WATER QUALITY CONDITION

Analysis

Current Status—Reporting Methodology

The condition of water bodies is reported using a number of methods. A review of the performance within the reporting year as well as the longer term trend is presented.

When assessing sites all the data collected since flow based sampling began in 1992 in considered. The long term performance of indicators is analysed with reference to flow, seasonality and time (Appendix 2).

The performance of each indicator is then considered for the reporting year 2000-2001. Median values were used in conjunction with statistical dispersion to consider conditions at each site, referencing standards. The median is seen as the most useful measure of the 'average' condition as it is less affected by extremely high or low values than is the mean. The mean is strongly biased toward the infrequent extreme conditions that may occur in water bodies. Any significant variation of median from previous sampling years is noted.

For indicators that demonstrate a good relationship with streamflow, an additional method of analysis has been used. This relates to total phosphorus, total nitrogen, suspended solids and turbidity in rivers that all show an increase in concentration with increasing flow.

With a flow based sampling program, samples have been taken at various levels of streamflow. From the relationship between flow and the indicator, we can reasonably reliably determine the percentage of flows where an indicator may exceed the water quality standard. For a detailed explanation of the method used see (Appendix 2).

Some sites have not been sampled at a sufficient range of flow. For these sites it has not been possible to determine at what stage of flow the indicator would be exceeded.

Water Quality Status

The condition of water quality at the monitoring sites can be assessed by comparison of actual concentrations with concentrations listed in the water quality standards (Table 1).

The data for the various indicators has been presented on a number of maps. Sites have been coded as good, fair or poor. A site is classified good when it compares well within the standards for the particular indicator. A fair classification occurs where the value is on the threshold of the standards and a poor classification occurs where a site noticeably exceeds the standards. In line with the flow exceedance of variables listed above, the percentile of flow at which that indicator is likely to exceed the standard is reported.

Long Term Trend

Trend analysis of data available between 1992 and 2001 has been carried out for sites with sufficient data for trends to be detected. This period corresponds with flow based monitoring of rivers and creeks. Prior to this period, monitoring was carried out at regular intervals with no reference to flows, and it is not appropriate to compare these data.

All of the trend graphs have had a statistical test applied to determine if trends are significant. Statistical analysis was used on sites to determine the influence of flow as well as time on the concentration. The trendline produced is a product of that time component at the median flow. A detailed explanation of the method used is attached (Appendix 2) and a scatterplot of all indicators at all sites (Appendix 4). For the remaining river indicators and all lake sites, indicator concentrations have been plotted against time.

Indicators

Biological Monitoring

The biological component of the ACT Water Quality Monitoring Program incorporates the macroinvertebrate monitoring undertaken using the AUSRIVAS model, involving the collection of edge samples from ten test sites and three reference sites in the ACT region during spring 2000 and autumn 2001. An AUSRIVAS predictive model developed as part of the National River Health Program (NRHP) conducted under the Natural Heritage Trust has been used to assess these sites providing a measure of biological health.

The unit that is considered in this report, Overall Site Band (O/E) represents the observed (O) bugs at a site compared to the expected (E) bugs for a site as determined by the AUSRIVAS model. The impacts are ranked as follows:

X Above reference
A Equivalent to reference sites
B Slightly impaired
C Moderately impaired
D Severely impaired

The spring 2000 results are shown in (Figure 5)(Appendix 3). Various elements have been impairing the biological health at a number of sites. Agricultural and urban runoff and excess sediment leading to habitat degradation are major causes for reduced biological diversity. Poor results are also reported where dam releases and disturbed environmental flows occur.

There is a significant effect in Ginninderra Creek, with all sites in Spring 2000 recording impoverished (Band D) results. The willow removal program, which has been undertaken to improve the ecology of the river by improving habitat diversity, has caused significant disturbance to the stream bank. Also, the turbidity and sediment may be flowing down from Gungahlin Pond. The Autumn 2001 results are shown in (Figure 6). The impoverished ecosystem results experienced in the previous sampling program are improved. Continued enhancement as native vegetation establishes along the creek is expected.

