City of Ashland- Sustainability Committee Meeting Notice

City Hall Council Chambers (601 Main St W)
Thursday, September 26, 2019
6:00pm

Agenda

1) Consent Agenda

2) Approval of Minutes
   a) Approval of minutes from the July 25, 2019 Sustainability Committee meeting

3) Citizen Comments

4) Projects/Discussions
   a) Discussion of prioritization of goals for implementation of 25 by 25 Plan recommendations
   b) Discussion of possible Resolution to ban the sale and use of coal tar in the City of Ashland

5) Announcements
   a) Updates on rain barrel sale
   b) Updates on Green Infrastructure projects and AmeriCorps positions

6) Adjournment

It is possible that members of and a possible quorum of members of other governmental bodies of the municipality may be in attendance at the above stated meeting to gather information or speak about a subject, over which they have decision-making responsibility. Any governmental body at the above stated meeting will take no action other than the governmental body specifically referred to above in this notice.

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City of Ashland - Sustainability Committee Meeting Minutes

A meeting of the Ashland Housing Committee was held on **Thursday, July 25, 2019 at 6:00 p.m.** in the **Ashland City Hall Council Chambers (601 Main St W)**

Committee Members Present: Lissa Radke, Jessica Eckhardt, Kaas Baichtal, Kate Ullman, Dale Kupczyk, La Mer Riehle

Committee Members Absent: Valerie Damstra

Staff Present: Megan McBride, Lucas Phillips

Megan McBride opened the meeting at 6:00 p.m.

Agenda

1) Consent Agenda

Motion to approve the consent agenda by Kate Ullman, seconded by Jessica Eckhardt. Passed unanimously.

2) Approval of Minutes

Motion to approve the minutes from the March 28, 2019 Sustainability Committee meeting by Kate Ullman. Seconded by Jessica Eckhardt. Passed unanimously.

3) Citizen Comments

N/A

4) Projects/Discussions

a) Discussion of possible Resolution to ban the sale and use of coal tar in the City of Ashland

Kate Ullman provided some background information regarding the growing movement to ban the use of coal tar products – several states, including Minnesota and Washington, other municipalities, and counties have banned the use of coal tar in sealants to reduce the amount of polycyclic aromatic hydrocarbons (PAHs) that enter waterbodies.

Richard Ketring discussed how PAHs can accumulate in retention ponds and are expensive to clean up. Kate Ullman mentioned that PAHs can be tracked into homes, and are carcinogenic.

Kaas Baichtal asked if these products are used by the city or the county, and if any examples of these products being used could be provided.

Kate Ullman stated that she talked to John Butler, Director of Public Works, and he stated that the City does not use these products. Kate also said that there has been testing done on some ponds in the area, but the results are not available yet.

Kaas Baichtal and Jessica Eckhardt questioned how a ban would be enforced, and Megan McBride stated that the City cannot go into homes to check if these products are on properties, but this ban would prevent coal tar containing products from being sold in the City, which could reduce their use.

Richard Ketring said that the biggest issue would be companies who are from outside of the City who come in and sealcoat a lot of driveways and parking lots, and may not be from an area that has a ban.

Kaas Baichtal recommended that public outreach is implemented in advance of a ban, because this is not a well-known issue. Lissa Radke recommended more research into alternatives to the coal tar product, and a more phased-in approach.

Kate Ullman stated that she looked at L&M and it appeared that they did not sell the coal tar based sealants; they sold the asphalt based sealants.

Dale Kupczyk asked if older city streets had been sealed with these products, and if they could possibly be continuing to leach contaminants into water bodies.

Richard Ketring proposed a partnership between the City and Northland College to identify an ecological footprint of the City in order to determine what potential contaminants are being used by, and within, the City.

Megan McBride recommended an educational campaign and project to promote alternatives to harmful chemicals.

Kate Ullman recommended passing the ban, but phasing in the penalties, as opposed to what was stipulated in the sample ordinance. This would allow for outreach to residents and businesses.

Jessica Eckhardt recommended giving warnings first, prior to issuing fines.

Megan McBride clarified that the City would be limited on enforcement, as the City cannot enter garages or properties, and there is not an easy way to test for PAH containing products.

After some discussion regarding implementation and possible steps forward, this Resolution was tabled pending further research and discussion.

b) Discussion of programming and partnership opportunities with Ashland Area Farmer's Market

Megan McBride proposed providing some sustainability related programming for the Ashland Area Farmer's Market, and provided updates regarding events that the City has

already put on at the farmer's market this summer. She proposed a reusable bag share for the farmer's market, and requested ideas from the committee for other events.

Lissa Radke proposed buying bags from retired police officer Michelle Tutor to use at the farmer's market.

Kaas Baichtal recommended putting together information regarding ordinances or suggestions to make the community more sustainable, and table at the farmer's market to get the word out.

c) Discussion of committee meeting time and future schedule

Due to some scheduling conflicts and a lack of a quorum for some meetings, Megan McBride checked in with committee members regarding the best time and date for future meetings, where everyone is available. It was agreed to keep the same meeting date and time for future meetings.

d) Discussion of future agenda items

Kate Ullman proposed discussing herbicide/pesticide use by the City to insure that there are not better, less toxic alternatives that the City could use. Kate Ullman also mentioned revisiting the goals set forth in the 25 by 25 Plan, and finalizing the Sourcewater Protection Plan. She also mentioned recycling in the parks, and talking with Eagle Waste to make sure that recyclables are actually recycled and not put into the dump.

Lissa Radke proposed asking Eagle Waste to provide more educational materials to help make sure the system is not burdened by non-recyclable items entering the recycling stream.

