

Sewage Sludge Action Network

Tool Kit for Activists

Information

Land applied sewage sludge (biosolids), a highly complex and unpredictable mixture of biological and chemical pollutants, is harming human health, agriculture, and the environment. Most of the 90,000 chemical compounds in commerce today end up in the waste stream and a large proportion of them, in the resulting sludge. Many of them are highly toxic, persistent, magnify in the food chain, and can damage organisms in parts per trillion. They include carcinogens, mutagens, neurotoxins, endocrine disrupters, solvents, pharmaceuticals, radioactive waste, and antibiotic resistant pathogens. Every entity connected to a sewer can legally pipe its hazardous waste into sewage treatment plants. Land applied sewage sludge generated in our industrial urban centers is probably the most pollutant-rich waste of the 21st century.

Biosolids: Targeted National Sewage Sludge Survey 2009

http://sewagesludgeactionnetwork.com/files/Sewage_Sludge_EPA_2009_Toxic_Report.pdf

Content of Sewage Sludge/Tip of the Iceberg

<http://www.sludgefacts.org/Ref111.pdf>

Current US Regulations

EPA's Office of Water regulates sludge. Despite agency claims to the contrary, this Office also promotes land application. This is a gross conflict of interest. In 1997 the internationally renowned Cornell Waste Management Institute warned what had been known for decades: the current regulations governing land application -- CFR 40 part 503 -- (the 503s) do not protect human health, agriculture or the environment. A 2002 National Academy of Sciences (NAS) report questioned the scientific basis of the 503s and urged EPA to fund health studies of sludge on exposed rural neighbors, rather than depending on chemical-by-chemical quantitative risk assessment to determine safety. However EPA's Office of Water has ignored this and dozens of other NAS recommendations, reneged on its promise to collect ecological data, and continues to cover up a growing body of science and field reports that are documenting serious harm to health, soil, agriculture, and water.

Land Application of Sewage Sludges: an Appraisal of the US Regulations (1999)

<http://cwmi.css.cornell.edu/sewagesludge.htm>

A Critical Review of the U.S. EPA's Risk Assessment for the Land Application of Sewage Sludge. 2011.

<http://www.ncbi.nlm.nih.gov/pubmed/21411425>

Organic Contaminants of Emerging Concern in Land-Applied Sewage Sludge (Biosolids) 2004.
http://www.swrcb.ca.gov/lahontan/board_info/agenda/2010/mar/2_attachment_11.pdf

History and Overview

Sewers, Sewage Treatment, Sludge: Damage Without End
http://www.riles.org/Rockefeller_NS.pdf

The History of Sludge for Agricultural Application
<http://www.motheearthnews.com/nature-and-environment/the-history-of-sludge-for-agricultural-application-zbcz1602.aspx><http://www.motheearthnews.com/nature-and-environment/the-history-of-sludge-for-agricultural-application-zbcz1602.aspx> (2016)

The Dirty Work of "Recycling" Americas Sewage Sludge 2005
http://www.sludgefacts.org/IJOEH_1104_Snyder.pdf

Health Impact

Hundreds of sludge-exposed rural neighbors have reported identical respiratory, gastrointestinal, and dermal symptoms, some of which are chronic and life threatening. Several deaths have been linked to sludge exposure. Some of these adverse incidents have been documented and published in peer-reviewed journals.

The Case Against Land Application of Sewage Sludge Pathogens:
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2094820/>

Investigation of Alleged Health Incidents Associated with Land Application of Sewage Sludges
<http://cwmi.css.cornell.edu/Sludge/Newsolutions.pdf>

Interactions of Pathogens and Irritant Chemicals in Land Applied Sewage Sludge (Biosolids)
<http://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-2-11>

Land Application of Treated Sewage Sludge: Community Health and Environmental Justice
<http://ehp.niehs.nih.gov/1205470/><http://ehp.niehs.nih.gov/1205470/>

Health Survey of Residents Living Near Farm Fields Permitted to Receive Permitted Biosolids
<http://www.ncbi.nlm.nih.gov/pubmed/18171641> 2007

Bioaerosols Generated from Biosolids Applied Farm Fields in Wood County, Ohio
https://etd.ohiolink.edu/rws_etd/document/get/bgsu1131322484/inline 2005

Sludge May be Hazardous to Your Health NRDC Press Release:
<http://www.sludgefacts.org/Ref129.pdf>

Health Impact from Surface Disposal and Stockpiling On Grazing Pastures:
<http://www.newsweek.com/eating-meat-grazed-human-sewage-might-lower-female-fertility-432537>

