

**Recommendations for Improving California's Public and  
Environmental Health**

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Governor Arnold Schwarzenegger  
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Submitted by Physicians for Social Responsibility-Los Angeles (PSR-LA) and the  
Environmental Health Legislative Working Group (EHLWG)

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## Executive Summary and Recommendations

Many health professionals agree that Californians unnecessarily suffer from a variety of environmental ailments that threaten our economic competitiveness and public health. If our state is to achieve greater health and prosperity, it is clear that all sectors of California's population must work together to make our environment safer.

California's future and economic vitality depend upon a healthy, well-educated population that is spared from unnecessary disease and the costs associated with harmful environmental exposures. The estimated annual state expenditure for just 9 environmentally related diseases (childhood cancers, asthma, and lead poisoning; prostate, cervical, uterine, and ovarian cancers; neurobehavioral disorders; and birth defects) is more than \$10 billion, including medical costs and lost productivity.<sup>1</sup> More than 33 million Californians live in areas with elevated risks for cancer and other preventable illnesses. We face serious threats to the air we breathe, the water we drink, and the soil that produces our food.

California is making some progress. An environmental health tracking program now being developed in the state will help policymakers and the health community better understand the links between environmental toxicants and chronic disease. Groundbreaking recommendations are being made to ensure equal protection and environmental justice for communities disproportionately impacted by pollution. It is important that Californians realize prevention is the best and most cost-effective remedy for environmental and public health problems.

There are more than 80,000 chemicals registered for use in the United States, 1,400 of them considered high-production-volume chemicals, yet data on human exposure exists for only 6 percent. For example, of the 476 chemicals that EPA identified as most in need of testing under the Toxic Substances Control Act, only 10, or 2 percent, were being measured for human exposure.<sup>2</sup> Chemical manufacturers must be required to disclose all testing methodology so that public health organizations can find chemicals in the environment and screen people for exposure.

Current regulatory policies allow polluters to substantially externalize the cost of such activities as cleanup and health-care costs. The economic burden of paying for the consequences of pollution should be shifted from taxpayers to those responsible for causing harm. Health advocates strongly support "polluter pays" programs. Voters approved the administration's measure that taxpayers assume billions in bonds to remediate the state's budget crisis. Polluters should be required to shoulder their share of cleanup and health-improvement programs.

The state cannot continue to be pennywise and pound-foolish. An Environmental Health Surveillance System that reduces 1% of 9 environmental diseases would save California \$100 million annually.<sup>3</sup> The costs of treating illnesses linked to toxic exposure far surpass the costs of prevention, and the costs of cleaning up contaminated sites exceed the price of pollution prevention. California's economy, environment, and the health of its citizens will benefit from a preventive focus:

- In 2000, the cost of hospital stays for asthma amounted to \$480 million in California; the average cost per stay was \$13,000.<sup>4</sup> Nearly 10% of California's children under age 18 have been diagnosed with asthma and have had symptoms within the past year.<sup>5</sup> Currently, asthma is the leading cause of school absenteeism.<sup>6</sup> The impacts of particulate matter from diesel exhaust and pesticides are of special concern to children's health, particularly African American children, who suffer from notably higher asthma rates than children of other ethnicities.

- A wide variety of harmful neurotoxins, which lower IQ and impair learning, memory, attention, language processing, and impulse control, are implicated in neurobehavioral disabilities. These disorders are estimated to cost the state \$1.3 billion each year.<sup>7</sup>
- California reported an all-time record for children diagnosed with autism, adding 1,663 new cases in the first 6 months of 2003. Cases of full spectrum autism rose a staggering 633% between 1987-2003, with a 414% increase since 1994.<sup>8</sup> This dramatic rise cannot be explained by better reporting, diagnostic procedures, or parents moving to the state for services.<sup>9</sup>
- The total cost of only 4 cancers (prostate, uterine, ovarian, and cervical) amounted to \$984 million for California in 1998, including \$380 million in direct costs and \$604 million in lost productivity caused by premature death.<sup>10</sup> These cancers represent only a small proportion of the total cost of cancer in the state. Since 1971, childhood cancer has increased by 10.5% in California, with 1,400 new cases diagnosed each year.<sup>11</sup>
- In California, child lead poisoning was estimated to cost more than \$6 billion in 2000, with 130,000 children ages 1 to 5 years in California affected.<sup>12</sup> Close to 3 million tons of lead remain in pre-1980s housing stock; despite this ubiquitous hazard, the medical community fails to enforce universal screening.<sup>13</sup> Unfortunately, as with many environmental hazards linked to disease, lead exposure often occurs in low-income areas, where the extra financial burden of health-care costs are placed on disadvantaged families.
- Breast cancer continues to increase by more than 1% annually, and the incidence rate of this disease in the Los Angeles and San Francisco Bay areas is among the highest in the world. Chemicals that mimic estrogen have been linked to breast cancer and other diseases.
- In 2002, more than 1,300 cases of probable (291) and definite (1025) pesticide poisoning related to agricultural use were reported in California, with approximately half of the incidents caused by pesticide drift.<sup>14, 15</sup> California leads all states in pesticide use and applied more than 172 million pounds in 2002—an increase of 21 million pounds since 2001.<sup>16</sup>
- Perchlorate, a drinking water contaminant, is linked to hormone damage that could potentially lower IQ in children. Perchlorate contamination is particularly problematic for those consuming Colorado River water, as crops, dairy animals, and meat cattle bioaccumulate the chemical. There is no regulatory standard for perchlorate presently in place to protect public health.

