The ecological degradation unleashed by the industrial revolution is increasingly leading concerned photographers to bear witness to the profound transformation of our world. While natural calamities wreak havoc upon the environment, this exhibition and its catalogue underscore human-induced threats and damages.

Intended to reaffirm the urgency of a global response, Imaging a Shattered Earth: Contemporary Photography and the Environmental Debate features fifty-six provocative testimonies by Edward Burtynsky, John Ganis, Peter Goin, Emmet Gowin, David T. Hanson, Jonathan Long, David Maisel, David McMillan, Robert and Shana Parkeharrison, John Pfahl, and Mark Ruwedel.

Removed from the realm of domesticity, the selected works look beyond our individual rapport with the environment, our household water usage, recycling efforts, and fuel consumption, in order to foreground the impact of societal behaviors, industrial practices, corporate priorities, and governmental policies. Favoring industrial complexes, mining sites, dried-up lakes, landfills, waste ponds, nuclear test sites, and other exclusion zones, these artists aspire to convey the big picture. By assuming a certain distance from their subject, they draw attention to the reckless stewardship of our planet.

Organized according to three recurring preoccupations, this catalogue aims to foster a collective process of soul-searching. The first section explores the scarification of the earth's surface resulting from human interventions. The second addresses the exploitation and management of natural resources. The third focuses on the afterlife of sites deemed irretrievably damaged. Together they reveal a pattern of monolithic degradation.

FRONT COVER  Edward Burtynsky, Bus Steel #8, Shanghai, China, 2005
IMAGING A SHATTERING EARTH

Contemporary Photography and the Environmental Debate

Curated by Claude Baillargeon

With essays by Robert F. Kennedy Jr. and Maia-Mari Sutnik
Catalogue entries by Katy McCormick

Co-published by
Meadow Brook Art Gallery, College of Arts and Sciences, Oakland University, Rochester, Michigan

CONTACT Toronto Photography Festival, Toronto, Ontario
To the memory of Tomoko Uemura (1956–1977)
and the 10,000 people affected by the Minamata disease.
Their chronic poisoning by methylmercury waste
compounds remains a cause of deep sorrow for us all.

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Oakland University, the Meadow Brook Art Gallery, and the Department of Art and Art History are delighted to host this engaging exhibition conceived as a focal point and a showcase for Environmental Explorations, the 2005-06 College of Arts and Sciences' liberal arts theme.

Accompanying the exhibition is a diversified program of related events, including public lectures, discussion panels, a student symposium, and the exhibition Web site created within an Honors College seminar. Please visit www.oakland.edu/shatteringearth for details.

For their valued contributions to the exhibition catalogue, we express our heartfelt gratitude to Environmental Explorations guest speakers and environmental activist Robert F. Kennedy Jr., Maia-Mari Sutnik, Curator of Photography at the Art Gallery of Ontario, and Katy McCormick, Exhibition Coordinator with Gallery A4 Centre for Contemporary Photography, Toronto.

This exhibition is also part of the tenth annual CONTACT Toronto Photography Festival held in May 2006. We are doubly pleased that its scope is substantially increased through our collaboration with CONTACT 2006. We are very grateful for the support that CONTACT has provided, particularly in regard to the production of this catalogue. We are delighted that the Museum of Contemporary Canadian Art has partnered with CONTACT 2006 as the Toronto venue for Imaging a Shattering Earth: Contemporary Photography and the Environmental Debate.

Lastly, for instigating this exhibition project and collaboration, we thank curator Claude Baillargeon, Assistant Professor of Art and Art History. His insights into contemporary photographic practice provide an illuminating study on the effects of poor environmental stewardship.

Ronald A. Sudol
Interim Dean
College of Arts and Sciences

CONTACT
Photography's ability to communicate across national boundaries is central to an understanding of the events that define our place in a worldwide culture, as globalization stimulates an increasing cycle of interconnections through economic, environmental, political, technological, and cultural exchange. On the tenth anniversary of the CONTACT Toronto Photography Festival, we present Imaging a Global Culture, a series of exhibitions and events that reflect these interconnections and their dramatic increase over the past decade. Although globalization has had positive effects—including a significant increase in artistic exchange made possible, for example, by the internet—the escalating degradation of the environment and the urgent need for ecological conservation are central among our concerns.

Imaging a Shattering Earth: Contemporary Photography and the Environmental Debate tells a dramatic story about the state of global geography. This exhibition is central to CONTACT 2006 and is a welcome addition to our annual program of exhibitions, installations, films, and educational events presented throughout Toronto every May. We hope that Imaging a Shattering Earth will encourage dialogue about globalization and the environment and stimulate greater change.

On behalf of CONTACT's directors I would like to thank Oakland University and the Meadow Brook Art Gallery for their partnership in the presentation of this exhibition and catalogue—together we illustrate the benefits of global connections. We are especially grateful to curator Claude Baillargeon for his insightful selection of photographs and commitment to this project. We are very proud to present this exhibition in Toronto at the Museum of Contemporary Canadian Art and extend special thanks to director David Liss for his support.

Our gratitude goes out to everyone involved in CONTACT 2006, including government funding agencies, our corporate sponsors and other supporters, CONTACT staff and volunteers, and, especially, all the photographers whose vision makes change possible by helping us better understand our world.

Bonnie Rubenstein
Festival Director
CONTACT Toronto Photography Festival

Museum of Contemporary Canadian Art | Toronto | May 2006
Robert F. Kennedy Jr.

OUR WORLD IS CHANGING

We are destroying it; destroying the air we breathe, the water we drink, the land that sustains us. We are laying waste to the only home we have. Over the past several decades, we have cut down more than half the world's tropical forests.
We are razing majestic mountain ranges to feed an insatiable appetite for energy. Environmental toxins that cause cancer and reproductive defects contaminate even the most remote regions of Earth. They poison the fish that we eat. They imperil our children and diminish our lives. Animals and plants that have lived for millions of years are dying off—stolen from future generations by corporate profiteers.

In 1970, the largest storm surge in recent times killed 300,000 people in Bangladesh. In coming decades, warmer ocean temperatures will cause more devastating cyclones and storm surges. Today, one-sixth of the world’s six billion people live in areas prone to catastrophic flooding. Scientists predict that global warming, deforestation, rising sea levels caused by melting polar ice, and population growth will double that number by 2050. By that same year, according to the U.S. Census Bureau, the global population will have reached more than nine billion. The United Nations estimates that as many as seven billion of them may not have enough water to drink.

If the developed world’s excessive lifestyle becomes the standard for the rest of the world, scientists predict that humans will require the resources of four Earths to meet our needs. More than 70% of the world’s fisheries have already been depleted and pollution taints many of those that remain. Toxic metals and man-made chemicals accumulate in the food chain as bigger fish eat smaller fish. The larger the animal, the more poison it consumes, leaving those at the top of the food chain permeated with toxins. In the Norwegian Arctic, high levels of the man-made industrial chemicals polychlorinated biphenyls, or PCBs, have been found in polar bears’ blood. Polar bears are turning up with both male and female sex organs and the species’ birth rate is falling. Air and sea currents from Europe and East Asia transport PCBs, and although many countries banned their use in heavy industry in the 1980s, they are likely to persist in the environment for decades to come. So too will the 76 other man-made industrial chemicals, pesticides, and flame-retardants that have been found in humans, including hormone-disrupting chemicals detected in the blood of all 39 members of the European Parliament tested in a recent study by the World Wildlife Fund. Many of these chemicals are believed to interfere with the reproductive and immune systems and may be to blame for the deterioration in male fertility in Belgium, Denmark, France, and the UK over the past 50 years.

Our leaders should respect us, value us, and protect our best interests. They should force polluters to internalize the true cost of bringing products to market, for only then will they clean up their acts. When electric power companies put mercury into our air and water, they impose costs on the rest of us that should, in a true free-market economy, be reflected in the price of energy. Otherwise, we are subsidizing the polluters; allowing them to pass their costs on to us in the form of disease, developmental disability and the debasement of life.

Our environment should not be a commodity auctioned off to the highest corporate bidder. But in the United States, coal corporations are turning the Appalachian Mountains into a wasteland. Across the historic landscape, once home to Daniel Boone and other heroes who embodied American values and defined its culture, an entire mountain range is being cut down. Giant earth-moving machines called “draglines” that stand 22 stories tall and have shovels that take bites from the earth the size of a four-car garage are gnawing the tops off mountains and dumping them into river valleys and streams. Draglines have helped to bury some 1,900 kilometers of streams in the Ohio River Valley. The Appalachian Mountains are being sacrificed for my government’s insane energy policy.

