



ON THE AIR

Summer
2009

A Newsletter about
Clean Air. Provided
by Spokane Regional
Clean Air Agency.

What is Ozone Pollution?

Ozone is a gas composed of three oxygen atoms. It is not usually emitted directly into the air, but at ground-level is created by a chemical reaction between oxides of nitrogen (NO_x) and volatile organic compounds (VOC) in the presence of sunlight. Ozone has the same chemical structure whether it occurs miles above the earth or at ground-level and can be “good” or “bad,” depending on its location in the atmosphere.

“Good” ozone occurs naturally in the stratosphere approximately 10 to 30 miles above the earth’s surface and forms a layer that protects life on earth from the sun’s harmful rays.

In the earth’s lower atmosphere, ground-level ozone is considered “bad” because it is a harmful pollutant to breathe. Car exhaust, industrial emissions, gasoline vapors, and chemical solvents emit NO_x and VOCs that contribute to the formation of ground-level ozone. Ground-level ozone is the primary constituent of smog. Sunlight and hot temperatures are needed for ozone to form which is why ozone is considered a summer-time air pollutant. Many urban areas tend to have high levels of “bad”

ozone, but even rural areas are subject to increased ozone levels because wind carries ozone-forming pollutants hundreds of miles away from their original sources.

Health Effects — Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level ozone can reduce lung function and inflame the lining of the lungs. Repeated exposure may scar lung tissue.

Environmental Effects — Ground-level ozone can have detrimental effects on plants and ecosystems. It can interfere with the ability of sensitive plants to produce and store food which makes them more vulnerable to diseases, insects, other pollutants, and harsh weather. Ozone can damage the leaves of plants, negatively impacting their appearance—in urban neighborhoods, parks and recreation areas. Ecosystems can potentially be impacted by ozone because it reduces the growth of certain species.

For more information on ozone, visit www.epa.gov/ozone. ■

Mow Down Air Pollution!

There are plenty of things you can do to help keep Spokane’s summer air quality the best it can be! Here are some tips:

■ **When it’s HOT, Hold Off**—Ozone pollution peaks on days that hit the 90s and higher. If possible, hold off mowing the lawn or running errands until a cooler day, or, at least until late afternoon or evening.

■ **Go Electric**—When feasible, switch from gasoline-powered yard equipment to electric or manual. There are many benefits to switching, such as saving money on gas, maintenance and repairs.

■ **Drive Less**—Fewer trips to the gas station will help reduce ozone. Summer is a great time to park the car and walk or ride your bike. If you prefer, riding the bus or car-pooling are other great options to drive less.

■ **Refueling Tip**—When filling up your gas tank, be sure to not “over-fill” or “top-off” the tank and put the gas cap on tightly to reduce spills and evaporation!

You can also choose to purchase your gasoline at a station that has vapor recovery nozzles. For a list of locations call 477-4727.

Trees Are Truly Amazing!

If you have ever climbed a tree or read a book in its shade, you've received one of the many gifts of this splendid plant. Trees have countless gifts: they keep the oxygen cycle going, provide shade from the hot sun, shelter from the wind, offer sound protection and privacy for our homes, give wildlife a habitat, stabilize soils with their roots and minimize erosion, lower air-conditioning costs, filter pollution, and contribute to our property values. That's a tall order for this specimen.



Without trees and shrubs, we could not survive. As we exhale, carbon dioxide or CO₂ is released. Trees combine the CO₂ from the air with the hydrogen they receive from water and create simple sugars for their energy needs. The oxygen that is left over is released into the atmosphere. Oxygen accounts for 21% of the air in our atmosphere.

Aside from the oxygen they provide, trees also help businesses. Many professions could not survive without trees. Every profession uses paper and quite a few rely on wood for making tables, floors, pencils, paint brushes, frames, art paper, chairs, books, toys, and the list goes on.

Trees also offer homes and businesses temperature reductions due to their canopies. According to the forest service, canopies can reduce mid-day temperatures by nearly 2 ½ degrees Fahrenheit, and that is for small shady areas. It is one reason to love our deciduous trees—the greater the leaf coverage, the more benefit we get in reduced temperatures. Savings are evident for both heating and air-conditioning since in winter, cold winds are blocked and there are no leaves in the way of having the sun warm your home or business.