## Recommendations

All Californians have an equal right to a healthy and safe environment. This requires that our air, water, earth, and food be of a sufficiently high standard for individuals and communities to live healthy lives. Government holds a public-trust duty to protect and restore our resources for current and future generations. We ask that you act immediately to:

- Adopt a preventive public health approach to reduce further harm to human health and the environment:
  - Phase out the use of chemicals that are persistent, bioaccumulative toxicants (PBTs), starting with the toxic flame retardant deca-brominated diphenyl ether (“Deca-BDE”). Reduce allowable emissions of harmful chemicals to California’s air, water, and land.
  - Identify chemicals that harm the developing fetus and children, and create a strategy that will end the release of these chemicals into the environment. Protect children’s health as a top priority.

- ❑ Require industries doing business in the state to test their products adequately for effects on human health and to disclose the information to the public. Require these industries to provide the science necessary for regulation, such as testing methods for detecting chemicals in air, water, and human bodies. (The state bears an unnecessary financial burden when industries both refuse to do the research and require science before regulation.)
  - ❑ Require chemical manufacturers to produce biomonitoring methods for their products (e.g., industry-developed detection data).
- Support “polluter pays” initiatives that account for industry’s real costs to public health:
  - ❑ Raise pesticide-mill fee charges on sales of higher-toxicity pesticides to fund the Pest Management Grants program and the Pest Management Alliance program. Promote and provide incentives for safe and sustainable alternatives, and education and outreach to farmers. (General funds for such programs have been cut.)
  - ❑ Support polluter-pays fees on petroleum products to fund the Carl Moyer and Lower Emission School Bus programs.
- Restore the state’s resources to monitor illness adequately to address environmental health threats, and to help reduce health-care costs. The California Department of Health Services (DHS) spends billions to treat disease through its Medi-Cal program, rather than to prevent disease through funding the state’s prevention services. Highly trained and experienced scientific staff in health and environmental agencies are eliminated as funding is reduced. Require full funding for such agencies as the Office of Environmental Health and Hazard Assessment (OEHHA), DHS, and California Environmental Protection Agency (Cal/EPA), whose responsibilities involve ensuring public health protections.
- Develop a public-interest research agenda for California universities to examine green chemistry and engineering, and alternatives to damaging technologies. California has the opportunity to lead the nation in technology innovation.
- Promote product stewardship programs where manufacturers assume end-of-life responsibility, instead of taxpayers and residents paying higher waste-service rates. This strategy can provide economic incentives for manufacturers to develop least-toxic products. Support SB 511 (Figueroa), which would require manufacturers to recycle mercury-containing lamps.

## **Specific Recommendation Areas**

### Protect Low-Income Communities of Color and Other Vulnerable Populations:

- Move swiftly to implement Cal/EPA’s Environmental Justice Recommendations.
- Develop stronger programs to address cumulative environmental impacts. Ensure that new business and land-development projects do not worsen the disproportionate risks from pollution already experienced by many communities of color or low-income neighborhoods.

### Make California’s Air Cleaner:

- Encourage use of the hydrogen fuel cell, which could help to reverse California’s economic decline and to erase our label as one of the most polluted states in the union. The hydrogen must be based on renewable energy, not fossil fuels or nuclear power.
- Promote a shift to solar energy. This is also the most viable and logical source for hydrogen, and could create 2.9 million jobs and cut petroleum spending by \$11.8 billion nationally, according to a study by Sen. Edward Kennedy.

