



Rees's Thesis

UBC professor William Rees believes we've got into a terrible mess by thinking of ourselves as divorced from nature rather than part of it. That's why he developed the "ecological footprint" that's become the global standard for measuring an individual's impact on the environment



BY JAMES GLAVE // PHOTOGRAPH BY GREGORY CROW

BILL REES HAS A PROBLEM. He can't find anything to buy.

It's a Friday morning in early November, and one of the leading thinkers of the global sustainability movement—the UBC professor who invented the concept of the eco-footprint—is pushing a cart up and down the aisles of Wal-Mart.

All is quiet here at North Vancouver's Capilano Mall. Maybe too quiet. Less than a month remains until Christmas, but the place is half empty. As the nation slumps deeper into recession, it feels like the buying season is desperately trying to get started—like someone repeatedly pulling a cord on a lawnmower that just chugs and coughs. And Rees isn't helping.

"The thing is, I'm not a very good shopper," he says sheepishly, as we pass a squawking colour LCD screen that implores us to purchase a gift card.

But shop the professor must, because I have given him \$50 cash and instructed him to do so. I want to find out how the living conscience of a world deep into overshoot will behave here in the belly of the beast. After all, this gigantic store is the definitive symbol of consumer culture run haywire. Wal-Mart is a vilified mom-and-pop killer, a global-supply-chain goliath, a convenient scapegoat for our collective race to the bottom.

It's not going so well. A brief reconnoitre for bike parts ends in disappointment—the sporting-goods department contains only hunting gear. So after choosing a pack of English muffins, a jug of milk, a roll of cling wrap, and a few compact fluorescent bulbs—"I'm feeling a little guilty about this; I have a few extras at home already"—we head for the kitchen section in search of a slow cooker.

Rees finds a miniature one, but it looks flimsy; the knobs appear ready to break off. The durable-looking models are more appliance than he needs. "These are all too big," he mutters. Finally he moves on. "What about washing-machine detergent?" I ask. Everybody has to do laundry, right? "Naw." Toothpaste? "No."

The store is jammed with thousands of products, but virtually none of them appeals. My surrogate shopper is evidently suffering the same seasonal affliction as the rest of us.

Bill Rees has consumer ennui.

It isn't fair of me, really, to drop the good professor into this sprawling big-box store like a mouse in a maze. After all, he's not what you might call a retail-therapy kind of guy. In fact, few individuals on the planet have a richer understanding of precisely how \$18.99 stewpots—because of the resources they consume in production and the waste they produce in their eventual disposal—are leading us toward a societal collapse. Rees has not only done the math on the true cost of our insatiable consumer appetites, he actually wrote the formula and came up with a simple metaphor—the ecological footprint—in an effort to get it through our thick skulls.

The footprint is essentially a calculator, a tool that allows us to estimate how much land and water a given population needs to support its chosen lifestyle. According to Rees's reckoning, we North Americans gobble up about 22 acres each to keep ourselves in smartphones, double lattes, and Manolo Blahniks. That's all well and good—we earned those shoes, right?—but then you go back to the calculator and learn that there aren't enough viable ecosystems left on Earth to support even five acres per person. Oops.

The footprint has proven an invaluable tool in the triple-bottom-line playbook. Many local, state, provincial, and federal governments use it to validate their green initiatives. Here, B.C. Hydro uses it to check its in-house progress reports, and the scheme forms the scientific basis of the City of Vancouver's EcoDensity policy. Meanwhile, Rees has delivered so many lectures and keynotes on the concept, in so many places, that his passport looks like a Douglas Coupland collage. The guy's résumé runs 82 pages.

"There are not too many academics whose work has had the size of impact that Bill's work has, globally," says John Robinson, a colleague at UBC's Institute for Resources, Environment and Sustainability. "The footprint concept has entered the language. It is pretty massive. It just resonates with people."

Unfortunately, Rees's most recent finding—that humanity may be inherently unsustainable, the theme of his upcoming book—isn't earning him many friends in high places. Neither are his recommendations. In effect, he says, we need to do away with all the shopping, yesterday, and pull the emergency brake on runaway economic growth. And if we don't?