And our air benefits from trees because they take in the gaseous air pollution. This is done primarily through the stomata on the underside of their leaves.

In one year, an acre of trees can absorb as much carbon as is produced by a car driven 8,700 miles.

International Society of Arboriculture (ISA)

Stomata (also called stomas or stomate) are tiny pores or openings that allow gases and water vapor to pass through. The gases are then diffused throughout the tree and used in various ways.

Trees also remove pollution by intercepting airborne particles. Some are absorbed into the tree and some remain on the plant's surfaces. This is only a temporary holding spot since eventually the particles will drop to the ground due to rain, wind, or twigs falling off. However, the

temporary holding spot may be ideal for a hot day to help keep the particulate count down.

So now's the time to consider planting trees for fall. With all the benefits, there's nothing to lose. Just remember these five key points:

Location, Location, Location—do your homework about the best location for the type of tree you want to plant.

Details in the Depth—don't assume the item from the nursery is ready to go. It's worth your time and money to find out a little more about the proper way to plant trees.

Take Care—proper watering and maintenance is as important as protecting your tree from lawn equipment. Many trees get diseases or insect infestation due to wounds at the base of their trunks. Keep space around your tree—free from grass and plants, and protected from equipment. Mulch this area to retain water.

Proper Pruning—hire a Certified Arborist for your favorite specimens or go to the local county extension office for publications on pruning.

Go Native—A few native trees for Spokane County (some are grown more as shrubs): Chokecherry, Serviceberry, Mock Orange, Red Oisier Dogwood, Rocky Mountain Maple.

For more information, call the WSU county extension office at 477-2181 or visit www.spokane-county.wsu.edu/. The International Society of Arboriculture is at www.isa-arbor.com. ■

By Simone Ramel, Communications Specialist

Spokane Youth Environmental Conference



The 12th annual Spokane Youth Environmental Conference drew close to 100 students in grades 7-12 from five schools in Spokane County.

Participating students presented their environmental science projects to their peers and a team of evaluators. Project topics covered a wide range from Elastomer-Powered Cars to Composting with Worms.

Students who received a Superior rating by their evaluation team

were recognized at the conference closing ceremony. Each of these students, listed below by school, received a gift card from Auntie's Bookstore.

Central Valley High School:

Drew Brown, David Ross, Kelsey Solberg, Madison Hilpert, Dallin Squires, and Rahmi Nemri. **West Valley High**

School: Annalee Foster, Mackenzie Pierce, Ty Laboy, Connor Macklin, and Joe Crow. **Freeman**

Middle School: Rob Smoot, Ben Carasco, and Claire Hulse.

Each participating school received a \$300 donation to their science department. The student and school awards are made possible by donations from local organizations, including: Altek, Big Horn Foundation, Budinger & Associates, CH2MHill, Geo Engineers, Hollister-Stier, Northwest Farm

Credit Services, Rings & Things, Spokane Aquifer Joint Board, Spokane County Conservation District, Spokane Employees Credit Union, TransCanada, and Wells Fargo.

For more information visit the conference website: www.syec.org. ■

KUDOS: *The Spokane Youth Environmental Conference was recently recognized as a recipient of the Science Education Advocate Award by the Washington State Leadership and Assistance for Science Education Reform (LASER). The conference is organized by Educational Service District 101, National Weather Service, Spokane County Water Quality, Spokane Regional Clean Air Agency, Spokane Regional Solid Waste System, Spokane River Forum, Washington State Department of Ecology, and West Valley Outdoor Learning Center.*

Wildfire Season & Air Quality

If you are healthy, you're usually not at a major risk from short-term exposures to smoke. Still, it's a good idea to avoid breathing smoke if you can help it. Smoke is made up of a complex mixture of gases and fine particles produced when wood and other organic matter burn. The biggest health threat from smoke comes from fine particles. These microscopic particles can get into your eyes and respiratory system, where they can cause health problems such as burning eyes, runny nose, and illnesses such as bronchitis. Fine particles also can aggravate chronic heart and lung diseases - and even are linked to premature deaths in people with these conditions. Here's what you can do to protect yourself:

☞ Pay attention to local air quality

reports and stay alert to any news coverage or health warnings related to smoke.

