



4-13-2010

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### Recommended Citation

Hatch, Rachel, "New Documentary Features Alumna's Personal Struggle to Shed Light on Cancer's Connection to Environment" (2010). *News and Events*. 1409.  
<https://digitalcommons.iwu.edu/news/1409>

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## New Documentary Features Alumna's Personal Struggle to Shed Light on Cancer's Connection to Environment

April 13, 2010

BLOOMINGTON, Ill. – As Illinois Wesleyan University alumna Sandra Steingraber stood over a box filled with the latest edition of her book *Living Downstream* in her home in Trumansburg, N.Y., she announced her goal for the book, which is an unorthodox one for authors. “I want this book to become antiquated really fast,” she said.

[\*Living Downstream\*](#), originally published in 1997, chronicles Steingraber's personal journey – both as a biologist and as a cancer survivor – to explore toxins in the environment as a cause of cancer. “I'm hoping all the problems in this book will be eliminated,” Steingraber said. “I'm hoping there will be no need for a third edition.”

The 2010 edition of the book is being released this month, along with a new documentary film of the same name. “Sandra's book struck me because it was so visually written,” said Chanda Chevannes, the film's producer and director. “She has a unique writing style. Through it I could see everything, from the Illinois landscape to the insides of our bodies. I thought, ‘This is the most cinematic book I have ever read.’”

The film is currently in [limited screenings](#), and is set to be shown at the Performing Arts Center at Illinois Central College campus in East Peoria at 7 p.m. on April 17. She hopes to tour with the movie through Central Illinois this October. “I like the fact that this movie will be able to reach communities in an entirely new way,” said Steingraber. “It is an accessible vehicle for this message.”

The message is one Steingraber has been studying since she was a biology student at Illinois Wesleyan, when – at the age of 20 – she learned she had bladder cancer. “After I was diagnosed, I returned to my room at Gulick Hall,” Steingraber remembered. Back then Mennonite Hospital was close enough that I could walk to my medical appointments. Once there, I would take off my college student clothes, and put on that blue, cotton gown that identifies you as a citizen of another world: the world of the cancer patient.”

Growing up in nearby Pekin, Ill., Steingraber knew cancer ran in her family, but she was adopted. It was then she began to look for causes of cancer that went beyond genetics. What she found was a high level of cancer cases in her community, which rests along a river that is home to several industrial plants. As she continued her work – earning a master's degree in English from Illinois State University in 1982 and a doctorate in biology from the University of Michigan in 1989 – she became frustrated that scientific studies rarely seemed to translate to information doctors were giving to patients. “I decided to help bridge what scientists know and what doctors know,” said Steingraber.

The result of that work was *Living Downstream*. The title stems from an African story about a village that sees a large number of drowning victims. Villagers become so obsessed with finding new ways to resuscitate the victims that they neglect to notice the person living upstream who is

pushing people into the river. So it is with cancer, Steingraber asserts. Society is so obsessed with finding a cure, it has forgotten to look for a way to eliminate the cause.

In the book and the film, Steingraber's personal reflections are interlaced with ongoing studies of toxins released into the air, earth and water. Of the more than 80,000 synthetic chemicals used today, Steingraber and Chevannes decided to focus on two – PCBs once used at industrial sites, and atrazine, which is one of the most used agricultural herbicides in North America. "Illinois is the center of a whole bulls eye for atrazine use," said Steingraber, who has an emotional moment in the film when she visits one of her favorite cousins. There she tries to come to terms with her respect for his profession as a farmer, and her pain that he uses atrazine, which she believes can contribute to cancer.

"I loved that Chanda chose PCBs and atrazine to highlight for the film," Steingraber said, noting that PCBs were abolished in the 1970s, but more studies exist today on the dangers of atrazine than were available on PCBs when they were abolished.

"PCBs have a historical message to share," Chevannes said. "They were banned more than 30 years ago, yet we still find them in our bodies. This shows us that many chemicals can exist for a long time after they are released. They don't just go away."

Chevannes shot the movie over a year, traveling between checking in with Steingraber and destinations over North America – from a study of the effects of atrazine on frogs in California to the on-going PCB clean-up in Buzzards Bay, Mass. "Chemicals like atrazine do not stay in one place once they are released. I wanted the film to follow the chemicals as they traveled, so people would know how far they go," she said.

