

Winter 2001

# The Planet, 2001, Winter

Tiffany Campbell

*Western Washington University*

Huxley College of the Environment, Western Washington University

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# The Human Cost

the planet  
winter 2001



Editor

**Tiffany Campbell**

Associate Editor

**Sarah Crowley**

Associate Editor

**Levi Pulkkinen**

Photo Editor

**Chris Goodenow**

Online Editor

**Grant Brissey**

Contributing Editor

**Lindsay Cornelius**

Contributing Editor

**Mike Van Dyke**

Design

**Rachel Erickson**

Photographers

**Chris Fuller**

**Angela D. Smith**

Advisor

**Scott Brennan**

Staff Writers

**Michelle Burkhart**

**Nikole Coleman**

**Lisa M. Curdy**

**Nathaniel Fisher**

**Sabrina Johnson**

**Michael Koenan**

**Sarah Kopke**

**David Mosier**

**Matt Parker**

**Jennae Phillippe**

**Isaac Sherrer**

**Katie Stephens**

**Patrick Taylor**

**Stephanie Woollett**

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In Skykomish, Wash., a child can dig into the playground and strike diesel oil. Planet editor Chris Goodenow and writer Sarah Kopke traveled to the Skykomish River to illustrate this point. Sarah swiped her hand on a rock in the river, and her fingers returned sticky with oil.

This town is saturated with spilled petroleum. Some of the human costs — the health effects to humans and the environment — are known, some are not. But just because they have not been proven do not make them any less true.

Human health is entwined with the health of our environment. We, our bodies and minds, will ultimately bear the cost of our pollution and disregard for the natural world.

It is already happening.

We are under attack. By our demands and by our trash. By industry and the poisons we purchase. Our supposedly protective policy process is accountable to property rights and money first, public safety second. Threats to human health and the environment must be proven before action is taken. But these threats will probably never be "proven" unless people start dying. Since when do landowners' rights to profit supercede our right to clean water? Since when is cash more crucial than health?

Sewage overflows are an accepted fact in Bellingham's drinking reservoir, Lake Whatcom. In 1999 alone, 13 tons of garbage were hauled out of Midway Atoll, a 25-square-mile collection of islands 2,000 miles from both the West Coast of the United States and Japan. A woman bears the mark of nuclear radiation, though she never lived closer to the source than 145 miles. No place, it seems, is untouched or unaffected.

In this issue, The Planet examines connections between health and the environment. We have by no means touched all the stories out there, all the intangibles that threaten our bodies and minds. But we have examined some local stories, and made a few local connections.

Perhaps the greatest injustice is that our health is no longer under our control. No matter how much or how little I control my lifestyle with exercise or nutrition, assaults from the world still affect me. Pesticides coat my food, settling from neighboring farms on the organic products I purchase. My neighbor's slug bait oozes into the groundwater. American consumption habits begin to alter weather patterns and temperatures. Labels detailing the origins and genetic makeup of our food are not permitted. Media and culture poison our minds with noise and a false sense of reality.

The rage I feel from toward the disregard of the media, the private sector, industry and government is born out of impotence. I have lost a degree of control over my body — not of how it behaves or responds, but of what it must endure.

It is not a great leap of logic to understand that if one portion of Lake Whatcom is fouled, the rest will soon follow. If it is dangerous to a pregnant woman, it is dangerous to me. I deserve better. We all do.

—Tiffany Campbell, editor

The Planet is the quarterly environmental magazine of Huxley College of Environmental Studies, written, designed and edited by students. We are dedicated to environmental advocacy and awareness through responsible journalism.

The Planet  
c/o Huxley College,  
Western Washington University  
Bellingham, WA 98225  
(360) 650-3543  
planet@cc.wvu.edu  
<http://planet.wvu.edu>

Cover and Back photo by Chris Goodenow. (Cover) At points along the Skykomish River globs of oil seep up through the river bed and disperse upon contact with the current, emitting diesel fumes and sticking to hands in the process. (Back) Signs warn of shellfish contamination on Semiahmoo Bay, outside of Drayton Harbor.

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# sand seals & skeletons

Story and photos by  
Matt Parker

The second I straddled the angry Hawaiian monk seal between my thighs, I realized the beast was far more powerful and alert than it looked. I wondered what price I was willing to pay to rescue the endangered animal from the bottomless bucket stuck around its sinewy neck.

Grabbing the seal's front flippers and holding them to its 300-pound mass revealed the intense muscle of the five-foot long mammal. Moments before, it had napped peacefully under the Pacific sun, eyes closed above a snout peppered with whiskers.

Now, as we descended upon it from the shade of the ironwood trees that buffeted the sandy shore, its slick gray body squirmed frantically, trying to break from our hold. My partner, a seal biologist who knew that tranquilizing drugs can kill monk seals, directed the rescue with stoic gentleness in the face of lobster-crushing teeth; she knew how precious each of the 1,400 remaining seals were.

I was allowed a deep breath of the humid air as the animal's thrashing subsided, allowing a third member of our team to slip his hands under the nine-inch wide plastic bucket wedged tightly around the seal's neck

"Damn it!" he said. "It's too thick to break off!"

The orange bucket showed no signs of weakness. If we were to disentangle the seal, we would have to cut it off.

By this time, the seal was dragging my knees through grainy sand as it decided to make another push for the ocean. Muscles straining and hearts pumping, we waited for the seal's next break. Within seconds, we had another chance. The biologist directed our teammate to cautiously slip a knife under the plastic and try to slice it off. Time slowed as the teeth of the knife cut through the bucket.



A photo illustration at Larrabee State Park by Matt Parker.



On a calmer day on this northwestern Hawaiian Island, I kicked my Tevas off to feel sand squish between my toes as I sauntered past cackling albatross to a desolate beach. I saw no people, boats or homes. I headed east, the radiant sun in my face and my shirt thrown behind, not believing I had the setting to myself. Peace permeated my body with every step I took. But something was wrong.

There was a cigarette lighter in the sand.

Two steps later there was an old toothbrush.

Next I saw an old fishing net, a burnt-out glow stick and a plastic soda bottle.

I looked up to see the whole beach littered with plastic junk. The trash itself was not what broke my spirit; the location of the beach, more than 2,000 miles from either the West Coast of the United States or Japan, was the source of my shock.

I had come to Midway Atoll National Wildlife Refuge, about 1,200 miles northwest of Honolulu, to visit a pristine wilderness; a place where humankind had not yet left its footprint.

What I found, on an island in the midst of the biggest ocean in the world, was a gross collection of human refuse.

Geographically, Midway is a forgettable and insignificant collection of sand. The three islands of Midway — Sand, Eastern and Spit — constitute about 1,500 acres of land in an ocean that nourishes the world with food, determines the weather and plays a linchpin role in the life-giving water cycle.

These 1,500 acres serve an important ecological function.

“Midway is a little lesion of a bigger health problem,” said Nancy Hoffman, the wildlife biologist at Midway.

Hoffman believes it is difficult to look at the ocean as a whole and assess environmental degradation. However, Midway can be used as an indicator of overall ocean health.

Hoffman called Midway a “drain in a sink” or a focal point where the health problems of the ocean manifest themselves. Midway, in the middle of a small lagoon formed by a coral reef, collects litter and pollutants that circulate in the currents of the sea. Additionally, wildlife that inhabits the tranquil islands brings evidence of water quality to the shores and reefs.

I found evidence of the ocean’s health amidst the graves of albatross. Small piles of bottle caps, miniature toy figures and wads of tangled fishing line marked the graves. Surrounding the piles like small cages were the sun-bleached ribs of dead Laysan and black-footed albatross. Scattered around the mounds lay the rest of the albatross skeleton: bones, beaks and feathers that will one day return to the sandy soil of Midway. The plastic refuse was unknowingly fed to the birds by their parents.

Black-footed albatross parents often fly east from the northwestern Hawaiian Islands to the West Coast of the United States, more than seven hours by airplane, where they land on the rolling ocean to snatch squid and other surface prey out of the salty water. Laysans, white birds with oak-brown wings, primarily fly to the Aleutian islands and the Gulf of Alaska for food.

After filling up near Alaska or the western United States, the albatross fly back to Midway. The foraging trips, which allow both species to catch and store food that will be fed to their chicks, are made many times during the chick-raising period. A Laysan albatross was tracked by satellite traveling more than 24,000 miles during a 90-day span.

The food often includes plastic garbage mistaken for a meal while plucking prey off the top of the ocean. A friend found a working Mickey Mouse wristwatch in one of the piles. Plastic collected from every corner of the Pacific Ocean accumulates in the stomachs of the young birds, unable to regurgitate until they are five months old. Some chicks suffer from internal lacerations, choking and a false feeling of fullness that causes them to stop eating.

An invisible poison also exists in the corpses. The decomposing albatross tissue contains

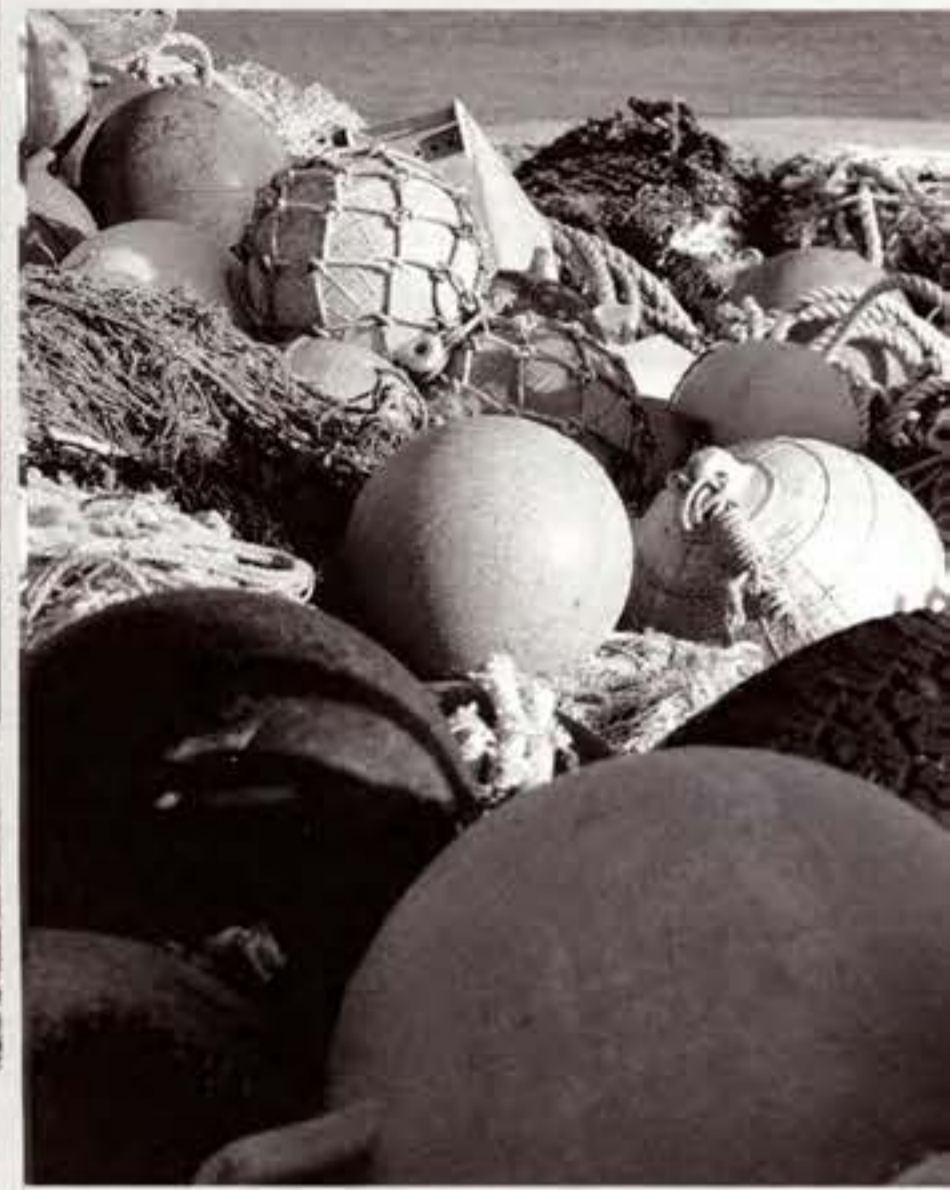
The biologist directed our teammate to cautiously slip a single-edged knife under the plastic and try to slice it off.



(Above) This albatross, like many of its peers, died with a stomach full of plastic debris. (Below) The sun sets behind marine debris and wildlife.



(Background photo) A Hawaiian Green Sea Turtle inspects a piece of plastic debris.



polychlorinated biphenyls, or PCBs, hazardous industrial chemicals banned in the United States in the 1970s.

Albatross ingest the chemicals through the food they eat. The geographic separation of the feeding habitat of the two albatross species, in addition to other factors, led scientists that sampled the tissues of albatross at Midway to conclude that the high toxicities indicated “‘general contamination’ in the tropical and north Pacific Ocean.”

Having traveled so far from the tainted waters that define the shores of Bellingham to the some of the most remote islands on the face of the earth, I felt cheated. Finding trash and industrial chemicals on my outpost in the Pacific, I felt as if my hope had been stomped on.

At Midway, I tripped on bird corpses invaded by the same poison that clings to the tissues of Puget Sound orcas who innocently feed their calves with PCB-laced milk. These creatures have amassed such high levels of PCBs in their bodies that several scientists,

Looking back, I saw a tight constriction imprint around the seal's neck, like someone had wrapped a huge rubber band tightly around it.

including Jean-Michel Cousteau, son of the late French oceanographer Jacques Cousteau, have called them the most chemically contaminated animals on the planet. Chemicals move up the food chain through bioaccumulation. Microscopic organisms ingest chemicals and then are eaten by larger

organisms. These larger organisms become prey to animals even higher on the food chain and pass on the chemicals accumulated in their bodies. In the end, predators high on the food chain like orcas that live up to 90 years, have a chance to ingest high concentrations of toxins.

The waters off the coast of our state play host to these orcas. The slippery black whales unsuspectingly hunt for cod, salmon and squid, not knowing they are chasing contaminated prey that could threaten their health.

Black-footed albatross feeding on squid share the water's surface. Natural instincts cause some of the birds to voyage from Midway's white sandy beaches thousands of miles away to the biologically rich waters off Washington's coast, where they eat poisoned squid.

Some of the same prey chased by the orcas and albatross will end up in the vast nets of commercial fishing boats, to be delivered to the mainland and eventually onto my barbecue in Seattle.