"We will trigger or disrupt something on a scale never before imagined, and take the whole system down," he says matter-of-factly. "It may not be the end of life on Earth, but it will make it very difficult to have civilized life."

While the underlying science may be sound, these are not terribly marketable ideas. Stop growth? *What are you, nuts?* Yet deep down, at least a few of our policymakers and business leaders may believe Rees is correct. That said, the required whole-system changes are so profoundly unsellable that they pretty much never hit the ground.

"Bill's strength and force may have intimidated whole administrations against taking action, even though it may be clearly in their self-interest to do so," says Mathis Wackernagel, who co-authored *Our Ecological Footprint* with Rees in 1996 and who heads up a California foundation that is persuading governments to use the scheme as a GDP-style measure of economic vitality.

"He makes a very consistent, strong, and overwhelming argument. And people go, 'Wait, that means everything I know is wrong, and here I am without an exit strategy!' And so, nothing happens."

Meanwhile Rees soldiers on, a man out of time, an intellectual rock star wandering alone in a Wal-Mart wilderness.

But there is a glimmer of good news in this picture. At long last, as the man many call Dr. Doom enters his retirement years, increasing numbers of influential people appear to be getting on his page. More people are getting the gravity of the climate crisis—including the new president of the United States—and the economy is in a tailspin that vast injections of public capital have done little to slow. Even old-school economists might be privately conceding that the system is dysfunctional, and if Rees's new ideas about how we got here and how we might escape catch on—well, we might be able to fix this mess before it's too late.

BILL REES WAS 10 YEARS OLD when he experienced the first of what would become two life-altering epiphanies—the eureka moments that set him on his path. He was born in Brandon, Manitoba, in 1943. His father was serving at the nearby RCAF Station Carberry but shortly after the war moved the family back to his hometown of Montreal. On weekends and over the summers, the Rees clan



Does It Hurt Yet?

Recessions are no fun, and deep recessions touch almost everyone. As more and more Vancouverites adjust their expectations, change their spending habits, and worry about their jobs, we chart the damage and offer some ways of living more while spending less.

What A Difference A Year Makes

The local economy, then and now

Metro Vancouver residential properties listed

| | |
|---------------|---------------|
| 2007 | 2008 |
| 54,945 | 62,561 |

Metro Vancouver residential properties sold

| | |
|---------------|---------------|
| 2007 | 2008 |
| 38,050 | 24,626 |

Unemployment rate

| | |
|--------------|--------------|
| December '07 | December '08 |
| 4.2% | 5.2% |

Lineup at the Union Gospel Mission

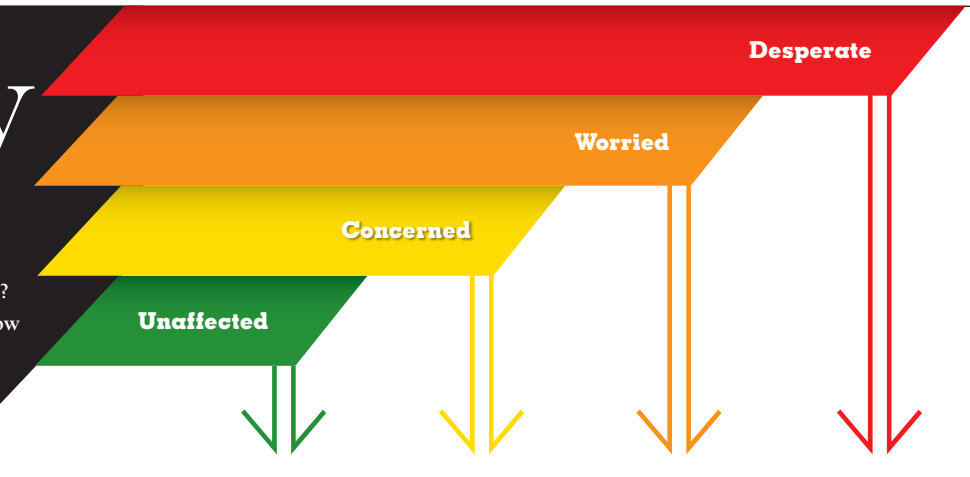
| | |
|-------------|-------------|
| October '08 | January '09 |
| 50 | 100 |

