

# River Murray Flow Report and Water Resources Update



## Report #20/2020

Issued 10:00 am 15 May 2020

**This supersedes the previous flow report issued by the Department for Environment and Water (DEW) on 8 May 2020. The next flow report will be provided on Friday 22 May 2020.**

In this report, for ease of representation, large volumes of water are expressed in gigalitres (GL), while smaller volumes are expressed in megalitres (ML). One GL is equal to 1 000 ML.

## 2020-21 Water Allocations

**Recent rainfall sees improved projected water allocations.**

Since 15 April 2020, there has been significant rainfall over the southern Murray-Darling Basin, which has resulted in improved water availability.

This increased rainfall across the Basin has resulted in South Australia's minimum River Murray Entitlement for the next water year increasing to 900 gigalitres (GL), providing a more positive outlook for the start of 2020-21.

While storage volumes at the end of April 2020 remain relatively low, there is a high chance of significant improvements to water availability in the coming months, given recent rainfall events and a favourable rainfall outlook from the Bureau of Meteorology.

If average or better inflow conditions prevail over the next six months, then South Australian Class 3 (High Security) allocations are likely to reach 100 per cent before the start of this coming summer.

Even under an extreme dry scenario, in which inflow conditions would be worse in only 5 per cent of years, allocations are projected to reach around 60 per cent by the end of the 2020-21 water year.

In thinking about water availability for 2020-21, irrigators are strongly encouraged to take into account the full range of probability scenarios for potential allocation improvements (outlined in the latest Allocation Statement), rather than focusing on the currently projected worst case minimum of 8 per cent (based on storage levels at the end of April 2020).

This short [Video](#) explains more about the latest water resources and allocations update.

Further details about water allocations and projections are available in the [River Murray Water Allocation Statement](#) and the Private Carryover policy is outlined in the [Water Allocation Plan for the South Australian River Murray](#).

The South Australian Government is holding a 'Water Fundamentals' workshop via an online webinar on Wednesday 20 May from 12.30-2.30 pm. Learn more about the event, or register [here](#).

To stay up to date with all the latest information, please visit our website.

**The next water allocation update will be on 15 June 2020.**

## 2019-20 END OF YEAR WATER TRADING ADVICE

To **guarantee** that a water application is determined in the 2019-20 water year, you must lodge your water trade application with DEW by **2pm on 19 June 2020**.

Water trade applications can be lodged up to 5pm on 30 June 2020, however, there is no guarantee that it will be determined in the 2019-20 water year. Interstate water trade applications must be lodged with DEW by 11am (SA Time) on 30 June 2020.

More information about water trade applications can be found here

<https://www.environment.sa.gov.au/licences-and-permits/water-licence-and-permit-forms>

## NORTHERN BASIN

Heavy rainfall events in early 2020, have generated inflows in most river systems across the Northern Basin (Barwon-Darling system). On 11 May 2020, Water NSW advised that the total forecast volume expected to reach Menindee Lakes is around 520 GL to 540 GL. The projected volume will be updated as changes are observed. The Darling River and River Murray have now reconnected.

The Menindee Lakes are currently under the control of Water NSW. If the volume of water in Menindee Lakes increases to 640 GL the Murray-Darling Basin Authority can direct releases to supplement the River Murray system, which is unlikely based on the current volume stored and estimated flow in-transit to Menindee Lakes.

## WATER RESOURCES UPDATE

During April 2020, the total River Murray System inflow was approximately 283 GL, which is about 110% of the April long-term average of 258 GL. During April 2020, the total Menindee Lakes inflow was approximately 160 GL, which is about 71% of the April long-term average of 226 GL.

The flow to South Australia during April 2020 was approximately 121 GL, which is about 40% of the April long-term average of 306 GL. The flow comprised of Entitlement Flow (including environmental water on SA licence), environmental water and trades, less 17 GL of deferred water.