A wide range of fish, including salmon and squid, bring PCBs full circle, back to the species that created them. The Consumer's Union reports that eating fish is the biggest source of PCBs in humans. Studies have related them to infertility, birth defects and immune system and neurological problems. Some scientists believe they are the major players in a worldwide reduction in sperm counts in males. We share an ecosystem that we cannot separate ourselves from; nowhere was this more evident to me than on the secluded beaches of some islands so far away.



Laysan albatross (Top left) reunite with the same mate at the same place every fall, after having spent summer exclusively over the Pacific ocean. Workers at Midway systematically patrol the reef, looking for abandoned fishing nets (Top center) and bringing them to shore. In 1999, about 13 tons of net were removed. 1.3 million Albatross (Top right), from three species, congregate on the small, sand islands of Midway Atoll every year. A Black-footed albatross surfs the periphery wind currents around Midway. When over the ocean, Albatross flap their wings once every 45 seconds. One of 1,400 remaining Hawaiian Monk Seals (Bottom left, photo by Cynthia Vanderlip) finds itself trapped in sea-borne litter.

Knees in the sand and hands clinging hopefully to precious flippers, I felt nervousness in the seal's body as the dull side of the cool blade rubbed the back of his neck. The blade of the knife slowly cut through the thick orange plastic bucket, but it was working, the plastic was giving way. Just a couple more seconds ...

The knife slashed completely through the plastic bucket. The seal was free!

Unable to contain my emotion, I yelled triumphantly as we bolted to the cover of the ironwood trees. Looking back, I saw a tight constriction imprint around the seal's neck, like someone had wrapped a huge rubber band tightly around it.

The real culprit, the bucket, probably entered the ocean on some distant shore thousands of miles from Midway. It could have come from a shoreline garbage dump in Japan, a careless American fishing vessel or just a person in San Francisco who decided the ocean could take their trash away. In any case, the bucket was another piece to add to the debris collection taken out of the 25 square mile Midway lagoon, a collection that weighed nearly 13 tons in 1999 alone.

I watched the seal squirm back into the water. I still remember his shiny black eyes as he slipped into the foamy surf that gave way to the grand Pacific Ocean. I once thought this immense body of water had small corners of sanctity, where at least some creatures could escape the grasp of anthropocentric influence. I was wrong.

Seals that spend their entire lives in the Hawaiian Islands, distant from major industry, routinely die in marine debris. Albatross collapse and die with stomachs filled with trash. Bottlenose dolphins die in the Gulf of Mexico, their bodies filled with the same PCBs that concentrate in the bodies of the Northwest's orcas, the same chemicals we eat in our tuna fish sandwiches, our salmon fillets and our chicken. Mercury permeates the sediment of Bellingham Bay, pesticides are sprayed on fields in Whatcom county, leaching into our aquifers after they coat our vegetables.

Our environmental problems are sucked up by natural cycles and showered back out over our globe. No place, animal or person is isolated from this. Whether we are enjoying a swim in a forgotten lagoon or sitting at Boulevard Park watching gray whales breach in Bellingham Bay, our environment is our health.

\*Monk seals should not be approached or handled. However, after careful consideration for the health of this animal by an experienced monk seal biologist, physical removal of the plastic bucket was deemed the only appropriate course of action. Leaving the bucket would have increased the chances of further entanglement in abandoned fishing net, starvation and predation.





# PLAY GROUND ZERO

By Sarah Kopke  
Photos by Chris Goodenow

Residents of Skykomish, Wash. are toxic millionaires, heirs to groundwater, river and soil saturated with fuel oil and carcinogenic chemicals. Students in Skykomish School District's only school can dig into their playground and strike a black, sticky substance perfect for making mud pies. This substance, in its purest form, is known as diesel oil.

Skykomish, a town with a population of 275, lies in the Cascade Mountains, a stone's throw from Stevens Pass, and seems pristine. The town was established in 1893 as a refueling and maintenance station for the Great Northern Railroad. The railroad gave rise to the town, and for eight decades a river of oil seeped into the ground.

"In the late '70s, the railroad removed a 100,000-gallon [oil] tank," Don Emerson, a local teacher, said. "It had no bottom to it, so that obviously leaked."

Over the years, oblivious to the corroded tank, the Burlington Northern-Santa Fe Railroad continued to refill the tank with diesel oil and fuel. The oil-saturated soil is common knowledge to Skykomish residents, but not of great concern to many.

"Everyone's just kind of grown up with it," said Michael Moore, a part-time teacher for the district and member of the Skykomish Environmental Coalition.


The Coalition started seven years ago with a grant from the Washington Department of Ecology to increase citizen involvement.

Lead, arsenic and polychlorinated biphenyls (PCBs), all toxic to humans, also find homes in Skykomish. Years of sandblasting lead-based paint from train cars left lead and arsenic particles on the railway. A few times each year Burlington Northern sprays a dust suppressant on the tracks to temporarily keep toxic dust bunnies at bay. Maloney Creek runs by the foundation of an old transformer

station where the railroad produced electricity and where traces of PCBs are now detectable.

According to Ecology, all toxins identified by Burlington Northern and Ecology show concentrations exceeding state levels. Long-term exposure to either diesel oil or its fumes have been determined to be cancerous, according to David Solet, the assistant chief of epidemiology, planning and environmental health for the King County Public Health department.

Exxon Corp. recommends people working closely with diesel oil keep contact with the oil and fumes to a minimum; that means minimizing contact with skin, not breathing the fumes and discarding oil-soaked clothes. It is easy to throw away oily clothes, but laundering an entire town is proving to be more difficult. Ecology estimated the total volume of spilled oil at approximately 160,000 gallons. Oil seeps into the soil and hitches a ride on the groundwater until reaching the riverbanks where it either congeals on rocks or enters the Skykomish River. Tap water is saved from contamination, because it emanates from a source uphill of the town.



The Washington Department of Ecology estimated the total volume of spilled oil at approximately 160,000 gallons.

Fumes from the seeping oil make the riverbank smell like a gas station. The smell of diesel pulses as rainbow-colored oil rings float to the surface and dissipate in the current. Moss and sand take on the sheen most often seen in parking lot puddles, and oil marks stain rocks in a straight line along the bank. Oil lubricates the underside of Skykomish as if the town were a iceberg adrift on a toxic ocean.

Burlington Northern claimed full responsibility for the impacts of contaminants and has recovered 755 gallons of oil, about .5 percent of the oil spilled, since 1995 by means of extraction wells. The extraction wells circulate belts into contaminated soil where oil sticks to them, and is scraped off and sent to storage shacks. Containment booms, made of a material resembling cotton, are placed around river banks at low water levels to absorb oil, Moore said. Other temporary cleanup measures include dust suppressants and signs on Burlington Northern property.

A complete cleanup cannot happen until Ecology produces a Remedial Investigation, or RI, a legal document containing the result of soil tests, Moore said.

"From a citizen's standpoint, the RI is necessary," Moore said. "We don't have a legal foot to stand on until the data is collected."

The railroad's environmental engineer, Bruce Shepard, said Burlington Northern is working toward a solution.

"We believe we'll excavate the lead-contaminated soil ... Cost is one factor, and so is risk to public health from direct contact," Shepard said.

Moore said excavation is unlikely, because it would involve picking the town up and replacing soil with clean fill.

Moore said the most reasonable option for a cleanup at this point is the construction of a 15-foot cement wall in the river that would block oil from seeping into the river and allow it to pool where it could be pumped out.

The town restricts digging holes deeper than three feet without an Ecology cleanup crew on standby. Moore also said that if he were to sell his house he would be required to tell realtors and potential buyers that the house rests on an oil plume, which decreases the monetary value.

Louise Bardy, Ecology's program manager for the Skykomish cleanup, expressed frustrations with Burlington Northern.

"When we [took over the RI], that was to a point where people thought it was done, and it wasn't — so we had to kind of take a step back," she said.

A feasibility study by Ecology outlining all cleanup options is underway. Prior to any sampling conducted by Burlington Northern, Ecology has to approve the techniques and plans. According to a draft of the site cleanup status put out by Ecology, Burlington Northern has yet to complete sampling of biological sediments, an evaluation of diesel fume pathways and soil testing in Maloney Creek. Once

the RI and feasibility study are complete, the public will have 30 days to comment and make suggestions on the cleanup process.

When the town of Skykomish and Burlington Northern determine what damage has been done to the community, all the contamination up to that point is the responsibility of Burlington Northern, Moore said. Any impact discovered after the completion of the hearings between Skykomish and Burlington Northern, which have yet to start, will not be the railroad's responsibility, including long-term health effects.

"[Burlington Northern] inherited a liability it's responsible for," Moore said.

Whether it is the lack of life in the town of Skykomish or the flavor of those mud pies in the playground, a sense of abandonment and fear creeps up from the riverbed and into the streets. Skykomish is the only community in Washington where people live on oil-infested land, the only place where septic tanks are laid to rest in three feet of oil.

"You can't feel safe is what it is," said Megan Land, a 15-year-old freshman in Skykomish School District.

For now, Moore and other concerned citizens wait for the railroad and state departments to blaze the paperwork trail. Meanwhile oil laps in the river and lead and arsenic leftovers dance in the air across the street from the school. The 24 trains that cruise through town every day and the orange wells monitoring oil levels are reminders of what lies below. Two orange, eight-foot containment booms collect oil seeping out of the river bank.

Standing in the schoolyard, Moore looks down and brushes the grass with his foot.

"I can dig a hole right where I'm standing and hit oil."

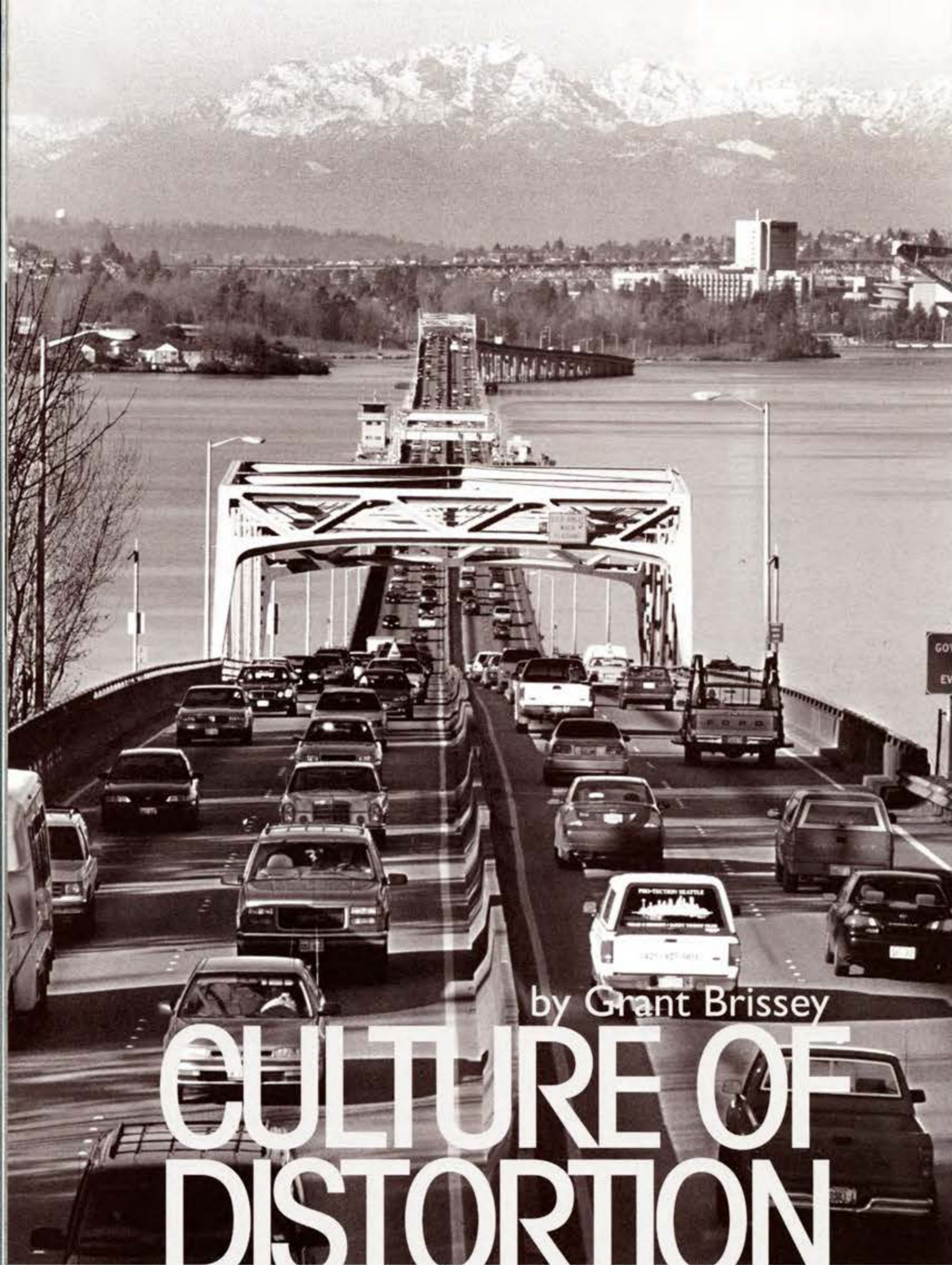


(Top) Michael Moore, chairman of the Skykomish Environmental Coalition, is helping his high school students make a video to raise awareness about Skykomish's toxic sites.

(Center) Skykomish, Wash. welcomes visitors to board-ed up hotels and saloons, and a railroad's legacy of a slick undertow of oil.

(Bottom) Oil seeps up from riverbeds, dispersing upon contact with the current, emitting diesel fumes and sticking to hands in the process.

"Everyone's just kind of grown up with it." — Michael Moore, a part-time teacher and member of the Skykomish Environmental Coalition.



"Environmental noise is a factor in a variety of symptoms, ranging from anxiety and emotional stress to general psychiatric disorders such as neurosis, psychosis and hysteria."  
— The World Health Organization

by Grant Brissey

# CULTURE OF DISTORTION

Perhaps the most problematic aspect of American consumerism: the car.

Photos by  
Chris Goodenow

I walk into Bellis Fair on a Wednesday morning to observe what our country has become best at — consuming.

Although a weekday, and the holiday season over, the parking lot is nearly full. The inside of the mall is alive with shoppers. School is in session, but teenagers walk from store to store. I sit down on a bench at the end of a long corridor. Two elderly men approach, then stop and look around.