Tip pool in a certain high-end Robson Street restaurant

| | |
|-----------------|-----------------|
| December '07 | December '08 |
| \$26,315 | \$22,585 |

Misery Index

How hard is the recession hitting you? Take this little quiz to find out just how much your lifestyle has changed.



| | | | | |
|-----------------|-----------------------------------|-------------------|----------------------|----------------|
| Cocktail Hour | Dom Pérignon | Yellow Tail | Baby Duck | Cough syrup |
| Pork for Dinner | Sloping Hill Berkshire pork belly | Crown roast | Pork butt | Spam |
| Flowers | Thomas Hobbs | Greengrocer | Community garden | Cemetery |
| You Need Wheels | Bentley | Subaru | Zipcar | Carjacking |
| Chipped a Nail | Holt Renfrew Spa | Filipino nail bar | Lee Press-Ons | Gloves |
| Can't Sleep? | Cognac | Pot | NyQuil | Infomercials |
| Daily Paper | New York Times | Vancouver Sun | Yesterday's Province | 24 Hours |
| Exercise | Personal trainer | Fitness World | Community centre | Jane Fonda VHS |
| Weight Loss | Gastric bypass | Dr. Bernstein | Try eating less | Prunes |
| Dingy Teeth | Veneers | Crest Whitestrips | Baking soda | Liquid Paper |

RECESSION DIY

Discretionary income not what it was? Still lust after the finer things in life? Why not make them yourself? True, you end up with something that lacks the authenticity of the original. But you save yourself big bucks!



SAVE \$110

Anna Kosturova bikini
+
yarn Grandma

SAVE \$8

Leslie Stowe Raincoast Crisps
+
stale bread mandolin

SAVE \$2,400

Brent Comber bench
+
twigs glue

- Jeff Wall photograph = digital camera + Kinko's **SAVE \$1,000,000**
- Arthur Erickson condo = concrete + geometry set **SAVE \$598,900**
- Martha Sturdy bowl = polymer resin + food colouring **SAVE \$900**

This page: Clinton Hussey; opposite page: Meredith Jenks/Getty Images (nails), janetgalore/Flickr (Spam), courtesy Anna Kosturova, courtesy Leslie Stowe, courtesy Brent Comber

would converge on his grandfather's farm on the banks of the St. Lawrence. "My life was shaped on that farm," he recalls. "I loaded a wagon with hay by hand, gathered eggs, fetched water from the pump house, milked cows, you name it."

Rees found himself immersed in the cycles of life and the rhythms of nature—and he recalls the exact moment when the whole picture snapped into focus. He'd been working the fields that morning with his sister, Judith, his brother, John, and various cousins, and had just come in for an enormous lunch—roast chicken, beef, and mountains of fresh vegetables—his grandmother had prepared for the crew. Rees recalls sitting at the table, staring at his loaded plate, and waiting along with everyone else for his grandfather to say grace.

"It occurred to my idle 10-year-old mind that there wasn't a single thing on that plate that I had not been personally involved in the production of," he says. "That thought struck me like nothing else I ever experienced. I felt a direct connection between my labour, my food, and the earth." Rees had just discovered localism—50 years ahead of everyone else.

"I was so excited by that idea," he recalls. "It was like being in an elevator going into free fall. Just an incredible sensation of connectedness. I could hardly finish that meal."

Rees never imagined getting into university. "We didn't have much money," he recalls. But he earned full scholarships at the University of Toronto. He was curious about extending the concept of "carrying capacity"—a standard measurement of how much wildlife a given area can support—to human beings but quickly found himself the odd man out. Students could pursue either anthropology, which didn't involve ecosystems, or ecology, which didn't involve people.

Here, he realized, was the crux of the problem. Homo sapiens considered itself separate from the environment and somehow above nature. He wound up in zoology, studying sparrows—"Birds!" he now says dismissively, shaking his head—but never let go of the human ecology idea. In 1969, having earned his PhD at the U of T, he scored a teaching position at UBC.