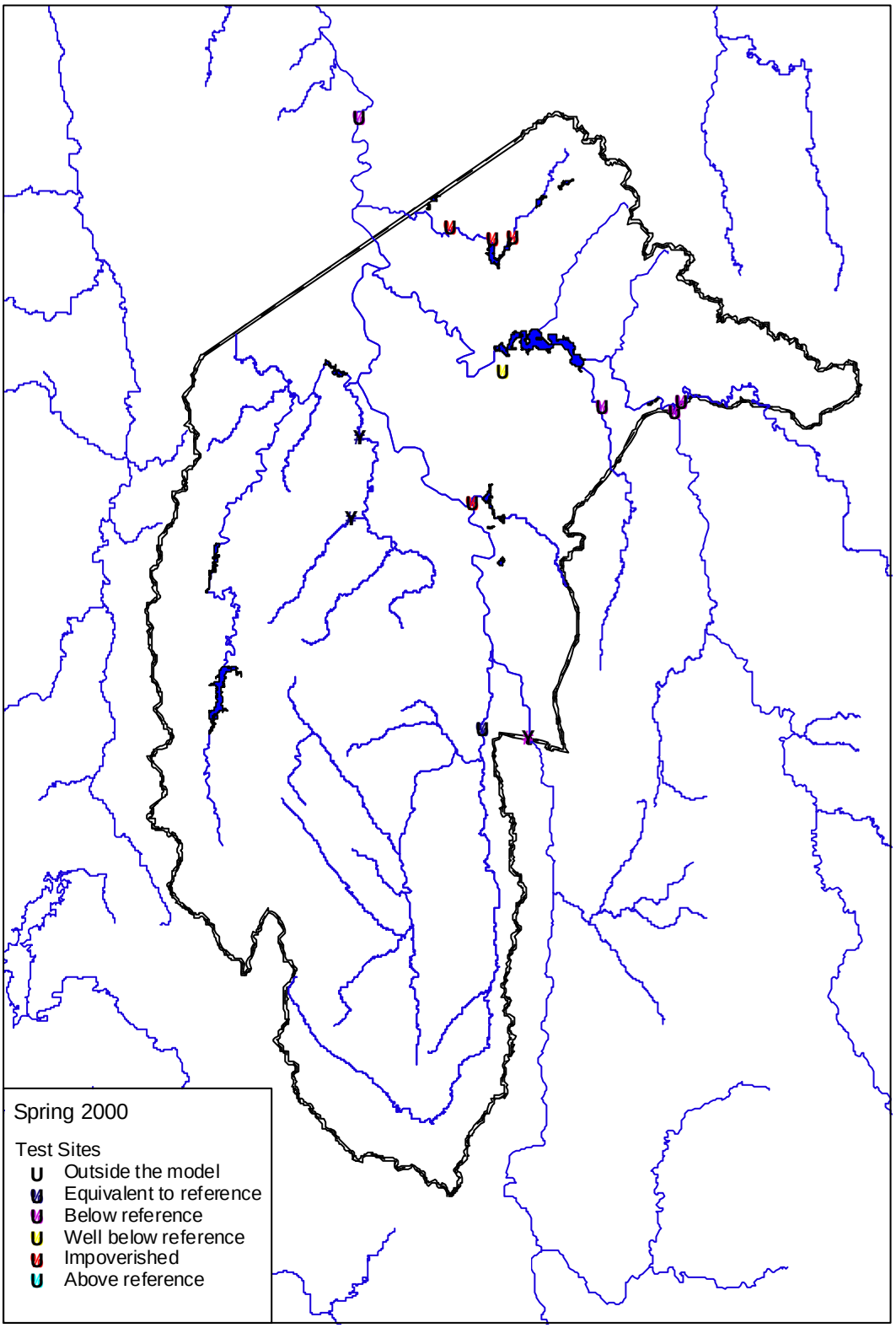

Figure 5: AusRIVAS Assessments of Monitoring Sites in the ACT for Spring 2000

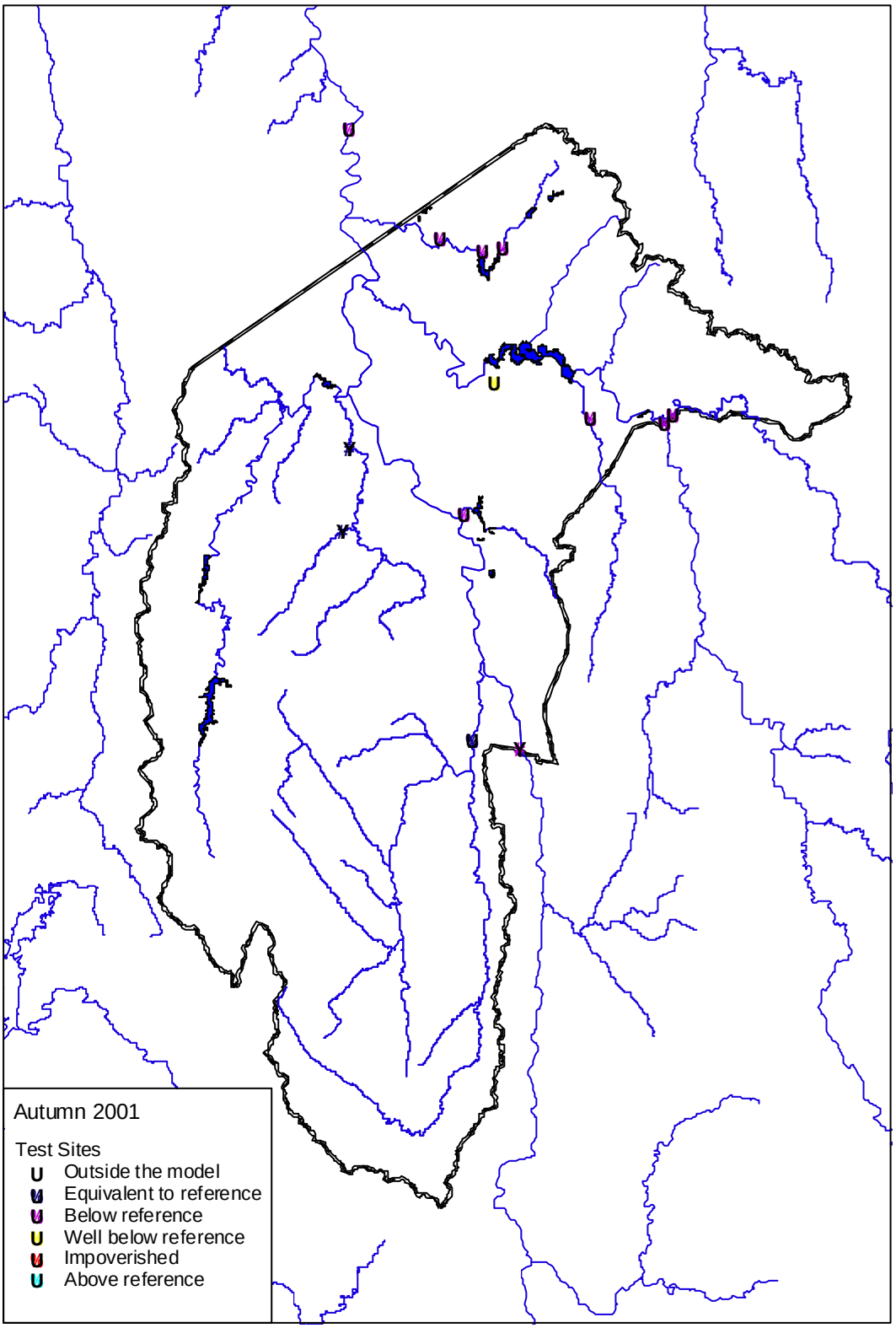

Figure 6: AusRIVAS Assessments of Monitoring Sites in the ACT for Autumn 2001

Nutrient Levels

Nutrients are a natural component of all water bodies, but increases in their supply often have undesirable effects, including the eutrophication of aquatic ecosystems. Eutrophication is the presence of an abnormally high quantity of aquatic plant life and can include toxic algal blooms. This can also produce other unwanted side effects, for example, low dissolved oxygen levels in the water. The two most important plant nutrients for aquatic ecosystems are phosphorus and nitrogen.

In ACT waterbodies phosphorus is the nutrient that commonly determines the amount of algae that can occur. Total phosphorus is the measurement of dissolved and particulate phosphorus in the water. The standard is 0.1 mg/L (Table 1). Median values ranged from 0.02 mg/L at a number of sites to 0.1 mg/L at Lake Tuggeranong near Kambah Wetland (Site 248), as shown in Figure 7. The phosphorus level at this and the main spillway at Lake Tuggeranong are high. Similarly, at the outlet (Site 249) the median of phosphorus is still high 0.09mg/L and there is a large proportion of exceedences.

Lake sites, with the exception of Lake Tuggeranong, had good phosphorus readings. For the river sites in which a relationship between flow and concentration could be determined the maximum expected exceedance of the standard was at Paddys River and was 4.3%.

There is no standard for total nitrogen for the ACT. Nitrogen is not generally a limiting factor in algal growth in regional waters and it is non-toxic to other organisms. Total nitrogen medians ranged from 0.3 mg/L at a number of sites to 9.3 mg/L at Sturt Island (Site 401) on the Molonglo River as shown in (Figure 8). This is considerably higher that the next median of 3.5 at the Northern Border (Site 224).

The levels of nitrogen measured at Sturt Island and the Northern Border are typical of waters downstream of a sewage treatment plant where plant discharge forms a high proportion of streamflow. In situations where nitrogen is limiting, research indicates a potential for the growth of nitrogen fixing blue-green (scum and toxicant forming) algae. In these situations, the discharge of nitrogen in sewage effluent will discourage the growth of nitrogen fixing blue-green algae. In addition, the discharge of nitrogen can have a beneficial effect by restricting the release of phosphorus from lake or reservoir sediments.

In this context, management and discharge authorisation arrangements in the ACT concentrate on minimising the input of phosphorus to waterways as a priority with nitrogen reduction encouraged as a second priority. Most sites appear to have remained steady with respect to nitrogen and phosphorus concentrations compared with the last few years.

Suspended Solids

All streams and rivers naturally carry some suspended material as organic and inorganic particles of varying sizes. Most land uses and activities have the potential to increase suspended solids concentrations in streams. An increase in the concentration of suspended solids can have two major impacts on aquatic ecosystems. Firstly, higher concentrations of suspended solids reduce the light penetration of water, retarding plant growth and changing the type of algae present. Secondly, increases in suspended solids concentrations ultimately result in increased sedimentation in streams and lakes, effecting the natural flow through the water body.