"Do you want to leave here, or go back the way we came from?" one asks the other.

They opt to continue their walk through the mall, instead of venturing into the outdoors, away from influences which have begun to shape our culture.

The way we live today is creating an environment that not only affects the health of our bodies; it affects our minds. Every day we hear too much, see too much and buy too much, and as a result, our culture is becoming ill.

Kalle Lasn, founder of *Adbusters Magazine* and author of "Culture Jam," said he believes our excessive consumption is simply a sign of mental illness.

According to a report from the U.S. National Center for Health Statistics, mental illnesses and addictive disorders affect nearly one third of the United States' population.

"It is really our culture, in all its different ways, that has become excessive," Lasn said.

Lasn is a pioneer in one of several emerging schools of thought which maintain that, for many reasons, we have given up control of our mental environment.

"Who controls our mental environment ... controls the stories? I think that is the number one problem we face today," he said. "When I was young, we the people still controlled their own culture. It was our culture; we produced it out of our own doings.

"Lately I get the feeling that our culture is being spoon-fed to us top-down by the big advertisers and corporations, and by the media, which is more and more a monopoly."

Lasn noted media giants such as AOL/Time Warner, Disney and Viacom, products of multi-billion dollar mergers that continue to consolidate media sources.

Perpetuated by factors such as advertising and the continued replacement of natural processes with man-made systems, our society goes through daily life disconnected with the reality it once knew — co-existence with the natural world. We drive instead of walk to the corner store to buy food that is more manufactured than grown, and get clean water from a bottle. Ultimately, it seems we believe that we need it this way. A major factor in this deviation, Lasn maintains, is the psychological effects of the mass of advertising our culture is subject to on a daily basis.

"This kind of mental clutter that we live in ... is much more than an irritation," Lasn said. "Advertising is just making us mentally ill — 3,000 marketing messages a day — a lot of those messages come in a very aggressive cluttered format of mediums like television and radio, and that adds up to a noise in everybody's mental space."

This noise, Lasn wrote, is currently the most recognized form of mental pollution. From the radio alarm that jolts us into consciousness in the morning to the Walkman we can't go jogging without, we have become accustomed to a constant level of unconscious distraction. Lasn makes the analogy of living next to a freeway — one eventually gets used to it, but only at a compromised state of well-

being.

A 1999 World Health Organization report stated that environmental noise can accelerate the development of latent mental disorder. According to the report, studies showed that environmental noise is a factor in a variety of symptoms, ranging from anxiety and emotional stress to general psychiatric disorders such as neurosis, psychosis and hysteria.

Universities are particularly subject to this noise. Colleges have begun allowing corporate solicitation on campuses.

A 1999 Consumer Federation of America report stated: "Universities not only permit aggressive credit card marketing on campus, they actually benefit financially from this marketing. Credit card issuers pay institutions for sponsorship of school programs, for support of student activities, for rental of on-campus solicitation tables, and for exclusive marketing agreements."

Credit card companies are not the only form of advertising showing up in the education system. Corporations are now accessing student purchasing power by packaging advertising with varying forms of news media.

"This is a phenomenon that started about 15 to 20 years ago, and it gathered strength in the United States where 10,000 high schools started beaming in Channel One, and for the first time high school classes had ads," Lasn said. "A huge taboo was broken there by allowing ads into the classroom, and ever since there's been a stampede of cash-strapped schools cutting all kinds of deals with corporations."

Here at Western, the advertising and design of the online campus newspaper is run by Digital Partners, a subsidiary of ispi, an Internet publishing and e-commerce company. Digital Partners now boasts advertising access to more than 100 college newspapers.

"For corporations trying to reach college students with their \$100 billion buying power, the Digital Partners Network is the optimal way to execute efficient marketing campaigns," David Hahn, CEO of ispi and Digital Partners, said.

"It's an insidious development," Lasn said. "It's giving the wrong message, but I think most students in most schools accept this as the normal way our culture now operates."

Studies show the advertising is working, not only in schools, but everywhere — many Americans are spending more money than they make. According to another

**"Advertising is just making us mentally ill — 3,000 marketing messages a day — a lot of those messages come in a very aggressive cluttered format of mediums like television and radio, and that adds up to a noise in everybody's mental space."**

**— Kalle Lasn, *Adbusters Magazine***

Consumer Federation of America report, an estimated 55-60 million households with revolving credit card balances carried an average balance of more than \$7,000 per household.

Lasn suggested American culture experiences suffering caused by plentitude.

"Throughout the history of humanity we lived in scarcity," he said. "We didn't always have enough to eat. We lived like this for 3000 generations of human history."

Americans now have access to too much. We are over-stimulated and don't know how to deal with it. Faced with potential consumption at our fingertips, we do not possess the capacity to resist. For every ailment, every inconvenience, we have created a product, a prescription or a diagnosis.

"We don't quite know how to negotiate this plentitude," Lasn said. "More than half of North Americans are obese — not just five, or 10 — but 20 or 30 pounds overweight. They just don't know how to eat anymore."

Not only are Americans eating too much, they aren't exercising either. A U.S. Department of Health and Human Services study found that "about 25 percent of adults claim they do no physical activity at all in their leisure time."

Many would rather watch the world from their television, or listen to it from their radio. According to an 1998 article in *Mediaweek*, the average American consumes 11.8 hours of media daily.

"[Television] has become one of the few ways we can still feel connected," Lasn said. "When 60 million people all watch the Super Bowl together, then there is a certain degree of solidarity and relief, even though it is a poor substitute for the real thing."

America's fascination with staying connected through television has not come without its apparent negative side-effects. The Cultivation Theory, developed by the long-term research of George Gerbner and his colleagues at the Annenberg School of Communication at the University of Pennsylvania, asserts that exposure to the repeated messages of television gives viewers a distorted world view, common roles and values.

For example, researchers have suggested that the portrayal of an ideal body type on television gives Americans a distorted view of their own bodies. A U.S. National Center for Health Statistics study found that 44.1 percent of males and 25.4 percent of females felt they were overweight when they actually were not.

Ecopsychology is another ideology attempting to explain the causes of cultural traits like consumerism using ecological and psychological concepts. The movement originated with the 1992 book, "The Voice of the Earth," by Theodore Roszak.

"[Television] has become one of the few ways we can still feel connected."  
— Kalle Lasn

"One of the goals of ecopsychology is to see how many psychological terms can be used to address environmental issues," Roszak said.

In the book, Roszak used psychological points of view to examine irrational relations with the environment. He explained that some traits of contemporary society were so irrational that they



could only be explained by psychology. He wrote that the causes of habits, such as consumerism, seem to be psychological in nature; shopping seemed to be a form of relaxation or a temporary way of escaping depression.

Roszak said that while writing and researching for the book, he found most people wanted to talk about their consumption habits.

"Most people realized that their consumption habits were pretty crazy," he said.

Although he said after he wrote the book he had trouble getting the psychology field to research his ideas. He explained that psychologists work within a framework, and usually associate psychological problems with social relationships. They are hesitant to consider new theories due to the lack of traditional support.

"If they don't know they can label it, if they don't know they can bill for it — they are reluctant to look into it," Roszak said.

Roszak said he agreed that advertising has a powerful influence on contemporary American culture, which is easily manipulated.

"Advertising is a good example of how powerful psychology is — it's psychology in the wrong hands," he said. "The whole idea [of ecopsychology] is to see if psychology can take on environmental problems."

Despite the trends, Lasn and Roszak both expressed hope for our culture.

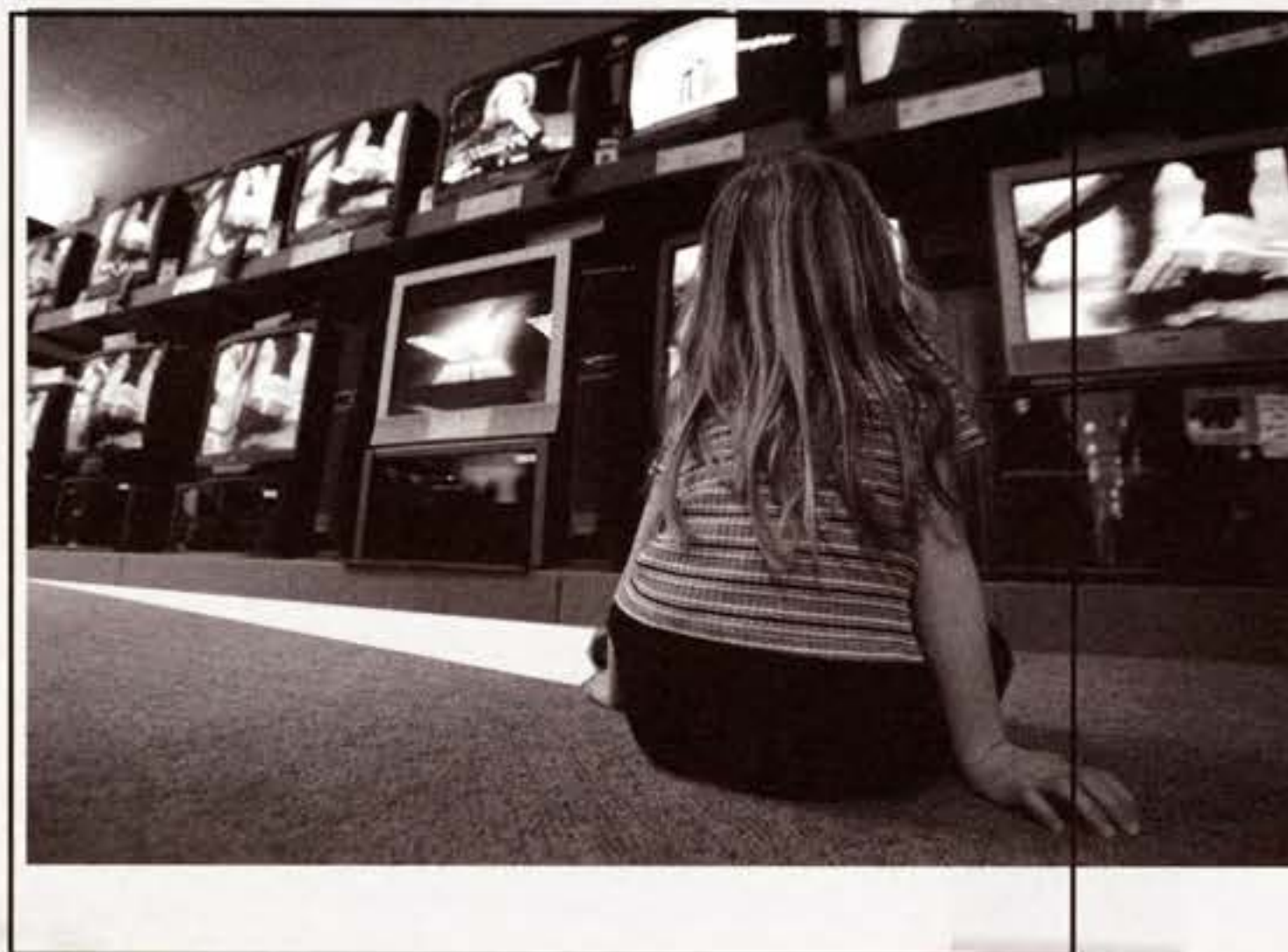
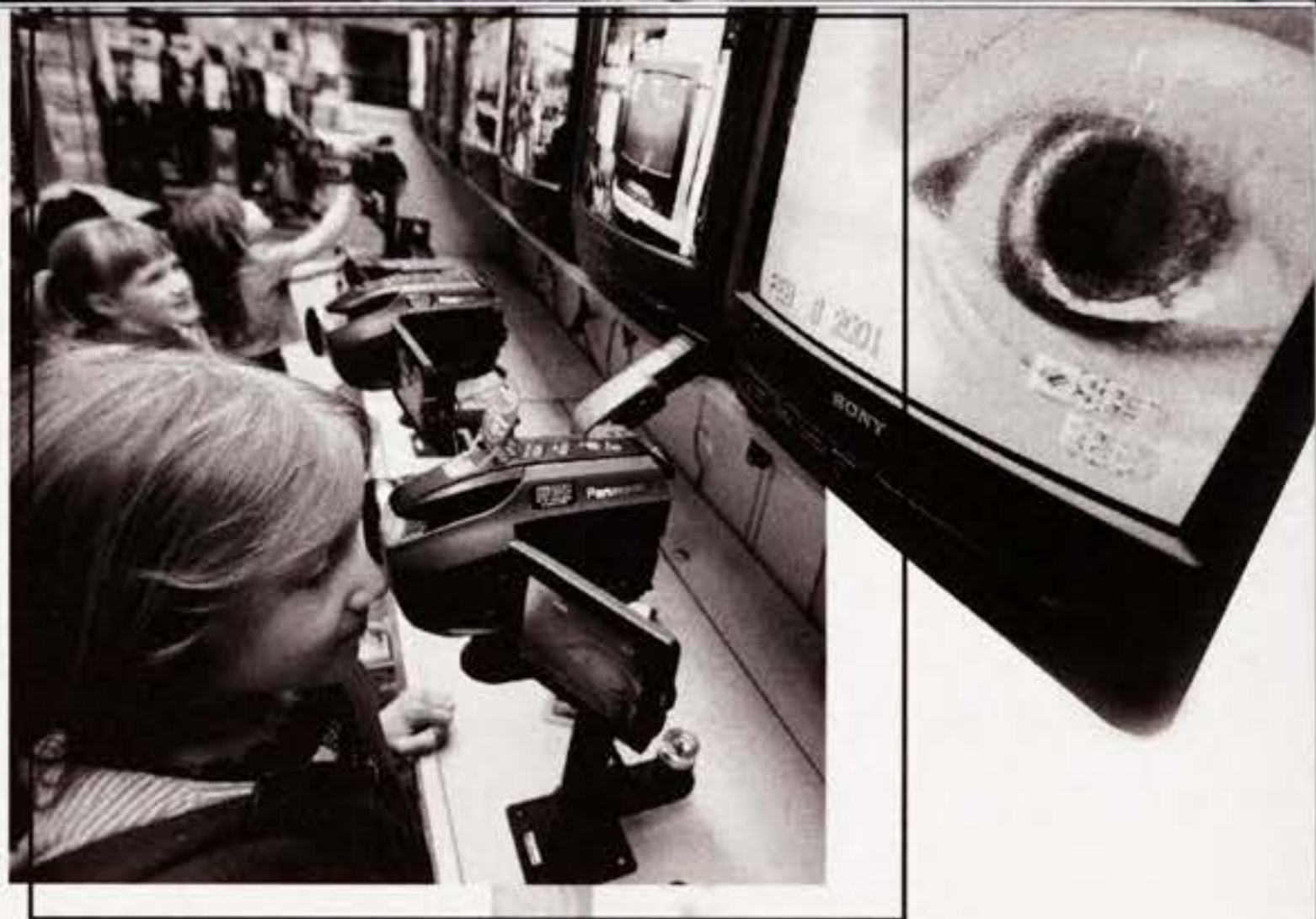
"A small number of people are waking up to the fact that they are being propagandized, and that ever since they were babies crawling around the television set they basically have absorbed hundreds of thousands of television ads and various other kinds of commercial propaganda," Lasn said.