Fast forward to the early 1990s. Rees, Wackernagel, and a group of grad students at the School of Community and Regional Planning were tinkering with the idea that would become Rees's

signature. He was using the metaphor of an imaginary bell jar, placed over an entire city, to convey the idea of carrying capacity.

Rees was in his office, writing a paper about the idea on his brand-new PC. He was working with the rather clunky term "regional capsule concept" and was reaching for a better metaphor. The new computer was an early tower model that took up less space on his desk, allowing him more room to spread out his papers. "My colleague happened to look in on my office," recalls Rees, "and he said, 'How do you like your computer?'"

"I said, 'I love it—for one thing, it has a smaller footprint.'"

"'Good God!' I thought, 'That's it! That's what I'm working on!'" He replaced "regional capsule concept" with "ecological footprint" in the document and in 1992 pushed it out into the world as an academic paper in the journal *Environment and Urbanization*. Four years later, Rees and doctoral student Wackernagel co-authored *Our Ecological Footprint: Reducing Human Impact on the Earth*, a paperback that conveyed the groundbreaking concept via plain language, hand-lettered-style fonts, and cartoons.

The book bounced around academic and policy-wonk circles until 2004. That year, oil-and-gas conglomerate BP—formerly British Petroleum, rebranded with the tagline "Beyond Petroleum"—purchased a series of print advertisements in newspapers and magazines across the United States. In 60-point Helvetica type, the full-page ads posed what was at the time a cryptic question: "What on earth is a carbon footprint?" It was perhaps inevitable that Rees's idea would reach the masses, that his concept would enter the lexicon of everyday life. But not even the smartest guys in the room could have imagined that a petroleum company would end up doing the job.

BILL REES IS A WALKING Wikipedia. A simple open-ended question like "What are you most excited about these days?" triggers a 15-minute discourse that weaves and dips through philosophy, history, economics, and physiology. "His brain is a steel trap that captures and holds everything," says local urban-planning guru Mark Holland, one of his former students. "He just has this capacity to put together far more information inside his head than you or I ever will."

FREE *Don't Pay Admission*
 ~
 The city's favourite arts/culture freebies

Haywood Bandstand
 Free concerts every
 Sunday afternoon (1 to 3 p.m.)
 all summer at 1755 Beach Avenue

•

Robson Reading Series
 September to July. Every 2nd and 4th
 Thursday, 7 p.m., at Robson Square.
 Robsonreadingseries.ubc.ca

•

Vancouver Institute Lectures
 Free Saturday-evening lectures on
 medicine, city planning, the environment,
 and the arts, held at UBC. Vaninst.ca

•

Dance at Dusk
 Lessons in country and ballroom at
 Ceperley Meadow, Stanley Park. Mid-June
 to mid-August. Vancouver.ca/parks/arts

•

Vancouver Art Gallery
 Admission by donation every Tuesday
 evening from 5 to 9 p.m.

•

Monsters in the Meadow
 Outdoor movies for horror lovers in Stanley
 Park all summer. Vancouver.ca/parks/arts

•

Vancouver Canucks Practice
 Watch the boys at Burnaby 8 Rinks.
 lcesports.com

John Sinal (bottles); George Marx/Getty Images



DRINK IN DIVES

\$15 crantinis are all very well, but they taste better when you can expense them. If you have to dig into your own pocket, say adios to mixologists and hello to bartenders.

The Cambie
 300 Cambie St., 604-688-9158.
Thecambie.com The ultimate
 dive bar—picnic-table-style
 seating, squalid bathrooms,
 sticky floors, and a rowdy mix
 of student travellers, DTES old-
 timers, and unruly hockey fans
 chugging back \$11 pitchers.

~

West Hotel and Bar
 488 Carrall St., 604-681-8374.
 Pints are just \$3.25, pitchers
 \$9.75, but take heed: a friend's
 conversation was interrupted
 on at least two occasions by a
 woman wanting to discuss a
 possible business transaction.

~

Fets Pasta Bar and Grill
 1230 Commercial Dr., 604-255-
 7771. *Fetsbarandgrill.com* Here
 you'll find one of the best, and
 definitely one of the cheapest,
 under-the-radar whisky collec-
 tions in town—Johnnie Walker
 Black is just \$7 a pop.