Even with the examples of science, Steingraber is the center of the film, acting as its core and perhaps even its conscience. "I thought telling my personal insights would be a more meaningful story than just offering the facts, and reducing people to points of data," she said. "It was my way of saying, 'Here's the autobiography of one data point.'"

Steingraber allowed the filmmaker into the personal world of being a cancer survivor. One scene followed Steingraber into her annual checkup with an urologist. "I am usually too busy concentrating on what the doctor will say to think too much about my exams," she said of the very personal situation. "Seeing it up on screen was actually rather liberating. I like the idea that we can demystify the whole process."

After the publication of the first edition of *Living Downstream*, Steingraber became in demand as a speaker. She has been invited to communities all over the U.S. and across the Atlantic Ocean to speak on the silent dangers of environmental toxins – from Alaska where chemicals poisoned a salmon stream, to Ireland where farmers inadvertently poisoned their water supply with insecticides. Her demand has not slowed in the 13 years since the original book was published, and she has earned many honors and accolades along the way.

Steingraber has been compared to fellow biologist Rachel Carson, who exposed the dangers of DDT in the 1962 book *Silent Spring*. “It’s amazing to me that Carson was silently dying of cancer when she was giving testimony to Congress on the dangers of DDT,” said Steingraber.

The dangers of silence are a recurring theme in *Living Downstream*. “We have to be able to talk about cancer, and what might cause cancer,” Steingraber said. “Silence is acceptable for those who are sick because society wants people to be well.” There is either silence, she said, or labels. “Either you have cancer or you are a cancer survivor. Either you make it or you don’t. It makes people really uncomfortable not to have a pronouncement. But that doesn’t happen in real life. So a cancer patient in that waiting period usually remains in silence.”

At the end of the film, it is Steingraber who is in a period of “watchful waiting.” While filming, she received a call that her lab work was inconclusive – not a positive reoccurrence of cancer, but not a clean bill of health either. “The truth is cancer patients live so much of their lives in ambiguity,” said Steingraber, who decided not to discuss the retesting results she did after the movie, nor her current health condition. “I want to keep that message of uncertainty in the forefront. That feeling is a tension that is constant, not just before a radiation treatment or chemotherapy. It is always there, even 30 years later.”

Chevannes supported Steingraber’s request not to follow the inconclusive test results to a definitive answer. “It was difficult. Filmmakers are always looking for a tidy end,” she said, “but cancer survivors do not have that. Even if there is a good exam now, there is always the exam next year.”

Even as her own future may be in question, Steingraber has hope for the future of society to look upstream when it comes to cancer. “I’m hoping the burgeoning environmental rights movement will solve some of the problems,” she said, noting many of the problems of both energy and health stem from the use of fossil fuels. “Easing our dependency on fossil fuels is already on the collective to-do list. An investment in green chemistry and green energy is an investment in cancer prevention,” she said.

The new edition of the book is filled with recent advances in the study of cancer. Steingraber said she spent a lot of time learning about epigenetics, which is the study of how changes in the environment can turn on and off genes in appropriate or inappropriate times. “Now we are not just looking at someone’s genes, but also the environmental signals that affect those genes,” she said.

She has also seen great strides in analytical chemistry, which allows scientists to measure pollution in people using methods developed for detecting toxic chemicals in food, such as applesauce or fish. The Centers for Disease Control is using biomonitoring to measure the level of contaminants in a cross-section of the nation’s population. “Now we can say with certainty there are PCBs showing up in our blood, when before we were just guessing that they were there. It is a starting point for investigating,” she said.

With 80,000 synthetic chemicals in use, the idea of change may seem too daunting to begin. Yet Steingraber calls on people to become ‘carcinogen abolitionists,’ where the only fault is not to

act. In the film, she proclaims, “As a woman with cancer, who grew up in a county with hazardous waste sites, several carcinogen-emitting industries and public drinking water wells that – from time to time – show detectable levels of toxic chemicals, I am less concerned about whether the cancer in my community is more directly related to the dump sites, the air emissions, the occupational exposures or the drinking water. I am more concerned that uncertainty is too often parlayed into an excuse to do nothing,” she said.

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