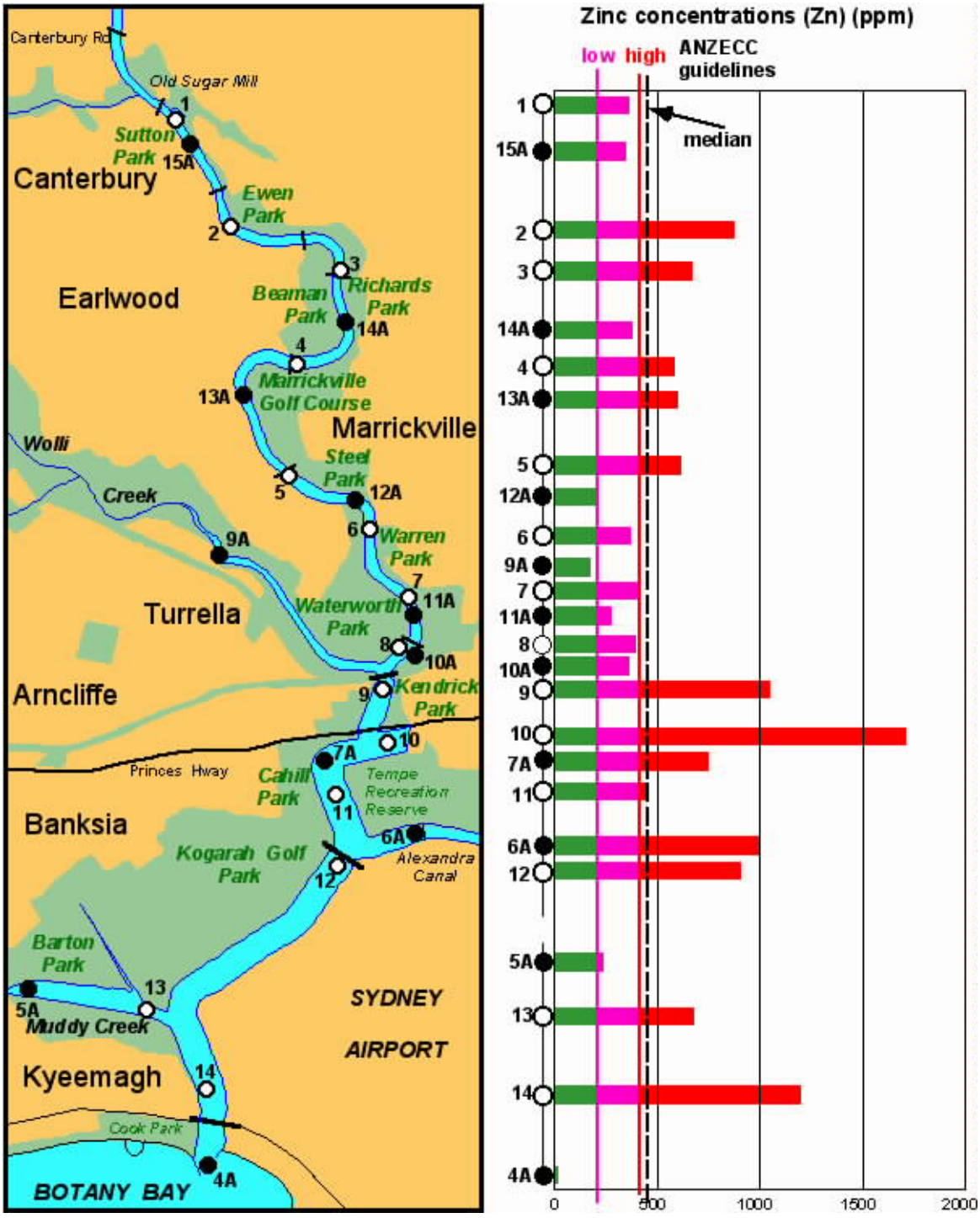

Figure 11 – Distribution of zinc concentrations

and wood preservatives, but such uses are decreasing because of the occupational and environmental risks (Leonard 1991). Elevated levels of As have been found in some samples of "green" domestic waste in Australia. Other uses include manufacture of pigments and antifouling paint, in cosmetics, in the ceramics industry, in fireworks, and in

alloys and solders (Leonard 1991). Arsenic impacts can therefore be attributed to industrial waste discharges.