EPA Finds Record PFOS, PFOA levels in Alabama Grazing Fields
<http://pubs.acs.org/doi/full/10.1021/es803520c?cookieSet=1>

Victims Tell their Story:

<http://www.sludgenews.org/action/>

<http://www.sludgevictims.com/>

Soil Impact

Earth's remaining arable land is precious and must be preserved for future generations. Spreading sludge and other industrial by-products on land — under the guise of fertilizer — must be discontinued, as it is in Switzerland and several other parts of EU countries. Current US regulations permit thousands of unregulated pollutants and inadequately regulated pollutants to accumulate in soil until there is a radical reduction in yields and/or the land is permanently poisoned. Plants and animals can absorb sludge pollutants and this ultimately impacts food and public health in complex ways that are just beginning to be understood.

Courts Finally Realize Spreading Sewage Sludge on Farmland is a very Bad

Idea: <https://www.organicconsumers.org/news/courts-finally-recognize-spreading-sewage-sludge-farmland-very-bad-idea>

Effect of Microbial Activity on Trace Element Release from Sewage Sludge (2003)

<http://www.ncbi.nlm.nih.gov/pubmed/129669>

Computational Improvements Reveal Great Bacterial Diversity in Metal-Contaminated Sludge (Science, vol. 309, issue 5739, 1387-1390, 26 Aug 2005).

<http://science.sciencemag.org/content/309/5739/1387>

Farm Sludge Contaminates Soil with Drugs, Other Chemicals

<http://www.environmentalhealthnews.org/ehs/news/2014/may/biosolids-contaminants>

Health Impact from Surface Disposal and Stockpiling On Grazing Pastures:

<http://www.newsweek.com/eating-meat-grazed-human-sewage-might-lower-female-fertility-432537>

EPA finds Record PFOS, PFOA Levels in Alabama Grazing Fields (2008)

<http://pubs.acs.org/doi/full/10.1021/es803520c?cookieSet=1>

Sludge promoters often argue that using sludge creates healthy soil. Not so. As documented above, irreversible damage can occur when sludge is applied to land. Arable land can be maintained and restored using environmentally sustainable farming methods through crop rotation, no till methods, and adding non-toxic organic materials.

<http://cen.acs.org/articles/94/i10/Regenerating-degraded-dirt.html>

Agriculture Impact

EPA-600/S1-81-026: 1981. *Sewage Sludge -- Viral and Pathogenic Agents in Soil-Plant-Animal Systems*. G.T.Edds and J.M. Davidson. Institute of Food and Agricultural System, University of Florida

<http://nepis.epa.gov/Exe/ZyNET.exe/20016SU5.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1981+Thru+1985&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C81thru85%5CTxt%5C0000013%5C20016SU5.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75q8/r75q8/x150y150q16/i425&Display=p%7Cf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>

Land Application of Sewage Sludges: an Appraisal of the US Regulations (1999)

<http://cwmi.css.cornell.edu/PDFS/LandApp.pdf>

Senate Testimony prepared by Andy McElmurray (2008) Appendix VI, p 232-265. In Lewis, David D. (2014) Science for Sale. Skyhorse Publ. New York, NY.

Health Impact from Surface Disposal and Stockpiling On Grazing Pastures: 2016

<http://www.newsweek.com/eating-meat-grazed-human-sewage-might-lower-female-fertility-432537>

EPA finds Record PFOS, PFOA Levels in Alabama Grazing Fields (2008)

pubs.acs.org/doi/full/10.1021/es803520c?cookieSet=1http://

Death of a Farm: <http://www.sludgefacts.org/Ref93.pdf>
www.sludgefacts.org/Ref77.doc

Water Impact

EPA Office of Inspector General: *More Action is Needed to Protect Water Resources from Unmonitored Hazardous Chemicals (2014)*

<https://www.epa.gov/office-inspector-general/report-more-action-needed-protect-water-resources-unmonitored-hazardous>

Metal Mobilization from Municipal Biosolids Stockpiles (2005)

http://water.usgs.gov/wrri/AnnualReports/2005/FY2005_ME_Annual_Report.pdf

Farm sludge contaminates soil with drugs, other chemicals

<http://www.environmentalhealthnews.org/ehs/news/2014/may/biosolids-contaminants>

Food Impact

Natural attenuation of toxic metal phytoavailability in 35-year-old sewage sludge-amended soil <http://www.ncbi.nlm.nih.gov/pubmed/27007289>

Impacts on Low Income Minority Neighborhoods

Sludge is being spread disproportionately in low income, minority, and mostly African-American neighborhoods. This is a major environmental justice issue. These neighborhoods have neither the funds nor the legal resources necessary to fight a proposed sludge project. Many are not connected to the Internet to get information. Poor rural neighborhoods do not have the political clout of the large cities that are where most of the land-applied sludge originates.