The standard for suspended solids ranges between 12.5 for the aquatic habitat value of mountain streams and 25 mg/L for lowland streams and Urban Lakes (Table 1). The standard of 25 mg/L was applied to all river sites as they all can be categorised as lowland streams.

Suspended solids median values ranged from 2.3 mg/L at Gudgenby River (Site 901) to 30.4 mg/L at Point Hut Pond (Site 270) (Figure 7). The water quality, with respect to suspended solids was poor in Point Hut Pond with a majority of samples taken comparing unfavourably with the standard. The cause of the high results is most likely due to development in the immediate catchment. However, median values tended to be higher than those recorded in the 1999-2000 reporting period, an effect that may be due to an increase in rainfall and runoff in the reporting period.

Faecal Coliforms

Bacteria occur naturally in all waterbodies. The presence of faecal coliforms in a water sample may be an indication that human or animal faeces have contaminated the water and that harmful, less easily detectable pathogens such as Cryptosporidium and Giardia may be present. High levels of faecal coliforms are not necessarily a problem for aquatic ecosystems. Faecal coliforms generally do not infect aquatic organisms, and may serve as a food source.

The presence of high numbers of faecal coliforms is a problem for some human uses of water bodies, particularly water supply and recreation involving bodily contact. This report looks at bacterial levels in water used for primary and secondary contact recreational use, but does not deal with the quality of drinking water.

Cryptosporidium and Giardia are protozoan species, which can significantly affect human health if present in drinking water. They are not easily detected, making them a poor indicator, and are not monitored in environmental water quality programs.

Results are expressed as colony forming units (cfu) per 100 mL. The standard for water based recreation – swimming is 150 cfu/100 mL and for boating and secondary contact is 1000cfu/100ml (Table 1). These standards apply to individual sites depending on their classification in the Territory plan. Median values ranged from 7.5 cfu/100 mL in Point Hut pond (Site 270) to 360 cfu/100 mL at Ginninderra Creek (Site 301) as shown in Figure 9.

With the exception of Paddys River, faecal coliform levels generally compared favourably with the standard designated under in the Territory Plan. This provides some indication that land use planning and the quality of the ACT's sewage system are protecting recreational opportunities. Uriarra Crossing (Site 207) had a number of exceedences of the 150 cfu/100ml standard for that site.

