

## **City of Watsonville Public Works and Utilities Department**

### ***Background***

The City of Watsonville Public Works and Utilities Department (hereafter referred to as the Public Works Department) supplies water to urban users in the incorporated and unincorporated boundaries of Watsonville. The city has a population of 49,600; with the addition of the outlying Pajaro Valley areas, the total population served is 62,000.

Customers fall into the following categories:

- general and residential: 85 percent
- commercial: 10.3 percent
- industrial: 0.2 percent
- irrigation (agricultural and residential): 1.9 percent
- other water systems: 2.6 percent

All city water users have meters on their properties. The metered water usage is totaled by each category of water user. Between 1990 and 2003, the number of water connections increased by roughly 1.3 percent per year. Since 2003, the rate has gone up by an average of 3.3 percent per year.

The Public Works Department is responsible for:

- providing water for city residents;
- monitoring sources of water;
- determining availability of supply; and
- planning for future water needs.

The Public Works Department works cooperatively with Pajaro Valley Water Management Agency (PVWMA), which oversees water supply and usage in the Pajaro River Basin. The PVWMA works with water agencies within the basin with respect to agricultural water use. The Public Works Department is responsible for water usage within the city of Watsonville and outlying areas. The two agencies often work together to balance the needs of their water users.

The goals of the two agencies are to:

- preserve agriculture in the basin;
- conserve water and manage the basin's aquifers;
- prevent seawater intrusion; and
- find a balance between farming and urbanization.

Eighty-five percent of Watsonville’s water supply is groundwater, primarily taken from the Aromas Red Sands Aquifer. The Aromas Red Sands Aquifer underlies the Pajaro River Water Basin. The aquifer also supplies other water agencies in the region. The Watsonville water system consists of:

**Water Sources**

- 12 inland water wells spread throughout the Pajaro Valley (one well is inactive), which draw water from the Aromas Red Sands Aquifer;
- Brown Creek and Corralitos Creek;
- five small lakes (Pinto, Kelly, College, Drew, Tynan);
- the Pajaro River;
- the Grizzly Flats upper watershed, which has 215 acres of land to draw water from; and
- Harkins Slough.

**Water Storage**

- eight reservoirs and storage facilities

**Distribution**

- water filtration plant in Corralitos;
- 10 pumping stations;
- 152 miles of pipeline; and
- the Fowle Booster Station.

**Sources**

Basin Management Plan, PVWMA.

City of Watsonville General Plan 2005.

City of Watsonville Public Works personnel.

City of Watsonville Urban Water Management Plan 2000.

LAFCO study and presentation to the public on the “State of the Water in Pajaro Valley,” June 2005.

Outside City of Watsonville Water Connections Policies.

Pajaro Valley Water Management Agency Environmental Impact Statement, Revised.

Santa Cruz Sentinel articles:

“Battles over water expected to intensify next year,” December 29, 2004.

“Farm Bureau wary of growth,” April 2005.

“Farmers file suit to halt pipeline,” January 19, 2005.

“Farmers give a lot,” February 19, 2005.

“Pipeline project gets cash infusion,” May 13, 2005.

“Upgrade planned for Watsonville’s water treatment plant,” March 6, 2005.

U.S. Census Bureau web site, [www.census.gov](http://www.census.gov).

