



Santa Barbara County
Air Pollution Control District

On the Air

Reducing Pollution from Marine Shipping Finding Common Ground

The District recently proposed to the California Air Resources Board the development of an initiative to provide monetary incentives to ship operators to reduce speeds along the California coast. This effort would reduce emissions of greenhouse gases (GHG) and a range of air pollutants, and could help protect endangered whale species.

"We believe this initiative could provide significant environmental and public health benefits. There would also be economic benefits from helping our community and other coastal communities like us meet air quality standards," said Dave Van Mullem, District Director. One way to fund the initiative could be through revenues from the state's GHG Cap-and-Trade auctions, since reduced ship speeds significantly reduce GHG emissions. Van Mullem remarked, "Successful incentive-based ship speed reduction programs in place at the Ports of Long Beach and Los Angeles provide a working model for a broader program."

He added, "Ship speed reduction offers two key benefits: significant GHG reductions, and an opportunity to reduce emissions of nitrogen oxides (NOx), a smog-forming pollutant, from ships. We have to find ways to reduce NOx emissions if we



Blue whale near a shipping lane in the Santa Barbara Channel. The District is proposing an initiative to reduce speeds of large ships off the California coast to cut pollution. Ship speed reduction could also help protect whales. Photo by John Calambokidis, Cascadia Research.

are to attain the state ozone standard and maintain attainment of the federal ozone standard."

The District estimates that ships going through the Santa Barbara Channel contribute more than 50 percent of the emissions of NOx in Santa Barbara County. Said Brian Shafritz, District Technology and Environmental Assessment Division Manager, "While rules are in place that will cut NOx emissions from ships over time, we have to pursue near-term reductions. It's critical to our clean air planning efforts." Reducing speeds of large marine vessels down to 12 knots per hour from 20 knots per hour could achieve close to a 50 percent reduction in emissions

of both GHG and NOx, and similar reductions in other pollutant emissions.

Reducing ship speeds along the coast could also help protect endangered whale species. In August, the District hosted a presentation by whale researcher John Calambokidis of Cascadia Research to learn more about ship strikes on whales, and explore partnerships to reduce ship speeds for whale protection as well as pollution reductions.

Internationally-designated shipping lanes go through the Santa Barbara Channel, which is also a seasonal feeding ground and migration path for several whale species,

including blues, grays, fins, and humpbacks. Calambokidis is studying whale behavior around ships in the Channel. He noted that since the moratorium on hunting, whale numbers are generally increasing, but the blue whale species is not recovering as well. He believes blue whales may be more vulnerable to ship strikes, as they do not maneuver quickly, and when they do appear to be reacting to the approach of the ship, "it looks like they are sometimes reacting by spending more time on the surface rather than less."

When tracking the location of a blue whale in the Channel, he found the whale was diving to great depths to feed during

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Marine Shipping (cont'd)

the day, but resting close to the surface all night, and drifting across the shipping lanes in the dark, when it would be less visible to ship operators.

Calambokidis pointed out that while there is not enough data to determine whether reducing ship speeds reduces the incidence of ship strikes on whales, "The science shows that if we reduce speed, the ship strike on a whale is less likely to be fatal."

Michelle Berman, Associate Curator of Vertebrate Zoology at the Santa Barbara Museum of Natural History, attending the session, said, "Reducing ship speeds to 12 knots per hour reduces the probability of mortality of ship strikes by about 50 percent; reducing down to 10 knots per hour reduces probability of mortality by about 70 percent." Berman was involved in investigating several whale deaths caused by ships in the Channel in the fall of 2007.

System) sensors along the coast tracks ships and provides data on the ship name, location, and speed; NOAA reviews the data to assess compliance with its recommendations. "We are in our fifth year of recommended seasonal slow speed zones in the Channel, and we've seen less than one percent compliance from ship operators," said Sean Hastings, Resource Protection Coordinator with NOAA Channel Islands National Marine Sanctuary.

Board supporting the idea from NOAA's National Marine Sanctuary Program, West Coast Region and National Marine Fisheries Service, Southwest Region. Other letters supporting the initiative were submitted to the State by the Ocean Conservancy, the Environmental Defense Center, and the Channel Islands National Marine Sanctuary Advisory Council.

Hastings commented, "We tend to think that we can try voluntary recommendations, and then if they don't work, we have to go to regulations. But this idea offers a third path. It's a great alternative."