## MANAGEMENT OF SOUTH AUSTRALIA'S DEFERRED WATER

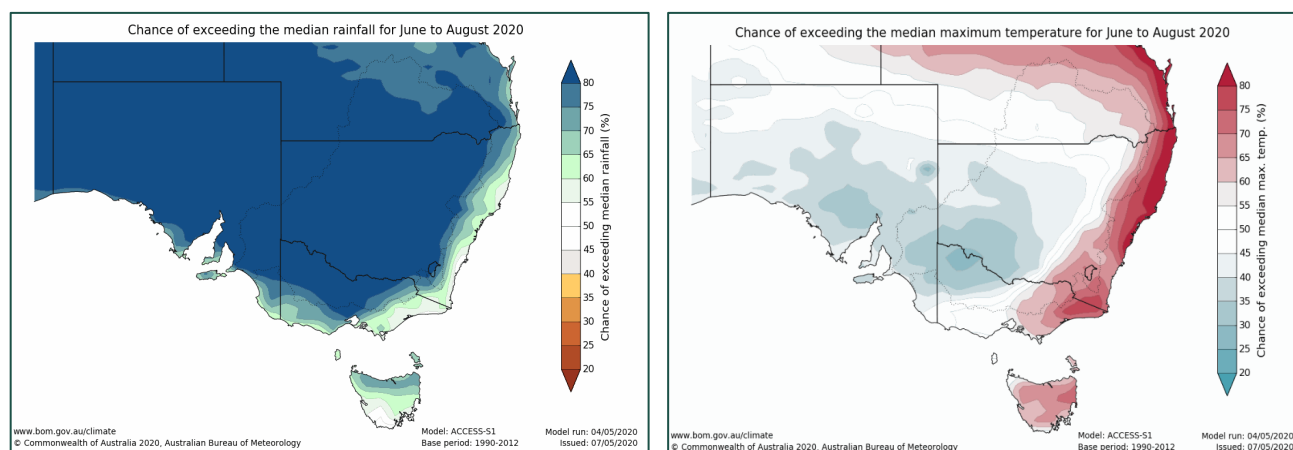
The Murray-Darling Basin Authority confirmed that on 1 May 2020 South Australia had 356.3 GL of deferred water held in storage in the Murray-Darling Basin. The following table identifies the storage in which it is held and the purpose. Volumes stored are adjusted for net evaporation losses and spills until delivered to South Australia.

At 1 May 2020				
Purpose	Lake Victoria (GL)	Hume (GL)	Dartmouth (GL)	Total (GL)
*CHWN	17.0	0.0	237.9	254.9
Private Carryover	0.0	0.0	101.4	101.4
<b>Total</b>	17.0	0.0	339.3	356.3

\*Critical Human Water Needs (CHWN)

## RAINFALL AND TEMPERATURE OUTLOOK

The latest Bureau of Meteorology weather outlook for the Murray-Darling Basin from June to August 2020 indicates that the region is expected to receive above average rainfall and below average to average temperatures.



A warmer than usual eastern Indian Ocean is currently the main influence on Australia's climate. It is increasing the likelihood of north-west cloud bands interacting with rain bearing fronts and troughs as they sweep across the country.

The Indian Ocean Dipole (IOD) is currently neutral. The outlook suggests a negative IOD could develop from mid-winter. Negative IOD events typically increase the likelihood of above average winter-spring rainfall across southern Australia.

El Niño-Southern Oscillation (ENSO) is currently neutral. It is likely to remain neutral over winter with a chance that the Pacific Ocean could cool and reach La Niña levels by late winter or early spring.

The latest Bureau of Meteorology outlook information can be accessed [here](#).

