



## HOLLAND



### What does this map of Holland depict?

The map of Holland shows that our city is threatened with a plume of SO<sub>2</sub> that exceeds the level that EPA says is safe. All the colored areas represent parts of Holland that are threatened by dangerous levels of pollution coming from the James DeYoung plant.

The plume covers portions of Holland's downtown business district, public parks and recreation areas, the shoreline of Lake Macatawa, Hope College, Freedom Village and a large portion of the north side. It also covers residential areas, meaning that some members of the Holland community are constantly exposed to this risk.

Sulfur dioxide pollution is linked to asthma attacks, severe respiratory problems, lung disease and heart complications. In Ottawa County, 5,478 children suffer from asthma. Inhaling sulfur dioxide makes it hard for people with asthma to breathe. High levels of SO<sub>2</sub> force people to the emergency room and to hospitals because they have trouble breathing.

### Why did the Sierra Club investigate JDY's SO<sub>2</sub> pollution?

Coal-fired power plants, like the James DeYoung (JDY) plant in downtown Holland, are the largest source of sulfur dioxide pollution in the country. Old, dirty, uncontrolled plants like the one here in Holland threaten public health by emitting concentrations of pollution in excess of what the Environmental Protection Agency (EPA) says is safe. JDY lacks pollution controls for

SO<sub>2</sub> and Sierra Club analyzed the emissions in light of a new, more stringent standard for SO<sub>2</sub> that reflects the best science on the issue.

### What did Sierra Club's investigation reveal?

Currently, the James DeYoung coal plant threatens Holland's residents with pollution **3.5 times the limit** that EPA says is required to protect public health. The US EPA has set the National Ambient Air Quality standard (NAAQS) at 196.2 µg/m<sup>3</sup> as the allowable limit to adequately protect public health. Units 4 and 5 are permitted at rates that result in air pollution concentrations of 696 µg/m<sup>3</sup>.

The plant poses a **significant and urgent health threat** to residents — particularly children, elderly and asthmatics who are the most susceptible to high levels of SO<sub>2</sub> pollution.

### How did Sierra Club conduct its investigation?

Sierra Club gathered the publicly available data needed to run an air dispersion model called AERMOD, which uses emissions information, plant characteristics, and meteorological data to demonstrate how air pollution disperses from a source, and in what concentrations.

Sierra Club hired an expert air modeler to run the model in accordance with EPA's protocols for modeling the impacts of SO<sub>2</sub>.

Sierra Club actually **underpredicted** the impacts of the coal plant by making several conservative assumptions in its analysis:

## ORGANIZATIONS AND BUSINESSES WHO'VE SIGNED ON IN SUPPORT

(AS OF 11/19/11)

### ORGANIZATIONS

- Sierra Club Michigan Chapter
- Holland League of Women Voters
- Michigan League of Conservation Voters
- Michigan Land Use Institute
- Environment Michigan
- The Ecology Center
- Voices For Earth Justice
- Hope United For Justice
- Hope Biology Club
- MSU Beyond Coal
- Michigan Interfaith Power and Light
- Dwight Lydell Chapter: Isack Walton League

### BUSINESSES

- Blue House Bistro
- Borr's Bootery
- Boutique 180
- Cafe Moxie
- Cakes Beyond Expectations
- Comfort Keepers
- The Blackbird
- deBoer Bakery
- EcoWindSolar Solutions
- Eighth Day Farm
- Eighth street Salon
- Global Design + Vision
- Harvest Antiques
- Holistic Nutrition Center
- Holland Cycling & Fitness
- Hunter Energy
- Karla's Place
- Kayak-Kayak
- Lemonjello's
- Maplewood Auto Inc
- Muriel's
- National LED Solutions
- Newb's
- Otavalito
- Ottawa Glad Growers
- Pereddies
- Premovation A/V
- Radseck Farm Market
- R. Lucas Scott Co.
- Spice Merchants
- Taco Fiesta
- The Bag Lady
- Thistle Gallery
- Tikal
- Treehuggers
- UnScene Bistro
- Westshore Board Sports

- Sierra Club only looked at the impacts of units 4 and 5 and did not include emissions from Unit 3, which if included, would increase overall pollution.
- Sierra Club did not consider emissions from the new coal-fired unit that HBPW wants to build at the JDY site.
- Sierra Club assumed SO<sub>2</sub> emissions were the same every hour, which does not reflect the current air permit's extremely lenient 24-hour averaging time for SO<sub>2</sub>, which actually allows per hour emissions to spike well above what Sierra Club considered as long as the 24-hour average was met.

