

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;

2004 – 2005 Santa Cruz County Grand Jury
Final Report and Responses

- 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.
Water Savings Tips web site, 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.

Response: City of Watsonville AGREES.

2. In the event of drought or breakdown of the surface water filtration plant, the city will depend more heavily on groundwater.

Response: City of Watsonville AGREES.

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.

Response: City of Watsonville DISAGREES.

The City of Watsonville does not currently have a water reclamation facility. The city is designing a water reclamation facility, which would be funded by grants and by PVWMA, to provide 4,000 acre-feet of water for crop irrigation. This water will help reduce seawater intrusion by reducing groundwater pumping. The project will mainly benefit agriculture, which uses 83% of the water in the Pajaro Valley Groundwater Basin. The water reclamation project will not directly provide additional water for existing or future urban 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.

Response: City of Watsonville PARTIALLY AGREES.

The city uses both AMBAG data and US Census Bureau population data, in combination with internal city water demand data, to calculate water use for existing customers and to project water use for future developments.

5. 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.

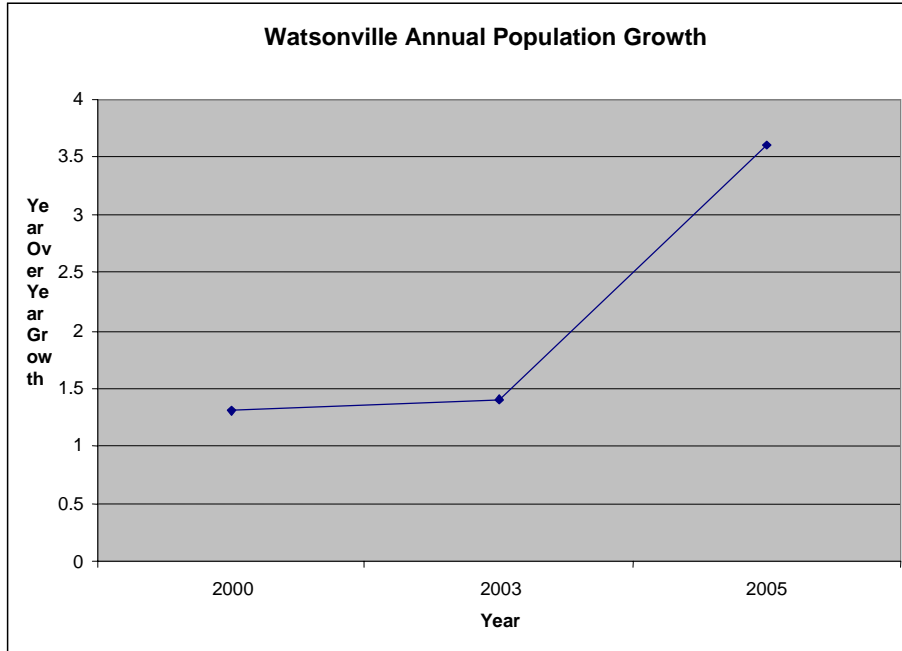


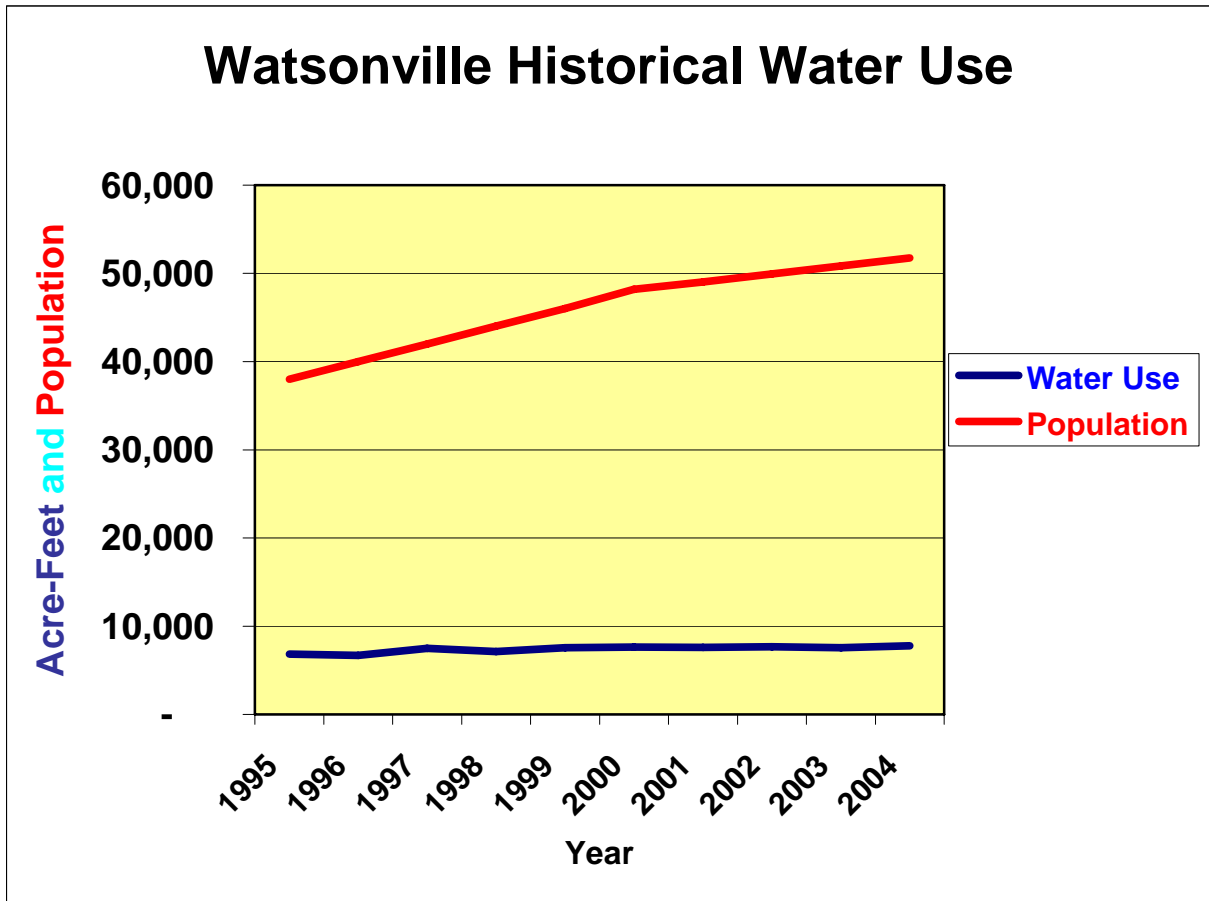
Figure 1. Watsonville Population Growth.¹