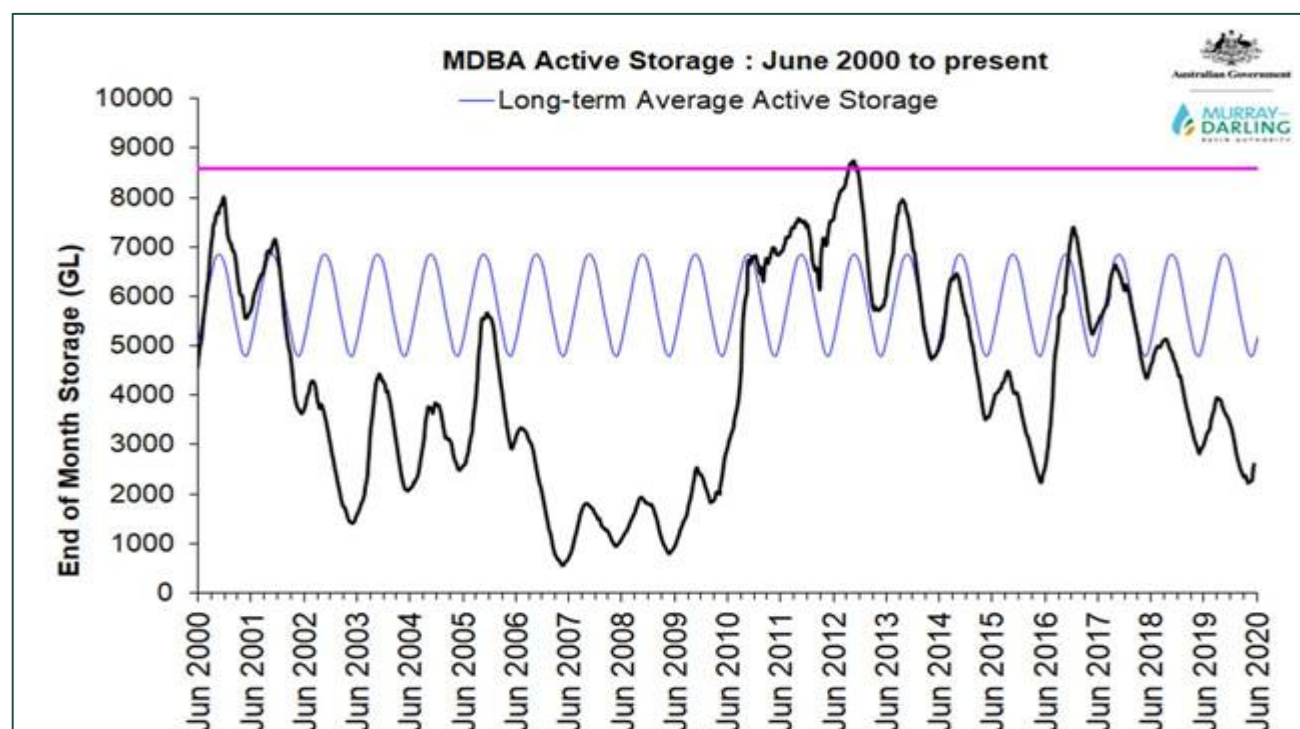
## STORAGE VOLUMES

### Murray-Darling Basin Storage Volumes

Storage	Full Supply Volume (GL)	13/5/2020 (GL)	13/5/2019 (GL)	Long-term average (end of May) (GL)
Dartmouth	3 856	1 917 (50%)	2 462 (64%)	
Hume	3 007	607 (20%)	446 (15%)	
Lake Victoria	677	285 (42%)	194 (29%)	
Menindee Lakes	*1 731	395 (23%)	17 (1%)	
<b>TOTAL</b>	9 271	<b>3 204 (35%)</b>	3 119 (34%)	

\*Menindee Lakes can be surcharged to 2 015 GL

The following graph has been provided by the Murray-Darling Basin Authority. The graph shows the volume of water held in the Murray-Darling Basin storages from June 2000 to now and the long-term average storage for the same period.