- Maintain strong new source review programs in California by implementing the Protect California Air Act of 2003 (SB 288–Sher). Under this law, companies that build new facilities, or modify or expand existing facilities, are required to install the latest and most health-protective pollution control technology. Support and implement regulations to reduce greenhouse gas emissions from motor vehicles to the maximum extent feasible, as mandated by AB 1493 (Pavley).
- Promulgate diesel pollution-control measures to achieve nitrogen-oxide and particulate matter reductions, and protect the public from diesel cancer risk. Adopt new rules and regulations to clean up older, high-emitting vehicles and to replace, retrofit, or repower diesel engines in public and private fleets, transport refrigeration units, and other applications.
- Allow local air quality agencies to continue to regulate consumer products, including vehicles outfitted with diesel engines, for both health and economic reasons. Such regulations are necessary to attain federal air quality requirements. (Failure to achieve such standards could subtract billions of federal dollars from the state’s economy for transportation infrastructure and improvements.)

Make California’s Drinking Water Safer:

- Direct OEHHA to promptly publish a Public Health Goal for chromium 6 and ascertain that it truly protects children’s health. Encourage DHS to adopt drinking water standards for arsenic, perchlorate, and chromium 6 that match or exceed OEHHA’s recommended Public Health Goals.
- Organize OEHHA’s Developmental and Reproductive Toxicant (DART) Committee to meet in 2004 to list perchlorate as a chemical of concern.
- Direct the Central Valley Regional Water Quality Control Board to accept the recommendation of their own staff, and to end the waivers that have allowed agribusiness to discharge pollutants into our waterways unchecked.
- Create a category for all state grants and loans to recognize and fund the special technical, managerial, and financial needs of small or economically disadvantaged water systems.
- Make those responsible for contaminating our water bear the burden of cleanup by implementing SB1004 (Soto) (which requires those responsible for polluting a drinking water supply to pay for supplying replacement water).

Protect California’s Children from Lead Poisoning:

- Extend universal screening to all California children ages birth to 6 years.
- Ensure universal lead screening data are promptly reported back to county and city health departments, and are made publicly available on the DHS’s website.
- Increased the legal authority of local enforcement agencies (including the authority to issue regulations to implement SB 460–Ortiz) and provide funding for the repair of lead hazards in the home before children are poisoned.
- Lower state levels for standards to define lead poisoning to reflect recent research results that lead, even at low levels of exposure, negatively impacts cognitive development. Lowering action levels will allow local health programs and personnel to immediately help more children who are at risk of losing IQ points and to greatly improve school readiness.

Reduce Exposure to Pesticides:

- Sign the Healthy Schools Act (AB 1006–Chu) to ban the use of the most toxic and carcinogenic pesticides in public schools.
- Reduce pesticide drift through improved regulations: phase out aerial applications, fumigation, and other drift-prone application methods, especially for “bad actor” pesticides; to protect fieldworkers, children at school, and other community members, establish buffer zones around fields being treated; and define pesticide drift to include all airborne, off-site movement of pesticides.
- Require posting and notification of pesticide applications. Direct the Department of Pesticide Regulation (DPR) to rewrite regulations and pesticide labels to require 24-hour advance written notification of all residents and property owners within 1/4 mile of any pesticide use that has the potential to drift off site during or after application.
- Implement the Toxic Air Contaminant Act (AB 1807–Tanner).
- Strengthen enforcement of existing pesticide worker protection programs and laws. Instruct counties to issue maximum allowable fines for all serious and repeat violations observed. Request the DPR to exercise authority to issue higher fines against companies that violate the law in multiple counties. Encourage increases in maximum allowable county and state fine levels.
- Establish and implement a uniform pesticide poisoning response protocol. In conjunction with county agriculture commissioners, instruct the DPR to develop a standard, accessible protocol to inform, protect, and assist victims and to punish violators.

#### Protect California from Exposure to Radioactive Contaminants:

- Oppose deregulation of radioactive wastes, and require that they be carefully disposed in licensed facilities to isolate them from the human environment. Support SB 13–Romero, to require radioactive waste to be disposed of safely. Implement enacted legislation (SB 2214–Keeley) to establish minimum standards for disposal, thus providing protection against leakage of radioactive wastes. Oppose efforts to allow radioactively contaminated metals to be recycled into such consumer products as braces, spoons, zippers, or children’s toys.
- Support state legislation to use the more protective EPA standards for cleaning up radioactively contaminated sites in the state.
- Transfer the Radiological Health Branch to Cal/EPA to consolidate environmental regulation of radioactivity with that of chemical toxicants.
- Maintain and enhance public access to environmental information about radioactive issues in the state. Support the strong commitment of the new administration to open information, and overturn the Davis Administration policy to suppress public access to data about environmental and regulatory records.

#### Protect California’s Workers and Workplaces:

- Restore funding to the Department of Industrial Relations budget for evaluating information from doctors who treat job-related illness and injury (first reports, injury mortality, and workers’ compensation). Note that the current budget is so small that only a few diseases are routinely reported. Not only does this impose costs on employers and the workers’ compensation system, but workers are getting sick and dying needlessly.

