

***Water Supply and Conservation
Scrutiny Review***

***Report of Conclusions and
Recommendations***



***Scrutiny Committee
1 November 2005***

1. Background to the Review

1.1 The Scrutiny Committee of Tonbridge and Malling Borough Council has undertaken a review of water supply and conservation. The review was scoped and the key issues discussed at the Committee meeting held on 20th September 2005.

1.2 The review sought to focus on the following key issues:

- What are the primary sources of water supply that serve Tonbridge and Malling borough?
- What is the current and projected water supply situation for Tonbridge and Malling borough?
- What measures are currently in place to restrain water consumption eg via hose pipe bans?
- What plans are in place/under consideration to enhance future water supplies to the borough and deal with leakage problems?
- What is the current position on water quality standards in the borough?
- Is there water supply capacity in place to cope with anticipated new development in the borough over the next 10-15 years?
- What community initiatives are in place to promote better conservation of water supplies by customers?
- How can the water companies, the EA and the Borough Council work in partnership to improve water supply services to the local community?

1.3 At the review meeting, evidence was presented from the following:

- Bridget Thorn (Team Leader Water Resources – Kent) Environment Agency
- James Grinnell (Water Resources Manager) South East Water
- Lee Dance (Water Resources Manager) Mid Kent Water.

- 1.4 The purpose of this report is to set out the key issues, conclusions and recommendations resulting from the review process.

2. Review Conclusions

- 2.1 The review dealt with the following issues

(a) Water Supply Issues – Short Term

- 2.2 The review was presented with evidence regarding the current water supply situation. Water supply to the Tonbridge area was provided primarily by borehole extraction from local greensand and ashdown beds. To the north of the borough, water supply was also dependent upon local borehole extraction, primarily from chalk beds, supplemented by supply from Bewl Reservoir and the River Medway.
- 2.3 The borough's current water supply is therefore heavily dependent upon replenishment of ground water via rainfall. Local rainfall levels have been well below seasonal averages since the Autumn of 2004 and winter rainfall in 2004/5 has been insufficient to recharge stocks (winter rainfall is particularly important as there is lower evaporation). In Mid Kent, for example, there has been less than 45% recharge for the whole area and rainfall has been only 76% of the long term average. Underground aquifers can take a considerable period of time to 're-charge', often not being replenished fully by winter rainfall until January in the following year. Reservoirs, such as Bewl Water, replenish much faster following rainfall.
- 2.4 In response to this shortfall in supply, a drought plan was activated in December 2004 with hosepipe bans in parts of the South East and a media campaign to encourage less household consumption. It was reported that the area's water supply situation next year was heavily dependent upon winter rainfall levels in 2005/6.
- 2.5 To manage these shortages, there is a need to adopt a twin track approach of increasing water supply and aiming to encourage consumers to reduce their demand. To increase supply, investment to improve water supply capacity (including reducing leakages) is required to provide more consistent supply levels that are less affected by fluctuations in seasonal rainfall. Working with consumers to reduce demand could include:

- Installing further metering
- Additional media awareness campaigns
- Re-use of water/grey water schemes
- Working with local business.

2.6 These issues are considered in more detail below.

(b) Water Supply Issues – Longer Term

- 2.7 Both local water companies prepare 25 year resources plans, updated every five years, to meet projected consumer demand including that likely to arise from new development. It was clear that, in preparing such plans, the water companies were aware of commitments emerging from the South East Plan generally and the more local areas of new residential development in the Borough as set out in the Local Development Framework. Both water companies confirmed that their projections for water demand took full account of worst-case growth options set out in the South East Plan, although this was subject to the actual timing of new development. Front-end loading of construction may require planned new water supply infrastructure to be made available at an earlier date.
- 2.8 Long term projections of demand and supply indicated that there was a need for additional provision to be made in 2013/14 . Projections of demand assumed increases in water efficiency in newly constructed houses of 8%. To meet future need, increased supply is planned by an enlargement of Bewl Reservoir and the construction of Clay Hill Reservoir. South East Water were also looking to increase groundwater abstraction in the short term and were considering the use of Postern Park in Tonbridge for increasing water storage. Desalination technology was also being considered. The pumping of water to the South East from other regions was considered to be too expensive; local solutions were preferred on cost grounds.
- 2.9 Whilst the Committee was reassured about the linkages made by the water companies between future water demand and developments set out in the South East Plan and Local Development Framework, and of the planned investment to cater for such demand, there remained a concern about the continuing dependency of the area on water supply from ground water abstraction and the consequent shortfalls in supplies when rainfall levels were insufficient to recharge aquifers. There appeared to be little 'headroom' in local supplies to cater for periods when annual rainfall fell below seasonal averages which had led to the need for drought measures to be imposed to protect existing supplies.

