



SILENT SPRING INSTITUTE

CELEBRATING 25 YEARS >>

2018 Impact Report

Thank you
for leading
the way



The problems we face are truly frightening...

- Toxic chemicals in products we use every day are increasing our risk of cancer.
- Drinking water for millions of Americans contains chemicals linked to serious health problems.
- Regulation of countless chemicals in our environment is inadequate or nonexistent.

*...and that's just the tip
of the iceberg.*



Thank goodness donors like you are leading the way to prevent cancer by eliminating these dangerous threats.

The following pages tell stories of some of the amazing things your generosity accomplished in 2018.

➤ *We invite you to take a look.*

» THANK YOU for helping make laws
that save women's lives



Now cancer-free after 16 weeks of grueling chemotherapy and a double mastectomy, Nicole shares her thoughts about cancer and how Silent Spring is helping her beat it.

“I didn’t pick firefighting—it picked me. It just happened to be what I was meant to do. I was the very first woman to join the Mashpee Fire Department 28 years ago. I absolutely love my job. We’ve known for a long time about the high incidence of cancer among firefighters. Every year, we hear about more and more of us getting sick. The numbers are overwhelming.

Even so, I was surprised when I was diagnosed last August. I have no family history. I work out five days a week. I never even took Advil for anything.

It hit some of the guys at the firehouse really hard. They said, ‘This is the woman that does triathlons. This is the woman who stinks up the kitchen, making broccoli and brussels sprouts for breakfast.’

Since then, I’ve had 16 weeks of chemotherapy and a double mastectomy. I lost all my hair and a lot of my fitness. I haven’t been able to work or ride

my Harley. My life has been on hold.

But I never had to worry for one minute about paying for my treatment or losing my job, and that’s because of the people at Silent Spring Institute.

Just one month before my diagnosis, the ‘presumption bill,’ a bill that provides paid leave for firefighters with work-related cancer, was signed into law. Thanks to Silent Spring’s work supporting that bill, my breast cancer treatment was covered.

I just got the results of my follow-up exam. The report said, ‘no residual carcinoma identified.’ Those are the words! I literally went to sleep holding that report in my hands.

When people ask if I’m going back, I say I have full intentions of returning—cancer won’t stop me from going back to the career I love! **And I’ll never stop fighting for safer conditions for firefighters.**”

Nicole, shown above before her cancer diagnosis, is at her happiest on her Harley. She’ll be riding again soon.

Your donations at work

Fighting cancer is even tougher than fighting fires

THANKS TO YOU, stress about the high cost of treatment was not part of Nicole’s fight.

After Fire Lt. Nicole Stanley was diagnosed with breast cancer last August, she became the first woman to take advantage of a new Massachusetts law that provides paid leave and continuing medical benefits for firefighters with work-related cancer.

Without your support of our work at Silent Spring Institute, Nicole might not have been

entitled to that coverage. Initially, the proposed bill did not include female cancers, such as breast or reproductive cancers.

That changed when we shared our research with lawmakers showing that female firefighters face an increased risk of breast and reproductive cancers resulting from exposure to toxic chemicals found on firefighting gear, in firefighting foam, and in the smoke and fumes released during fires.

Protecting the female firefighters who risk their lives to protect us

It’s not surprising that firefighters have higher cancer rates than the general population. During a fire, they breathe in a slew of toxic chemicals released from burning furnishings, buildings materials, and consumer products. We know that many of these toxics are carcinogens.

Most of the research about cancer in firefighters comes from studies on men. Silent Spring

changed that when they formed the Women Firefighters Biomonitoring Collaborative, along with San Francisco firefighters, scientists at University of California, Berkeley, and health advocates.

This group is comparing blood samples from more than 80 female firefighters with those of office workers, allowing scientists to identify exactly which chemicals firefighters are exposed to on the

job. The findings will make it possible to develop targeted strategies for reducing the toxic exposures associated with breast cancer and other diseases.