5) Announcements/Reports/Questions

a) Updates and discussion of volunteer opportunity for Ashland County Clean Sweeps event

Lissa Radke updated the committee on the need for volunteers for the Ashland County Clean Sweeps event at WITC on August 22nd from 3:00- 7:00pm.

b) Updates on City of Ashland/Ashland County rain barrel sale

Megan McBride provided updates on the final information regarding the sale of rain barrels sponsored by the City Of Ashland and Ashland County. She hopes that the sale will be able to occur every year, with grant funding available to subsidize the cost.

c) Updates on Great Lakes Commission Green Infrastructure Champions Grant

Megan McBride gave updates regarding the process of applying for grants to help update the Unified Development Ordinance. This grant is through the Green Infrastructure Champions Grant program. This program also pairs the City with a

mentor who has extensive experience with Green Infrastructure to insure that there are not unintentional barriers to Green Infrastructure in the UDO.

6) Adjournment

Motion to adjourn by Dale Kupczyk. Seconded by Lissa Radke. Passed unanimously.

Meeting was adjourned at 7:40 pm. Minutes done by Lucas Phillips.

Building	Recommendations	Comp Plan Goal	Cost ($-$$$)	Timeline (S- L)
Wastewater Treatment Plant	Reduce amount of water entering the plant by promoting water conservation by commercial and residential customers			
	Separate the storm water and sewer systems.			
	Educate city residents about flushing nonflushable items, such as disposable wipes, to reduce clogs			
	Investigate whether it is possible to eliminate the need to send backflushed, noncontaminated water from the filtration system into the wastewater treatment plant, and instead send it back into the bay			
	Conduct a feasibility study for the implementation of anaerobic digestion to create combined heat and power (CHP) for the facility. The digested sludge could also be sold as compost or animal bedding to provide revenue for the City.			
Fire Station	Consider installing a heat exchanger to extract and save energy from the vehicle bays.			
	Assess the possibility of including make-up air for the vehicle exhaust system to prevent negative pressure. This system should also include heat exchanging properties (or be incorporated into a larger system).			
	Paint the EPDM roof of the administrative building white to reduce summer heating of the vehicle bay ventilation air. Alternatively, assess the possibility of creating a living roof to assist with cooling.			
	Insulate the aluminum frames of the windows in the administrative building, which currently get quite cold in the winter.			
	Convert existing fluorescent bulbs with LED bulbs as opportunities arise.			
City Hall	Assess the feasibility of insulating exterior walls. This may require significant interior renovation.			
	Replace single-pane windows with insulating windows, prioritizing as resources permit.			
	Consider more efficient (perhaps			

	centralized) air conditioning systems.			
	Investigate large sources of electricity use. Monthly electricity usage has a baseline of nearly 10,000 kWh, plus higher seasonal variations. Consider hiring a company to install real-time energy monitoring devices to track down usage.			
	Add insulation to the roof. The roof appears to be insulated with R-19 fiberglass batts with no vapor barrier. Buildings in this climate benefit from two to three times as much insulation. However, the high levels of air-infiltration from leaky windows may limit the effectiveness of adding ceiling insulation without first correcting the worst of the windows.			
Vaughn Public Library	Consider replacing existing lighting fixtures with LED alternatives where appropriate.			
	Upgrade the HVAC system to provide air conditioning for the second floor, eliminating the need for less-efficient window-mounted units.			
	Replace windows where most needed, such as on the second floor.			
	During interior renovations, add insulation to walls and ceiling and improve windows.			
	Ensure that unnecessary electronics are shut down when not in use (e.g. when closed), including second floor computer room.			
	Ceiling fans to reduce air conditioning needs.			
Bretting Recreation Center	Consider installing dampers on the conditioned air ducts into the office so that office workers can better regulate temperature. Adjust the HVAC system so that space heaters are not used.			
	Evaluate heat loss throughout the center. Consider using thermal imaging to find areas of insufficient insulation (which may include the entire roof/wall system). Insulate as necessary.			
	Assess the operation and efficiency of the existing heat exchangers on the HVAC systems			
	Consider the feasibility of installing high windows or roof-mounted daylighting to			

	allow indirect natural light into the gym and gymnastics room. This could significantly reduce the need for artificial lighting during daylight.			
	Consider installing large ceiling fans in the gym and gymnastics room. These could provide low-energy cooling for the summer and reduced heating requirements in the winter by destratifying warm air near the ceiling.			
Public Works	Continue to reduce lighting costs through replacement of older bulbs with LEDs, particularly in the garages that require extensive lighting.			
	Insulate or replace single-paned windows.			
	Consider upgrading HVAC controls to allow temperature adjustability between office spaces. Some employees report that the air conditioner makes the spaces too cold during the summer.			
	Assess feasibility of improving insulation in the roof and exterior walls.			
	Replace doors separating garages and administrative spaces with better sealing models.			
JFK Airport	Investigate the possibility of installing LED bulbs for the airport runway lights. Research snow/ ice sensors to reduce the need to operate the FAA-required 40-watt heating coils during clear conditions. Consider alternate solutions to keeping runway lights clear without energy intensive heating.			
	Consider improvements to the electric in-floor system, possibly supplementing with a natural gas system to improve occupant comfort and reduce demands on the in-floor system.			
	Consider upgrades to the old and inefficient boiler in the equipment storage hanger.			
	Look into aesthetic methods of better insulating the log cabin construction.			

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To: Kate Ullman, City of Ashland
From: Clean Wisconsin
Re: Superior Basin PAH Data
Date: August 7, 2019

SUMMARY

After the United States Geological Survey study (Baldwin et al. 2017) found that PAH concentrations in Milwaukee-area waterways were above toxic thresholds and that coal-tar-based pavement sealants were the primary source of these PAHs, Clean Wisconsin wanted to see if this was the case elsewhere in Wisconsin. We initially sampled in three cities (Racine, Stevens Point, and Eau Claire; results published in Valentyne et al. 2018), and later expanded to several coastal Lake Michigan and Lake Superior communities, including Ashland.

Sampling locations in the Lake Superior basin are described in Table 1. Our sampling locations were limited to public access points or rights of ways, as well as practical accessibility. From our sediment samples we measured the concentration of the 16 PAHs on the EPA's priority pollutant list as well as total organic content (TOC). PAHs tend to accumulate more readily in sediment with greater organic content.