What is more personally painful is that my own children cannot fish in the streams and lakes of Connecticut and New York near our home because most of their catch would be contaminated with mercury. Half of the lakes in the Adirondack Mountains just north of here are now sterilized from acid rain. All three of my children have asthma. I watch them gasp for breath on bad-air days. We are living in a science-fiction nightmare: bringing children into a world where the air is poisonous. Where I live, the poison travels from hundreds of miles away, where coal-burning power plants spew mercury, soot, and sulphur dioxide into the air. Who benefits and who suffers? That question is too easy.

I do not believe that we should preserve nature for nature’s sake. We must preserve nature because it is the infrastructure of our communities. When we destroy nature, we destroy the basis of our economy. The economy is a wholly-owned subsidiary of the environment. But air, water, land and wildlife also enrich us aesthetically, recreationally,
culturally, historically and spiritually. Humans have other appetites besides money. When we destroy nature, we diminish ourselves and impoverish our children. We do not fight to save ancient forests for the sake of spotted owls. We preserve the forest because we believe that the trees have more value to humanity standing than pulpied. I do not fight for New York’s Hudson River for the sake of the shad and the sturgeon and the striped bass. I fight because I believe that my life will be richer, my children and my community will be richer, in a world in which shad and striped bass exist. Generations of children have grown up surrounded by the simple, carefree pleasures of the natural world. Corporate polluters have severed the legacy. I do not want my children to grow up in a world where there are no traditional fishermen on the Hudson River, where behemoth factory trawlers owned by multinational corporations strip bare the ocean hundreds of kilometers offshore. I don’t want them to grow up in a world where there are no family farmers left, where the only place to get food is from a factory. I do not want them to grow up in a world where we’ve lost touch with the seasons and the tides and the things that connect us to the ten thousand generations of human beings who came before.

Each mountain flattened, each river contaminated, each breath of fresh air polluted, is a vital piece of our world lost. Yet even as I watch the planet being destroyed river by river, valley by valley, ecosystem by ecosystem, I have hope. I believe we can save it in the same way: one river at a time, one town at a time. We start with ourselves, tending first to our own communities and, eventually, to the valleys and mountains beyond.

Indigenous people can guide us. They have resisted the corporate culture that sustains itself by liquidating natural resources. Their relationship with the Earth is like that of the traditional family farmer before corporate, chemical farming broke the pact with nature. All they want is a sustainable yield that maintains the land’s richness for their children. I look to the Native Americans in northern Quebec for inspiration. They turned down $2 billion offered for their endemic land along the tributaries of James Bay, a region that the energy industry wanted to flood for hydropower production.

The Cree and Inuit live in teepees through sub-zero winters. They hunt caribou, geese and rabbits. They are one of the most poverty-stricken people in Canada, yet they reject the corporate come-ons that are now the principal threat to both democracy and the global environment. These populations understand that wealth is not just about money; that in a true free market economy you cannot make yourself rich without enriching your community at the same time. No amount of money can replace their ancestral wealth: pure air, water, and land.

I see hope for our future in the small Mexican fishing village of Punta Abreojos in Baja California. The community as a whole manages its abalone, lobster, and oyster fisheries. Everybody in the village has a stake. The community guards against over-fishing by poachers. Because of their environmentally sensitive practices, their catches command premium market prices. They share the costs of sustainable production and they share the fruits of their labor. There the people are not wealthy by American and European standards, but they have pride in their homes and their livelihoods. There is a real richness to life. These are people who are living sustainably and are protecting their resources for future generations.

Environmentalists believe that we cannot sell the farm piece by piece to pay for the groceries; we cannot treat the planet as if it were a business in liquidation, squandering the birthright of all future generations. We must stop inventing our principal and learn to live off its abundant interest. That would be a reward unto itself, as would the knowledge that we were leaving to our children a healthier planet than was left to us.
Claude Baillargeon
IMAGING A SHATTERING EARTH

Conceived as a rallying cry against the ecological degradation of our world, Imaging a Shattering Earth explores the detrimental impact of humankind on the land, a phenomenon clearly on the rise since the industrial revolution. While natural calamities like earthquakes, tsunamis, hurricanes, floods, and fires wreak havoc upon the environment, this exhibition and its catalogue underscore human-induced threats and damages. Without attempting to present a comprehensive survey, this project brings together fifty-six works by twelve North American artists, whose photographs bear witness to an increasing sense of urgency. Effective as catalysts for reflection and debate, these images are forceful reminders of the growing dangers we all face. Collectively, they argue for the necessity of concerted actions against the progressive “shattering” of the earth.

By assuming a certain distance from their subject, these artists enable us to view a pattern of recklessness in the stewardship of our planet. Whether achieved by means of bird’s-eye views, panoramic sweeps, wide-angle lenses, large-format negatives, extended depth of field, or other compositional devices intended to suggest a sense of remote space, these photographs aspire to convey the big picture. Though each of the subjects represented can be pinpointed on a map, as evidenced by the work of David T. Hanson, the depicted terrain remains a kind of “every land”—shared earth, rather than “my yard” or “my father’s farm.” Thus, it is our communal estate, our planet as a whole that is shown in jeopardy. Removed from the realm of domesticity, these works look beyond our individual rapport with the environment, our household water usage, recycling efforts, and fuel consumption in order to foreground the impact of societal behaviors, industrial practices, corporate priorities, and governmental policies.

Precipitated on a direct observation of the earth’s altered topography, the selected works (with the notable exception of those by Robert and Shara Parker-Harison) share a propensity for objectified representation. Whether deemphasized to the point of abstraction, as in the imaging earth markings of Emmet Gowin and David Maisel, or presented matter-of-factly, as in the graphic testimonies of John Gans and Peter Gais, part of the intent behind these pictures remains to expose the physical scarring of the earth. Ranging in scale from diminutive to colossal, each print exemplifies its maker’s reliance upon a synthetic, outward-looking vision. Yet, for all the remoteness of their imaging strategies, these works aim to engage viewers in a collective process of soul-searching.

Although seemingly paradoxical, this unrelenting call to attention coexists with a steadfast preoccupation with the formal aspects of the image-making process. Indebted to the heroic

But so full is the world of calamity, that every source of pleasure is polluted, and every retreat of tranquility disturbed.
— Samuel Johnson, 1752
transition of exploratory landscape photography initiated in the nineteenth century by the laws of Carleton Watkins, Timothy O'Sullivan, and William Henry Jackson, the photographies pay close attention to the media's optics and history. While preoccupied with the invention of environmental trauma in need of remedial actions, these advocates also aim to produce something at work that maintain a level of open-endedness. Comparing references to the picturesque, the beautiful, the sublime, and the spiritual provide an effective means to attract viewers' attention in order to trigger philosophical musings and critical inquiry.

Yet, unlike their nineteenth-century precursors, whose often commercial commissions are the result of a paradigmatic shift in recognition. Taking their cue from an alternative cultural tradition that evolved in the 1970s and 1980s, the landscape photography is more of a timely subject for investigation. This affinity can be seen in the shared rejection of the earlier paradigm of failure as a utopian manifestation. While those who subscribed to the New Topographics (then) showed a predilection for unlettered tracts of sand and meadows to urban developments, these landscape photographies favor industrial complexes, mining sites, dried-up lakes, landfill sites, and other exclusion areas. In both cases, the issue is of human incursion upon land that was once regarded as prime, relatively unaltered, scarcely inhabited, and yet rich in natural resources and commercial opportunities. Though they rarely appear in these compositions, their impact is still apparent. Unlike the New Topographies, the photographies, however, maintaining the tenacity of invisibility and authorial self-effacement is not a shared concern with the present group of artists.

Prior to the 1970s, few photographers expressed misgivings about the exploitation of natural resources and the potential ramifications of their processing. The depiction of industrial facades first gained prominence at the turn of the twentieth century with the Pictorialists, who romanticized these smoke-filled cities by imbuing them with metaphoric symbolism as part of their pro-labor advocacy. Meanwhile, others like Lewis Hine chastised the ruthless exploitation of child labor by greedy industrialists oblivious to health hazards. In sharp contrast, with the advent of the machine age that reached its apogee in the 1920s, a number of leading proponents of Modernism, none more prominent than Charles Sheeler, viewed industry with a reverence that invited to glories. This sentiment began to fade with the hardship and disillusionment springing from the Great Depression. Among the earliest evidence of the changing attitude was Walker Evans's 1935 sardonic portrayal of Bethlehem, PA, in which a working-class cemetery is deliberately foregrounded against the community's Workingmen's Hall. Still, one must wait until the early 1970s to experience a full-fledged explosion of the power of photography to affect social consciousness vis-à-vis the evils of industrial production. Initiated by the starting evidence of chronic pollution in the Japanese community of Minamata, the renowned photojournalist Dorothea Lange and her wife, Helen, spent three years documenting the tragic predicament of the victims and their families. Caused by the uninhibited release of mercury-laden waste compounds in the waters of a nearby fishing village and the ensuing contamination of the food chain, the Minamata disease is a neurological disorder that has affected more than 10,000 people, many of whom were poisoned while still in their mothers' wombs. Determined to expose the horrors of the atrocity, the suffering of its victims, and the negligence of the Chino executives, Smith and his wife produced powerful images, the most memorable of which shows Tomura Umemoto, a blind sixteen-year-old, being tenderly bathed by her mother.