Roszak said a small number of psychologists have begun applying the principles of ecopsychology in assessing American culture.

"Psychologists can help the environmental movement," he said.

"The first step is learning about what the problems are realizing that we are actually evolving in the wrong direction and that our system is unsustainable," Lasn said.

At some point we lost control; our wants became needs. We drive where we want, eat what we want and buy what we want. We want too much.



Growing up in the information age: According to the National Institute on Media and the Family, the average child consumes 25 hours of television per week

Photo by Angela D. Smith. A woman looks at the lingerie-clad women, one about a size 9, the other about a size 13, displayed in the front of Lane Bryant, a store that has "been working diligently to make (its) stores one of the most fashion-forward clothing retail chains for plus-size women," according to the Lane Bryant Web site.

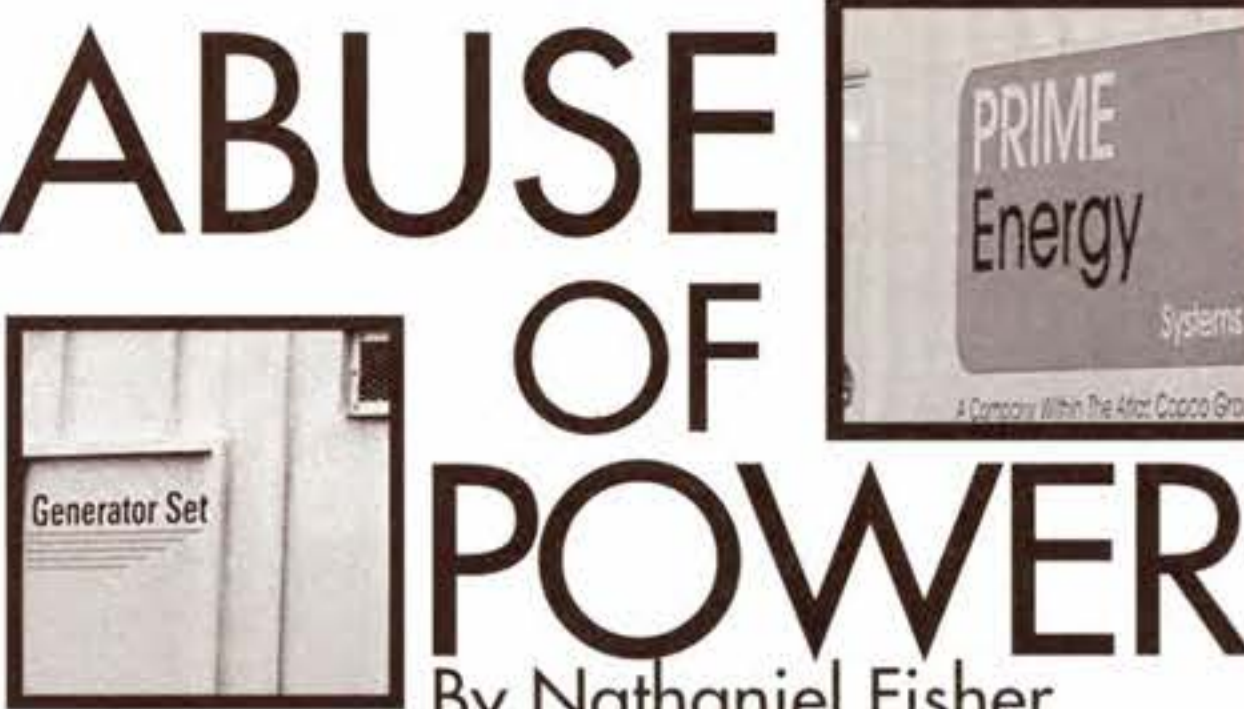


"We all hear about the economic costs: job loss, power, those sorts of things. There's a real economic and community cost to lung cancer."

— Robyn du Pré, REsources

# ABUSE OF POWER

By Nathaniel Fisher



At first glance, the 40 semi trailers parked at the Georgia-Pacific West, Inc. mill in downtown Bellingham look harmless enough. They are not violating any traffic laws, and they are not parked illegally.

But there is a 1.25-megawatt General Electric diesel-fired electricity generator inside each trailer, and many Bellingham residents believe they are anything but harmless and will violate air pollution laws.

The Washington State Clean Air Act states: "It is declared to be public policy to preserve, protect and enhance the air quality for current and future generations."

It appears the current "power crisis" faced by many western states has given legislators and industrial magnates an excuse to violate this important mandate.

California utilities usually supplement the Pacific Northwest's winter power supply but, owing to electric utility deregulation, California can't keep its own lights on, much less sell excess power to Washington state. As a result, Northwest electricity prices are higher than ever before.

Once measured in tens of dollars, the price of one megawatt of electricity has risen to hundreds and even thousands of dollars. Industries trying to operate under these rates are looking beyond the Puget Sound Energy electricity grid to fill their needs. Many, like G-P, have turned to portable diesel electric power generators to ease their dependence on power off the grid.

An April 2000 release from the American Lung Association states: "diesel exhaust has been linked in numerous scientific studies to cancer, the exacerbation of asthma and other respiratory diseases. A draft report released by the U.S. Environmental Protection Agency in February 1998 indicated that exposure to even low levels of diesel exhaust is likely to pose a risk of lung cancer and respiratory impairment."

At a Bellingham City Council meeting in February, concerned citizens packed the council chambers to express their concerns about the possibility of adverse human health effects related to exhaust from G-P's proposed generators.

"We see a real threat to community health," said Robyn du Pré of the local environmental education and advocacy organization

REsources. "We all hear about the economic costs: job loss, power, those sorts of things. There's a real economic and community cost to lung cancer."

In its report to the California Air Resources Board, the panel charged with investigating diesel exhaust wrote, "diesel exhaust contains substances formally listed as Toxic Air Contaminants by the State of California and as hazardous air pollutants by the U.S. EPA."

Most of G-P's Bellingham facility, located on the waterfront in the center of downtown, was shut down by the energy price hike in December 2000. G-P chose to have its rates tied to the open market, and buy other state's surplus power. It had the option of purchasing a hedge, or insurance contract against a rate increase as it did one month last summer, said Mark Cockrell, manager of environmental affairs at G-P. But the plant opted out of further insurance.

"All the latest wisdom said we'd go back to the standard rates," Cockrell said.

So, when prices soared, doors closed and production nearly ceased.

"Some corporate people made some business decisions that were very poor," Dr. Frank James, former Whatcom County health officer, said. "They made millions of dollars, at the time, on those business decisions. Now those same business decisions stand to lose them millions of dollars ... what you can't do is privatize profit and socialize costs, which is exactly what they're trying to do."

Economic and profit analysis does not usually include the cost of pollution in its figures. Besides possible effects to human health and the environment, air pollution can drastically affect tourism and smaller local businesses.

"When you consider health risks, you have a real economic cost to air pollution," Harriet Ammann, senior toxicologist at the Washington State Department of Health, said. "It should be part of economic analysis."

G-P hopes to install a permanent 38-megawatt natural gas turbine by November. The plant was planning to rent two mid-sized temporary turbines until then, but the power crunch has crippled the supply of alternative power. Temporary turbines have become nearly impossible to find, Cockrell said.

In the meantime, G-P planned to have the 40 trailer-mounted diesel generators online very soon, to supply the 38 megawatts of electricity it requires to run at full capacity. An outside consultant is performing ambient air quality modeling for G-P to verify that the addition of the generators will not violate National Ambient Air Quality Standards, or NAAQS. G-P expects to meet these standards even with the added generators.



Photo by Nathaniel Fisher. Forty trailers hold diesel generators in the G-P parking lot.

Washington Administrative Code 173-400-110 (9) allows industries to use temporary sources, like the diesel generators, for up to one calendar year. If the operation of the generators does not violate NAAQS, the Washington State Department of Ecology will permit G-P to run them through March 31, according to Merley McCall in the Industrial Section of the Ecology. The plant must complete a Notice of Construction application to continue running the generators past that date.

"We're trying to figure out what is the fastest we could go to something [other than diesel generators] with lower emissions," Cockrell said.

As part of Notice of Construction, DOE asked the facility to evaluate the viability of any add-on pollution control technology. But the cost to retrofit the generators with pollution-control technology could be as high as \$200,000 per unit. That would probably not be feasible, given the short period of time G-P plans to run them, Cockrell explained. The plant is planning to look into other, more viable technology.

"Generally, we're trying to get corporations to listen to people in the communities and voluntarily clean-up," Ammann said. "If you have to have [diesel generators] as a stop-gap measure, you should make sure [they are] as clean as possible."

Many Bellingham residents are concerned about the facility using the diesel generators for even a short period of time.

"The blatant disrespect of this corporation towards the health of our ecosystem and the people who live here is just really disturbing," Amber Johnson, a Bellingham resident who is active in efforts to curtail G-P's plans, said.

Diesel generators are not often used as a primary means of electricity generation, but they are popping up all over western Washington as a result of the high cost of electricity. The generators are typically used for standby and emergency use, explained Annie Naismith, an air quality engineer at the Northwest Air Pollution Authority.

"This hasn't been an issue in the past," NWAPA regional spokesperson Lynn Billington said, referring to the increased use of generators.

The BP-Cherry Point oil refinery in Blaine, Equilon refinery in Skagit County and the City of Anacortes waste treatment facility are all currently using diesel.

"Here's a business, one business, in downtown with 800 employees, a lot of employees," Doug Tolchin, a Bellingham real estate developer and activist with Friends of Whatcom County, said. "Well, you know we have 600 other businesses downtown employing over 5,000 other people, and they're all going to be damaged if this happens."

Residents fear that the increased emissions will threaten the health of the community, perhaps with good reason. David W. Cugell, a professor of pulmonary diseases at Northwestern University Medical School, addressed this issue at the EPA hearings in Chicago.

"Fine particles [found in diesel exhaust] are so small that they are easily inhaled and retained deep within the lungs," Cugell said. "These fine particles aggravate asthma, bronchitis, emphysema and heart disease. Diesel exhaust contributes to an air pollution problem that places us all at risk."

To make matters worse, below-average snowpack in the North Cascades is threatening to starve Washington's hydro-electric dams next summer.

"There's a chronic shortage of power on the West Coast, and it isn't going to get any better," Cockrell said.

Clearly, this is an issue of growing importance.

"The technology for clean-burning diesel is there," Ammann said. "It takes the will to put it in place."

Washington State clean-air legislation is strong in its convictions. But the enforcement framework appears all too willing to sacrifice those convictions when the state is pinched for power.

"It seems crazy that we don't have the right to be healthy in our own town," Bellingham resident Tim Scotchler said.

"They made millions of dollars, at the time, on those business decisions. Now those same business decisions stand to lose them millions of dollars ... what you can't do is privatize profit and socialize costs, which is exactly what they're trying to do."

— Dr. Frank James, former Whatcom County health officer

At press time, G-P had begun to 'voluntarily shut-down' the generators in response to a suit filed against them by the city of Bellingham. This is by no means a guarantee that the generators will not be reactivated in the future with some minor alterations to their operation.

Photo courtesy of Terrill Simecki, The Western Front. Several people attending the Feb. 2, 2001 Bellingham City Council meeting wore stickers stating, "Do I look like a threat to public safety?" in protest of G-P's diesel generators.









# THE DOWNWINDERS

By Lisa M. Curdy  
Photos by Chris Fuller

“I believe my health problems are directly related to Hanford.”

— Julia Landry

Julia Landry and her daughter Jeri Halford share the same nose, eyes and warm voice. They also share very similar health problems — hemorrhaging between menstrual periods, early hysterectomies, problems conceiving children — which they say are caused by exposure to radiation releases from the Hanford Site, the world's first nuclear reactor, between 1944 and 1972 when the site was producing plutonium.

Landry was born in Coeur d'Alene, Idaho in 1931 as the only daughter in a family of three boys. She lived in her hometown for 28 years — long enough, she said, to be unknowingly irradiated by a top-secret nuclear facility 145 miles away in Hanford, located in southeastern Washington state.

“I believe my health problems are directly related to Hanford,” Landry said.

Landry's story and health problems are representative of many women's stories as told to the Hanford Health Information Network, an organization created by the Washington State Department of Health to inform and educate people living near Hanford's reactors.

In 1949, Landry was starting a family with her new husband.

“In Coeur d'Alene we conceived and had three live children,” she said. “Our first born in 1950, the second in '51. In '52, I miscarried with our third child — it had no arms or legs.”

She became pregnant and had a fourth child in 1954, but the pregnancy was difficult and had to be maintained using hormones, she said.

In 1959, Landry, then 28, and her husband moved their family to Polson, Mont., to start a NAPA auto parts store.

“Following that, I had lots of female problems — very painful ovulation, heavy menstrual periods,” she said. “If I had too much pain at ovulation, doctors would give me an injection for pain. For heavy periods, well, I tolerated them until they became unreasonable. Unreasonable — you know, when you stand up and the blood trickles down your inner leg to your ankle even though you're



Jeri Halford



Julia Landry

TOP LEFT: As water vapor rises from the cooling towers of Energy Northwest Plant 2, those approaching the plant are instructed on how to react in the unlikely event of an emergency siren. The plant has been in operation since 1984. BOTTOM LEFT: Highway 240, or the Hanford Highway, cuts through the Hanford Area in Washington's lower east side. Except during morning and afternoon rush hour, this stretch of isolated two-lane highway is relatively abandoned. TOP CENTER: Chain link fencing with barbed wire surrounds Energy Northwest Plant 1. Construction of three power plants began nearly 20 years ago, but was halted after the completion of Plant 2 and shortly before the other two plants were finished.

wearing a pad — it was more like hemorrhaging.”

