

E N V I R O N M E N T 2 0 1 0

**Toward
2010:
An
Environmental
Action
Agenda**

Ecology Publication: 90-01-001



A product of Washington Environment 2010



STATE OF WASHINGTON
Office of the Governor

July 18, 1990

Dear Concerned Citizen:

On behalf of all Washington citizens, I am pleased to accept the *Washington Environment 2010* "Action Agenda."

Begun nearly two years ago, Environment 2010 was created to actively involve you and thousands of citizens across the state in designing strategies for achieving our vision of Washington's future. Together we recognized the need for addressing the environmental impacts of growth, planning for natural resource protection in a comprehensive way, and correcting mistakes of the past.

During the first phase of this project you said that our immediate priorities must be additional protection of our air and water resources. You also told us that conservation and education are critical to the successful stewardship of our state's natural environment.

With this Action Agenda, we conclude the planning phase and begin the implementation phase of the 2010 project.

Some of the ideas in this plan are already being carried out. Others will take longer and will depend on the commitment of each and every one of us.

As Governor, I am committed to taking action in three major ways:

- (1) Introducing and supporting new legislation,
- (2) Directing my cabinet to shift agency priorities to meet 2010 recommendations and set examples for our state, and
- (3) Providing help to citizens, business and industry to pursue opportunities for local action.

As an individual citizen, I am committed to waste reduction through increased recycling at home and in the office, using more fuel efficient vehicles, and participating in local efforts to clean up the environment.

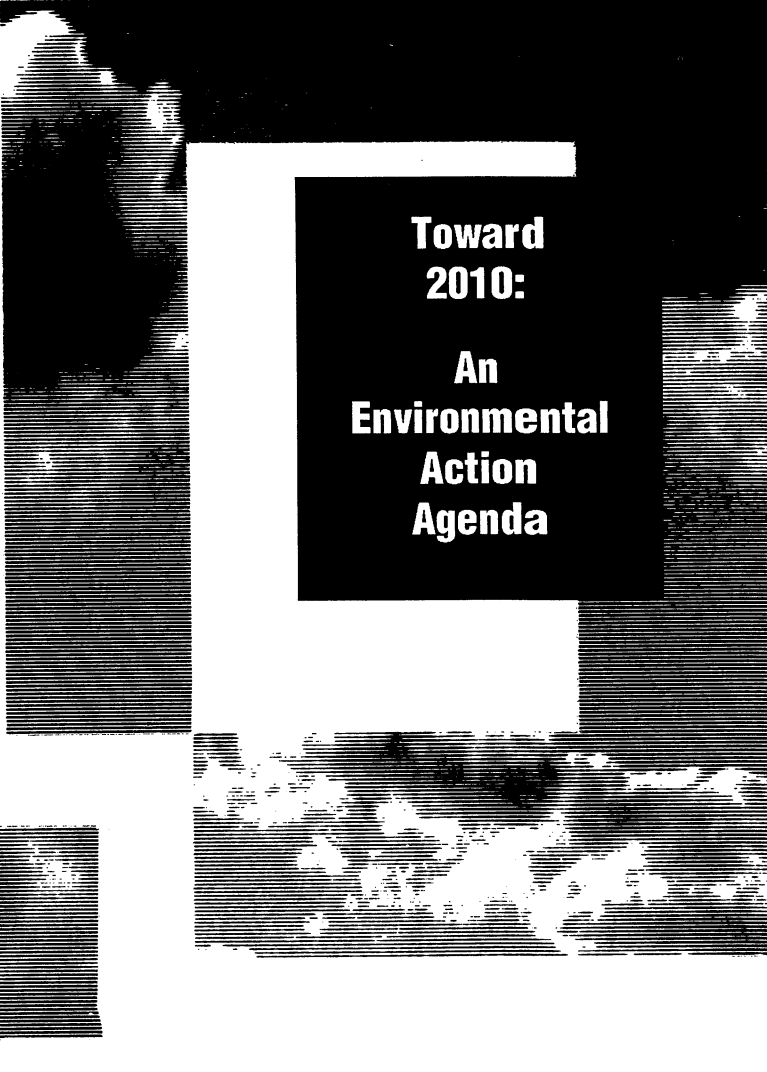
As you read this agenda, I urge you to consider ways that you, personally, can make a difference in your home, work place and community. And I further encourage you to continue working with us to support important legislation in the upcoming session and beyond.

Thank you for your continued involvement in *Washington Environment 2010*.

Sincerely,

Booth Gardner,
Governor

P.S. *Remember, the future is not a gift - it's an achievement.*



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A product of
Washington Environment 2010

A joint project of
the State of Washington
and the U.S. Environmental
Protection Agency

July 1990

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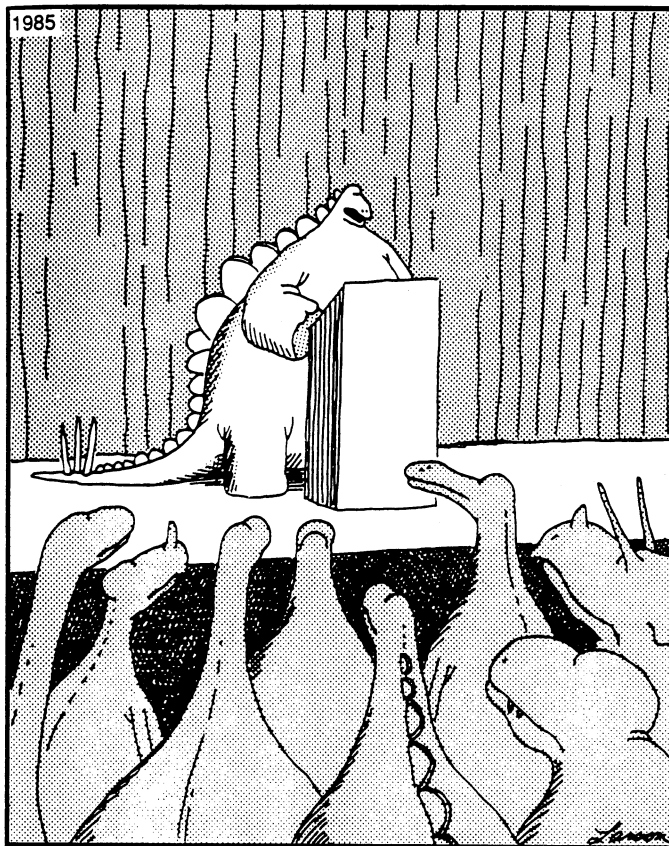
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— John F. Kennedy

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Acknowledgements



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“The picture’s pretty bleak, gentlemen.... The world’s climates are changing, the mammals are taking over, and we all have a brain about the size of a walnut.”

I. An Invitation to Action

*“Even if you’re on
the right track you’ll
get run over if you
just sit there.”*

— Will Rogers

An Invitation to Action

Whether or not Washington State’s environment is on the “right track” is the subject of on-going and spirited debate. Most people agree that our natural resources are still among the world’s most beautiful, unique, rich, and diverse. But, as the State of the Environment Report (November, 1989) illustrated with painful clarity, those resources are suffering under the increasingly heavy load of human demands. Air pollution, water pollution, the destruction of wetlands, forests, farm lands, and other habitat for fish and wildlife — these and many other threats are jeopardizing the sustainability of our environment and our quality of life, for us and for future generations.

In short, our environment is in danger of getting run over. We can avoid the collision if we act swiftly and surely. As Will Rogers warned, we can’t just sit there.

This document is an invitation to action: an environmental agenda for Washington State. In it we identify the major environmental challenges that face the State of Washington — threats that must be defused as well as opportunities that must be seized — and we lay out a number of recommendations for addressing those challenges from a variety of angles.

This agenda is not an internal government document, developed deep within the state bureaucracy. It is the product of lengthy, open, and broad-based dialogue among policy makers and private citizens representing diverse interests and perspectives: state and federal agency directors and professionals serving on the Environment 2010 Steering Committee; representatives from local government, the legislature, and the tribal, business, academic, agricultural, and environmental communities serving on the project’s Public Advisory Committee; and private citizens attending over two dozen public meetings held throughout the state.

This is not a detailed blueprint for environmental policy. It is a list of reasoned ideas for action that are in various stages of development and refinement. In many cases the details of implementation remain to be debated. Our intent is to focus the participants in those debates — from the governor to state legislators to community groups to private citizens to corporate leaders — on the critical issues and to energize those parties to band together in confronting and resolving those issues. Without widespread involvement and a commitment to action, this agenda and the vision of the future it aims to bring about will surely fail.

Finally, this agenda is long-range and ambitious. While its primary focus is on Washington State, it deals with issues of national and global significance as well, such as deforestation, atmospheric change, population growth, and the loss of fish and wildlife habitat. In developing this agenda we did not constrain our thinking to what could be accomplished in a single budget biennium or legislative session. Nor did we limit ourselves to the uncomplicated and the noncontroversial. We recognize that many of these recommendations will raise some eyebrows. But it is our view that in order to make a difference — to create change — those eyebrows must be raised.

Our Pledge

In endorsing this action agenda, the Environment 2010 Public Advisory Committee, and the directors of the state and federal environmental and resource management agencies that make up the project's Steering Committee, are making a pledge. We are accepting the challenges described in this agenda, and we are committing to working among ourselves, and with citizens, community groups, educators, environmental groups, tribes, local governments, and business and agricultural groups, to implement the recommendations for meeting those challenges.

We hope that you — as fellow stewards of the state's natural resources — feel compelled to join in these efforts and to help provide the energy and the resources that will be necessary if they are to succeed.

The 12 Challenges of 2010

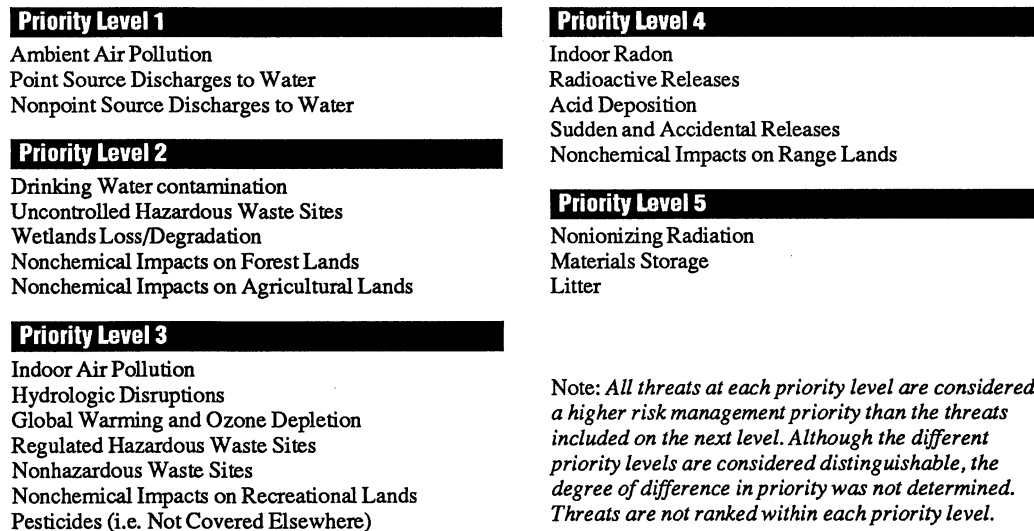
A dozen environmental challenges have emerged from the Environment 2010 process to date. In short, these challenges focus on major discrepancies between our vision of where we want the state's environment to be in the year 2010, as articulated in the next section of this report, and where the environment is and appears to be heading, according to the State of the Environment Report and citizens' concerns.

The first phase of Environment 2010, which culminated in November 1989 in the State of the Environment Report, entailed a thorough assessment of the current and likely future condition of Washington's environmental resources. A Technical Advisory Committee analyzed the human health, ecological, and economic risks posed by 23 different threats to those resources, ranging from air pollution to wetlands destruction to oil spills. While this action agenda features brief descriptions of the environmental threats that each recommendation is intended to address, more thorough discussions of those issues can be found in the State of the Environment Report.

The Environment 2010 Public Advisory Committee set priorities for environmental action by comparing the Technical Advisory Committee's assessment of environmental risks with their own vision of the future, and identifying major differences between the two. That ranking of environmental threats is featured in Figure 1.

In addition, citizens from Port Angeles to Walla Walla expressed their concerns about the future of the state's environment, and their priorities for environmental action, at the Washington Environment 2010 Summit in November 1989, and at a series of public meetings held throughout the state in the winter and spring of 1990.

Figure 1:
Ranking of environmental threats



Note: All threats at each priority level are considered a higher risk management priority than the threats included on the next level. Although the different priority levels are considered distinguishable, the degree of difference in priority was not determined. Threats are not ranked within each priority level.

From this process 12 challenges — 12 issues that must be addressed if we are to get from where we are environmentally to where we want to be — have taken shape. These challenges, which are discussed in greater detail in subsequent sections of this action agenda, are listed below:

- ▲ Raising Environmental Awareness and Responsibility
- ▲ Curbing Consumption
- ▲ Fostering Consensus and Cooperation
- ▲ Improving Air Quality
- ▲ Improving Water Quality
- ▲ Protecting the Land
- ▲ Preserving Wetlands
- ▲ Protecting Fish and Wildlife
- ▲ Improving Waste Management
- ▲ Confronting Problems With Pesticides
- ▲ Facing the Specter of Global Warming
- ▲ Building Knowledge About the Environment

Getting There from Here

Our vision of the future is lofty, but we can get there from here if we confront these challenges, and commit to change. Subsequent sections of this environmental action agenda provide suggestions for how to do that; several recommendations are provided for each of the 12 challenges listed above.

These recommendations were culled from hundreds of ideas submitted by citizens attending the Environment 2010 Summit in November of 1989 and public meetings around the state last winter. Those ideas were reviewed, organized, and refined by the Environment 2010 Action Strategies Analysis Committee (ASAC), consisting of policy analysts and program managers from a wide variety of state and federal agencies. The ASAC then developed the proposals further and conducted rough evaluations of their relative effectiveness in terms of reducing risks to human health and the environment, feasibility, and cost.

The Public Advisory Committee and the Steering Committee reviewed those assessments and selected a set of draft recommendations. Those draft recommendations were reviewed in another series of public meetings held in 13 locations around the state in May 1990. Comments made in those public meetings are reflected in this final action agenda.