Just as there are different sorts of environmental death, there are various types of environmental photography. As neither represents a singular universal entity. Although this exhibition does not explore photojournalistic environmental photography. This genre remains a persistent means to raise public awareness. This can be seen, for example, in Sharon Stewart's Toxic Tour of Texas (1992), a body of work that combines representations of waste disposal sites and portraits of concerned citizens with written testimonies to underscore the need for and the value of grass-roots activism. Also exploring the combined effect of poisons and landscapes, affected workers, and their oral histories is Caroline Gaskill's American Ground Zero: The Secret Nuclear War (1993), a powerful indictment of Cold War ideology.

As research for this exhibition evolved, it became increasingly evident that few women work within the previously outlined parameters. As the cultural critic Lucy Lippard contends, "many women photographers, like many women artists, are more interested in the local/personal/political aspects of landscape than in the godlike big picture, and tend to be more attuned to the reciprocity inherent in the process of looking into places. Their approach might be called vernacular." A case might even be made that social conditions predispose men towards big themes, heavy machinery, mining sites, industrial zones, and military endeavors. Might women be more mindful of the dangers to toxic chemicals upon the body and their effects on reproductive health? Are they perhaps more reticent to expose themselves, and their photographic plates to the incriminating effects of radioactive radiation and toxic waste (mis)management?

Whatever the case may be, this perplexing issue is undoubtedly foregrounded by the present selection, which is organized according to three recurring preoccupations. The first explores the scarification of the earth's surface as a result of human interventions. The second
addresses the exploitation and management of natural resources. The third focuses on the sites deemed irretrievably damaged. These shared concerns reflect the multiple links to be found between the various bodies of work. In the exhibition, certain notorious sites are depicted by more than one photographer, emphasizing both a plurality of perspectives and the degree of danger contained therein. Ultimately, the works in this exhibition are meant to reveal a pattern of monocidal degradation.

The Marks We Make

In Robert and Shana Parketcharrison's on-going lament for the planet, a mostly solitary male figure adorned in corporate attire performs the Sisyphean task of restoring a post-apocalyptic landscape. Recalling Antoine de Saint-Exupéry's Little Prince (1943) and the cosmic journey that landed the inquisitive fellow in the Sahara, this lone wanderer, driven by a sense of urgency, attempts by every conceivable means to salvage and rejuvenate what remains of the old world. In The Marks We Make (plate 4), he is seen spiraling from a rope tied to his ankles, while the stick in his hands scratches the crust of the earth in a rhythmic pattern ironically echoing the practice of pivot agriculture favored by large farming conglomerates in the American Midwest. Seen from the air, the resulting concentric circles exhibit a formal beauty that belies the dangers of exhaustive agrarian practices. With his watchful eye and proactive engagement towards reclamation, this earth guardian can be viewed as a metaphorical surrogate for all the photographers in the exhibition, who are committed to exposing the uncertain future of our ecological universe.

Inspired to write The Little Prince while flying as a professional pilot, Saint-Exupéry was well acquainted with the revelatory dimension of aerial perspectives. As we all know from air travel, the experience of viewing familiar grounds from above can be both disorienting and exhilarating. By drastically altering customary spatial relationship with our surroundings, airborne photography fosters a heightened sense of curiosity, while providing all-encompassing points of view from which to meditate upon the earth's transformation. Seen from above, the impact of urban expansion, industrial processing, hydro-engineering, mining, deforestation, waste management, military testing, and other invasive practices is seen on the monumental scale in which it unfold. Often employed as a means of surveillance and as a mapping device, the technique of aerial photography is proving equally beneficial to environmental artists eager to reveal what is too often concealed from scrutiny at ground level. This approach is particularly effective as a means to circumvent restricted access, while maintaining a safe distance from the health hazards on the ground.

Both of these advantages were useful to David T. Hanson in his Waste Land series, which amalgamates topographical maps, aerial views, and government reports to draw attention to the worst toxic sites on U.S. soil. With verbatim transcriptions of the Environmental Protection Agency's "Superfund" National Priorities List as his only text, Hanson asserts both the magnitude of the problem and the implicated corporations' lack of accountability and delaying tactics. Yet, the ineffectual rhetoric of this Remedial Response Program emerges from its juxtaposition to Hanson's detailed surveillance-like photographs and to the U.S. Geological Survey maps marked to indicate the exact locations of the hazardous sites, many of which are situated in close proximity to densely populated areas. This is the case, for example, with the G & H Landfill in Utica, MI (plate 16), which borders the Rochester-Utica State Recreational Area south of Twenty-Three Mile Road, some eight miles east of Oakland University's Meadow Brook Art Gallery. Hanson's placement of appropriated maps and texts on either side of his aerial photographs also serves to remind us of the semiotic crossroads between these three forms of sign. Beyond their common reliance upon bird's-eye views, both survey maps and aerial photographs share an indexical bond with the terrain they represent. Furthermore, all maps, photographs, and texts are signifiers that require interpretive reading to yield significant meaning. Hanson's œuvre, an unambiguous indictment of current practices, retains this theoretical dimension.

The dichotomy between disorientation and wondertment that accompanies flying has led a number of artists, among them Emmet Gowin and David Maisel, to explore the introspective potential of aerial photography. Fascinated with the medium's ability to transform as it records, these artists view the photographic process as a means to engage spiritually and holistically with the world. Spurred by the deteriorating condition of our ecosystems, their preferred strategy is to craft alluring images fostering contemplation, in the belief that this will lead to enlightenment. This, they assert, can be achieved by foregrounding the ambiguous subtext of the ravaged landscape, thereby exposing the paradoxical relationship between degradation and beauty.

This shared concern is particularly evident in their many abstract, horizonless compositions, which are devoid of clues to scale, spatial relationships, and orientation, despite the vastly different dimensions of their respective photographs. As in the all-over compositions of the Abstract Expressionists, these square fragments of wounded terrain exude a formal strength which brings out and gives relevance to the marks and patterns animating their visual fields. Enchanted by their rhythms and modulations, but mind's eye struggles to reconcile what it perceives with what is actually represented. While discovering the identity of the subjects can be startling, the spell of these engrossing pictures remains and their evocative presence is renewed with each successive viewing.

Consider, for example, David Maisel's Lake Project, one of several chapters from his on-going Black Maps investigation of despoiled landscapes. Though ostensibly inscrutable, these highly saturated images (plates 12-14) represent the drainage remnants of California's Owens
(day) Lake, over a 110-square mile shallow body of water displaced in a mere thirteen years (1953-56) to meet the freshwater needs of Los Angeles. In the summer, the ecosystem of the desiccated lakebed, unusually rich in minerals, induces the proliferation of microscopic bacterial organisms, which turn residual water pink or even blood red. Yet, this striking phenomenon conceals the fact that windy conditions give rise to toxic dust storms laden with microdust particles, including traces of carcinogenic cadmium, chromium, arsenic, and other hazardous materials.

The consequences of an unabated exploitation of the planet are made clear in every picture in this exhibition, save for those grappling with the insufficiency of nuclear radiation. From the incalculable evidence of toxic and household waste mismanagement, deforestation, and other environmental abuses garnered from coast to coast by John Gans is the scariest realization and gnawing inflicted by a plethora of mining activities, the earth is shown as deeply disturbed and in need of healing. Though resilient, our ecosystems cannot indefinitely withstand the relentless depletion of non-renewable resources, nor can the unabated onslaught of hazardous wastes and heat-trapping compounds be successfully reversed with current technologies.

Resource Industries

The exploitation and management of natural resources figure prominently amid the concerns of environmental photographers. From the extraction of raw materials to the by-products of their industrial processing, the resource industries encompass a broad array of commercial practices, many of which can be detrimental to the environment. Though some resources, like timber, are potentially renewable, only close monitoring and binding regulation by independent agencies and non-commercial interests can ensure sustainability. Rarely reported on, this issue is brought to light, for example, by the clear-cutting photographs of John Gans, who has documented the for-profit deforestation taking place within certain U.S. national forests.

