

**INVESTIGATION INTO
THE MANAGEMENT OF OTARA CREEK**

Office of the
PARLIAMENTARY COMMISSIONER FOR THE ENVIRONMENT
Te Kaitiaki Taiao a Te Whare Paremata

PO Box 10-241, Wellington, NEW ZEALAND

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1 THE COMPLAINT

Residents who live near Otara Creek in Auckland made complaints to their Member of Parliament Mr Warren Kyd in January 1989 about possible health hazards arising from the state of the Creek water and the banks of the Creek. In November 1989 Mr Kyd wrote to the Parliamentary Commissioner for the Environment requesting an investigation into the management of Otara Creek as he was concerned that there appeared to be little local response to his enquiries.

The Commissioner commenced an investigation in April 1990. The initial phase of the investigation was carried out by Mr Ian McBean, Works Consultancy, Auckland under delegated authority from the Commissioner. Officers of the responsible agencies were interviewed and an inspection of the Creek traversing a reserve area, a reserve/housing area and a housing area was carried out. Upon receiving Mr McBean's report, further queries were made to the relevant public agencies. This report summarises the actions taken by the responsible public agencies to manage Otara Creek.

The terms of reference for the investigation were:

- (1) To determine the responsibilities of public agencies to identify and undertake remedial actions in respect of Otara Creek. These agencies to include the Manukau City Council, the Auckland Area Health Board, the Auckland Regional Water Board, the Housing Corporation and the Department of Conservation.
- (2) To ascertain what remedial action each agency has undertaken to date and what further actions they intend to take to minimise any health hazard or nuisance.

2 BACKGROUND

The catchment of the Otara Creek supports a variety of land uses and is shown in Appendix A.

The head of the catchment consists of an extensive area of rural land where the activities include two horse studs, a pony club and two town supply dairy farms.

In the lower part of the catchment, the Creek flows through residential areas, an industrial area, and reserves. In the residential areas, the banks of the Creek (unlined through these areas) are covered with rank vegetation and in at least one case, the Creek passes through residential properties (Appendix B). These properties are separated from the Creek by fencing. The original Housing Corporation housing development was on Crown land and consequently no easements for the Creek, or other means of separating out the Creek, were provided. Through the reserve areas it flows along a neatly formed concrete channel with mown grass at the sides.

The Creek receives stormwater drainage from roadways, the emergency overflows from five Manukau City Council sewage pumping stations and at least some overflows from blocked or surcharged sewers.

The Creek also flows through one and possibly two areas which were formerly refuse tips but which have since been developed as reserves.

At the bottom end of the Creek there is a ponding area with a final discharge into the Tamaki River. The ponding area was formerly a source of cooling water for the Otaru oil-fired power station.

3 NATURE OF THE PROBLEM

There are essentially two problems with respect to health risks associated with the Otaru Creek namely, the bacterial water quality of the Creek, and household refuse if it litters the banks of the Creek where it flows through the residential areas. This litter together with any rank vegetation can encourage the breeding of rats.

3.1 Quality of the Creek water

The quality of the Creek water will be affected both by stormwater draining into the Creek and by any point source discharges.

In the upper rural part of the catchment there are two horse studs and a pony club. Animal wastes are absorbed into sawdust and the resulting dry manure is made available to the public. There are some hard stand horse wash-down areas which are relatively small in extent.

Discharges of waste water from the two town supply dairy farms are to be regulated through water rights. This will enable appropriate waste treatment systems to be implemented for these two farms.

The stormwater draining pastures would normally contain faecal coliforms of animal origin and may contribute to the bacterial pollution of the Otaru Creek.

The quality of the Creek water will also be affected by the runoff of stormwater from streets and from industrial premises. Otaru Creek is the only feasible place in which to dispose of stormwater in this area. Surface water from streets is piped to the Creek and would contain faecal matter of animal origin, together with heavy metals from car exhausts and tyres.

The extent of any pollution of the Creek arising from this stormwater will depend on the frequency of storms. If there is a long time interval between storms then it is likely that more pollution will result from the next storm. Stormwater is likely to be a major intermittent source of bacterial pollution to the Otaru Creek.

Stormwater from industrial and commercial premises may contain washings from material used on site if housekeeping practices are lax. It is unlikely, however, that this stormwater would contribute to any bacterial pollution of the Creek.

Another potential source of bacterial pollution to Otara Creek is an emergency overflow from any of the five sewage pumping stations in the catchment for which water rights are held. Sewer and drain overflows due to stormwater infiltration could also be a source of intermittent bacterial pollution.

There are records of one and possibly two old refuse tips in the Otara Catchment from which leachate may be seeping.

3.2 Litter on the banks of the Creek

There is a regular refuse collection provided by the local authority from the houses in the Otara Creek catchment. There is no limit on the number of refuse bags that may be put out for collection.