- Require industries and workplaces to use safer, adequately tested materials to prevent harm to employees.
- Require employers to incorporate occupational health and safety protections on the company's website, including:
  - ❑ Corporate policy on occupational health and safety
  - ❑ Results of routine industrial hygiene monitoring as per Proposition 65-listed chemicals
  - ❑ Results of medical monitoring (maintaining employee privacy protections) for all facilities per Proposition 65
  - ❑ Latest OSHA Log 300 reports.
- Direct increased resources to training workers about workplace safety and their rights.
- Require management/worker health and safety committees in large workplaces.
- Require public-sector employers in the state to keep a record of the toxic substances with which each employee works, modeled after New York's recently approved right-to-know amendment.
- Require employers of persons who work with chemicals listed under Proposition 65 to disclose that occupational health and exposure standards are far less stringent than public health and exposure standards.
- Prohibit state contracts with employers with poor safety and health records.

With visionary leadership from California's governor and legislature, and the meaningful involvement of communities, we can make California's environment healthier and guarantee economic growth.

## Environmental Health in California: A Report

### **Encouraging Signs – Movement Toward Better Health for the State of California**

We are pleased to note some signs of progress. Initial steps have been made to advance environmental justice, research on cumulative exposure, environmental health tracking, biomonitoring, and implementation of preventive measures to better protect public health:

- The California Environmental Protection Agency (Cal/EPA) Advisory Committee on Environmental Justice has issued precedent-setting environmental justice recommendations that Cal/EPA must now adopt and fully implement.
- The California Air Resources Board (CARB) adopted and partially implemented its Environmental Justice Policies and Action Items.
- The South Coast Air Quality Management District's (AQMD) Cumulative Impacts Reduction Strategy includes the development of regulations and other measures to assess and reduce cumulative environmental impacts of air pollutants.
- The creation of a California Environmental Health Tracking Program (CEHTP) has been proposed. Its mission would be to develop a comprehensive environmental health tracking network to link, monitor, and report health effects, environmental hazards, and exposure data to enable public-health action.
- The California Department of Health Services Biomonitoring Planning Project will develop a plan to expand laboratory support for biomonitoring activities in the state. This expansion will provide new information about Californians' exposures to toxic substances and help prevent resulting disease.
- In 2003, California was the first state in the nation to ban 2 types of polybrominated diphenyl ethers (PBDEs)—toxic flame retardants that are rapidly accumulating in breast milk and are suspected of interfering with human fetal development.
- The Nontoxic Dry Cleaning Incentive Program was passed in 2003. The law places a \$3 fee on every gallon of perchloroethylene manufactured or imported in California for dry cleaning. Most of the funds generated from the fee will be used to provide grants to individual dry cleaners to purchase non-toxic, non-smog-forming cleaning alternatives.
- The country's first-ever precautionary policy for pest management was adopted by the Los Angeles Unified School District (LAUSD) in 1998, followed by the passage of the first precautionary principle ordinance in San Francisco County in 2003. These historic measures serve as a blueprint for integrating a preventive ethic into community-based, local policymaking that is protective of public health and supportive of economic innovation.
- Los Angeles, Contra Costa, Alameda, and 11 other unified school districts passed Integrated Pest Management policies requiring the use of least-toxic pesticides in district schools; LAUSD also passed a resolution that requires new schools and modernization projects to incorporate water/energy efficiency, non-toxic products, and other healthy building standards.

### **The Failure of California's Chemical Regulatory System: Economic and Public Health Implications**

Despite the noted progress, more needs to be done to protect public health and the economy. The cost of environmental disease is staggering. The estimated annual expenditure for just 9 environmentally-related diseases in California (childhood cancers, asthma, and lead poisoning; prostate, cervical, uterine, and ovarian cancers; neurobehavioral disorders; and birth defects) is more than \$10 billion, including medical costs and lost productivity. California lacks surveillance systems for most chronic diseases and there are virtually no ongoing chemical hazard tracking or biomonitoring programs. An Environmental Health Surveillance System that reduces 1% of these diseases would save California \$100 million annually.<sup>17</sup> Prevention strategies are far more cost effective than after-the-fact health care and treatment.