How starting, for instance, to be confronted with the aftermath of a federal timber sale in Oregon’s Willamette National Forest (plate 23), when the very notion of a “national forest” would imply some form of careful governmental guardianship “for the people.”

Foremost among the deterritorial forces driving the exploitation of natural resources is our insatiable hunger for energy, be it hydro-electric, nuclear, oil based, coal, or derived from alternative sources. Emblematic of this condition is the global quest for fossil fuel, a subject that is increasingly probed by concerned photographers. Whether they focus on the controversial handling of petroleum in the Alaskan wilderness, the ravaged landscape of Alberta’s oil wells, the spoil of coal strip-mining in Southern Illinois or the Czech Republic, or the infeasible extraction of low-grade coal by the Chinese, the central issues remain the short-sighted custodianship of our resources and the failure to account for the true costs, in environmental terms, of energy. A case in point is John Gans’s portrayal of the Alaska pipeline (plate 21), in which an aluminum sheathed conduit invades the otherwise pristine frontier like some bionic earthworm. If the price of energy is spooI, should it not cost more? And if it did, would we not use it more efficiently?

As a graduate student at Southern Illinois University, Carbondale, Jonathan Long concentrated his camera on the_bpresented as a site undergoing reclamation as part of the Sahara Woods, State National Area. Long lowered his camera into the miasma of the mining gob to accentuate its desolation and the gauntly stream of rusty water leaking out of the rocks. In Broken Trees (plate 26), he provides stupefying evidence that the apocalyptic wasteland envisioned by Rob and Shana Parker-Harrison already exists in the heartland of America. Though reclamation may be underway in these devastated areas of Southern Illinois, it is alarming to think that mining lobbyists are now increasingly calling for deregulation and the easing of the very policies that curtailed these lawless abuses of the past century.

In China, the craving for energy is exacerbated by the politics of globalization that seek larger markets and reduced production costs to the detriment of environmental safeguards and human rights. As the new superpower asserts its growing prominence on the world stage, its energy needs increase exponentially. With a booming economy supported by a plentiful workforce, China is answering its energy challenge with projects of unprecedented ambition and far-reaching consequences. Nowhere is this more evident than in the Three Gorges Dam under construction across the Yangtze River. Begun in 1993, it will stand upon completion in 2009 as the world’s supreme leviathan of hydroelectric facilities. With a span five times that of Hoover Dam, the resulting infrastructure will result in the flooding of “13 major cities, 140 towns and over 1,300 villages.” The already begun inundation is forcing the evacuation and resettlement of an estimated 1.13 million people.

In Edward Burtynsky’s monumental panoramic depiction of the Three Gorges Project (plate 3), the unmitigated faith in progress that propels the risky enterprise is sure to consume the age-old serenity of the river’scape. Unfolded by the potentially cataclysmic repercussions of this impetuous tampering with nature’s order of things, the promoters proudly assure in bright red calligraphy “Ge Zhong Dam Group is honest and doing our best” on the left, while proclaiming that “The Police Hydro-Electric Construction Department is building Three Gorges Dam to make people happy” on the right. While such propagandistic bravado may be designed to assuage local sentiment, the message fails to reassure the world community mindful of seismic effects and other environmental pitfalls.

Further exemplifying China’s wholesale exploitation of its natural resources are the fifty million tons of coal that the country extracts from the bowels of the earth and burn on an
annual basis. In Tianjin, the banks of the port of Tanggu are filled with mountains of coal spreading as far as the eye can see (plate 28). Consumed in enormous quantities by the steel industry, which continues to rely extensively upon coal fired generators, the carbonized mineral can be found in abundance in parts of China. According to current data, there are over a trillion tonnes of the proven coal reserves lying under Chinese soil—or more than 500 years of production at current levels."

Among the main Chinese coal users is Shanghai Baosteel Group, which ranks as the sixth producer of steel worldwide. In 2005, it is estimated that this single plant will consume more than eighteen million tons of high-sulfur, dirty burning coal, a major source of smog, acid rain, and mercury contamination, the latter of which finds its way into our bodies through the consumption of fish. In the Burntypsum photograph that graces the cover of this catalogue, Baosteel’s onsite coal reserves are viewed from a perspective reminiscent of the ceremonial plaza facing the Pyramid of the Moon at Teotihuacán. With the symmetrically disposed structures and the obelisk like smokestacks rising beyond, Burntypsum’s rigorous composition conflates, in both formal and conceptual terms, the national spatial organization of an ideal Renaissance city with the wilderness of the Aztec metropolis. Hence, this nearly monochromatic study, with its strong contrast of light and dark, can be read both as a symbol of China’s rising fortune and a foreshadowing sign of the environmental challenges ahead.

A prime example of catastrophic outcome related to large-scale strip-mining can be found in northern Bohemia, Czech Republic, where during the Cold War the now fallen Soviet regime sacrificed close to a million acres of land in the pursuit of cheap coal. To reach the coal seam buried two hundred feet below the surface, more than a hundred traditional land-based communities were relocated in housing projects with few prospects of livelihood outside of mining. To make matters worse, the local people now live encircled by discarded overburden and effluent holding ponds, and their health is affected by the acid rain which falls as a result of the pollution still spewing out of the seven power stations built by the State. In one of his photographs from the devastated region (plate 41), Ernest Gowers conveys the palpable horror of the poisoned landscape where the 800-year-old town of Litkovice once stood. Razed between 1990 and 1998 to let a state-owned company extract coal under the village, the project has since collapsed, leaving former inhabitants burning. In the American west, mining activities have long attracted the attention of photographers, though the focus of their interest has proven quite diverse. In the mid-nineteenth century, Carleton Watkins, Timothy O’Sullivan, and others were often commissioned to promote the nascent industry in the hope of luring prospectors and investors. Nowadays, photographers who continue the documentary tradition established by these pioneers are more likely to investigate the environmental impact of mining or its socio-cultural history. Among those whose practice par takes of both perspectives is Reno-based Peter Goi, who for the last three decades has surveyed the complex relationships between people and the western landscape. Often working in collaboration with other artists and writers, Goi is a well-published observer of the evolving environment. His publications include a trail-blazing study of the nuclear landscape, a photographic survey of Lake Tahoe, an expedition of symbols entitled Humanature, a collaborative documentation of Nevada’s Truckee River, called A Foolish River, and an in-depth study of mining titled Changing Mines in America.

Given the prominence of mining in the western United States, its activities form a recurring theme within Goi’s oeuvre. In Humanature, for instance, Arizona’s mammoth Clifton-Morenci Pit, one of North America’s largest copper mines, is viewed as a hybrid form of landscape no longer strictly natural, nor entirely manufactured. In contrast, despite thematic and compositional similarities, the photograph of the abandoned Liberty Pit in Ruth, Nevada (plate 30), also an open-pit copper mine, is primarily presented as an historical artifact in Changing Mines. Within this context, Goi’s focus shifts to the socio-cultural legacy of the mined landscape. Equally breathtaking in its expansiveness is the bird’s-eye view of Helms Grewel Pit adjacent to the Truckee River in Sparks, Nevada (plate 31). Revealed in 1987 by a substantial oil slick flowing from a nearby tank farm, this EPA National Priorities List “Superfund” site has since been cleaned up and given a new vocation. Following stabilization of its banks, the basin has been flooded, stocked with fish, and renamed as Sparks Marina Park.

If there is one universal icon that symbolizes the industrial processing of our natural resources, it is the smokestack. Within the history of photography, it has been a recurring motif ever since Victor Hugo’s invention portrayed the coal-powered plant of the Manufacture de Sèvres on the outskirts of Paris in the 1860s. Made conspicuous by the pictorialists at the turn of the nineteenth century, and later, the icon of the Modernist New Vision between the First and Second World Wars, the theme continues to inspire artists. In the early 1980s, John Pfahl questioned the threatening proliferation of nuclear power plants and other energy-generating facilities throughout North America. In a series of color images entitled Power Places, Pfahl explored the paradoxical relationships between energy production, picturesque landscape, and the alienating forces of the sublime. By 1988, his lyrical alchemical successfully distilled these heterogeneous ingredients in a new way. The resulting Smoke pictures, four of which form part of this exhibition (plates 34–37), retain only the barest hint of the materiality of some towering smokestacks as billows of colorful smoke enigmatically, portentous space. Simultaneously attractive and repellent by this “phantasmagoria of light and color,” Pfahl conceived these evocative compositions as metaphors of ecological uncertainty. As the current Bush administration nakedly undermines thirty years of clean-air policy through closed-door legal maneuvers and rule changes, these photographs serve to
remind us that politics remain the most eminent threat to the environment. Ultimately, it is our standstill denial of such threats, at signs as the appearance of industrial smog in places as remote as Reno, Nevada (back cover), that will lead our profit-driven society to its ecological demise.

