



Protecting Blue Whales and Blue Skies Project Receives EPA Award

On June 28, 2016, the U.S. Environmental Protection Agency (EPA) recognized the District and partners behind the Protecting Blue Whales and Blue Skies project – which reduced ship speeds in the Santa Barbara Channel to cut air pollution and protect endangered whale species – with a national Clean Air Excellence Award. The Clean Air Excellence Awards recognize outstanding efforts to achieve cleaner air. This project was one of only seven initiatives honored with an award this year.

“Each of these award winners has taken real, tangible steps to improve public health in their communities by reducing air pollutants or greenhouse gases,” said Janet McCabe, Acting Assistant Administrator for EPA’s Office of Air and Radiation. “These projects reflect the creativity and commitment of public and private sector organizations to make a difference and drive us toward a cleaner, healthier future.”

The project was recognized under the Community Action category, which applies to innovative community partnerships of diverse stakeholders. Said District Director Aeron Arlin Genet, “This award is a great recognition of our partnership, and of how much we can accomplish when we find common ground.”



Award Recipients (from left) receiving the Clean Air Excellence Award: Ventura County Supervisor John Zaragoza, Chair of the Board of Ventura County Air Pollution Control District (VCAPCD); John Armor, Acting Director of the Office of National Marine Sanctuaries (representing Channel Islands National Marine Sanctuary); Ted Lillestolen, the Interim President and CEO for the National Marine Sanctuary Foundation; Mike Villegas, Air Pollution Control Officer, VCAPCD; Aeron Arlin Genet, Air Pollution Control Officer, Santa Barbara County Air Pollution Control District (SBCAPCD); Mary Byrd, Community Programs Supervisor, SBCAPCD; Janet McCabe, Acting Assistant Administrator, U.S. Environmental Protection Agency Office of Air and Radiation. Not pictured: Award recipient Environmental Defense Center

Reducing ship speeds to 12 knots or lower greatly reduces air pollution and the risk of fatal ship strikes on whales. In 2014, the District and project partners – Channel Islands National Marine Sanctuary, Environmental Defense Center, Ventura County Air Pollution Control District, and the National Marine Sanctuary Foundation – implemented a Vessel Speed Reduction (VSR) incentive trial program in the Santa Barbara Channel. Seven global shipping companies participated, and the trial slowed 27 ship transits in the Channel to 12 knots or less for an incentive payment to the shipping companies of \$2,500 per transit. At the trial’s end, the

program had cut more than 12 tons of smog-forming pollution and more than 500 metric tons of greenhouse gases.

The 2014 trial was followed by a yearlong effort in 2015 by the Marine Shipping Working Group, under the Channel Islands National Marine Sanctuary Advisory Council, to develop strategies to further reduce air pollution and protect whales in the region. In its final report to the Council, the Working Group expressed unanimous support for a second incentive program, which launched in July 2016.

Funded by the District, the National Marine Sanctuary

Foundation, the Volgenau Foundation, and the Ventura County Air Pollution Control District, the 2016 program includes new features like sliding-scale incentives for the fastest ships, identification of a second VSR zone south of the Channel Islands, an additional incentive for slowing to 10 knots, and the opportunity for ship captains to submit detailed reports of whale sightings from their transits. The 2016 program will run through mid-November.

For more information, visit www.ourair.org/air-pollution-marine-shiping.

Inside...

-  **A Summer of Science, Sensors, and Surprises**
-  **County Celebrates First Hydrogen Fueling Station**
-  **Care for Our Earth Grants Program Returns for Fall 2016**
-  **Moyer Program Application Period Opening**
-  **Rule Revisions Adopted**
-  **Summer Wildfires and Air Quality**
-  **Talking About Our Air at Community Events**

A Summer of Science, Sensors, and Surprises

The teacher and the student made a bet. Riccardo Magni, a teacher at Pioneer Valley High School in Santa Maria, placed the odds on air pollution being the highest around the lunch rush. Jennifer Hernandez, a junior at Santa Maria High School, had a feeling it would be around dinnertime. Neither got it right.