A national study to analyze the health care and economic costs (lost workforce productivity, special education services, etc.) of environmental illness estimated a \$13 to \$28.5 billion annual price tag for Parkinson's disease. Neurodevelopmental deficits and hypothyroidism were estimated to cost \$81.5 to \$167 billion per year, and loss of IQ points (as a result of lead poisoning) at \$275 to \$326 billion.<sup>18</sup>

California's capacity to track and prevent environmental illness has suffered greatly as a result of budget cuts under the Davis Administration. The Division of Environmental and Occupational Disease Control (which includes the Birth Defects Monitoring Program, Childhood Lead Poisoning Prevention Program, Environmental Health Laboratory, Occupational Health Branch, the Environmental Health Investigations Branch) lost nearly 25% of its staff. The Division is facing an additional 20% budget cut in 2004. In addition, the Office of Environmental Health Hazard Assessment suffered a 40% budget cut in 2003. Without the staff and resources to implement health tracking and biomonitoring programs, a preventive approach to environmentally-related disease that would save the state millions is impossible.

The cost of doing nothing to alleviate environmental exposures that affect children's health is clear. California spent \$4.5 billion on direct services for special education students in the 2000-2001 school year.<sup>19</sup> There is a growing body of evidence linking developmental disorders, asthma, and other childhood illnesses to pesticides, solvents, air contaminants, and other toxic substances.

Much of this toxic injury clearly is precipitated by a failure of the chemical regulatory system, and is exacerbated by inadequate environmental and occupational health infrastructure. Current regulations simply do not protect the public and workers from harmful toxicants, nor do they address the ways people are exposed to chemicals:

- California is gambling with its health. Potentially harmful chemicals are ubiquitous in our bodies and environment—national biomonitoring studies have shown that more than 100 questionable chemicals trespass in our bodies, yet we have no information on the cumulative impacts or synergistic effects of these compounds. Of the 80,000 chemicals registered for use in the United States, biomonitoring research has only screened people for less than two hundred. There is a significant lack of information about what chemicals are found in human bodies.
- Chemical manufacturers are not required to perform adequate safety tests on chemicals (with the recent exception of pesticides). Inadequately tested chemicals, such as DDT and PCBs, can cause serious harm; safety tests need to include evaluations of endocrine or developmental impacts, before they are approved for use.
- Manufacturers are not required to test for bioaccumulative properties before the chemical is approved. Toxicants such as PBDEs, dioxin, and PCBs are known to accumulate in human tissue, including breast milk—levels of PBDEs in the breast tissue of women living in California are among the highest detected in the world.<sup>20</sup> It is a travesty that the best infant food is now contaminated.

- Testing methods have not been developed by health agencies to detect most registered chemicals in the human body or in the environment. Of 1,400 potentially hazardous high-production-volume chemicals, national surveys monitor exposure to only 6%.<sup>21</sup> Chemical manufacturers must be required to disclose all testing methodology so that public health organizations can find chemicals in the environment and screen people for exposure.
- Preventive approaches should be taken to protect the public by requiring manufacturers of products that pose potential harm to prove product safety, and that their activities are posing the least harm to health.

## **Women and Children Suffer Most From the Adverse Health Impacts of Pollution**

Exposure to toxic chemicals may impair children's developmental and cognitive ability. Certain exposures can cause asthma or trigger asthma attacks. The results are increased school absenteeism, decreased readiness to learn, and poor performance in school. Lowered school readiness has profound and long-lasting economic implications, resulting in missed future opportunities as California's children become adults. Environmentally related diseases such as asthma, neurological disorders, and cognitive disorders require increased state spending on children's health care and disability programs. Conservative national estimates of 4 pediatric illnesses believed to be induced by environmental toxicants total \$54.9 billion.<sup>22</sup>

Women's and children's health are inextricably tied together. When women are exposed to toxic substances they unavoidably expose their unborn children, often with irreparable results. Even low doses of environmental toxicants during critical stages of development may have profound effects on the fetus and lead to poor birth outcomes, developmental deficits, or reproductive problems later in life.<sup>23</sup> In addition, certain chemicals are known to accumulate in breast milk, continuing prenatal exposures through infancy.

Environmental exposures in the womb and through infancy and child development have been strongly linked to a variety of birth defects and disease:

- *Autism and Other Learning Disabilities.* The California Birth Defects Monitoring Program (CBDMP) identifies genetic defects and exposure to toxic chemicals as likely causes for autism.<sup>24</sup> Over the past 30 years, the number of children receiving services for autism has more than doubled. Between 1990 and 2000, the number of California public school students with learning disabilities (ages 6-21 years) served under the Individuals with Disabilities Education Act (IDEA) increased 33%, students with mental retardation increased 37%, emotionally disturbed children increased 70%, and "Other Health Impaired" (including ADHD students) increased 40%.<sup>25</sup>

A wide variety of harmful neurotoxins that lower IQ and impair learning, memory, attention, language processing, and impulse control are implicated in a number of these disabilities. Neurobehavioral disorders are estimated to cost the state \$1.3 billion each year.<sup>26</sup>

- *Cancer.* The total cost of only 4 cancers (prostate, uterine, ovarian, and cervical) amounted to \$984 million for California in 1998, including \$380 million in direct costs and \$604 million in lost productivity owing to premature death. These cancers represent only a small proportion of the total cost of cancer in California.