**Exclusion Zones**

Nowhere is the tragedy of environmental disasters more palpable and irrevocable than in the exclusion zones proliferating around the globe. As the term implies, an exclusion zone is a delimited area into which entry is forbidden. Commonly used to designate military installations, territorial waters, or airspace closed to unauthorized access, the phrase is also a sitting trove to denigrate ecologically devastated areas that are now unfit for human habitation.

Echoing the Judeo-Christian expulsion from the biblical Garden of Eden associated with the Fall of Man, environmentally poisoned exclusion zones are rendered permanently inaccessible by our own doing.

While the individuals, corporations, and governments implicated in these forced evacuations often act with impunity, the testimonies put forth by environmental photographers help to prevent the consolation of their actions from public consciousness. Although photographs, like other forms of representation, are limited in what they can communicate, their indispensable relationship with what they represent make them broadly regarded as evidence. Yet, the very toxicity that forces the creation of exclusion zones is often invisible to the eye. From water contamination to ground seepage and airborne pollutants to radioactivity, there are countless environmental dangers lurking beyond the threshold of visibility. In such cases, all that the photographers can do is to illustrate, to evoke, or to intimate by means of telling details and signs presented according to their own conceptual framework and philosophical standpoint.

All of the challenges associated with the depiction of exclusion zones, none has fascinated contemporary photographers more than provoking the impact of nuclear energy upon the landscape and its inhabitants. Following the trend-setting investigations of Kenji Higuchi, Robert Del Tredici, and Peter Goin, other photo-based artists as diverse as Patrick Nagatani, Carol Gallagher, and Lisa Lewenz also began to question the promise of progress implied by the development of atomic energy. By 1987, a collective known as the Abenaki Photographic Guild was created. It now counts more than twenty loosely affiliated members, among them David McMillian and Mark Ruwedel, both of whom figure in this exhibition.

On the North American continent, the most contaminated exclusion zone remains the Hanford Nuclear Reservation nested along the Columbia River in southeastern Washington. Established in 1943 by the Manhattan Project to house the world’s first nuclear reactor, the complex had its ninth reactor shut down in 1991, having by then produced the majority of plutonium used for the American nuclear weapons program. In the process, the Hanford Works left behind 53 million gallons of plutonium-laden sludge now leaching from disintegrating underground tanks. Hoping “to transform this sludge into glass blocks, where the trapped isotopes would decay harmlessly over 10,000 years,” the clean-up is expected to cost “at least $800 billion and last until 2040.”

Perhaps prompted by the 1991 publication of Peter Goin’s Nuclear Landscape, among the first photographic surveys to reveal the harrowing realities of the atomic age, Mark Ruwedel traveled down the Columbia River on three occasions in the early 1990s to document the Hanford Streak. Favoring an understated, though highly rigorous approach reminiscent of both the New Topographics and their nineteenth-century forebears, Ruwedel brings out the profound dichotomies that now permeate this historical waterway. By portraying the Hanford Streak as a placid landscape surrounded by a wildlife refuge, an ecology reserve, and a habitat management area, Ruwedel reveals this environmental protectionism as a masquerade. In one diptych taken from a rocky island (plate 53), he represents a two-fold history of forced displacement: on one shore, the abandoned Hanford town site, on the other, the historical meeting ground of a native North American tribe. Once a mighty river, the Columbia is now termed by three dozen major dams. Electrical pylons, remnants of a bygone era, connect the desolate horizon like a timeline charting the human occupation of the Hanford Streak.

Seen from the air, as in Emmet Gowin’s disconcertingly gorgeous rendition of the Cartesia grid imprinted upon the poisoned riverside (plate 3B), Hanford looks as wondrous as the Nazca lines from the coastal plains of southern Peru. How could such beauty belie the unfathomable horror of self-destructiveness? In Gowin’s own words, the making of this photograph “changed my whole perception of the age in which I live...what I saw, imagined, and now know, was that a landscape had been created that could never be saved.” Once mainly preoccupied with the sensitive portrayal of his immediate family, Gowin has spent the last twenty years drawing inspiration from this disturbing realization. The result has been a sobering compendium of ecological traumas forcing us to contemplate humankind’s self-destructive tendency.

This perspective cannot be overlooked as one considers the extensive series Gowin produced at the Nevada Nuclear Test Site, an exclusion zone in both a military and ecological sense of the world. Somewhat easier to access since the end of the Cold War, the highly contaminated 1,350 square-mile testing area located in the Mojave Desert has no possible anywhere in the world. Created in 1950 as an alternative to the proving grounds of the Marshall Islands in the South Pacific Ocean, the Nevada Test Site has been used for hundreds of atmospheric and underground nuclear explosions. Among the most visually striking features of this forbidden land are the subsidence craters, which are especially numerous throughout Yucca Flat.
In recent years, the dangers inherent in the production, testing, and application of nuclear energy and their life-threatening effect on people have led a number of photographers to investigate the aftermath of major incidents. Foremost among these studies are Carole Gallagher's extensive documentation of the Nevada Test Site workers, their families, and other "downwinders," who experienced first hand the onslaught of the nuclear clouds that followed every above-ground detonation. By the very nature of her focus on the affected people, Gallagher's "American Ground Zero" project is still in progress due to the dispersed locations of these facilities.

Yet, the void left behind by the forced evacuation of 135,000 people from Ukraine's "Atomic City" of Chernobyl and its surrounding periphery speaks volumes about human tragedy, Induced by overwhelming safeguards for testing purposes, the Chernobyl nuclear meltdown, which sent one of the reactors aflame for nine days in 1986, left out two hundred times more radioactivity than the amount released upon Hiroshima and Nagasaki. Notwithstanding the thirty-six hour disaster that further threatened countless residents, an exclusion zone spanning thirty kilometers from the epicenter was permanently sealed off to all human occupation. This area encompasses not only thousands of acres of once productive farmland, but also the modern and well appointed community of Pripyat, home to 45,000 employees of the plant and their families. In the course of evacuating, people were forced to abandon all belongings, large and small, for fear of spreading further contamination beyond the zone of total exclusion.

As revealed by David McMillan's photographs taken on a yearly basis since 1994 (plates 45-50), these warnings were only partially heeded. Though evidence of sudden departure remains pervasive, much has since been removed by too many people oblivious to the invisibility of radioactivity. As time disintegrates the remnants of human occupation and nature reasserts its dominion over the abandoned district, McMillan's expanding archive underscores the dialectic between the half-life of radioactivity and the ephemeral course of civilization. Long after his elegiac portrayal of the once-thriving community has faded beyond recognition, Chernobyl's exclusion zone will remain hopelessly contaminated. As we contemplate such compelling evidence of man-induced ecological disasters throughout the world, it may be wise to remember the fate of Icarus, who refused to obey the voice of reason.
Maia-Mari Sutnik

CONTEMPORARY ENVIRONMENTS AND WOMEN PHOTOGRAPHERS

Thirty years ago, the George Eastman House exhibition The New Topographics: Photographs of a Man-Altered Landscape (1975) put forth a persuasive statement on the historical predilection of landscape and its changing environment. By presenting the work of eleven photographers, curator William Jenkins opened a new kind of dialogue about the role of industrial culture, specifically in America, by changing the prevailing ideas about land and the environment. These photographers focused on critical issues affecting the land, like the ephemera of sprawling man-made structures, industrial expansion, and invasions by exploitative developments. These concerns provided a new context for landscape photography. Embracing the primacy of conceptual analysis—an approach that emphasized photography's descriptive function in a direct and detached manner—the "new topographics" excluded emotional context, stylistic metaphors, and personal traces.

Jenkins's reference to the term "topography" is important as it denotes a specific application: a marked approach that "mapped" the dehumanizing effects of altered environments and reinforced the notion of a neutral or an uninfected "real" photographic document. This vision provided a counterpart to the romanticized American sublime—the grandeur of nature commemorated in images of a pristine wilderness inseparable from spiritual values. Ironically, the "new topographies" environments were infused with a strange sense of otherworldly beauty. Though strange that desolation and desirius would convey an aesthetic effect, a kind of refined beauty, when the endeavor was intended to produce images without traces of art and artificialness. This may be more telling of photography's transforming quality and how the medium raises questions about its larger role as an objective observer. While the aesthetic of the "new topographies" to the precision of nineteenth-century large-format tintype photography is evident, it is equally clear that many frontier photographers—who documented much of the American terrain with images appearing impersonal—did not view emerging industries as detrimental to the environment, but as celebrations of man's ingenuity and civilizing effect.