Despite the provision of this service, refuse is discarded over back fences onto the banks of the Creek where it passes through residential areas. Even when the local authority had cleared a section of the Creek bank of vegetation and refuse, further refuse had been dropped onto the bank (inspection April 1990).

The effect of leaving refuse on the banks of the Creek is to create a health hazard through the provision of a breeding ground for rats. The refuse littering the banks of the Creek can enter the Creek and be carried downstream where it accumulates on the screens over the entries to culverts. Not only is this unsightly but also it could impede the flow of stormwater into the culverts.

The residents who wrote to Mr Kyd, the local authority and the area health board are all concerned about the possible risk of disease transmission to children who play on the banks and in the water of the Creek.

4 RESPONSIBLE PUBLIC AGENCIES

4.1 Auckland Regional Water Board

The Auckland Regional Water Board administers the Water and Soil Conservation Act 1967 which provides controls on point source discharges. In the upper catchment, water rights are required for the two dairy farm herds to regulate the discharge of treated waste into the receiving water.

The local authority holds comprehensive stormwater discharge rights for two subcatchments of the Otara Creek catchment, the Otara Stream catchment and the Flat Bush catchment. These water rights, granted by the Regional Water Board, allow for the orderly discharge of stormwater and outline improvements necessary to control flooding problems.

The local authority also has been granted water rights for the emergency overflows from the five sewage pumping stations.

The City Council has a centralised telemetric system which monitors all its sewage pumping stations and records any overflows. Discussion with the City Council has indicated that for the years 1987, 1988, 1989, and to April 1990 the only overflows that have occurred were eight in 1987 from Berman's Farm pumping station before that pumping station was upgraded, two in 1988 from Springs Park pumping station, and one in 1988 from East Tamaki Depot pumping station. Otherwise, there have been no overflows from the five pumping stations up to April 1990.

The Auckland Regional Water Board undertook compliance monitoring of these comprehensive stormwater rights in October 1989 and subsequently requested that the local authority comply with conditions relating to the alleviation of flooding problems.

The Board also monitors the overall quality of the Creek at two sampling points. Sampling results are sent to the Auckland Area Health Board whose attention is drawn to any high coliform counts. Any health matters involved are left to the Area Health Board as the Regional Water Board considers that the Water and Soil Conservation Act 1967 is not the appropriate means of controlling such matters.

The Regional Water Board has also sampled apparent leachate from the Ngati Otara Park landfill and found the material to be a largely innocuous groundwater seep.

4.2 Auckland Area Health Board

The Auckland Area Health Board carries out functions under the Health Act 1956 including the provision of advice to local authorities in matters relating to public health, so far as those local authorities are charged with care of public health by the Health Act 1956 or any other act. The Area Health Board has been concerned about the state of the Otara Creek and the relationship it could have to the high incidence of communicable disease present in the Otara area.

4.3 Manukau City Council

The Manukau City Council has responsibilities for the collection and disposal of refuse (Health Act 1956), the abatement of any nuisances (Health Act 1956) and litter control (Litter Act 1979). In addition, the City Council is responsible for maintenance of the Otara Creek banks and the provision of a sanitary sewer and stormwater system for the area.

5 ACTION TAKEN BY AGENCIES

5.1 Auckland Regional Water Board

Point source discharges of waste which could affect the quality of the Otara Creek water are to be regulated through the issue of water rights. Applications are expected to be required in 1991. Compliance monitoring of water rights has been carried out for the two comprehensive stormwater discharge rights.

Monitoring of the Otara Creek water is carried out regularly and results are sent to the Auckland Area Health Board.

5.2 Auckland Area Health Board

The Area Health Board has, as one of its targets for the 1989/90 year, to reduce the number of communicable diseases in the Otara area. The Board considers there are several factors that could account for the incidence of disease viz age, socio-economic status, education, environment and animals. However the Area Health Board stated on 5 April 1990 that "it has not been established that the incidence of disease is directly linked to the (Otara) Creek" after newspaper reports had made a direct linkage. The Area Health Board tests the Creek water quality once a year and spot checks when necessary.

The Area Health Board set up an inter-sectorial group in early 1990 to address this problem of communicable disease. A key concern of Otara people was the need to clean up the Creek. A hui on health issues held at the Otara Marae in May 1990 also raised the issue of the Creek clean up. The Area Health Board is allocating money for leaders of the ethnic groups to provide translations of information on health promotion.

5.3 Manukau City Council

The City Council, along with the Water Board has a testing programme for water quality for both health hazards and for environmental pollution including any potential pollution caused by old tips. The Council's testing programme has found high faecal and presumptive coliform counts but no specific disease-producing bacteria. The Council does not rely on the once a year check carried out by the Area Health Board.