Welcome to Shitdump California 2010

<https://www.nsfwcorp.com/dispatch/shitdump-california/>

Land Application of Treated Sewage Sludge: Community Health and Environmental Justice

<http://ehp.niehs.nih.gov/1205470/>

Science for Sale; op cit Chapter V: Biosolids: Disproportionate Impact on Black Communities. (2014)

Baltimore Sludge Pilot Project Puts Children at Additional Risk (2008)

<http://www.sludgefacts.org/baltimore.pdf>

Other Sources of Information

Activist websites such as:

Citizens for a Sludge-Free Land:

<http://www.biosolidsfacts.org/>

Sludge News:

<http://sludgenews.org/>

Sewage Sludge Action Network:

<http://sewagesludgeactionnetwork.com/>

United Sludge-Free Alliance

<http://ussludgefree.org>

Films/Videos:

Crapshoot. 2003. A history of sewers, and sewage disposal from ancient times to the 21st century. Filmed in Italy, India, Sweden, the US and Canada, this documentary features Abby Rockefeller questioning sewage treatment plants as a solution to processing human and industrial wastes and advocating decentralized water-free composting systems as viable alternatives that do not include industrial waste. She calls sewage treatment plants "superhighways for the nation's toxic wastes". Available from:

<http://bullfrogsfilms.com/catalog/craps.html>

Sewage on Our Farms: a Toxic Betrayal 2008. Produced by Sewage Sludge Action Network this video shows interviews of victims, activists, health care providers, and farmers, whose drinking water has been affected by sludge and explores a number of alternatives to sludge use. <https://vimeo.com/24854061>

Sludge Diet. 2006. Canadian documentary covering illnesses, deaths, and environmental damage linked to sludge exposure and the regulatory failure of government agencies. Filmed in US, Canada, France, Austria, and Switzerland. Interviews with scientists, public officials, farmers, activists, and victims. To order, contact the Canadian distributor Paul Maltais at www.cinefete.ca. A rental copy is available from the Network.

John Stauber, adviser to the Food Rights Network, talks about the spinning toxic sludge as biosolids.

<https://www.youtube.com/watch?v=RTG05oMG3EY>

Anna Werner looks at just what's in the organic compost offered by San Francisco Public Utilities Commission (SFPUC).

<https://www.youtube.com/watch?v=EIlw1M6ARW8>

Is Your Compost Made of Sewage Sludge? Planet Natural Garden Supply 2013.

https://www.youtube.com/watch?v=DkYKBnpkh7k&ebc=ANyPxKqeOxdk25nh_D0I77TMfC0nsdY2XMEJiov6-JsHrGxLpuFqEhep484rckr2UJ4ufg9Tmc-tQnbbpeig0jXIzSxF2mSAbw

For a DVD of VA sludge victims being interviewed, contact Clarence Williams at cwwm3@gmail.com

Johns Hopkins University Responds to Allegations Toxic Sludge Tested as Poisoning Fix in Poor Black Neighborhoods. 2008.

http://www.democracynow.org/2008/5/23/johns_hopkins_university_responds_to_allegations

Action

Approaches about how to ban land application or reduce the risks from sludge exposure will depend on a number of variables, including local and state laws as well as climate, soil type, soil property, water tables, but one approach can be used by all activists: collect accurate, science-based information to counter the claims made by those who promote the practice and disseminate this information to the media, public officials, and legislators through various avenues. For example, educate your local planning board about the harm caused by sludge and urge them to put in place a local restriction before permits are issued. If possible, prevent a sludge project in your community through zoning and planning boards that will promulgate local ordinances. Prevention is easier before permits are issued. The Network can provide samples of local ordinances that are more protective than the federal and state rules.

Individuals rarely have an impact against the powerful sludge lobby, so as soon as you find out that your town or county will be targeted for a sludge project form an *ad hoc* group. Meet in someone's house, elect a chair, vice chair, and secretary/treasurer and choose a name for your group that reflects a positive mission e.g. *Keep Wood County Sludge-Free*, rather than *Wood County Against Sludge*. If time allows, call a meeting to plan strategy. A

Guide on how to prevent, delay a proposed project, as well as how to testify at public hearings is available by contacting the leader of the Sierra Club Grassroots Network

Sewage Sludge Team site:

<https://content.sierraclub.org/grassrootsnetwork/users/caroline-snyder>

Using county parcel maps (e.g., county GIS map) and public records of parcel sites permitted to receive sludge, create a county wide map identifying all parcels permitted to receive sludge.