The focus upheld by "new topographies" may be considered an important touchstone to the exhibition Imaging a Shattering Earth: Contemporary Photography and the Environmental Debate curated by Claude Baillargeon. This exhibition, with its clearly articulated concept, brings together a select group of photographers, whose works show evidence of man's environmental recklessness, its distinction from The New Topographics is one of conceptual magnitude. By focusing on "the big picture," Baillargeon's goal is to encourage debate about the progressive, human-induced "shattering" of the earth. In contrast to the artless neutrality or diminishing authorship associated with The New Topographics, the emphasis is now on stylistic diversity. Yet, both exhibitions share a preoccupation with measured objectivity.

Beyond the shared exploration of man-altered environments, the most glaring parallel between these two exhibitions remains the largely male dominated representation of photographers. The two sole exceptions being Hilla Becher's contribution (with Bernd) to The New Topographics and that of Shana Park-Harrison (with Robert) to Imaging a Shattering Earth. This exclusion of women from the practice of environmental photography could be read in a number of ways. One prevailing view, held by a number of historians and critics, is summarized by Vicki Goldberg: "It is curious how few women count prominently among photographers of the environment. Good ones are not lacking . . . but the emphasis is predominantly male. The landscape has traditionally belonged to men." Another perspective, espoused by art historian and educator Elke LindaJessis, views gender neglect as a case of sexism, which only serves to perpetuate gender inequalities. Meanwhile, the environmental writer and activist John Grande argues that a male dominated economic system has contributed to historical maleness and femaleness in art. In his view, the patriarchal character of technology and territorialism reflects a structure of closed male ownership of art's subjects. Yet, he provides no clear models for the artistic expressions of "maleness" and "femaleness." For him, answers are to be found in self-discovery and in the observation of an emerging shift in creative values.

The gender disparity then simply provides a hook on which to hang at least one other possible argument in the perceived "absence" of women engaged in contemporary environmental photography. It is not unreasonable to think that certain external factors, such as the challenges posed by physical terrains or the degraded industrial environments of deadly repositories, could privilege male viewpoints. Yet, one could also regard this noted "absence" as a predisposition by women towards alternative environmental values. And the discrete artistic choices to be effective interpreters of the environment may account for a certain disparity in approach to the subject. In which case, one may very well ask: what are the interests of women photographers in the environmental debate?

It should be prefaced that the paucity of women photographers in Imaging a Shattering Earth reflects no lack of curatorial effort. Indeed, it would appear that there exists but few works by women that uphold the conceptual parameters of the exhibition. This perplexing situation calls for reflection. If true, could it be an indication that women photographers refuse to view the environmental debate through a lens contingent on inscriptions of objectivity? Or are women photographers preferring to weigh in the debate by means of more personal criteria?
In his essay, Baillargeon clearly notes the presence of various types of environmental photography, an observation that suggests the complexity of the environment as a subject. The intermingling of the terms nature, land, and environment represents a rich source of inspiration with a vast potential for artistic response. Even the formulation of what truly constitutes “an environment” has become an object of debate. Yet, our relationship to the natural world must be the paramount political and social concern of the twenty-first century, as images of Shattering Earth make clear. Meanwhile, the defining parameters of what constitutes “an environmental crisis” remain in flux. Polluted air, contaminated water, acid rain, vanishing ozone layers, greenhouse gases from smelters and car emissions, waste products, deforestation, species decline, all of these imply the need for cleaning up our soil, rivers, swamps, deserts, prairies, and oceans. New ethics are called for if we are to preserve our natural resources and prevent the extinction of livelihoods. Faced with these issues, photographers have the opportunity to respond to varied points of view, including documentary narratives, photojournalism, press reportage, conservancy surveys, formal landscape views, experimental constructions, and other forms of representations tending to be more “schematic” than topographic.

Returning to the conceptual frameworks of The New Topographics and imagining a Shattering Earth, the power of work by women in these exhibitions suggests that few of them embrace the visual dicta underlying objectified and depersonalized images of impared environments. Perhaps more significant for women is the realization that industrial and technological pursuits have real personal consequences. Thus, both grass-roots documentary and metaphoric approaches are favored by women photographers concerned with environmental issues. Bearing in mind that until the mid-1980s few women ventured to photograph the geographic landscape, it is important to note that by World War I women photographers were “in the field” documenting trenches, debris, and the aftermath of man’s inhumanity to man. Just as the societal landscape has changed, so too has our contemporary understanding of landscape—it is no longer specifically geographic, but an aggregate of surrounding conditions and influences affecting our existence. “Landscape” is as much of the cultural and material world as of the elemental world. Clearly, any attempt to examine fully the repertoire of women photographers who have taken up environmental issues is beyond the scope of this essay. However, by considering the strategies of six artists not included in Imagining a Shattering Earth, certain insights into the breadth of possible interpretations of long-term consequences of human-induced damages come to light.

Noboribotaru Norfleet’s Nevada Test Site: 1550 Square Miles (1991), presenting simulated town dwellings in which nuclear devices have exploded, and Lisa Lewen’s disturbing views of the Three Mile Island nuclear reactors (1984), few women have explored nuclear issues in photographic terms. Those that do, however, like Carole Gallagher, have not adopted the detached critical and artistic modes manifested in the work of their male counterparts. Nonetheless, women photographers are mindful of the enormity of the subject, and for her part, Sharon Stewart has provided a critical perspective on the hazards of radioactive waste in an exceptionally telling project.

Stewart’s A Toxic Tour of Texas (1992), addresses the concentration of oil refineries, chemical plants, nuclear weapons, and uranium processing facilities in Texas, all of which release unprecedented levels of carcinogens into the environment, endangering the lives of local inhabitants. Stewart’s critical fact-finding testimonial approach culminated in a photographic narrative on the environmental dangers generated by corporate greed. Her indictment of corporate-induced environmental degradation adopts the strategies of photojournalism and personal rapport, rather than that of an anonymous witness. Giving voices and faces to the lives compromised by uncontrolled toxic disposal, Stewart provides us with ample evidence of this ongoing disaster.

Another personal take on environmental abuse is found in the work of Canadian photographer Ruth Kaplan. Her casual images of garbage and debris in a metropolitan environment are more than a mere “slap on the hand” for poor public etiquette. Instead, they highlight a recognizable pattern of urban decay that impacts our daily lives. The implicit message of Kaplan’s subject is the manufacturing of excess. Clusters of debris including plastics, newspapers, packaging, bottles, etc., draw attention to our diminished capacity to deal with the excess resulting from the overproduction of goods, a situation disguised by manufacturers as “consumer needs.” Appearing in Vivid Life magazine in May 2000, Kaplan’s work is not merely an expose on a despoiled urban environment, but also a critique of the consuming constituency.

Another concern related to the environment is the reclamation of resources. Ruthie Morand’s contribution to the Central Arizona Project (1980) details salient aspects of one of the world’s major canal developments, which was built in the Sonoran Desert to provide water and economic growth. Captured by means of a frank and unabraded documentary style, Morand’s views center on the concrete walls extending far into the horizon and the gigantic construction equipment. Completed in 1986, the canal’s builders claimed it to be carefully engineered, but questions remain as to whether the 330-mile canal and its pumping plants, tunnels, and electric transmission equipment will eventually prove detrimental. While Morand’s photographs do not directly question the moral implications and inequities of the project, they do show how the structure has profoundly changed the desert environment. In addition, they can be viewed as metaphors for the battles opposing monies’ gains and environmental concerns.
Equally relevant is the work initiated some twenty-five years ago by Terry Evans, who deals with a wider repertoire of environmental observations and is motivated by formal experiments that include aspects of performance. Her concentration on prairie sites may at first be perceived as a more formal strategy to capture mesmerizing and tangled textures, but such abstractions of visible and invisible effects engage larger questions of presence and absence. Her aerial investigations of the prairies bring to the fore historic scars, signs of abandonment, incursions, and cultural patterns. An extension of her work is found in the collecting, classifying, and photographing of prairie botanical specimens. Evans's project also involves the actual return of specimens to their indigenous places. The act of correcting prairie ecology, for example, includes the re-introduction of the once free-ranging bison to the Tallgrass Prairie Reserve. Within Evans's work, this practice exemplifies a remedial response to the cascades of human intervention.

