



Flooding in the Tolka Catchment 15 November 2002

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Introduction

Hydrometric data has been collected at a number of hydrometric stations in the Tolka Catchment in the vicinity of Drumcondra as follows:

The Office of Public Works has daily staff gauge reading at Drumcondra from 10 March 1940-26 July 1941.

An OTT chart recorder was installed in the River Tolka by Dublin Corporation at Station 09019 Drumcondra after the flood of 8/9 December 1954.

There were problems in getting a good calibration at Station 09019 Drumcondra and on 23 September 1999, an OTT Thalmedes water level data logger (with values taken every 15 minutes) was installed at Station 09037 Botanic Gardens on the River Tolka by Dublin City Council.

The catchment area to Station 09037 Drumcondra is estimated at 141.3 km² and to Station 09037 Botanic Gardens at 137.8 km².

The data for the data logger at Station 09037 Botanic Gardens on the River Tolka was downloaded for the period up to 18/11/2002.

The Environmental Protection Agency assists Dublin City Council with its hydrometric Programme.

Flow Measurements

Flood flow measurements were taken by the EPA regional hydrometric team of the flow in the River Tolka on 15 and 16 November 2002 which allowed the EPA to expand the rating curve for this station.

Previous Flooding in the Tolka Catchment

Records available from Dublin City Council indicate that there was previously flooding in the Tolka Catchment on 28 October 1898, 12 November 1901, 12 November 1915, 3 September 1931 and 20 September 1946.

In the flooding which occurred on 8/9 December 1954, a peak flood of 85 m³/s was estimated to have occurred at the weir upstream of Finglas Bridge.

The peak flow recorded at Station 09019 Drumcondra on the River Tolka in the flood of 25 November 1965 corresponded to a 59.5 m³/s.

A flood recorded at Station 09019 Drumcondra on the River Tolka on 25 November 1968 had a peak flow estimated at 45-48 m³/s.

Recent Flood Records

The data for the period 23 September 1999- November 2002 is presented in Appendix 1. The first graph is the hydrograph of the water level record at Station 09037 Botanic Gardens and the second graph is the hydrograph of flow for the same period at the same station.

The hydrographs of the floods of 6 November 2000 and 15 November 2002 at Station 09037 Botanic Gardens are presented in Appendix 2.

Flood of 6 November 2000

At 12:30 hrs on 5 November 2000 the water level in the River Tolka started to rise at Station 09037 Botanic Gardens. The water level rose steadily and peaked at a water level of 2.07 m at 17:00 hrs (GMT) on 6 November 2000. There was a steady decline in water levels until pre flood levels were recorded at 23:00 hrs on 9 November 2000.

The peak flowrate on 6 November 2000 corresponded to a flowrate of 76 m³/s.

Flood of 15 November 2002

At 23:30 hrs on 13 November 2002 the water level in the River Tolka started to rise at Station 09037 Botanic Gardens. The water level rose fairly steadily and peaked initially at a water level of 2.19 m at 19:30 hrs (GMT) on 14 November 2002. There was a subsequent increase in level until the final peak of 2.42 m was recorded on Friday 15 November 2002 at 01:45 hrs.

There was then steady decline in water levels until approx. pre flood levels were recorded at 11:00 hrs on 18 November 2002.

The highest measured flow at Station 09037 Botanic Gardens, with the staff gauge reading 2.27 m, was a flowrate of 87 m³/s.

Based on an extrapolation of the rating curve, the peak flowrate, corresponding to a staff gauge reading of 2.42 m at 01:45 hrs on 15 November 2002, was estimated at a flowrate of 97 m³/s.