A dilate-and-curette procedure was performed in 1970 to scrape her uterine lining in an attempt to alleviate excessive bleeding, to no avail.

“I was 39 in 1971, when I had a complete hysterectomy,” Landry said. “They took my ovaries, fallopian tubes and uterus. I saw my doctor in Polson right before I went to Kalispell for the surgery and was still bleeding. He packed me with four maternity pads for the trip, which took an hour and fifteen minutes.”

This prompted Landry to wonder about the possible health toll living downwind of Hanford had on her body.

In 1943, when Landry was 12, the U.S. Department of Energy selected the Hanford Site, as it was later known, as the nation’s first large-scale nuclear material production site, which would furnish plutonium needed in the race for the atomic bomb.

By 1944, the world’s first nuclear reactor core was using uranium as fuel in nuclear fission that produced plutonium. During the plutonium-extraction process, irradiated uranium gave off gases that were routed directly outside through tall stacks.

Iodine-131, one of the gases, was blown by the prevailing wind from the Hanford Site northeast across Coeur d’Alene and other cities. I-131’s path is similar

to Mount St. Helens’ ash path, which was spread by the same prevailing wind in the same general direction.

People in exposure areas, which stretch from the Hanford Site to parts of Canada, Oregon, Washington, Idaho and Montana, have been dubbed “downwinders” by the U.S. government. The Hanford Site recognizes Coeur d’Alene as an exposure site. Downwinder is a commonly used term that refers to people living in the pathway of radioactive emissions from a nuclear plant or from atomic bomb test sites.

The area downwind is the exposure area where radiation was blown intermittently for 28 years between 1944 and 1972, when the Hanford Site was producing plutonium.

“In a gas, iodine-131 can travel long distances,” said R. Gene Schreckhise, associate campus dean and academic coordinator of the environmental science program at Washington State University Tri-Cities. Schreckhise, who has a Ph.D. in radiation ecology, also worked for Battelle — one of the Department of Energy’s primary contractors at the Hanford Site — between 1974 and 1994.

“The stuff would blow downwind and be deposited onto vegetation,” Schreckhise said, because minute hairs on plant surfaces would “catch” I-131. “The most prevailing exposure to humans was by milk, by cows grazing on grass or hay that has been exposed to iodine-131 in the atmosphere.”

I-131 would collect in cows’ udders, where milk is produced, and exposed people who drank irradiated milk. People were additionally exposed through breathing air and eating vegetables and fruits grown in the exposure area.

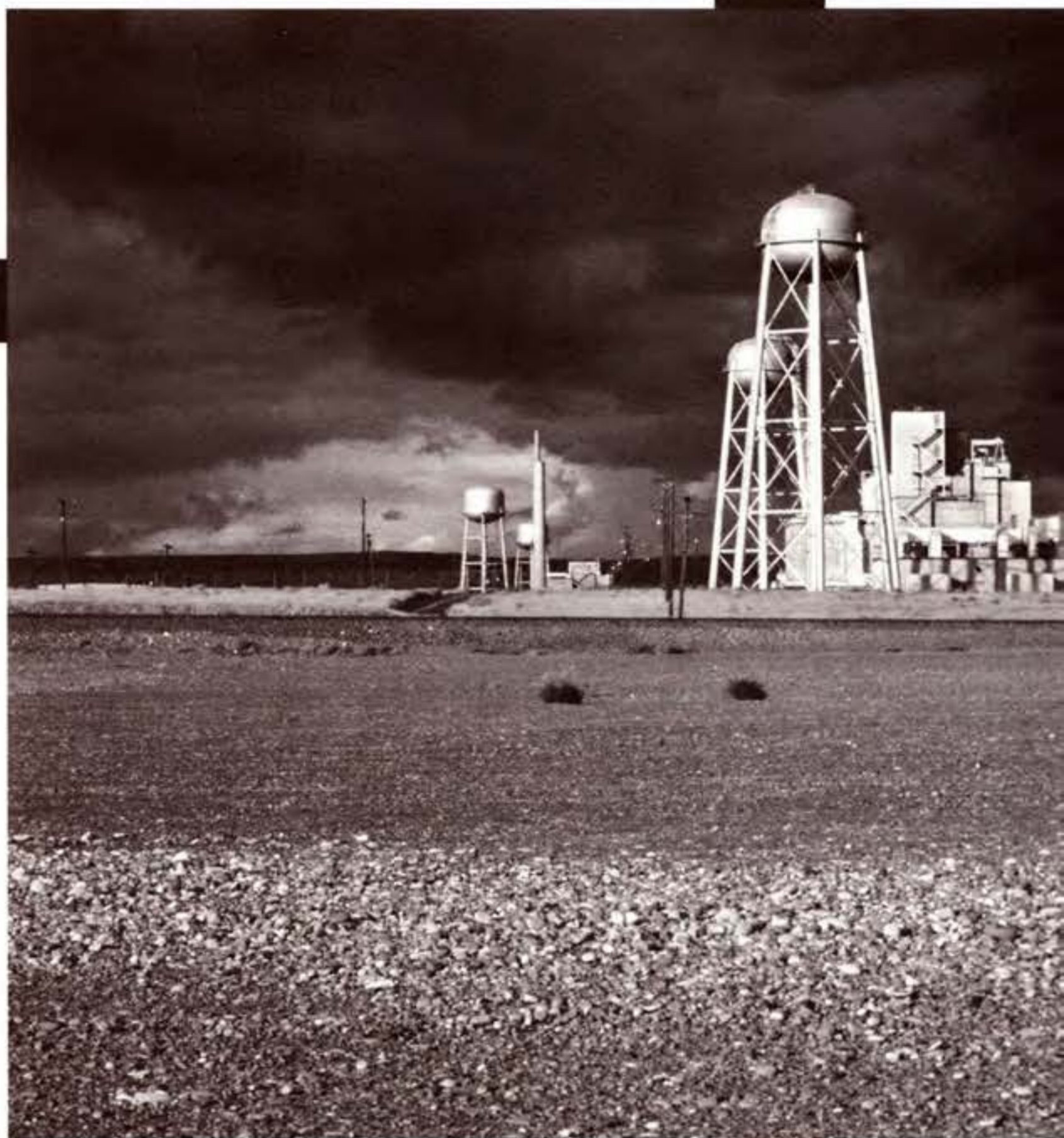
“There were certainly exposures to people living downwind of Hanford,” Schreckhise said. “Some exposures were possibly high enough to cause a health effect.”

Growing up in rural Idaho, Landry’s family and most others grew their own vegetables and fruits and drank gallons of local milk.

Unbeknownst to Landry, tasteless, colorless and highly radioactive iodine-131 had been poisoning her and her family through milk, vegetables and fruits between 1944 and 1972, Hanford’s plutonium-producing years.

The DOE is gathering data to establish a relationship between the level of radiation released into exposure areas and its affect on health. It has been gathering data since 1992.

Carter Kirk, one of the DOE’s occupational health specialists, did make a connection



**CENTER: Photo courtesy of James Fuller.**

For its contribution to the end of World War II, Hanford’s B Reactor has been declared a National Historical Site. It is the world’s first production-scale nuclear reactor, beginning operation in September 1944. It produced plutonium for two of the first three atomic bombs; the test bomb that was the first nuclear weapon detonated and the “Fat Man” bomb, which exploded over Nagasaki, Japan on Aug 9, 1945. It, along with eight other reactors at Hanford, produced the majority of America’s weapons-grade plutonium during the Cold War. Iodine-131 was released into the atmosphere during the plutonium extraction process, which took place in another facility at Hanford. B Reactor was shut down in 1968.

**BOTTOM RIGHT:** As water vapor from the cooling towers of Energy Northwest Plant 2 rises, it is blown downwind just as gasses emitted during plutonium extraction processes were blown for 28 years.

between living in an exposure area and an increase to the incidence of disease.

"When you're in a remote area where the availability of health care is depressed — when you don't have access to health care — you also have an increase in disease rates," Kirk said.

The DOE can't offer any statement about what exposure victims say is a correlation between Hanford radiation and disease because the Office of Health Policy, which would have information on the issue, is currently vacant, Kirk said.

But connecting Hanford to health problems is more difficult than it looks, Schreckhise said.

"I never tried to defend Hanford, I always tried to look at it scientifically. Tried to find the fact as much as we can," he said. "I remember a letter to the editor of a newspaper written by a farmer. It said something like, 'Don't point fingers, farming is risky. Pesticides,

insecticides and fertilizers have been known to be improperly used. I'm not saying that outweighed the Hanford releases, but it's hard to develop a cause and relationship with that kind of complication."

The Radiation Effects Research Foundation, a joint effort by the Japanese and American governments to study the effects of radiation on human beings, found that though exposure to radiation has been linked to lung, stomach, breast and colon cancer and is known to cause developmental defects in children, rare cancers usually are not the result of radiation poisoning. It

"I think Hanford has a lot to do with it. Insurance companies won't touch me. I'm a red-hot poker. I'm a single mother with recurring cancer, and the trickle-down effect is going to be financial devastation — catastrophic medical bills, the inability to work while being treated." — Jeri Halford



also did not link excessive menstruation to exposure.

But Landry's 49-year-old daughter, Jeri Halford, believes her health problems are exposure related — and that Hanford Site's radiation was passed to her in utero — because she is experiencing medical conditions similar to her mother's. Halford knew she was infertile in 1976 when she tried to conceive a child, unsuccessfully. She then adopted.

Halford said she began bleeding uncontrollably between menstrual periods in August 1992.

"I would have died from a lack of blood — I was hemorrhaging for eight months," she said. "I would go through one of those boxes of super-absorbency tampons in a day. It got to the point where I couldn't leave the couch or bathroom because I couldn't stop the bleeding.

"It didn't stop until April 1993 when I underwent a complete hysterectomy. I was 43."

A routine biopsy of Halford's removed ovaries, fallopian tubes and uterus revealed a rare cancer, endometrial-stromal sarcoma, which feeds off estrogen.

Though her main estrogen-producing parts have been gone for nearly eight years, Halford's cancer has returned. A grape-size tumor on her vaginal cuff — where her cervix was located before the hysterectomy — will cost \$30,000 to remove.

"I'm at the point where I will probably contact Hanford for financial help," Halford said. "I think Hanford has a lot to do with it. Insurance companies won't touch me. I'm a red-hot poker. I'm a single mother with recurring cancer, and the trickle-down effect is going to be financial devastation — catastrophic medical bills, the inability to work while being treated."

Halford has sought financial aid from the American Red Cross, American Cancer Society, the United Way, National Healthcare Patient Advocate Foundation, National Coalition for Cancer Patients and MAMMA, an agency that assists single mothers, but has found only dead ends.

"You don't know how many health problems might be attributed to radiation," Landry said. "I

was curious about Hanford's effect from the way back because I had a cousin who worked at Hanford that died of leukemia. That was my first spark that something could be wrong. Had a nephew who developed cancer of the liver and stomach in the downwind area of Coeur d'Alene. Died at 49. Had a sister-in-law from Coeur d'Alene who died of breast cancer. And my daughter is barren, never able to have kids, and I have a 20-year-old grandson who is grossly retarded. He can't speak, read or write.

"It's hard to describe the feelings — at first you're appalled and shocked, then you begin to wonder, 'How insidious is this? How many generations is it going to touch?'"



# Thirsting for Justice

By Katie Stephens  
Photos by Chris Goodenow

The close connection to migrant workers and the dangers of chemical exposure makes them the group most susceptible to toxins in Whatcom County.

*Peligro: El uso de pesticidas esta usado aqui*

The pesticide warning and danger signs wink faintly across acres of farmland, stretched into neatly tilled rows of fertile Whatcom County soil.

Warmer months will beckon hundreds of migrant workers to long days of harvesting the region's renowned cash crops — frambuesas (raspberries), fresas (strawberries) and moras (blackberries).

Maria Gaspar Francisco and her husband will also venture into the fields to work, and in the months of summer vacation, she will bring her three small children to play alongside her. They could be labeled migrant workers, but Maria and the others in her small community off the Birch Bay-Lynden Road live there year round, waiting out the fallow seasons in tiny shacks.

Eighteen-month-old Ricardo hides between the bed and dresser that take up most of the space in Maria's one-room home. His coal-eyed brothers, Francisco, eight years old, and Pascual, seven years old, busily color their latest masterpieces with marked concentration. Maria smiles gently toward them, waiting for the water on the stove to boil.

Maria is concerned with keeping her family fed and warm. She is not aware of the history of contaminated water in local wells, though she works first-hand with the very poisons that could find their way into seemingly harmless activities like cooking, showering and drinking water.

*"Tengo que pagar para las luces, para la electricidad,"* Maria said. *"Tengo que cuidar para mis ninos."*

She has to pay for the lights and the electricity. She has to care for her children.

Acres of red raspberry fields, now dormant, will soon employ hundreds of migrant workers in time for summer harvests.



"Farm workers have to choose between doing potentially hazardous work or not feeding their families. This is not really a fair choice to have to make." — Mike Graham-Squire, Fairhaven graduate



Seven-year-old Pasqual Fransisco stands outside his home, unaware of any potential dangers lurking in his water supply.

The close connection to migrant workers and the dangers of chemical exposure makes them the group most susceptible to toxins in Whatcom County. The presence of nitrate, ethylene dibromide (EDB) and 1,2-dichloropropane (1,2-DCP) in drinking water exposes workers to a continuous cycle of health risks.

EDB, commonly used in the past to kill root worms on raspberry, strawberry and blueberry plants, was banned by the Environmental Protection Agency in 1983. The remains of EDB contamination, however, continue to penetrate local aquifers, rendering cooking, bathing and drinking water potentially harmful. Health ailments stemming from EDB exposure include liver, stomach and reproductive system damage.

1,2-DCP, a legal soil fumigant, also creates danger in seemingly harmless activities. High levels of 1,2-DCP can enter a victim's body by inhalation or skin absorption, as well as contaminate drinking water.

Dizziness, headaches and nausea are common short-term effects, while cancer and liver damage may result from extended exposure.

The legal use of nitrogen fertilizers, spread to enrich farm soils, may lead to high levels of nitrate seepage — the most prevalent indicator of poor water quality in Whatcom County. High levels of nitrate in drinking water can ultimately cause methemoglobinemia, or blue baby syndrome, a potentially fatal blood disorder that affects infants and pregnant mothers.

Sarah Cierebiej, environmental health specialist at Whatcom County Health and Human Services, explained that whatever is applied to the surface will quickly move down into groundwater supplies because of the lack of natural barriers in the terrain.

