second Comment from

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I support the proposed ban of medium and large CAFOS in the Buffalo River Watershed. This action would be a step in the right direction in protecting our state from the well documented harm that a proliferation of swine CAFOs can cause to the water air and public health of our state, especially the sensitive and highly porous karst terrain of our Buffalo River Watershed.

I offer as support to this comment the American Public Health Association's

Policy statement # 20037. Below is the conclusion of that policy statement.

Therefore, the American Public Health Association hereby:
Resolves that APHA urge federal, state and local governments and public health agencies to impose a moratorium on new Concentrated Animal Feed Operations until additional scientific data on the attendant risks to public health have been collected and uncertainties resolved.
Resolves that APHA urge federal and state governments to initiate and support research to quantify more precisely the exposures to pollutants in air, water and soil emissions of CAFOs experienced by communities surrounding CAFOs, as well as to investigate the greater vulnerability of infants and children to harm from such pollutants, deriving from either greater exposure or increased toxicity.

The entire statement is attached.

Please note that APHA urges all governmental entities to impose a moratorium on all new CAFOs. Banning swine CAFOs in the karst terrain of our country's first national River would certainly be a step in the right direction of heeding the warnings of such prestigious research and reviews of the Pew Commission on Industrial Farm Animal Production done in conjunction with the John Bloomberg School of Public Health in 2008. (I submitted this study in an earlier comment). And of the American Public health Association's policy statement. Please note that should you read the entire Pew study you find much to support the contention that the Buffalo River watershed's karst terrain is improper siting of such an operation. Please also note that contamination from these CAFOs also is documented in other states . This contamination is not just from so called catastrophic events such as a hurricane but from over time and poor management problems.

I assert that the state of arkansas does not have the funding for the proper research. Nor the funding for the proper monitoring and enforcement of so called best management practices. We have the opportunity as a state to be proactive and not allow the proliferation of these well documented problems of water , air and public health problems resulting from swine CAFOs.

Please read the following studies , especially Contaminants detected in waste and risk of water contamination :

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Research

Mini-Monograph

Impacts of Waste from Concentrated Animal Feeding Operations on Water Quality

JoAnn Burkholder,[1] Bob Libra,[2] Peter Weyer,[3] Susan Heathcote,[4] Dana Kolpin,[5] Peter S. Thorne,[3] and Michael Wichman[6]

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Abstract

Waste from agricultural livestock operations has been a long-standing concern with respect to contamination of water resources, particularly in terms of nutrient pollution. However, the recent growth of concentrated animal feeding operations (CAFOs) presents a greater risk to water quality because of both the increased volume of waste and to contaminants that may be present (e.g., antibiotics and other veterinary drugs) that may have both environmental and public health importance. Based on available data, generally accepted livestock waste management practices do not adequately or effectively protect water resources from contamination with excessive nutrients, microbial pathogens, and pharmaceuticals present in the waste. Impacts on surface water sources and

wildlife have been documented in many agricultural areas in the United States. Potential impacts on human and environmental health from long-term inadvertent exposure to water contaminated with pharmaceuticals and other compounds are a growing public concern. This work-group, which is part of the Conference on Environmental Health Impacts of Concentrated Animal Feeding Operations: Anticipating Hazards—Searching for Solutions, identified needs for rigorous ecosystem monitoring in the vicinity of CAFOs and for improved characterization of major toxicants affecting the environment and human health. Last, there is a need to promote and enforce best practices to minimize inputs of nutrients and toxicants from CAFOs into freshwater and marine ecosystems.

Keywords: ecology, human health, poultry, swine, water contaminants, wildlife

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Background and Recent Developments

Concentrated animal feed operations and water quality

Animal cultivation in the United States produces 133 million tons of manure per year (on a dry weight basis) representing 13-fold more solid waste than human sanitary waste production [U.S. Environmental Protection Agency (U.S. EPA) 1998]. Since the 1950s (poultry) and the 1970s–1980s (cattle, swine), most animals are now produced for human consumption in concentrated animal feeding operations (CAFOs). In these industrialized operations, the animals are held throughout their lives at high densities in indoor stalls until they are transported to processing plants for slaughter. There is substantial documentation of major, ongoing impacts on aquatic resources from CAFOs, but many gaps in understanding remain.