~

The Brickhouse
 730 Main St., 604-689-8645.
 Fact: bartender Leo Chow wears
 bike shorts and a fanny pack
 year-round. Fiction: supplied
 by the novelists and freelance
 writers who frequent this book-
 lined cave of a room. Shots of
 bourbon, \$5.50.

~

The Black Frog
 108 Cambie St., 604-602-0527.
Theblackfrog.ca \$5 pints of
 Kronenbourg, stellar chicken
 wings (arguably the city's best),
 and the most unexpectedly
 beautiful view of Burrard Inlet
 and the North Shore mountains.

~

The Wise Hall
 1882 Adanac St., 604-254-
 5858. *Wisehall.ca* There's an
 annual fee of \$24, but that gets
 you discount drinks, admission
 to live-music shows, plus free
 pool and darts.

~

British Ex Servicemen's Club
 1143 Kingsway Ave., 604-
 874-6510. Go for the cheap
 pints (\$3.75), return for the

Meat Draws every Friday and
 Saturday night and the free pool
 on Wednesdays.

~

The Cambie
 Avoid it on weekends when
 university kids take over.

~

Cedar Cottage
 3728 Clark Dr., 604-876-1411.
 Eastsiders love this sprawling
 basement-level rumpus
 room with its two-dozen big
 screens for hockey nights,
 \$4.50 hi-balls, and hefty burger
 platters (\$8.95) that'll feed you
 for a week.

~

Pub 340
 340 Cambie St., 604-602-0644.
 Think dangerously cheap booze
 (\$3.25 pints, \$9.75 pitchers,
 \$3 shots of Jager and Fireball)
 and Dire Straits on repeat. Every
 hearty, stick-to-your-ribs item on
 Chef Randy's menu is just \$5.50.

~

The Five Point
 3124 Main St., 604-876-5810.
Thefivepoint.com Maybe not
 a dive per se, but this Main
 Street favourite is low-key,
 kid-friendly, and offers great
 specials every night of the
 week (premium doubles are just
 \$7.50 on Saturday nights).

~

The Black Frog
 Avoid it on weekends when
 university kids take over.

SIX UNDER \$13

A bottle of Pétrus—which is mainly Merlot—goes for about \$1,000. Eyes closed, could you tell it from Cono Sur Merlot?



- Cono Sur Merlot '07 **\$10.99**
- Solaz Tempranillo Cabernet Sauvignon '05 **\$11.99**
- Tornaresca Paiara Rosso '06 **\$11.99**
- Viña Maipo Reserva Sauvignon Blanc '08 **\$12.95**
- Cheviot Bridge Long Flat Semillon Sauvignon Blanc '06 **\$12.99**
- Cheviot Bridge Long Flat Cabernet Shiraz '06 **\$12.99**

"Yes," I say, goading him a bit. "But let's face it, streetcars are pretty boring, aren't they?"

Rees refuses to take the bait. "Well," he replies, in his measured, droll tone, "I guess when it comes to saving the public resources of the planet, I tend to favour the boring."

IT TAKES A QUESTION about heroes before I finally start to unlock the puzzle that is Bill Rees. He cites James Hansen—perhaps America's top climatologist, who between 2004 and 2006 found his science censored and sanitized by Bush administration insiders at NASA. George Monbiot, the British journalist and author of *Heat: How to Stop the Planet From Burning*, also ranks high on his list. We're driving back to Dunbar after the failed Wal-Mart experiment, and Rees thinks about other candidates for a long time. "There are certainly no politicians on the list." It's as if we're still in big-box hell and Rees is mentally roaming the aisles, trying to find a product that he likes.

"Antonio Damasio," he finally says.

Rees explains that Damasio, a University of Southern California professor of neuroscience, was one of the first to recognize that the human brain operates via an integration of emotion, instinct, and intellect. "Many of the difficulties we have is that we know that, intellectually, ABC is what we ought to do, but we end up doing XYZ," he says. "The brain creates hormones of emotion and instinct—it releases potions into the body that we may or may not be able to override.

"His work was a real key for me, in understanding how I am so different from other people. I can override what others are unable to override. You have to be able to reason something through—you have to convince yourself there is merit in changing your view. Unless we learn to override our preformed ideas, we are in trouble."