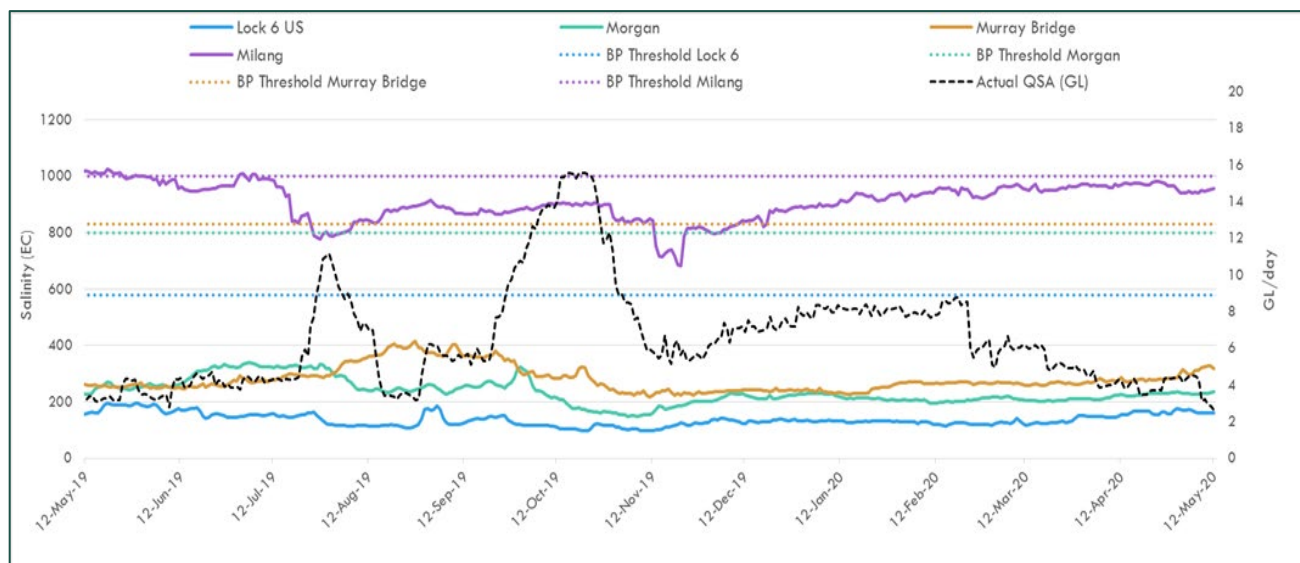
## WATER QUALITY - Salinity

A number of targets are identified under the Murray-Darling Basin Plan, which all Basin jurisdictions must have regard to in managing River Murray flows. The targets for real-time salinity are identified below. Salinity should not exceed these values for 95% of the time:

- 580 EC at Lock 6
- 800 EC at Morgan
- 830 EC at Murray Bridge
- 1 000 EC at Milang.

The following graph shows the salinity at these locations and the flow to South Australia (QSA) from May 2019 to May 2020. The dashed-lines identify the Basin Plan (BP) thresholds for the corresponding colour coded location.

### SA River Murray Daily Average Salinity



## FLOW OUTLOOK

The flow at the South Australian border is approximately 2.7 GL/day and is likely to increase during the coming week. It comprises:

- full May Entitlement Flow (3.0 GL/day);
- plus water for the environment (see below *Water for the Environment*); and
- interstate trade adjustments.

During May, the daily flow to South Australia is being managed to deliver less water in the first half of the month and more water during the last half of the month. This strategy aims to minimise the risk of South Australia's deferred water spilling from Lake Victoria and to maximise inflows into Lake Victoria to improve the Basin States' water availability.

The flow over Lock 1 is approximately 2 GL/day and is likely to increase during the coming week, depending on weather conditions and extractions.

It is important to note that flow forecasts in this advice are based on the information available at the time of preparation. Advice may change as new gauging information becomes available or due to rainfall events or changed operations upstream.

## WATER FOR THE ENVIRONMENT

Upstream of the South Australian border, water for the environment is providing elevated base-flows in the Goulburn River and Lower Broken Creek to support native fish habitat, provide food resources and provide connectivity. After this water is used in these rivers, it is being returned to the River Murray. This water is currently being used in South Australia to:

- provide for barrage releases to the Coorong to support a productive, food-rich environment for fish and birds;
- maintain good connection from the Coorong to the upstream areas of the River Murray, and its tributaries, to enable fish movement and migration;
- maintain water quality, salinity and water levels below critical thresholds in the River Murray channel, Lower Lakes and Coorong, including through targeted releases at the barrages when weather conditions are best suited to push water down the Coorong;
- deliver a range of outcomes to wetlands in the Riverland via arrangements with the South Australian Murray-Darling Basin Natural Resources Management Board, Renmark Irrigation Trust, Banrock Station, Calperum Station and Nature Foundation South Australia; and
- deliver a range of outcomes to wetlands on the Chowilla floodplain via The Living Murray.

## MURRAY MOUTH

Dredging operations at the Murray Mouth commenced on 9 January 2015 to maintain connectivity (exchange of water) between the Coorong and the Southern Ocean. At 10 May 2020, a total of approximately 5 725 874 cubic metres of sand had been removed by dredging operations.

Two dredges are operating between the Goolwa and Tauwitchere channels 24 hours a day, 7 days a week.

Barrage releases combined with dredging have helped to maintain connectivity of the Murray Mouth.

There are a number of shallow zones in and adjacent to the Murray Mouth. Mariners should use caution when traversing the mouth area, follow all directions, reduce speed and avoid travelling at low tide. Mariners equipped with echo sounders should check depths regularly. Navigation through the Murray Mouth is only permitted during daylight hours. Exclusion Zones established around the dredging operations are in place to ensure public safety. Refer to Notice to Mariners No 42 of 2016 [Notice 42](#).

