

## Development Impacts on City Water Supply

### *Is there a water crisis in Sebastopol?*

In public testimony regarding various proposed development projects in Sebastopol over the past several months, at meetings of the Design Review Board, Planning Commission and City Council, and in writing, various persons have put forward concerns about the impacts of various proposed development projects in Sebastopol on the City's water supply. Statements have been made to the effect that there is a "water crisis" in Sebastopol, and suggested that approval of any one of these projects would have significant adverse impacts on water supply and recharge to wells within the City. Some have further stated that approval of development projects within the City will seriously impact water availability in the "greater Sebastopol area", which is variously defined to include the rural areas as far from Sebastopol as Graton on the north and Hessel on the South. These comments have been offered in connection with projects ranging in magnitude from second dwelling units to major subdivisions.

Although the City, along with other groundwater users, is certainly mindful of the need to ensure the sustainability of our water resource, to date we have no evidence of any imminent threat to our water supply in terms of water availability. In addition, although there are reports of private well failures in unincorporated areas surrounding us, there is no reliable information documenting the reason for these failures; furthermore, the City's experience and available data for our City wells does not show any evidence of declining groundwater levels. City usage has remained relatively stable for the past ten years and more, and the City is not growing at a rate that in itself threatens to strain our ability to provide this service.

The following information is based on City data and other records, and provides perspective on the current water situation in Sebastopol.

### *Production Capacity, Water Demand and Water Usage*

Data maintained by the City does not indicate that there is a crisis of water supply to our wells, from the standpoint of water production capacity, demand or water levels. The City water system consistently operates at 26-30% of total production capacity, based on operating well characteristics and the overall capacity of our production and delivery system. Please refer to the attachments to this memo, including

Table 1 – Water Production and Usage Statistics, 1993-2003

Figure 1 – Water Production, Usage, Population and Rainfall, 1993-2003

Figure 2 – Static Water Levels, 1990-2003

- Annual production fluctuates from year to year, primarily in response to weather conditions. Sometimes water usage declines temporarily, immediately following a sewer or water rate increase. The average annual production for the past 10 years is 462 million gallons per year.
- Per Capita Usage (all water produced, divided by population) has ranged from 150 to 175 gallons per person per day, with an average usage of 164 gallons per person per day over the past 10 years.

- Population increased from 7,501 in 1993 to 7,800 in 1997 (an increase of about 4%) and has remained at 7,800 since 1997, for an average over the past 10 years of 0.4% per year.
- Static water levels (water level when well is not running) in all four operating City wells have remained very stable in the period from 1990 to 2003 (or 1997-2003, in the case of Well 7). Water level measurements for all four wells were actually higher in 2003 than they were in 1990.

These facts illustrate that growth and development in the City of Sebastopol are not occurring at a rate that suggests we will soon be straining the limits of our water supply.

### *Groundwater Recharge Potential of Undeveloped City Parcels*

A number of persons have stated that certain sites proposed for development are essential to groundwater recharge in Sebastopol, and that such proposed developments will have a significant adverse impact on availability of groundwater to the City's well field. There is no known basis for this statement in fact. Recharge of groundwater depends on complex relationships between a number of factors including climate, precipitation, surface topography, soil types, and subsurface geological features, over a large geographical area, and over time.

The City has had studies in the past that suggest that the majority of groundwater recharge to our wells occurs in the hills to the west of town, roughly contiguous with the Atascadero Creek watershed. The Upper Atascadero and Jonive sub-watersheds to Atascadero Creek immediately south and west of Sebastopol together encompass some 8,700 acres of primarily rural-residential development<sup>1</sup>. Within the incorporated City limits are another 1,000 or so acres of land in the Laguna de Santa Rosa watershed, which are also assumed to contribute recharge to the City wells.

In considering whether development contemplated within the City will have a significant impact on recharge to our wells, it should be kept in mind that even a ten-acre development of typical single-family homes resulting in 50% coverage with impermeable surfaces, would represent a reduction of *less than one-tenth of one percent* of the land area within this assumed recharge area. Also, development that has occurred within the City over the past 10 years or so does not appear to have had any demonstrable effect on the City's water supply.

The City's infill development policies address the desire of the community to confine denser development within an Urban Growth Boundary, and thus avoid development sprawl into the less densely developed rural areas surrounding us, particularly to the West, where it is likely that most of our groundwater originates.