Next up: using this same methodology to test nurses for toxic exposures. **The goal?** Preventing cancer in the first place, so we don’t have to worry about passing laws like the one that provided Nicole’s medical coverage.

» Why I give to Silent Spring Institute

We have the power to lower cancer risks— Silent Spring shows us how

Jill Balmuth had long known about a couple of cases of breast cancer in her family's past. Her father's grandmother and his first cousin both died of it.

SEVERAL YEARS AGO, Jill began researching her family tree. She was shocked to discover just how pervasive breast cancer was in her family.

Going back four generations, she found one breast cancer death after another. In addition to the two she already knew about, she learned that her father's great-grandmother also lost her life to breast cancer, as well as two cousins from Jill's own generation. Another cousin was diagnosed but survived.

Even more alarming, she spotted an eerie trend: those diagnosed in recent decades became sick much younger than her ancestors from long ago did. Those with breast cancer who were born in the 1800s got sick in their 40s or 50s. The ones born since 1950 were only in their 20s when they got sick.

"According to Silent Spring's research, there may be an environmental component at work. I feel that too," she says. After World War II, industry began releasing large quantities of synthetic chemicals into the environment, including pesticides, plastics, solvents, and other chemicals that science has shown to be linked to breast cancer.

"Knowledge is power," says Jill, "and the more you know, the better." That goes for your own health as well as the steps we all can take

to protect ourselves against carcinogens in the environment.

That's why Jill is so enthusiastic about donating to Silent Spring. She loves the action steps we recommend because they're easy to do—like swapping out plastic water bottles for glass or metal, and getting rid of those nonstick pans.

"Most people think there's nothing they can do to protect their health beyond exercise and diet," Jill says. "Silent Spring shows there are many other actions they can easily take—and scientific research shows these actions can make a difference."

A woman born in the US today has a 1 in 8 chance of developing breast cancer at some point in her life. "Every woman worries about breast cancer," Jill says. She agrees with Silent Spring that stopping breast cancer before it strikes is the best way to beat it.

"They're the only organization I know of that is talking about prevention. When you give to Silent Spring, you see the outcomes of their research. They're actually changing the way people live their lives. That's not something you often see with other organizations." 



Your donations at work

Protecting our daughters and granddaughters from breast cancer

Research shows the seeds of breast cancer may be sown early in life. A young girl's adolescence is an important "window of susceptibility," a time in her life when she is especially vulnerable.

To find out whether early exposure to common chemicals in the environment is linked to increased risk for breast cancer later in life, Silent Spring is collaborating with the UCLA Fielding School of Public

Health, Fox Chase Cancer Center, and the University of Chile—and a group of 500 Latina girls in Santiago, Chile.

These young teens are the perfect study participants, because investigators have been collecting data on their growth and development since the age of four—and because they are exposed to the same kinds of chemicals and products as girls here in the US.

"Everyone is so thankful when we tell them about Silent Spring. They say, 'I threw out my nonstick frying pans and plastic water bottles.' People's eyes really open when they discover the supporting science is out there."

JILL BALMUTH

Thanks to your support, we are learning about the impact of a variety of endocrine-disrupting chemicals on breast density and other changes that are associated with increased risk for breast cancer.

Because of you, our daughters and granddaughters will benefit from new understanding of breast cancer risk factors, safer products, and better policies to protect their health. **THANK YOU.**

» **THANK YOU for supporting our scientists as they work to make our world safer**



Research scientist Laurel Schaider strikes back against toxic chemicals in our everyday lives

LAUREL studies the health impacts of chemical contaminants in consumer products and drinking water supplies. She was trained at MIT and the University of California, Berkeley. Through her work at Silent Spring, she has become a sought-after authority on PFASs (a class of toxic chemicals—see next page) and other contaminants in our environment.

Where did your passion for protecting the environment come from?

I wasn't really aware of environmental issues until I was in high school. My freshman year was the 20th anniversary of Earth Day, and we talked about it in class. I immediately became an avid recycler and joined the school's environmental group. I'm not sure my parents appreciated me sifting through the trash to find every recyclable can and bottle, but I know they were proud of me.