Preservation, rescue, and conservancy are also part of women's response to environmental issues. Patricia Leaman Bazelon's gritty photographs from the late 1980s and early 1990s, which document the monumental grain elevators of Buffalo, New York, represent a desire to rescue the heroic symbols of the 1920s from the wrecker's bail and to re-purpose their use. It is a task that seems repetitive with irony when taking into account the legacy of these towering industrial structures, which once upon a time illustrated the frail infra-structures of urban environments. Bazelon's images are a wry comment on social memory, on historical heritage, and on the ability of photography to preserve symbols of past industrial environments.

Though not normally thought of as an environmental photographer, Mary Ellen Mark—a documentary artist known for her reveling portraits capturing the hardship, suffering, and innocence of diverse cultures-deals squarely with environmental degradation. For it is only upon examining the locales she photographs that one becomes aware of how environmental issues intersect with her subjects. Her subjects inhabit places with corrosive ecologies, where the prevailing socio-economic realities and contradictions are due to corporate exploitation. Shattered environments—places compromised by industrial hazards, poisoned air, contaminated water, and unanticipated natural disasters—are the essence of Mark's images. Her documentation in 2000 of the social reality of the coastal people on the remote Deimara Peninsula is a devastating statement. Here, family farms overtaken by large-scale industry and the loss in small fishing ventures to commercial fleets has reduced the community's ability for self-reliance to bare survival—all due to industries enriching on those inhabitants' harmony with their natural environment.

It would appear from the issues addressed above that women are full participants in the environmental debate. Commenting on the social and cultural histories of land, industry, effects of degradation, issues of remedial action, and environmental conservancy, they examine important environmental questions. In the process, they adopt a variety of approaches and styles, especially self-directed documentary narratives and journalistic modes of critical inquiry. In contrast to the works included in Imaging a Shattering Earth, the environmental contributions of women photographers appear less concerned with the practice of "mapping" environments or the desire to assume critical distances. On the contrary, their observations stem from a driving force that regards impaired environments as part and parcel of sociological realities, which foster a more intimate or personal awareness of issues. Such approaches can, and do, produce critically enduring images. As Martha Sandweiss argues in The Country Between Us: "Rather than viewing the natural world as a thing apart—an unapproachable deity, and overwhelming physical force, a world whose inherent moral value is only defined by human contact—women have tended to focus on the symbiotic relationship between humans and their environment."

If there is a declared vision for women photographers engaged in the environmental debate, it is clearly not that manifested by the "ideal document," nor is it aligned with the conceptual approaches featured in Imaging a Shattering Earth. There are, of course, many women photographers observing and exploring the environment by means of critical strategies not discussed here—one thinks, for example, aloud! Wanda Hammerbeck, Barbara Bosworth, Paula Chami, Virginia Duan, Lynn Butler, and Laura McPhail. Clearly their work also represents a wealth of images concerned with industrial presence. Yet, none entirely fulfill Ballinger's exhibition criteria. However, it must be acknowledged that our far-reaching neglect and disregard for the environment has been addressed by several women photographers working from varied aesthetic and critical perspectives. While the global narrative of our plagued environment has not been played out in full, there are signs of consequences to be found everywhere. Imaging a Shattering Earth is but one of the powerful ways to examine the paradox that reveals itself as both a psychic and physical reality.

1. The included photographers were Robert Adams, Lewis Baltz, Glen and Hilda Stacht, Joe Dowi, Frank Gohlke, Nicholas Nixon, John Schott, Stephen Shore, and Henry Wessel Jr.
7. Quoted in WVDS, summer 1990, 16.
100 KW AND KE AREAS
(BREAKING CAMP, EARLY MORNING)
A NEZ PERCÉ MEETING PLACE
EAST WHITE BLUFFS FERRY SITE  
(STEVE'S BOAT/DEAD CHINOOK)
All works less by the artists unless otherwise stated. Dimensions are approximate. Selected bibliography follows entries.

EDWARD BURRTNYSKY
born St. Catherines, ON, 1955 I Resides Toronto, ON

Four digital chromogenic prints from China, 2002-05, ranging in size from 48'' x 60'' to 24'' x 30''

Edward Burtynsky has spent twenty-five years tracking intensifying forms of land use including mining, distilling, manufacturing, and recycling. His recent work deals with the environmental consequences of China’s rapid socio-economic revolution. Beginning in 2002, Burtynsky photographed the massive desalinization related to the Tyne Gorges Dam hydro-electric project. Located on the Yangtze River, the completion of the world’s tallest dam system will result in the flooding of one of China’s greatest fish-reach valleys thereby displacing over one million people and destroying the fruit of 9,000 years of civilization. Whole cities are being dismantled and moved, brick by brick, forcing people to leave behind ancestral land, livelihoods, and multi-generational communities. A further consequence of this displacement is the huge influx of rural populations into the urban centers, where cheap labor is already abundant. Such conditions have led to the rapid growth of the building industry, ramping up China’s steel consumption to all time highs. Shanghai Bau Style Group, a state-owned company, is the leading domestic producer with 15,600 employees. Fueling that production is some of the dirtiest coal on earth. At the very moment when China’s hottest industries are looking for alternatives, China is now topping off its reserves containing an estimated "three-tenths of the world’s low-sulphur coal" (spotted in China, 141). (Burtnynsky, Edward. Before We Flood, Toronto: Self-Limited, 2003.)

EMMETT GOWIN
born Danville, VA, 1941 I Resides Newington, PA

Ten toned silver gelatin prints from Changing the Earth, 1986-96, ranging in size from 9'' x 9'' to 14'' x 14''. Courtesy of the artist and Pace/MacGill Gallery, New York.

Emmett Gowin’s photographic subjects read like a litany of deadly sins: Amusement Park, Toxic Water Treatment Facility, Arkansas (1989), The Razed Village of Libavice, Bohemia, Czech Republic (1992), Hanford Nuclear Reservation, Washington (1986). The Alphabeted and Condensed Village of Times Beach, Missouri (1989), Weapons Disposal Trenches, Tooele Army Depot, Utah (1991). Line of Sight Markings and Arias Circus of Radioactive Salts, Fernald Flat, Nevada Test Site (1996). Broadly acclaimed for his work, Gowin gained first recognition for a compendium of portraits of his wife Edward’s extended Virginia family begun in 1965. Gowin’s work has always contained a sensual intensity and a measure of materiality that is nearly palpable. A master printmaker in an age when few go near a darkroom, Gowin’s works defy Walter Benjamin’s supposition that the aura of art is lost in the age of mechanical reproduction. How then, to reconcile such formal beauty with such toxic ugliness? This question could be posed with any number of the artists in Imaging Shifting Earth whatever the rite, one cannot ignore a thing of beauty, and when that thing points at the...
somewhat else, then that too must be acknowledged. Great
catalogues an exhausting list of man-made spoils. His
intimately scaled works draw us in and leave us with
questions like: What happened here? Has anything changed? Who
is responsible? It is up to us to find the answers for ourselves.
No one is likely to volunteer them.
Graham, Erin. Photographs. Philadelphia Museum of Art:
Brooklyn Print 1990
Raymond Jones, Artist. From Greats: Changing the Earth:
Artistic Photography. New Haven, CT: Yale University Art
Gallery, in excess: The Jackson Gallery of Art and Yale

DAVID T. HANSON

born Billings, MT. 1948 | resides Fairfield, IA

Six trips from the Alberta land series, 1985-86, each composed
of a modified U.S. Geological Survey map, a chromogenic print,
and a gelatin silver print test panel quoted from reports issued by
the Environmental Protection Agency, w:11.5 x 14.2".