Jennifer Hernandez analyzes her data in preparation for her final presentation on her findings.

For 22 days of her summer vacation this year, Hernandez jumped out of bed at 5 a.m. with an emerging technology in hand: an air quality sensor to measure levels of particulate matter.

Along with seven other students from Santa Maria High School and Pioneer Valley High School, Hernandez traded sleeping in for attending Magni's Summer Science Institute at Allan Hancock Community College, an annual six-week program where students craft up a science project and put their hypotheses to the test.

Living in close proximity to a gas station, restaurants, busy retailers, and highly trafficked roads, Hernandez — supplied with a handheld particle sensor by her teacher — had a timely idea for her project. "I was curious to know how the air quality was in my neighborhood, especially particulate pollution," she said.

Particles less than 10 microns in diameter (known as PM10) and less than 2.5 microns in diameter (known as PM2.5) are small enough to lodge in the deepest and most sensitive areas of the lungs, and produce a range of respiratory- and cardiovascular system health effects. Those most at risk include children

who are active outdoors, adults who exercise vigorously outdoors, and people who have heart or lung conditions.

Starting in June, Hernandez walked outside her home with her sensor four times a day for 22 days:

at 5 a.m., 9 a.m., 12 p.m., and 5 p.m. Each time, she collected 30 minutes' worth of data from the same spot in her front yard. She noticed odors at all times throughout the day, Hernandez said, but believed that particle pollution levels would peak at the 5 p.m. reading, due to drivers on the roads after work and restaurants cooking for the dinner customers.



Jennifer Hernandez used a handheld air sensor (shown in this photo) provided by her teacher, Riccardo Magni, to study the levels of PM2.5 in her neighborhood.

She and Magni were surprised, she said, when her numbers instead showed the highest levels at 5 a.m. Hernandez and her teacher theorized that result was likely due to a high volume of early-morning commuters and other traffic, including diesel trucks making early-morning deliveries in the area and traveling along a busy road nearby. "It's really interesting," Hernandez said of the numbers, which have prompted her to care more about the question, "What am I breathing?"

Until relatively recently, air monitoring has typically been performed by air quality regulatory agencies that use expensive, sophisticated monitoring devices subject to strict siting and quality-assurance requirements; data are compared against national and state health-based regional air quality standards. Within the past few years, lower-cost (\$100-\$2,500) handheld air sensors have become commercially available in a wide variety of designs and capabilities. Opportunities for individuals to collect data — especially to understand personal exposure to a given pollutant, as in Hernandez's case — abound.

However, challenges are also present. Lower-cost sensors vary widely in performance and reliability, and measure very localized air quality in short periods of time, so data do not always align with the regional air quality monitoring networks. There are a number of efforts underway at the state and national levels to assess the performance of the lower-cost air sensors and to develop ways to look at the short-term localized data in terms of health effects.

The District is interested in the potential for these sensors to provide educational opportunities on localized air quality issues. Earlier this year, District staff conducted a study with Sonoma Technology, Inc. at Cuyama Valley High School using lower-cost particle sensors and more sophisticated monitoring equipment to measure particle levels in an effort to evaluate performance of these sensors.

Hernandez's project, along with the projects of her fellow Summer Science Institute classmates, will compete at the County Science Fair at UCSB in March, with a trip to the State Science Fair on the table after that. Of Hernandez's project, Magni, who has led the summer program for seven years, said, "I thought she did a remarkable job. She is an example of what citizen science can look like. She wanted to learn more about the air that she's breathing."

To see levels of particles and ground-level ozone recorded at the District's regional network of monitoring stations, visit www.ourair.org/todays-air-quality. For more information on air sensors, visit www.ourair.org/air-sensors.

Summer Wildfires and Air Quality

District Board Roundup

Following are the highlights of the recent Board meetings.