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<sup>1</sup> Preliminary Watershed Assessment Atascadero Green Valley Creek Watershed, prepared by Laurel Marcus and Associates for the Goldridge Resource Conservation District

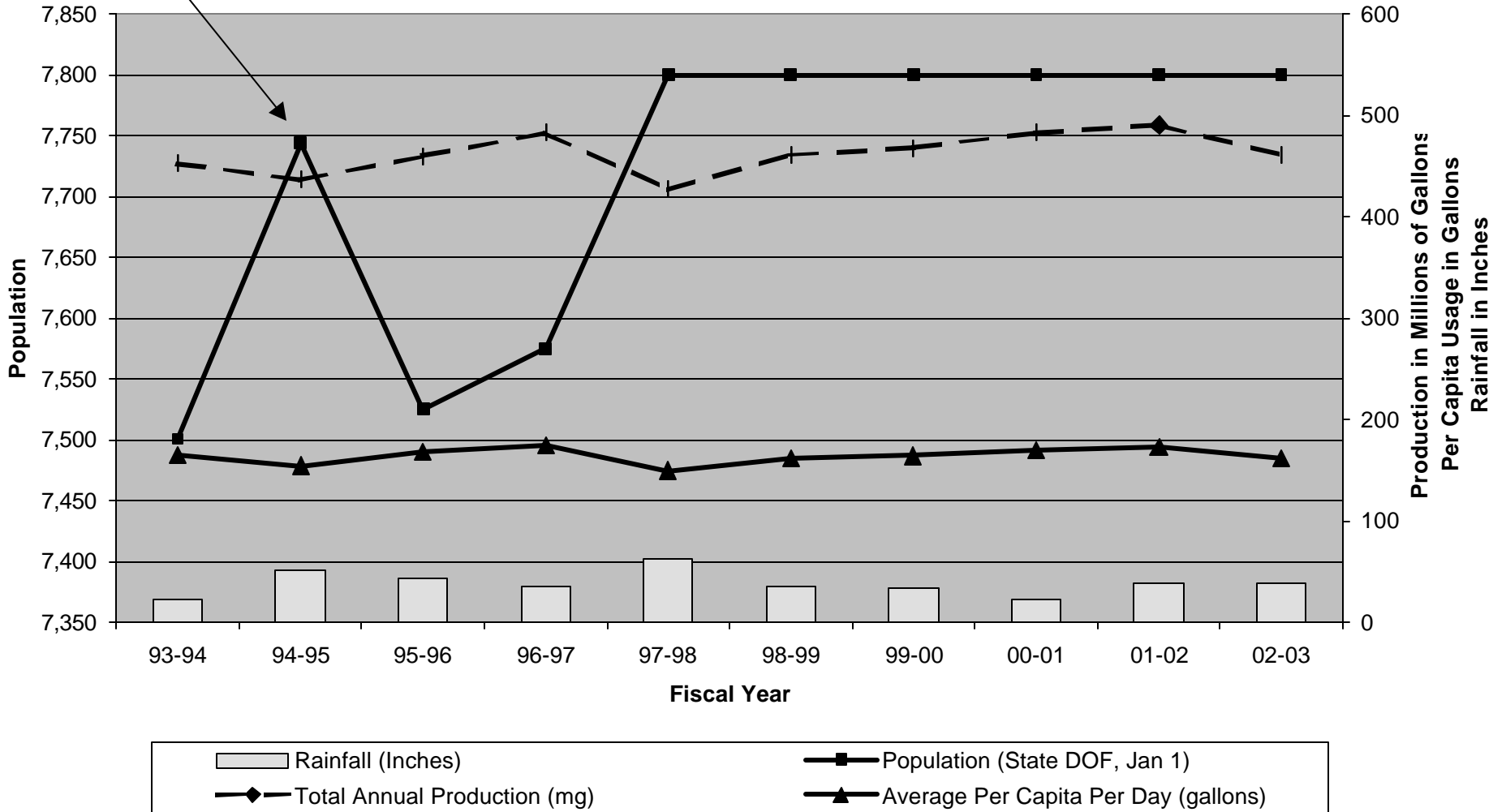
Table 1  
**City of Sebastopol**  
**Water Production and Usage**  
**1993-2003**

FISCAL YEAR	93-94	94-95	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03	10-YEAR AVERAGE
Total Annual Production (mg)	453	437	460	483	427	461	468	483	491	461	462
Average Month (mg)	38	36	38	40	36	38	39	40	41	38	39
Average Day (mg)	1.2	1.2	1.3	1.3	1.2	1.3	1.3	1.3	1.3	1.3	1.3
Population (State DOF, Jan 1)	7,501	7,744	7,525	7,575	7,800	7,800	7,800	7,800	7,800	7,800	7715
Average Per Capita Per Day (gallons)	165	155	167	175	150	162	164	170	172	162	164
% Total Production to Max Production	28%	27%	28%	29%	26%	28%	28%	29%	30%	28%	28%
Rainfall (Inches)	22.5	51.8	42.6	35.5	62.5	35.7	33.3	22.4	38.2	37.7	38.2
Barlow Company Water Use (mg)						17	13	13	13	6	
Barlow % of Total Production						3.69%	2.78%	2.69%	2.65%	1.30%	

Note: State DOF population figure for 1/1/95 is assumed to be incorrect. Population was adjusted downward for 1/1/96

**Figure 1**  
**Water Production, Population and Rainfall**  
**1993-2003**

Note: State DOF population figure for 1/1/95 is assumed to be incorrect. Population was adjusted downward for 1/1/96.



**Figure 2**  
**Static Water Levels**  
**1990-2003**