To remedy any problems at source, the Council responds to complaints about pollution from industrial premises. A detailed survey is then carried out and followed up with the occupier of the property. The City Council carried out a survey of industrial properties near Otara Creek between January and May 1990 with the aim of identifying any possible source of pollution.

The Council has a programme of inspection of sanitary sewers to check for illegal connections and possible ingress of stormwater to minimise sewage overflows. This is a long-term programme and it is expected a gradual clearance in sewage overflows due to stormwater infiltration will result.

The Council has had an ongoing programme of upgrading the Creek to carry stormwater particularly after storms in 1975 which flooded areas within the catchment. As part of this programme, the Council has taken the opportunity of grassing the Creek banks and upgrading public access. In the 1990/91 Annual Plan, Council allocated \$500,000 for upgrading the Otara Creek to enable future maintenance to be more easily carried out. This work involves reshaping of the banks in some areas, providing protection along the creek edges to retain the upper banks, forming tracks along the stream and planting areas where there are steep banks. This work is in progress. It is hoped to make provision in the 1991/92 Annual Plan for people to be appointed to patrol the Creek catchment.

In tandem with this upgrading is a community education programme on litter control. A community education programme was seen by both the City Council and the Health Board as more effective than applying the provisions of the Health Act 1956 and the Litter Act 1979 to try to get prosecutions for illegal dumping.

In April 1990 the City Council sent a letter to all residents in the area reminding them not to dump refuse on the banks of the Creek or light open fires. Various pamphlets on litter control have been circulated in the Otara area. Litter Control Officers contact the residents suspected of carrying out dumping.

The meetings called by the Area Health Board in early 1990 have ensured that there is communication between the City Council, the Area Health Board and the community. A City Council newsletter of May 1990 reiterated the Council and community responsibilities. A Samoan Environmental Health Officer has been appointed to the City Council as at November 1990. Translation of information on litter is being assessed by the Council to find the most appropriate languages to use. A survey on health and environmental concerns in the Otara area was initiated by the City Council in October 1990. The aim of the survey is to ascertain people's concerns so that they can be used as a basis for public education. A series of information pamphlets covering water pollution in Otara Creek, litter and rubbish dumping, dog control, rats and mice, cockroaches and open burning is being produced by the Council.

Manukau City Council has also reviewed its methods of refuse collection during 1990. This review has resulted in a report entitled "A Solid Waste Management Strategy for Manukau City".

Direct action has already been taken by the City Council whose staff with Task Force Green young people have effectively cleared some sections of the Creek banks of rank growth and refuse. Access to the private properties on the banks of the Creek has been achieved by local co-operation.

SUMMARY

The public agencies are carrying out their environmental management responsibilities in respect of Otara Creek using a mix of short-term and long-term preventive measures.

The bacterial quality of the Creek water will be affected by diffuse animal sources, intermittent sewage overflows and possibly intermittent stormwater discharge.

Control of the point sources of wastewaters is achieved through the granting of water rights and monitoring of rights granted in the catchment.

Control of the diffuse sources of pollution is being achieved through preventive measures e.g. the Manukau City Council's ongoing programme to reduce stormwater infiltration into sewers and hence sewage overflows during and after heavy rain.

The three agencies have monitoring programmes in place to assess the bacterial quality of the Otara Creek. Although high faecal coliform counts have been obtained on occasions any health risk to children who may play in the Creek, is related to how much water they would ingest. The Creek in normal flow is not deep enough to encourage swimming.

Control of litter on the banks of the Creek is being achieved mainly through a public education process by the City Council and the Area Health Board. This has included meetings with the community, translation of information into Pacific Island languages, and the appointment of a Samoan Environmental Health Officer. Litter control will be easier to undertake and enforce after Manukau City Council has implemented its programme of maintenance of the stream banks.

CONCLUSION

Urban streams like Otara Creek are perceived by residents as an important community asset especially where reserves with recreation and aesthetic values have been created. The use of Otara Creek for stormwater disposal is important provided that flooding, erosion and the quality of the stormwater can be managed. Although there is intermittent pollution of Otara Creek, the environmental effects are not as serious as those for urban streams in the Auckland City Council district where combined stormwater sewers frequently discharge diluted sewage into the streams. Some degradation of urban streams by adjacent land uses can be expected but impacts can be reduced by urban and rural pollution abatement programmes, stormwater quality control and public education.

During 1990 the Area Health Board and the Manukau City Council made considerable progress in their planning and management responsibilities for Otara Creek.

Provided that maintenance of the stream banks is regularly undertaken by the Manukau City Council and the public education process is continued by the City Council and the Area Health Board, a reduction in the amount of domestic rubbish disposed along the Creek should be achieved. The provision of more accessible recreational areas in the Otara Creek catchment should also discourage litter dumping.