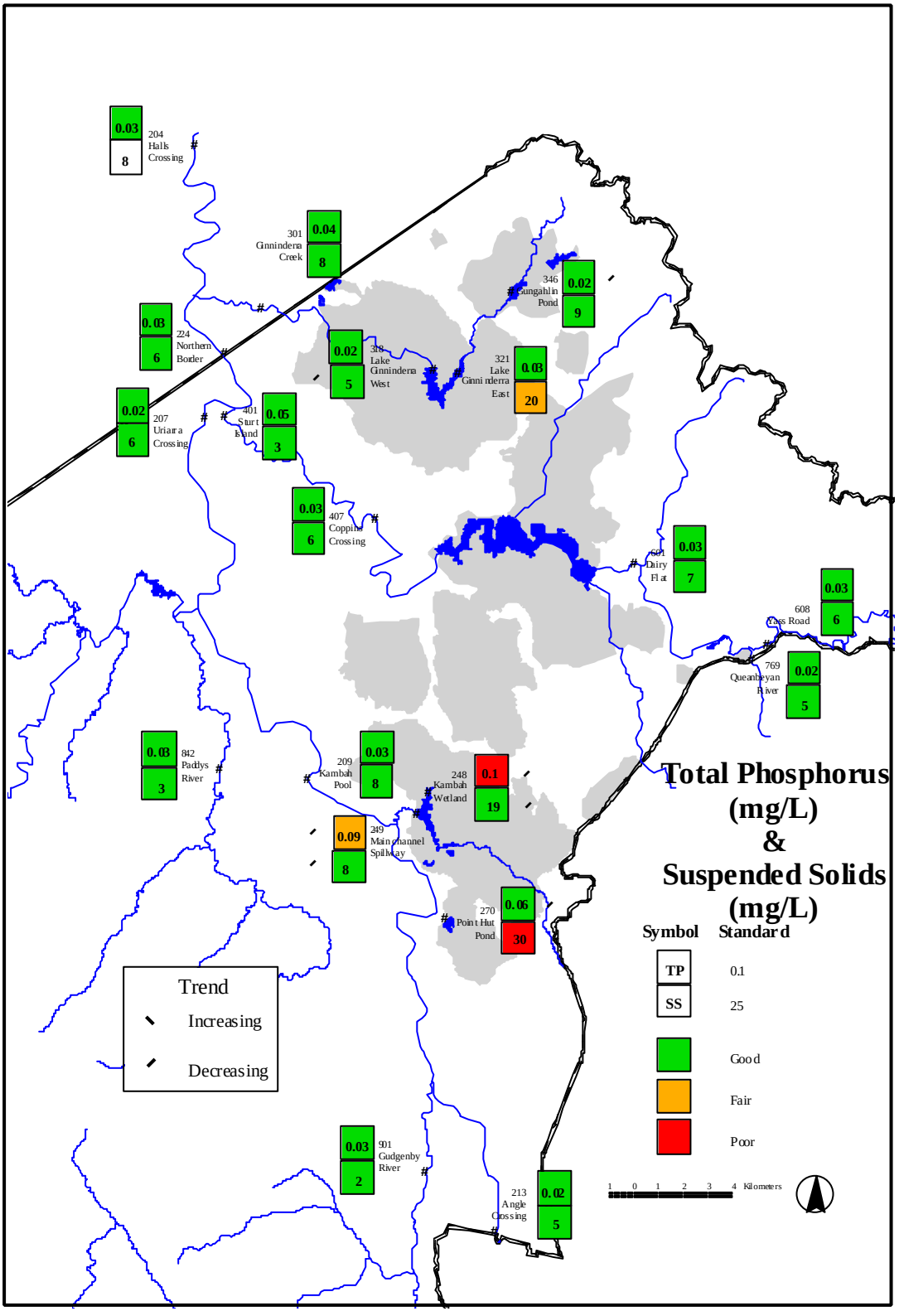

Figure 7: Total Phosphorus and Suspended Solids Map

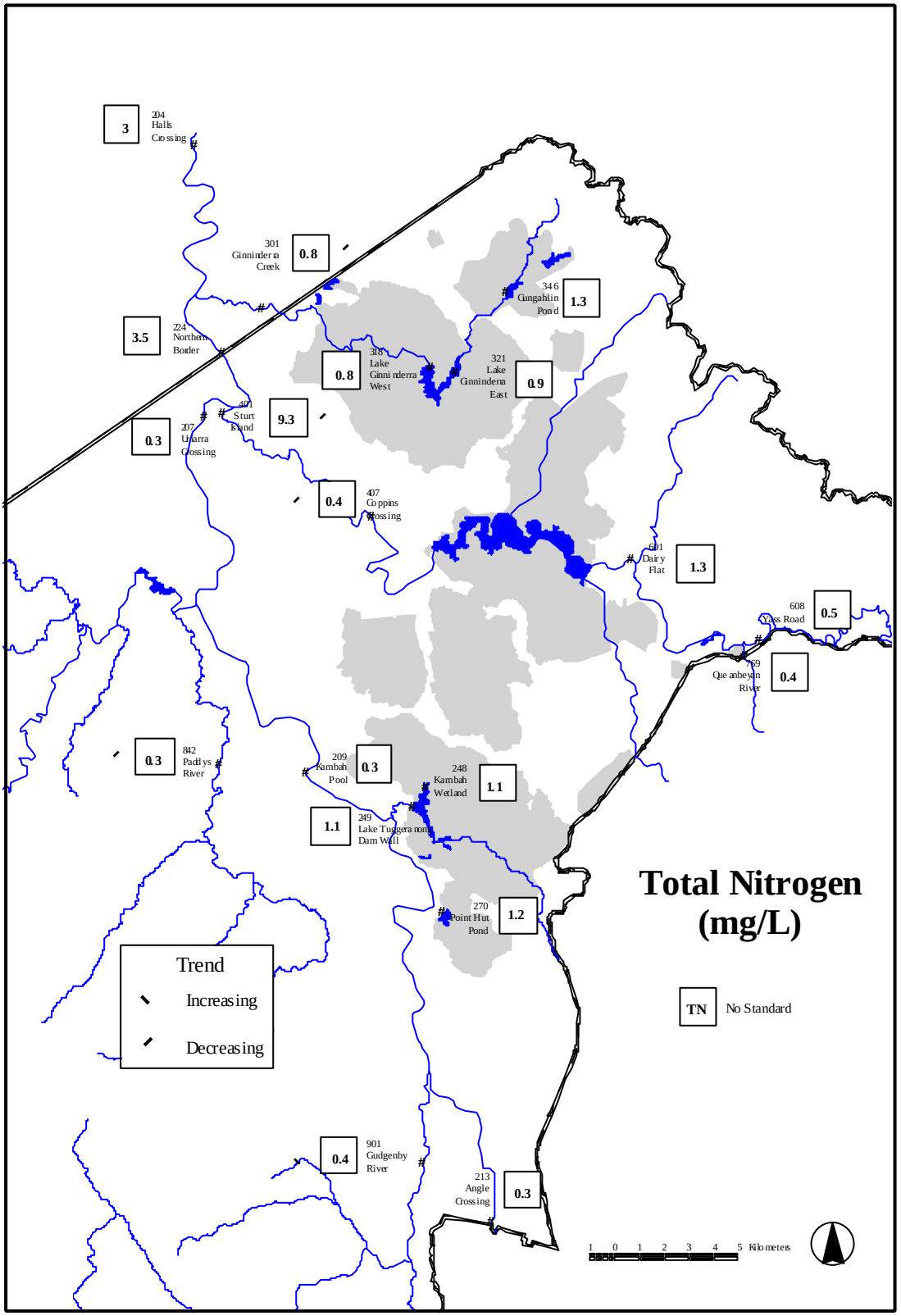

Figure 8: Total Nitrogen Map

Turbidity

Turbidity, or opacity of a water body is related to the suspended solids concentration but also includes colouration. A stream may have very low levels of suspended material but be strongly coloured, for example the tannin rich streams in Namadgi National Park. Turbidity has an important ecological effect in determining the depth to which light penetrates the water, affecting plant growth and changing the type of algae present.

Turbidity data are reported in Nephelometric Turbidity Units (NTU). To provide a sense of scale, water with a turbidity of 1 NTU is crystal clear, water at 5 NTU has a tiny trace of discolouration, and water at 100 NTU is brown and opaque. The standard is less than 10 NTU for rural streams and rivers and less than 30 NTU for urban lakes and ponds (Table 1).

Median turbidity values ranged from 3.8 NTU at Angle Crossing (Site 213) to 63 NTU at Point Hut Pond (Site 270) as shown in (Figure 9). The high turbidity at this site corresponds to the elevated suspended solid levels also experienced there.

In terms of flow exceedance, turbidity is the indicator that performed most poorly. The exceedances ranged from between 3.8% of flows at Angle Crossing to greater than 40% at Halls Crossing (Site 204), Paddys River (Site 842) and Gudgenby River (Site 901). Many medians are higher than the previous year, possibly as a result of higher rainfall for the corresponding period. However, they may also be representative of a more general turbidity problem in the ACT, the major source of which is urban development and urban runoff.

pH (Acidity and Alkalinity)

The pH refers to the degree of acidity or alkalinity of a substance. A pH of 7 is neutral. A value above 7 indicates that the water is more alkaline and a pH below 7 indicates acidic conditions.

The levels for pH at all sites are good. Very few samples falling outside standard values, pH 6.5–9 for rural streams and rivers and pH 6–9 for urban lakes and ponds (Table 1) and all medians falling well within acceptable range, as shown in Figure 10. Many sites also show a decreasing trend in long term data.

Ammonia

Ammonia concentrations are generally related to the level of organic material in water as well as the presence of conditions conducive to the conversion of the nitrogen present to ammonia. Levels of ammonia in streams may also be increased by direct discharges high in ammonia. The toxicity of ammonia (un-ionised component) is a function of the pH and the temperature of the water.

Ammonia median levels are generally reduced across all sites, with median ammonia concentrations ranging from 0.003 mg/L at Angle Crossing to 0.085 mg/L in Lake Tuggeranong at the dam wall as shown in Figure 10. The highest values are found in lakes, particularly Lake Tuggeranong and Point Hut Pond. The standard is calculated from a table and is dependent on the pH and temperature of the water at the time of the sample. There is no indication that the adjusted results compared unfavourably with the standard.

Dissolved Oxygen

Dissolved Oxygen (DO) is a measure of the oxygen in the water available to aquatic organisms. It is important for the maintenance of aquatic organisms as changes in DO can affect the species present. Low levels of DO can stress fish, which can lead to fungal infections and disease or result directly in fish kills. Levels of DO are effected by turbulence, temperature (colder water can hold more dissolved oxygen), photosynthesis (during periods of sunlight algae and other water plants produce oxygen while in darkness they consume oxygen) and the level of biochemical oxygen demand.

Almost all sampled sites compared favourably with the >4mg/L standard, which is applicable at all sites except (Site 346) and (Site 842)(Table 1). Median DO concentrations ranging from 6.7 mg/L both Lake Tuggeranong sites and Lake Ginninderra East to 10.2 mg/L at Riverlea on Paddys River as shown in Figure 11.

Chlorophyll 'a'

Chlorophyll 'a' is the plant pigment that gives algae their green colour, and is commonly used as a measure of the quantity of algae present (algal biomass). This measure can therefore serve as a useful indicator of the extent to which an ecosystem has been affected by nutrient inputs. There is no standard for streams and rivers in the ACT while a standard of less than 10 µg/L applies for urban lakes and ponds.

Chlorophyll 'a' is measured in micrograms per litre (µg/L). To provide a sense of scale, water with a chlorophyll 'a' concentration of 1 µg/L will be clear, a concentration of 20 µg/L will be slightly green, and 100 µg/L very green and possibly with algal scums on the surface.

Median Chlorophyll 'a' concentrations ranged from 1.2 µg/L at Paddys River to 13 µg/L at Halls Crossing on the Murrumbidgee River as shown in Figure 11. Some exceedances of standards were experienced at lake sites, with Ginninderra East and Lake Tuggeranong recording fair water quality.