It is widely understood that many cancers are environmentally related. Specific childhood cancers including leukemia, brain tumors and other cancers of the nervous system, non-

Hodgkin's lymphoma, soft tissue sarcoma, Wilms' tumor, and others have been linked to exposure to environmental toxicants such as pesticides, hydrocarbons, and solvents.<sup>27</sup>

- *Mercury and Neurodevelopmental Disability.* One in 12 women of childbearing age risks giving birth to a child with permanent neurological damage because of mercury exposure in-utero.<sup>28</sup> This places more than 320,000 infants at risk, based on current birth rates. Scientists at the Environmental Protection Agency recently doubled this risk estimate to 630,000 children, based on studies that show mercury accumulates in fetal blood at rates 70% higher than maternal blood.<sup>29</sup>
- *Endocrine Dysfunction.* Scientists have identified 51 synthetic chemicals that can impact the endocrine system—the body's chemical messaging system that regulates hormones and certain aspects of fetal and child development. Chemicals that mimic estrogen have been linked to breast cancer, developmental defects, and other diseases.

Health advocates have identified ongoing as well as emerging threats to women's health and child development that make a special case for reducing toxicants that can cause harm:

- *Fetal contaminants*

- Dangerous chemicals are known to find their way into the womb and expose the fetus at critical developmental stages, resulting in impairment of developing immune systems, neurological systems, the endocrine system, and organ systems.<sup>30</sup>
- Despite irrefutable evidence of harm, government agencies in California have failed to act to reduce exposures to potentially harmful chemicals during pregnancy and prior to pregnancy to protect the developing fetus. The state Attorney General has been more proactive than any California agency charged with protecting health regarding consumption of mercury-contaminated fish by women, despite clear evidence of exposure and harm.<sup>31</sup>
- Many harmful chemicals often found in the womb are known to adversely affect brain development, but are not regulated by California agencies. Notable examples are musk xylene and short-chained chlorinated paraffins.<sup>32</sup>

- *Birth defects*

- Birth defects cost the state an estimated \$1.8 billion.<sup>33</sup>
- Each year, 1 in 33 children born in California has a structural birth defect (missing or malformed body part).<sup>34</sup>
- According to the CBDMP, pesticides used for household gardening are correlated with increased instance birth defects, including oral clefts, neural tube defects, heart defects, and limb defects. Living within 1/4 mile of agricultural crops and has also been linked to neural tube defects.<sup>35</sup> CBDMP has called for additional research.

- *Air quality and respiratory health*

- Asthma is the most common chronic illness for which children are hospitalized in California.<sup>36</sup>
- In a recent economic analysis of school absences and ozone levels in Southern California the authors estimated that \$68 million a year could be saved if ozone levels in the South Coast Air Basin were further reduced, thereby improving children's health.<sup>37</sup> The EPA's own analysis showed that savings from pollution-related health-care costs because of more stringent enforcement of current air quality standards could range from \$36 to \$68 billion annually.<sup>38</sup>
- In California, health care for asthma is highest among children under 15 years of age. Nationwide in 1999, asthma-related child health care included about 3.5 million physician office visits, 658,000 emergency room visits, and 190,000 hospital admissions.<sup>39</sup>
- In various studies in peer-reviewed medical journals, air pollution is reported to exacerbate asthma. Researchers at the Centers for Disease Control and Prevention reported in the *Journal of the American Medical Association* that decreased citywide use of cars in Atlanta during the 1996 Summer Olympics led to improved air quality, and a large decrease in childhood emergency room visits and hospitalizations for asthma. Investigators in a 2002 study suggest that air pollution increases the likelihood that individuals will develop asthma.<sup>40</sup>
- Women living in close proximity to heavily trafficked freeways with elevated pollution levels are more likely to give birth to low-birth-weight or premature infants.<sup>41</sup>