Response: City of Watsonville PARTIALLY DISAGREES.

The above graph provides a grossly distorted view of population growth in Watsonville because it focuses on the highest growth period the city has ever seen. This short-term and unusual population increase is due to the completion of several large housing developments at the same time. The attached chart shows the long-term population change in Watsonville, and does not artificially exaggerate the very short-term growth period that has recently occurred. The current population growth rate is expected to revert to historical rates within the next year, as these development projects are completed.

¹ U.S. Census Bureau Data, www.census.gov.

Further, while the city population numbers have increased substantially over the last ten years, the majority of the increased population came through annexation of existing, adjacent urban areas. If the annexation areas were excluded, the actual population growth averaged over the last ten years would be significantly lower.



- 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.

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

Table 1. City of Watsonville Total Water Production.

Response: City of Watsonville PARTIALLY AGREES.

While the statement is true, it is important to note that this is a short-term perspective. The above statement provides a distorted view of population growth in Watsonville because it focuses on the highest growth period the city has ever seen. The chart included in Response 5 shows the long-term population change in Watsonville and does not artificially exaggerate the very short-term growth period that has recently occurred.

Water demand has not increased proportionately to population growth, but has increased at a much lower rate, probably because of the city's water conservation program.

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.

Response: City of Watsonville AGREES.

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.

Response: City of Watsonville AGREES.

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.

Response: City of Watsonville PARTIALLY AGREES.

The city has only one coastal well, which it has stopped using in order to help reduce seawater intrusion.

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.

Response: City of Watsonville AGREES.

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.

Response: City of Watsonville PARTIALLY AGREES.

In order to provide immediate relief to farmers along the coast whose wells are contaminated by seawater intrusion, the city has agreed to supply 2,000 acre-feet of water per year to PVWMA's Coastal Distribution System. This will shift the pumping of water near the ocean to inland wells to help reduce further seawater intrusion. The City of Watsonville plans to provide an additional 4,000 acre-feet of reclaimed water to PVWMA for agricultural use, starting in summer 2007. PVWMA will fund these projects.

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.

Response: City of Watsonville AGREES.

13. Plans exist for using excess surface water for the purpose of recharging the aquifer. Groundwater recharge allows surface water to replenish the aquifer.

Response: City of Watsonville AGREES.

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

Response: City of Watsonville AGREES.

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

Response: City of Watsonville AGREES.

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.

Response: City of Watsonville DISAGREES.

The Recycled Water Facility will provide 4,000 acre-feet per year of water for agricultural irrigation. PVWMA has estimated the overdraft to be 19,000 acre-feet per year. The water reclamation facility is just one of several supply projects planned by PVWMA that are needed to bring the groundwater basin into balance. The city is planning to meet future water needs through aggressive water conservation programs and is investigating additional water supply projects.

The water reclamation facility will cost approximately \$29 million. Twenty-five million dollars in grant funds has been secured. The remaining costs will be funded by PVWMA. Currently, the project is in its final design stage, and is expected to begin supplying water in 2007. Since this project requires additional land, the city must acquire and rezone 13 acres of land to complete the project. The rezoning requires approval from the City of Watsonville, County of Santa Cruz 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.

Response: City of Watsonville DISAGREES.

The water reclamation facility will cost approximately \$29 million. Twenty-five million dollars in grant funds has been secured. The remaining costs will be funded by PVWMA. There are no further phases planned for the water reclamation plant.

18. Recycled water will be used for agricultural irrigation and will increase the water available for city water supply wells by reducing agricultural demand.

Response: City of Watsonville PARTIALLY DISAGREES.

The Recycled Water Facility will provide 4,000 acre-feet per year of water for agricultural irrigation. PVWMA has estimated the overdraft to be 19,000 acre-feet per year. The recycled water facility is just one of several supply projects planned by PVWMA that is needed to bring the groundwater basin into balance. The city is planning to meet future water needs through aggressive water conservation programs and is investigating additional water supply projects.

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.

Response: City of Watsonville AGREES.

This recommendation has been implemented and will continue to be implemented in the future.

2. New housing should be regulated by the amount of water available.

Response: City of Watsonville AGREES.

This recommendation has been implemented and will continue to be implemented in the future.

3. The Public Works Department should continue to work cooperatively with PVWMA to improve management and production of water resources in the area.

Response: City of Watsonville AGREES.

This recommendation has been implemented and will continue to be implemented in the future. The city will continue to participate in future water forums, including those sponsored by AMBAG, PVWMA, and other regional organizations.

4. The Public Works Department should continue its work with PVWMA to develop alternate methods for increasing water production in the region.

Response: City of Watsonville AGREES.

This recommendation has been implemented, and will continue to be implemented in the future.

Responses Required

Entity	Findings	Recommendations	Respond Within
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)