March, May, & June 2016

- Received presentation on marine shipping emission-reduction initiatives
- Received presentation on the Hydrogen Readiness Plan update
- Authorized the Chair to execute a Memorandum of Agreement with the National Marine Sanctuary Foundation for the District to contribute funds to the 2016 Vessel Speed Reduction Program, to start in July
- Received information on an air quality sensors study the District is conducting with Sonoma Technology, Inc. at Cuyama Valley High School
- Adopted the Fiscal Year 2016-2017 Budget

August 2016

- Adopted amendments to District New Source Review rules, and certified the Environmental Impact Report
- Received a presentation on the status of the Innovative Technology Group's grant programs
- Received United States Environmental Protection Agency Clean Air Excellence Award and recognized the public-private partnership for the Protecting Blue Whales and Blue Skies project, and acknowledged the work of District staff over the years in addressing emissions from marine shipping

When wildfires have the potential to affect our air quality, the District works with the Santa Barbara County Public Health Department to caution the community about health effects from the smoke. Several wildfires broke out in Santa Barbara County this summer: the Sherpa Fire, the Rey Fire, the Canyon Fire, and smaller fires at Vandenberg Air Force Base. The District and Public Health issued joint air quality advisories in English and Spanish. During the fires, District representatives went to meetings with fire personnel to stay apprised of the latest information, responded to public inquiries, and attended press conferences.

In the afternoon of June 15, the Sherpa Fire started near Refugio Road on the Gaviota coast, where it burned nearly 7,500 acres. Through June 22, when the District and Public Health cancelled the advisory, the District's monitoring stations recorded moderate levels of particles in the air. The District's Las Flores Canyon monitoring site – which remained in operation during the Sherpa Fire despite being surrounded by the blaze (see photo) – showed the most unhealthy air quality.

Smoke consists primarily of particulate matter (PM) – fine particles that can lodge in the

lungs – but also includes gaseous pollutants like hydrocarbons, carbon monoxide, and nitrogen oxides, all of which can cause negative health effects. Residents are urged to use common sense if they see or smell smoke in the air and to contact their doctor if they experience symptoms like coughing, difficulty breathing, wheezing, chest tightness or pain, palpitations, and nausea or fatigue. During wildfire season, residents are especially encouraged to practice good health habits like getting enough sleep and staying hydrated. When wildfires cause falling ash, residents are urged to avoid engaging in activities – like using leaf blowers – that would stir up those particles and to avoid skin contact with ash.

Like the Sherpa Fire, the Rey Fire started in the late afternoon, on August 18, in the Los Padres National Forest near Paradise Road. Over the course of the fire, which burned approximately 32,000 acres, dramatic smoke plumes were visible from locations in southern Santa Barbara County, but the air quality stayed mostly good-to-moderate at ground level throughout the county, although much of the community experienced falling ash.



The District's Las Flores Canyon monitoring station was surrounded by the Sherpa Fire.

On September 18, the Canyon Fire started on Vandenberg Air Force Base outside of Lompoc and burned for less than a week; during that period, smaller fires also broke out on the base. The Canyon Fire burned approximately 12,500 acres. Many areas of the county experienced elevated particle levels due to high winds coinciding with the wildfires. On September 22, every District monitoring station recorded levels of coarse particles (PM10) over the state standard.

Even when the regional air quality conditions can seem only slightly affected by wildfires, there is the potential for localized pockets of poor air quality. PM levels can jump even weeks after a wildfire, too, as winds can break down the ash and blow it into the air. In addition, depending on winds and weather conditions, other fires burning near our county have the potential to affect our air quality.

Wildfires on Social Media

The District uses social media as another tool to help keep the community informed. During the recent fires, the District not only posted notice of our joint air quality advisory but also shared updates from other local government agencies and fire personnel; those partners likewise shared news we posted about our air quality. To ensure that social media users saw the latest wildfire information with one search, many agencies – including the District – used #hashtags to present a cohesive stream of news. For example, #ReyFire was used in all posts regarding that blaze.

To sign up to receive air quality advisories by email and see daily air quality information, visit www.ourair.org. Recorded information is available in English and Spanish at (805) 961-8802. Follow us on Twitter at @OurAirAdvisory and @OurAirSBC.

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District Board Calendar

All meetings start at 1 p.m. For meeting agendas, call Sara Hunt at 961-8853 or visit www.ourair.org.