- ❑ Children living in the most polluted communities in Southern California suffer reduced lung function and reduced lung growth, increased school absences, asthma exacerbations, and new-onset asthma.<sup>42</sup>
- ❑ A child born in the California South Coast area potentially exceeds a lifetime acceptable cancer risk after only 12 days of exposure to air pollution in that region. Children in the San Francisco Bay area, Sacramento Valley, San Diego, and San Joaquin Valley exceed a lifetime acceptable risk in between 19 and 23 days.<sup>43</sup>
- *Drinking water contaminants*
  - ❑ Many contaminants of concern, such as perchlorate and chromium 6 compounds, are not yet regulated, although evidence clearly points to their threat to child development and human health in general.
  - ❑ Arsenic is known to cause bladder, lung, skin, and other cancers, and is linked to the development of cardiovascular disease, reproductive effects, and other health problems.<sup>44, 45</sup> A federal standard limits the presence of arsenic in drinking water to 10 parts per billion, which allows a cancer risk 20 times greater than limits for other carcinogens.
  - ❑ Pesticides found in drinking water pose serious health threats. They have been linked to learning and behavioral disabilities, cancer, thyroid and respiratory problems, sterility, and birth defects. Nitrates, a by-product of pesticide use and runoff from dairy farms, are known to cause “blue baby” syndrome, which can be fatal.
- *Lead*
  - ❑ Children exposed to lead at levels within current health guidelines can experience a loss of over 7 IQ points, raising significant social and political costs.<sup>46</sup>
  - ❑ Emerging research results are that current action blood-lead levels of 10 to 20 micrograms per deciliter of blood fail to protect children from loss of intellectual capacity.<sup>47</sup>

### **Communities, Cumulative Impacts, and Environmental Justice**

People who live in communities of color and low-income neighborhoods face the worst pollution and environmental health problems. Researchers have repeatedly found that communities of color are more likely to be located close to areas where hazardous materials are used and released.<sup>48</sup> Unfortunately, while source-specific and medium-specific environmental problems in communities of color and low-income neighborhoods have been well studied, we lack comprehensive data on cumulative environmental impacts. Current data support immediate action and the further examination of the aggregate impacts of pollution, emissions, and releases:

- Children of color are 3 times more likely than Caucasian children to live in census block areas with high-density traffic. Many confront toxic diesel engine emissions where they live and go to school.<sup>49</sup>
- Major transportation corridors and areas with high concentrations of industrial operations in Southern California are predominantly low-income, communities of color. These communities experience higher cancer risk from diesel particulates as a result.<sup>50</sup>
- In the South Coast Air Basin, persons of color experience excess lifetime cancer risks from air toxics nearly 50% higher than those of whites.<sup>51</sup>

- African American children have asthma hospitalization rates nearly 2.5 times higher than all other races in the state.<sup>52</sup> African American children in Los Angeles County experience an alarmingly high incidence of asthma compared to other ethnicities.<sup>53</sup> In addition, African American and Latino children attending LAUSD schools bear a higher lifetime cancer risk from exposure to toxic air contaminants than children from other communities.<sup>54</sup>
- In the past 4 years in the San Joaquin Valley, hundreds of people from the low-income, communities of color Earlimart and Arvin were poisoned by metam sodium pesticide drifts that sent dozens to the hospital and affected the health of many people for months afterward. In October 2003, the community of Lamont in Kern County was poisoned by drift from a chloropicrin fumigation. Such incidents are not infrequent in the Central Valley.
- Drinking water contamination is exacerbated in small and low-income communities. Small water systems cannot absorb the high cost of retrofitting their infrastructure or updating their treatment systems to remove new contaminants. State grant and loan programs can require high matching funds, take months or years to approve, and be slow to release funds, making it impossible for small systems to take advantage of these programs.
- A Centers for Disease Control report found that African Americans are the most highly exposed ethnic group to chemicals found in our environment. Mexican Americans were the most highly exposed population to pesticides.<sup>55</sup>
- The National Academy of Sciences committee on the Biological Effects of Ionizing Radiation maintains that even minute exposure to radiation can affect human health. Manmade sources of radiation, added to everyday natural background sources of radiation, are contributing to higher rates of cancer. Those potentially impacted include:
  - ❑ Fifteen million Californians whose Colorado River drinking water includes extra doses of radiation because of a leaking uranium mill-tailings pile in Moab, Utah
  - ❑ Communities living near radioactively contaminated facilities, including Santa Susana, Livermore, Mare Island, Pleasanton, Mountain Pass, and San Clemente
  - ❑ Sanitation workers exposed to radioactive material being dumped in municipal landfills
  - ❑ Consumers of metal products that have been made with recycled radioactive metals

## **Workforce/Occupational Health**

The health of the members of California's workforce suffers from a mostly reactive response by agencies in charge of oversight because of a severe lack of funding and staff resources. These limitations prevent the California Division of Occupational Safety and Health (Cal/OSHA) and DHS from initiating proactive programs that are funded by the state, and therefore from taking a preventive approach to occupational injury and illness. In addition, certain industry workforces in California face a greater than average risk of exposure to toxic chemicals while on the job. Researchers estimate that 4% to 10% of all cancer deaths and 1 in 5 cases of chronic obstructive pulmonary disease (COPD) in California can be attributed to occupation.<sup>56,57</sup> Workers also often take harmful exposures home with them on contaminated clothes or skin, thereby increasing the risk to their families and children. Solvent exposure in the workplace increases the chance of infants born with gastroschisis, a life-threatening condition, based on interview reports of occupation and job tasks.<sup>58</sup>

- *Agriculture.* Acute poisonings of farmworkers by pesticide drift continues to be particularly problematic in California.