“If you have a private well and it exceeds the Maximum Contaminant Level (MCL) for 1,2-DCP or EDB, you're then eligible for bottled water and also a



Maria Gaspar Francisco waits for the water to boil for her family's lunch. Maria has not been informed about any past or current problems with chemicals found in Lynden-area water supplies.

“The bottom line is that the farm owners are not required to do testing for chemicals.” — Steve Hulsman, Washington State Department of Health

shower head,” Cierebiej said.

Migrant farm workers like Maria and her family, however, are not necessarily eligible for such provisions.

Steve Hulsman, source water quality specialist at the Washington State Department of Health (WDOH) explained that according to the Federal Safe Drinking Water Act, migrant farm workers in Whatcom County can be exempt from receiving healthy water.

“Systems where individuals do not live for more than 180 days a year are not required to test for chemicals,” Hulsman said. “This includes temporary farm facilities where migrants live and work for, as far as we know, two, three or four months a year. Those facilities are required to monitor for nitrate once a year or once a month while the workers are there.”

Migrant workers who continue to live on farms during off seasons or for longer than 180 days, however, may potentially become exposed to poisons continually seeping into their wells. Many move from camp to camp, while other settled migrant workers actually live in the camps all year.

“*He vivido aqui desde 1997,*” Maria said.

She has lived in the camps for more than four years.

Mike Graham-Squire, 1998 Fairhaven graduate in environmental justice, said migrant workers suffer from a lack of political power. This may lead them, he said, to live without safe living environments or basic human rights.

After studying the treatment of migrant workers and environmental health policies, Graham-Squire concluded that their treatment was largely discriminatory.

“Farm workers have to choose between doing potentially hazardous work or not feeding their families. This is not really a fair choice to have

to make," Graham-Squire said.

This issue was recognized by more than just Graham-Squire.

Prompted by a series of investigative articles printed by the Seattle Post-Intelligencer in 1999, Gov. Gary Locke requested the state Department of Health test all transient housing wells in Whatcom County.

Although Hulsman claims that none of the most-recently tested sites contained chemicals above their MCL, the presence of chemicals in groundwater is an ongoing concern. Hulsman said the Department of Health is unsure if any future testing will occur.

"The bottom line is that the farm owners are not required to do testing for chemicals," Hulsman said.

Seemingly contradictory sentiments, however, remain between the Whatcom County Department of Health and Human Services and the Sea Mar Community Health Center, which provides medical, dental and support programs for Hispanic people.

Skye Phillips, a health educator at Sea Mar, provides health consultation and assistance to low-income Hispanic community members. Recently, Phillips became involved in a new project aiming to create awareness in farming communities about the dangers of contaminated drinking water.

After collaborating with the Whatcom County Department of Health and Human Services, Phillips received several maps of the county printed in March of 2000, charting private wells with above-standard levels of the very toxins that aren't a problem to WDOH.

"I think it's very important for the health of our community and our patients to be informed about this issue because it is a concern," Phillips said. "If you look on the maps, the Lynden area is right where we have our camps, and that is where most of the problems are."

A seemingly arbitrary collection of rules and regulations govern the degree of testing done in the issue of safe groundwater. Federal regulations continue to argue that migrant workers do not live in affected sites for long enough to cause harm.

Maria and her three small children seem to be forgotten, subjects of an oversight of migrant workers who stick around between harvests. But nestled in the woods off the Birch Bay-Lynden Road is her little house and all the other little houses of this community. She must cook, bathe and support her children just like the rest, making do with the resources she has.



Maria Gaspar Francisco and her family are one of many families of migrant farm workers who live permanently year round in this temporary housing off the Birch Bay-Lynden Road.

The legal use of nitrogen fertilizers, spread to enrich farm soils, may lead to high levels of nitrate seepage — the most prevalent indicator of poor water quality in Whatcom County.

Maria Gaspar Francisco and her husband live in a one-bedroom home with her three children 8-year-old Francisco (center), 18-month-old Ricardo (right) and 7-year-old Pascual (not shown).





“Because it’s a political process everybody has their own agenda, their own perspective ... you could interview the city, water district no.10, the county, you could interview the citizen action groups, and they’ll all have a different story. It’s always somebody else’s fault.”  
— Mike Hilles, Institute of Watershed Studies

Sky the color of cold steel loomed behind the cloud-capped hills surrounding Lake Whatcom. Caught on the crowns of giant fir trees, tendrils of moisture-laden clouds threatened to advance on the city of Bellingham, its throngs of suburban homes situated on checkerboards of green lawns and paved roads.

It has been a dry winter, but Marilyn Henderson wasn’t pleading for rain.

Stooping over, she wrested the remains of her dog’s lunch from the grass at the water’s edge with an old plastic bread bag pulled over her hand like a glove.

“I rarely see other people pick up after their dogs down here,” Henderson said, folding the waste tightly away. “It makes

# A POISONED PROCESS

By Lindsay Cornelius  
Photos by Chris Goodenow



Marilyn Henderson and her dogs.

me angry because the city will deny us access if dog owners don’t follow the rules.”

“I’ve been here 22 years and I hate how this town has grown. Look up there,” she said, pointing to the shore opposite Bloedel Donovan Park. Homes with picture windows and manicured lawns choked out the shoreline that at the undeveloped south end of the lake appeared so indestructible.

“All you see are houses,” Henderson said. “How many homes can this lake possibly take care of?”

This is precisely the question that local Bellingham organizations, councils, scientists and citizens are currently grappling with.

“We’re finding data from Lake Whatcom that leads us to conclude development is degrading water quality in the lake,” Mike Hilles, a research scientist at the Institute for Watershed Studies, said.

The Western Washington University-affiliated IWS has collected water quality data from Lake Whatcom for more than 10 years.

Slapping a map down on the table, Hilles pointed to the area where Silver Beach and Bloedel Donovan are located: basin one. The Geneva neighborhood and the city’s drinking water intake are in basin two. These areas, Hilles said, pointing to basins one and two, are in pretty bad shape. The southernmost basin, basin three, contains 95 percent of the water and is in good condition, but Hilles says Sudden Valley, located in basin three, is damaging water quality there. The developed areas correspond to the most seriously degraded parts of the lake.

“If I were to pin the single biggest threat to Lake Whatcom water quality, it’d be stormwater runoff,” Hilles said.

Stormwater runoff is the result of rain falling on impervious surfaces,

Mike Hilles, research scientist at the Institute for Watershed Studies, kneels on the dock at Bloedel Donovan Park at Lake Whatcom. The IWS has several sampling sites in the lake to test water quality.



“Drinking [directly] out of the basins would be questionable, and if you’re swimming where any of the storm drains come out, I wouldn’t do that.”

— Mike Hilles

like roads, roofs and lawns, which do not absorb as much water as forest soils. The water collects in ditches and streams, carrying contaminants downhill.

“In an urbanized or suburbanized environment, you’re going to have increased runoff,” Hilles said. Runoff contains pesticides and herbicides used in landscaping or moss treatments, oils from roads and driveways, dirt, animal and human fecal matter, detergents and other contaminants found around housing developments. The runoff and pollutants end up in the lake.

“All storm drains and all of the creeks, especially along the north shore, have high coliform concentrations,” Hilles said. The presence of coliform bacteria indicates the possible presence of pathogenic, or disease-producing, bacteria, such as E-coli.

Responsible dog owners like Marilyn Henderson prevent input of coliform to Lake Whatcom simply by picking up after their dogs. Sewage overflow and faulty sewer pipes, present more serious problems. Coliforms that enter the drinking water system are killed during chlorine treatment, but the dangers to human health are not eliminated.

“Anytime you chlorinate water where you’ve got organic [matter] you can create what we call THM’s, trihalomethanes, which are bad,” Hilles said. “They can be carcinogenic on a long-term basis.”

The amount of chlorine used in treating drinking water increases when organic matter, such as coliforms, increase.

Coliform and chlorine byproducts aren’t the only problems with Lake Whatcom water. Sherilyn Wells of the citizen action group Clean Water Alliance, asked Dr. Marc Lappe, an internationally known toxicologist and doctor of experimental pathology in Northern California, to review recent

Houses along Lake Whatcom Boulevard are constructed in the city and the county at an environmental cost to residents.



data from Lake Whatcom.

“The purpose of the report is to identify the likely impacts to human health of adding approximately 6,289 [residential] units to the watershed surrounding Lake Whatcom,” Dr. Lappe said in his review.

Lappe found the levels of some Polycyclic Aromatic Hydrocarbons or PAHs, which are petroleum-derived chemicals, to be five to 10 times higher than the specified human health criteria in some tributaries feeding the lake.

“Without further treatment and removal, continuing flows of PAHs at these levels would make Lake Whatcom an unacceptable drinking water source,” Lappe wrote in his report.

Pesticides and herbicides are also a problem. Organophosphate pesticides are common garden chemicals that can have adverse effects on infant and child bone formation, and possible effects on neurological processes, he reported.

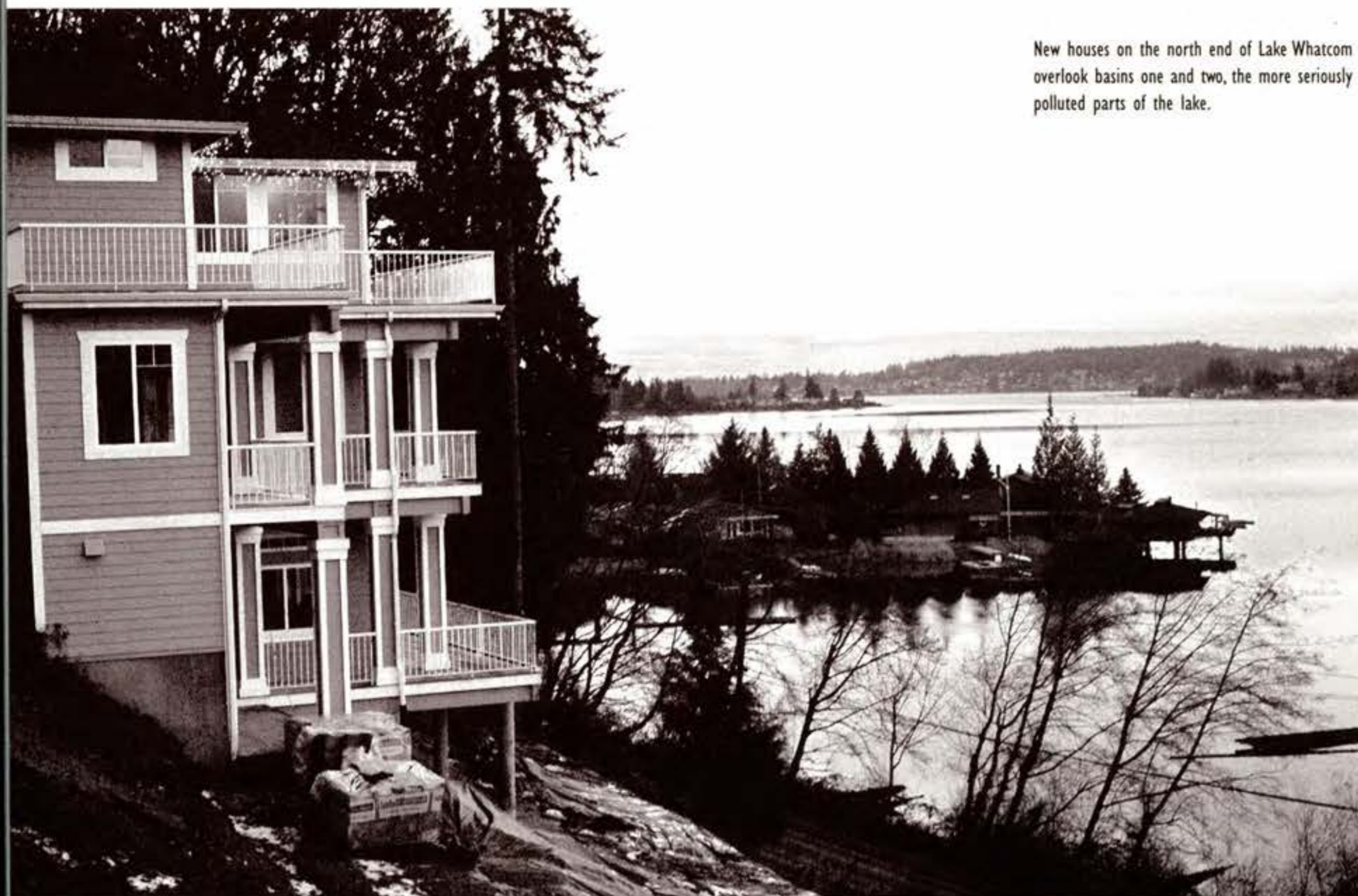
“The Cable Street drain (nearest the inlet valve for the water system) has clearly potential toxic levels of [these] pesticides,” Lappe wrote.

Lappe also found: pentachlorophenol (PCP), a liver toxin and suspected human carcinogen in the Cable Street drain, and phthalates, a known animal carcinogen, which in some samples exceeded the permissible level set by the National Toxics Rule of 1992.

Humans aren't the only organisms affected by poor water quality.

“Every single sample of Kokanee trout and Smallmouth bass taken exceeded the National Toxics Rule for PCB-1254 and 1269. This means fish taken from the lake cannot be safely eaten by pregnant women and children,” Lappe wrote.

“What is needed now is clearly a ‘cease and desist’ order to restore Lake Whatcom and prevent further deterioration,” he concluded. “The system as a whole is already stressed by urbanization. From my perspective as a health professional and public policy analyst, it would be totally



New houses on the north end of Lake Whatcom overlook basins one and two, the more seriously polluted parts of the lake.

inappropriate to add still more housing units to this already damaged system if it is going to continue to be used as a water source, recreation area or potential fishery.”

Hilles said he'll still drink the treated water, though he's been giving more thought to putting filters on his faucets at home.

“Drinking [directly] out of the basins would be questionable, and if you're swimming where any of the storm drains come out, I wouldn't do that,” Hilles said.

Barbara Ryan of the Bellingham City Council agrees that development poses serious threats to the Lake Whatcom Watershed.

“Everyone seems to know a change of behavior is necessary,” Ryan said.

The city recently instituted a drinking water ordinance that increased residents' water bills by \$5 per month in order to buy undeveloped land in the watershed. The ordinance is cheaper and less restrictive on future use of the acquired lands than the original Drinking Water Initiative, written and proposed by a citizen action organization called The Initiative Group. Marian Beddill is one of the authors of the Drinking Water Initiative and remains concerned about the condition of Lake Whatcom.

