

## 5. Fluoridation of Drinking Water Supplies

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The purpose of this report is to inform Councillors of the options for commencement of community consultation associated with fluoridation of reticulated water supplies.

**Group Manager, Infrastructure Waste & Water**

### BACKGROUND

10 Over the last 12 months Council has received a number of enquiries from members of the community and dental practitioners regarding the introduction of fluoridation to drinking water supplies. In late 2008 NSW Health contacted Council outlining its wish to explore the option of implementing fluoridation in water supplies throughout the Shire.

On 17 March a Councillor workshop was held to present issues associated with fluoridation. The workshop was attended by local dental practitioners, NSW Department of Health and Council staff.

### WHAT IS DRINKING WATER FLUORIDATION

Most water supplies contain natural amounts of fluoride. Stream waters throughout the Bega Shire contain low levels of natural fluoride in the order 0.2 milligrams per litre. In some parts of the world natural stream waters have much higher levels of natural fluoride over 20 milligrams per litre.

20 In NSW, if a water supply authority decides to fluoridate drinking water because natural levels are too low to give a dental benefit, the natural fluoride is supplemented to bring its total concentration up to 1.0 milligrams per litre. At this level clinical research indicates that significant dental benefits occur, particularly amongst the young. Fluoride is in fact the thirteenth most common element in the earth's crust and it is a completely natural element.

Bega Valley Shire Council currently fluoridates drinking water in Bega, Kalaru and Tathra. The part fluoridation of the Shire's drinking water systems has arisen as a matter of history and is associated with previous Council boundaries before amalgamation.

30 Water fluoridation has been the primary public oral health policy for the prevention of tooth decay in NSW for more than 50 years. The most recent data from the NSW Child Dental Health Survey (2007), show that populations in unfluoridated rural communities have around twice the oral disease of fluoridated communities.

Fluoridation of public water supplies is supported by every reputable health authority from the World Health Organisation down. It is NSW Health's position that it supports

fluoridation of public water supplies. Fluoridation of water supplies is mandatory in other states.

## HISTORY

Since its introduction into NSW in the 1950s fluoridation has expanded so that some 94 per cent of the state's population now has access to fluoridated public water supplies.

40 From 2004 a 100 per cent capital works subsidy has been provided by the NSW Government for the design and installation of fluoridation plants. For the past five years, the NSW Health *Teeth for Health* program has worked with some 30 local government and water authorities to successfully implement fluoridation in shires as large as Gosford, Coffs Harbour, and Port Macquarie Hastings through to smaller ones such as Guyra, Palerang and Upper Lachlan.

Victoria and Queensland have also embarked on similar work to the point where around 80 per cent of the entire Australian population can access fluoridated water.

50 Research has been undertaken into water fluoridation to monitor its effectiveness and potential risks. In its latest Systematic Review, the Australian National Research and Medical Research Council (NHMRC), 2007, concluded that fluoridation remains an appropriate public health measure for safely reducing tooth decay. This follows the World Health Organisation making similar statements in 2005.

## ISSUES

Drinking water fluoridation has been shown to be an emotive subject in some communities. Whilst the overwhelming bulk of the Australian population support fluoridation, some sections of the community do not wish to drink fluoridated water.

60 With the divergence of views in mind, approval to commence fluoridation of drinking water can take two paths in accordance with the *Fluoridation of Public Water Supplies Act 1957*. The most common approach is wide community consultation followed by a Council resolution. The second, less common approach is to place the matter before the Fluoridation of Public Water Supplies Advisory Committee to make a determination on behalf of Council. In both cases, the resolution is ultimately placed before the Director General of Health for final approval or rejection.

In NSW, the evidence base for the safety, effectiveness and equity of fluoridation remains strong. This is revealed in, among other things, continuous population epidemiology tracking that shows no correlation between water fluoridation and any other disease.

70 Dental fluorosis (very mild to mild) is a non-health threatening outcome of over exposure to fluoride. The Child Dental Survey mentioned earlier indicated that while water fluoridation is being adopted by more water authorities in the state, dental fluorosis is declining. It is evident in both fluoridated and non-fluoridated communities.

It cannot occur once teeth are fully formed and a contributing factor can be excessive exposure to fluoride tablets during childhood. Fluoride supplements are not recommended by NSW Health, unless prescribed by a dentist.

With regard to public opinion on fluoridation, numerous surveys, plus a recent three-year random survey of more than 10,000 people in NSW, indicate up to 90 per cent of the population support water fluoridation. Support has never been less than 60 percent in any reputable survey.

### **Environmental**

80 No significant environmental impacts.

### **Asset**

Some capital assets will be created if fluoridation is adopted. These will be incorporated into the asset management plan.

### **Strategic**

Councils' Water and Sewer Strategic Business Plan indicates construction of a number of future water filtration plants. If fluoridation is adopted then these plants can be configured to allow its introduction.

### **Consultation**

90 Wide community consultation is required prior to implementation of drinking water fluoridation.

### **Financial**

The capital cost to council is zero. A formula has been established by the Department of Water and Energy (DWE) to assist NSW Health in guiding councils and water authorities in the selection of appropriate capital equipment.

The operating costs are expected to be around \$2 per head of population per year in a major rural centre. NSW Health has indicated that it will provide free Engineering consultancy services to help determine a more accurate figure in consultation with Council.

100 The cost benefit ratio is understood to be conservatively estimated at one dollar invested in water fluoridation delivers at least \$13 saving in dental costs.

### **Resources (including staff)**

Initial training of staff is required prior to commencement of fluoridation. At present Council has five staff who are trained in fluoride plant operation associated with the Bega-Tathra water supply system.

If fluoridation were adopted for the remainder of the Shire then some existing staff would need to be trained.

## **CONCLUSION**

Although the overwhelming majority of epidemiological evidence supports fluoridation of drinking water, there are diverging community views. With this in mind, wide community consultation is required prior to Council formulating a position on the matter.

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## **RECOMMENDATION**

1. That council staff, in consultation with NSW Health, design a community consultation program for Council consideration, noting financial contributions from NSW Health are expected.
2. That subject to its adoption by Council, the community consultation program be implemented prior to any decision to introduce fluoridation.