What experiences early in your career shaped the way you approach your work?

As a postdoctoral researcher at the Harvard School of Public Health, I went to Oklahoma to study the effects of exposure to metal mixtures from mine waste on children's health. I loved working with the community to answer questions that real people care about—not just other scientists.

That's one reason I find working here to be so rewarding. At Silent Spring we are all committed to designing research studies with practical implications, sharing what we learn, and working with community groups.

Many of your projects at Silent Spring involve studying PFASs. What are PFASs, and why are you so concerned about them?

PFASs are chemicals used in countless products from fast food wrappers to nonstick pans to waterproof clothing to dental floss. They are also used in firefighting foams for putting out fuel fires. They can even get into the dust on our floors and our drinking water. PFASs are often called "forever chemicals" because they can remain in the environment for decades and in our bodies for

years. PFASs have been linked to cancers, immune suppression, and many other serious health problems. And they've been in the environment for decades—with little or no regulation.

You have two young kids. Did becoming a parent affect your sense of urgency about finding ways to reduce environmental toxics?

I started my research on flame retardants and plasticizers in consumer product chemicals at about the same time I became a new parent. What I learned at work made me really concerned about the long-term effects on children's bodies.

What would you like your legacy to be, when you look back on your career someday?

I would like to know that my work led to tangible changes—that people are less exposed to harmful chemicals—either through retailer action and consumer demand or through regulation. Having products that don't have harmful chemicals added in the first place. Having drinking water regulations that are protective of health. Staying ahead of the curve and staying proactive rather than reacting after contaminations have already occurred. ☀

Your donations at work

Your donations are protecting children from contaminated water

Here's one of the scariest discoveries about the effects of toxic chemicals in our environment: scientists suspect that exposure to PFASs are depressing the effectiveness of diphtheria and tetanus vaccines in small children.

To investigate this, Laurel is leading a team of scientists in a \$2.5 million research

project funded by the National Institutes of Health. They will study the impact of PFASs on vaccine effectiveness in two groups of 4- to 6-year-olds who have been exposed to PFASs through their drinking water.

Their findings will help dozens of communities across the nation that were horrified to discover PFAS contamination in

their drinking water and lead to cleanup strategies and protection policies for children and their families.

Your generosity supports the careers of all our Silent Spring scientists, who are working to make our world safer.

THANK YOU.



From Research to Real World Impact

Your support is powering more far-reaching changes and discoveries than we have room to list. Here are just a few of the victories that could not have happened without you in 2018.



You are leading the way to legislation guaranteeing toxic-free fast food wrappers.

WHAT DO FAST FOODS like burgers, french fries, and pizza have in common? They are served in grease-proof packaging that was recently analyzed in the most comprehensive study ever on fast food wrapping materials. The goal? To find out whether they contain PFASs—toxic chemicals that make them grease-proof.

Silent Spring's Laurel Schaider led this research, which found PFASs in up to 50% of the items tested. These chemicals, associated with cancer, thyroid disease, immune suppression, low birth weight, and decreased

fertility, are known as "forever chemicals" because they remain in our bodies for years and don't break down in the environment.

Based in large part on our research, San Francisco and Washington state issued bans last year on food packaging containing these dangerous chemicals. Several other states, including California, New York, and Rhode Island, are following their lead by introducing similar policies. With your support, this wave of change will continue to spread—thank you, donors!

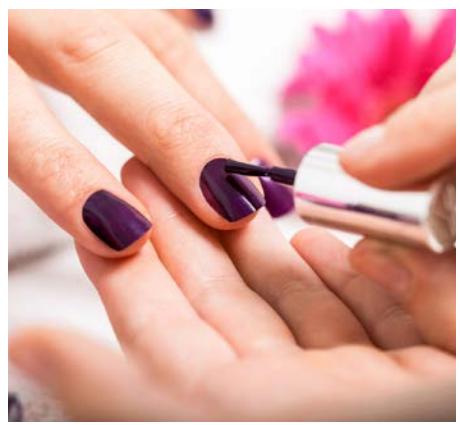
Because of you, hair and nail salon professionals in California have the knowledge to protect themselves from toxics in their workplaces.

