PO Box 422 ■ Tamworth, NH 03886-0422
www.nebiosolids.org

phone 603-323-7654
fax 603-323-7666
info@nebiosolids.org

Cooperatively promoting the environmentally sound recycling of biosolids and other residuals

A Film Review
Crapshoot: The Gamble with Our Wastes

by Ned Beecher

New England Biosolids and Residuals Association
Tamworth, NH USA
603-323-7654, www.nebiosolids.org

"Underground, the city has a body like our own… Like a living entity, the city purges its waste…Waste belongs to no one, and we send it away. To where, no one knows."

So begins the compelling, well-crafted short film *Crapshoot: The Gamble With Our Wastes,* a 2003 production of the National Film Board of Canada. This documentary, directed and edited by Jeff McKay, questions the widespread sewering of modern cities and explores the environmental and public health impacts of sewage effluents and biosolids recycling. The film's promotional description states (http://www.bullfrogfilms.com/catalog/craps.html):

> "A hazardous mix of solid and liquid waste is flushed into the sewer every day. With literally billions of gallons of water passing through municipal sewer systems - composed of unknown quantities of chemicals, solvents, heavy metals, human waste, and food - the question becomes: where does it all go? And what effect does that have on us?"

A combination of interviews and narrated images, *Crapshoot* reviews the history of sewers, from Rome to modern times. For example, *Cloacina* was the goddess of the Roman sewers, (the sewers were called "*cloaca maxima*"), the narrator explains, and those sewers "purged the wastes of one million residents into the Tiber River." In contrast, the Dark Ages "were rank with sewage in the streets."

From this beginning, the film seems to support the widely held view, supported by considerable data, that sewers have been critical in improving public health, especially during the urbanization that has occurred since the industrial revolution began in the 19th century.

But, as the film continues, it focuses more on impacts on the environment from the modern wastewater treatment system, taking the view that sewering and wastewater treatment create problems ("the glass is half empty"), rather than the view, held by wastewater management professionals, that wastewater treatment reduces what was, in the past, and could be, much larger environmental and public health problems from uncontrolled sewage ("the glass is half full").

Crapshoot looks at the example of the Ganges River in India, where "340,000 times the pollution level considered safe" is said to be the result of sewers emptying into it. (This statement begs the question, what pollutant is at that level? Certainly not all.) Switch to St. John's, Newfoundland, where, the film says, the discharge of raw sewage into the "closed, bowl-shaped" harbor is "fouling our own nest." Video footage and interviews underscore these apparently appalling situations.

To this point in the film, those involved in wastewater treatment in the U.S. will nod their heads, agreeing that the situations shown need some attention, probably in the form of improved wastewater treatment. The discharges to the Ganges and St. John's harbor are substandard for modern wastewater treatment and would not be permissible in the U. S.

But *Crapshoot* takes a different turn: sewage treatment is "the crucible in which we hope to clarify the water," *but* it cannot do the job, the film suggests. It graphically shows and talks about all of the chemicals, pathogens, and other contaminants in wastewater. It asks, "what are the effects of treated effluents?" and then turns to the dangers of recycling "sludge" to land ("sludge" refers to untreated sewage solids, which are not land applied – only treated solids, or biosolids, can be legally land applied). The remainder of the film questions the wisdom of sewers and the effectiveness of wastewater treatment.

It is at this point that interviews with Laura Orlando, the Director of the Resource Institute for Low Entropy Systems (RILES, www.riles.org/sludge.htm) and Abby Rockefeller, President of RILES and President of Clivus Multrum (a composting toilet manufacturer) begin to appear. RILES was the media contact organization for the 2003 petition to EPA requesting a ban on the land application of biosolids. (The other lead organization in that petition was the Center for Food Safety (see http://www.centerforfoodsafety.org/sewage_slu.cfm; Rockefeller serves on that organization's Advisory Board along with John Stauber, co-author of *Toxic Sludge is Good For You,* a critique of the public relations industry that includes a chapter-long swipe at "sludge").

In a *New Solutions* abstract (one of ten from the November 2002 Boston University conference on sludge), Abby Rockefeller states (http://baywood.metapress.com/app/home/issue.asp?wasp=bn42d3wxln5rnl5hlk1p&referrer=parent&backto=journal,9,28;linkingpublicationresults,1:300327,1), "Spreading sewage sludge on land is but the latest in the compounding of environmental damage from sewerage. This practice must be banned and there must be a federal reorientation of all technology dealing with human excreta and the waste materials from industry and society that now are carried away by sewers. The reorientation must center on biologically based on-site pollution prevention and resource recycling technologies mandated through a revised Clean Water Act."

Crapshoot takes almost as strong a stand, focusing on some poorly managed and regulated biosolids recycling programs. During the second half of the film, Orlando, Rockefeller, Maureen Reilly (a concerned citizen in Ontario, manager of the "Sludgewatch" listserv, and a credited advisor to the film), and others discuss the concerns that are commonly voiced about biosolids recycling and septage land application: chemicals (e.g. PDBEs), heavy metals, pathogens, truck traffic, odors. Footage highlights obvious problems—problems about which people were right to have concerns – such as visible refuse at a septage land application site (something that should not be tolerated, should be addressed by regulation and enforcement, and that many biosolids and septage managers see as the result of poor management practices). It describes sites where "the farmer doesn't know what's in that

truck" and where there has been poor communication with neighbors (also poor management practices about which Ms. Reilly has a legitimate gripe).