In Cooks River high values are present at 7 stations (28%) and in particular at the Alexandra Canal station (stn. CR6A), off the Marrickville Golf Course (stn. CR13A) and off the drain at Mackey Park (stn. CR11A).

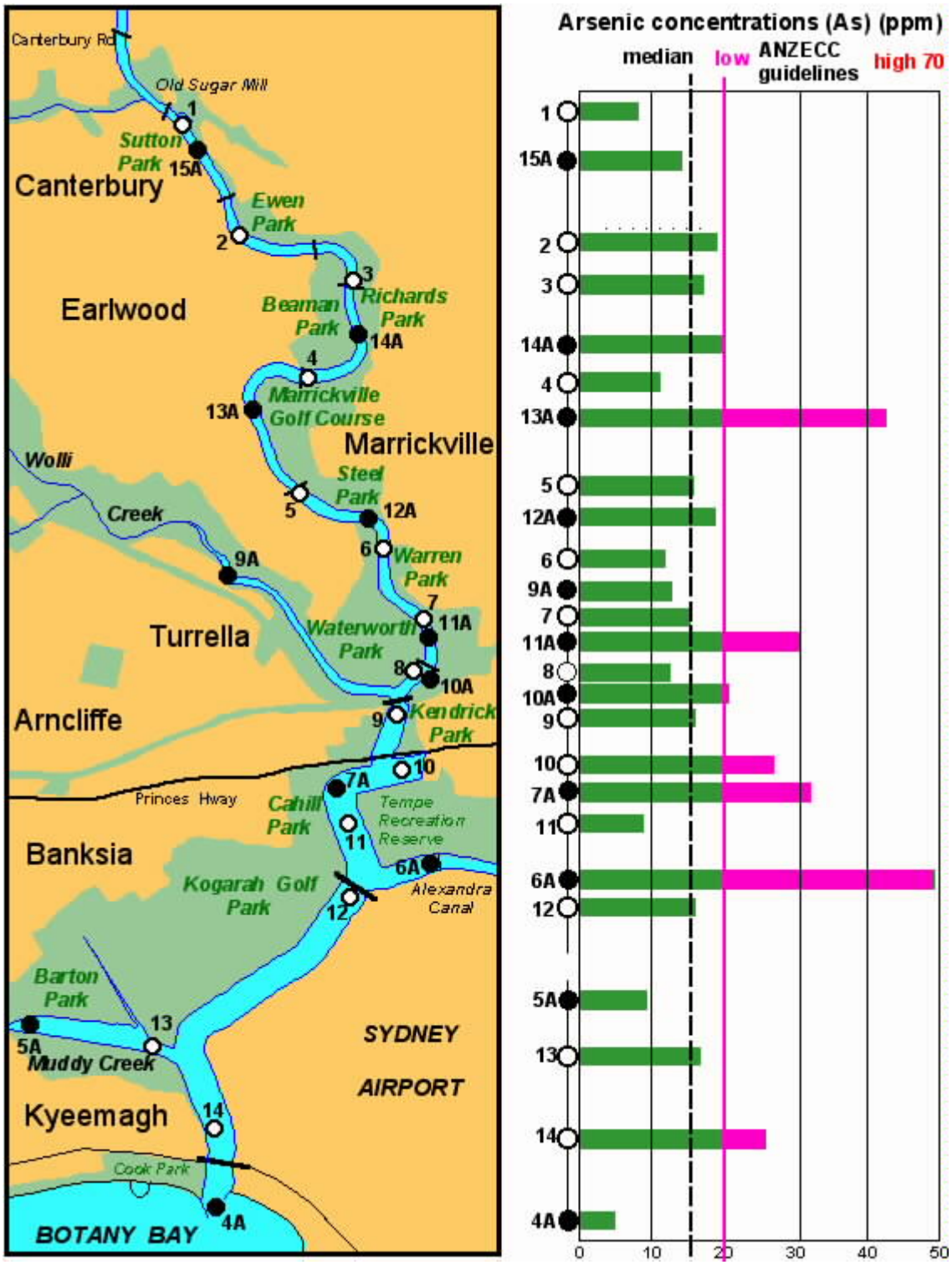

Figure 12 – Distribution of arsenic concentrations

Cadmium (Cd) (Fig. 13)

The use of cadmium has greatly increased its input to the environment since the start of industrialisation, in the form of dust and aerosols into the atmosphere, as effluent into rivers, and as solids from point sources (wastes, slag, incineration, coal combustion, phosphate fertilizers, sewage sludge) (Stoeppler 1991). Uses of cadmium include corrosion protection, Ni-Cd batteries, pigments, soaps, solar cells and various alloys (Stoeppler 1991).