The District is also exploring other strategies to achieve pollution reductions from shipping, including accelerating the adoption by shipping companies of cleaner engines and technologies, and developing regulatory strategies for speed reduction. Said Van Mullem, "We are gathering information, finding common ground, and pursuing partnerships to achieve our shared goals."



(From left): Carrie Kappel of the National Center for Ecological Analysis and Synthesis; Eric Kett, Chair of the Channel Islands National Marine Sanctuary Advisory Council; Brian Shafritz, Manager of the District's Technology and Environmental Assessment Division; John Calambokidis of Cascadia Research; and Michael Murray, Deputy Superintendent for Programs, NOAA Channel Islands National Marine Sanctuary, after the August presentation at the District.

On the East Coast, after years of similar recommendations for voluntary actions for protection of the endangered right whale, NOAA instituted regulations for mandatory speed reduction in certain areas in October of 2008. Hastings noted that the regulations have produced results on the East Coast, but said, "Even with the regulations, we have had to institute enforcement actions to see better compliance." He added that in areas on the East Coast where NOAA has called for voluntary speed reductions, cooperation from ship operators has been low.

He added that there are many more fatal ship strikes on whales than are documented by what is known as a "stranding," when the whale body drifts onshore. Blue whales are not positively buoyant, and when they die their bodies typically sink to the ocean bottom. Ship operators do not always perceive the strike. In one case, a captain was not aware that his ship had struck a whale until the ship arrived in port with the body of the whale hanging off the bow. Calambokidis estimates that only about one tenth or less of the whales that die from ship strikes are documented in a whale stranding.

She conducted necropsies on the whale bodies to determine the cause of death and learn about the condition of the whale as well as its environment.

Since October of 2007, the National Oceanic and Atmospheric Administration (NOAA) has issued notices to ship operators recommending they reduce speeds in the Channel down to 10 knots per hour when whales are present. The notices call for voluntary actions, and NOAA has found they have been largely ineffective. A network of AIS (Automatic Identification

Hastings supports the incentive initiative for its whale-protection benefits, and submitted a letter to the California Air Resources

For more information, see [www. OurAir.org](http://www.OurAir.org).



The graphic (based on graphic from John Calambokidis, Cascadia Research) shows movements of a blue whale in the day (white) and night (black). During the day the whales are diving deep in the ocean to feed. At night time they are resting closer to the surface. As shown, this blue whale drifted close to the surface across the shipping lanes (dashed lines) in the dark, when it would be less visible to ship operators.

Don Ward's Life in Air

APCD Board Roundup

Following are the highlights of the June and August Board meetings.

June

- Reappointed Dr. Francis Lagattuta, the medical representative, to the District Hearing Board.
- Authorized agreement with Cooperative Personnel Services to review potential candidate selection devices for an amount not to exceed \$10,000.
- Held public hearing, and adopted proposed amended solvent-related rules, including Rules 321, 330, 337, 353, and other associated rules.
- Held public hearing and adopted the FY 2012-13 Budget.

August

- Approved \$500,000 funding for Off-Road Equipment Replacement Program.
- Reappointed Louis David Van Mullem as Air Pollution Control Officer with a 3-year contract.
- Executed Agreement with Santa Ynez Valley Airport Authority, Inc. for an air quality monitoring station.
- Authorized the Air Pollution Control Officer to enter into Memoranda of Understanding with several employee groups.
- Established a new retirement plan for employees hired on or after August 16, 2012.
- Received report and gave policy direction regarding initiative to incentivize reduction of ship speeds off the California Coast.
- Received presentation on current District Grant Programs.

Don Ward may be known by some as "Mr. Water," for his success in advocating for affordable clean water in Orcutt, but "Mr. Air" might also be a fitting nickname. Ward is a pilot, an engineer who served in the U.S. Air Force and worked at Boeing for many years, and a sky diver.

He has also served continuously on the District's Hearing Board since 1987. Said Ward, "It's a fascinating thing to do, and I think we do some good." He added, "One of the biggest reasons I enjoy being on the Hearing Board is the wonderful people I get to meet—the District staff, the other Board members, such great people."

Ward met District Director Dave Van Mullem in 2002 when Van Mullem joined the Hearing Board, and was pleased when Van Mullem was appointed Director in 2011. "It seemed to me to be such a great match," said Ward. (Van Mullem resigned from the Hearing Board when he was appointed District Director.)