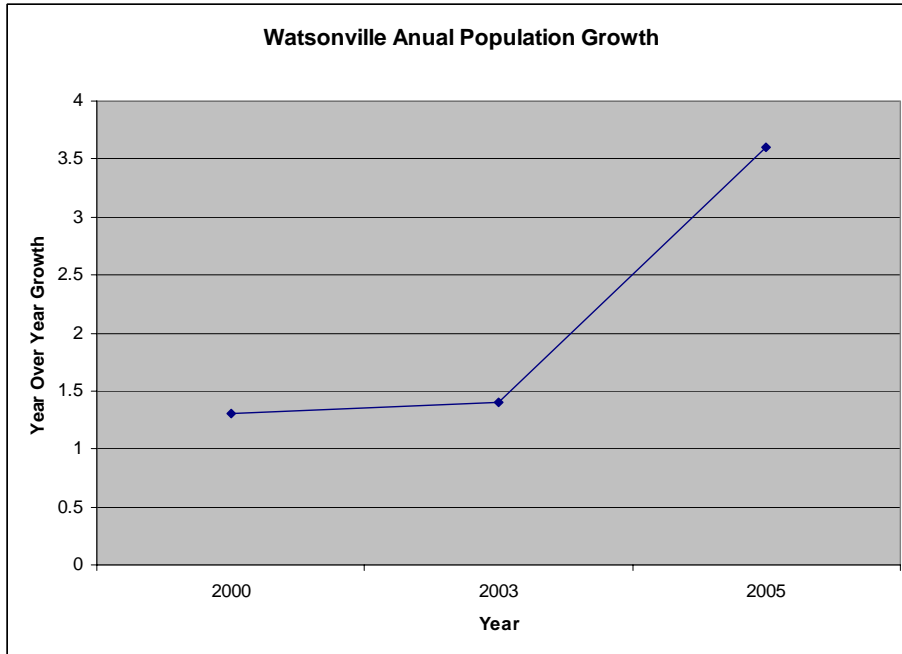
Water Savings Tips web site, [www.watersavingtips.org](http://www.watersavingtips.org).

Watsonville Water Consumer Newsletter, March 2005.

## ***Findings***

1. The current groundwater conditions are as follows:
  - Groundwater levels are declining. The basin water usage exceeds recharge. This is referred to as overdraft.
  - Overdraft causes lowering of the groundwater table and seawater intrusion that results in high salt levels in wells near the ocean, west of San Andreas Road in the Watsonville area.
  - Groundwater conservation is an important planning issue for Watsonville because the aquifers in the Pajaro Valley supply approximately 85 percent of the city water.
2. In the event of drought or breakdown of the surface water filtration plant, the city will depend more heavily on groundwater.
3. The city of Watsonville has a water reclamation facility currently in use. Reclaimed water used for irrigation purposes increases the water available for existing residential use.
4. The city calculates the number of water users and usage in planning for future growth by reviewing population figures and growth estimates provided by the Association of Monterey Bay Area Governments (AMBAG). AMBAG analyzes how much water is being used by new developments.

- City of Watsonville population statistics have been gathered for years 2000, 2003 and 2005 yielding totals of 44,265, 46,159 and 49,600 respectively. These percentages document a substantial increase in the city's recent rate of growth.



**Figure 1. Watsonville Population Growth.<sup>1</sup>**

- From 1990 to 2003, new connections were added at a rate of 1.3 percent per year in proportion to population growth. From 2003 to 2004, the number of connections increased at a rate of 3.3 percent.

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<sup>1</sup> U.S. Census Bureau Data, [www.census.gov](http://www.census.gov).

<b>Year</b>	<b>Total Water Production (AF)</b>	<b>Ground Water Production (AF)</b>	<b>Surface Water Production (AF)</b>	<b>Number of Connections</b>	<b>Production per Connection (AF)</b>
<b>2000</b>	7,633	6,331	1,302	13,108	0.582
<b>2001</b>	7,615	6,527	1,088	13,197	0.581
<b>2002</b>	7,683	6,617	1,066	13,177	0.583
<b>2003</b>	7,635	6,791	844	13,542	0.564
<b>2004</b>	7,804	7,055	749	13,995	0.558