Contaminants detected in waste and risk of water contamination

Contaminants from animal wastes can enter the environment through pathways such as through leakage from poorly constructed manure lagoons, or during major precipitation events resulting in either overflow of lagoons and runoff from recent applications of waste to farm fields, or atmospheric deposition followed by dry or wet fallout (Aneja 2003). The magnitude and direction of transport depend on factors such as soil properties, contaminant properties, hydraulic loading characteristics, and crop management practices (Huddleston 1996). Many contaminants are present in livestock wastes, including nutrients (Jongbloed and Lenis 1998), pathogens (Gerba and Smith 2005; Schets et al. 2005), veterinary pharmaceuticals (Boxall et al. 2003; Campagnolo et al. 2002; Meyer 2004), heavy metals [especially zinc and copper; e.g., Barker and Zublena (1995); University of Iowa and Iowa State Study Group (2002)], and naturally excreted hormones (Hanselman et al. 2003; Raman et al. 2004). Antibiotics are used extensively not only to treat or prevent microbial infection in animals (Kummerer 2004), but are also commonly used to promote more rapid growth in livestock (Cromwell 2002; Gaskins et al. 2002; Liu et al. 2005). In addition, pesticides such as dithiocarbamates are applied to sprayfields (Extension Toxicology Network 2003). Although anaerobic digestion of wastes in surface storage lagoons can effectively reduce or destroy many pathogens, substantial remaining densities of microbial pathogens in waste spills and seepage can contaminate receiving surface- and ground-waters (e.g., Burkholder et al. 1997; Mallin 2000). Pharmaceuticals can remain present as parent compounds or degradates in manure and leachates even during prolonged storage. Improper disposal of animal carcasses and abandoned livestock facilities can also contribute to water quality problems. Siting of livestock operations in areas prone to

flooding or where there is a shallow water table increases the potential for environmental contamination.

Policy Statement Database

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Precautionary Moratorium on New Concentrated Animal Feed Operations

Policy Date: 11/18/2003
Policy Number: 20037

An estimated 54 percent of U.S. livestock are now concentrated on 5 percent of livestock farms,1 with the largest of such farms getting larger;2 and these industrial-scale, concentrated animal feeding operations (CAFOs) which are, according to Environmental Protection Agency (EPA) criteria, facilities with more than 1,000 beef cattle, 2,500 hogs or 100,000 broiler hens now dominate U.S. livestock and poultry production; and
Increased numbers of CAFOs in an area often are associated with declines in local economic and social indicators (e.g., business purchases, infrastructure, property values, population, social cohesion), which undermine the socioeconomic and social foundations of community health,3 particularly in poor and African American rural communities;4,5 and
CAFOs generate an estimated 575 billion pounds of animal manure yearly.6 CAFO generated manure has constituents and byproducts of health concern including heavy metals, antibiotics, pathogen bacteria, nitrogen and phosphorus, as well as dust, mold, bacterial endotoxins and volatile gases; CAFO-generated manure being uneconomical to transport for any distance,7 it

is typically stored in open or covered pits or lagoons and later spread or sprayed untreated on nearby cropland, posing additional risks to public health; and

Manure pathogens capable of causing severe gastrointestinal disease, complications, and sometimes death in humans include Campylobacter and Salmonella species, as well as Listeria monocytogenes, Helicobacter pylori, and E coli O157:H7, and the protozoa Cryptosporidium parvum.8 Runoff from manure-applied fields can carry human pathogens into surface waters, which often serve as drinking water sources. Epidemiology studies have, in fact, linked several outbreaks involving these pathogens to livestock waste;9 and

Manure land application in excess of the land's absorptive capacity also can lead to excess nitrogen and phosphorus in soil,10 eutrophication of surface waters and algae overgrowth——including some algaes producing human toxins;11-13 and