Increasing trends were experienced at a number of sites on the Molonglo and Queanbeyan rivers and Ginninderra Creek. These sites have particularly low median values for chlorophyll 'a' and represent relatively good water quality. A gradual build up of chlorophyll 'a' at these sites may be related to the increase in organic materials, suspended solids and total phosphorus in the water. Elevated algae levels may be experienced some distance downstream of a pollutant source as it takes some time for algal growth.

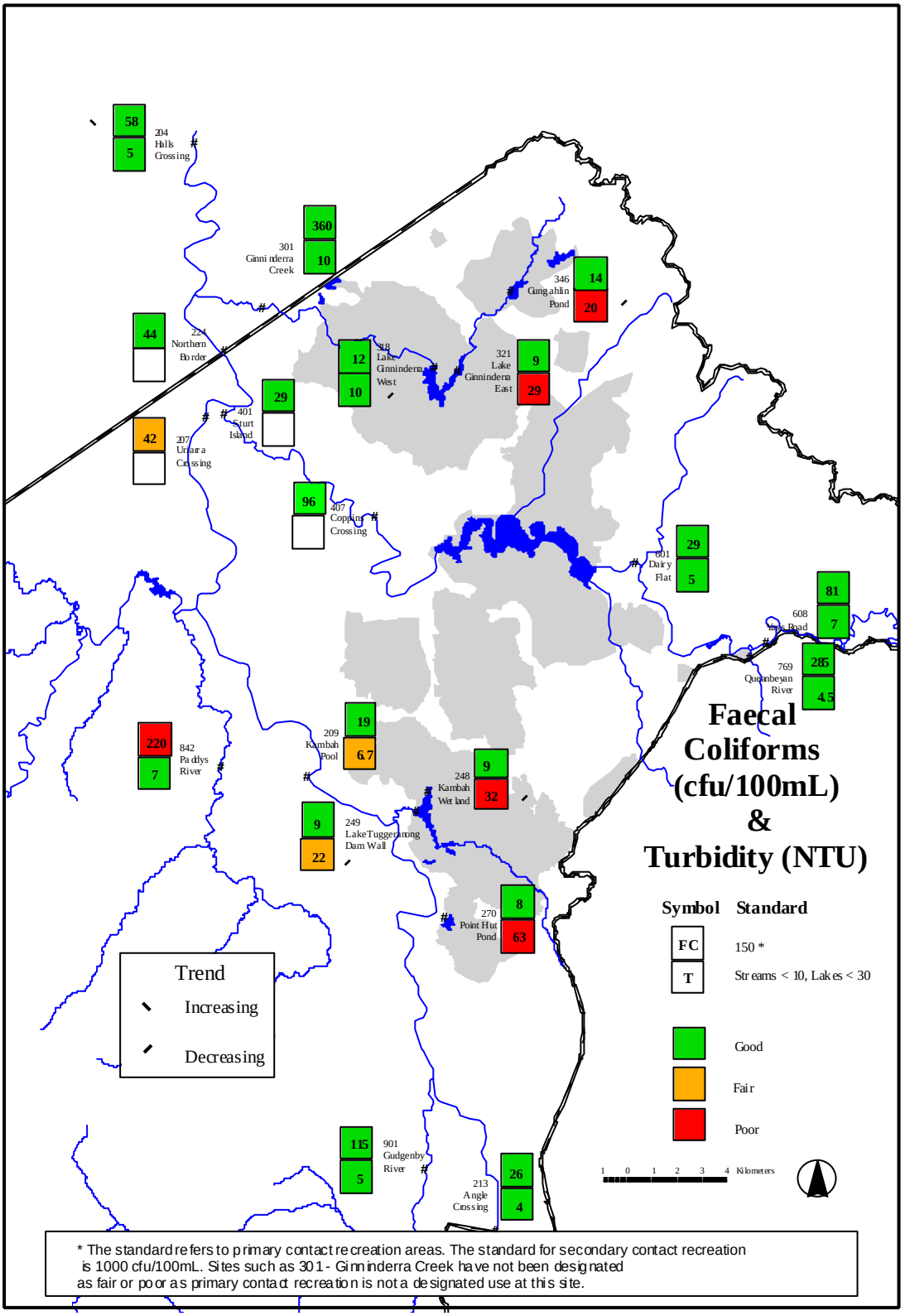

Figure 9: Faecal Coliforms and Turbidity Map

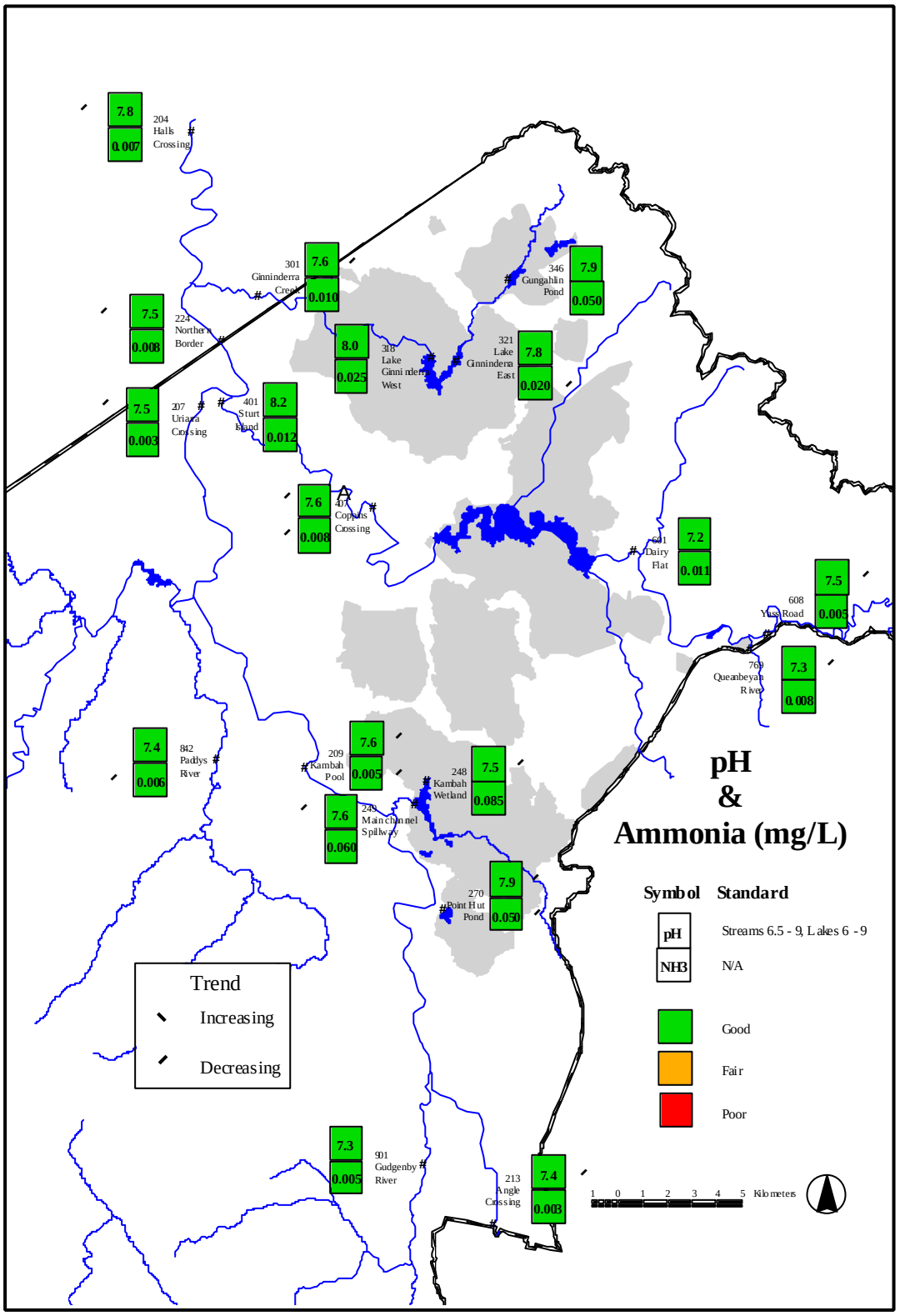

Figure 10: pH and Ammonia Map

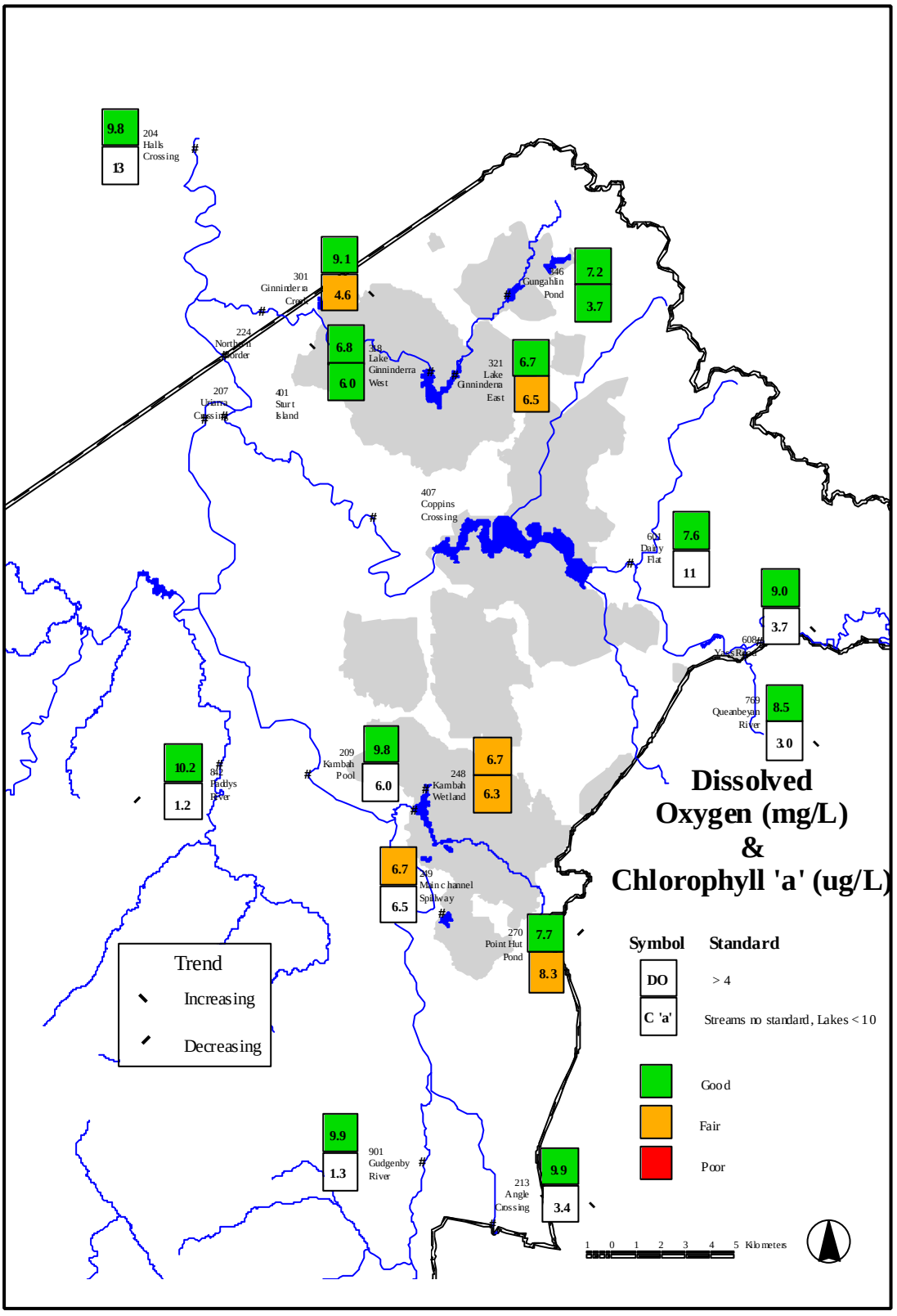

Figure 11: DO and Chlorophyll 'a' Map

Lakes

Lake Tuggeranong

Two sites are monitored in Lake Tuggeranong, one at the Kambah Wetland (Site 248) which is near the northern inflow to the lake and the other at the dam wall (Site 249).

Data collected since 1992 indicate trends for turbidity, suspended solids and conductivity decreasing at both sites. There was also a significant downward trend for total phosphorus and pH at the dam wall (Appendix 4).

The median values have also remained steady or decreased from the 1999-2000 reporting year for most parameters. However, suspended solids median values are higher 16.8 to 18.6mg/L at Kambah Wetland and 7.8 to 8.05mg/L at the dam wall and ammonia has increased from 0.055 to 0.085 at Kambah Wetland.