While this action agenda is comprehensive, in that it includes recommendations for reducing threats to each of the state's major environmental resources (e.g., air, water, land, fish and wildlife), the recommendations are focused on the highest priority threats as established in the State of the Environment Report and shown in Figure 1. Specifically, the recommendations in this action agenda generally target the threats in the top three priority levels.

Also note that these final recommendations are presented in varying degrees of detail. Some are refined ideas that are already being pursued or are nearly ready for implementation. Others are rudimentary suggestions on which discussions have only just begun. Most still need considerable work on important questions, such as who will be primarily responsible for implementation and from where will the necessary human and financial resources come?

Growth and the Environment

There is one apparent omission on the list of challenges for 2010: managing growth. This does not imply that we do not consider the rapid expansion of our economy and our population an important environmental issue in Washington. On the contrary, Washington Environment 2010 considers growth to be in a category of its own.

The burgeoning number of people and businesses that are settling here in Washington (see Figure 2) are adding to the burdens we already place on our air, land, and water. Nearly all of the environmental threats studied in Washington Environment 2010 are exacerbated in some way by this growth. The correlation is clear: people cause stress to the natural environment; more people cause more stress.

The overall effect of growth on the state in recent years has dominated the dialogue in legislative chambers and around dining room tables from Bellingham to Vancouver. The adverse impacts of growth on the environment are perhaps the most worrisome concern. A recent survey of citizens by a Seattle polling organization, for example, showed that environmental degradation is the most feared of all growth-induced changes.

These concerns are not unfounded. Analysis shows that, due to projected population increases, we will need to work hard just to maintain the status of our environment, much less improve it. Near heroic efforts in recycling will be necessary, for example, just to maintain our trash disposal needs at existing levels. The Department of Ecology estimates that even if the state meets its ambitious goal of 50 percent recycling of solid waste by 1995, it will still need to dispose of nearly the same volume of trash in 2010 that it does in 1990 — roughly 3.5 million tons — due to population growth. In addition, greater numbers of cars — and more significantly, the greater distances being driven by the average car owner, due in large part to urban sprawl — will continue to offset our efforts to reduce air pollution.

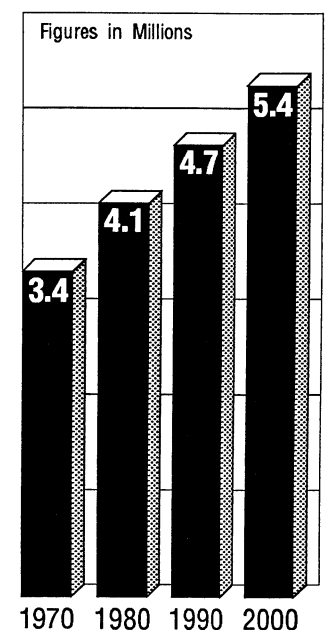
Many of the recommendations in this action agenda address one or more of the environmental consequences of growth. The section titled “Clearing the Air,” for example, includes a number of recommendations aimed at reducing automobile use. A more comprehensive approach to growth management, however, is outside the scope of Washington Environment 2010. The Growth Strategies Commission was appointed by Governor Booth Gardner last year to study the issue in depth and to make recommendations on how to manage growth and its implications, not just for the environment, but for transportation, housing, land-use, governance, and infrastructure. The Commission is dealing with a number of issues with environmental implications, such as how to curb urban sprawl and its adverse impacts on air quality and open space, and how to plan development and transportation in a way that minimizes their adverse impacts on the environment.

In addition, the 1990 legislature passed a growth management law requiring the state’s fastest growing counties, and cities within those counties, to develop comprehensive land use plans that take environmental protection, among other things, into account. The new law also requires all counties to make their zoning rules consistent with their comprehensive plans, and to take inventories of agricultural lands, timber lands, and other environmentally sensitive areas within their jurisdictions.

The legislature also directed the Growth Strategies Commission to explore and make recommendations about the state’s role in coordinating and enforcing local land use plans. The Commission’s initial report to the governor is scheduled for release in early summer 1990.

Washington Environment 2010 has been working closely with the Growth Strategies Commission to address the many interrelationships between growth and the environment, and we will continue to do so.

Figure 2:
Washington’s
population is growing
by more than half a
million every decade.



Ways and Means: Shifts in Environmental Management

We have already stressed that the challenges presented in this action plan will require collaboration and resolve. They will also require creativity and innovation. The nature of environmental problems is changing, and our approach to those problems must change accordingly. The traditional approach to environmental management — the so-called “command-and-control” approach in which government attempts to regulate levels of pollution at the source and enforce those regulations with fines and other penalties — has been reasonably successful at controlling a relatively small number of large sources of pollution. But today, environmental problems are more the product of a large number of highly dispersed sources, such as private automobiles, home septic systems, small farms, and individual citizens.

The effectiveness of the traditional approach in addressing problems like these is limited, at best. For one thing, there are simply too many sources to control coercively. For example, we cannot place an enforcement official in every living room, and in the back seat of every car.

Second, we need to deal more holistically with environmental problems than we have in the past, and the traditional methods of environmental management are not well-equipped to do this. The current approach, embodied in existing statutes such as the original Clean Air Act, tends to focus on one environmental medium at a time. This often has resulted in a shell-game of sorts, in which attempts to control a regional air quality problem, for example, result in a national air quality problem, or a water quality problem.

Third, we need to prevent environmental problems, not just react to them. The traditional approach has focused on dealing with pollution as it occurs, which has proven to be difficult, expensive, and partially successful at best.

Finally, we need to decentralize the burden of environmental protection and preservation, and we need to use the limited resources we have available for these purposes as efficiently as possible. The “command-and-control” approach often places too heavy a burden on government agencies to enforce regulations, and is not always the most efficient way to bring about the desired changes.

In short, we can no longer rely solely on the classic regulatory approach to environmental protection. We need to supplement regulations with other ways and means — education and technical assistance, economic incentives and disincentives, and pollution prevention, for example — that engender a new ethic of individual responsibility, self-regulation, and voluntary change.

Education

People who are concerned about the environment, here in Washington and elsewhere in the country, have recognized for years that effective education must be an integral component of environmental management. This has never been more true than it is today, with the dominant sources of pollution so dispersed, and so much a function of deeply ingrained habits, values, and lifestyles. Education can help people regulate themselves by developing widespread understanding of, and appreciation for, what is at stake and how those stakes can be protected.

Education has enormous potential for making a difference, particularly in the longer term. Our recommendations for realizing this potential in Washington can be found in several sections of this report, particularly the section on environmental education, titled “Raising Awareness and Changing Lifestyles.”

Economic Incentives

Economic incentives — policies that harness the power of the purse to encourage behavioral change — are becoming increasingly popular as environmental management tools. There are many variations on this theme and these variations can get very complicated, very fast. But the concept boils down to this: we can discourage activities that cause environmental harm by making those activities more costly than (or at least as costly as) activities that cause less harm or no harm at all.

Seattle's new trash disposal fee system provides a simple but illustrative example. Households in Seattle that generate more garbage are charged a higher fee for curbside pick-up. This has created an incentive to reduce trash by reducing consumption and by reusing and recycling wastes.

Economic incentives — taxes, fees, subsidies, and other mechanisms — can be very effective because they send the right signals and they send them where they are likely to be heeded — to our pocket books. And these incentives can have benefits other than inducing desirable changes in behavior. Pollution taxes, for example, can raise revenues that alleviate the pressure on other tax mechanisms, such as sales taxes.

Incentive-based approaches are catching on nationally; several members of the U.S. Congress, for example, have recently introduced bills aimed at using the tax system to encourage environmental protection. The idea is gaining popularity here in Washington, as well. Citizens attending Washington Environment 2010 public meetings last winter repeatedly suggested incentive-based approaches to dealing with the state's environmental problems. Consequently, many of the recommendations in this action agenda involve the use of economic incentives.

It is important to recognize, however, that economic incentives are not a panacea. They can effectively complement other approaches, such as education and regulation, but they do not supplant them. To be effective — to have the effects on behavior they are intended to have, and not perverse ones — economic incentives must be carefully designed. There is still much to be learned about these tools, particularly regarding exactly where and how they might be used effectively in our state. A commissioned study on the use of economic incentives in all areas of environmental management in Washington would be a wise investment; we strongly recommend that such a study be conducted.

Pollution Prevention

When it comes to environmental protection, an ounce of prevention really is worth a pound of cure — and probably more. If there is one thing we have learned over the years about environmental regulation, it is this: environmental “cures” — retrofitting smokestacks with “scrubbers” and cleaning up hazardous waste sites, for example — are extremely expensive, and they do not rid us completely of the problems. Recognizing this, environmental managers in both the public and private sectors are moving toward a new approach called pollution prevention. Pollution prevention involves a combination of education, technical assistance, economic incentives, and public-private cooperation to promote reduction, reuse, and recycling of both the resources we use and the wastes we generate.

Pollution prevention, in short, is a new environmental strategy relevant to all sectors of society. For government, it means focusing on policies that prevent rather than treat environmental problems, experimenting with nonregulatory approaches, and working closely with the private sector. For business and industry, it means changing production processes, waste disposal practices, and marketing strategies. For individuals, it means consuming less, reusing and recycling more, and otherwise changing lifestyles to reduce environmental impacts. Many of the recommendations in this action agenda, particularly in the section on waste management titled “An Ounce of Prevention,” reflect this new, prevention oriented approach to environmental management.

Regulation and Enforcement

These new ways and means — education, economic incentives, and pollution prevention — will build on and enhance existing efforts to protect the environment, but they will not erase the need for strong regulation and stiff enforcement. The “carrots” are up-and-coming, but the “sticks” are still an integral part of environmental management and of this action agenda. Our challenge, as discussed later in the section on cooperation titled “Teaming Up,” will be to improve and streamline our regulatory processes, minimize confusion, and strengthen enforcement of existing regulations.

In doing so, we need to pay special attention to the perverse effects that single-minded regulatory requirements can have on the environment as a whole. We need to consider the cumulative effects of rules and regulations, so that pollution is not merely shifted from one environmental medium to another, rather than significantly reduced or prevented altogether. Positive net environmental impacts should be the overriding goal of all regulatory actions.

The need to coordinate and strengthen enforcement of existing rules and regulations, particularly in the air and water pollution arenas, was commonly cited as an important issue by public meeting attendees. More effective enforcement will require more vigilance on the part of both regulators and regulatees. In particular, individuals, whether acting for themselves or on behalf of a large organization, will need to recognize, accept, and act upon their responsibility for understanding and complying with environmental rules and regulations.

Roles and Responsibilities

As you read through this environmental action agenda one thing will quickly become apparent: there is plenty of work to go around.

Protecting, preserving, and enhancing Washington’s environment over the next 20 years is an enormous task that will require a carefully woven tapestry of approaches, including both conventional regulation and enforcement and other nonregulatory approaches such as those discussed above. It will be a multi-faceted effort in which each individual and organization in the state, public and private, will have a role and a share of the responsibility for making it work.

While many of the recommendations described in this agenda entail action by state government, the agenda ultimately calls for a highly decentralized approach to environmental management. A large portion of the responsibility for implementing these recommendations will fall upon the shoulders of local government, locally based groups, businesses, and private citizens. A significant part of the state’s role will involve technical and financial support for these groups in their attempts to meet the challenges of 2010. As an initial step in that direction, Washington Environment 2010 has produced a citizen’s environmental handbook, featuring suggestions for action by individuals and local groups and providing guidance on where those people can go for technical and financial support.

Large public and private organizations — government agencies, labor unions, and corporations, for example — can and must play an especially influential role in changing the attitudes and behaviors of their employees, members, and customers, by promoting recycling and car-pooling, factoring environmental concerns into their investment and procurement decisions, and otherwise acting as a model of environmental conscientiousness.

Benefits and Costs

This action agenda, albeit the culmination of close to two years of analysis and broad-based dialogue, is still closer to the beginning of the policy making process than it is to the end. As we noted earlier, the agenda is still in skeletal form; many of its important features remain to be designed, discussed, refined, and put into place.

One of the most important areas in which further work is needed is careful assessment of the benefits, costs, and trade-offs associated with implementing the recommendations described in this document. These recommendations have been selected on the basis of rough comparative evaluations according to a series of criteria, including benefits, costs, and feasibility. But detailed analyses have not been done, largely because the proposals have been constantly evolving. Detailed assessment of the benefits and costs of the recommendations before they became final would have been premature.

It is clear that the adoption of the proposals in this agenda will entail significant short and long term costs that will affect virtually everyone in the state, through higher costs of production and higher consumer prices for both commercial and public goods and services. It is also clear that the adoption of these proposals will yield significant short- and long-term benefits, in terms of reduced risks to human health and improved environmental quality and quality of life. Less clear are the details, who pays, who benefits and how much. The development and discussion of better information on benefits and costs will be a critical next step as Washington Environment 2010 enters the implementation phase.

What's Ahead

The next section of this action agenda features the Washington Environment 2010 vision statement, developed by the Public Advisory Committee. That is followed by separate sections on each of the 12 challenges, and some closing remarks. Each of the middle sections includes a more detailed description of the challenge at hand, a brief description of our recommendations for meeting that challenge, and a listing of "other action ideas." These are additional suggestions for environmental action that we were unable to evaluate in detail due to time constraints, but that we consider worthy of further consideration.

II. Creating a Sustainable Future

A Vision of Washington in 2010

"The future is not a gift — it's an achievement."

— Henry Lauder

Preamble

This is a gaze into the future, as we would like it to be. It is not starry eyed; it is not frivolous. We believe that the development of a common vision — a set of goals for our society and for our environment — is a mandatory first step toward shaping the future.

We are too passive about change in our lives. Like spectators at a parade, we watch events come and go. This vision is an attempt to take a more active role in the future — to create it, shape it, design it. It is our belief that if we have a clear, collective sense of where we want the state to be in the year 2010, we will get there.

The goals outlined below, and the changes in attitude and policy required to achieve them, are ambitious. But they are attainable. At least two ingredients will be necessary to turn this vision into reality: one is sacrifice, the other is commitment.