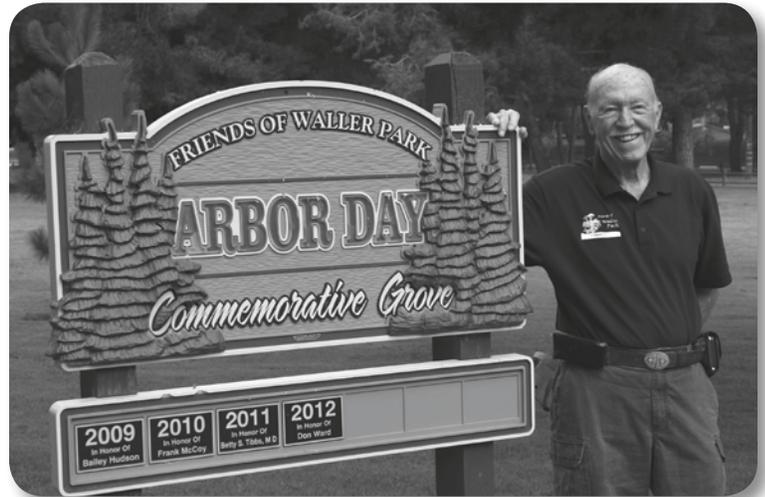
The District's Hearing Board is a panel of five who serve in a voluntary capacity, with expertise in engineering, medical and legal professions. The Hearing Board hears appeals of permit decisions, and reviews applications from businesses for variances from District rules as well as petitions from the District Director for abatement orders. A variance grants temporary relief from the provisions of an air quality regulation; a variance typically allows the business to operate while taking steps to come into compliance with the regulation. An abatement order requires a business that is polluting to

take steps to stop or reduce the pollution. The Hearing Board meets on an as-needed basis.

Over the years, Ward noted the Hearing Board has been meeting less often, except for a period of time when new state rules affecting gas stations took effect. He remarked, "I'd like to think people are wiser in what they are doing. Early on, we were seeing large companies come in with an attitude about complying with rules—but I think that's really changed. People are much more interested in compliance now."

Born in Pittsburgh, Ward received a degree in Civil Engineering from Penn State, then joined the U.S. Air Force, training as a pilot. In 1958 he started at Boeing, working on the Peacekeeper and Minuteman missile programs. He traveled all over the country, including to Santa Maria, where he decided he wanted to settle with his family. He moved to Santa Maria in 1969, and retired from Boeing in 1992.

Ward has been active as a community leader. In addition to his work for clean water in



Don Ward in Waller Park with the sign commemorating his 2012 selection for the Arbor Day Award for his many accomplishments at the Park, and in working for clean air and water.

Orcutt, he is a founding member of the Central Coast Green Team, and has served for twenty-five years (the past nineteen as Chair) on the Board of Friends of Waller Park. Under his leadership the organization has funded multiple improvements at the Park, including installation of four children's play structures and a 27-hole disk golf course, and planting of more than 2,000 trees. He was the 2012 recipient of the Friends of Waller Park Arbor Day Award (see photo).

When he is not serving on a Board, or flying, or sky diving (most recently in August to celebrate his eightieth birthday), he might be traveling in his motor home, or enjoying his three children and five grandchildren, or painting (acrylics on canvas), or singing (lead) in a barbershop harmony chorus—or collecting another antique clock. He remarked, "I don't have any trouble keeping busy, and that's the way I like it."



APCD Board Calendar

Board of Directors

Supervisor Salud Carbajal
First District
 Santa Barbara County

Supervisor Janet Wolf
Second District
 Santa Barbara County

Supervisor Doreen Farr
Third District
 Santa Barbara County

Supervisor Joni Gray
Fourth District
 Santa Barbara County

Supervisor Steve Lavagnino
 Chair
Fifth District, Santa Barbara County

Mayor Holly Sierra
City of Buellton

Councilmember
 Kathleen Reddington
City of Carpinteria

Mayor Lupe Alvarez
City of Guadalupe

Councilmember Cecilia Martner
City of Lompoc

Mayor Helene Schneider
City of Santa Barbara

Mayor Larry Lavagnino
City of Santa Maria

Mayor Jim Richardson
 Vice-Chair
City of Solvang

Mayor Pro Tem Roger Aceves
City of Goleta

All meetings start at 1:00 p.m.
 For final meeting agendas, call Sara Hunt, 961-8853, or see www.OurAir.org/apcd/agenda.htm.