Check the website for updated information, as meetings can be changed or cancelled.

October 20, 2016

Board of Supervisors' Hearing Room
105 East Anapamu Street
Santa Barbara, California
93101

December 15, 2016

Board of Supervisors' Hearing Room
105 East Anapamu Street
Santa Barbara, California
93101

January 19, 2017

Board of Supervisors' Hearing Room
511 East Lakeside Parkway
Santa Maria, California
93455

Community Advisory Council

The District Community Advisory Council meets as needed, often the 2nd Wednesday of the month, in Buellton. The public is welcome. For more information, call Sara Hunt at 961-8853 or visit www.ourair.org.

Talking About Our Air at Community Events

Every year, District staff enjoy the opportunity to talk with residents about the District's mission, programs, and projects at various events throughout the county. "We really value the time we get to spend meeting with fellow Santa Barbara County residents and answering questions about our air," said District Director Aeron Arlin Genet. "It's great to be a part of the variety of fun and educational festivals, fairs, and school events held throughout our community."



Several District staff and District Director Aeron Arlin Genet talked with visitors to the District's booth – including kids who spun the Wheel of Change – at the two-day Santa Barbara Earth Day Festival organized by the Community Environmental Council in April.



District Public Outreach Intern Natalie Vezina, a graduate student at the University of California, Santa Barbara Bren School of Environmental Science and Management, shared information on our air at the Caring and Sharing event in Goleta in May.



Air Quality Specialist Krista Nightingale (pictured) and Public Information Officer Lyz Hoffman shared information on air quality and health with visitors to Marian Regional Medical Center's Environmental Fair in Santa Maria in August.



In September, Air Quality Specialist Krista Nightingale and Public Information Officer Lyz Hoffman attended assemblies put on by the District at Solvang Elementary School (pictured) and Miguellito Elementary School in Lompoc where Mr. Eco, students, and school staff sang songs about the environment.

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Printed using organic toner on
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that is manufactured using
wind-generated power.

On the Air is a quarterly
newsletter written by Lyz Hoffman,
edited by Mary Byrd, and published by
the Community Programs Section of
the Santa Barbara County Air Pollution
Control District.





Santa Barbara County Celebrates First Hydrogen Fueling Station

On May 13, 2016, the District and Community Environmental Council - along with dozens of supporters - celebrated the opening of True Zero's Santa Barbara hydrogen fueling station at 150 South La Cumbre Road. There were 10 hydrogen fuel cell electric vehicles of different makes and models at the event. Supporters of the station include True Zero, California Air Resources Board, California Energy Commission, California Fuel Cell Partnership, Central Coast Clean Cities Coalition, California Governor's Office, Conserv Fuel, and several car manufacturers.

This station is the first retail hydrogen fueling station in Santa Barbara County and on the Central Coast, and among the first 20 in California. The opening of this station strengthens the state's growing hydrogen



Supporters stuck around after the ribbon-cutting ceremony to look at the different makes and models of FCEVs and see how the fill-up process works.

station network and increases the range of travel for all drivers of hydrogen fuel cell electric vehicles (FCEVs), which produce zero tailpipe emissions. Cars and trucks produce a significant amount of air pollution in the county and the state, and air quality will improve as more zero-emission cars replace traditional vehicles on California's roads.



Local FCEV owner Jean John brought her new car to the ceremony and demonstrated filling up the tank with hydrogen.

produced by the fuel cell is used to power the car's electric motor. FCEVs are fuel-efficient - achieving the equivalent of 50 mpg or more - and can travel more than 300 miles on a single tank of hydrogen. Filling the tank mimics the process of filling up a gasoline car and takes only a few minutes.

The opening of the Santa Barbara station coincided with the

continued collaborative efforts by the District, the Ventura County Air Pollution Control District, the San Luis Obispo County Air Pollution Control District, the Community Environmental Council, and other organizations to develop a tri-counties plan to expand the reach of hydrogen infrastructure beyond the main urban centers of the state. The California Energy Commission provided a grant for the efforts.

