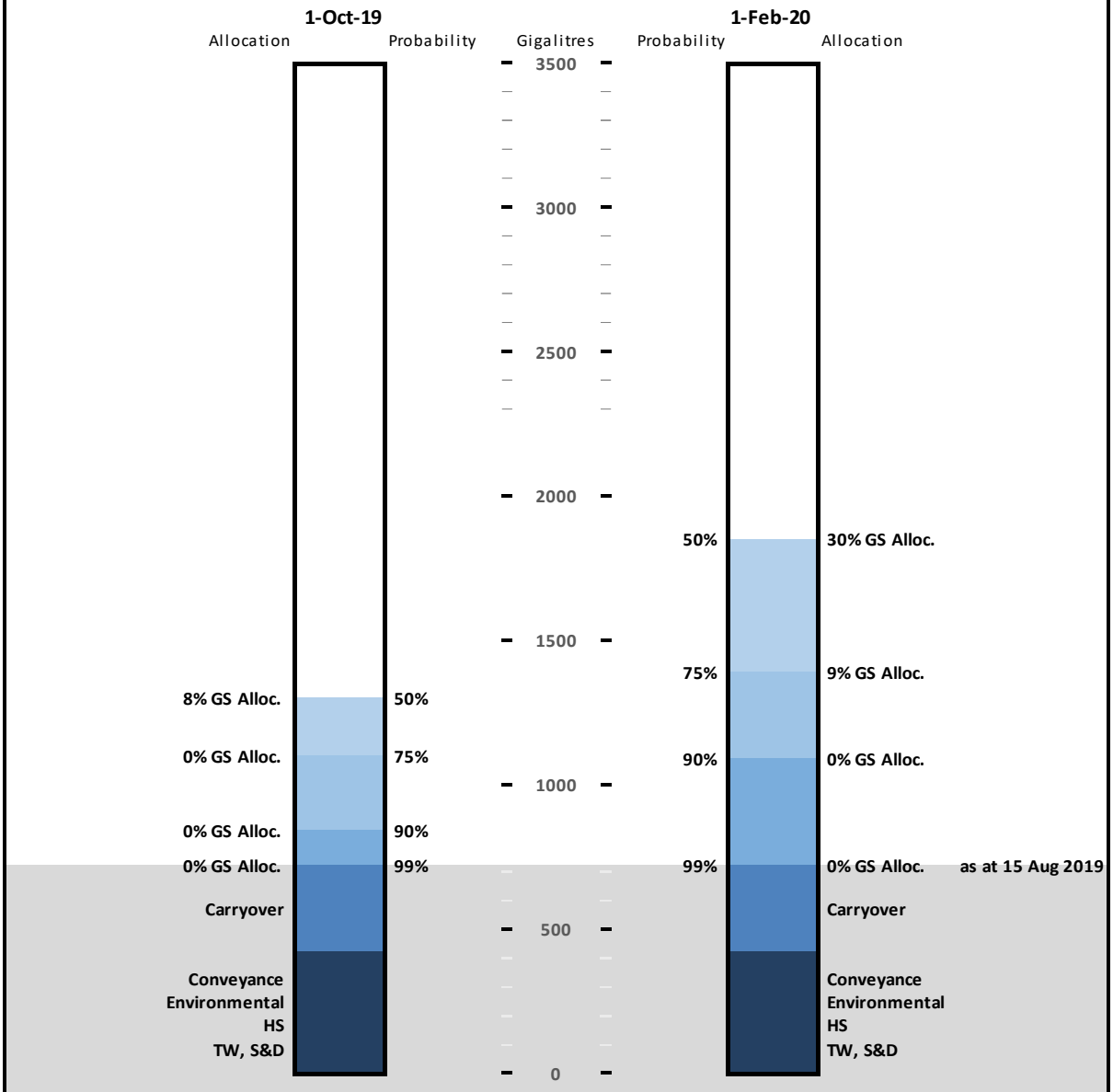
Historical Inflow Scenario	1 Oct 2019	1 Feb 2020
99 chances in 100 (extreme) (99%)#	0	0
9 chances in 10 (very dry) (90%)	0	0
3 chances in 4 (dry) (75%)	0^	9
1 chance in 2 (mean) (50%)	8	30*

Note 1: Estimated values indicative only, not guaranteed and subject to change based on actual events unfolding.
Note 2: Statistical values reflect NSW share of inflows, not whole of system inflows.
Note 3: Multi-history modelling using all years. Assumes 99% inflow conditions through 2019-20 and GS carryover of 18%.
Extreme dry baseline additionally includes Murrumbidgee end of system flows.
^ By October, under dry (75th percentile) inflow conditions, Conveyance allocation is likely to be about 110 GL.
* Barmah-Millewa Allowance payback commences.

Water Allocation Statement

NSW Murray Valley Outlook

as at 15 August 2019



This figure provides indicative improvements in general security allocations for two forecast snapshots, 1 October 2019 and 1 February 2020. The allocation improvements are indicative only, and do not constitute guaranteed allocations. As of 15 August 2019, General Security allocation is at 0 per cent, and under 99% inflow conditions, will remain the same for the rest of the water year.

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