Our King River

A community asset

People say it's worth looking after the river

During a public meeting in 2014 the King River residents voted the *peacefulness* and *naturalness* of the catchment landscape amongst their strongest values. In terms of the river corridor itself, fauna particularly birds and fish were highly appreciated. The clearing of the landscape has led to a number of side effects imposed on the river. Degrading water quality is a risk and there is loss of native vegetation accompanied by invasion of various weeds that threaten the natural ambience of the area as well as creating potential economic problems. Development pressures have increased rapidly during the past one hundred years, to the extent that the natural river environment can no longer maintain itself. Responsible and informed management of the river is required if the community wants its natural values to be retained.

Detailed information about the pre-settlement nature of the river is scarce, but there are some observations by early pioneers and there are remnant bush land areas that provide clues.

The King River and the two tributaries Phillip Brook and Parker Brook, derive their modern names from Captain Phillip Parker King RN (1791 – 1856), who first visited the area in 1818. Historical records indicate that 74 years later in 1892[1], the King River was part of a land grant of fifty one thousand acres, to Anthony Horden. The blocks were surveyed, subdivided and rapidly sold. This process continues with new sub-divisions attracting people into the area and its pleasant lifestyle.

This little booklet provides a brief insight into the present character of the King River. Its purpose is to encourage residents and visitors to do their bit to ensure that it is preserved and managed well. Useful contacts have been listed at the back as sources of more detailed information.

---

1 K Gibb and A Moir. Reflections of life over the years at King River

Where does the King River start and finish?

The Noongar people are the traditional custodians of the land and were known locally as the Menang. In a story[2] handed down through generations, Waat and his wife Watami, the Bronze Wing Pigeon couple, fought over food at her camp near present day Mt Barker. Watami was clubbed and chased by her husband Waat, after eating a forbidden snake. She dragged herself southward, gouging out tracks and making the King River, eventually arriving at Oyster Harbour where she died. Worrycoolyup is the name of King River which means ''walked badly' referring to Watami walking with broken legs. Her son and dog went searching for her and eventually found her body at present day Oyster Harbour. Miaritch is the traditional name for the estuary and refers to 'tears'. They buried her and in the meantime water gushed in and left the island or burial mound (Green Island), the water then flowed into her tracks thus forming the King River.

The King River catchment is a complex branching network of shallow streams extending from north of Yellanup Road southward to Oyster Harbour. The upper catchment is plateau country with numerous wetlands and small channels many of which have been modified and redirected to suit farming needs. Further downstream the riparian corridor becomes more distinct and in the reaches along Bila Boya Reserve the channel is well incised (trench-like) within a broader, wooded floodway. Groundwater feeds the stream causing it to flow all year round, although to a lesser extent in the summer months.

At the lower end of Bila Boya Reserve at the confluence of the King Rivers largest tributary Millbrook, the river begins to broaden and comes under the tidal influence of the Southern Ocean via Oyster Harbour. A short distance upstream of the Lower King Bridge the river widens further into a shallow lagoon. This area is a favored feeding place for many wading and diving birds.

---

[2] From A Noongar History of Albany by Bob Howard

Catchment area:

370 Square kilometers

Catchment length:

27 Kilometers

Average annual rainfall:

860 mm

Water quality: *Fresh*

Major tributaries

Millbrook, Phillips Brook, Willyung Creek

Outlet

Lower King Road bridge at Oyster Harbour

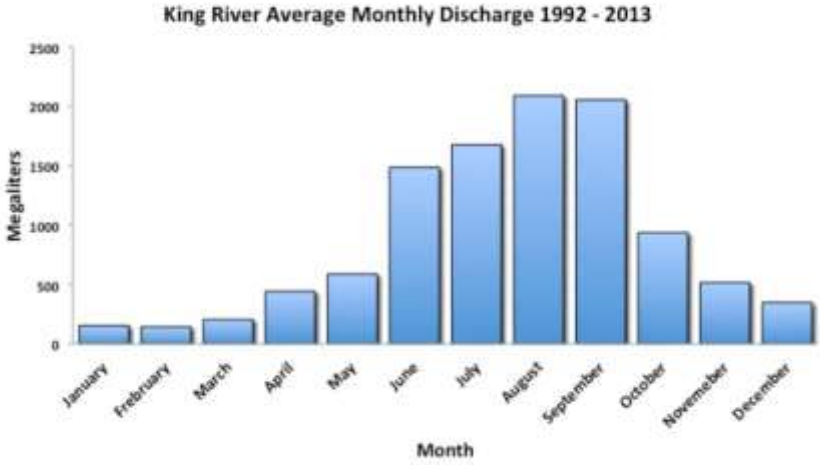
Modification

85% cleared of native bush

How much water flows down the King?