COSMETOLOGISTS AND NAIL SALON

workers endure prolonged exposure to a range of toxic chemicals, and studies show they have an increased risk of reproductive disorders. Yet although federal law requires retail cosmetic manufacturers to label all ingredients in their products, those marketed to salons are not covered by the same regulation.

That will change in California on July 1, 2020, thanks to a new law requiring professional cosmetics manufacturers to label the ingredients used in their products.

Ruthann Rudel, director of research, and Jessica Helm, a post-doctoral research fellow, submitted testimony that was instrumental in the passage of this new law. "People, most often minority women, who work with hair, nail, and other beauty products have a right to know what ingredients are in their workplace," they wrote. "Ingredient disclosure empowers people to make choices with their health in mind."



Thanks to you, Silent Spring treats research participants as partners—not subjects. Now the rest of the scientific community is catching on.

A 2018 REPORT by the National Academy of Sciences, Engineering, and Medicine validates a method of reporting back to study participants that Dr. Julia Brody, Silent Spring's executive director, pioneered in 2003. The report encourages researchers nationwide to make the practice more routine.

That was the year we conducted our first major study on household exposures to environmental pollutants. We went to 120 Cape Cod homes to interview people about their consumer product use, collect dust samples, and ask them for urine samples.

When participants asked for their individual results, we grappled with a difficult decision. The scientific community had long opposed providing such information. After all, they reason, if the findings are not yet fully understood, won't sharing them

with participants provoke pointless worry and fear?

After weighing the pros and cons, we decided that our study participants had the right to know what chemicals they've been exposed to. So we developed a reporting methodology that provides each participant with a comprehensive, easily understood report, providing personalized results and recommendations on addressing findings—including how to reduce toxic exposures.

Now this methodology has become a model for the entire scientific community. "Research has become more collaborative," says Brody, "with study participants treated as partners rather than as 'subjects,' and by learning their own results, they gain the ability to take action."

Thank you, donors—and study participants!—for leading the way.

Choose your dental floss carefully!

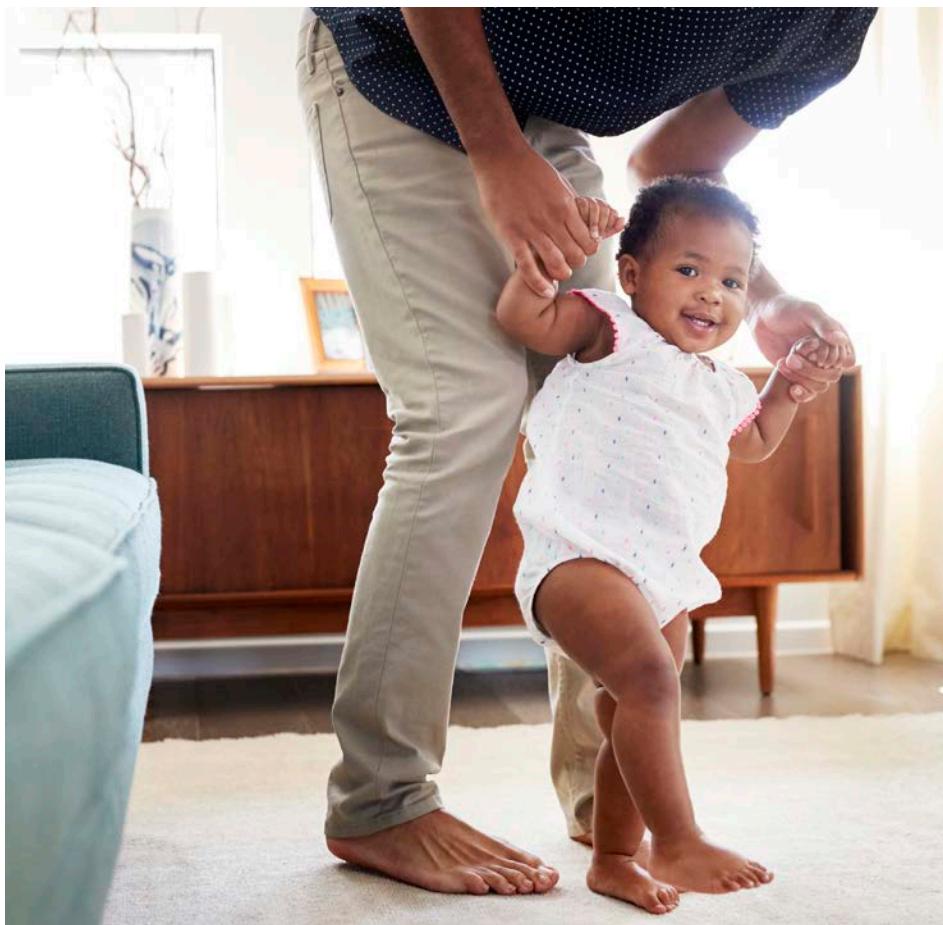
IF YOU HAVE BEEN USING Oral-B Glide dental floss or a store brand look-alike, it might be time to switch brands.