### What does HBPW need to do to protect public health?

As of now, HBPW has made no commitment to clean up or retire these polluting units at JDY. The best way for HBPW to reduce pollution is to close the old plant in favor of clean generating options that do not produce SO<sub>2</sub>.

However, if HBPW is to continue to operate the JDY plant, it will need to significantly reduce emissions at the plant. For example, to comply with ambient standards that protect public health, Unit 5 could emit no more than 158.7 pounds of SO<sub>2</sub> per hour. Based on historic data, Unit 5 has **exceeded that rate an average of more than 59% of the time** over the past three years. A lot of work would be needed to keep operating the JDY plant in a way that does not threaten public health.

### Is sulfur dioxide the only pollutant of concern?

**Far from it.** The devastation caused by the coal industry from extraction to disposal causes pollution and environmental destruction through the entire life cycle. At JDY, several pollutants from the plant are a cause for concern:

**Mercury** — Mercury is a potent neurotoxin that affects brain development and is particularly dangerous to children, infants, women who plan to have children, nursing mothers and developing fetuses. Coal plants are the number one source of mercury pollution in the nation. The JDY expansion would deposit an additional 5.33 lbs of mercury into our freshwater resources. One teaspoon of mercury is enough to contaminate a 20-acre lake. According to the DEQ in 2009, mercury levels in Lake Macatawa walleye were .75 ppm and increasing about 4% a year with the borderline limit of concern being .36 ppm. This is over double the limit.

**NO<sub>x</sub>** — The health effects of nitrogen oxide (NO<sub>x</sub>) exposure range from eye, nose and throat irritation **at low levels** of exposure to serious damage to the tissues of the upper

respiratory tract, fluid build-up in the lungs and death at high exposure levels.

**Ozone** — Ozone pollution, also known as smog, is a powerful respiratory irritant that can cause an array of health problems. At low levels of exposure, ozone can cause coughing, wheezing, shortness of breath and chest pain. At higher concentrations, breathing ozone can lead to more serious effects, including lung tissue damage, reduced lung capacity, asthma exacerbation, as well as increased risk of hospitalization for asthma, bronchitis and other chronic respiratory diseases. Recent studies demonstrate that ozone exposure also may lead to premature death. **Ottawa county has been given a grade of 'F' for ozone from the American Lung Association.**

### What do Holland residents think?

The Holland Beyond Coal Coalition has gathered more than 1,300 signatures urging the Holland Board of Public Works to move Holland beyond coal by supporting a sustainable, long-term energy plan. More than 50 local businesses and organizations have signed a coalition letter to the HBPW asking them to invest sustainably and transition Holland to future of clean energy and energy efficiency.

### What can I do to get involved?

- Educate your family, friends and community leaders and let them know why you value clean air and water and want to see Holland move away from fossil fuels.
- Call or write the Holland BPW and let them know that you support a long-term sustainable energy that moves Holland away from dirty, outdated coal technology that is costly to our health and the environment.

**Holland BPW - Board of Directors**  
**625 Hastings Avenue, Holland, MI 49423**  
**616.355.1500**

- Write a letter to the Holland Sentinel or Grand Rapids Press.
- Visit our website at **[www.hollandbeyondcoal.org](http://www.hollandbeyondcoal.org)** for more information and ways to get involved.
- Stay up to date on meetings and events by visting **[www.facebook.com/HollandBeyondCoal](http://www.facebook.com/HollandBeyondCoal)** and liking our page.



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