“We've acknowledged that drinking water safely, even from horribly dirty water, can be achieved through a massive water treatment plant,” Beddill said. However, protecting the land in the watershed through the land acquisition program is a better economic deal than building and maintaining an elaborate treatment plant, she said.

“Treating water in the treatment plant does nothing for the remainder of the environment, nothing for the critters, nothing for that other chunk of the population who take their water directly out of the lake,” Beddill said.

“Every single sample of kokanee trout and smallmouth bass taken exceeded the National Toxics Rule for PCB-1254 and 1269. This means fish taken from the lake cannot be safely eaten by pregnant women and children.”

— Dr. Marc Lappe, Center of Ethics and Toxics

everybody has their own agenda, their own perspective,” Hilles said. “You could interview the city, water district no. 10, the county, you could interview the citizen action groups, and they'll all have a different story. It's always somebody else's fault.”

Visible from the shore of Bloedel Donovan, where Marilyn Henderson plays with her dogs in the winter months, are sections of shoreline that remain undeveloped.

Henderson's dogs splash through the shallows, biting at the white caps that scour the top of the dark water. Below are vegetation and critters that go about daily life, regardless of policy procedure, property rights or tax bases. The water is what gives life; it is necessary, absolutely.

And so it is for human beings.



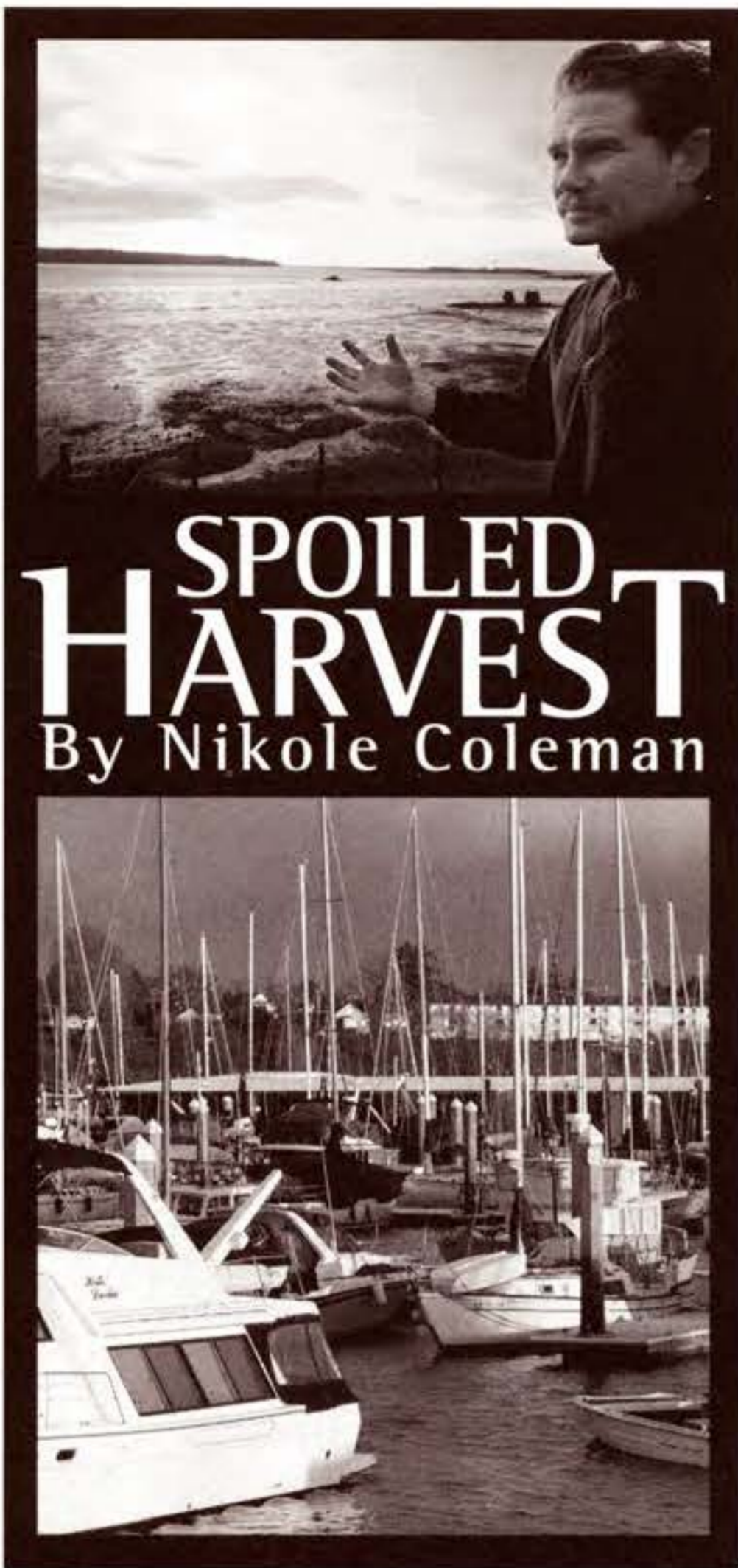
Two fishermen angle off the shore of Bloedel Donovan Park.

The city, county, water district no. 10, and the citizen action groups are all coming to terms with the realities of conflicting interests.

“It does take a lot of coordination,” Dan McShane, Whatcom County Council member, said of the county-city interactions. “But it doesn't appear, at the council level, to be real good. We're not on the same page at all.”

Hilles is frustrated by the snail-paced political process.

“Because it's a political process



# SPOILED HARVEST

By Nikole Coleman

(Top) Geoff Menzies lost his oyster harvesting business due to pollution in Drayton Harbor.

(Bottom) The Blaine Marina is the largest source of pollution in Drayton Harbor, not only because of the boats, but because the city of Blaine's leaking sewer line runs next to it.

Photos by Chris Goodenow

“Everyone in the community, from recreational, commercial and tribal shellfish harvesting to outdoor enthusiasts and residents, will benefit from improved water quality in the harbor.” – Geoff Menzies, former owner of Drayton Harbor Oyster, Inc.

Amid the sounds of swift water and swarming seagulls the pink sunset off Drayton Harbor fades with a frostbitten chill. Dark storm clouds form in the distance, warning of approaching bad weather. Seagulls dive to find protection from the bitter winds.

Across the harbor sits the steadily growing city of Blaine, Wash. Agricultural grasslands lay at the south end where California and Dakota Creeks flow into the harbor. The Semiahmoo and Blaine Marinas sit on opposite sides of the mouth of the harbor and hold approximately 900 recreational and commercial boats.

Underneath the reflecting top layer lies a water quality nightmare.

“Everyone who looks over at the bay sees beauty but does not see that the beauty underneath is marred and imperfect,” Semiahmoo Nation Chief Bernard Charles said.

Drayton Harbor has a chronic fecal coliform problem. The bacteria is found in the digestive tracts of warm blooded animals, and is used as an indicator of pathogens such as the virus hepatitis and the bacteria E. coli. If ingested, many of the organisms pointed to by the presence of fecal coliform pose a potentially serious human health risk, according to the Washington State Department of Health, or WDOH.

In the winter of 1989, Geoff Menzies answered an ad to help manage a shellfish harvesting operation in Drayton Harbor. That winter Menzies harvested his first batch of oysters and was hooked. In 1992, he and his partner purchased the company and changed the name to Drayton Harbor Oyster, Inc.

In 1995, the WDOH prohibited commercial harvesting in most of the harbor, and fishing in the area containing the oyster beds was restricted. The restricted classification allowed Drayton Harbor Oyster, Inc. to move the beds to an uncontaminated site, where the water would cleanse the oysters naturally in a process called relay.

In 1999, the remaining portions of Drayton Harbor were classified as prohibited and Drayton Harbor Oyster, Inc. was left without a product.

The WDOH has the authority to prohibit commercial harvest, but Whatcom County has jurisdiction over recreational shellfish harvesting.

“The WDOH has no direct jurisdiction over recreational harvest,” Don Lennartson, of the WDOH Shellfish Program, said. “We can, though, recommend strongly that they not allow harvesting.”

Whatcom County chose to post signs of potential health risks but not prohibit recreational harvesting. It emphasizes warnings in public areas.

“There should be better signage,” Chris Woodward, project manager for Drayton Harbor Shellfish District, said. “I would like to push for more recreational harvesting restrictions and it is going to make a lot of people mad.”

Though signs might deter some would-be shellfishers, some inevitably will continue to harvest shellfish.

The Nooksack, Lummi and Semiahmoo tribal communities are allowed to harvest shellfish out of the harbor, regardless of its classification, for ceremonial and subsistence purposes, Lennartson said. The WDOH can only advise the tribes of the health risks involved.

Several pollution sources contribute to the poor water quality in Drayton Harbor, from bird population contamination to on-site septic systems.

“There is a lot of uncertainty about exactly which sources of pollution are contributing,” Stuart Glasoe of the Puget Sound Water Quality Action Team said.

Since the 1999 closure, three sources of pollution have been most serious:

the city of Blaine's sewage treatment line, the Blaine Marina, and area farms in the upper watershed.

A 1995 study by the Western Washington University Institute for Watershed Studies found that almost all the freshwater tributaries, including California and Dakota Creeks, failed to meet water quality standards for fecal coliform. The pollution sources from area farms includes livestock waste, fertilizers and onsite septic systems that seep into tributaries and eventually into Drayton Harbor.

Since the WDOH and Ecology began working with area farms the pollution output from the upper watershed has decreased. Due to changes in pollution levels researchers believe the source of pollution has shifted from area farms to the Blaine Marina and sewer line.

The Blaine Marina is run by the Port of Bellingham and sits on a man-made spit at the mouth of the harbor. A WDOH Shellfish Program study showed extremely high levels of fecal coliform at testing sites nearest the marina. Another study done for the Drayton Harbor Shellfish District in October of 2000 indicated the sampling stations inside the marina are most contaminated by fecal pollution and were followed by stations just outside the marina.

"There has been more emphasis on the north part of the harbor," Glasoe said. "Sampling continues to point to the marina."

Consistently high levels of contamination are recorded near the marina, Woodward said, and the levels of fecal coliform suggest a leak in Blaine's sewage line.

A video survey of the sewage line running along the marina near the city of Blaine showed multiple leaks in the system. The short-term solution is to fix the leaky joints, which the city of Blaine has not done yet. A long-term solution under consideration is to run the sewage to Birch Bay.

"The city of Blaine may be trying hard, but they have been somewhat ineffective and less responsive," Lennartson said. "They are not very eager to spend money."

Menzies believes a slow response from Ecology has also hindered the line from being repaired.

"[Ecology] knows we have a problem with this line and the marina," Menzies said. "When you have violations of federal law you have to act and, in my opinion, [Ecology] has been slow to enforce the Clean Water Act."

Menzies doesn't believe he will ever harvest oysters in the harbor again but he hopes that one day someone else will have the opportunity in Drayton Harbor.

"Everyone in the community, from recreational, commercial and tribal shellfish harvesting to outdoor enthusiasts and residents, will benefit from improved water quality in the harbor," Menzies said.

For those working to save water quality in Drayton Harbor the fight continues. Tomorrow will be another day and shellfish will continue to be harvested through recreational and tribal practices. People will pass warning signs, some without a glance.

Drayton Harbor has  
a chronic fecal  
coliform problem.



(Top) Geoff Menzies looks toward the Semiahmoo Resort and Marina across the water on a dock at the Blaine Marina located at the mouth of Drayton Harbor. (Bottom) California Creek, located on the southwest section of Drayton Harbor, is polluted by stormwater runoff that includes litter, car pollution and cow manure. The creek contributes to part of the Drayton Harbor pollution that ends up in the contaminated shellfish beds.

# CROSSING THE THRESHOLD

BY MICHELLE BURKHART



Photo courtesy of the American Red Cross. Natural disasters, such as floods, are part of the unpredictability of nature.

“Human fingerprints are on the climate.”

— Patrick Mazza, Climate Solutions

The rain stopped. The water level dropped and gave way to soggy ground. Mud covered the house and yard. Inside the house, the odor of mold hung stagnant in the air. Brown water lines rippled across the ceiling, leaving evidence of the flood.

Connie Barnard, a volunteer with the Whatcom County Chapter of the American Red Cross, has seen many flood scenes like this one. Barnard has traveled the country, from the nearby Skagit Valley to distant Pennsylvania, on disaster relief efforts. She works with families who have fallen victim to floods, hurricanes, tornados and forest fires.

Up to this point in history, humanity has been able to sit back and pass off the responsibility of natural disasters as an innate part of the Earth's cycle. However, humanity may lose this privilege

as the causes and effects of global warming become more clear. Scientists predict that climate change will increase the frequency and intensity of natural disasters, and many of their fingers are pointing at human actions as the cause.

On January 22, 2001, the Intergovernmental Panel on Climate Change (IPCC) released its third assessment on climate change. It projected the average world temperature to climb up to 10.4 degrees Fahrenheit in the next century.

“This new projection has doubled since IPCC's last conference in 1995 due to an increased understanding of the climate systems,” Patrick Mazza of Climate Solutions in Olympia said. Why would the Earth now warm at such an alarming rate?

“Human fingerprints are on the climate,” Mazza said. Data at the recent IPCC conference makes it hard to explain what is happening without human interactions, he said.

Greenhouse gases play a natural role in the Earth's atmosphere, and levels have fluctuated over millennia, but never at the rate seen today. Naturally occurring greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxide and ozone.

The increased amount of carbon dioxide in our atmosphere is of special concern. Carbon dioxide traps heat from the sun, ensuring that the Earth doesn't turn into one big snowball. However, the burning of coal, oil and gas for energy has increased the carbon dioxide level in the atmosphere. This carbon dioxide level has increased 31 percent since 1750, according to IPCC's latest report.

“Eighty percent of carbon emissions in the Northwest come from transportation,” Dr. Tim Takaro, who works with the University of Washington Environmental and Occupational Health Program and is a member of the Physicians for Social Responsibility Environment Committee, said.

This is unusual because industry usually leads in carbon emissions in other regions of the United States, Takaro said.

“We've been taught to decrease our car use and instead we have only increased it,” Takaro said. “It is harder to get individuals to change, because it is easier to get regulations on industry.”

If individuals do not make choices to help negate climate change, everyone will feel the consequences. Nevertheless, the industrialized world continues to push down the accelerator on global warming.

