

WATER — *LYNGBYA MAJUSCULA* — ROEBUCK BAY, BROOME

2945. Hon Robin Chapple to the Minister for Agriculture and Food representing the Minister for Water:

I draw your attention to the outbreak of *Lyngbya majuscula*, a species of toxic cyanobacteria that affects the health of seagrass meadows and the web of marine life that depends upon it, in Roebuck Bay Broome, and I ask:

- (a) is the Minister aware that the *Lyngbya majuscula* blooms are caused by nutrients from stormwater runoff, and heavy nitrogen loads seeping from the Broome South Waste Water Treatment Plant (BSWWTP) and the unregulated use of treated wastewater to irrigate the golf course:
 - (i) if no to (a), why not; and
 - (ii) if yes to (a), what are the concentrations of nitrogen and phosphorus seeping into the Bay;
- (b) is the Minister aware that the *Lyngbya majuscula* blooms in Roebuck Bay have been worsening in recent years, with a very heavy bloom occurring during the 2014–15 wet season;
- (c) what are the conditions causing the seepage;
- (d) what is being done to monitor and arrest seepage of wastewater effluent from the BSWWTP and from under the golf course into Roebuck Bay:
 - (i) are there plans to re-line and remediate the aging BSWWTP and, if not, why not; and
 - (ii) are there plans to close the aging BSWWTP to prevent an even worse *Lyngbya majuscula* outbreak in the future and, if not, why not;
- (e) what is being done to monitor and regulate and strip nutrients from the treated waste water that is used to water the golf course and other sporting venues;
- (f) what is being done to monitor and regulate and strip nutrients from the stormwater that runs into Roebuck Bay; and
- (g) what is being done to regulate and monitor the use of fertilisers and other nutrient rich chemicals in Broome, and prevent their run-off into the Bay?

Hon Ken Baston replied:

- (a) *Lyngbya majuscula* blooms, more commonly known as blue-green algae, are caused by high level nutrients within catchment areas. In Roebuck Bay contributors can include nitrogen from agriculture, farming, soil laden run off, acacia plants, storm water and septic tanks. In addition there have been suggestions that the Broome South wastewater is also impacting the bay. This is currently under investigation.
 - (i) not applicable
 - (ii) The contribution to the concentration of nitrogen and phosphorous in Roebuck Bay is not currently known.
- (b) The Minister is aware *Lyngbya* blooms in Roebuck Bay are accelerated by rainfall events and warm weather during the wet season summer months. Rainfall events cause an influx of nitrogen and phosphorous (nutrients) to flow from the Broome Peninsula into Roebuck Bay.
- (c) The suggestion that nitrogens from the Broome wastewater treatment plant are seeping into Roebuck Bay is currently being investigated.
- (d) In September 2014, the Water Corporation commenced environmental investigations to accurately determine the impact nutrients from the Broome South Wastewater Treatment Plant (WWTP) may have on Roebuck Bay.
 - (i)–(ii) A decision on the best way forward in the long-term will be made following completion of the investigations.
- (e) Water recycling schemes are regulated by the Department of Health (DoH) and must comply with the DoH guidelines. The treated wastewater is supplied under the Nutrient Irrigation Management Plans designed to meet guidelines for nutrient loading specified by the Department of Environmental Regulation. An irrigation management plan developed by URS Australia Pty Ltd was provided to the Golf Course advising them of steps to take to achieve optimum irrigation and nutrient balance.
- (f) The Shire of Broome manages the storm water network.

- (g) The Water Corporation does not manage or regulate the use of fertilisers and other nutrient rich chemicals
-