At sites where sludge has already been spread, create an online network of those in the immediate vicinity (e.g., one mile) of a sludged site to track illnesses coincident with exposure to sludge using the Nextdoor app (nextdoor.com), and, where appropriate, organize for action.

Share the work. Involve others by creating entry level volunteer tasks such as handing out fact sheets, telephoning, tabling at fairs, festivals, farmers' markets and conferences.

Help people impacted by sludge problems and stick with them. Help them understand land use restrictions and how to request protections such as protective setbacks from where sludge is spread.

Contact colleges about engage students as interns - students may move on but you will have educated them.

Keep up morale. Realize you are not alone. Celebrate each small success. Maintain dialogue with other groups, especially regionally. In numbers there is power.

Locate a willing and knowledgeable person with personal experience with sludge issues and campaigns to help mentor you through sludge issues and advocacy tactics.

Working with the Media

Arrange to submit an Op-Ed, submit letters to the editor, comment online about articles dealing with sludge. Chances of getting your Op-Ed and letter published increase if your communication is short and succinct.

Pay for informational ads in newspapers and on talk shows.

Never criticize reporters for publishing misinformation. Most likely they simply did a quick Internet search trying to meet a deadline. Your role is to counter this misinformation by providing facts, credible sources, links, etc. Offer to meet with reporters and show them sites where sludge is causing damage. When contacted by reporters for an interview, have your information ready and be prepared for questions. Since the media believes that articles need to be "balanced" be prepared to counter arguments being used by those who promote sludge. Keep it simple. Our job is to convey complex legal and technical issues to readers and listeners that are, for the most part, neither scientists nor attorneys.

Using the Internet

Create your own website forum dealing with sludge to promote an exchange of ideas between proponents and opponents. Also participate in related blogs. Facts and truth and

science are on our side, so do not be afraid to take on proponents in a context where you can clearly and dispassionately convey the facts. Communicate with other activists through webinars and the social media. Use Twitter, Facebook, and YouTube to publicize current sludge battles or tell the story of a victim.

Reaching out to the Public

Treat the landowner (e.g., farmer) as an unintended victim of exposure to sludge. (Note: The sludge industry thrives on pitting the landowner/farmer against impacted neighbors.)

Reach out to organizations by topic, i.e. farming, home gardening, public health and child health related groups.

Educate "uncritical and unsuspecting" owners of lands accepting sludge to inform them of their risks and liabilities.

Attend meetings on other topics and bring up sewage sludge problems.

Use public meetings such as your City Council - get on agendas or use public comment time.

Those planning to speak at public hearings should meet before and divvy up who will be saying what. Since you usually have only 3 to 5 minutes don't repeat what someone else has said. Just say you agree with previous commentators and then make your point. What does not fit into your 3-, 5-, or 10-minute time allotment can be given to the board as a handout. Practice reading your comment aloud, write it out, especially if you have never spoken in public and tend to get nervous. Always challenge misleading comments by the opposition. Be prepared for follow up questions from the board. If you do not know the answer, tell the board you will check your files and provide it after the hearing.

Identify and publicize local and out-of-state sources of sludge, sludge hauling businesses, and application storage and disposal sites.

Create maps of past, current, and potential application sites and post them on the Internet.

Organize meetings or provide information tables at libraries, churches, fairs, and farmers' markets.

Keep the topic mentioned in local papers and magazines. Rent billboards.

Organize tours to sludged areas and wastewater treatment plants (anticipate PR opportunity for industry and offer science and personal experience as proof that they are misinformed).

Show *Sludge Diet* and other videos.

Have sign-up sheets at every event.

Create inexpensive business cards for easy communication contact information.

Provide model handouts, posters, postcards and photos.

Photos - always carry a camera. Create Vimeos. Interview sludge victims.

Put stories and photos on the Internet.

Offer guest speakers.

Use radio ads to invite people to meetings and film showings.

Working with Medical Professionals

Share information about health impacts with health care providers.

If you believe you or your family's or your neighbor's health have been harmed by sludge exposure, and your provider concurs, ask them to write a letter of confirmation.