Silent Spring Institute recently published findings on connections between various consumer behaviors—including flossing—and PFAS levels in women. PFASs are toxic chemicals associated with a number of serious health conditions, including cancer.

When researchers discovered that women who used Oral-B Glide had higher levels of the toxic chemicals in their blood, they decided to test 18 different brands of dental floss for the presence of fluorine, an indicator for PFASs. Sure enough, Oral-B Glide and similar flosses designed to pass through the teeth more easily than traditional varieties tested positive.

But don't give up on flossing! Many flosses don't have PFASs. And like your parents always told you, flossing is good for you!





Your generosity helped lead to California's ban on the sale of many products containing toxic flame retardants.

SILENT SPRING INSTITUTE was the first to measure flame-retardant chemicals in US homes over 15 years ago, and the findings were alarming. Our research showed that levels in the US were ten times higher than in Europe, and that blood levels in California residents were the highest in the world.

Used in products like upholstered furniture, foam mattresses, bassinets, highchairs, infant carriers, and strollers, these chemicals are associated with a range of adverse health effects such as endocrine disruption and cancer. Even more shocking, independent scientists say they don't even provide significant protection against the risk of fires!

Flame retardants get into the dust in our homes, where babies and toddlers are exposed to them as they crawl and play on the floor. They are found in high levels in college dorms. And firefighters are exposed to these chemicals when products burn during a fire.

Kathryn Rodgers, one of our staff scientists, explained all this in written testimony last April to California lawmakers. Governor Jerry Brown was persuaded, and a few months later, he signed a ban on the use of these chemicals in residential upholstered furniture, children's products, and mattress foam.