David T. Hanson has spent more than twenty years reflecting
upon America's industrial and military abuse of the land in the
related series, Goshen, Montana (1982-85), Minuteman Missile
Sites (1984-85), Waste Land (1985-86), and "The Treasure State";
Land Meditations on a Ravaged Landscape. From a bird's-eye
view, Hanson has documented a stunning array of toxic spills and
lethal weapons. His Waste Land series describes sixty-seven
sites from the Environmental Protection Agency National
Priorities List (EPA NPL). Prolonged by the Superfund
program established in 1983, the list contains, as of September
2005, 1,307 final and proposed sites, which represent those areas
doomed most likely to pose a risk to health or the environment.
Of the six sites presented here, two have been deleted from the
Superfund list. Love Canal and Sharon Steel's Middle Smelter,
both effective as of 2004. Times Beach, listed in 1983, was
cleaned up by 1997, and repopulated as a state park in 1999.
All of its former residents had been forcibly removed.
Colorado's Rocky Mountain Arsenal continues to rank as one of
the most hazardous sites on the NPL. In 1992, Congress
mandated the Arsenal to become a National Wildlife Refuge,
once it is cleaned up, and relocated the U.S. Fish and Wildlife
Management service to assume its maintenance. An application
for devoting portions of the Arsenal from the NPL is pending.
The G.H. Landfill, located in Michigan between Utica and Rochester,
was added to the NPL in 1983. A clean-up decision was issued in
1990. After negotiating an agreement with 14 Detroit
companies in 1993, clean-up actions began in 1996. The work
was completed in 1999, sixteen years after the site was listed.
Michigan's Metro Harvey was listed in September 1984.
Seventeen years later the landfill was capped. Clean-up of the
groundwater is now underway.
Hanson, David T. Waste Land: Meditations on a Ravaged Landscape.
www.davethornets.com

JONATHAN LONG

born Restorub, ID. 1971 | resides Restorub, ID

Four chromogenic prints from the Pre-Law Worldlets: Abandoned
Mine Lands of Southern Illinois series, 2002, each 10" x 10.5".

Emerging photographer Jonathan Long focuses on abandoned
coal-mining sites in Southern Illinois explored during the
nineteen forties—the "pre-law" era of environmental regulation.
Prior to the passage of the Clean Air and Clean Water Acts
(respectively 1970 and 1977), such areas were regularly cleared
of trees, mined, and subsequently abandoned. Torn up and littered
with long-boned rocks that leach acids into the surrounding soil,
these languishing sites are also a source of contamination for
surrounding streams and rivers. Decaying the current politics of
environmental deregulation, Long intends his work to stand as a
reminder of and a warning against the consequences of repealing
environmental laws. Emphasizing the scope of devastation,
Long's camera lens rotates 360 degrees resulting in a 2.25" x 2.25"
negative describing the land in every direction as far as the eye
can see. As an alternative to the prints presented here, Long
guards murals (measuring 4" x 4" 1/2) in a series of round
chimneys, giving viewers an immersive view of the site.
www.jonathalsohn.com
www.photolag.com/gallery

DAVID MAISEL

born New York, NY. 1961 | resides Sausalito, CA

Three chromogenic prints from The Lake Project, 2001-02,
each 40 x 48". Courtesy of the artist and Ym Lintel Gallery, New York.

For the past twenty years, David Maisel has pursued aerial
photography in an ongoing examination of human activity on
the earth's surface in a project entitled Black Maps. Making his first
flight as a scientist of Emerent Gowan, Maisel has focused on the
environmental impact of such practices as strip mining, clear
cutting, and water reclamation. In 2001, Maisel turned his
attention to the Owens Valley's lake region, after noticing dye
irresistible pink glow while driving through southeastern
California. Serving as Los Angeles' primary source of water
between 1913 and 1926, Owens is now a dry lake, whose
mineral flats contain high concentrations of arsenic, nickel,
and cadmium, as well as copper, sodium, chromium, iron,
calcium, potassium, sulphur, aluminum, and magnesium. Vulnerable
to high winds, the Owens Lake region releases, on an annual basis,
over 500,000 tons of cadmium, chromium, arsenic, and other
materials in carcinogenic salt storms, creating health hazards far
beyond the valley itself. Notorious as the highest source of
particulate air pollution in the U.S., the Owens Lake region is
now the object of an Environmental Protection Agency reclamation
project, which is introducing both water and resilient salt grains
back into the area. Maisel's two shooting trips have captured the
landscape in two states of what is now an ongoing cleanup process.
www.davidmaisel.com

DAVID MCMILLAN

born Buderim, UK. 1945 | resides Winnipeg, MB

Six chromogenic prints from the Chernobyl Exclusion Zone series,
1994-present, each 15 x 20 x 20.

Early on the morning of 26 April 1986, following a test
necessitating the shutdown of several critical safety systems,
the flow of coolant water stopped on the Chernobyl 4
reactor. The immediate result was a chain reaction
leading to the ignition of several tons of graphite insulating blocks.
Burning for nine days, this fire caused the release of two
hundred times the amount of radionuclides upon
Hiroshima and Nagasaki. Despite the radiation that will persist in
Chernobyl for the next 48,000 years, human habitation may
again be taken up in the next 300 to 500 years.
Of its one-hundred-thirty-five thousand people previously
residing, Colorado's Rocky Mountain Arsenal continues to rank as one of
the most hazardous sites on the NPL. In 1992, Congress
mandated the Arsenal to become a National Wildlife Refuge,
once it is cleaned up, and relocated the U.S. Fish and Wildlife
Management service to assume its maintenance. An application
for devoting portions of the Arsenal from the NPL is pending.
The G.H. Landfill, located in Michigan between Utica and Rochester,
was added to the NPL in 1983. A clean-up decision was issued in
1990. After negotiating an agreement with 14 Detroit
companies in 1993, clean-up actions began in 1996.
Acknowledgments

Throughout the academic year 2005-06, the College of Arts and Sciences at Oakland University celebrates Environmental Explorations, a liberal arts theme meant to foster awareness of the biological, social, and cultural conditions that influence our world and shape our environment.

Endorsed by the Environmental Explorations Planning Committee led by Chemistry Chair Mark W. Severson, this exhibition and catalogue could not have been undertaken without the generous financial contributions of the College of Arts and Sciences. For this, we are grateful to David J. Dowling, now Interim Vice Provost for Graduate Education and Academic Administration, who, in his former capacity as Dean of the College, responded with enthusiasm to the initial proposal. Without his foresight and encouragement, none of his interim successor Ronald A. Sudol, and of Associate Deans C. Michele Piskulich and Kathleen H. Moore, this project would not have materialized.

The Meadow Brook Art Gallery, its director Dick Goody, and the exhibition curator also wish to acknowledge the Office of the Vice President for Academic Affairs and Provost, the Department of Art and Art History, The Honors College, and e-Learning and Instructional Support for their valuable assistance with the related programs of public lectures, discussion panels, student symposium, and exhibition web site. Without the concerted efforts of Provost Vrinder K. Mindigil, Art and Art History Chair Susan E. Wood, Honors College Director Judy V. Nixon, and Assistant Vice President for e-Learning and Instructional Support Catherine Chwal, the scope of this educational program would have remained more limited.

While in the planning stages, the project evolved into a full-funded partnership with CONTACT Toronto Photography Festival, which made feasible a more substantial publication and the presentation of the exhibition in Toronto as part of CONTACT 2006. For making this collaborative venture possible, Oakland University is grateful to CONTACT’s Executive Board members Edward Burghovsky, Stephen Bulger, and Paul Bain and Festival Director Bonnie Rubenstein. We also wish to express our appreciation to Museum of Contemporary Canadian Art Director David Liss for his interest in the project. We look forward to viewing Imaging a Shattering Earth at MOCCA in May 2006.

We are especially grateful to Robert F. Kennedy Jr., Maia-Mari Satnik, and Katy McCormick for their engaging contributions to the catalogue, which provide a diversity of perspectives from which to reflect upon photography and the environmental debate.

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For exhibition related programs, please visit www2.oakland.edu/shatteringearth.
Claude Baillargeon is Assistant Professor of Art and Art History at Oakland University. He received his Ph. D. in Art History from the University of California, Santa Barbara, and both his M.A. and his M.F.A. from The School of the Art Institute of Chicago. In 2003, he curated Dickensian London and the Photographic Imagination for the Meadow Brook Art Gallery.

Robert F. Kennedy Jr. is a resolute defender of the environment, serving as chief prosecuting attorney for the Hudson Riverkeeper, senior attorney for the Natural Resources Defense Council, and president of the Waterkeeper Alliance. Oakland University welcomes him to campus on October 5, 2005, as guest speaker for Environmental Exposures.

Maia-Mari Sutnik is the Associate Curator of Photography at the Art Gallery of Ontario, where she has published and organized photography exhibitions since 1979. Recent projects include a book on Canadian photographer Reva Brooks and the exhibition Douglas Clark: Sweet Mortality (co-curated by Michael Mitchell). She is currently planning a retrospective on Czech photographer Joseph Sudek.

Photo-based artist Katy McCormick is Exhibition Coordinator for Gallery 44 Centre for Contemporary Photography in Toronto and managing editor of the forthcoming publication Image and Inscription: An Anthology of Contemporary Canadian Photography.

Peter Goen, Smog: Winter View of Pollution and New Development from the Hills above West 7th Street, Looking East, Reno, Nevada, 1990