Use the current concern about antibiotic resistance by pointing out that sewage treatment plants breed superbugs and that sludge exposed individuals have contacted MRSA.

Working with Attorneys

Avoid litigation unless there is a clear case of violating existing laws (e.g. Flint) and you have secured funds to counter the powerful sludge lobby. Litigation is costly and can drag on for years (e.g Kern County) or decades (Hinkley). Instead, investigate *pro bono* legal services and concentrate on strengthening your grassroots efforts to change local, county, and state laws. One way to do this is to include attorneys as members of your organization.

Working with Realtors

Formally inform local realtors and realty associations of documentation regarding the risks associated with using sludge as fertilizer and of the use of sludge in the jurisdiction (e.g., county) in question (Note: Many states require realtors to divulge such information to their clients).

Point out that formal records of areas treated with sludge often result in lower property values.

Point out to realtors and county officials that lower property values result in a lower tax base (i.e., for funding schools and public utilities).

Ask realtors to have their business association take a policy position against land applied sewage sludge.

Working with Banks and Credit Cooperatives:

Banks and Credit Cooperatives require loan applicants for large tracks of land to complete an environmental hazards assessment form in which they must declare the presence and/or use of hazardous material, often specifically referencing sludge (e.g., "Sludge from sewage treatment plants and other hazardous industrial material."). As noted under the above section titled "Action," create a GIS based map depicting parcels within the jurisdiction (e.g., county) that are permitted to use sludge as fertilizer. Using this map or other sources of documented evidence of the use of sludge as fertilizer (e.g., public records such as permits to use sludge as fertilizer and county parcel maps depicting such usage), advise banks and cooperatives assuming mortgages which tracks of land have been granted sludge permits.

Partial List of Organizations Opposed to Using Sludge as “Fertilizer”

Sierra Club, the Natural Resources Defense Council, Rodale Institute, the National Farmers Union, the Environmental Working Group, the Center for Food Safety, the Institute for Agriculture and Trade Policy, Friends of the Earth, International Center for Technology Assessment, the Resource Institute for Low Entropy Systems, United Mine Workers of America, Community Environmental Legal Defense Fund, Environmental Research Foundation, Center for Media and Democracy, Organic Consumers Association, Science and Environmental Health Network, Center for Biology of Natural Systems, Kern Food Growers Against Sewage Sludge, Sustainable Bronx, Pennsylvania Environmental Network, Center for Sludge Information, United Sludge-Free Alliance, Blue Ridge Environmental Defense League, the Precautionary Group, Sewage Sludge Action Network, Citizens for Sludge-Free Land.

Partial List of Food Processing Companies that do not Accept Produce Grown on Sludge-treated Soils

Allen Canning Company, Siloam Springs, Arkansas, Campbell Soup Company, Comstock Michigan Fruit Division, Dean Foods Vegetable Company, Green Bay WI (Birds Eye products) Del Monte, Heinz, National Food Processors Association, Nestle USA, Perez Packing, Firebaugh CA, Progresso, Pillsbury, Green Giant, Totinos, Jenos, Haagen Dazs, Martha White, Old El Paso, Seabrook Farms, Stanislaus County Farm Bureau, Tri Valley Growers, Van Den Berch Food Co, Vermont Family Farms Milk, Western Growers.

Fund Raising

Pass hat at public meetings and have a donation jar on the table.

Seek donations of items or services for auctions, yard sales or parties.

Sell relevant books.

Sell healthy snacks at Farmers Markets.

Seek grants from those who fund protecting children, environmental justice, etc.

Ask friends to attend local fundraisers.

Feature films (like *Sludge Diet*) or celebrity speakers.

Use the Internet to raise larger sums:

<https://knowhownonprofit.org/how-to/how-to-use-the-internet-for-fundraising>

Alternatives to Land Application:

No sludge disposal/use option is entirely without some environmental impact. Toxic pollutants, once in the waste stream, cannot be magically removed. But all currently available alternatives are preferable to spreading sludge on land, deceptively calling it an organic natural fertilizer that needs to be “recycled.” Approaches to safer sludge management will vary from region to region and depends on many variables.

An interim solution working in many areas is to place sludge in properly sited and well-managed subtitle 2 landfills and collect the resulting methane as a source of non fossil fuel. Long-term solutions being used in many EU countries include some form of gasification. Something needs to be done with the millions of tons of sludge that are being generated every day. Unless there is a strong science-based local and state grassroots movement against using the planet's dwindling arable soil as a repository for hazardous waste and other pollutants, nothing will change.

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