The median level for turbidity in the Kambah Wetland exceeds the standard and total phosphorus equals the standard. Other parameters' median values comply with the standards at both sites. The site at Kambah Wetlands is immediately downstream of a gross pollutant trap and major urban run off point. Road works construction adjacent to the sampling point may have contributed to the elevated levels of turbidity. A proportion of Chlorophyll 'a' samples at both sites have exceeded the standard every year of sampling, a result that may be influenced by the nutrient levels.

Whilst long term trends show a continual improvement in the water quality of Lake Tuggeranong (Figure 12) the levels of nutrients and turbidity remain high.

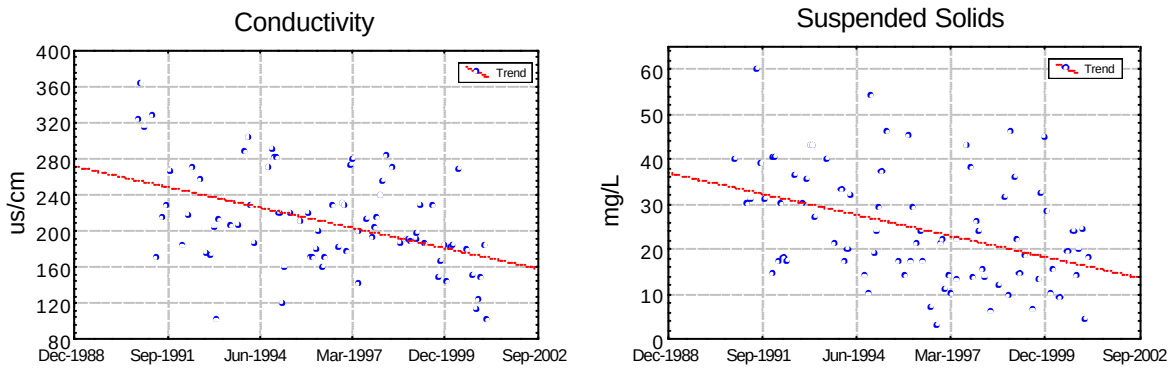

Figure 12: Lake Tuggeranong at Kambah Wetlands

Point Hut Pond (Site 270)

Water quality in Point Hut Pond is poor when compared with the standards set for its designated uses in the Territory Plan and other lake sites in the ACT. However, the long term trends indicate some parameters are improving with decreasing trends for pH, total phosphorus and ammonia (Figure 13). There is also a decreasing trend for the dissolved oxygen present.