This vision of Washington in 2010 will require individuals and groups to place common goals ahead of personal or parochial ones. In addition, the vision will require that each and every one of us commits to the goals and participates actively in our pursuit of them. Our success will depend on a unified effort. To do less will destroy our vision.

In short, creating a sustainable future for Washington is in the hands of its people. Are the people wise and willing enough to meet the challenges brought about by rapid change, to integrate environmental protection and economic growth in a way that preserves the state's natural and human diversity for future generations?

We think so. We have developed the following set of common goals to guide our efforts to craft the state's environmental future.

Awareness

It is 2010 and Washington is the most environmentally enlightened state in the country. Every citizen in the state is aware of the unparalleled beauty, diversity, and uniqueness of our natural environment. Every person is mindful of the links between the state of that natural environment, the emotional, physical, cultural, and spiritual well-being of the populace, and the health and long-term sustainability of the state's economy.

We are aware that our relationship with the environment is a mutually dependent one, that is, that we are not somehow above and apart from the earth, but are an integral link in the chain of life. We also recognize our state's membership in the national and global environmental community, and the obligations that membership entails.

We are acutely aware that the way in which each of us lives our lives has direct and potentially powerful impacts on the natural environment — some immediate, some delayed, many long-term and irrevocable. We understand that decisions we make every day — choices, for example, about what we buy, how much we buy, how we transport ourselves, and how we dispose of our used motor oil, our leftover bathroom cleaner, and our other household wastes — have environmental implications that can be wide-ranging and significant. We understand, for example, that pouring used motor oil into a nearby storm drain eventually could result in the contamination of a drinking

water supply on which tens or thousands of fellow citizens are dependent, or the degradation of a lake or stream that provides critical habitat for fish and wildlife.

In addition to being aware of the consequences of poor choices, we are aware of proper ones, and the positive changes that they can bring about. We know what we can do to minimize the impacts our activities have on our environment; we are aware of the options. We know, for example, that our used motor oil can be brought to a nearby recycling center, where it will either be treated and reused or disposed of properly.

This heightened sense of environmental awareness in Washington State is both wide and deep, and it is not a passing fad. Rather, it is a way of life, deeply and indelibly ingrained in the culture and the psyche of the state.

Knowledge

In 2010, a state-of-the-art system of collecting and disseminating environmental information places Washingtonians among the most environmentally astute citizenry in the United States. We have reliable, accurate, and up-to-date information on the state of the environment, the intricate relationships of natural systems, the impacts of human activities on the natural environment, and other environmental policy issues. This information is readily accessible and comprehensible to every citizen in the state. It is widely and coherently distributed through our school system, the media, and other institutions, so that public policy makers and private citizens alike get the information they need to make intelligent, informed, reasoned environmental choices.

The educational system is the linchpin of environmental knowledge. This knowledge is developed and disseminated throughout the state, at educational institutions ranging from pre-schools and day care centers to colleges and universities, and through other institutions such as aquariums and state parks. Washington State's comprehensive environmental education program is nationally renowned.

This sturdy foundation of knowledge and information about the environment promotes a keener awareness of environmental issues, a sharper sense of responsibility for environmental protection, and better, more informed environmental decision-making than any other time in the state's history.

Responsibility

A strong sense of environmental awareness and a solid knowledge base have translated into a heightened sense of responsibility for environmental protection.

All of the state's citizens, community groups, corporations, and other institutions are taking responsibility for environmental problems and are routinely making choices that minimize adverse impacts on the environment. All decisions, whether made in private kitchens or corporate board rooms, reflect a bias for environmental protection; such decisions are made only after careful consideration of environmental implications.

All Washingtonians are living environmentally conscientious lifestyles. There is a recycling bin in every kitchen and every office, a trash bag in every car, a water conservation device on every showerhead. Citizens are consuming less, driving less, using water and energy sparingly, recycling, and disposing of wastes properly. Companies are using less wasteful packaging, minimizing their use of toxic materials, and developing and implementing innovative ways to reduce the wastes they generate and release into the environment.

Cooperation

Consultation and cooperation have replaced conflict and confrontation as the primary means of dealing with environmental issues in Washington State. Decisions on how to best manage the environment and natural resources of the state are approached by all parties with a spirit of unity, cooperation, trust, and mutual respect. Litigation is a last, rather than a first, resort for resolving environmental disputes. While stringent laws and policies and strict enforcement are still important tools for environmental protection, incentive-based approaches have emerged as effective and widely applied means of affecting positive changes in the environment.

The barriers within and between governments (federal, state, local, and tribal), business, and the citizenry have largely disappeared. The creative tension that is derived from divergent needs and viewpoints is as strong as ever, but it is harnessed and used to solve, rather than to prolong, difficult problems.

Washingtonians believe in the common good strongly enough to make sacrifices for it. We are willing to compromise parochial concerns, if necessary, in pursuit of that common good. We are willing, for example, to pay more for goods and services to ensure that they are produced and delivered in an environmentally innocuous way.

Every citizen in the state, armed with good information, a spirit of camaraderie, and a deep respect for the environment, is an active participant in the environmental policy-making process.

Stewardship

The new sense of environmental awareness, knowledge, and responsibility that has enveloped the state has resulted in a new approach to natural resource management. In managing our natural resources, our focus has shifted away from sustaining our use of natural resources, towards sustaining the resources themselves. We are driven by a new sense of stewardship — an understanding of our role as *trustees*, and not *owners*, of our natural resources. We appreciate these gifts for their intrinsic, aesthetic, and spiritual value, not just for the personal and economic gains we derive from them.

Most of all, we are driven by a powerful desire to preserve the diversity and the long-term sustainability of those resources, and thereby our quality of life, and the quality of life of generations to come. We hear and acknowledge the voices of these future generations and we respect their right to experience the richness of a quality natural environment, as we have.

Air — Our air, even in major cities, is healthy for all living things. Mountain views are no longer obscured by air pollution. Innovative automobile emission reduction programs are in place. There is more mass transit, more bicycle commuting, less automobile use, and less wood smoke pollution in the state than at any time since 1990. Most of the state's energy is generated from renewable sources and energy demand is lower than it has been in years. Buildings are constructed according to new codes that minimize indoor air quality problems.

Water — Our marine, surface, and ground waters generally are in excellent condition due to a better informed and more responsible citizenry, as well as innovative programs and technologies. Direct discharges into these waters are strictly controlled. In addition, land management and changes in personal lifestyles have reduced water pollution. Water is used sparingly and efficiently, so that the competition among different water uses has been alleviated. All water is used more than once before being returned to aquifers, rivers, oceans, and estuaries.

Forest Lands — Forest management is driven by ecological principles balanced by economic needs, so that forests — including old-growth forests — are available for recreation, wildlife habitat, aesthetics, and harvesting. These resources are managed to sustain a mix of species and age classes of trees that provide diverse fish and wildlife habitat as well as forest products that respond to new technologies and needs. In addition, our forest lands are managed in a way that protects critical watersheds that supply water for municipal, agricultural, industrial, recreation, and habitat needs. Conversions of forest lands to other uses are minimized.

Range Lands — The condition of our range lands has significantly improved. We are implementing management practices on range lands that have reduced soil erosion considerably and controlled the spread of noxious weeds. We treat our range lands as a vital resource that provides opportunities now and in the future for food and fiber production, recreation, open space, and wildlife habitat.

Agricultural Lands — The expanded use of crop rotation methods and integrated pest management, the production of alternative crops, and other traditional agricultural technologies that prevent soil loss and minimize adverse environmental impacts have significantly improved the condition of our agricultural lands. Alternative production and pest control methods are more widely used as well. Government and academic institutions are assisting farmers in adopting alternative practices that enhance and preserve the environment. The conversion of agricultural lands to other uses is minimized.

Recreational Lands — We have recreation lands necessary to meet the still burgeoning demand. Our parks and recreation lands are well-maintained and treated with respect by visitors. The managers of our parks and recreation lands are focusing on educational and interpretive programs that make visitors more ecologically aware. Recreational resources have become a central component of the state's environmental education system, reaching millions of people annually.

Wetlands — There has been no net loss of wetlands in the last two decades through a combination of preservation, rehabilitation, and mitigation. The biological value of wetlands is more fully appreciated now than ever before and the valuable contributions wetlands make toward flood control and water quality are widely recognized as well. An inventory of the state's wetlands has been completed and has enhanced our abilities to protect sensitive wetlands.

Fish and Wildlife — The abundant and diverse fish and wildlife species of the 1990s are healthy and enjoyed by all citizens of the state, both urban and rural. Careful management of habitat and harvest has laid the foundation for continued enhancement of the state's fish and wildlife resources and there continue to be net gains in restoring habitat. Habitat restoration programs in Washington State are a model for the national program.

Creative Leadership

In 2010, individuals and institutions seek continuous improvement in methods and technologies to achieve a sustainable future. The political and governmental leadership in the state embodies the same sense of environmental awareness, responsibility, and cooperation that characterizes the general populace. Our political leaders have the wisdom to seek out the best available information on a variety of viewpoints and the courage to make and support difficult choices that balance diverse values and viewpoints, and that favor long-term common goals over short-term parochial concerns.



Diversity

Washington's natural and human communities are characterized by the same unparalleled diversity in 2010 as they were in 1990. The myriad benefits that result from a diverse natural resource base — whether they be ecologic, recreational, economic, or aesthetic — are shared among all cultures, geographic areas, and socioeconomic levels in the state. Our natural resources are managed in a way that balances the wide variety of social, economic, and environmental values held by these different groups of people.

From Vision to Action

We recognize that these goals are ambitious. We also realize that to be more than mere words they must be coupled with implementation of an effective action agenda. The hard reality of our world is that our resources are limited. To achieve the greatest impact we must set priorities and make hard trade-offs. Setting priorities and adhering to them means that not everyone's needs or desires will always be met. We recommend the following principles to guide those hard choices:

- ▲ Choices should be driven by this vision of a sustainable environment.
- ▲ Decision making processes should allow meaningful public involvement while still assuring timely decision making.
- ▲ Resolution of conflict should occur at early rather than late or site specific stages of the planning process.
- ▲ Conservation and prevention should be preferred over treatment.
- ▲ Actions that achieve the broader vision should be preferred over those that address smaller goals.
- ▲ Approaches that foster awareness and responsibility should be preferred over those that focus on "command and control."

Finally, this vision cannot be achieved by government alone. The decisions we will need to make in the next 20 years are not only public ones — they are personal and corporate decisions as well. We invite you to join with us to take the first critical steps toward creating a quality environment in Washington that is truly sustainable.

III. Raising Awareness and Changing Lifestyles

The Challenge of Environmental Education

*“Education today,
more than ever
before, must see
clearly the dual
objectives: education
for living and
education for making
a living.”*

— James Mason
Woods

Raising Awareness and Changing Lifestyles

The centerpiece of the Washington Environment 2010 vision for the future is a citizenry that is the most environmentally enlightened and responsible in the country. To get there, we will need a multi-faceted, far-reaching, well coordinated program for teaching every person in the state about the natural environment, the impacts of human activities on that environment, and the things people can and should do to minimize those impacts.

Washingtonians are generally perceived as an environmentally caring and conscientious lot. And, relatively speaking, we are. But the Washington Environment 2010 assessment of the state of the environment and the citizens who participated in the public meetings around the state last winter suggest that relative conscientiousness is not enough.

A clear consensus emerged from those public meetings: environmental ignorance — a lack of environmental awareness and responsibility — underlies all of the environmental threats described and prioritized in the State of the Environment Report. Consequently, environmental education — what James Mason Woods called “education for living” — is cited repeatedly as the linchpin of any long-range plan to reduce or eliminate those threats.

Many Washingtonians, from teachers and school administrators to corporate executive officers and other businesspeople, have already recognized the importance of environmental education. Many schools, largely due to the bold efforts of a few individual teachers and administrators, have incorporated innovative environmental programs into their curricula. An assortment of magazine articles and books about the condition of the environment and what people can do to improve it have appeared recently in bookstores and shops across the state. Several local businesses have initiated programs to educate their customers about the environmental implications of consumer choices.

Efforts like these constitute an excellent beginning. But, by themselves, they will not get us to our desired end. Most of the ongoing environmental education efforts in the state are small-scale, reaching only small portions of the population. In our public schools, for example, where environmental education is strictly a voluntary endeavor, state experts estimate that only a small fraction of our children are exposed regularly to environmental issues. Such exposure varies widely across school districts and classrooms.

In addition, environmental education activities both inside and outside of the public school system, and the expertise and materials necessary to support those activities, need improved coordination to ensure that limited resources are used as effectively and efficiently as possible.

The challenge for environmental education is to build an extensive, well coordinated, state-of-the-art program that brings timely, accurate, and balanced information about our environment and natural resources to every citizen in the state. Environmental education should focus on a balanced depiction of environmental and



natural resource issues, such as how ecological systems work, human impacts on those systems including impacts of population growth, steps that can be taken to minimize those impacts, and the origins of our food, shelter, and other amenities.

Environmental education must influence all of the major mechanisms by which our values and attitudes are developed — families, peer groups, and the media, as well as classrooms.

Key Recommendations

▲ *Public-private partnerships should be established to develop materials and develop and implement environmental education strategies for targeted segments of the general public.* While improved environmental education in our public schools is a high priority, there are other needs as well, since we do much of our learning not in classrooms, but in our work places, our churches, and our living rooms. Government agencies and private organizations — businesses, community groups, television and radio stations, newspapers, churches, and others — need to work together, pooling both their ideas and their resources, to meet these needs.

The Boater Environmental Education Program, undertaken jointly by the state Parks and Recreation Commission and a coalition of local boaters' organizations, provides an excellent example of the kind of public-private partnerships that can make a difference. The commission and the boaters' groups collaborated to produce a manual on the proper disposal of boat wastes that has been very well received.

Partnerships like this one can bring together the best available expertise and help to spread the costs of education among interested parties. These joint programs can be especially effective by capitalizing on the credibility and the existing communication mechanisms of private organizations.

Collectively, these partnerships would constitute an extensive educational campaign that might be identified by a common logo or slogan. An educational campaign to discourage single occupancy commuting, for example, might be dubbed, "Solo-Commuting Is Polluting."

The Cooperative Extension at Washington State University, with its vast network, could play a critical role in implementing this recommendation.

