

A. ENVIRONMENTAL HEALTH INDICATORS

<p>Importance</p>	<p>The environment matters because it is where we live, breathe, eat, drink, raise our children, etc. Our entire life support system is dependent on the well-being of the species living on this planet. The deterioration of the environment threatens our natural resources, such as the air we breathe, our clean water supply, and our food supply.</p>
<p>Highlights</p>	<ul style="list-style-type: none"> ▪ The air in Santa Cruz County is among the cleanest in the nation, according to a report released April 2010 by the American Lung Association.¹ ▪ Santa Cruz County had no days with high ozone levels, scoring an A grade along with just 48 other counties in the U.S., eight of them in California.¹ ▪ Santa Cruz County had no days with high levels of particulate pollution, scoring an A grade along with just four other California counties.¹ ▪ Agriculture uses 60% of the county's water, while urban, residential, and commercial activities use the remaining 40%.² ▪ Santa Cruz County's drinking water supply comes predominantly from within the boundaries of the county.² ▪ About 80% of water consumed in the county comes from underground aquifers.²
<p>Definitions</p>	<p><u>Air Quality</u>: Air pollution is any undesirable substance that enters the atmosphere. Air pollution is a major problem in modern society. Pollutants include various gases and tiny particles (particulates) that can harm human health or damage the environment. Pollution occurs on different levels – personal, national, and global.-</p> <p><u>Water Quality</u>: Water is our most precious global resource. Clean and safe drinking water is critical to sustain human life; without it, waterborne illness is a serious problem. Water provides for recreational water activities such as swimming, which help promote healthy living. Often, water's vital role is most apparent during an emergency or disaster.³</p>
<p>Healthy People 2010 Objective</p>	<ul style="list-style-type: none"> ▪ Objective 8-1: Reduce the proportion of persons exposed to air that does not meet the United States Environmental Protection Agency's health-based standards for harmful air pollutants.⁴ (Target: 0% of all air pollutants) ▪ Objective 8-5: Increase the proportion of persons served by community water systems who receive a supply of drinking water that meets the regulations of the Safe Drinking Water Act.⁴ (Target: 95% of persons served by a community to receive safe drinking water) ▪ Objective 8-6: Reduce waterborne disease outbreaks arising from water intended for drinking among persons served by community water systems.⁴ (Target: 2 outbreaks per year from community water systems) ▪ Objective 8-7: Reduce per capita domestic water withdrawals.⁴ (Target: 90.9 gallons, 10% improvement)

i. AIR QUALITY

Table IVAi depicts the ambient air quality in Santa Cruz County, 2007, compared with the state and national standards.^{5,6} The State of the Air 2010 shows that the air quality in many places has improved nationwide, but that over 175 million Americans (58%) still suffer from air pollution levels that are too often dangerous to breathe.¹ Unhealthy air remains a threat to the lives and the health of millions of people in the United States, despite great progress.⁷ According to the State of the Air 2010, Santa Cruz County ranked among the cleanest counties in both ozone and particle pollution.

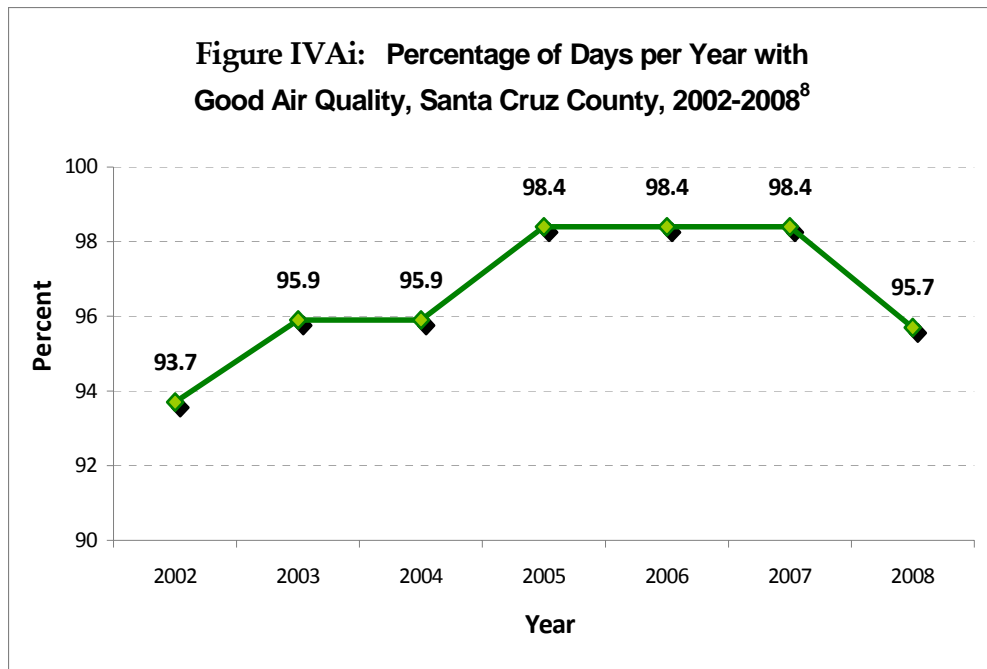
i. AIR QUALITY (CONT.)