But the film goes further, lumping all biosolids recycling into the same category, calling land application "a gamble" and, for instance, castigating the model $100 million Edmonton co-composting and recycling operation that produces a biosolids product. Rockefeller says "people don't get it; they are out of touch." The statements are black-and-white and unforgiving generalities. They presume that the thousand biosolids recycling programs around the continent are all the same. They're not.

Descriptions of *Crapshoot* say it includes discussion of alternatives to sewers, effluents, and sludges. But it discusses only two. First is a solar aquatic greenhouse in Nova Scotia that is a visible part of a community and helps people understand the importance of protecting wastewater quality. Second is composting toilets, which, Rockefeller notes, are "quietly waiting to be noticed." (I will not join those who cynically suggest Ms. Rockefeller has some personal financial interest in taking this position, because I am aware that her involvement in the Clivus Multrum company is driven by her values and convictions that this is the right technology.)

Solar aquatic greenhouse wastewater treatment systems have been around a while, and they are educational and can be effective. But most of their treatment comes in the same way as conventional wastewater treatment: by the activity micro-organisms. And, in the end, they still collect sediment – sludge – that has to be dealt with in some way and will contain the kinds of trace chemicals and metals that people are concerned about in traditional sewers. They still rely on controlling what goes down the pipes that lead to them.

Composting toilets have proven their worth in many applications, from high mountain huts in New Hampshire to community toilet facilities in Central America. But applications in the masses of housing units and businesses in urban areas are rare. And composting toilets only take care of one form of waste that is usually water-borne (human waste); there remain all of the other waterborne wastes, from showers, clothes washing, dishwashing, businesses, and more. *Crapshoot* offers no alternative method for dealing with these.

Yes, those involved in developing, or re-developing, communities should consider these alternatives, among others. But our larger urban areas will require the use of sewers and wastewater treatment and the management of the resulting effluents and sludges for a long time to come. There is no magic solution. This is the larger dilemma that *Crapshoot* avoids entirely: if not land applied for treatment and dispersal in soils, should sludge be landfilled? Incinerated?

What many water quality professionals and those interviewed in *Crapshoot* are more likely to agree on is the importance of understanding and controlling what is in wastewater. Rockefeller puts it this way: "We should choose the chemicals that become part of our waste…. Every industry should be recycling its own wastes, and if they can't, then that waste should not be produced." That is a sentiment that is hard to argue against—but which can be hard to live by. For example, one of the current concerns with biosolids land application is the potential impacts of pharmaceuticals. Should those whose bodies excrete unused portions of drugs be denied the drugs so that that waste is not produced? Industries and businesses are the sources of trace pollutants in wastewater and biosolids, but, as was noted in *Crapshoot* by a concerned citizen in Sweden, personal care products we all use are also implicated. Wastewater management in the U. S. involves required industrial pretreatment, making big dumps of

industrial pollutants less likely. So wastewater and biosolids quality can end up being dependent on the decisions of each and every one of us.

In the end, the problem with *Crapshoot* is that it begins from a position of advocacy – the opinion that land application of biosolids and effluents cause significant harm to public health and the environment – a position derived, apparently, from committed people who appear in the film and have long vocally opposed biosolids land application and questioned the sewering of communities. The filmmakers relied on the more extreme statements they gathered, to heighten viewer concern. (Other people, including some who work in the wastewater treatment profession, were interviewed for *Crapshoot,* but were not included in the final edit, according to National Film Board producer Joe MacDonald.) *Crapshoot* selects examples and arguments to support its advocacy position. In doing so, it chooses to ignore the many documented public health and environmental benefits that sewers and wastewater treatment have realized over the past century – vastly reduced incidences of water-borne diseases and improved surface water quality. The film fails to answer, for the majority of water-borne wastes, the question that it implicitly poses: "What shall we do with this stuff?" Like any advocacy, *Crapshoot* decides to stick to black-and-white statements, such as Orlando's claim that treated sludge (biosolids) is "a very dangerous material" and Rockefeller's "it's bad thinking all along the way."

While the creators of *Crapshoot* may have been aiming to produce a documentary that would stimulate constructive public discussion, they failed to provide viewers with even the most basic information about wastewater treatment and related activities. And they avoided the opportunity to discuss the complexity of the issues involved in this field of waste management. Communities where *Crapshoot* is shown may have discussions, but those discussions will not be well informed if this film is the only source of information. The result can be decisions on public works projects that are driven by hype — decisions which can be costly, taking resources from more significant environmental and public health problems. Anyone watching *Crapshoot* should be advised to review alternative points of view on this subject, a subject that no one likes to talk about, but which is important to the continued well-being of modern society.

For those of us working in the wastewater management field, some of the concerns expressed in *Crapshoot* are worth listening to – they are concerns that current research in wastewater treatment and biosolids management are attempting to address. Wastewater and sewage sludge management can improve, and should continue to strive to, especially in the kinds of cases highlighted in the film (discharges of raw sewage or sludge, as in St. John's harbor, are unusual in the U. S. today; likewise, a majority of biosolids management programs operate constructively and as good neighbors in communities around the continent–unlike near Ms. Reilly's home). But there should be no mistake, *Crapshoot*, while it is a fine piece of film-making, "is not journalism," as producer Joe MacDonald says, it is advocacy ("We can accept that description," says MacDonald).

Crapshoot is available in VHS and DVD formats and is distributed in Canada by the National Film Board of Canada and in the U.S. by Bullfrog Films. A VHS copy is available for loan to NEBRA members for private viewings only; contact the NEBRA office.