▲ *State agencies should provide environmental education opportunities at convenient points of interaction with the public.* In short, state government should take an active leadership role in seeking out and capitalizing on their contacts with citizens to provide information and foster a better understanding about the environment. These actions can be as general as providing information on air quality issues to park visitors who stop at scenic roadside vistas, or as targeted as providing information about the role of car engine maintenance in reducing emissions to persons renewing their licenses and registrations. State agencies should prepare and implement environmental education action plans to carry out this recommendation.

▲ *All school districts in the state should be required to develop and implement a plan for infusing environmental education into their K-through-12 (kindergarten through 12th grade) curricula.* Environmental education should be infused into existing disciplinary curricula such as math, science, art, music, and literature, rather than added as a separate discipline. This will lessen the burden and heighten the effectiveness of environmental education. This requirement, which can be created by new legislation or by a State Board of Education policy under existing legislation, will help to ensure that, over time, every child in the state is exposed to environmental education. Local autonomy can be preserved by leaving the details of environmental education planning to the school districts themselves. A requirement like this one has proven to be very effective in the State of Wisconsin, according to environmental education experts there.

▲ *All teachers in the state should obtain a minimal level of environmental training as part of their certification requirements. Again, this requirement can be established by new legislation or by State Board of Education policy. The new policy would lead training institutions to develop environmental education programs and would, over time, result in a corps of well-trained environmental educators. A similar training program in Wisconsin has worked very well. Special consideration should be given to hands-on teacher training, such as field trips and workshops with environmental professionals.*

▲ *The Office of Environmental Education (within the Office of the Superintendent of Public Instruction) and other agencies and institutions that do teacher training should expand in-service training and outreach programs for local teachers and school administrators. Additional requirements alone will not suffice. Many teachers and school administrators around the state are still unaware or unconvinced of the importance of environmental education, or uninformed about how it can be effectively incorporated. The resources currently allocated to OSPI for in-service teacher training in environmental education are grossly inadequate; just two people at the Office of Environmental Education are charged with reaching out to the state's 270 school districts and 30,000 teachers.*

▲ *An environmental education coordinating group, consisting of the directors of the state's resource agencies and representatives from the legislative, business, environmental, and academic communities, and from tribes and local government, should be formed to establish broad environmental education goals for the state, and to foster communication, coordination, and cooperation among the member groups. The group would make recommendations to the Governor, the Legislature, the Office of the Superintendent of Public Instruction, the State Board of Education, and the State Board of Higher Education, among others.*

Meeting the Challenge of Environmental Education

There a number of examples of people and organizations around the state who are already doing their share to meet the challenge of environmental education. Here are just a few:

■ *At Bothell High School, environmental issues are an integral part of the 11th grade science program. Students go on field trips to local lakes and creeks, where they gather information on water quality and fish and wildlife habitat. This information is then entered into a computer program back in the classroom, which is linked to a national and international computer network.*

■ *QFC grocery stores have initiated a program whereby customers are paid three cents for returning paper bags. The proceeds are donated to the Nature Conservancy, a national conservation group.*

■ *At Mercer Island High School, teachers and students run a recycling center that serves the recycling needs of the community as well as the school district. The center's profits are returned to the school and used to fund environmental education programs.*

▲ *Establish an Environmental Education Clearinghouse at the Office of Environmental Education, to accumulate, maintain, and disseminate up-to-date environmental materials, to help coordinate environmental education initiatives, and to provide technical assistance to groups starting new environmental education programs.* The Office of Environmental Education already serves these functions, but they are limited largely to K-through-12 curriculum materials and activities. The new Clearinghouse would serve a wider purpose, maintaining materials and expertise for out-of-classroom environmental educational purposes as well.

Other Action Ideas

- ▲ Develop and enhance programs at community colleges to administer environmental education to adults.
- ▲ Incorporate environmental messages into television programming.
- ▲ Establish mentor programs and leadership development programs for environmental educators.
- ▲ Encourage manufacturers to display information about proper disposal of items on their packaging.

IV. Curbing Consumption

The Conservation Challenge

“The greatest revolution in our generation is the discovery that human beings, by changing the inner attitudes of their minds, can change the outer aspects of their lives.”

— William James

Curbing Consumption

By now, we have all heard the litany of statistics on America’s proclivity to consume more than its share of energy: We constitute only five percent of the world’s population, but use over a third of its energy supply. Our per capita energy consumption is the highest among industrial nations, 330 times that of the Ethiopians, and 15 times that of the Chinese. And so on.

This tendency to consume water and energy wastefully will have to change dramatically if the Washington Environment 2010 vision of the future is to be realized. That future features a citizenry imbued with a heightened sense of environmental responsibility, a citizenry driven by a powerful desire to preserve the long-term sustainability of its natural resources, not just for its own sake, but for the sake of its children and grandchildren.

Citizens attending the Washington Environment 2010 public meetings identified wasteful, consumptive lifestyles and disregard for conservation as major underlying threats to the state’s environment and natural resources. These consumptive habits relate to many of the environmental threats assessed in the State of the Environment Report. There is a strong link between energy use and environmental quality, for example. Energy-producing coal-fired plants (there is one in Washington) also produce air pollution, contribute to global warming and acid deposition, and create solid and hazardous waste management problems. Hydroelectric power (the predominant source of energy in this state) requires dam building and other changes to the water cycle that damage or destroy fish and wildlife habitat. Oil transported to or from Washington can be — and has been in four of the last five years — accidentally released into the environment, killing fish and wildlife and otherwise interfering with natural processes.

The availability of water for a wide array of uses is another major issue and another example of the relationship between the environment and consumptive lifestyles. The intensity of the competition among conflicting water uses is growing at least in proportion to the state’s population and economy. Wasteful use of water exacerbates the situation by diminishing the supply of water available for all uses.

We need a way to alleviate the tension among water users, and we need to meet our energy demands in ways that minimize adverse impacts on the environment. Conservation is one of the keys. By conserving energy, we diminish the need to produce new energy supplies and the environmental consequences of that production. Similarly, by conserving water, we reduce the need to build new water diversion and storage facilities, and we increase the amount of water that is available for all purposes, thereby relieving some of the competition among users. In particular, conservation could help to restore streamflows and aquifer levels in depleted areas.

In short, improved conservation of water and energy is a powerful strategy for environmental protection and natural resource preservation.

The challenge is to develop a concerted and comprehensive effort — a mixture of education, economic incentives, and regulation — to bring about the necessary changes in consumptive behavior. Better education about the impacts of excessive consumption and ways to reduce consumption will be an especially important component of this effort. (See the previous section for details.)

Curbing consumption is a formidable task. Fortunately, we are not starting from square one. In the water resource arena, a water resource planning forum has been established to study, discuss, and recommend long-term solutions to major water planning and allocation issues. This group is comprised of representatives from the tribal community, agriculture, fishing and recreation, the environmental community, and state and local government.

Action is underway in the energy conservation arena as well. The concern over energy usage that gripped the country and the state during the oil crisis of the early 1970's has diminished in urgency but has always lingered. And now, nearly 20 years later, widespread concern about acid rain, global warming, and other environmental implications of energy production and consumption is causing a resurrection of the conservation ethic. The new state residential energy code, passed during the 1990 legislative session, is indicative of this trend and provides an example of the types of policies that will be necessary to meet the challenge of conservation. The new code is expected to substantially improve the energy efficiency of new homes in Washington.

Key Recommendations

Energy Conservation

▲ *Establish a "gas guzzler/gas sipper" program to encourage the use of fuel efficient vehicles.* Specifically, the Department of Licensing, in conjunction with the Department of Transportation and the Department of Revenue, should work to establish a graduated registration fee system — a "gas sipper/gas guzzler" fee program — whereby owners of more efficient vehicles pay lower registration fees than owners of less fuel efficient vehicles. This program, which would affect new cars, trucks, boats, off-road recreational vehicles, and other noncommercial personal vehicles at the time of purchase, would encourage the purchase of fuel efficient vehicles by lowering their relative price. Conversely, the higher price of less fuel efficient cars would more closely reflect the social costs of using those cars. This would incorporate some of the environmental costs associated with their use. This policy, requiring new legislation, could significantly reduce total gasoline consumption in the state and the risks that result from that consumption, such as air pollution, oil spills, and global warming.

▲ *Improve vehicle fuel efficiency standards by lobbying the U.S. Congress to set higher Corporate Average Fuel Economy (CAFE) standards.* The State of Washington should take a strong stand on this controversial issue. The technology exists to significantly increase the fuel efficiency of new cars. The benefits of stringent requirements to use this technology could be enormous. For example, increasing the standards for domestic and imported passenger cars to 32.5 miles per gallon in 1990, 38 mpg in 1992, and 45 mpg in 1995 — difficult but technologically feasible according to the U.S. Department of Energy and the Congressional Office of Technology Assessment — would reduce gasoline consumption by 24 percent. According to the Washington State Energy Office, these fuel efficiency improvements in Washington alone could save over 12 billion gallons of gasoline by the year 2010 — the equivalent of 545 average oil tanker deliveries through Puget Sound, and 1.4 times the amount of gasoline that could be refined from the crude oil estimated to be off the Washington coast.

These savings would significantly reduce the risks associated with air pollution, oil spills, global warming, and other threats. In addition, this action would lower consumers' gasoline expenditures, and would make the state, particularly the transportation sector, less vulnerable to gasoline supply disruptions or price increases. This action would require a strong, concerted effort on the part of the state's delegation to the U.S. Congress, the state legislature, the state government, private organizations, and individual citizens. State, federal, and local governments should lead by example

By the year 2010, improved vehicle fuel efficiency standards in Washington alone could save over 12 billion gallons of gasoline — the equivalent of 545 average-sized oil tanker deliveries through Puget Sound, and 1.4 times the gasoline that could be refined from the crude oil reserves estimated to be off the Washington coast.

If all manufactured homes sited in Washington between 1990 and 2010 were well-insulated, the state's annual emissions of carbon dioxide could be reduced by nearly 400,000 metric tons — roughly the amount emitted by 50,000 automobiles...

by purchasing for their fleets cars that exceed the CAFE standards. (See also the key recommendations in the section titled “Clearing the Air.”)

▲ *Improve the energy efficiency of manufactured homes.* Significant improvements could be achieved by: 1) Encouraging the federal Department of Housing and Urban Development (which regulates energy efficiency standards for manufactured homes) to establish energy standards for manufactured housing that are equivalent to the new state energy code; 2) Encouraging utilities and the Bonneville Power Administration to continue incentives for the purchase of more energy efficient models; and 3) Encouraging public and private electric utilities to charge larger hook-up fees for manufactured homes that do not comply with the new state energy code. This action could result in considerable energy savings, since manufactured homes constituted 20 percent of the new single family homes in the state in 1988, and since these homes often are poorly insulated in comparison to homes built on-site. The State Energy Office estimates that the annual emissions of carbon dioxide in the state could be reduced by nearly 400,000 metric tons — comparable to the amount emitted by 50,000 of today's automobiles — if all manufactured homes sited between 1990 and 2010 were well-insulated. This action would result in higher prices for manufactured homes, but this added cost would be more than offset by savings in energy costs over time.

▲ *Adopt improved energy efficiency standards for new commercial buildings, such as office buildings, stores, and public facilities.* While we already have standards for commercial construction, they could be better. This action could yield a 10 percent or more improvement in the energy efficiency of commercial buildings in Washington — one of the fastest growing sources of energy demand in the state. Gains in energy conservation, however, should not come at the expense of indoor air quality. The new standards would increase the initial costs of new construction, but those higher costs would be offset by lower energy costs in only five to ten years — to say nothing of the significant environmental benefits that would result from tighter standards.

▲ *Establish a financial mechanism to provide low-interest loans to encourage energy and water conservation measures and renewable resource development by state agencies, local governments, businesses, and resource developers.* A low-interest loan program would help businesses, local governments, state agencies, and others pursue energy saving and renewable energy source development opportunities they might not otherwise pursue because of high initial capital expenses. A number of options for funding such a program should be explored, including , but not limited to, an amendment to the state constitution to allow the state to provide low-interest loans to private parties. The State of Oregon has had great success with such a program, with local governments as its biggest customer.

▲ *Incorporate environmental costs into energy planning.* Currently, the entities that do much of the energy planning for Washington — the Northwest Power Planning Council, the Bonneville Power Administration, and individual utilities — do not have planning tools that adequately account for environmental costs of energy development alternatives. Consequently, conservation, renewables, and other energy resources with lower environmental costs frequently are undervalued in energy planning efforts. Energy planners can “level the playing field” by finding ways to better account for the environmental costs of energy development. The result would be greater development of less environmentally damaging energy resources that have lower total costs to society, but that are now judged “too expensive.” As an important first step in this direction, the legislature should require and fund a study by the State Energy Office, the Northwest Power Planning Council, and the Utilities and Transportation Commission to study alternative ways to include environmental costs in energy planning processes. This action is especially timely and urgent, since Washington's energy surplus is dwindling and the state is seeking new energy supplies to meet its growing demand.

Water Conservation

▲ *Remove legal barriers to water conservation and improved efficiency of water use.* Specifically, the state water code should be amended to loosen restrictions on water right transfers and expansions, so that water that is conserved can be used or sold more freely. In addition, an amendment to the state constitution that would allow the state to loan money to individual farmers and corporations for water conservation projects should be explored. Changes such as these would: 1) provide incentives and remove disincentives for private investment in water conservation; 2) improve the overall efficiency of water use in the state; and 3) increase the flexibility of the water allocation system to respond to new demands.

It is increasingly difficult to meet new demand by creating new water rights, due to a lack of available water and concern about environmental effects. Drier states have found that when new water rights become harder to obtain, new uses need to be met by creating a process for acquiring water from existing users on a willing buyer/willing seller basis.

▲ *Reform the pricing of water to encourage conservation.* The traditional water pricing system, whereby larger water users pay less, encourages consumption. Pricing systems can be designed to encourage conservation instead. In addition, utility hook-up fees should incorporate environmental costs, so that the price of water hook-up more accurately reflects the full societal costs involved. Some of the larger municipal utilities and a few irrigation districts in the state are experimenting with pricing reforms, which could lead gradually to statewide reform. Legislative direction would expedite the process considerably, however. These measures may result in significant water savings, which, in turn, could delay or eliminate the need for new water projects, and the environmental risks posed by those projects.