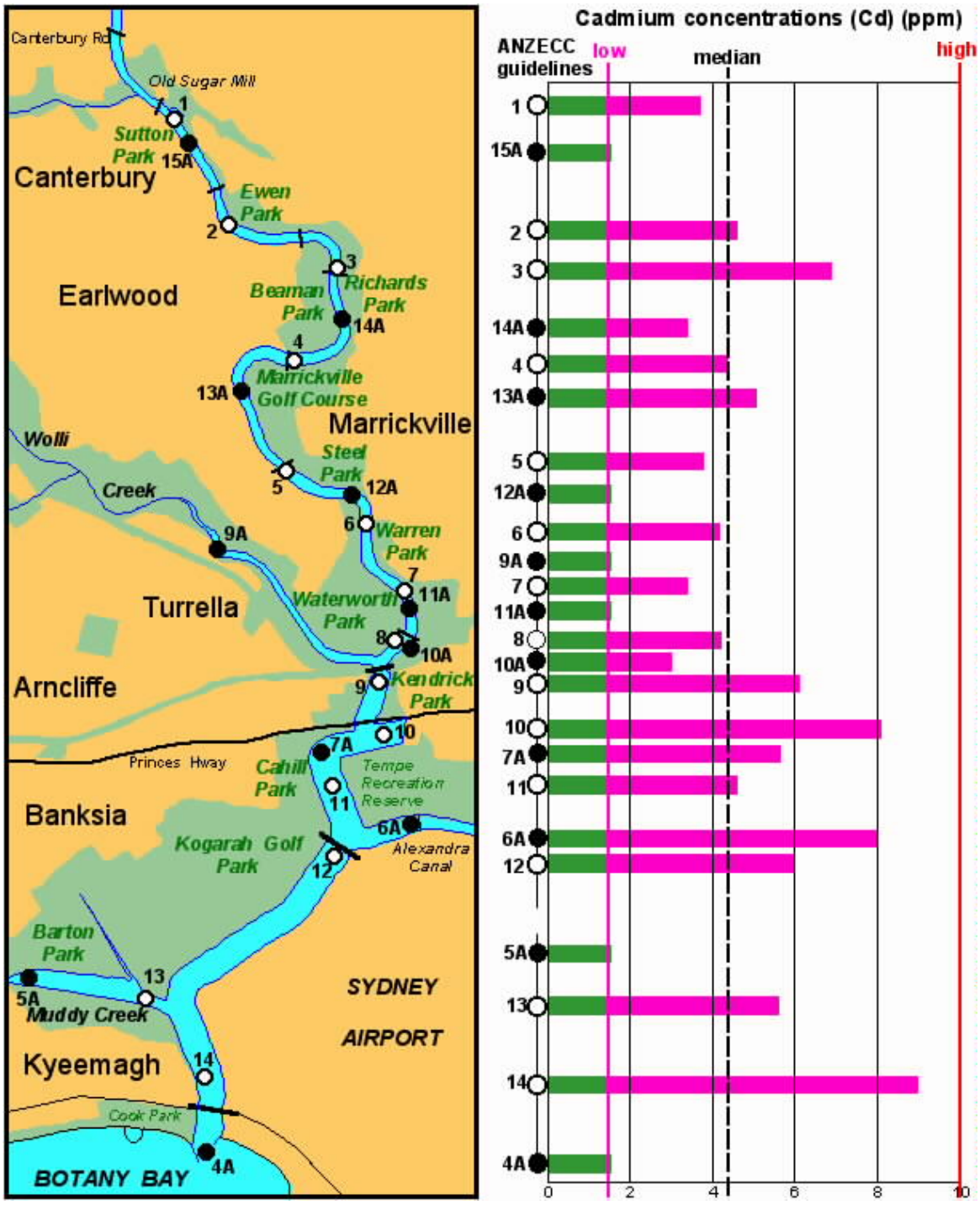

Figure 13 – Distribution of cadmium concentrations

Whereas values observed in the Cooks River are elevated (maximum of approx. 9 ppm at stn. CR14), its impact of cadmium may not be significant. However 19 stations (76%) are above the “low” ANZECC value. Note of consideration is the presence of the highest values (8-9 ppm) at stations CR6 (Alexandra Canal) and CR3; additional locations (CR10 and CR14) appears to be related to the presence of boating activity.