Specific to Ashland, two of the four sampling locations (AS1 and AS4) exceeded the toxic effects threshold (the level above which effects on aquatic life are possible) when normalizing to 1% TOC. Sample AS2 had the fewest PAHs, and had numerous non-detections of individual PAHs. Due to these non-detections, we were unable to perform source analyses for this sample.

Recognizing that any individual diagnostic analysis has important limitations, we used multiple lines of evidence to evaluate important sources to decrease the risk of incorrectly identifying a source due to limitations of any one method. Coal-tar-based sealants and traffic-related emissions were identified as an important source in all five analyses. Other sources identified in one or more of the analyses include wood combustion, used motor oil, coal-related sources, and synthetic log combustion.

The finding that coal-tar-based sealants are identified as an important source of PAH contamination in the Superior basin is consistent with numerous prior studies by the United States Geological Survey, the Minnesota Pollution Control Agency and other governmental and academic researchers.

Note also that if the City of Ashland or any private businesses use stormwater detention ponds, rain gardens, or other biofiltration green infrastructure to capture and treat stormwater, PAH concentrations would be expected to be higher than the levels we found in the river, which are already elevated. This sort green infrastructure is designed to capture stormwater coming off impervious surfaces, some of which may be sealed and contain high levels of PAHs.

METHODS

We used the same methodology as described in Valentyne et al. 2018, which followed methods established in prior studies investigating the link between coal-tar-based pavement sealants and PAH contamination: Baldwin et al. (2017), (Crane 2012), van Metre et al. (2014), and Witter et al. (2014). These methods are briefly summarized below.

Sample Collection

Sediment samples were collected from eight sampling sites in three coastal Lake Superior Wisconsin communities (Table 1; Fig. 1). Specific locations were selected based on the availability of public access (e.g., parks, recreational paths, road right-of-ways). Sediment was collected with a stainless steel spoon or a small Ekman dredge sampler and mixed in a stainless steel bowl with the spoon. Amber jars were filled with the sediment and stored in an ice-filled cooler during sampling before being stored in freezer prior to laboratory analysis. The bowl, spoon and dredge were rinsed clean of sediment after each sample with river or lake water.

Laboratory Analyses

Laboratory analyses for the 16 US Environmental Protection Agency priority pollutant PAHs ($\sum PAH_{16}$: naphthalene, acenaphthene, fluorene, phenanthrene (Phe), anthracene (An), fluoranthene (Flu), pyrene (Py), benz[a]anthracene (BaA), chrysene (Chy), benzo[b]fluoranthene (BbF), benzo[k]fluoranthene (BkF), benzo[a]pyrene (BaP), indeno[1,2,3-cd], pyrene (IP), dibenz[a,h]anthracene, benzo[ghi]perylene (BgP), and acenaphthylene) plus benzo[e]pyrene (BeP) and total organic content (TOC) were conducted at UW Oshkosh following the protocol from Valentyne et al. (2018).

Total PAH concentrations were compared to aquatic toxicity thresholds from MacDonald et al. (2000) to evaluate relative contamination levels: threshold effects concentration (1,610 µg/kg; the level above which effects on aquatic life are possible) and the probable effect concentration (22,800 µg/kg; the level above which effects on aquatic life are probable).