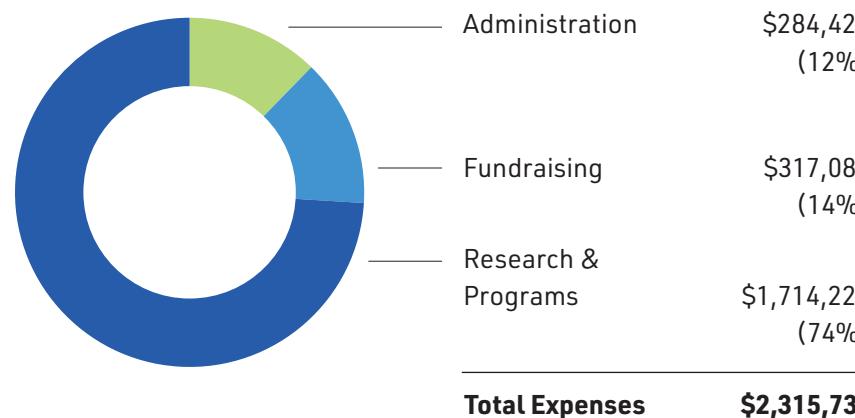
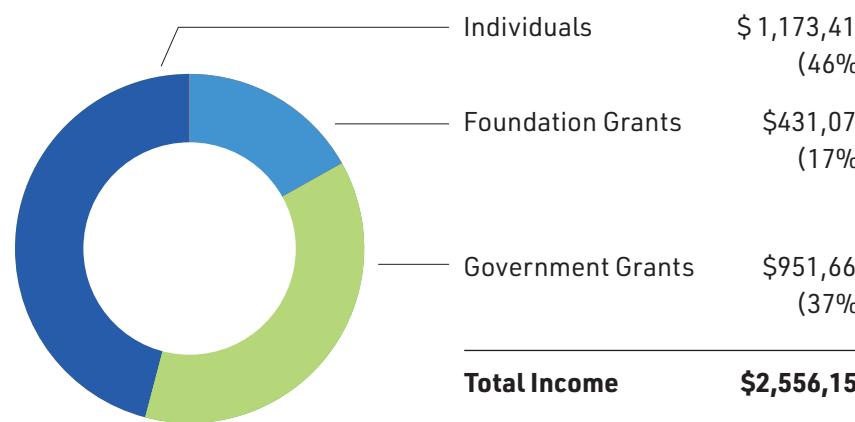


» Financial Information – Fiscal Year 2018

DONORS—WE CAN'T DO IT WITHOUT YOU. The chart below proves it. Last year, your gifts made up more than 60% of our income, powering the bulk of everything we do. **Thank you for your farsighted generosity.**

We promise to invest your donations for the greatest possible impact. If you would like more information, please contact Rachel D'Oronzio Sarvey, Director of Development, at:

sarvey@silentspring.org or
617-332-4288 x215



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Detox Me

Detox Me, our app for your smartphone, brings answers to your fingertips

THIS FREE MOBILE APP draws on our 20 years of research on the health risks associated with everyday exposure to toxic chemicals to offer practical advice for healthier living. Customize it according to your age, gender, and ethnic background for science-based recommendations on reducing toxics in your food, home, clothing, and personal products. Join 135,000 Detox Me users who believe—like we do—that knowledge is power.

Download it today at
detoxmeapp.org.



Top tips you can put into practice right now

Store food and drinks in stainless steel or glass containers, rather than plastic.

Choose fresh or frozen food instead of canned or packaged fare. The lining of cans and other food wrapping may contain hormone-disrupting chemicals.

Phase out your nonstick pans. Use cookware that is steel clad, enameled, cast iron, or anodized aluminum.

Shop for fragrance-free personal care and household products. Some fragrance chemicals can trigger allergies and asthma, and have been associated with hormone disruption.

Read the labels on cosmetics and personal care products to avoid purchasing those that contain parabens. These chemicals are often added to lotions, shampoos, and deodorants, and may disrupt hormones.

Stop outdoor toxics at your door with doormats on the outside and inside of your entryway.

Steer clear of products labeled as antibacterial or antimicrobial, which contain chemicals that can disrupt thyroid and reproductive development. Using soap and water is just as effective.

Choose a quick-drying nylon shower curtain instead of one made of vinyl. Vinyl shower curtains may contain phthalates and other endocrine disrupting compounds.

Invest in a strong vacuum with a motorized brush and HEPA filter to help minimize indoor pollution and prevent dust from getting into the air.

Avoid buying new furniture or carpeting with stain-resistant treatments like Scotchgard™. Look for natural fibers whenever possible.

Avoid buying furniture that contains harmful flame retardants. Check the label to make sure it meets TB 117-2013 and states “does not contain added flame retardants.”

“Your support makes these victories possible... You are proving that by working together, we can lift the burden of breast cancer.”

JULIA BRODY, PHD, EXECUTIVE DIRECTOR

➤ **Thank you. We look forward to many more victories in the next 25 years with you by our side!**

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» *Researching the environment and women's health*



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