Other Action Ideas

- ▲ Further increase the state tax on gasoline.
- ▲ Establish as a policy goal the reform of the energy pricing system so that those who use more electricity and natural gas pay a higher price per unit.
- ▲ Improve energy efficiency standards for electrical appliances.
- ▲ Establish a rating system to identify the energy efficiency of homes for buyers and renters.
- ▲ Establish and enforce standards for increased water efficiency, such as standards for the reuse of wastewater, and water use standards for appliances and fixtures.
- ▲ Create a water conservation coordination group, with representatives from the various federal, state, tribal and local entities involved with water policy and planning, to share ideas on water conservation, avoid duplication of efforts, and initiate collaborative projects.
- ▲ Establish standards for water conservation elements in water supply plans.
- ▲ Promote more energy efficient lighting — the use of skylights and low wattage and fluorescent light sources, for example — in both homes and commercial buildings.
- ▲ Promote the further research and use of solar energy.
- ▲ Explore the greater use of dual water systems, such as separate gray-water systems for use in lawn care or large scale agricultural operations.

V. Teaming Up

The Challenge of Cooperation

IV

"We need to lower the decibel level of environmental rhetoric in this country... There must be room in the America of the 90s to debate these issues and disagree about solutions to problems, without the participants being dismissed as 'tree huggers' or 'industry stooges.'"

— William Ruckelshaus

Teaming Up

The ultimate success of this action agenda, or any effort to improve the environment for that matter, will require one thing above all others: teamwork. All sides of the environmental dialogue will have to unite, since all contribute significantly to the problems, and all have the power either to salvage or to sabotage efforts to solve them.

In the year 2010, as Washington Environment 2010 envisions it, consultation and cooperation have replaced conflict and confrontation as the primary means of dealing with environmental issues in Washington State. It is a world in which the barriers — both within government, and between governments, business, tribal communities, and private citizens — have largely disappeared. It is a world in which Washingtonians are willing to compromise parochial concerns, when necessary, in pursuit of the common good.

A quick review of recent political history — particularly the struggles over Initiative 97 in 1988 and wetlands protection in 1990 — suggests there is plenty of room for more teamwork among environmental groups, business interests, and government.

In addition, citizens attending Washington Environment 2010 public meetings wondered aloud whether government, as presently constituted, is able or willing to play on a team. They expressed concern about government's lack of responsiveness to the public, and about poor coordination within government that can lead to inefficiency on the inside, and confusion on the outside.

The challenge of cooperation, then, is twofold. First, we must foster greater cooperation among all of the parties involved in environmental policy making and problem-solving. And second, we need to make government more accessible and responsive to the public it serves.

The Washington Environment 2010 process, like the Timber/Fish/Wildlife process before it, is an example of a new way of doing business — a better way. Someone once described democracy as "a small hard core of common agreement surrounded by a rich variety of individual differences." The philosophy that underlies the Washington Environment 2010 approach to policy making is simple: the people and the parties who are vested in a policy decision ought to come together face-to-face in the spirit of fairness and cooperation, and explore the "rich variety of individual differences" in pursuit of a common resolution — the "small hard core."

A number of recent or ongoing cooperative efforts, including the Washington Environment 2010 and the Timber/Fish/Wildlife processes, and the Sustainable Forestry Roundtable, provide excellent models for this type of participatory approach to decision making and conflict resolution. Such approaches to policy making and conflict resolution are becoming more and more popular. Our challenge is to continue this movement and to imbue a sense of cooperation in all participants in the environmental dialogue so that consensus based processes soon become the rule rather than the exception in Washington State.

Key Recommendations

▲ *Establish participatory and consensus seeking approaches to addressing and resolving environmental issues and conflicts as the norm in Washington State.*

Everyone involved in environmental policy making must embrace these processes as their *modus operandi*. All parties should consider such processes as a *first* resort, and continually seek ways to initiate, encourage, and promote them. The state, in particular, should provide leadership in this area by looking for opportunities to use consensus based approaches — both in its internal decision making processes and in its dealings with outside parties — and encouraging and facilitating their use by others.

▲ *Establish a single telephone number that people can call for help in dealing with state government.* For people on the outside (and often for those inside), government can be a complicated maze of agencies and programs. Often it is not self-evident which agency or office or program can best help with a particular issue. Difficulty in obtaining that help can result in confusion or anger or both. Currently, there are several telephone numbers people can call for assistance — “800” numbers, “hot lines,” and so on. A central telephone line, operated by someone with cross-cutting training and knowledge about state government, would be a more effective way to guide outsiders toward the fastest and most appropriate source of assistance.

▲ *Organize diverse, broad-based community groups in locations throughout the state to maintain local forums for environmental dialogue, to foster cooperation on environmental issues, and to promote local implementation of action agenda recommendations.* Many of the actions outlined in this action plan can be accomplished most directly and efficiently by local activists and community action groups, both those that already exist and those that have yet to be formed. We urge citizens to join such groups, or begin new ones, and to forge partnerships with local businesses or other organizations to participate in environmental debates, and to implement actions like those recommended in this action agenda — in short, to accept the “12 Challenges of 2010”. State government should support these groups through technical assistance, particularly in the early stages of their development.

▲ *Establish a mechanism to improve coordination among environmental and resource management agencies.* A common complaint of citizens, businesses, and other outside parties is that overlap or inconsistencies among government programs and regulations often creates confusion or delay, or both. We recognize the need to better coordinate government requirements, such as permit or regulatory requirements. Achieving better coordination, however, is a difficult problem; state agencies have tried to tackle it before — and have failed. We need new efforts, such as the one described below, to develop solutions to this issue.

▲ *Explore the benefits of a more comprehensive, coordinated approach to regulation.* Specifically, conduct a pilot project to assess the net environmental impacts of regulating *all* sources of emissions from a particular facility comprehensively and concurrently, rather than regulating emissions to the air, water, and land separately. The state may not have the authority under current laws to make regulatory decisions in this way. Existing regulatory programs typically consider the impacts of a facility's emissions to air, water, and land separately. This can hinder our understanding of the facility's cumulative impacts, and of the cumulative impacts of the various regulatory controls. In addition, this approach can lead to a shifting of pollution from one type of emission to another. A pilot project with a voluntary facility that is seeking multiple permits could be very beneficial in researching new approaches to regulation. The objective of such a project would be to compare the existing permit process with a more comprehensive approach, focusing on overall environmental impacts and regulatory costs. The EPA is conducting a similar pilot project at an oil refinery in Virginia; a project here in Washington would provide valuable new experience in the potential benefits of a different approach.

Other Action Ideas

- ▲ Promote no-penalty environmental auditing of corporations and other institutions with operations affecting the environment.
- ▲ Promote and support more volunteer programs similar to the WSU Cooperative Extension's "Master Gardener" program.

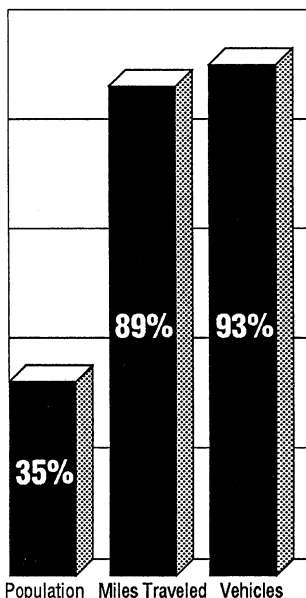
VI. Clearing the Air

The Challenge of Clean Air

"If we do not change our direction, we are likely to wind up where we are headed."

— ancient Chinese proverb

Figure 3:
Number of vehicles and miles of travel have grown more quickly than population.
(Percent growth, 1970 to 1980)



Clearing the Air...

When it comes to air quality, the gap between where we are now and where we want to be in the year 2010 is wide — and getting wider. The Washington Environment 2010 vision of the future calls for air quality in 20 years that is healthy for all living things. It calls for air quality that allows us, our fellow inhabitants, and the future inhabitants of the state, to breathe easier.

To get an understanding of exactly how ambitious these goals are, one need only take a drive on Interstate 5 at rush hour, or quickly review the State of the Environment Report. Air pollution, because of the high risks it poses to the environment and to human health and quality of life, is rated in the report as one of the state's most pressing environmental priorities. Citizens attending Washington Environment 2010 public meetings throughout the state consistently echoed this sense of urgency.

Our challenge is clear: we must clear the air.

Interestingly, this challenge is almost exclusively ours to win — or lose. Unlike other states, whose air pollution levels are heavily affected by activities in neighboring states, Washington's air quality problems are largely homegrown. The solutions to those problems must be homegrown as well.

Key Recommendations

Reducing Driving

As Figure 3 illustrates, the number of cars on Washington's highways and byways, and the number of miles being driven in those cars, are increasing at a much higher rate than is the population itself. Reducing this trend is a critical piece of this multi-dimensional strategy for clearing the air. The use of motor vehicles — driving them and refueling them — is the predominant source of air pollution in the state, whether we measure by emissions of pollutants or risk to human health and the environment. (See Figure 4.) It is also one of the most difficult sources to control, since it is such a pervasive and cherished aspect of our lives, and since effective control depends chiefly on small but significant sacrifices by great numbers of people.

Reducing driving, however, will be worth the sacrifice. The potential for reducing the health and ecological risks associated with carbon monoxide, ozone, benzene, greenhouse gases, and a host of other dangerous contaminants — to say nothing of improving visibility and reducing traffic congestion and congestion related stress — is enormous.

We offer three recommendations for reducing driving. The long-term effectiveness of the overall strategy will depend on some combination of these three actions; no single action will suffice. Policies that discourage solo commuting to urban areas, for example, will not be effective unless good alternative means of transportation are provided.

VI

▲ *Establish employer based incentive and disincentive programs that discourage, rather than encourage, employees from commuting to work alone.* Many employers currently offer free or heavily subsidized parking as a benefit to employees. Studies show that policies like these strongly encourage solo commuting. Employers, especially large ones, need to develop policies — ride sharing programs and subsidies for car-poolers and bus-riders, for example — that do exactly the opposite. State and local government must ensure, through requirements and incentives programs, that businesses develop and implement employee ride reduction programs. Employees and employees’ unions and associations should support these programs, as well. Federal, state, and local governments also must lead by example, that is, they should develop programs like these for their own employees.

▲ *Establish economic disincentives to solo commuting.* For example, local governments or air pollution control authorities should impose higher taxes or fees on commuter parking lots and raise parking meter rates, to discourage commuting to urban areas. Studies show that high parking fees are effective economic disincentives for driving unnecessarily. Though a proposal like this one was defeated in the 1990 legislative session, we believe its potential benefits make it worth pursuing further.

▲ *The state’s Department of Transportation, in conjunction with local governments and regional transportation authorities, must continue and expand their efforts to develop mass transit opportunities that provide competitive alternatives to solo driving.* Solo driving will not be significantly reduced until there are attractive alternatives. These alternatives, which are critical to the success of the incentive and disincentive programs discussed above, might include expanded and improved bus systems, expanded use of high-occupancy vehicle lanes (a.k.a., “diamond lanes”), high-speed passenger-only ferries, and heavy or light rail systems.

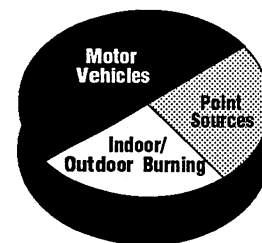
Options like these are being studied, and have been for years. Such assessments, however, need to include careful consideration of environmental costs and benefits. The construction of a light rail system, for example, is more attractive than traditional analyses show when we consider the environmental benefits such a system would yield. The Departments of Ecology and Transportation and the State Energy Office — whose separate missions can lead to mutual reward — need to work more closely on these issues than is currently the case. Ultimately, the development of effective alternatives to driving alone, in particular the funding for such development, will require the strong support and commitment — both philosophical and financial — of local governments, citizens, and the legislature.

Reducing Driving-Related Pollution

As long as there are cars, they will be driven. Strategies that reduce the amount of driving need to be augmented and complemented by strategies that reduce the pollution and the risks associated with the driving that does occur. Here are our recommendations:

▲ *Control gasoline vapors.* Gasoline vapors contain toxic chemicals such as benzene and toluene that are harmful to humans and contribute to smog. These vapors can be controlled in two ways: by changing the chemical make-up of gasoline so that it emits fewer or less toxic vapors, and by installing devices at gasoline transfer points that capture the vapors. We think both approaches ought to be pursued in Washington State.

Figure 4:
Major Sources of Air
Pollution in
Washington State



Air pollution, because of the high risks it poses to the environment, and to human health and quality of life, is rated in the State of the Environment Report as one of the state's most urgent environmental priorities.

While the federal government has set some standards for the manufacture of gasoline, the state must offer incentives for those manufacturers or distributors who produce or distribute low volatility gasoline, that is, gasoline that emits fewer vapors. In addition, the Department of Agriculture, in cooperation with the Department of Ecology, should test gasoline quality to ensure that volatility requirements are met.

We recommend a phased approach to vapor control and recovery in Washington State. First, the Department of Ecology should require that vapor recovery systems are in place from the refineries to the service station pumps. Second, vapor control devices should be required at service stations, beginning in major urban areas, where the related problems are most serious. Finally, those requirements should be applied statewide.

Individual citizens can contribute to these efforts by patronizing gas stations that install vapor control systems and by accepting the slightly higher gas prices that result from vapor control.

▲ *Encourage transitions to cleaner fuels and more fuel efficient vehicles. Gasoline is dirty.* Shifting to more fuel efficient vehicles, cleaner fuels (such as compressed natural gas or oxygenated fuels), or alternative vehicles (such as electric cars or vehicles that run on methanol or hydrogen), would significantly reduce the emissions of several air pollutants, including volatile organic compounds, carbon monoxide, greenhouse gases, and others. The high risks associated with those emissions, in turn, would be significantly reduced. Oxygenated fuels, for example, have been used very effectively to reduce air pollution problems in Denver, CO. A three step approach to shifting toward cleaner fuels and more fuel efficient cars is necessary.