October 18
 Board of Supervisors'
 Hearing Room
 105 East Anapamu Street
 Santa Barbara, California 93101

December 20
 Board of Supervisors'
 Hearing Room
 105 East Anapamu Street
 Santa Barbara, California 93101

The Calendar for 2013 Board Meetings has not yet been set.

Note: to receive newsletter by email please send name and email address to ByrdM@sbcapcd.org. Include name and address from label if you would like to be taken off the print mailing list.

Community Advisory Council

The APCD Community Advisory Council meets as needed at the Days Motor Inn in Buellton. The public is welcome. For more information, call Sara Hunt, 961-8853.



Teacher Grants Program Back for 2012-2013

The Care for Our Earth teacher grants program is back for its fourth year. Developed by the District and the Santa Barbara County Education Office, with support from Pacific Gas & Electric Company, the program provides \$200 grants to county 4th-12th grade teachers for projects with their students to either save energy costs or cut traffic and pollution at school sites. The deadline for this year's applications is November 16.

Last year, Care for Our Earth grants were provided to twenty-eight teachers in eight county school districts; examples included the following.

- Special Education students at Cuyama High School were shown how to take advantage of carpools and public transportation, and taken on a field trip to the new Transit Center in Santa Maria.
- Students at Santa Ynez Valley Charter School learned about energy, created solar ovens from pizza boxes, and met with a local solar dealer.
- Students at Carpinteria Family School participated in the Sustainable Living Bike Tour outreach program.
- Students at Pioneer Valley High School in Santa Maria calculated how much power they generated when running up the High School bleachers, and calculated how many bleachers they would need to run up to power a classroom.

For more information, see www.OurAir.org/teachers.htm



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www.OurAir.org

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



Printed using vegetable-based ink on 100% recycled, chlorine-free paper that is manufactured using 100% wind-generated power.

Cleaner School Buses at Lompoc Unified

When two brand new lower-polluting school buses were delivered to Lompoc Unified School District (LUSD) at the end of March, LUSD Transportation Manager Frances Lemons thought it would be good to let people know. "We wanted to get the word out to the community that we have these clean new buses, and they were entirely funded by grants. We didn't have to pay anything for them," she said. The buses were purchased with state grant funds earmarked for Santa Barbara County, supplemented with local funds provided through the District (Santa Barbara County Air Pollution Control District).

Lemons arranged for one of the buses to be in the Lompoc Flower Festival Parade in June. LUSD staff decorated the bus with flowers, and the bus was a



The crowd cheered and the kids waved from inside the bus, as one of the new Lompoc Unified School District cleaner school buses went by in the Lompoc Flower Festival Parade.

big hit. "The community loved seeing the bus in the parade, and all the kids waving from the window. They were cheering and waving," she remarked.

The new 2013 model cleaner diesel buses replaced two high-polluting 1986 diesel buses. Since 2001, a combination of state and District funds have made possible replacement of



LUSD Carpenter Dave Rainwater decorates the bus with flowers for the parade.

25 pre-1987 school buses with clean new buses, and retrofits of 61 school buses with diesel particulate control filters in Santa

Barbara County. These school bus projects have reduced more than 40 tons of emissions of nitrogen oxides, reactive organic compounds and particulate matter in the County.

In addition to polluting much less, the new school buses are much more fuel efficient, which reduces LUSD fuel costs. Lemons found that on a recent field trip to Hearst Castle, one of the new buses achieved over a third more miles per gallon than the older bus it replaced. One of the new buses offers a variable seating set up. She noted, "We can set it up all seats in, which fits 30, or all seats out, which fits 12 wheelchairs. The bus can fit our needs."

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Meet an Inspector: Mike McKay

Third in a series



Mike McKay, a Santa Maria native, is always running into people he knows when he goes on a District inspection. He remarked, "I went out today,

and it turned out that the guy who was leading me around the facility was someone I played soccer with when I was seven." Most of the time he finds that people understand the need for air pollution rules, he said. "It's a give and take. After all, some of the jobs at these facilities are based on the need to meet environmental regulations, and people understand that.