- 2.10 Earlier capital investment in new supply sources could reduce the dependence of the area on rainfall levels and provide for a more consistent level of supply in the shorter term, obviating the need for hosepipe bans, for example. Government funding constraints and the regulatory framework controlling the industry did mean, however, that, at present, a 'just-in-time' strategy of investment was effectively in place. Water companies were unable to impose varying tariffs on customers, for example, to impose a higher charge for those using hosepipes/water sprinklers etc.
- 2.11 Increasing water supplies from further groundwater abstraction rather than from the development of additional supply sources, such as new reservoirs, did have an environmental cost. The Environment Agency were concerned that proposals for additional abstraction should be determined within a sustainable framework which took full account of the environmental effects on river catchments. Some areas of the County were thought to be suffering from over-extraction, particularly from chalk and greensand aquifers. This related to the number of licences permitted in the 1960s where conservation was not fully taken into account. The Environment Agency were now developing River Catchment Strategies to set a more sustainable context for the future management of ground water reserves.
- 2.12 The need for a more sustainable approach to maintaining water supplies in the future also pointed to the need for alternative supply sources to be developed to serve the area. Continued and additional groundwater abstraction could not be sustained in the future, given the lower levels of annual rainfall now occurring, without substantial environmental effects on the flora and fauna of local rivers.
- 2.13 In conclusion, the evidence presented on water supply issues suggested that investment in new water supply infrastructure, currently programmed for 2013/14 should be brought forward. There was a need for supplies to be made less dependent upon rainfall levels and the recharge of ground water aquifers, for provision to be made well in advance of new development taking place in the area as set out in the South East Plan and Local Development Framework, and to ensure a more sustainable water supply is in place to protect rivers from continued and increased extraction.

(c) Leakage Management

- 2.14 The Review heard that both water companies were investing considerable sums to tackle water leakage. However, it was acknowledged that the problem was significant. Mid Kent Water has a

pipe network of 4,000 km and South East Water has a network of 10,000 km. Many pipelines are old and in need of repair. Considerable upgrading and improvement has already been achieved to date. Mid Kent Water, in particular, has achieved the lowest leakage levels across the industry in terms of the percentage below target. The Committee welcomed the work achieved to date to reduce leakage problems. It was acknowledged that, due to the high and increasing costs of dealing with leakages, it could be more economic for the water companies to invest in new water supply infrastructure rather than replace the pipe network. From the comments set out above, and for cost reasons, the Committee would agree that the time is right for investment to be diverted from leakage management to the provision of new water supply infrastructure.

- 2.15 With regard to the management of leakages within domestic properties, it was confirmed that water companies were already investing in the improvement of domestic supplies. Some 30% of leakages result from failures in customers' own infrastructure. Water companies can also monitor the water usage of individual users and alert them to a potential leakage problem when consumption increases over and above expected levels.

(d) Water Quality Issues

- 2.16 The review heard that considerable improvements in water quality had been achieved by both water companies in recent years. For example, within the Mid Kent area, water quality was at its highest ever level as independently confirmed by the DWI. The current high quality of water was confirmed by Members. The most recent problem related to a cryptosporidium problem at Hartlake but it was confirmed that this problem had been an isolated case and had been dealt with effectively.

(d) Reducing Water Usage

- 2.17 The review heard that there were many initiatives and new technologies being pursued to encourage consumers to reduce their demand for water and promote schemes to recycle waste water back into supply.
- 2.18 Water meters encourage consumers to be more aware of the amount of water they use and to do more to reduce usage. All new properties are now metered and older properties can be metered at the request of the owner. Installation is free of charge and occupiers have the option of having them removed after 1 year. More could perhaps be done to encourage further homeowners to have meters installed although it

was recognised that lower income families might be at a greater disadvantage than those with higher incomes. The Water companies confirmed that they were able to take account of hardship cases in setting charges.