First, state and local governments should lead by example by requiring that oxygenated fuels or other alternative fuels be used in government fleets and that gasoline operated government cars exceed the corporate average fuel efficiency (CAFE) standards. In addition, the state should support a pilot project on the use of so-called dual-fuel vehicles, which can operate on both gasoline and electricity. Second, incentives should be developed to encourage the manufacture, sale, and purchase of oxygenated fuels or other alternative fuels statewide. Third, the larger service stations in counties with carbon monoxide and ozone problems should be required to sell at least one grade of oxygenated fuel or another alternative fuel.

VI

Meeting the Clean Air Challenge

Local businesses, government, and citizens in Spokane County are teaming up to meet the challenge of clean air.

Air quality is a special concern in the Spokane area where unusual geographic circumstances limit the dispersal of air pollutants and cause levels of air pollution to frequently exceed national standards. Levels of carbon monoxide in Spokane, for example, frequently have been higher than the standard.

The Spokane County Air Pollution Control Authority (SCAPCA) is leading an aggressive cooperative effort to address this issue. The project, called "Clean Air Spokane," is bringing together state and local government agencies, local businesses, community groups, and citizens to devise a strategy for improving air quality in Spokane County. Various agencies at the city and county level have developed draft strategies for dealing with several air quality problems, and this strategy will be the basis for an extensive media campaign and public workshops throughout the county.

▲ *Expand the vehicle emission inspection and maintenance program to major urban areas and other regions with known air quality problems.* The Department of Ecology’s car exhaust testing and maintenance (I/M) program has proven to be effective in controlling auto exhaust, especially carbon monoxide levels, which have been reduced by 24 to 28 percent. The program regulates car emissions and ensures that pollution control devices are in place and working, and have not been tampered with. The EPA has determined that such programs are among the most cost effective for controlling urban air pollution. Currently, the I/M program covers only greater Seattle and Spokane — less than 25 percent of all registered vehicles in the state. We recommend that the legislature expand the program to cover other major urban areas in the state, and other regions where air quality is poor. The cost effectiveness of extending the program to the remaining parts of the state should be studied as well.

▲ *Explore and develop approaches to controlling emissions from diesel powered vehicles.* Diesel powered vehicles, such as large buses and trucks, are not currently included in the state’s inspection and maintenance program. Emissions from these vehicles, however, contribute to the state’s air quality problems, particularly those related to small particulates. Approaches to controlling these emissions need to be explored and developed. A regional or national approach will be necessary, since many diesel powered vehicles regularly cross regional and state boundaries.

Reducing Pollution from Major “Area” Sources

So-called “area” sources — typically small but numerous and diffuse sources of air pollution, such as wood stoves, outdoor burning, and dry cleaners — account for about a quarter of the state’s air quality problems. Our recommendations for controlling these sources are as follows:

▲ *New development in areas where air quality is poor or threatened should be controlled to avoid further degradation of the air.* National and state efforts to control air pollution in areas where air pollution levels exceed health-based standards rely on what is known as the “off-set” policy. According to this policy, new sources of air pollution in a particular region must obtain offsetting reductions in air pollution from existing sources in the region. A similar principle might be applied to new developments — housing complexes, shopping centers, and office buildings, for example — in parts of the state where the air quality is poor. Any controls should be applied on a regional basis, and should be preceded by a careful evaluation of the trade-offs they entail between air quality benefits and other benefits and costs. We offer this idea for long-term consideration, recognizing that it needs a great deal of further development and discussion.

▲ *Phase out outdoor burning of clearing debris, agricultural and yard debris, and forest slash.* Outdoor burning of forest slash, weeds, yard debris, and other materials emits dangerous pollutants such as small particulates, carbon monoxide, and a variety of toxic chemicals. The small particulates that result from these practices are an especially serious threat to human health and to visibility. We recommend a phased approach to reducing and eventually eliminating outdoor burning, including enforcement of existing laws and regulations, a study of alternative disposal methods and the environmental trade-offs associated with those methods, and an extensive public education campaign. The development of environmentally sound alternatives to outdoor burning is a critical component of this recommendation. More research and development in this area is needed.

▲ *Phase out residential wood-burning stoves and inserts.* A decade or so ago, heating a home with wood was considered a clean alternative and an answer to the energy crisis. Today, residential wood burning is widely recognized as one of the most significant sources of air pollution — especially of small particulates — in our state. Existing restrictions on residential wood burning have been reasonably successful, but further reductions are desirable. Local governments or air pollution control authorities should establish “smoke free zones” within their jurisdictions by limiting and ultimately eliminating the installation of wood stoves and inserts in areas where pollution from those stoves would significantly threaten air quality. Smoke free zones would be designated based on the density of wood stove use in the area, and known air quality conditions. Monitoring of air quality in such areas also should be increased. We also recommend a stronger public education program and increased enforcement of existing rules to further discourage residential wood burning. In addition, the state should consider a program to require adequate back-up sources of home heating and provide assistance for low-income citizens who rely on wood as the sole source of heat in their homes.

▲ *Require the recycling or reuse of chlorofluorocarbons (CFCs) from refrigerators and air conditioners.* Emissions of CFCs damage the layer of stratospheric ozone that protects the earth from dangerous ultraviolet radiation. A large portion of these emissions can be avoided by recycling. We recommend that the legislature require the recycling and reuse of CFCs from refrigerators and air conditioners in Washington State. Since the state’s contributions to this global environmental threat are minimal, the tangible benefits of this policy would be limited. The measure would, however, demonstrate our recognition of our membership in the global community, and our willingness to make sacrifices for the benefit of the whole community.

Further Reducing “Point Source” Pollution

Most of our air pollution policy successes to date have been in controlling the so-called point sources — the large industrial smokestacks that for years have been the symbol of poor air quality. But these types of sources still account for roughly a quarter of our current air quality problems, especially from particulates, sulfur dioxide, and volatile organic compounds (VOCs), which are a precursor to ozone. To address this issue, we recommend the following:

▲ *Establish and enforce a fee-based, renewable permit program to further limit air pollution, including air toxics, from major industrial and commercial sources.* Under the current programs, existing sources of air pollution generally are not required to upgrade their pollution controls regularly with new technologies or practices that can significantly reduce emissions. Under this recommendation, these sources of air pollution would be reviewed periodically and required to apply best available control technology (BACT) or best management practices, taking into consideration economic implications. This program, which would require new legislative authority and funding and would be phased-in over time, would expand existing requirements by including controls on air toxics, only a few of which are currently regulated.

Other Action Ideas

- ▲ Discourage vehicle idling, particularly at drive-through windows.
- ▲ Develop air quality standards that protect visibility as well as human health and the environment.
- ▲ Impose a tax on fuels based on how much they pollute.
- ▲ Promote bicycling and other forms of nonmotorized transportation.
- ▲ Improve monitoring of toxic air pollutants.
- ▲ Control dust from roads and commercial and agricultural activities.
- ▲ Strengthen standards for pulp mill emissions, including standards for controlling odor.
- ▲ Lower the levels of contaminants in fuels, such as sulfur in residual fuel oils.
- ▲ Support research in air pollution control technology.
- ▲ Examine the effects of air travel on air quality.
- ▲ Mandate the use of gasoline additives that reduce air pollution.
- ▲ Explore alternatives to the use of CFCs in industrial processes.
- ▲ Explore ways to increase the price of leaded gasoline so that it is at least as expensive as unleaded gasoline.

VII. Everybody Lives Downstream

The Challenge of Clean Water

“This we know: Man did not weave the web of life, he is merely a strand in it. Whatever he does to the web, he does to himself.”

— Chief Sealth

Everybody Lives Downstream

In 2010, our lakes, rivers, and streams will be safe for swimming and drinking — not just for humans, but for fish and wildlife, too. There will be no health advisories against eating fish or shellfish caught in Puget Sound or any other estuary. Our ground water will be safe to drink.

This is the Washington Environment 2010 vision of the future. Getting there will be a challenge. The State of the Environment Report identified water pollution as one of the two highest environmental priorities in Washington, because of the myriad ecological, recreational, aesthetic, and economic values that water provides, and because of the degree to which those values are being threatened by a variety of human activities.

We have made considerable progress over the last 20 years in controlling the relatively obvious sources of water pollution — the easier to detect pollutants, such as bacteria and nutrients, discharged by large municipal and industrial plants directly into rivers, estuaries, and other bodies of water. The greatest challenge for the next two decades is to protect our waters from more subtle but no less significant sources of pollution — toxic discharges from municipal and industrial plants, and run-off from urban, agricultural, and timber harvesting areas, malfunctioning septic systems, and other so-called “nonpoint” sources. Nonpoint sources constitute a significant portion of the water pollution threat in Washington. A 1988 assessment of water quality, for example, showed that over 70 percent of the rivers and over 60 percent of the lake area studied were damaged or threatened by this type of pollution.

The integrity of the state’s ground water is a special concern and presents a special challenge for a number of reasons. For one, Washingtonians are becoming increasingly dependent on this resource; more than 60 percent of the state’s residents currently rely on groundwater for their drinking water supply, and that percentage is growing steadily. Second, we are seeing increasing numbers of ground water problems occur: incidents of ground water contamination from pesticides, hazardous waste sites, industrial sites, and other sources have been discovered in recent years in the majority of the state’s counties. Finally, we realize that once tainted, it is very difficult and very costly at best to make ground water drinkable again. The challenge will be to protect ground water resources so that costly clean-ups are not necessary.

VII

Key Recommendations

Controlling “Nonpoint” Source Pollution

▲ *Develop and implement comprehensive local plans to protect whole watersheds from the effects of agricultural and forest practices, failed septic systems, stormwater run-off, improper disposal of household wastes, construction related erosion, and other nonpoint sources.* These plans should identify and focus on high priority watersheds, and should include a mix of education, technical assistance, economic incentives, and land use controls. The plans should be developed and implemented by local jurisdictions, with financial and technical assistance from state and federal agencies. Ultimately, the effectiveness of any efforts to reduce nonpoint source pollution will depend on the cooperation and commitment of individual landowners.

▲ *Monitor on-site sewage systems and upgrade systems that provide inadequate treatment.* State experts estimate that between three and seven percent of the roughly 600,000 septic tanks in this state will fail on an annual basis. Such failures collectively are a significant source of water pollution in the state. Both new and existing on-site sewage systems should provide treatment of wastes. Local and state health agencies should establish guidelines for, and public education about, the design and maintenance of on-site sewage systems. In addition, these systems should be monitored more closely. A comprehensive approach is needed to planning, siting and monitoring septic systems, and responding to failures is needed. One idea worthy of further consideration is the creation of local septic system cooperatives to ensure the viability of septic systems within their jurisdiction. Such cooperatives could be organized by local conservation districts and funded by septic tank users.

▲ *Explore the use of economic incentives and disincentives that promote the adoption of better land management practices.* It is widely recognized that effective control of nonpoint water pollution requires changes in a number of activities, including on-site waste disposal, farming, logging, and stormwater control. We need to explore the use of economic policies, such as taxes and subsidies, to encourage both large and small-scale landowners to make use of best management practices that minimize water pollution.

▲ *Establish local stormwater management programs.* Stormwater carries contaminants from parking lots, lawns, roofs, and streets into nearby rivers, lakes, streams, and estuaries. Local governments should develop programs to control this type of pollution based on guidance now being developed by the Department of Ecology. These programs might include requirements for the maintenance of public and private stormwater drainage systems, public education, and technical assistance. Local governments may want to establish stormwater utilities to finance their programs, as 25 localities around the state have done already.

State experts estimate that between three and seven percent of the roughly 600,000 septic tanks in this state will fail on an annual basis.

Further Controlling “Point” Sources

▲ *Strengthen, expand, and enforce the wastewater discharge permits system, increase permit fees, and make the fees correspond to the volume and toxicity of discharges.*

Point-source water pollution continues to pose significant risks to human health and the state’s environment, economy, and quality of life. Increasing permit fees will raise much needed revenues to help fund the permit program and ensure its continued effectiveness. The current permit system provides very little economic incentive for dischargers to reduce their wastewater below the levels established by their permits. A variable fee system will provide permit holders with an incentive for minimizing their discharges through reduction, reuse, or recycling of wastewater. Increased permit fees and a variable fee structure can be established by regulation by the Department of Ecology, with one exception. The law restricts the permit fees paid by municipal sewage treatment plants. This law should be amended so that those fees can be raised as well, in an appropriate and equitable way.

Finally, the program needs to be expanded. Approximately 1,000 dischargers are now regulated by permits; a recent study estimated that up to 10,000 additional high priority dischargers should be added to the system.

▲ *Promote the manufacture and use of unbleached paper.* Industrial bleaching processes yield dioxin and chlorinated compounds that are then released into the environment. These contaminants pose risks to humans, fish, and wildlife. These risks can be reduced if pulp mills are encouraged to adopt manufacturing processes that reduce the release of dioxin and chlorinated compounds, and if people are encouraged to buy unbleached paper products. State government should lead by example by purchasing unbleached paper products.

Protecting Ground Water

▲ *Develop and implement a comprehensive ground water protection program, including monitoring of ground water quality, research on soil quality and other important hydrogeologic features, and education.* Many of the recommendations described above will reduce ground water pollution, as well as pollution of lakes, streams, rivers, and estuaries. However, unlike surface water quality, ground water quality is not systematically monitored in Washington, making pollution prevention and program evaluation very difficult, at best. This is particularly disturbing given our increasing dependence on ground water. The legislature needs to provide the Department of Ecology with the funding necessary to significantly expand its ground water monitoring and other ground water protection efforts. Those efforts should focus first on high priority ground water recharge areas.

Protecting Drinking Water Supplies

▲ *Reduce the number of small drinking water systems by consolidating them or merging them with larger systems.* Small water systems — systems that serve two or more connections — have been increasing. Problems associated with these systems have been increasing as well. People are more likely to drink contaminated water from small systems than from larger systems, since the small systems are not as closely monitored and do not treat the water. In addition, the proliferation of small water systems increases the probability of groundwater damage. Consolidating or merging small water systems into larger ones will increase the efficiency with which drinking water is supplied and will reduce risks both to humans and the environment.

Other Action Ideas

- ▲ Use the state's ownership of submerged lands to better protect those lands from wastewater discharges and other sources of damage.
- ▲ Develop new technologies for controlling agriculture related water pollution, and ensure that existing proven methods are used where necessary and appropriate.
- ▲ Require new cars to be fitted with oil drip and leak collection devices.
- ▲ Develop vegetation management and sediment retention requirements.