The amount of water flowing along a stream is known as the *discharge* and it varies from season to season and year to year. Discharge is measured in cubic meters per second or *Cumecs*. One Cumec (5 bathtubs full per second) is a strong flow in the King River. A small percentage of the annual rainfall runs off the surrounding land as surface discharge, but groundwater seepage accounts for flows typically observed in the King River. Low flows are important for the health of the plants and animals that live in the riparian zone, but larger floods also serve a useful ecological function and form many of the larger natural features of the river such as riparian terraces and meanders. Erosion and sedimentation are natural processes, but tend to be damaging to the ecosystem if the riparian vegetation is removed.

The average total yearly discharge for the King River (at Bila Boya Reserve) during the period 1992 to 2013, was estimated at 10,370 megaliters (million liters). By way of comparison, an Olympic Pool holds 2.5 megaliters. The graph below shows the highest discharge months are June through to September.



What is the quality of the water in the river?

Important water quality characteristics of the King River are its electrical conductivity (indicating salt content), pH (acidity), oxygen levels (fish also need oxygen), temperature, turbidity (sediment load), nitrogen (N) and phosphorus (P).

Turbidity is a measure of the amount of fine suspended particles in the water. The dark tannin color does not significantly affect turbidity as this is due to natural *dissolved* organic substances.

Water monitoring at the Bila Boya stream gauging station, between 1995 and 2014 provided the following water quality estimates[3].

	Minimum	Median	Maximum	Rating
Conductivity (µS/cm)	500	970	2300	Fresh upstream of the the Millbrook confluence
Temperature (°C)	7.6	15.3	25.6	Generally cool
Turbidity (NTU)	2.4	12	57	Low turbidity
Total N (mg/L)	0.09	1.3	4.9	Tending high
Total P (mg/L)	0.023	0.12	0.76	Tending high
Oxygen (mg/L)	5.1	9.4	12.8	Excellent
pH	6.3	7.0	8.1	Slightly acidic to slightly alkaline

By comparison, Albany town water conductivity is approximately 850 µS/cm.

The King River data indicates a somewhat nutrient enriched environment (nitrogen and phosphorus) with likely sources being the agricultural lands. This indicates that proper management of nutrient inputs in all parts of the catchment will be an essential action if the quality of the river is to be conserved.

[3] Department of Water – water information ser

Local native fish common to the King River?

The *Gambusia* is an introduced pest fish species and is found in the King River. It can significantly reduce native fish populations and offers no benefits. It favors warm shallow water and can tolerate saline conditions.

Fisheries and Marine Officers in Albany often encounter wildlife entangled in illegal traps (e.g. turtles, rakali and cormorants), highlighting why the equipment is banned when fishing in all of Western Australia's State Waters. The illegal use of a variety of traps is an ongoing issue in the Southern region and around the State.

The potential impact that crab, bait fish, yabby and opera house traps can have on incidental species such as fish, freshwater crayfish turtles/tortoises and birdlife, is a huge concern. Traps may take years to degrade and continue to trap long after they have been lost.

Traps can be purchased from tackle stores, but they can only be used on private property in enclosed farm dams.

Community members observing illegal fishing activity, including the use of traps are encouraged to report it to the FISHWATCH hotline on 1800 815 507.

Fishers are urged to familiarize themselves with the rules associated with legal fishing gear prior to taking to the water. You can obtain a copy of the *Recreational Fishing Guide*by visiting the website www.fish.wa.gov.au for further information.

Macro-invertebrates – fish food

Beneath the natural tannin colored waters of the King River hardly seen, but essential to the health of the river, are a host of small animals known as aquatic macro and micro invertebrates. Some of these live out parts of their life cycle both in and out of water. These less 'cuddly', but fascinating creatures are a critical part of the ecosystem and particularly the food chain that links the vegetation and soils of the ecosystem to the larger animals both aquatic and terrestrial that make the river their home. Threats include high turbidity and nutrient levels, excessive algae growth and other pollutants. Non-native animals such as the introduced eastern states Yabby and Gambusia can out compete our native aquatic fauna.