☞ Use common sense. If it looks smoky outside, it's probably not a good time to mow the lawn or go for a run. And it's probably not a good time for your children to play outdoors.

☞ If you are advised to stay indoors, take steps to keep indoor air as clean as possible. Keep your windows and doors closed - unless it's extremely hot outside.

☞ Check the current and forecasted air quality: www.spokanecleanair.org.

As smoke worsens, the concentration of particles in the air changes - and so do the steps you should take to protect yourself.

☞ Run your air conditioner, if you have one. Keep the fresh air intake

closed and the filter clean to prevent bringing additional smoke inside. Note: If you don't have an air conditioner, staying inside with the windows closed may be dangerous in extremely hot weather. In these cases, seek an alternative shelter.

☞ If you have asthma or other lung disease, make sure you follow your doctor's directions about taking your medicines and following your asthma management plan. Call your doctor if your symptoms worsen.

☞ If you or a family member has a heart or lung disease, are an older adult, or have children with health conditions, talk with your doctor about whether and when you should leave the area.

When smoke is heavy for a prolonged period of time, fine particles can build up indoors even though you may not be able to see them. ■

◆ AIR QUALITY CALENDAR ◆

- July: "Asbestos & Home Remodeling" display and literature at The Home Depot, E. 5617 E. Sprague Ave.
- August: "Asbestos & Home Remodeling" display and literature at Habitat-Spokane Builder's Surplus Store, 860 E. Trent Ave.
- Aug. 6: Board of Directors meeting, 9 a.m., Spokane Clean Air's office, 3104 E. Augusta Avenue. Monthly meeting agendas available online at www.spokanecleanair.org.
- Aug. 8: Kids Day at Riverfront Park. Stop by and visit the Clean Air booth for fun activities and prizes.
- Sep. 3: Board of Directors meeting, see details above.

Brattebo Appointed to Agency Board

Tom Brattebo, Liberty Lake resident and longtime resident of the Spokane area, was recently appointed by the Spokane Clean Air Board of Directors to fill the Board's Member-at-Large position. The position was previously held by Melissa Ahern, who resigned to fulfill other obligations.

Brattebo has served on Spokane Clean Air's Advisory Council for over seven years. He also did a six-month stint for the Agency as an AmeriCorps member in charge of implementing the No-Idle Zone program at schools in Spokane County. Brattebo retired from Kaiser Aluminum. He also taught at the West Valley Outdoor Learning Center.

"I believe that my professional experience in the industrial sector, as well as my experience in environmental education provides a unique perspective that I look forward to bringing to the Board," said Brattebo. ■



Tom Brattebo with his granddaughter, Ella.

Take Note!

On the Air is a publication of the Spokane Regional Clean Air Agency. Its purpose is to inform local residents on all aspects of outdoor air pollution. Please contact Lisa Woodard, Editor, with comments or story ideas: Phone: (509) 477-4727, ext. # 115 Email: lwoodard@spokanecleanair.org

Contact Information:

Spokane Regional Clean Air Agency:
(509) 477-4727

Burning Information:
(509) 477-4710

Air Quality Index:
(509) 477-2571

New Address:
3104 E. Augusta Ave.
Spokane, WA 99207

Web Address:
www.spokanecleanair.org



Board of Directors:

Jeff Corkill, Chair, City of Spokane Representative

Rose Dempsey, Vice Chair, City of Spokane Valley Councilwoman

Tom Brattebo, Member-at-Large

Ed "Chuck" Crockett, Small Cities and Towns Representative

Bonnie Mager, Spokane County Commissioner

This newsletter is also available at www.spokanecleanair.org. To be removed from this mailing list, call 477-4727 or email lwoodard@spokanecleanair.org.

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