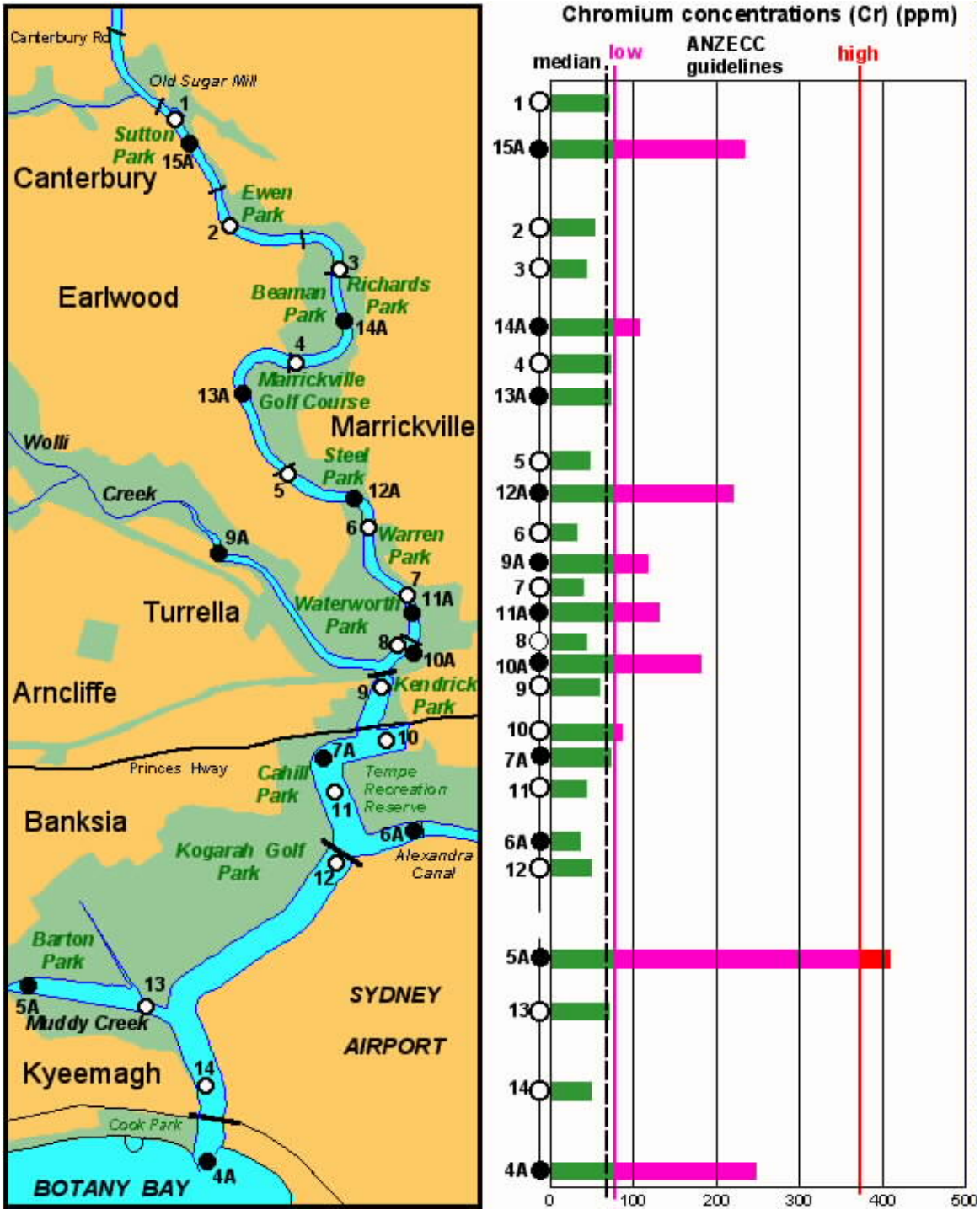

Figure 14 – Distribution of chromium concentrations

Chromium (Cr) (Fig. 14)