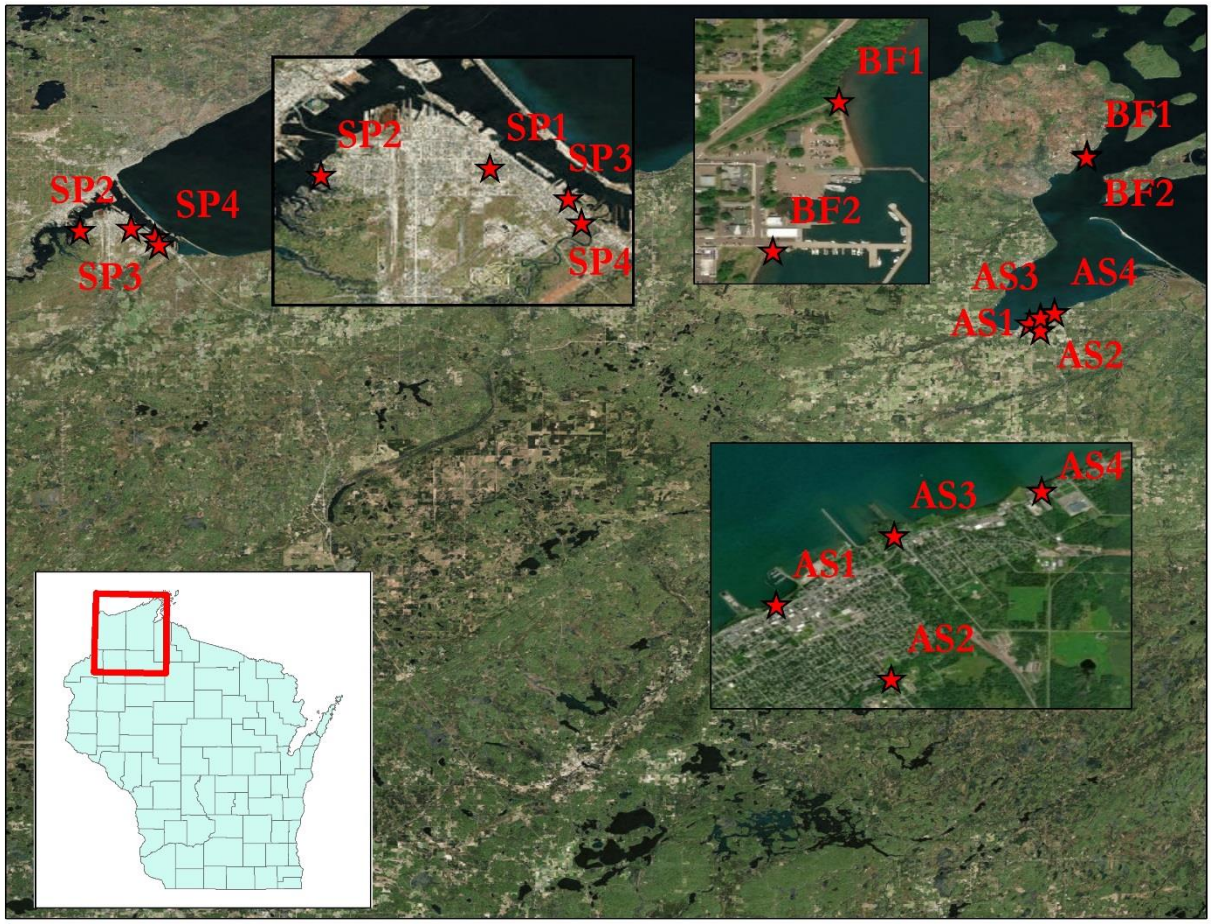

Figure 1. Map of Lake Superior basin sampling locations. See Table 1 for site descriptions.

Source Investigation

Recognizing that any individual diagnostic analysis has important limitations (Baldwin et al. 2017), we used multiple lines of evidence to evaluate important sources to decrease the risk of incorrectly identifying a source due to limitations of any one method.

Molecular weight ratios

The ratio of low molecular weight PAHs (2-3 ring compounds) to high molecular weight PAHs (> 3 ring compounds) broadly distinguishes between pyrogenic (e.g., combustion or other high-temperature process sources) and petrogenic (e.g., petroleum, motor oils, etc.) sources. PAHs from pyrogenic sources tend to have more high molecular weight compounds while PAHs from petrogenic sources tend to have more lower molecular weight compounds.

Diagnostic Ratios

Ratios between certain compounds have frequently been used to identify PAH sources. We calculated the same ratios as Baldwin et al. (2017), who used ratios of compounds with the same molecular mass in order to minimize the effect of weathering and volatility on the. The ratios used are: An / (An + Phe), Flu / (Flu + Py), BaA / (BaA + Chy), and IP / (IP + BgP).

Ratios were computed for all sediment samples without non-detects for the compounds within a given ratio and compared to ratios from published sources (Table 2). Sources most similar to sediment samples were identified by calculating Euclidean distances between sediment and source ratios on double ratio plots.

Source Profiles

PAH profiles for a subset of 12 PAHs (Phe, An, Flu, Py, BaA, Chy, BbF, BeP, BkF, BaP, IP, BgP. were compared for the sediment samples and previously-published potential sources (Crane, 2014; Baldwin et al., 2017). A modified chi square statistic (VanMetre and Mahler, 2010) was used to evaluate the similarity between sediment PAH profiles and profiles from potential sources. The modified statistic is the squared difference of proportional PAH

concentrations divided by the mean proportional concentration, summed for the 12 PAHs. A smaller statistic indicates greater similarity between sediment and source profiles.

Chemical Mass Balance

We used the USEPA CMB8.2 source-receptor model (Coulter, 2004) to quantify contributions of different PAH sources to the sediment. The model assumes that receptor (e.g., sediment) concentration profiles are the linear sum of concentration profiles from various sources. It computes source contributions by finding the combination of sources that minimizes the sum of squares of differences between measured and calculated concentrations for each PAH compound, weighted by the uncertainty of the compound in both source and receptor (Van Metre and Mahler, 2010).

We followed the previously-developed methodology except for using a subset of 12 PAHs, as explained above. Each CMB model run attempted to fit potential source profiles to the sediment sample profile using source elimination for up to 20 iterations (Crane, 2014). Source profile uncertainty was set to 40%, sediment profile uncertainty was set to 20%, and we used the model's default minimum source projection value of 0.95 (Crane, 2014). Models were considered unacceptable if R^2 values were <0.8, X^2 values were >2.0 or the model-estimated concentration was >20% away from the measured concentration (Coulter, 2004). X^2, R^2 are both essentially measures of fit between the modeled composition and the observed composition of PAHs. A higher R^2 indicates a closer fit with a lower X^2 indicates a closer fit.

We followed Baldwin et al.'s (2017) approach to selecting source profiles for inclusion in the model. Briefly, the approach consists of two rounds of modeling: an initial screening round that considers a wide variety of potential sources and a second round that used only

those sources providing the best models in the screening round. In the screening round we used the array of 75 combinations from Baldwin et al. (2017; Table A.6) with two modifications. First, we used different coal tar sealant inputs: coal tar dust from Minneapolis, MN, coal tar scraping from Austin, TX, and an average of all coal tar dust profiles available in the literature. Second, we ran each of the original 75 combinations a second time, replacing the vehicle emission average profile with the traffic tunnel air profile since the latter's profile more closely fit our sediment samples. In the second round, models were run with and without Phe to attempt to improve model performance and with and without sealant profiles as a negative control. The best model of the four for each sample was identified using the X^2, R^2, and mass percentage statistics.

Principal Components Analysis

We conducted principal components analysis using the 12-compound PAH profiles used in profile comparisons and chemical mass balance modeling described earlier. The data were standardized to have a mean of 0 and unit variance prior to performing the analysis. To assess similarity between sources and sediment samples, Euclidean distances were calculated between the sediment samples and potential sources in pairwise score plots for principal components accounting for at least 10% of the total data variability (Baldwin et al., 2017). Shorter distances indicate more similarity in PAH composition between sediment samples and potential sources. The prcomp function in the R statistical package (R Core Team, 2016) was used to perform the analysis.

RESULTS: LAKE SUPERIOR BASIN SAMPLES

As-measured $\sum PAH_{16}$ concentrations ranged from 41 µg/kg to 3,992 µg/kg, with a median concentration of 688 µg/kg (Table 1). As-measured concentrations exceeded the

threshold effects concentration from one sample in both Bayfield and Superior. When normalizing to 1% TOC, both Bayfield samples and two Ashland samples exceeded the threshold effects concentration.