**Table 1. City of Watsonville Total Water Production.**

7. Water demand is now increasing at a rate of only one percent per year as a result of conservation education programs, landscape guidelines and new, efficient plumbing.
8. Changes in many crops grown in the Pajaro Valley have led to increased groundwater use. Many growers have switched from apple orchards to berry fields, which require more water. Urban water use has also increased over time.
9. Watsonville officials say seawater intrusion is the major issue the department faces. To stop seawater intrusion, the City of Watsonville Utilities Department is turning off coastal wells as far as three miles inland.
10. The Public Works Department is charged with determining the availability of water supplies and monitoring all sources in conjunction with PVWMA. In the event water rationing is necessary, the city has a strict five-stage action plan.
11. To supplement water production after turning off the coastal wells, the Public Works Department will connect to PVWMA’s Coastal Distribution System. This will shift the pumping of water near the ocean to inland wells to preserve the coastal area from seawater intrusion. The City of Watsonville plans to provide an additional 2,000 acre-feet of reclaimed water to PVWMA for agricultural use, starting in summer 2005. PVWMA will pay for construction costs.
12. PVWMA has a proposed plan to import water through a pipeline from the Central Valley Water Project. Water from this source will be used for agricultural purposes only. If the average annual rainfall exceeds consumption, this surplus water may be banked in the groundwater basin for future use.
13. Plans exist for using excess surface water for the purpose of recharging the aquifer. Groundwater recharge allows surface water to replenish the aquifer.
14. The city’s water conservation program goals include:
  - public education

- school programs
  - tiered water rates
  - rebates of up to \$100 for each water-saving device
15. Proposed public works future water conservation programs may include:
- landscape water reduction assistance
  - city facilities landscape retrofitting
  - continued public education programs
  - additional tiered water rates
  - retrofit of plumbing fixtures upon sale or transfer of property
  - rebates on water saving plumbing devices
16. City officials say future water supply needs could be met through an expanded water reclamation facility, which could provide 4,000 acre-feet/year of water at a cost of \$29 million. Twenty million dollars in grant funds have been secured. Currently, the project is in its final design stage. This facility is expected to begin supplying water in 2007. Since this project requires additional land, the city must annex 14 acres of land to complete the project. The annexation also requires approval from the City of Watsonville, County of Santa Cruz, LAFCO and the Coastal Commission.
17. Design plans for the water reclamation plant's next phase of upgrade will cost \$25 million. Five million dollars will come from a state grant and the remainder will come from city funds and PVWMA.
18. Recycled water will be used for agricultural irrigation and will increase the water available for city water supply wells by reducing agricultural demand.

## ***Conclusions***

1. Overdraft of the underlying aquifer and seawater intrusion are increasing the importance of planning for future water needs through conservation efforts and production of additional water sources.
2. Although the Public Works Department has initiated water conservation programs, implemented water reclamation procedures and increased cooperation with PVWMA, increasing growth and the proportional need for additional water connections create an even greater need for additional water sources and protection for the current water sources.
3. Despite the city of Watsonville's dire water situation, the Public Works Department has managed water consumption and production well by actively encouraging conservation, successfully managing well usage and utilizing its close relationship with PVWMA.
4. The Public Works Department is actively planning and preparing for future water needs. Plans exist for reversing trends that increase seawater intrusion and overdraft situations through water banking, aquifer recharging, reclamation facility expansion and increased awareness of water conservation needs.

5. The rate of housing growth has nearly doubled since 2003. Water demand has increased proportionately and the city has been able to satisfy that demand.

***Recommendations***

1. The Public Works Department should continue to work cooperatively with PVWMA, farmers and urban residents in conservation efforts to maintain integrity of the basin and prevent overdraft in coastal areas where seawater intrusion is likely.
2. New housing should be regulated by the amount of water available.
3. The Public Works Department should continue to work cooperatively with PVWMA to improve management and production of water resources in the area.
4. The Public Works Department should continue its work with PVWMA to develop alternate methods for increasing water production in the region.

***Responses Required***

<b><i>Entity</i></b>	<b><i>Findings</i></b>	<b><i>Recommendations</i></b>	<b><i>Respond Within</i></b>
The City of Watsonville Public Works and Utilities Department	1-18	1-4	90 Days (September 30, 2005)
Watsonville City Council	1-18	1-4	60 Days (August 30, 2005)

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