"The planning that we're doing is really important. Planning is just the first step," said Community Environmental Council Executive Director Sigrid Wright during the ceremony. "Today is an amazing opportunity to celebrate implementation."

District Board members and County Supervisors Peter Adam and Salud Carbajal attended the ribbon-cutting. Of the FCEVs, Board Chair Adam said, "They are fantastic to drive. As you all know, the beauty of the fuel cell car is that it takes just the same amount of time to refuel as do regular gasoline-powered cars." Carbajal spoke to the benefits of the technology: "It's good for our economy, good for our public health, and good for the environment. Thank you to everybody who's played a role in this public-private partnership."

To learn more, visit www.ourair.org/edu/clean-air-cars.



District Director Aeron Arlin Genet emceed the ceremony.

"It's an exciting day. The opening of this hydrogen station here in Santa Barbara definitely puts Santa Barbara County and the Central Coast on the hydrogen map," said District Director Aeron Arlin Genet, who emceed the ceremony. "We have a lot of individuals here on the Central Coast who are interested in promoting and driving clean vehicle technologies."

The vehicles use compressed hydrogen gas for fuel, and electricity

Care for Our Earth Grants Program Returns for Fall 2016

Teachers are encouraged to apply for this year's Care for Our Earth Grants, which help Santa Barbara County K-12 teachers conduct classroom projects that reduce pollution and save energy and water. The grants — funded by the District, county agencies, and utility companies — support the District's clean-air mission. They have helped teach thousands of students about the environment, energy, and alternative transportation and helped schools reduce their utility bills and traffic. The Santa Barbara County Education Office implements the program.



Laura Branch, who teaches AP Environmental Science at Ernest Righetti High School in Santa Maria, received a grant for her project to have students test the carbon dioxide emissions from cars visiting the school.

Hundreds of local business and community leaders and educators celebrated the teachers who earned the 2015-2016 Care for

Our Earth Grants, as part of the annual Santa Barbara County Education Office Teachers Network annual Education Celebration in May 2016. Thirty-eight teachers — spanning 26 Santa Barbara County schools — received the 2015-2016 grants, awarded by the District, Santa Barbara County Education Office, Santa Barbara County Water Agency, Pacific Gas & Electric Company, and Southern California Gas Company.

“Our local partners recognize that an investment in education today, and support of our teachers, pays dividends down the road,” said Bill Cirone, Santa Barbara County Superintendent of Schools. “Public education is the cornerstone of our democracy, and teachers are the keepers of the dream and are our true community heroes. We congratulate all of this year's grant recipients

and award winners, and thank our many generous community partners, including county agencies and utility companies in Santa Barbara County, for their strong support of our teachers. It sends a message to teachers that they are valued and appreciated while enabling them to enrich the academic experience for local school children.”

To view a list of the 2015-2016 winners and their project descriptions, visit www.ourair.org/060116-news.

Applications for the 2016-2017 Care for Our Earth Grants are due on November 18, 2016. For more information, visit www.ourair.org/resources-for-teachers.



Moyer Program Application Period Opening

This year's application period for the Carl Moyer Program will open on October 4, 2016 and close on November 4, 2016. A total of \$472,000 will be awarded based on cost-effectiveness and public health benefits, and funding will be limited to one grant per company.

Under the program, the District seeks proposals from private and public entities in Santa Barbara County for projects that reduce

air pollution from diesel engines; typical projects involve marine diesel engine repowers and off-road equipment replacements. The District receives the grant funds for the program through the California Air Resources Board. Grants are available for sources that aren't already required by regulation to clean up their engines.

For more information, visit www.ourair.org/moyer-programs

Rule Revisions Adopted

The District Board of Directors unanimously adopted amendments to the District's New Source Review (NSR) rules and certified the associated Environmental Impact Report at the August meeting.

The amendments were designed to update the District's current NSR permitting regulations to reflect recent regulatory mandates, and to simplify the permitting process while

maintaining an equally stringent rule set. These revisions will be outlined in more detail in the next issue of *On the Air*.

For more information, visit www.ourair.org/rules-recently-adopted.