Molecular Weight Ratios and Double Ratio Plots

Low molecular weight: high molecular weight PAH ratios were all <0.3, (range: 0.05-0.29), broadly indicating dominant pyrogenic sources. Similarly, the double ratio plots place the sediment samples within general categories of combustion-related sources (Fig. 2).

The closest specific sources vary by ratio. Coal-related sources, wood and grass combustion, traffic-related emissions, kerosene, and coal-tar sealants were all identified as among the most similar sources in at least 3 of the 5 double ratios (Table 3).

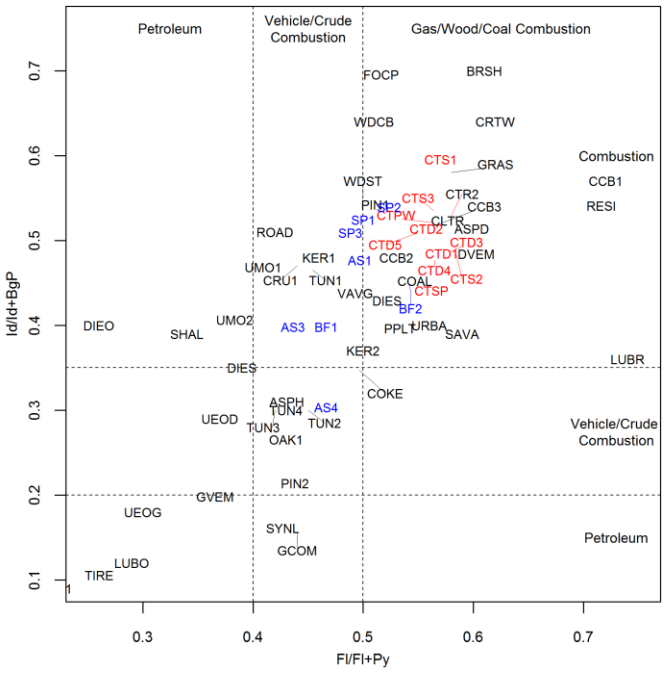

Figure 2. Example double ratio plot showing ratios of PAHs between potential sources (four-letter abbreviations explained in Table 2) and sediment samples (blue). Potential sources related to coal-tar sealants are shown in red. Ranges for general categories of sources are indicated by the dashed lines.

Source Profiles

The sediment PAH profiles in the Superior Basin show a bit more variability than do sediment profiles from the other sampling areas, but still generally follow a similar pattern (Fig. 3). Sample AS3 stands out as having a more unique profile than other Superior-basin samples. The sediment profiles were most similar to profiles of dust from coal-tar-sealed surfaces, coal-tar sealant scrapings, coal, and vehicle emissions (Fig. 4). Examples plots showing the comparison AS1 sediment samples to various potential sources are shown in the Appendix.

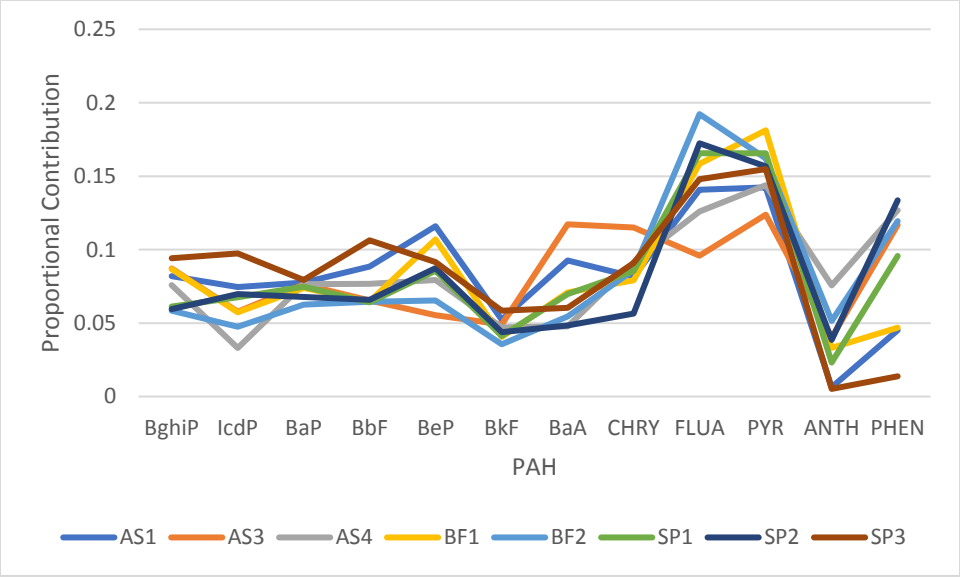

Figure 3. PAH profiles for sediment samples used in the profile analyses. Refer to Table 1 for sample abbreviations.