Weeds invading the river corridor


English Gorse
Pampass Grass
Polygala
Wavy Leaf Pittosporum
Batwing Fern
Bleeding Heart
Victorian Tea Tree

A study in stream care

Millbrook landholders Geoff and Dianne Lodge purchased a property in the area in 2005 and soon set about turning their weed infested reach of the Millbrook stream into a model of riparian rehabilitation using native plant species. They had farmed in the Boyup Brook area for fifty years before moving to Albany and were familiar with the difficulties and issues of protecting river environments. Geoff points out that site preparation to eradicate weeds is the essential first step before doing anything else. This may take a year or two.

Once the groundwork was finished, funding was obtained to assist with fencing and the provision of native plant seedlings. This helped move the rehabilitation project along. The existence of some remnant native vegetation was a bonus and provided a good base to start with. Geoff and Dianne enjoy walking in the area and observing the increased birdlife. They both say that there is a real sense of satisfaction that comes with doing your bit to improve and look after the environment.

What can you do to help look after the river?

If you can confidently identify Sydney Golden Wattle (not to be confused with some native species), Taylorina, Polygala and Wavy-leaf Pittosporum, the smaller plants can be pulled out by hand, larger stems can be cut close to the ground and left.

If you find an aggressive invader such as English Gorse or an unusual plant you may suspect is a weed contact the City of Albany or South Coast Natural Resource Management and let them know its location and what can be done.

Join a community environment group such as Bushcarers or volunteer for a Busy Bee or two.

Become familiar with and support your local Natural Resource Management organizations, for example South Coast NRM.

Purchase a copy of Southern Weeds and their Control (DAFWA).

Ensure that non-local native Australian plants and trees are not going to become a 'weed', before purchasing and planting them (For example *Kunzea ambigua* which is native to the eastern states and available from nurseries, is becoming a serious weed.)

Find out what native plants, instead of non-natives can be planted in your garden, through the Nursery & Garden Industry Australia website.

Interesting reading

Reflections of life over the years at King River. Stories collected by Kath Gibb compiled by Amelia Moir. 1999. ISBN 1 920843 04 3. Available from the Albany Museum.

Managing our rivers: a guide to the nature and management of the streams of south-west Western Australia. Pen, Luke J. (1999). Water and Rivers Commission. ISBN 0 7309 7450 2.

Old Albany. Photographs 1850 – 1950. John Dowson 2009. ISBN 978-0-9805395-2-3. *Revised edition*.

For further information about …

King River projects - Oyster Harbour Catchment Group
,PO Box 118 Mt Barker WA 6324. Ph: (08) 9851 2703.

Regional NRM projects - South Coast Natural Resource Management.
39 Mercer Road Albany. Ph: (08) 9845 8537.

Weeds & pests - Department of Agriculture and Food WA
444 Albany Highway, Albany WA 6330. Ph: (08) 9892 8444.

For weed management issues - Bush Carers, City of Albany
102 North Road, Yakamia, Albany WA 6330 Ph: (08) 9841 9333.

Fish and fishing - Department of Fisheries WA,
88 – 90 Stead Road, Albany WA. 6330 Ph: (08) 98457400.

Water quantity and quantity - Department of Water
5 Bevan St Albany. WA 6330. Ph: (08) 98425760 .

Substitute native garden plants - Nursery & Garden Industry Australia
PO Box 7129 Baulkham Hills BC. NSW 2153. Ph: (02) 8861 5100.

www.growmeinstead.com.au/

Acknowledgements

This booklet was produced by the Oyster Harbour Catchment Group for the King River Community and prepared by Steve and Geraldine Janicke. Assistance from Tahryn Thompson from Fisheries WA, Justin Hardy, Geoff and Dianne Lodge, Graeme Simpson from South Coast NRM and Robert Lavis from the Department of Water, was much appreciated.

Oyster Harbour Catchment Group

STATE NRM OFFICE
Natural Resource Management in Western Australia

Steve & Geraldine Janicke