I give people respect and everyone's respectful of me."

McKay graduated from Cal Poly in San Luis Obispo in 2004 with a major in City and Regional Planning. After graduating he moved to Irvine, working for a private sector firm performing land planning duties in several Western states. He and his wife (also a Santa Maria native) had their first child and moved to Atlanta, Georgia. After a brief time in Georgia they moved back to Santa Maria, where he joined the District as an inspector in January of 2011.

He has found his planning background useful in his work. "It's all about knowing the rules that apply, and how to help people stay in compliance with those rules," he noted. He likes his job: "I like being out in the field, meeting different people in different environments. I'm not at a desk all day. And there's something new every day."

McKay primarily inspects onshore and offshore oil and gas facilities. Some of the platforms require personnel to be transferred to and from the facility by helicopter

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Business Focus

School Buses (Cont'd)

Before she joined LUSD in 2010, Lemons worked for Antelope Valley Schools, which had an experimental school bus fleet, for eleven and a half years. The school district tested methanol school buses, which did not perform well, an electric school bus, which performed well but did not have much range, and compressed natural gas (CNG) buses, which performed quite well. Lemons operates ten CNG buses in the LUSD fleet of 43 buses.

The number of CNG buses in the fleet is soon to grow, as LUSD recently purchased three 2000 model CNG school buses on eBay for a total cost of \$17,099. "You can't buy a good car for that," said Lemons. "Our Purchasing Manager and I just went in there with our top budget to see what we could get, and we



Lompoc Unified School District Transportation Manager Frances Lemons with one of the new school buses.

were able to buy three. And they are in great condition." She and two other drivers and a mechanic recently went up to San Jose to drive the buses to Lompoc.

LUSD has a CNG fueling station, but the compressor has not been working, and so they are renting one. Lemons recently applied for and received a \$300,000 grant from the California Energy Commission for a new CNG compressor and station that could be accessible to the public as well as to LUSD.

She remarked, "I will be able to take another one of my older school buses off the road using one of the CNG buses. I have seven buses I have to get rid of by 2013." The California Air Resources Board bus regulations

have established deadlines for school districts to retire older school buses, and to retrofit newer ones with particulate filters.

Jim Fredrickson, who manages the District Lower Emission School Bus Program, said the District will help fund almost 18 retrofits of school buses with particulate filters in the next year, and hopes to be able to fund additional bus replacements as well. He noted, "We are trying to help county school districts get in compliance with these regulations."

For more information on the District's Lower Emission School Bus Program, see www.OurAir.org/itg/schoolbus.htm. For more information on the State's rules for trucks and buses, see www.arb.ca.gov.

Meet an Inspector (Cont'd)

out of Santa Maria. For the remaining platforms, he uses a swing rope to get from the pier to a boat, and then from the boat to the platform. "We are very safety conscious. You wait for a good time to swing over," he said. In some circumstances, they will use a billy pugh, a device with a place to stand and safety netting to hold onto, to transfer personnel to and from the platform. (The billy pugh is named after the man who invented it.)

He remarked, "The main thing that was surprising to me the first time I went to a platform was how big some of them are. The

larger ones are mini cities that can survive on their own." Some have sleeping quarters, cafeterias, and living areas with recliners and televisions, as workers do shifts of seven days on, seven days off. On smaller platforms, workers are on day shifts. McKay's inspections are always done as day trips.

Once on the platform, McKay uses an organic vapor analyzer to check equipment for leaks. He said, "I've found plenty of leaks that are over the threshold, some of which might represent a violation. In some situations there can be the occasional valve that is either faulty or started leaking

right after the operator inspected it. Some leaks can happen no matter how hard they try to prevent them."

McKay also responds to public complaints. Responding to dust complaints, he will go out to the site and see what might be causing the dust. If it's a construction operation, he will talk to the workers about watering more. He noted that some complaints come from locations where homes have been built next door to farm lands or existing businesses. He commented, "This is difficult, because the people have

bought these homes near these businesses or agricultural fields that were there first. And then they move in and notice there's dust in the air."

With three children under the age of six, McKay doesn't have much time for hobbies. Weekends are about karate and ballet lessons, going on bike rides, visiting the library, or going to the Discovery Museum or a park. He remarked, "When the kids are older I might get back into woodworking. When I feel like I can bring out the power tools."