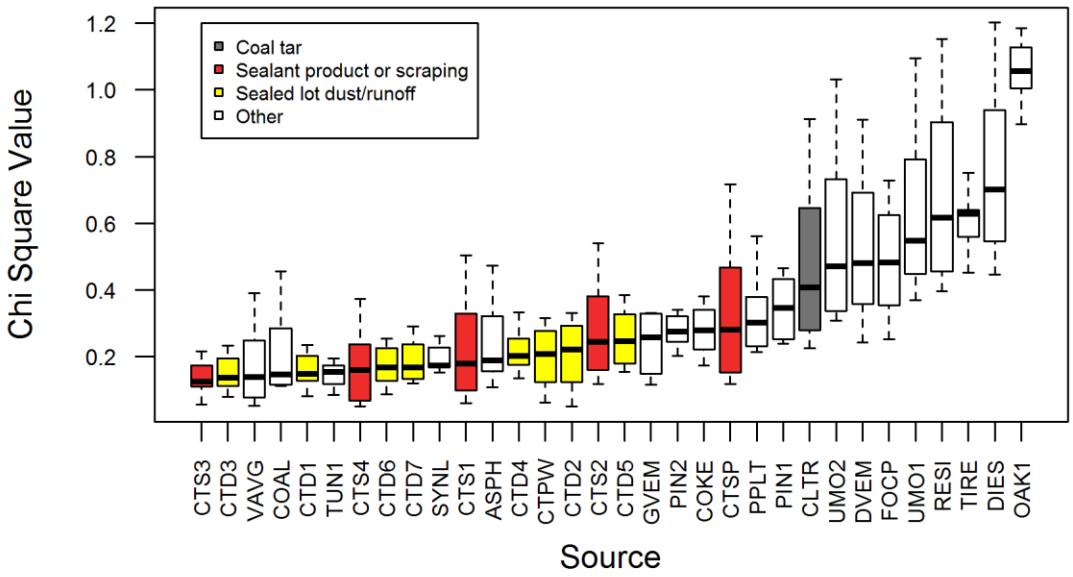

Figure 4. Boxplot summarizing the X^2 values between PAH profiles for sediment samples and the profiles for various potential sources (abbreviations found in Table 2). A smaller X^2 value indicates a closer fit between profiles. In reality, multiple sources contribute to the total PAH load; this plot simply shows how similar a single source's profile is to the profiles found in the sediment samples.

Chemical Mass Balance

We were able to find an acceptable model meeting all performance criteria (R^2>0.8, X^2<2.0, mass percentage between 80% and 120%) for all Lake Superior basin area sediment samples with full profile data, indicating that we are not missing any important PAH sources

The best CMB models included coal tar sealant as an important source of PAHs in six of the eight sediment samples, contributing 21-72% of PAHs in these samples (Fig. 5). Vehicle emissions were identified as a source in all but sample SP2. Excluding coal-tar-based sealants as

a negative control reduced model performance for samples where coal-tar sealants were identified in the best-fitting model (Table 4).

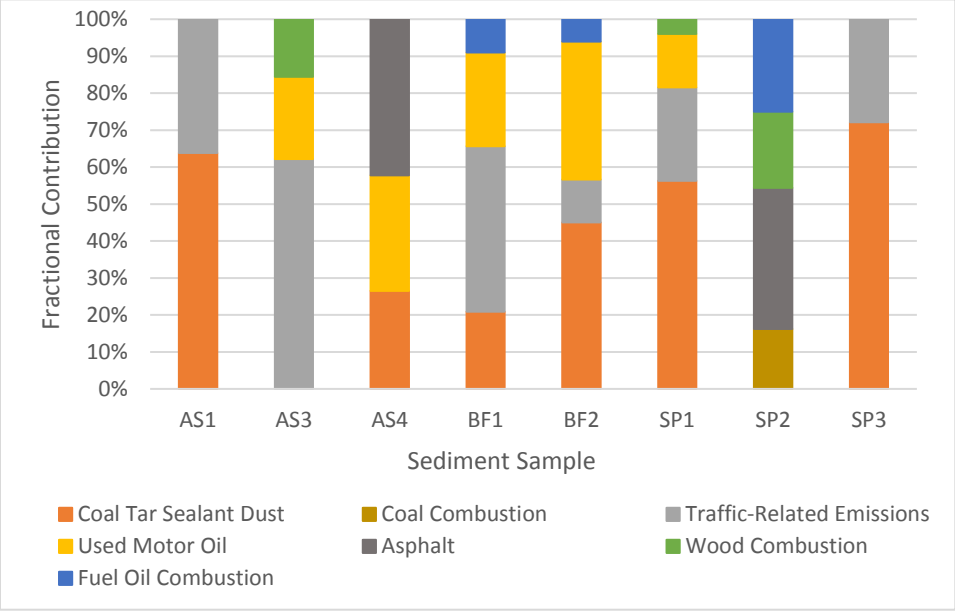

Figure 5. Source contribution of PAHs to sediment samples estimated using the US Environmental Protection Agency Chemical Mass Balance.

Principal Components Analysis

Principal components 1 to 4 each explained >10% of the variance and cumulatively explained 81% of the variance. Euclidean distances between sediment samples and potential source calculated for all pairwise combinations of the first four principal components indicate that the PAH composition of vehicle-related emissions, asphalt, dust and runoff from coal-tar-sealed surfaces, coal tar sealant scapings, and coal combustion were identified as being the most similar to the sediment PAH composition (Fig. 6).

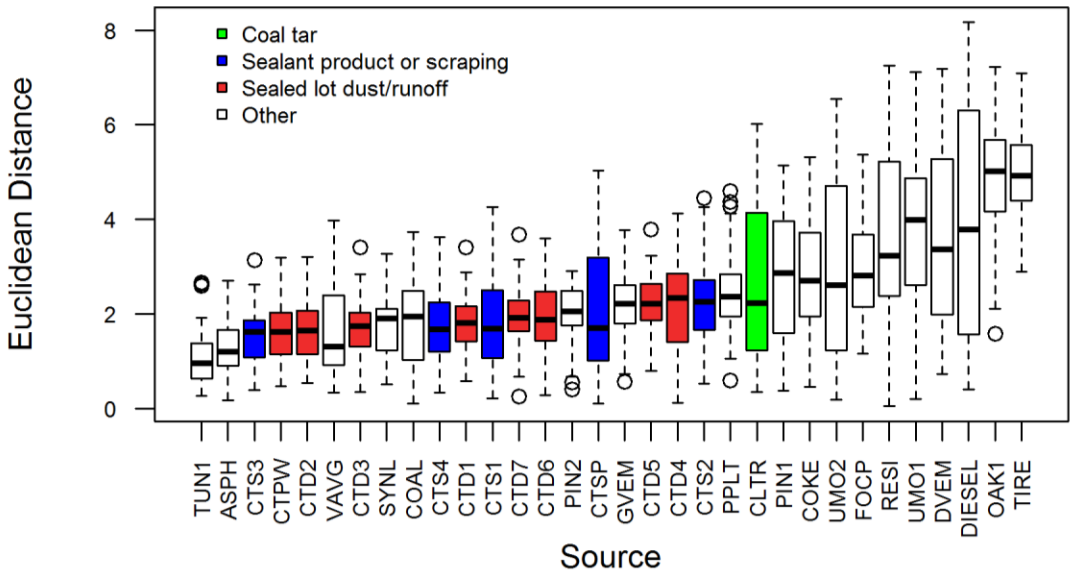

Figure 6. Boxplot summarizing the Euclidean distance between sediment samples and potential sources (abbreviations defined in Table 2) as plotted in all pairwise combinations of principal components 1-4. Shorter distances indicate more similar PAH compositions. In reality multiple sources contribute to the total PAH load; this plot simply shows how similar a single source's PAH composition is to the compositions found in the sediment samples.