"With this huge acceleration, there is no telling what nasty surprises nature will hold," Mazza said.

Climate change will affect every region uniquely, but it will produce an overall trend towards more extreme weather.

In the Northwest, the precipitation that now falls as snow will begin to fall as rain, Mazza said. The increased rainfall in winters will lead to more destructive and numerous floods like the ones Barnard has worked with.

"The average freezing level in the Cascades will rise 1,000 feet in elevation," Mazza said.

This will affect water reservoirs and hydroelectric dams that depend on snow pack to feed them in the summer. As the availability of year-round water dwindles, agriculture will suffer as well.

Projections also call for more extremely hot days, Takaro said.

"This will especially affect the elderly and young children," Takaro said. He explained that their bodies need a release from extreme heat, and are more vulnerable to death in extreme temperatures.

In 1995, Chicago was hit by a three-day heat wave, which resulted in 700 heat-related deaths. Most of these were among the poor and elderly people who did not have air conditioning, Physicians for Social Responsibility stated in its report, *Heat Waves and Hot Nights*.

"This has been the hottest decade on record, and the predictions are for even higher temperatures," Takaro said. Nevertheless, there is still a large resistance towards the theory of human induced climate change, Takaro said.

According to Andrew Bach, assistant professor at the Center for Geography and Environmental Social Sciences at Western, there has only been a .7 degree Celsius increase in temperature between 1860 and 1998. This is not what IPCC predicted. But then, in the 80's and 90's, the temperature started to increase more rapidly as scientists expected, Bach said.

Bach said this delay may be the result of oceans absorbing heat trapped in by greenhouse gases. The oceans may have hit a threshold and may begin releasing heat in the future. It may be that the oceans can no longer work as a sink for heat, Bach said.

"If a threshold is hit, temperatures may go through the roof," Bach said.

Despite an increasingly large body of scientific evidence, the United States has been reluctant to change its ways and slow its production of greenhouse gases.

"The United States continues to produce more greenhouses gases, per capita, by far, than any other country, especially compared to developing countries," Takaro said.

According to IPCC predictions, climate change will soon become obvious to all populations. Barnard talked about how natural disasters affect all social classes. Hurricanes rip apart expensive beachfront land. Forest fires devour houses that sit on huge pieces of property. Especially hard hit are the poor living in flood zones, Barnard said.

"Flood zones are marked off, but if you don't have the money, flood zones may be all you can afford," she said.

Barnard described the tremendous stress that victims of natural disasters go through.

"They have to leave their home," Barnard said. "They have to leave their security. Personal papers and pictures are ruined. They have been violated."

There is no reason to believe that relief workers like Barnard will not be called upon to respond to more, increasingly destructive "natural" disasters during the next decade. The science shows that this planet is getting hotter and that it is chiefly the developed world's fault. Recent history shows that it is killing people. The future is not yet decided, but if greenhouse gas emissions are not curtailed soon, it will be too late.

"The United States continues to produce more greenhouses gases, per capita, by far, than any other country, especially compared to developing countries."

— Dr. Tim Takaro

Photo by Chris Fuller. Connie Barnard, a volunteer with the Whatcom County Chapter of the American Red Cross, fills a relief bucket for flood victims.





# COASTAL HERITAGE

By Patrick Taylor

By filling the river with garbage we created more land to use: almost all of downtown Bellingham's waterfront, the area now known as Old Town, lies on the fill.



Photos by Angela D. Smith of present day Maritime Heritage Park, unless otherwise noted.

Bellingham — a coastal town without a coast. When I first came to this town I was confused. The map clearly showed a bay but as I walked downtown I saw no sign of a waterfront. Now, five years later, I know the truth of how the wild coast of Bellingham Bay was taken by past generations in their quest for prosperity.

They did not kill the ancient shore quickly; rather it was a slow death by increment. They killed it with soil dredged during the deepening of the channel that runs through Bellingham's industrial district and they killed it with waste from the city. I mourn the passing of the wild coast. It died before

I was born, yet I am nostalgic for it. I will never stroll on this forgotten beach as it was, but I may see a rebirth of nature in the heart of this city.

I live in a historic 1906 apartment building covered with peeling pink paint in downtown Bellingham. I love where I live. At night when I feel restless I like to walk through the gray light where night and streetlights meet. I head down three blocks of lonely buildings and faded asphalt to Whatcom Creek. I turn onto the trail and head into an explosion of subdued earth tones of plants in mid-winter hibernation and the babbles of water. I follow the creek to a bridge above the falls that's roar drowns out the night. I can see where Whatcom Creek enters the park and broadens into the estuary as it embraces and entangles itself with Bellingham Bay.

"Whatcom meant the place of noisy waters ... Lummi Indians would camp (at the creek's mouth) when the fish were running," Jeff Jewel, historian at the Whatcom Museum of Art and History, said from his office overlooking Whatcom Creek.

"The first white people came here for two reasons, coal and timber," Jewel said.

It was the timber that brought Captain Henry Roeder and Russell Peabody to what is now Maritime Heritage Park to build a lumber mill.

"They were pretty much the first white settlers for Whatcom," Jewel said.

Their mill was the first real industry. The Lummi Indians showed Roeder and Peabody the falls at the mouth of Whatcom Creek where the two aspiring industrialists constructed their mill.

"It was a watermill; it used the waterfall to power the saws," Jewel said.

The opening of Roeder and Peabody's mill marks the beginning of an





Main and top left photo by Chris Goodenow. Top right photo by Angela D. Smith.

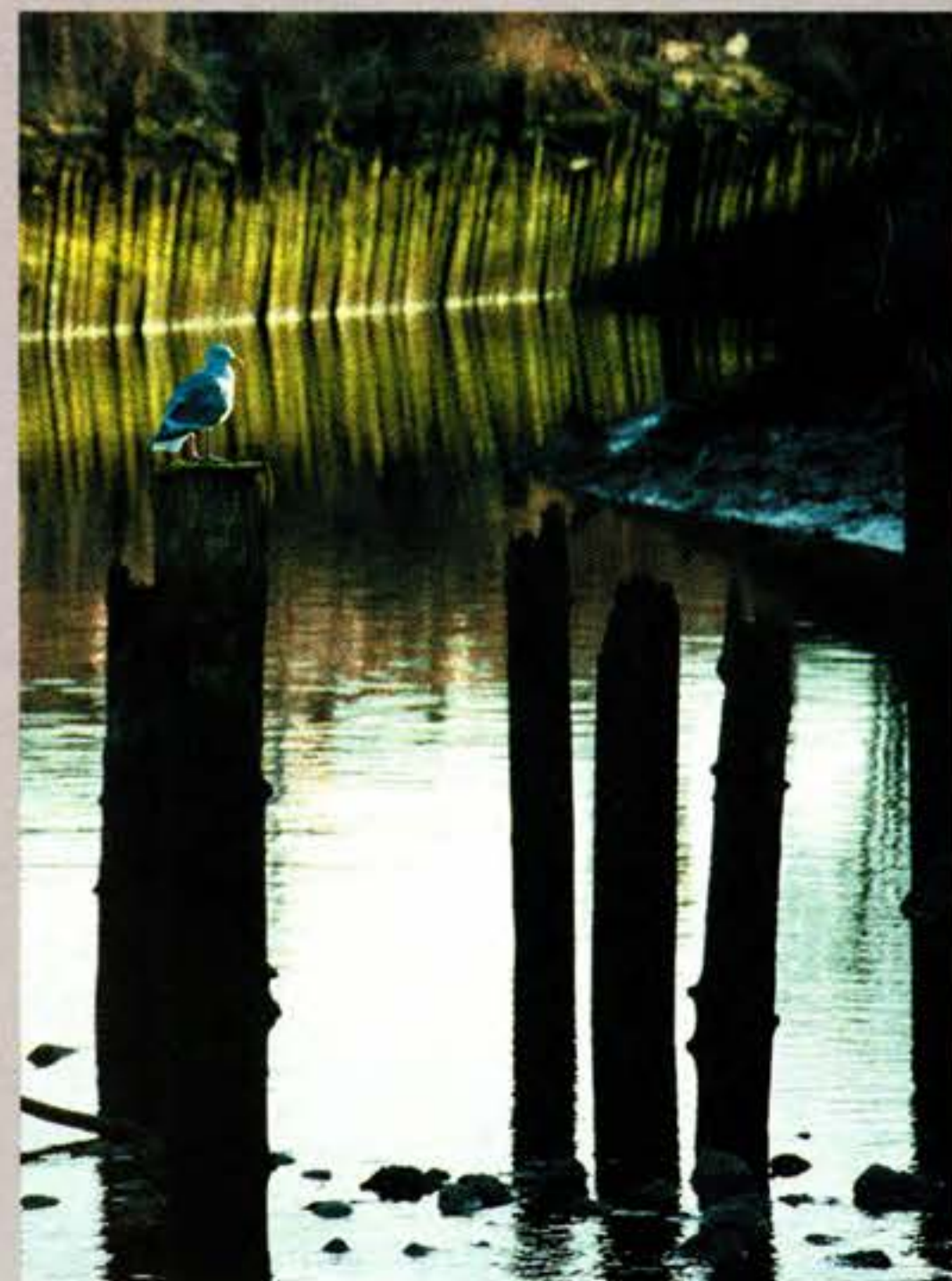
era characterized by neglect and abuse of the natural world, by the dredging and filling of the old shore.

“The fill came a bit later,” Jewel said. “The process began in 1891 after the federal survey of the waterway. In 1906 was the serious fill, when the dredging of the Whatcom Waterway [the channel that runs downtown] began.”

Bellingham Bay was dredged to facilitate shipping. The material removed was dumped on the shore, burying the old beach under tons of sand and rock. Later garbage was added to the shore, filling in the estuary where the creek hits the bay.

I walk out from the falls and onto the open field of dull mid-winter grass — the grave of a buried coast that for generations welcomed the canoes of natives as they came to harvest the bounty of the sea. I think of the secrets this place will tell with the hieroglyphics of broken glass and assorted other garbage that decorate the banks.

Beneath Maritime Heritage Park’s carpet of green plants and the shell of asphalt lie 14 acres of garbage and contaminated soil. In 1905, Bellingham used municipal waste to fill the tidal flats and estuary until the 1950s; the city dumped glass and concrete, metal and wood scraps, coal slag and ashes, and everything else people saw fit to discard.



“It went basically from a trash dump to a blackberry patch and now we have so much plant diversity ... We really have provided the habitat and have the animals that use it ... we’ve seen river otters, mink, a deer, beavers, rabbits and in the estuary we have harbor seal.”

– Heather Higgins, Bellingham Parks and Recreation

By filling the river with garbage we created more land to use: almost all of downtown Bellingham’s waterfront, the area now known as Old Town, lies on the fill.

As part of America’s ecological awakening in the 1970s, an awareness developed towards both the lack of green space downtown and the threat posed by contaminants entombed in the old landfills along Whatcom Creek.

“There are two Department of Ecology listed sites: the Maritime Heritage Park site and what the DOE calls the Holly Street site (the REstore property),” Sheila Hardy, the special projects manager at Bellingham’s Department of Neighborhoods and Community Development, said.

Soil and groundwater testing at different parts of the area found levels of lead and cadmium, both recognized carcinogens and developmental and reproductive toxicants, and arsenic, a recognized carcinogen and developmental toxicant, in concentrations exceeding the standards set by Washington State’s Model Toxics Control Act.

“If you look at the soils, they are contaminated up to levels where you don’t want people in contact with them,” Hardy said. “The levels are, though not something you want to eat, not abhorrently high for a landfill ... Redevelopment (in Old Town) by private property



owners was being stymied by these landfill issues.

"We would like to see redevelopment go on in the area and have it be done in such a way as the ecological health of the area is improved."

In response to the concerns of citizens, the city of Bellingham in conjunction with other governmental agencies and residents, crafted a program designed to make the area more livable. Known as the Whatcom Creek Waterfront Action Program, it is a to-do list of improvement in both the human and natural environment for Old Town. A major part of the program is to ensure the old landfill will never pose a health risk to either the environment or residents.

Beyond the issue of soil and water contamination, the city has no waterfront and no creek, but instead a jumble of piers and warehouses and a storm drain overgrown with blackberries. In the 70s, land around the creek was acquired for a park and to restore some of the natural ecological systems.

"By the mid-80s we were realizing the potential for open space ... here we were in the middle of the city and this [Maritime Heritage Park] is the only park," Heather Higgins, a Bellingham Parks and Recreation Department specialist in charge of environmental education, said. "Part of this is a change in values ... we as human beings are realizing the value of green space is so high."

"It went basically from a trash dump to a black berry patch and now we have so much plant diversity," Higgins said. "We really have provided the habitat and have the animals that use it ... we've seen river otters, mink, a deer, beavers, rabbits and in the estuary we have harbor seal."

Two blocks from my house, where Commercial Street crosses Whatcom Creek, the Washington Conservation Corps is working every day, rain or shine to remove garbage and restore native vegetation. As the crew breaks for lunch above the creek, Naomi Simpkins, a crewmember, explains her feelings about the restoration of the area.

"It is our ecology, it is our earth, it's where we live," Simpkins said. "If we don't take care of this, we don't take care of ourselves. This is a small part of a huge thing ... there are people all over restoring rivers and restoring watersheds."

What I walk on now is neither seashore nor garbage, but grass and trail. What I see is neither the death of nature nor the birth of industry. What is happening is not a victory or surrender, but a truce. We as a people are making amends for a past of neglect and abuse, for garbage fills and dredging.

As I walk home following the trail as it winds its way up the river, I startle something in the bushes. I hear a loud splash as a beaver jumps into the waters above the falls. I watch the ripples travel out in concentric circles and waves of hope and joy wash over me with the knowledge that wildness is coming back to the city and that we are not too late.



Photos courtesy of the J.W. Sandison Collection, Whatcom County of History and Art. The Maritime Heritage Park area has transformed during the past hundred years from a Lummi beach camp in the 1890s (top) to a sewage treatment facility in the 1950s (center), to the present-day Maritime Heritage Park (bottom.) (Far bottom) An eastward view of Whatcom Creek in the late 1800s. (Top right) A westward view of the Maritime Heritage Park surroundings in 1949, when it was a sewage-treatment facility.

"It is our ecology, it is our earth, it's where we live ... If we don't take care of this, we don't take care of ourselves. This is a small part of a huge thing ... there are people all over restoring rivers and restoring watersheds." — Naomi Simpkins, Washington Conservation Corps