It's a tall order. We've convinced ourselves that growth and profit are the keys to prosperity, that large vehicles will keep us safe, that we each deserve a nice big house stocked with electronics, that the lowest price is always the best price—despite what it might mean for our health, the atmosphere, and the stability of ecosystems on the far side of the world.

"We act instinctively on the immediate short-term interest," says Rees. "We pretend we're a science-based species, but

in fact we are being driven by survival instincts."

We receive a generous—if fleeting—shot of endorphins every time we crack open shrink-wrap packaging. We're obsessed with happy endings. And into this Blue Light Special wonderland comes Dr. Doom, his cart containing peer-reviewed science proving that all the things that we

we've built our dreams around.

And here, Rees has a plan. In 2007, the Trudeau Foundation awarded him a \$225,000 fellowship, which he's partly using to underwrite a Vancouver-based nonprofit called the One Earth Initiative. The small team is working on a variety of projects—including a green-retrofit guide for strata condos. But the team's ultimate goal is to try to wrap their heads around the idea of a zero-material-growth economy.

The concept—University of Maryland professor Herman Daly was among the first to tag it with his 1977 book *Steady-State Economics*—involves stabilizing the quantities of energy and raw materials moving through the global supply chain. Just don't go calling it stagnancy. "The economy can continue to develop and evolve, i.e., to get better," says Rees. "It simply stops getting dangerously materially bigger."

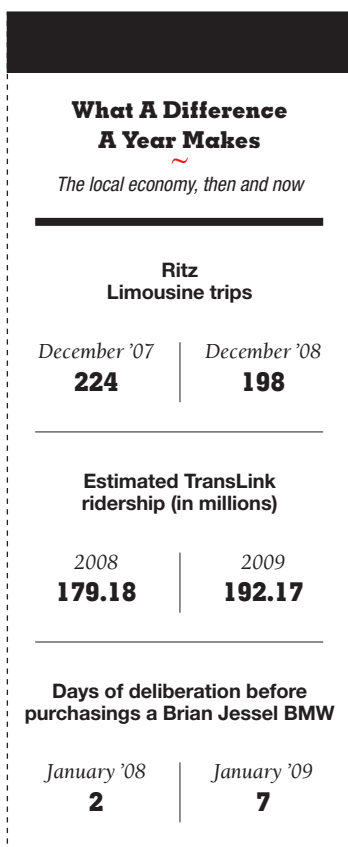
The group's mission will be not only to evangelize this economic heresy but also to create a lexicon to describe it. "Nothing exists in the human mind," says Rees, "until we birth it in language, until we give it meaning."

Unfortunately, he believes, our situation may have to get much worse before it gets better. And we're not just talking about more layoffs and bigger bankruptcies. "One of the things that will move people along is a shock. A disaster will break a paradigm rapidly. But if something like Hurricane Katrina wasn't a big enough shock—if we need something that wipes out a billion people—well, maybe by then it will be too late.

"My dream is that we avoid that catastrophic ending, that we can come to consciousness in time to avoid the implosion of the global system. What a horrible thing to think that we've come this far only to stick the knife in our own heart."

Knowledge is a lonely burden. You might think that Rees's unique qualities—his heightened ability to absorb data, to override our hard-coded instincts, to switch off the slow-drip line of consumer morphine, and to keep sticking at it, decade after decade—would eventually wear the guy down. But here's the crazy thing: they don't.

"I don't think many people live one day at a time," says his sister Judith. "Not many of us get up in the morning and say, 'Today is the day! I am going to have a really great day today.' Well, that's Bill." **VM**



hold sacred are, in fact, leading us into "a collapse from which there is no recovery." Thank you for shopping. Have a nice day!

So where's the way out? First, says Rees, we must enroll in a kind of society-wide 12-step program and admit that we have limited control over our emotions and instincts. We need to arrive, collectively, at the understanding that not only are we hard-wired as a species to expand to fill all available space but we prefer the path of least resistance. We need to legislate ourselves away from these instincts. We also need to get behind the idea, in large numbers and as quickly as possible, that there might be a viable alternative to the relentless quarter-on-quarter growth