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APPENDIX

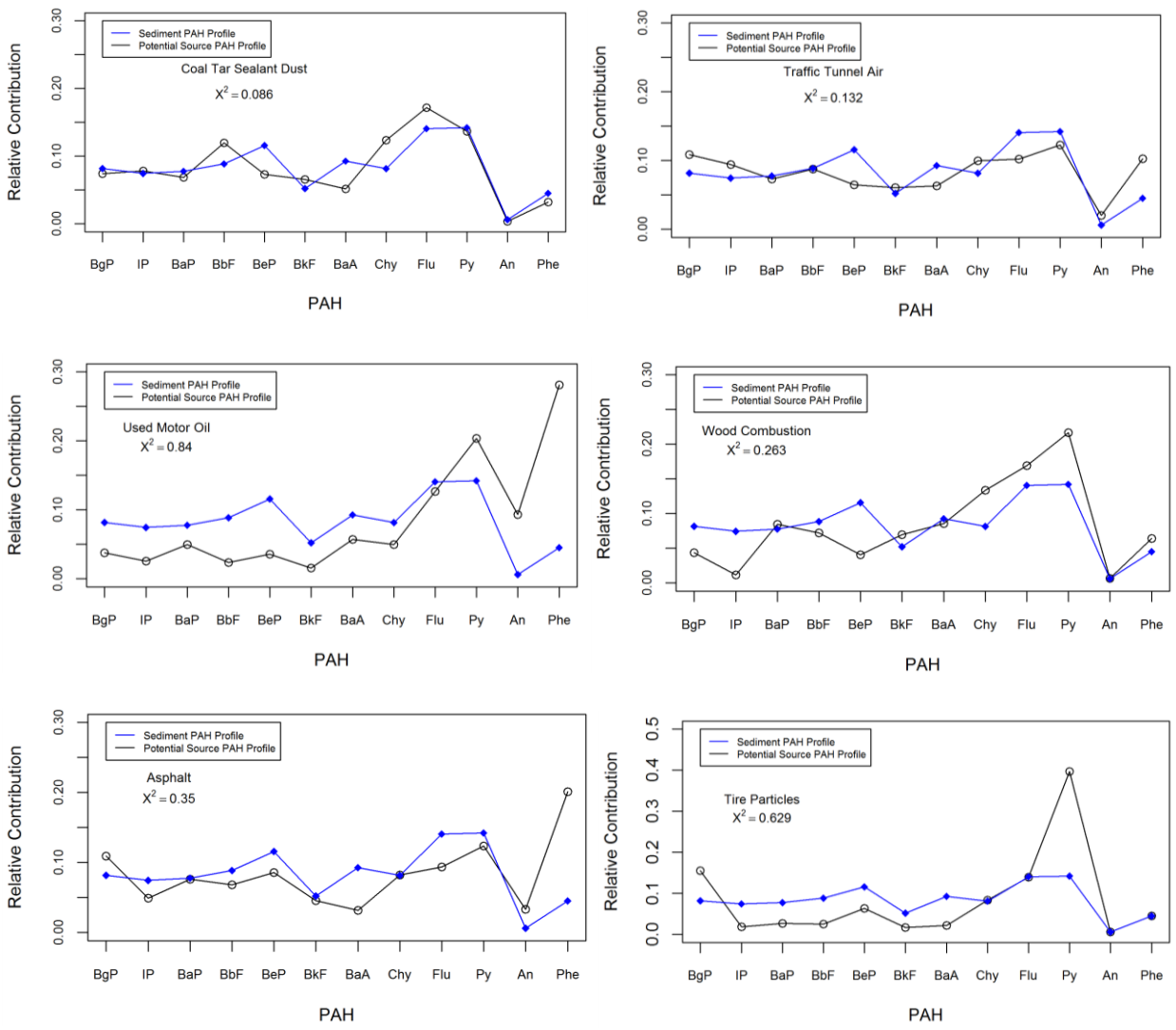

Figure A1. Profile plots for the Ashland sediment sample AS1 (in blue) compared to various common sources of PAHs (in black). The chi square statistic indicates how well the PAH profile in the sediment sample matches the PAH profile of the potential source, with a lower value indicating a better fit.

DANGEROUS DRIVEWAYS
TOXIC PAH POLLUTION FROM TAR-BASED SEALANTS

Tar-based pavement sealants are the primary source of toxic PAH pollution in urban landscapes. Those PAHs are harmful to human health and hurt fish and other aquatic life in our lakes and rivers.

What are pavement sealants?

Pavement sealants, also known as "sealcoats" or "sealers," are the jet-black coatings homeowners and contractors apply to residential, commercial, and industrial driveways and parking lots. There are two main types of pavement sealants on the market today: tar-based sealants (also called "coal tar-based"), and asphalt-based sealants.

The problem with tar-based pavement sealants

Pavement sealants contain ***polycyclic aromatic hydrocarbons*** (PAHs), which are toxic compounds that can ***cause cancer and developmental problems in children.*** The American Medical Association and other public health groups have urged local and state governments to ban tar-based sealants due to their harmful health effects.

How are people exposed to PAHs from tar-based sealants?

PAHs accumulate in soils, household dust, and carpets when particles of tar-based sealants are blown or tracked into homes, schools, and other buildings. The particles come from those sealants being worn down over time by weather, tire abrasion, and foot traffic. The toxic sealant particles are also washed off by rain and spring meltwater, ending up in our local water bodies.