There is a partial park closure in place for the northern tip of the Coorong National Park. For more information visit [Coorong partial park closure notice](#).

## BARRAGE OPERATIONS AND WATER LEVELS IN THE LOWER LAKES

The water level in Lake Alexandrina is approximately 0.59 m AHD and Lake Albert is approximately 0.60 m AHD. The difference in water level is due to wind effects.

Water for the environment has enabled continuous fishway releases and small barrage releases to be undertaken in autumn. During the past week, fishways at all the barrages have provided connectivity between the Coorong and the Lower Lakes. In addition, Tauwitchere Barrage had numerous gates open at various times plus the fishways. This provided targeted releases when the wind, swell and tide conditions aligned to push fresher water down the Coorong. As of Tuesday 12 May 2020, the weekly releases were approximately 7.8 GL.

During adverse weather conditions, SA Water will operate the barrages to minimise the risk of seawater entering Lake Alexandrina, therefore minimising any negative salinity impacts from reverse flow events.

Water levels and barrage operations are monitored closely by the South Australian Government, Murray-Darling Basin Authority and Commonwealth Environmental Water Office.

## LOCK 3 RIVER VESSEL WASTE DISPOSAL STATION

The Lock 3 River Vessel Waste Disposal Station is currently out of commission due to an infrastructure failure. This means that boat operators who need to empty sewage tanks will need to use the nearest alternative waste facilities located at Waikerie and Loxton. Alternatively boat operators who require an urgent pump-out in the Kingston-on-Murray area can contact Mr Hayden Smith on 0457 820 553 for help or advice. Normal boat waste (domestic or galley waste) can still be deposited at the Lock 3 facility at the present time.

## NAVIGATION ISSUES

Sandbars in the vicinity of the Murray Mouth may cause navigation hazards. Mariners are advised to navigate with caution when operating in the area. Sandbars are also present along sections of the River Murray downstream of Locks 7 and 8 and in South Australia. All Mariners should be aware of the risk of submerged navigation hazards and should regularly check river depth.

## SOUTH AUSTRALIAN RIVERLAND FLOODPLAINS INTEGRATED INFRASTRUCTURE PROGRAM CONSTRUCTION WORKS

### Katarapko

All major construction works on the Katarapko Floodplain are now complete. Most of the infrastructure has been commissioned and water is now passing through the structures and fishway. There are still some minor finishing and tidy-up activities being undertaken at the site. The entire work is scheduled to be completed by the end of May 2020.

Campsites and accommodation facilities at the Murray River National Park reopened on Monday 11 May 2020. Bookings can be made online by visiting the following website

<https://www.parks.sa.gov.au/booking#Murray%20River%20National%20Park>

Some campsites at the Murray River National Park still remained closed due to the finishing and tidy-up activities. However, local community members can still visit Katarapko for walking, cycling or fishing activities.

For safety reasons, the following water access restrictions apply to river vessels and people (other than authorised personnel) until end of May 2020:

- Sawmill Creek, the entire length between Katarapko Creek and Eckert's Creek; and
- Eckert's Creek, for 1.3 kilometres upstream of the confluence point with Katarapko Creek (ie *The Splash*).

## Pike

Although work on the regulating structures and blocking bank on the Pike Floodplain is now complete, other works continue in this area. Access to the floodplain is still restricted to construction personnel and authorised visitors. Access to the Pike River anabranch complex is possible.

## QUARTERLY METER REPORTING

All River Murray water users are reminded of their requirement to ensure that they have not used more water than is available on their account by the end of each quarter. This is to help ensure that water can be reliably delivered to all River Murray water users (including the environment) in South Australia. The end of Quarter 4 of the 2019-20 water use year is 30 June 2020. A penalty will be applied in all instances where the volume of water taken is in excess of the available allocation on a water account **at 5:00 pm on 30 June 2020**.

In order to remain within your available water allocation, you can:

- Stop taking water when you reach your allocation limit;
- Before you reach your allocation limit, trade water allocation onto your water account to cover your additional water needs. To comply with the *Natural Resources Management Act 2004*, to ensure that you do not exceed your available allocation and to avoid receiving a penalty charge, you need to trade water allocation onto your account before you take water above your current allocation limit; or
- Investigate whether water efficiency measures could be implemented for your property to decrease your demand for water.