Ozone (O₃) is an extremely reactive gas and is the primary contributor to smog. Ozone can cause lung inflammation even at very low exposure concentrations. It is estimated that nationally, over 3,700 deaths annually could be attributed to an increase of ozone levels in the air.¹ Particulate matter (PM) pollution refers to a mix of very tiny solid and liquid particles in the air – regardless of the size, particles can be harmful to our health.

Table IVAi: Ambient Air Quality, Santa Cruz County, 2007 vs. State and National Air Standards ^{5,6}			
	Particulate Matter (PM)		
	Ozone	PM 10	PM 2.5
Santa Cruz County 2007 **	0.069 ppm	51 ug/m ³	18.3 ug/m ³
California Standards *	0.070 ppm	50 ug/m ³	35 ug/m ³
United States Standards *	0.075 ppm	150 ug/m ³	35 ug/m ³

* Ambient Air Quality Standards, PM 24 hours, ozone 8 hours
 ** 2007 Average Air Quality Measurements of Santa Cruz County, PM 24 hours, ozone 8 hours

Figure IVAi illustrates the percentage of days per year with good air quality in Santa Cruz County, from 2002 through 2008. Santa Cruz County’s air quality in 2008 was good 95.7% of days, slightly down from the 98.4% in 2007.⁸ Although much of California is known for its smog, Santa Cruz County has consistently had lower levels of ozone and particulate pollution than the rest of the state.⁸ The city of Santa Cruz generates enough renewable energy to account for the 33% of energy used by the city. Santa Cruz also purchases 13% renewable energy from PG&E – this clean energy keeps dirty fossil-fuel emissions out of the air.⁸



ii. WATER QUALITY

Table IVAii illustrates the safety of our beaches in Santa Cruz County using a letter grade system. The beach report card is the only comprehensive analysis of coastline water quality in California.⁹ More than 350 beaches are monitored weekly from Oregon to the Mexico border and assigned a letter grade from A to F.⁹ The grades are based on the health risks of swimming or surfing at that location. All standards are set by the California Department of Health Services' Beach Bathing Water Standards.⁹ The worse the grade, the greater the risk of getting sick.⁹ The beach report card provides grades for both dry and wet weather to allow a clear analysis of the water quality at any given monitoring location.⁹ Water quality significantly drops in grade during and immediately after a storm.⁹ Grades for dry weather are calculated based on days without rain, at least three days after it last rained.⁹ Grades for wet weather pertain to samples collected on days that experience rain, including the three days after the rain stops.⁹

Table IVAii: Beach Report Card, Santa Cruz County, 2002-2009⁹

	2002		2003		2004		2005		2006		2007		2008		2009	
	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet
Santa Cruz Main Beach Boardwalk	A	F	A	F	A	F	B	D	A	A	A	D	B	C	A	B
Seacliff State Beach	A	F	B	F	A+	C	A	D	A+	A	A+	B	A	A	A	A
Seabright Beach	A+	F	A	F	A	D	A	F	A+	A	A+	D	A	B	A	D
Twin Lakes Beach	A	F	A	F	A+	D	A	F	A	A	A	B	A+	A	A+	B
Capitola Beach West of Jetty	F	F	F	F	B	F	B	F	C	C	C	F	A	D	C	F
Natural Bridges State Beach	A	F	A+	F	A+	A+	A+	A	A+	A	A+	A	A	A	A+	B
New Brighton Beach	A	F	B	F	A	D	A	F	A+	A	A+	C	A	A	A	C
Rio Del Mar Beach	C	F	B	F	F	F	A	F	A	B	A+	C	A	B	A	B

Primary Prevention Activities

- **Bike to Work Week** is an inexpensive, healthy, and fun means to alleviate gridlock and reduce air pollution.
- In 2000, the city adopted a **Water Conservation Plan**, the goal of which is to reduce water demand system-wide by 282 million gallons per year in 2010. Through plumbing fixture and appliance rebate programs, technical assistance, regulations, and other strategies, residential and commercial customers have saved over 217 million gallons of water per year so far.

Sources

1. American Lung Association, State of the Air 2010. <http://www.stateoftheair.org/2010/states/california/santa-cruz-06087.html>.
2. Land Trust of Santa Cruz County, Our Water. www.landtrustsantacruz.org.
3. Centers for Disease Control and Prevention (CDC), Healthy Water. <http://www.cdc.gov/healthywater/>.
4. U.S. Department of Health and Human Services. Healthy People 2010. Washington, DC: U.S. Government Printing Office. 2nd ed. 2000.
5. California Environmental Protection Agency, California Air Resource Board. <http://www.arb.ca.gov/homepage.htm>.
6. Natural Resources Defense Council (NRDC), <http://www.nrdc.org/>.
7. Santa Cruz County Asthma Profile, July 2008. www.californiabreathing.org.
8. United States Environmental Protection Agency (EPA), Airdata. <http://www.epa.gov/air/data/geosel.html>.
9. Heal the Bay, Santa Monica Bay Restoration. Beach Report Card. <http://www.healthebay.org>.