- 2.19 There is also potential for new housing to be developed with additional water efficiency features, for example, grey water systems. Currently, the introduction of such measures is optional and some house builders appear reluctant to incorporate them within their new developments as the costs would need to be passed on to the house-buyer. The Sustainable and Secure Buildings Act 2004 will, however, lead to the introduction of new Building Regulations that would make the introduction of water conservation measures obligatory in all new developments. This could have a major benefit.
- 2.20 Achieving greater awareness of the need for water conservation amongst users, both business and domestic, is an on-going, national initiative. Local action can help re-inforce the message, particularly where lack of control over water usage can lead to other adverse environmental effects, for example, lower river levels and summer droughts and their effect on local wildlife.

(e) The Borough Council's Role

- 2.21 During the discussion of the key issues listed above, Members acknowledged that the Borough Council has a supporting role to play in a number of areas concerning water conservation, in partnership with the leading agencies.
- 2.22 With regard to water metering, the Council's offices and leisure centres all have meters in place and these are monitored on a weekly basis. They are particularly useful in identifying potential leakages but potentially, more could be done to promote reduced water consumption amongst staff and so foster greater awareness of the issue generally. In addition, the Council could seek to act as an example of good practice locally to other employers to encourage more awareness amongst the business community.
- 2.23 The Council's LA21 action plan has recently been revised following a detailed review by this Committee last year. Water conservation is not an issue currently addressed in that plan. There is scope, however, to work in partnership with the water companies and the Environment Agency to raise community awareness of the need for water conservation and the measures available to households and businesses to achieve this, for example, water metering. Working with

young people via local schools may be a useful means of spreading positive messages about water conservation amongst families. The Council helps to promote the Kent Eco Schools programme and water conservation is one element of this. A variety of communication channels were required; there was some concern that too much reliance may be placed on website information which may not reach certain parts of the community. Use of the Council's newspaper, Here and Now, could be undertaken both to promote conservation issues and to help enforce hosepipe bans when in place.

- 2.24 The Borough Council will have a major role to play in ensuring any new Building Regulations concerning water conservation are properly implemented when these come into force.

(f) Recommendations

It is recommended that the Borough Council

- (a) expresses concern regarding current inadequate water supplies in the area and the continuing reliance on annual rainfall levels and groundwater aquifers as the primary source of water;
- (b) invites the water supply companies to review the timing of the provision of new water supply infrastructure to serve the area and to bring forward improvements to ensure that the area has access to a sufficient, and more consistent, supply of water. Such a supply should be capable of providing a sufficient 'headroom' to meet local needs in both summer and winter months to avoid the need for any restraint being imposed on water usage by consumers;
- (c) welcomes the development of Local Catchment Strategies by the Environment Agency which enables proposals for further groundwater abstraction to be undertaken in a more sustainable context taking proper account of the need to conserve the flora and fauna of local rivers. The adverse environmental effects of further water abstraction suggests that water companies should be developing alternative, more sustainable means of water supply which should be implemented at an earlier stage than current plans would suggest;
- (d) expresses concern that levels of new development in the Borough will increase demand for water over and above existing supply thresholds. The water companies be asked to confirm that their forecasts relating to future water demand and supply and their plans to improve water supply infrastructure are kept up to date,

reviewed regularly to take account of changing circumstances, and that provision is made to ensure that adequate water supply infrastructure is put in place in advance of new development taking place to ensure continuity of supply for all customers. Provision should take account of any front-end loading in the development programme which would increase demand for water in the short term.

- (e) invites the water companies and other interested parties to maintain their direct involvement with the Local Development Framework and individual Local Development Documents to ensure that water supply issues related to new areas of development are adequately addressed.
- (f) expresses support for the introduction of revised Building Regulations promoting water conservation measures to be incorporated into new development and requests that the progress of such regulations be monitored and reported to the Planning and Transportation Advisory Board at the appropriate time.
- (g) works in partnership with key agencies and local schools to assist with the promotion of water conservation and reduced consumption via the LA21 action plan and assists with any publicity regarding the enforcement of future hosepipe bans in the area. On a corporate basis, measures to reduce the Council's own water consumption be explored to act as an example of good practice to local businesses and other public sector bodies.
- (h) liaises with other Kent Districts, the County Council, the West Kent Partnership, the Kent Partnership and SEERA on the issues of concern raised in this review and seeks their support in taking up such matters with Government to secure a commitment to the improvement of water supply within the County which takes proper account of existing and future levels of demand.