The emerging scientific consensus is that antibiotics given to food animals contribute to antibiotic resistance transmitted to humans.14,15 Antibiotics, as well as arsenic and other metal compounds,16 -18 are routinely added to the feeds of concentrated animals absent any diagnosed illness——to promote growth and to compensate for the stress of raising animals under confinement——increasing the risks from antibiotic resistance.19,20 These routine, non-therapeutic animal uses account for an estimated 13 million pounds of antibiotics annually, most being identical or very similar to human medicines, as compared to 3 million pounds of antibiotics prescribed for humans.21 Current APHA Policy (Nos. 9908 and 00-LB-5) registers appropriate concern about agricultural use of these medically-important antibiotics;22,23 and

An estimated 25–75 percent of feed antibiotics pass unchanged into manure waste, posing additional risks to soil, water and air quality and public health following land application.24 Pig house dust, in a recent study, was found to contain total antibiotics at a concentration of up to 12.5 mg/kg dust with up to five separate compounds, including tylosin, tetracyclines, sulfamethazine, and chloramphenicol;25 and

In several states, storage pits or lagoons legally can leak millions of gallons of liquid manure,26-28 and often spill or burst.29,30 They are frequently sited on floodplains, below the water table or over alluvial aquifers (formations favored as drinking water sources but more easily subject to microbial contamination);31 and

CAFO manure wastes also include organic dust, molds, bacterial endotoxins and manure-generated gases of up to 400 separate volatile compounds, such

as ammonia and hydrogen sulfide, many of which are known airway irritants, allergens or respiratory hazards;32 -34 and

Numerous studies document serious respiratory problems among CAFO workers, including chronic bronchitis and non-allergic asthma in about 25 percent of confinement swine workers.35,36 Workers exposed to the potent neurotoxin hydrogen sulfide at levels only slightly higher than those at which its odor becomes detectable (5.0 ppm vs .025 ppm), have been found to have accelerated deterioration of neurobehavioral function;37 and

Scientists convened first by the Centers for Disease Control and Prevention (CDC), and more recently by the University of Iowa and Iowa State University, agree CAFO air emissions may constitute a hazard to public health, in addition to workers' health.3 The latter report recommends that "precautions should be taken to minimize both specific chemical exposures (hydrogen sulfide and ammonia) and mixed exposures (including odor) arising from CAFOs. The Environmental Protection Agency and the Agency for Toxic Substances and Disease Registry (ATSDR) have both recommended that ambient exposure limits be set for ammonia and hydrogen sulfide emissions from CAFOs. These recommendations are based on several experimental and epidemiologic studies of non-CAFO populations documenting respiratory symptoms associated with low level exposure to individual chemical components of CAFO air emissions, particularly including ammonia and hydrogen sulfide. Two published, controlled studies of people residing near CAFOs report eye and respiratory symptoms associated with CAFO air emissions exposures "similar to more prevalent and severe symptoms experienced by CAFO workers who are exposed at much higher concentrations of mixed emissions,"38 although it should be acknowledged these studies cannot be construed as certain "proof" that a specific disease(s) among community residents has arisen from a specific chemical, bacteria or aromatic compound in CAFO emissions.

Noting that moratoria on new CAFO construction have been called for by the Michigan State Medical Society, the Canadian Medical Association as well as local boards of health, moratoria generally citing existing scientific evidence for threats to worker health and public health, combined with insufficient data to determine whether in the face of those risks public health is being adequately protected;39-41 and

Considering APHA's recently passed policy (#200011) encouraging as a precautionary principle--"that public health decisions must often be made in the absence of scientific certainty, or in the absence of perfect information"--action to prevent potential harm to reproductive health, infants and children, even if some cause and effect relationships have not been established with

scientific certainty;42 while noting that children suffer disproportionately from asthma; while fetuses, infants and children are more vulnerable to adverse impacts from bacterial and antimicrobial-resistant infections,43-45 as well as from exposure to neurotoxins,46 all health impacts to which existing science suggests that emissions from CAFOs may contribute; and

Considering the health and economic impacts on CAFO workers, as well as evidence, albeit less certain, indicating impacts on children and CFO neighbors from exposure to large concentrations of manure and their subsequent emissions of dust, toxins, microbes, antibiotics and pollutants into air and water.

Therefore, the American Public Health Association hereby:

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