- *Electronics.* Manufacturing computer equipment uses more than 1,000 materials, many of which are highly toxic. Studies have also shown that women who work in semiconductor fabrication rooms face a 40% or higher incidence of birth defects and miscarriages than do non-manufacturing workers.
- *Nail Shops.* Manicurists routinely handle solvents, chemical solutions, and glues. Many of these chemicals are irritants and can cause allergic reactions or affect the body's central nervous system. Manicurists often report health problems including headaches, asthma, chronic cough, dermatitis, runny or dry nose, fatigue, and depression, yet health standards for this sector of the workforce are not in place.
- *Medical Waste.* Poor waste segregation and management practices expose medical waste workers to hazards such as needle injuries, volatilized mercury and physical injury to the arm, neck, shoulder, and back.
- *Trucking Industry.* Workers operating diesel-powered machinery show an increased risk of contracting lung cancer.<sup>59, 60</sup>

Proposition 65 warnings posted in occupational settings can be misleading. Workers do not understand that acceptable occupational exposure levels are much higher than Proposition 65 warning levels intended for public places. There is little or no communication between employers and their employees who work with substances known to cause cancer or reproductive/developmental harm, so occupational protections are far less stringent than public-health protections. Oftentimes, employees in the agricultural, nail shop, electronics, and medical waste sectors are not organized or unionized, and are from immigrant communities. These circumstances allow concerns to go unheard or undocumented.

## **Conclusion**

California's environmental health community has developed a strong environmental health agenda, and its members acknowledge that prevention is the best remedy to the state's ongoing environmental health problems. Please see the included *Recommendations for Improving California's Public and Environmental Health*, a collaborative document signed by 23 of the state's environmental and public health groups.

For too long, California has placed short-term economic interests ahead of the health of current and future generations. California's political leadership holds a public trust to protect its populace from environmental harm and illnesses. The state must regain its economic competitiveness and be in the forefront of developing new technologies that can help alleviate the country's environmental health woes. For the past 50 years, our reliance on polluting business practices has been profitable for a few, but extremely harmful to many. Our challenge is to develop new economic opportunities that are predicated on the ideas of sustainability, respect for human health, and careful regard for the environment.

## Supporting Organizations

Breast Cancer Action

Barbara A. Brenner, Executive Director

The Breast Cancer Fund

Janet Nudelman, Director of Programs

Children's Environmental Health Network,

Renee Robin, California Director

California Communities Against Toxics

Jane Williams, Executive Director

California Environmental Rights Alliance

Joseph K. Lyou, PhD, Executive Director

California Interfaith Partnership for Children's Health and the Environment

Suellen Lowry, Director

Californians for Pesticide Reform

David Chatfield, Executive Director

Clean Water Action

Michael Stanley-Jones, California Director

Community Water Rights Project

Michael Warburton, Project Manager

East Yard Communities for Environmental Justice

Angelo Logan, Director

Environment California

Dan Jacobson, Legislative Director

Teri Olle, Policy Development Director

Yana Kucher, Environmental Health Advocate

Environmental Justice Coalition for Water

Alisha Deen, Legislative Analyst

Environmental Working Group

Bill Walker, Executive Director

Healthy Children Organizing Project

Neil Gendel, Director

Marin Golden Gate Learning Disabilities Association

Jo Behm, Co-President

National Environmental Trust  
Nick Guroff, California Organizer

Natural Resources Defense Council  
Gina M. Solomon, MD, MPH, Senior Scientist, Natural Resources Defense Council

Pesticide Action Network  
Susan Kegley, Staff Scientist

Physicians for Social Responsibility-Los Angeles  
Jonathan Parfrey, Executive Director  
Martha Arguello, Director of Environmental Health and Justice Programs  
Johanna Congleton, Public Health Associate

The Public Trust Alliance  
Michael Warburton, Executive Director

San Francisco Bay Area Physicians for Social Responsibility  
Robert M. Gould, MD, President

Science and Environmental Health Network  
Ted Schettler MD, MPH, Director of Science

Silicon Valley Toxics Coalition  
Ted Smith, Executive Director

Southern California Healthy Homes Collaborative  
Linda Kite, Coordinator

Luis Cabrales  
Residents of Pico Rivera for Environmental Justice

Jerilyn López Mendoza  
Policy Director, Environmental Defense

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