A recent study found that 77% of PAH pollution in Milwaukee streambeds came from tar-based sealants.

How significant is the health risk?

The coal tar pitch used in tar-based sealants is classified as a ***hazardous waste***. Children living in homes where parking lots are coated with tar-based pavement sealants face a ***14-fold increase in cancer risk*** compared to those living next to unsealed lots, according to researchers at Baylor University and the U.S. Geological Survey. ***A lifetime of exposure can increase cancer risk by 38 times.***

CHILDREN LIVING FROM BIRTH TO AGE 6 NEAR PARKING LOTS WITH TAR-BASED SEALANTS HAVE A

14X HIGHER LIFETIME CANCER RISK

Current Tar-Based Sealant Bans:
Ann Arbor, Michigan
Annapolis/Anne Arundel County, Maryland
Austin, Texas
Brown Deer, Wisconsin
Cwlth. of Massachusetts *(use restriction)*
Dane County, Wisconsin
Dexter, Michigan
Elm Grove, Wisconsin
Franklin, Wisconsin
Glendale, Wisconsin
Greendale, Wisconsin
Greenfield, Wisconsin
Hales Corners, Wisconsin
Milwaukee, Wisconsin
Montgomery County, Maryland
North Barrington, Illinois
Port Washington, Wisconsin
Prince George's County, Maryland
San Antonio, Texas
Sheboygan, Wisconsin
Shorewood, Wisconsin
South Barrington, Illinois
State of Minnesota
State of Washington
Suffolk County, New York
Van Buren Township, Michigan
Washington, D.C.
Wauwatosa, Wisconsin
West Allis, Wisconsin
Westwood, Massachusetts
Whitefish Bay, Wisconsin
Winnetka, Illinois
Ypsilanti, Michigan
... plus 30 others (and counting)

"Whether sending their children to a playground or repairing a driveway, Americans are potentially being exposed to harmful carcinogens in coal-tar-based sealcoats."
– *American Medical Assoc.*

How to be PAH-safe:

Don't use tar-based pavement sealants

If you feel you must seal your driveway or parking lot, then use asphalt-based sealants, which have 1,000-times lower PAH levels.

Remove your shoes

If you don't have control over your parking lot or driveway, try to keep sealant dust and soil out of your home by taking off shoes before entering.

Look for hidden PAHs

Tar can have a lot of different names, and some other byproducts can have very high levels of PAHs. To be safe, check the "Material Safety Data Sheet" of the product (try searching online) and avoid anything including CAS #'s ***64742-90-1, 65996-92-1***, ***65996-93-2***, ***65996-89-6, 69013-21-4,*** *or* ***8007-45-2***.

Speak up

Become an advocate in your community against the use of tar-based pavement sealants. More at *cleanwisconsin.org/our-work/pah*.

Environmental impacts

PAHs ***kill small organisms*** living on the bottoms of rivers and streams and can **cause tumors in fish and other large aquatic animals**. This could result in costly impacts on the ecological balance of aquatic environments. Even three months or more after sealants are applied, the tar-sealed pavement runoff can kill fathead minnows and water fleas, two indicator species used to assess chemical toxicity to aquatic life.

Economic Impacts

PAH pollution from tar-based sealants can be a significant burden to taxpayers when municipalities are on the hook for cleaning up stormwater sediment ponds contaminated with PAH-laden sediment. In the Minneapolis metro area, the PAH cleanup from tar-based sealants is estimated to cost taxpayers hundreds of millions of dollars.

Are there alternatives?

Yes. Asphalt-based pavement sealants have up to 1,000-times lower PAH levels and are no more expensive than tar-based sealants. Alternatives such as acrylic sealants or gravel parking lots and driveways have minimal PAH levels. Studies of an early PAH ban in Austin, Texas, show significant PAH reductions in local waterbodies.

How do tar-based sealants compare to other PAH sources?

Other sources of environmental PAH pollution have significantly lower concentrations than tar-based sealants. Fresh asphalt, for example is about 1.5 parts per million (ppm) PAHs. Smoke from wood fires can range from 2 to 114 ppm, engine exhaust 102-370 ppm, and used motor oil around 440 ppm. ***Tar-based sealants are hundreds to thousands of times worse***, at 50,000 – 100,000 ppm.

WE IN WISCONSIN NEED TO FOLLOW THE LEAD OF OTHERS AND END THE SALE AND USE OF HIGH-PAH SEALANTS TO PROTECT OUR HEALTH AND ENVIRONMENT.

Visit ***cleanwisconsin.org/our-work/pah*** *for more information.*

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Number of full-time, (1,700) hrs AmeriCorps members you are applying for:	○ 0 ⊗ 1 ○ 2 ○ 3 ○ 4 ○ 5
Number of half-time, (900)hrs AmeriCorps members you are applying for (limited number available):	○ 0 ⊗ 1 ○ 2 ○ 3 ○ 4 ○ 5
If requesting more than one member, provide a statement explaining your need. Be sure you have enough service for multiple members.	The City of Ashland is seeking to members to assist us with community outreach in green infrastructure and community engagement.
List three activities an AmeriCorps member serving in your organization may be asked to do to build capacity to engage volunteers. (This is not a commitment.)	Working with the host site, the AmeriCorp member will develop outreach materials re: green infrastructure projects, in order to educate elected officials, policy makers, and residents about how these projects work and what they take to complete. Members will design a community volunteer outreach and mobilization program, recruiting community volunteers to support the building and maintenance of the green infrastructure projects under design. Working with the host site, the AmeriCorp member will design and host a series of workshops to engage community volunteers from tribes, schools, churches, social clubs etc. to familiarize community members in how green infrastructure projects work and how they protect the lakeshore/water. The AmeriCorp member will work with the City and other partner municipalities to create a database of interested and willing residential property owners, willing to install green infrastructure projects on their land with the help of community volunteers