Point Hut Pond had the highest median value of all sites for turbidity and suspended solids. The majority of the samples taken exceeding the standard. Suspended solids and chlorophyll 'a' median values are higher than the 1999-2000 reporting period.

Residential development in the Lanyon Valley and particularly on the steep land of Amber Ridge in close proximity to the pond, construction work on the Conder Wetland feeding the pond and the new development on Eastern Valley Rise are significant contributing factors to the poor results. Controlling run off at the source is the most effective means to reduce the flow of sediments into the pond. The upgrading of the Condor wetlands may assist in reducing pollution problems in the future.

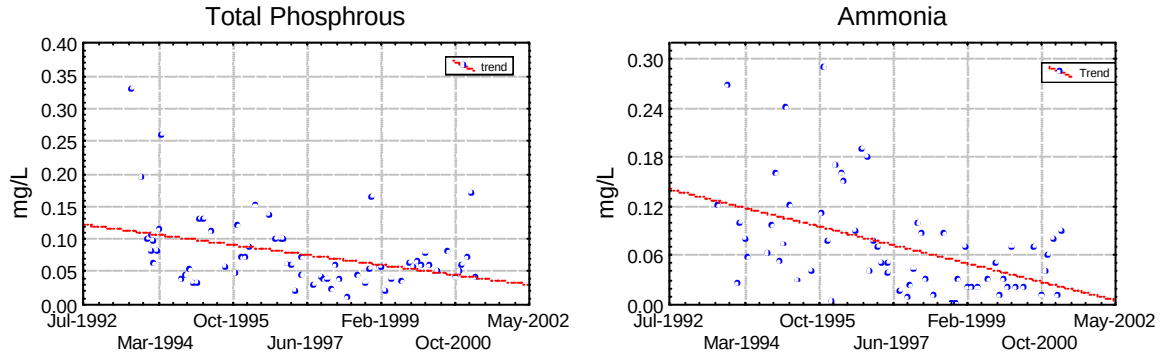

Figure 13: Total Phosphorus and Ammonia in Point Hut Pond

Gungahlin Pond

Water quality in Gungahlin Pond (Site 346) is fair with a decreasing trend in data collected since 1992 experienced in the turbidity, total phosphorus, suspended solids, and conductivity. Median values for most indicators compared favourably with the standards and most median values were equal or less than previous years (Figure 14). Chlorophyll 'a' and suspended solids median values had increased since the 1999-2000 report. Turbidity median value of 20.8 NTU exceeds the 10 NTU standard Figure 14.

There is still a significant level of development occurring, which may be adversely effecting water quality. However, the downward trend indicates that turbidity is improving and is expected to continue to do so as the catchment stabilises after the extensive development during previous years. Development controls and sediment retention ponds upstream of Gungahlin Pond also contribute to the improving water quality.

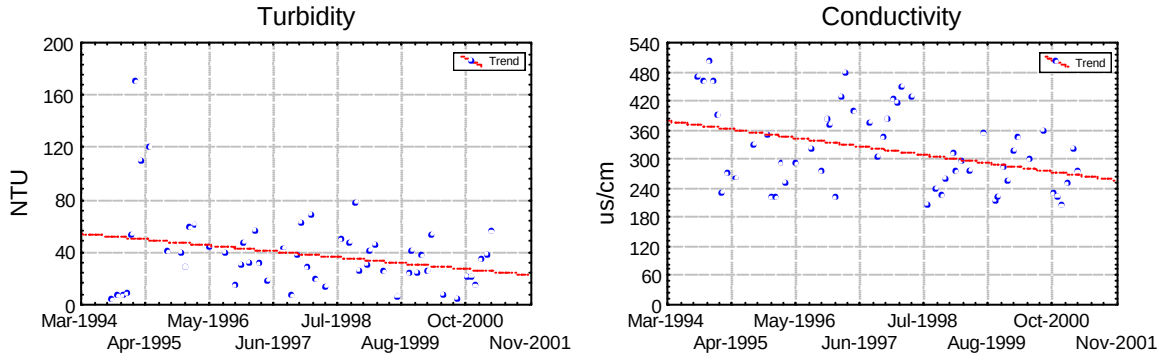

Figure 14: Turbidity and Conductivity at Gungahlin Pond

Lake Ginninderra

Two sites are monitored in Lake Ginninderra, one near the inflow below the Naval Station in the East Arm (Site 321) and the other at the outflow dam wall, or West Arm (Site 318). Water quality in the lake was good and generally better than the other lakes monitored. At both sites the data shows significant downward trends in total phosphorus, suspended solids, ammonia and conductivity. There was also an improvement in turbidity and dissolved oxygen at the West Arm, however, the dissolved oxygen at the East Arm shows a slight decreasing trend.

All sites at the West Arm comply with standards. The east arm median values for all the parameters have decreased since the 1999-2000 report except chlorophyll ‘a’, which has increased from 4 to 6, a value that continues to comply with standards. The median values for suspended solids and total nitrogen at the East Arm have increased since the previous reporting period. A number of exceedences of the standard were experienced for turbidity and chlorophyll ‘a’.

The improvement experienced between the inlet and outlet indicates that Lake Ginninderra is having a significant effect in treating water flowing through Ginninderra Creek. This is demonstrated by the suspended solids readings at both sites (Figure 15). The turbidity levels at the East Arm may be effected by the turbidity levels in Gungahlin pond, as well as the willow removal that has been occurring upstream of the lake. As the stream bank stabilises from these works the water quality should improve.

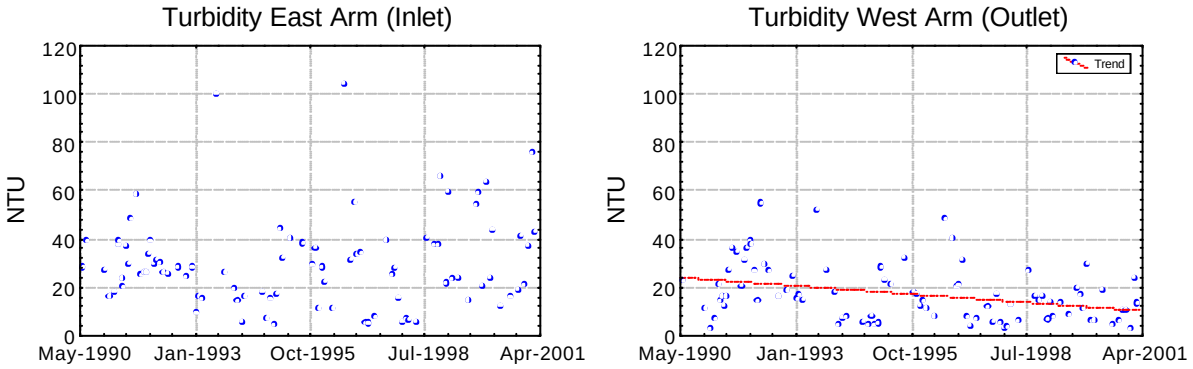

Figure 15: Turbidity in Lake Ginninderra at Inlet and Outlet

Rivers

Ginninderra Creek

The monitoring site for Ginninderra Creek is at Parkwood (Site 301) below the confluence with Gooromon Ponds Creek downstream of the lake. The monitoring sites in the Ausrivas sampling of Ginninderra Creek are Baldwin Drive bridge (Site 195), Downstream of Lake Ginninderra (Site 196) and Latham (Site 64).

