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Dear Sir or Madam,

RE: Plastic Pollution on the Georges River NSW

17 September 2015

The Georges River Combined Councils Committee (GRCCC) is a regional grouping of nine councils in the Georges River catchment in the south and southwest of Sydney, New South Wales.

Each participating GRCCC member Council has adopted the Georges River Coastal Zone Management Plan (CZMP). The plan guides member Councils actions to manage and improve the condition of the Georges River estuary and protect and rehabilitate the River over the next 5-10 years. The plan was certified by the NSW Environment Minister and came into effect when it was gazetted in July 2015. This submission is consistent with the aims, objectives and on ground management actions as recommended in the Georges River CZMP that has been adopted by participating GRCCC member Councils and specifically Management Action MA8 that relates to the Clean-up of illegal dumping and rubbish.

The GRCCC Riverkeeper Program coordinates bush regeneration and rubbish/litter removal programs across the catchment predominantly in the intertidal and riparian zones.

The Riverkeeper Programme maintains statistics on gross pollutants collected by Riverkeeper Teams. Teams are comprised of:

- Corrective Services NSW offenders
- Green Army teams
- Community volunteers (eg: Clean Up Australia Day)

In the past four fiscal years the Riverkeeper Program has removed over 385 tonnes of rubbish and litter from the Georges River catchment. The annual breakdown is:

- 2011/12: 114.1 tonne
- 2012/13: 103.0 tonne
- 2013/14: 70.3 tonne
- 2014/15: 99.4 tonne

The Riverkeeper program does not maintain detailed statistics of litter removed by categories such as: plastic bottles, plastic bags, polystyrene packaging, etc. However from observation we have a fairly strong feel for what items and volumes comprise the gross pollutants with plastic items being the most common form of litter. It is estimated that between 250,000 to 500,000 plastic bottles would be removed from the river annually. The physical condition of the bottles

varies greatly from bottles recently littered to bottles in varying stages of photo-degradation due to age.

It should be noted that the Riverkeeper programme targets rubbish/litter collection from 4 main zones on the river:

1. Open Beaches: Sandy beaches where floating litter is left high along the strandline of the beach
2. Mangrove Forests: Estuarine mangroves in the river and bays catch and hold floating litter
3. Phragmites Reed Beds: *Phragmites australis* is a native reed which colonises the river shoreline and creeks where the water becomes brackish to fresh. Phragmites reed beds catch and hold floating litter and often snag suspended litter
4. Freshwater Creeks: Freshwater creek tributaries to the main river vary from ephemeral flow to permanent water bodies. Litter is often caught on vegetation along the creek edge, snags in the creek and stranded on adjacent floodplains.

It should be noted that at locations 1, 2 and 3 the predominant source of plastic litter is from floating items (with current and wind being the vectors). In the case of PET bottles, if the cap is not on the bottle the PET bottle is designed to sink or remain suspended in solution. Therefore the majority of uncapped bottles are not stranded in these locations unless they are inverted with air trapped inside the bottle leaving the bottle partly suspended on the surface as such the volumes of uncapped bottles littered within the catchment are an unknown quantity.

A number of photos accompanying this report highlight the capped/uncapped issue. Below each of the photos are displayed with an Image Name for identification purposes and with key comments. Note – attached photos can be enlarged to see details:



Image Name: Suspended Plastic Bottles

Comments: Note the capped bottles floating cleanly on the surface, inverted bottles have no cap and are partly filled with water – uncapped bottles full with water have sunk to the bottom or are suspended below the surface.



Image Name: Plastic Bottles Phragmites Reed Bed

Comments: Capped bottles stranded behind a Phragmites reed bed



Image Name: Plastic Bottles Mangroves

Comments: Capped plastic bottles stranded behind and among mangroves



Image Name: Plastic Bottles Photo-degrading

Comments: Old bottles found are often in various stages of photo-degradation



Image Name: Plastic Bottles on Ephemeral Creek

Comments: Capped and uncapped bottles are visible on this ephemeral creek (Orphan School Creek). The bottles are jammed up at a road culvert

The cost to the community of removal of the litter on the river can be calculated from the program statistics.

In the 4 year period from July 2011 to June 2015 it is estimated that labour provided to remove rubbish and litter from the Georges River is valued at \$2,820,030.00. The annual breakdown is:

2011/12: 28,871 hours @ \$30 per hour* = \$866,130
2012/13: 28,333 hours @ \$30 per hour* = \$849,990
2013/14: 17,316 hours @ \$30 per hour* = \$519,480
2014/15: 19,481 hours @ \$30 per hour* = \$584,430

*Australian Government Natural Heritage Trust values volunteer labour at \$30.00 per hour

In addition the management, coordination and administration of the Riverkeeper program costs approximately, \$114,000 per annum.

*The GRCCC Riverkeeper program costs above includes staff and on costs, material costs for collection of rubbish including the provision of bags, gloves, pick up sticks etc. It does not include capital costs such as vehicles or trailers and other assets required to collect rubbish and coordinate the program.

The GRCCC is an incorporated association of nine local government councils working in partnership with state and federal government agencies and community representatives to improve the health of the Georges River catchment. The GRCCC represents local government in the Georges River Catchment of NSW. Member councils include Rockdale City, Sutherland Shire, Kogarah City, Hurstville City, Bankstown City, Liverpool City, Fairfield City, Campbelltown City and Wollondilly Shire councils.

Yours faithfully,

Svetlana Kotevska
GRCCC Program Manager