Appendix 1

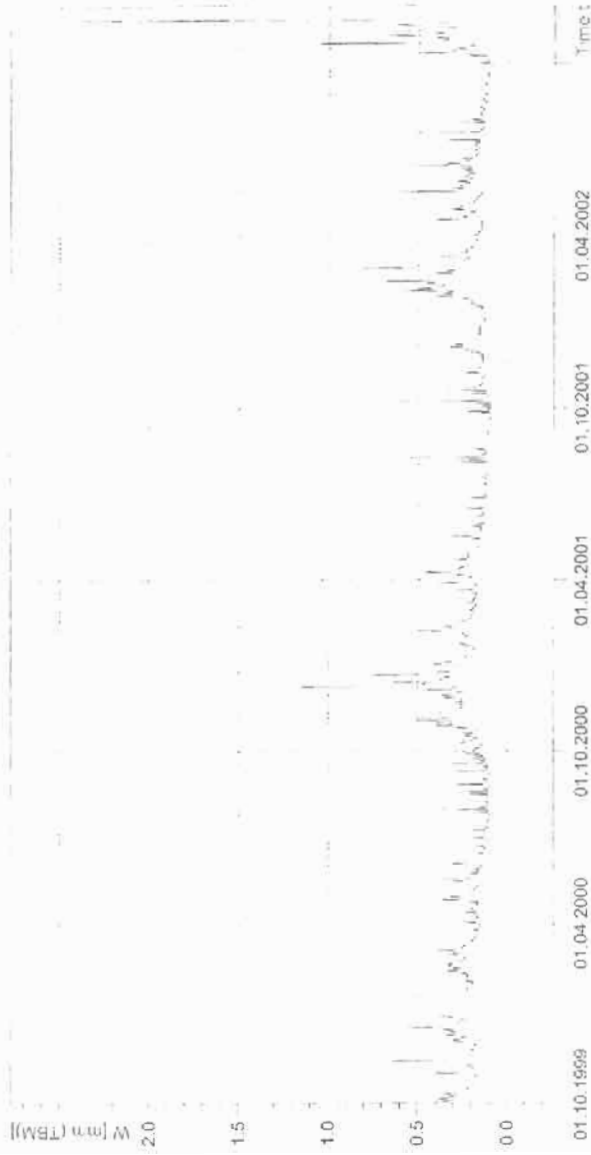
**Hydrograph of water level and flow at
Station 09037 Drumcondra on the River Tolka**

Hydrograph of Water Level

Station number: 09037

Station name: BOTANIC GARDENS

River: TOLKA



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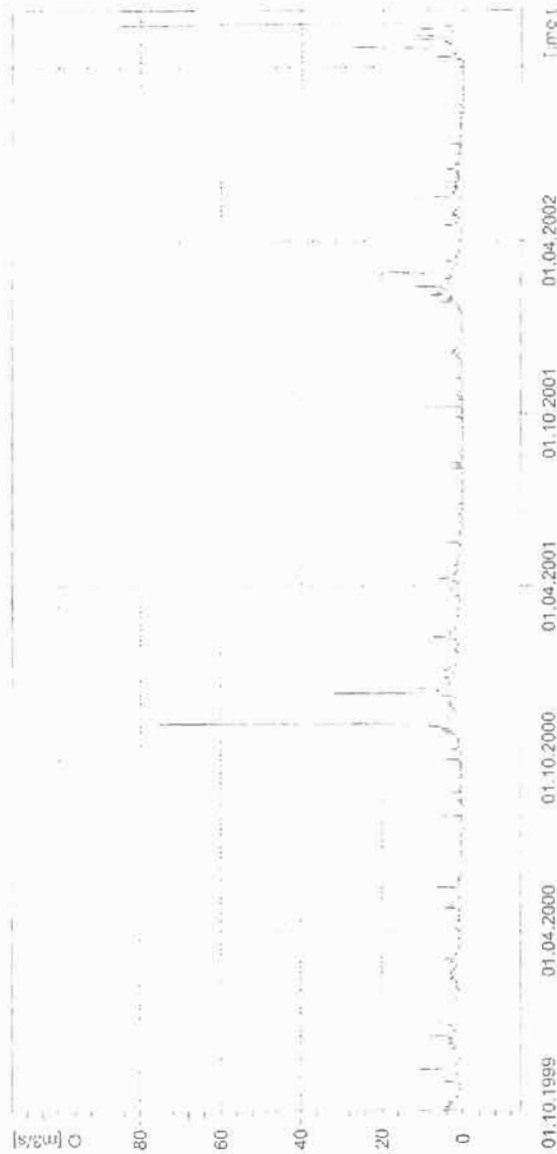
Hydrograph of Flow

BOTANIC GARDENS, Q.15

Station number: 09037

Station name: BOTANIC GARDENS

River: TOLKA



Appendix 2

**Hydrograph of water level and flow at
Station 09037 Drumcondra on the River Tolka
for the
November 2000 and November 2002 floods**

Hydrograph of Water Level

BOTANIC GARDENS.W 15

Station number: 09037

Station name: BOTANIC GARDENS

River: TOLKA



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Hydrograph of Flow

BOTANIC GARDENS Q.15

Station number: 09037

Station name: BOTANIC GARDENS

River: TOLKA



BOTANIC GARDENS, W. 15

Hydrograph of Water Level

Station number: 09037

Station name: BOTANIC GARDENS

River: TOLKA



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Hydrograph of Flow

BOTANIC GARDENS.Q.15

Station number: 09037

Station name: BOTANIC GARDENS

River: TOLKA