All three sampling sites show an overall site band below reference (B) in the Ausrivas sampling program for spring 2001, which is an improvement from the impoverished (D) results for the autumn 2000 sampling session.

The trend analysis on the water quality parameters indicates downward trends for pH and a slight upward trend for Chlorophyll ‘a’.

Water quality is good with median suspended solids values down from 13.8 mg/L to 7.7 mg/L and turbidity from 21 NTU to 9 NTU. Improvements in water quality over time in Ginninderra Creek are evident and expected to continue as the catchment stabilises after extensive urban development. The results also indicate that upstream ponds are working effectively. Examination of the turbidity compared with flow showed that this site would compare unfavourably with the turbidity standard for 42% of the time. This is a reduction from the 55% experienced last reporting period, however, it still represents a significant water quality issue.

Paddys River (Site 842)

Paddys river catchment is a combination of rural, forestry and conservation landuses. The water quality for Paddys River is fair with the analysis of monitored data indicating a downward trend in pH, total nitrogen and chlorophyll ‘a’. The biological monitoring site on Paddys River is Murrays Corner (Site 10), which is considered a reference site. Both O/E results for the sampling period were equal to reference (A), indicating good water quality and physical habitat.

Median values remained constant or decreased for most parameters. However, faecal coliforms median was higher when compared to the median from the previous reporting period, 220cfu/100ml exceeding the standard. This may be caused by agricultural practices in the catchment. There was also an increase in the turbidity median, and based on the streamflow concentration relationship the turbidity would have exceeded the standard of 10 NTU 47% of the time. The increased level of turbidity but not suspended solids would cause some reduction in light penetration and associated plant and algal growth, but have only minor influence on macroinvertebrates. To improve water quality the Paddys River Landcare group has undertaken a project to limit access of stock to the river.

Gudgenby River (Site 901)

The Gudgenby drains a rural catchment dominated by native forest. The biological monitoring overall site band for the site at Smiths Road Crossing (20) for both sampling sessions was equivalent to reference (A), indicating good water quality. Trend assessment was not conducted due to a limited data set. Generally indicators complied with the standards.

The turbidity median increased from the previous reporting period, however, continues to comply with the standard. On the streamflow concentration relationship it would be expected to exceed 41% of the time. Suspended solids would have exceeded the standard 14% of the time and total phosphorus 2.3%.

Murrumbidgee River

The Murrumbidgee River runs through the ACT entering at Angle Crossing (213) in the south and is sampled at a number of locations including Kambah Pool (209), Uriarra Crossing (207), the Northern Border (224) and Halls Crossing (204), which is in NSW, downstream of the ACT. The biological monitoring sites for the Murrumbidgee are Angle Crossing (40) and Halls Crossing (53).

The overall site band for autumn and spring for both sites was below reference (B). Angle Crossing is a reference site, which may indicate that biological conditions may be naturally lower than expected throughout the sampling period or that the site itself has been impacted.

The trend analysis undertaken on the sites showed a significant decrease in pH along the length of the river, from data collected

since 1992. Ammonia trends for the three southern sites were all significantly downward, and conductivity is also decreasing at Angle Crossing and Kambah pool. Angle Crossing also has a decreasing trend for total phosphorus and a slight increasing trend for chlorophyll 'a'. Total phosphorus at the ACT border is decreasing, while the turbidity trend at Halls Crossing is increasing.

Most readings for parameters along the river comply with the standard. Chlorophyll 'a' medians have increased since the 1999-2000 reporting year and concentrations tend to increase as the river passes through the ACT. Median values for total phosphorus, total nitrogen, faecal coliforms and conductivity also increase from where the Murrumbidgee enters the ACT to where it leaves.

The total nitrogen levels at (Site 224) and (Site 204) are affected by sewage effluent discharge. The median values for these sites have decreased, following the increase experienced in the last reporting year. Higher conductivity may be partly due to the levels in the Molonglo River and the additional input of treated effluent at LMWQCC.

Conductivity median values have decreased since the previous reporting period, which was effected by low rainfall and flow. The pH readings all complied with standards and have remained in a similar range to the previous year.

Dissolved oxygen levels are good along the length of the river**.** Faecal coliform levels complied with the standard, the highest median value was 58 cfu/100 mL recorded at Halls Crossing.

Suspended solids and turbidity median values complied with standards. However, the suspended solids median at (Site 209) has increased from 4.4 to 7.5 and turbidity median from 4.2 to 6.7. At this site the turbidity would be expected to exceed the standard 39% of the time, at (Site 204), 46% of the time. Suspended solids at (Site 204) exceeded the standard 12.7% of the time.

The typically good water quality experienced in the Murrumbidgee River indicates that land use and management practices, which include sediment retention ponds, authorised discharges and building development controls are effective in minimising the impact the ACT has on the Murrumbidgee.

Molonglo River

The Molonglo River is sampled at two sites above Lake Burley Griffin (Sites 601 and 608) and two sites below the Lake (Sites 407 and 401) before it enters the Murrumbidgee River. The biological monitoring site is at Sutton Road Bridge (Site 242).

The overall site band for the reporting period remained at below reference (B) which indicates fair to good river health. The long term trend since 1991 for suspended solids has been decreasing at all sites. Sites 601, 401 and 407 also show downward trend in phosphorus, with Sites 401 and 407 showing a decreasing nitrogen trend. Downward pH and ammonia trends were also experienced at site 407 and also downward pH at 608. There was a detectable upward trend of chlorophyll ‘a’ at 608.

Overall the water quality was good. The exceedance calculated for (Site 407) was 6.8% for suspended solids and 1.4% for total phosphorus. The median values all comply with the standards and there were no significant increases in these values from previous years.

Turbidity was not measured in the Molonglo River downstream of the lake, as it is not part of the data required of ACTEW under the Authorisation for the LMWQCC. Historical data suggests that the concentrations of turbidity at the downstream sites are not significantly different from the upstream sites.

Water quality in the Molonglo River downstream of the LMWQCC appears to have remained relatively unchanged over the past eight years. No increasing trend in the amount of total dissolved solids is encouraging given concerns about rising salinity across the Murray-Darling Basin. A standard of 1000cfu/100ml faecal coliforms was applied to all sites on the Molonglo, as is appropriate for the designated uses of the water body. There were few exceedances of this standard in the reporting period, which shows an improvement from previous years where faecal coliforms, especially at sites downstream of the lake, were a cause for concern.