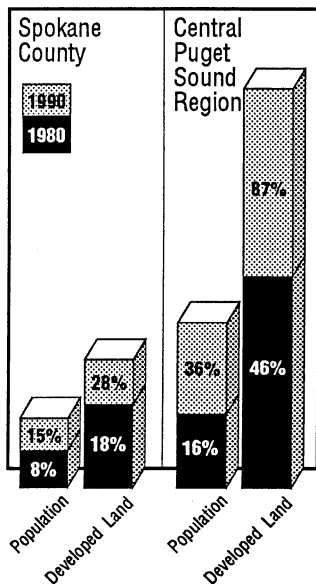
VIII. Towards a Land Ethic

The Challenge of Land Stewardship

“In short, a land ethic changes the role of Homo sapiens, from conquerors of the land-community to plain members and citizens of it. It implies respect for his fellow-members, and also respect for the community as such.”

— Aldo Leopold

Figure 5 :
Developed Land is expected to increase twice as fast as population from 1970



Toward a Land Ethic

Our state is a bright mosaic of vast forests, fertile farms, and vibrant cities and towns. Washington Environment 2010 envisions a landscape that in 20 years is every bit as rich, colorful, and diverse as it is today.

That vision, however, is jeopardized by a number of threats highlighted in the State of the Environment Report. We are running out of room for recreation, as land available for trails and paths, hiking, camping, bird watching, and other outdoor activities fails to keep pace with population growth — particularly around urban areas. Our open spaces in urban regions are dwindling rapidly as well. In addition, hundreds of thousands of acres of low elevation forest lands and agricultural lands are being replaced by homes, office buildings, and parking lots. As Figure 5 illustrates, the amount of land used for new development in Spokane County and in the central Puget Sound region is increasing twice as fast as the population increased.

These trends represent a hard and potentially tragic irony: the natural resources that make Washington a unique and desirable place to live and work are threatened by the increasing number of people and businesses who choose to live and work here.

Our challenge is to preserve the mosaic. This will require a fresh approach to land stewardship by every public official, every businessperson, and every private citizen in the state, an approach that focuses on sustaining our natural resources and on preserving all of the ecological, recreational, economic, aesthetic, and spiritual values those resources embody — not only for ourselves, but for our children and grandchildren. In short, our challenge is to move toward what Aldo Leopold described as a “land ethic,” where we are citizens rather than conquerors of the “land community.”

Key Recommendations:

▲ *Increase recreation resources, particularly near population centers, through public acquisition, encouraging private landowners to provide more public recreational opportunities, and other means.* Spaces in which to relax and recreate are essential to our psychological, spiritual, and physical well-being. Recreational lands also provide a haven for wildlife and preserve the natural qualities of the ecosystem. We strongly support and encourage costly but critical efforts, like those of the Washington Wildlife and Recreation Coalition, to acquire and properly manage land for these purposes. This is especially important for areas with predominantly natural settings. Priority should be given to lands in and around urban centers, where the gap between the supply and demand of recreational opportunities is greatest — and growing. Encouraging private landowners to allow public recreational opportunities on their property is an important component of this recommendation. In creating such opportunities, the need to protect private lands from misuse and private landowners from liability must be addressed. New sources of funding, such as state and local bonds, community land trusts, state and local low-interest loan programs, and public-private partnerships, need to be explored and developed, as well.

▲ *Preserve open spaces and greenbelts in urban areas by acquiring sites, regulating land use, developing tax incentives for preservation and acquisition, and through other means.* Urban greenbelts help to separate neighborhoods, cleanse the air, and provide relief from concrete vistas. But these areas are rapidly vanishing, transformed by housing developments and industrial and commercial activity. A high priority must be given to curbing this trend and preserving these special places. A network of such greenbelts should be preserved in each urban area in the state by developing stronger partnerships with land trusts, and using appropriate regulatory and nonregulatory approaches to land use controls.

▲ *Protect productive forest lands from conversion to nonforest use through land use controls, economic incentives, and public acquisition of critical private forest lands.* Converting productive forest lands, particularly those at low elevations, to nonforest uses reduces fish and wildlife habitat, recreational opportunities, and the overall sustainability of the state's forest resources. Retaining such lands for timber production preserves these values, reduces pressures to harvest more environmentally sensitive forest lands at higher elevations, and protects the timber supply for local mills and economies. We recommend that county governments develop and implement land use restrictions, such as the designation of especially productive tracts of land as natural resource zones, and use minimum lot size requirements and other means to control the conversion of those lands to other uses. We also recommend that the state Department of Natural Resources and private and not-for-profit organizations identify, acquire, and appropriately manage critical private forest lands, where acquisition is the only means to ensure protection.

▲ *Protect both the ecological and amenity value of public and private forest lands by promoting public land management decisions that preserve critical forest areas and by refining and enforcing new and existing forest management practices that protect ecological values, even in commercial forests.* Some forest areas are especially rich in ecological value or scenic beauty. In some cases, these values are incompatible with commercial timber production. Such critical areas should be added to Washington's existing legacy of parks and forest preserves through dedication or public acquisition. On other lands, commercial forestry and environmental protection are compatible objectives. We encourage the testing and use of new management concepts to better protect the biological and scenic diversity of commercial forests.

▲ *Promote sustainability of forest resources through reasonable controls on rates of timber harvest on both public and private lands.* Establishing reasonable upper-bound harvest rates will reduce the potential for severe damage to the environment and to the long-term sustainability of the forest resource, especially when favorable market conditions encourage rapid harvesting. We strongly support the efforts of the Sustainable Forestry Roundtable to develop a balanced package of: economic incentives; increased enforcement of reforestation requirements; guidelines for harvest planning, rates of harvest, and clearcut sizes; public education efforts; and other legislative and regulatory proposals relating to forest practices.

▲ *Protect productive agricultural lands from conversion to nonagricultural uses through land use controls and economic incentives.* The existing policy of imposing lower property taxes on agricultural lands is an example of using economic incentives to protect productive crop lands. Other programs might include public purchase of development rights and state issued development permits.

▲ *Protect riparian and native plant and wildlife species on range lands by:* 1) *improving the grazing permit system, by using taxes and subsidies to promote better management of range lands or by otherwise building incentives into the system; and 2) by educating range land owners and users on how to apply existing knowledge about range species protection.* Continuing encroachment of noxious weeds, loss of valuable forage species, and loss of soil through erosion have occurred as a result of overgrazing, off-road vehicle use, drought, fire, timber harvesting practices, and conversion of range lands to other uses. Consequently, roughly 70 percent of the state's range lands are listed in fair or poor condition, according to the State of the Environment Report. Increased application of known management practices can significantly improve these conditions.

▲ *Explore and pursue the creation of various mechanisms to promote land conservation.* A restructuring of preferential property taxes for forest lands and open spaces, for example, could improve the use and effectiveness of those incentives and could also be used to promote specific farm and forest land conservation practices. Public purchase of development rights is another possible mechanism.

Other Action Ideas

▲ Develop state-federal partnerships to preserve federally owned lands in the state that are important outdoor recreational resources.

▲ Complete and implement a statewide policy for protecting and enhancing trails for recreation and transportation, including controls on the destructive and abusive effects of various types of use.

▲ Consider land value or site value taxation.

IX. "No Net Loss"

The Challenge of Wetlands Protection

"My position on wetlands is straightforward: All existing wetlands, no matter how small, should be preserved."

— George Bush

No Net Loss

"There has been no net loss of wetlands in the state in the last two decades."

That describes Washington Environment 2010's vision for the future of the state's wetlands; it is not, however, an accurate reflection of the past. In fact, it is not even close. The State of the Environment Report indicates that despite a series of recent efforts to halt or slow the trend, we are losing wetlands at a rate of 700 to 2000 acres a year. In all, over 50 percent of the wetlands that existed here in 1850 (and over 90 percent of the wetlands in urban areas) have been destroyed by urbanization, agriculture, highway construction, and other activities. The fish and wildlife habitat, ground water protection and flood control capacity, and natural beauty that those wetlands provided has been destroyed as well.

Our challenge, simply put, is to stop this destruction, and in fact to reverse the trend.

Key Recommendations

▲ *Establish no net loss of Washington's remaining wetlands, based on acreage and function, as the state's immediate goal, with a longer term goal of increasing the wetlands base.* "No net loss" is already executive policy, by the Governor's order signed in December, 1989. In addition, on Earth Day 1990 the Governor — in light of the failure of new wetlands legislation to pass in the 1990 legislative session — signed an executive order enjoining all state agencies to maximize their efforts to protect wetlands under existing laws.

Nevertheless, a broader legislative mandate for no net loss is still needed to authorize and fund a regulatory framework and other mechanisms necessary to ensure that the goal is met. Achievement of the goal would mean saving some 14,000 to 40,000 acres of wetlands over the next 20 years.

▲ *Develop and implement a comprehensive statewide wetlands protection and management plan.* The Department of Ecology should lead this effort, with input and assistance from other state agencies. The major components of the plan are described in the following recommendations.

▲ *Complete a statewide inventory of wetlands, characterizing wetlands within discrete ecosystems, such as river basins, and maintain a database to contain the information.* This inventory, which would be conducted cooperatively by state and local government, the tribes, and other appropriate parties, is necessary to support intelligent wetlands management decisions.

▲ *Expand nonregulatory efforts in preservation, restoration, education, research, planning, and technical assistance.* Nonregulatory approaches can be very effective at protecting wetlands, and they are generally well supported in the political arena. Restoration — reestablishing an historic wetlands site — is increasingly recognized as a key tool in meeting the goal of no net loss of wetlands.

▲ *Establish and implement statewide regulations on land use activities on and near wetlands.* Legislation mandating wetlands land use regulations is part of the first recommendation. This recommendation involves developing the regulations themselves. The Department of Ecology would develop rules to guide local government activities, including details on standards, buffers, mitigation, and other parts of the regulatory program. Such a program will be a critical component of efforts to reduce wetlands loss in the state.

▲ *Explore new and existing funding sources to support implementation of these recommendations.*

With a goal of no net loss of wetlands in place, between 14,000 and 40,000 acres of wetlands could be saved over the next 20 years...

X. Available Housing

The Fish and Wildlife Challenge

“Nothing short of defending this country in wartime compares in importance with the great central task of leaving this land even better a land for our descendants than it is for us.”

— Theodore Roosevelt

Available Housing

Our challenge for fish and wildlife centers on habitat: protecting it, preserving it, enhancing it.

Habitat — the wetlands, estuaries, forests, and other ecological nooks and crannies where fish and wildlife make their homes is disappearing in this state at a rate of 30,000 acres a year, destroyed or damaged by urban development, agricultural practices, timber harvesting, highway construction, and other activities.

Our challenge is to reverse this trend, from habitat loss to habitat gain.

According to the Washington Environment 2010 vision of the future, the abundant and diverse species of fish and wildlife of the 1990s are healthy and enjoyed by all citizens of the state.

Key Recommendations:

▲ *Protect existing fish and wildlife habitat to ensure no net loss of function and values, and, through acquisition, restoration, and enhancement, achieve an overall net gain in the productive capacity of fish and wildlife habitat.* As noted in the section on land stewardship, acquisition of land, while expensive, is the only sure-fire way to control the uses of that land. Efforts to buy and properly manage strategic and critical lands around the state and set those aside for fish and wildlife must be expanded beyond the current Washington Wildlife and Recreation Coalition plan.

▲ *Develop a statewide fish and wildlife habitat inventory.* An accurate inventory of existing fish and wildlife is needed to plan and manage those resources effectively. Although the Department of Fisheries and the Department of Wildlife collect *some* information on fish and wildlife species, this information is incomplete and not stored in an easily accessible, user friendly system. An integrated geographic information system is needed. The Department of Fisheries is working with tribes to develop such information, and the Department of Wildlife is engaged in a priority habitat and species mapping project with state resource agencies, tribes, public and private interest groups, and the Forest Practices Board. These efforts will help provide a foundation for future efforts to preserve, protect, and restore fish and wildlife habitat.

▲ *Identify and restore critical areas of fish and wildlife habitat that have been damaged and degraded.* Many past land use decisions have been detrimental to fish and wildlife. The impacts caused by such decisions often can be reversed or mitigated. Manmade obstacles to fish migration, for example, can be removed. There are state and federal programs in place already to do this, such as the Washington Conservation Corps, the Aquatic Lands Enhancement Program, the Regional Fisheries Enhancement Group Program, and the Department of Wildlife’s Cooperative Habitat Development Project. Programs like this, that capitalize on the willingness of private landowners and other volunteers to make a difference, need to be expanded.

X

▲ *Develop a comprehensive program to clean up and protect coastal waters and estuaries that are critical to fish and wildlife species, such as Grays Harbor, Willapa Bay, and the Columbia River.* Our coastal resources are vital from a statewide fish and wildlife standpoint; they cannot and must not be overlooked or neglected. Ongoing efforts such as the Grays Harbor Management Plan fill only a portion of the future needs of coastal fish and wildlife habitat protection and restoration. The Puget Sound Water Quality Authority's efforts to clean up Puget Sound provide a model for programs to address other coastal and estuarine waters. These programs should include efforts to minimize and clean up marine debris that threatens fish and wildlife.