Most of the chromium produced is used in the metal industry, in alloys and steels (stainless steel), and in the galvanizing industry for chrome plating (Gauglhofer and Bianchi 1991). Loss to the environment during production is possible as dust, liquid or aerosol. Other uses include as pigments, as a catalyst and in the tanning industry

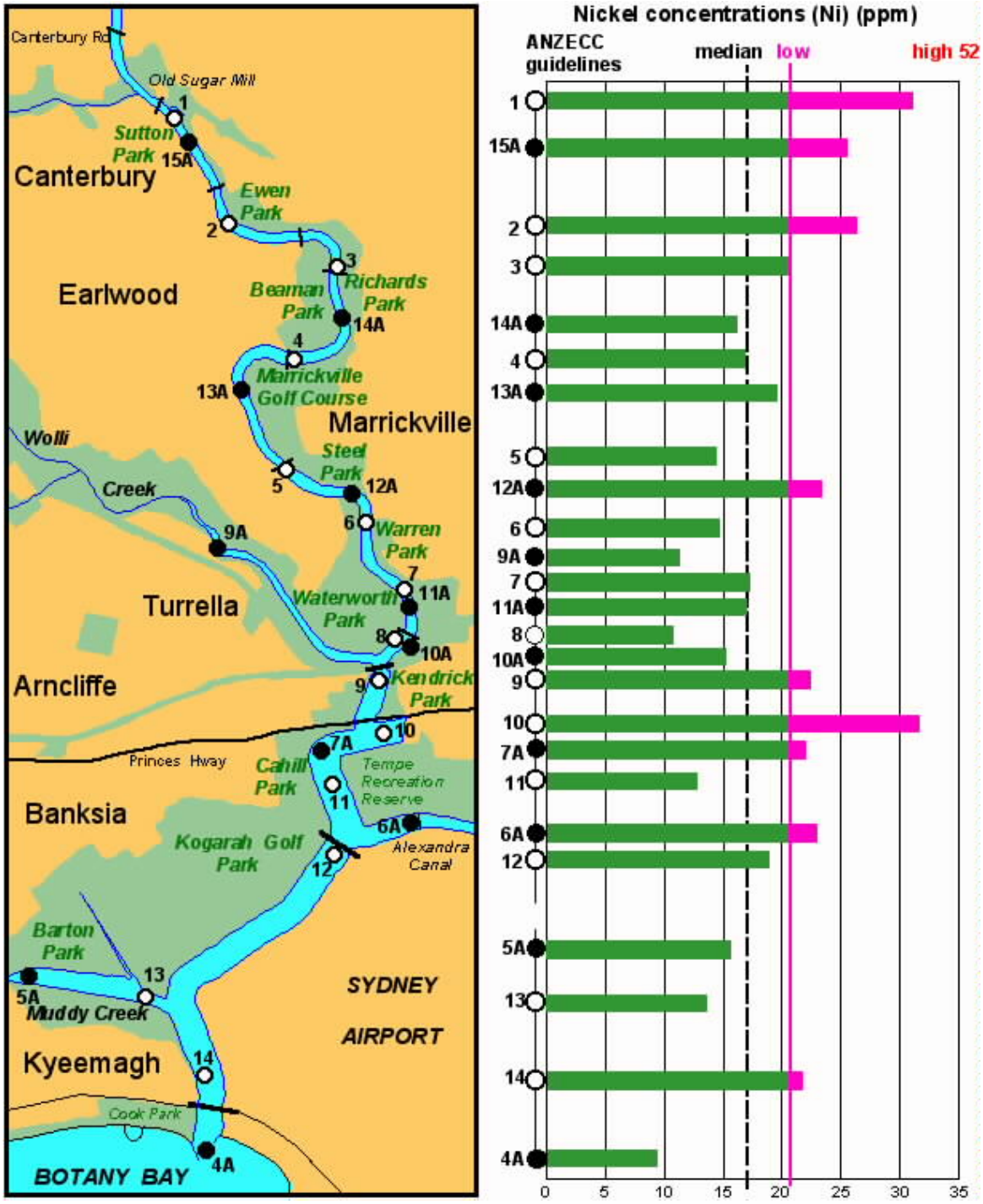

Figure 15 – Distribution of nickel concentrations