Water users are encouraged to closely monitor their water use throughout the year and remain within their water allocation. You can submit an online meter reading at any time and elect to receive a water usage advice statement (similar to a bank statement) by email or SMS. This helps ensure you are monitoring water use and remaining within your available water allocation.

For more information, please see the [DEW website](#) or contact the Berri water licencing office via telephone: (08) 8595 2053 or email: [DEW.waterlicensingberri@sa.gov.au](mailto:DEW.waterlicensingberri@sa.gov.au)

## RIVER MURRAY WATER LEVELS

Below is a table of River Murray water levels at a number of locations from Lock 10 to Murray Bridge.

### River Murray Water Levels

Location	River km	Normal Pool Level (m AHD)	Current Level 13/5/2020 (m AHD)	1974 Flood Level (m AHD)	1993 Flood Level (m AHD)	2016 High Water Level (m AHD)
Lock 10	825.0	30.80	30.82	33.81	33.32	32.72
Lock 9 Kulnine	764.8	27.40	27.38	30.03	29.44	28.85
Lock 8 Wangumma	725.7	24.60	23.54	27.60	27.19	26.85
Lock 7 Rufus River	696.6	22.10	21.60	25.70	25.24	24.97
Lock 6 Murtho	619.8	19.25	19.18	21.03	20.50	20.19
Renmark	567.4	-	16.34	18.54	18.04	17.44
Lock 5	562.4	16.30	16.34	18.07	17.50	17.05
Lyrup	537.8	-	13.39	16.85	16.26	15.80
Berri	525.9	-	13.35	15.81	15.74	15.21
Lock 4	516.2	13.20	13.35	15.65	15.08	14.73
Loxton	489.9	-	10.09	15.05	14.12	13.54
Cobdogla	446.9	-	9.98	13.44	12.38	11.59
Lock 3	431.4	9.80	9.95	13.16	12.02	10.98
Overland Corner	425.9	-	6.32	12.73	11.58	10.41
Waikerie	383.6	-	6.32	11.26	10.24	9.20
Lock 2	362.1	6.10	6.23	10.28	9.30	8.32
Cadell	332.6	-	3.40	9.17	8.08	7.01
Morgan	321.7	-	3.37	8.85	7.65	6.38
Lock 1 Blanchetown	274.2	3.20	3.32	6.81	5.38	4.46
Swan Reach	245.0	0.75	0.62	6.06	4.51	3.11
Mannum PS	149.8	0.75	0.61	3.15	1.90	1.33
Murray Bridge	115.3	0.75	0.60	2.06	1.26	1.04

Note that the above water levels may be affected by local wind conditions

## FURTHER INFORMATION

The WaterConnect website is South Australia's comprehensive water information portal. For real-time data (like salinity, water levels) go to the following page: [WaterConnect Real-time water data](#).

Up-to-date River Murray salinity, flow and water level information can be accessed at the Department for Environment and Water, SA Water and Murray-Darling Basin Authority websites:

- [Water allocation and carryover announcements](#)
- [River Murray real-time water data](#)
- [SA Water River Murray info - levels, flows etc.](#)
- [Murray-Darling Basin real-time water data](#)

The latest news, information and announcements about the River Murray and Basin Plan are available at [River Murray Update](#).

The Department for Environment and Water has published a series of inundation maps for the River Murray. They are available at [River Murray Inundation Maps](#).

Information on the management of acid drainage water in the Lower River Murray can be accessed at: [Acid drainage water LMRIA](#)

Details of river height and rainfall information in the River Murray within Victoria and New South Wales are available at the Bureau of Meteorology website:

- [Victoria rainfall and river conditions](#)
- [NSW rainfall and river conditions](#)

Information provided by the Commonwealth Environmental Water Office can be accessed at [CEWH Environmental Watering](#).

Information on The Living Murray can be accessed at [MDBA TLM](#).

Chowilla Floodplain Icon Site management [Chowilla-floodplain](#).

Department for Environment and Water [Home page](#).

Information provided by the Department of Planning, Transport and Infrastructure on boat licences, registering motor boats, owning and operating water craft, and boat and marine safety can be accessed at [Boating and marine](#).

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