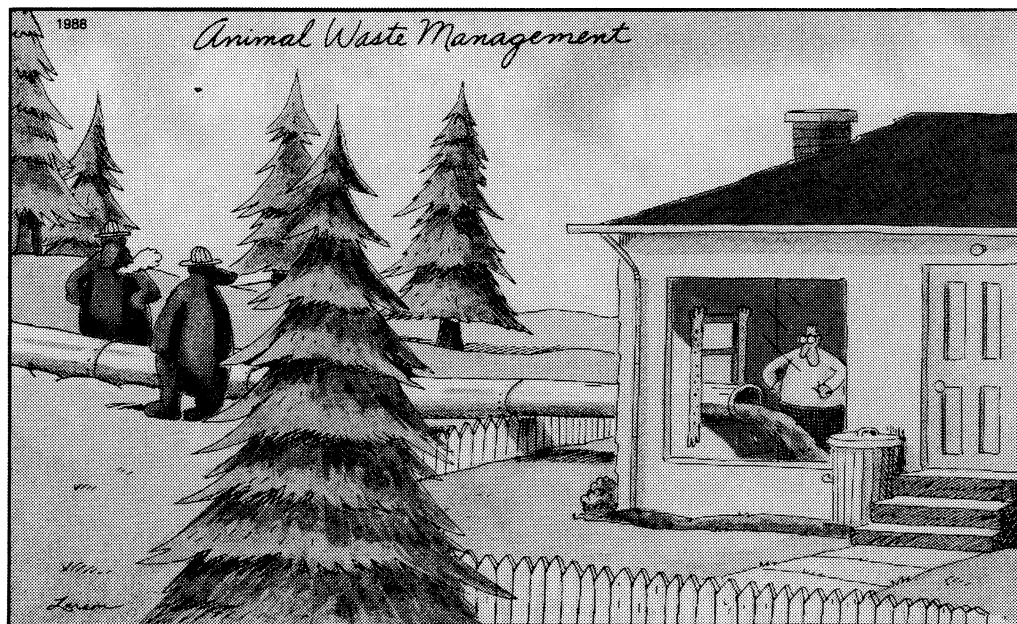
▲ *Continue to promote sustainability of fish and wildlife resources through reasonable controls on rates of harvest.* According to the State of the Environment Report, excessive harvesting is one of the major potential threats to the state's fish and shellfish resources. Population growth and economic expansion are expected to increase the pressure on these resources. Sustainability must be achieved through careful management and public education. More and better data and increased monitoring are essential to achieving our vision of healthy and diverse species of fish, shellfish, and wildlife in the year 2010.

Other Ideas

▲ Establish a program for monitoring construction projects, to ensure compliance with permit requirements aimed at protecting fish and wildlife habitat.

▲ Conduct research on the distribution predator-prey relationships among fish species, fish disease control and prevention, and other issues of importance to resource managers.

▲ Promote backyard, neighborhood, and community based habitat enhancement programs in urban areas.



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XI. "An Ounce of Prevention..."

The Waste Management Challenge

"An ounce of prevention is worth a pound of cure."
— Unknown

An Ounce of Prevention

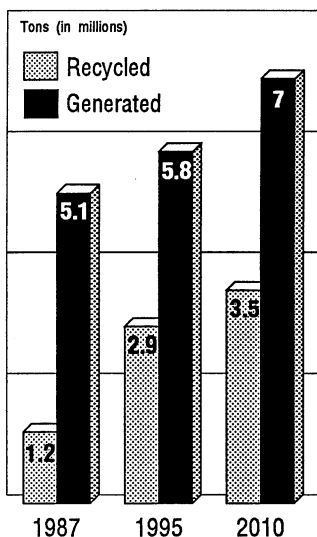
Like the rest of the country, Washington State is facing a garbage glut. Unless manufacturers, businesses, government, and individual citizens continue to change their ways with waste, the state's landscape in the year 2010 will be dotted with heaping piles of trash. The Department of Ecology estimates that even if we achieve the recently established legislative goal of 50 percent recycling by 1995 — by no means a foregone conclusion — we still will need to dispose of roughly the same amount of trash in 2010 that we dispose of today, due to projected increases in the amount of waste being generated. (See Figure 6.)

In addition, we are still stretching the boundaries of our technological capabilities — and our budgets — trying to atone for yesterday's mismanagement. There are over 700 abandoned or uncontrolled hazardous waste sites in this state, most of which resulted from sloppy waste handling and disposal practices. These sites, which often contaminate ground water and pose risks to human health and the environment, are typically very difficult — and very expensive — to clean up. There is no clearer evidence of the need to prevent more of these hazardous waste sites than our costly and complex attempts to deal with the ones we already have.

The waste management challenge, then, is fourfold. First, we must significantly reduce the amount of waste we generate in the first place, curbing the volume left to be managed and disposed. This will reduce the health and ecological risks associated with solid and hazardous waste disposal, as well as delay or eliminate the need for siting new disposal facilities — a need that local opposition (a.k.a., the "not-in-my-back-yard" syndrome) is making increasingly difficult to fill.

Second, we must recycle or reuse as much of the waste that is generated as possible, recognizing that what is possible is changing every day as new ideas and technologies emerge. Third, we must manage and dispose of the remaining waste safely and soundly, that is, in ways that minimize impacts on human health and the environment. And finally, we must continue and improve our efforts to remedy the mistakes of the past.

Figure 6:
Waste generation
and recycling in
Washington
(1987-2010)



Key Recommendations

Reducing Waste

▲ *Educate the generators of solid and hazardous wastes — including individual citizens — about how to reduce the amount of waste they produce, and how to manage and dispose of wastes responsibly.* This is an area in which many people, including the Legislature and the Department of Ecology, have already recognized the challenge, and have begun to address it. In 1988, the legislature created the Office of Waste Reduction (now the Office of Waste Reduction, Recycling, and Litter Control) at the Department of Ecology and charged it with encouraging waste reduction through technical assistance to waste generators and other means. A new law passed in the 1990 legislative session takes this a step further by requiring certain hazardous waste generators and users to develop plans for reducing, recycling, or treating their wastes, with a strong preference for reduction. This new law should be aggressively implemented by the Department of Ecology through a strong technical assistance and education program, and by waste generators through commitments to meeting both the spirit and the letter of the law. These efforts should place special emphasis on discouraging the improper use and disposal of disposable products, such as disposable diapers.

▲ *Discourage excessive and wasteful packaging through economic incentives and disincentives.* Again, efforts are already underway in this area, so that the challenge is simply to support those efforts and build upon them. The Packaging Task Force, created by the legislature in 1989, is studying various approaches to reducing packaging, which currently constitutes roughly 27 percent of the solid waste generated in Washington. The Task Force, which includes representatives from state and local government, environmental groups, and the business community, is charged with exploring ways of reducing packaging wastes, reducing the use of single-use, disposable packaging, increasing the recycling of packaging materials, and increasing the use of recycled materials in new packaging. The Task Force is assessing a variety of approaches to the problem, including the imposition of higher disposal fees on manufacturers whose packaging is not easily recyclable. The Task Force is scheduled to present policy recommendations to the legislature during its 1991 session. Washington Environment 2010 strongly supports these efforts.

Increasing Recycling

▲ *Develop economic incentives that encourage recycling.* Local governments should use economic incentives, such as graduated garbage collection rates, to encourage waste reduction, reuse, and recycling. A program started recently by the City of Seattle, whereby people who produce more trash pay higher rates for curbside pickup, has been very popular. Other local governments throughout the state should follow Seattle's lead.

▲ *Make recycling easier by providing more convenient collection opportunities.* Local governments, with technical assistance from the Department of Ecology, should continue to develop programs that make recycling at least as convenient and affordable as regular disposal.

Experts estimate that more than half of the used motor oil in Washington is disposed of in environmentally irresponsible ways.

▲ *Develop markets for recycled products.* Efforts to increase recycling, no matter how successful, will ultimately flounder if there is no demand for recycled materials. The Department of Trade and Economic Development should continue its efforts to develop strategies to promote markets for recycled products. Subsidizing the collection of recyclable materials, for example, reduces the overall cost of recycling, and therefore the price of the recycled products. Lowering the price of recycled products can help keep them competitive with virgin products, which can help spur demand. The Committee for Recycled Markets is scheduled to present recommendations to the legislature during the 1991 session.

▲ *All levels of government should lead by example by procuring recycled goods.* Government agencies are high-volume consumers of paper and other key products. Government policies, laws, ordinances, and regulations requiring the purchase of recycled goods will support the market for such products and symbolize the public sector's commitment to recycling.

Improving Waste Disposal

▲ *Educate hazardous waste generators — including the general public — about proper waste management practices.* The State of the Environment Report expressed particular concern about the 3500 or so hazardous waste generators in Washington, especially small-quantity generators. These facilities are not closely regulated, and their owners and operators often are not well versed in proper waste management techniques. Because these facilities are so numerous and so dispersed, education is a potentially cost effective approach. The Department of Ecology should forge partnerships with business groups, for example, to design and implement educational strategies aimed at waste generators, such as newsletters, videos, and workshops.

The management of pesticide wastes is a special concern; 18 percent of the hazardous waste sites in the state are believed to be the result of pesticide contamination. The Department of Ecology monitors and enforces pesticide waste management practices. A more proactive strategy for monitoring compliance with existing rules and regulations and for educating pesticide waste generators is necessary to reduce the environmental damages caused by pesticide contamination, and the high costs of cleaning up such contamination.

Meeting the Challenge of Waste Management

The soon-to-be established Pacific Northwest Pollution Prevention Research Center is an example of a number of ongoing efforts focused on the challenge of waste management. The Center, a nonprofit public-private partnership being supported by government, industry, academia, and environmental, civic, and labor organizations, was created to help all interested parties move from the traditional focus of managing pollution to a new focus on preventing it.

Among other things, the Center will identify important research gaps in the area of pollution prevention, set priorities among research needs, and support, sponsor, or conduct research.

Funding for the Center will be solicited from contributions by industry, trade associations, labor organizations, environmental groups, government agencies, and other sources.

▲ *Provide more convenient opportunities for collection of household hazardous wastes.* The average household is chockful of hazardous wastes — half-filled cans of paint thinner, fertilizers, and household cleaners, used oil and car batteries, and many other wastes. Campaigns to collect those wastes have been very successful when they have occurred. Homeowners need more opportunities to do the right thing. These opportunities will translate into less hazardous wastes being brought to regular landfills, buried in backyards, poured down storm drains, or left on cellar shelves, and will reduce the health and ecological risks associated with that kind of improper disposal.

Improving Cleanups

▲ *Strengthen enforcement of existing hazardous waste regulations, by increasing inspections and permit review.* Another way to minimize the need for more multi-million dollar hazardous waste cleanups is to closely monitor current hazardous waste management activities. Over 100 hazardous waste sites are slated for closure during the next decade. The Department of Ecology must ensure that these closures are completed according to environmental standards.

▲ *Promote the use of innovative treatment technologies at hazardous waste cleanups by conducting and sharing research on their effectiveness.* A lack of information on the effectiveness of unproven cleanup technologies is a major disincentive for the use of such technologies. Businesses, universities, and state government should diminish this disincentive by working together to develop and share better information on innovative approaches to hazardous waste clean-up.

▲ *Establish economic incentives that promote destruction rather than removal and disposal of hazardous wastes during cleanups.* Tax incentives, such as exemptions from sales tax on the purchase of waste treatment equipment and tax credits to corporations conducting important research or otherwise investing in innovation, can help promote better clean-ups. The state Department of Revenue, in conjunction with the Department of Ecology, should explore the use of such incentives.

Other Action Ideas

▲ Educate people on how to reduce junk mail.

▲ Develop a tougher anti-litter campaign.

▲ Implement the standards for the design, operation, and closure of solid waste landfills.

▲ Expand utilization of the 1-800 telephone number by the public to provide them with information about what to do with hazardous materials.

▲ Establish economic disincentives for products that result in special waste management problems.

XII. Taking Care The Pesticides Challenge

“Change’ is scientific; ‘progress’ is ethical; change is indubitable, whereas progress is a matter of controversy.”

— *Bertrand Russell*

Taking Care

We are all becoming increasingly aware that pesticides are a double-edged sword. On the one hand, their use yields great benefits: an increased and predictable food supply and greater control of communicable diseases, for example. These benefits have helped to make Washington’s farms among the most productive in the country.

On the other hand, pesticides sometimes drift into unintended areas, seep into lakes, streams, and groundwater, and make their way into the food chain, posing risks to humans, fish, and wildlife.

Unlike many other environmental pollutants, pesticides are released into the environment deliberately, for the sake of their benefits. Therefore, we have an opportunity to redirect and control their impacts, and to educate users and the public about when and how to use pesticides or find alternative methods.

Our challenge is to seize this opportunity.

Key Recommendations

▲ *Encourage and support federal efforts to promote sustainable agriculture by developing and disseminating information for local crop production.* Sustainable agriculture is directed specifically at crop production and embodies a philosophy and a system of production, not a list of techniques to replace pesticides. It strives to achieve acceptable levels of agricultural production while minimizing adverse impacts on the environment, and has environmental benefits including, but not limited to, reduced pesticide use. Sustainable agriculture systems are highly site-specific, and much more research is needed to support appropriate application on a local basis.

▲ *Develop and promote alternatives to conventional pesticide use, such as encouraging research in biological and mechanical pest control methods, or development of pest resistant plant species.* New pest control strategies for agricultural, urban, and industrial situations require greater understanding of target pests, their life cycles, conditions that affect them, and more. Strategies such as integrated pest management (IPM) incorporate cultural controls, biological controls, genetic resistance, pesticides, and other techniques to address pest problems once the population of the pest has reached an economic threshold. Specific strategies are in varying stages of development and use. Our goal is to develop and encourage the widespread use of alternative technologies in Washington by 2010. Ultimately, our success will depend not only on government action, but also on the efforts of individual growers, homeowners, and other users.

XII

▲ *Increase compliance monitoring and enforcement of pesticide regulations.*

More resources are needed to enhance food product monitoring and other ongoing regulatory activities. Monitoring and enforcement of limits on pesticide residues in foods is done by the Washington State Department of Agriculture (WSDA) and the federal Food and Drug Administration (FDA). The current workload in this area exceeds the resources available within WSDA. In addition, the workload is expected to increase sharply over the next 20 years, due to an expanding population and increasing public concern about pesticides in foods and ground water. The legislature can significantly reduce public concern by strengthening the state's food safety program.

WSDA also is charged with licensing pesticide users and registering pesticide products according to federal regulations. A growing demand for tougher enforcement of those regulations suggests the need for more resources in this area, as well.

▲ *Significantly expand opportunities for the general public and commercial users to dispose of pesticide wastes in an economical, legal, and environmentally sound way.*

Without such opportunities, waste pesticides accumulate in basements, barns, and other storage areas, where they pose risks to human health, ground water, and the environment. Pesticide waste collection activities to date, while very successful on a small scale, have not been sufficient; additional collection drives are necessary. Any additional efforts should be well coordinated with other household hazardous waste collection programs.

▲ *Enhance and coordinate the monitoring of pesticide residues in the environment.*

There have been several efforts to monitor pesticide residues in Washington. For example, groundwater in portions of some counties has been monitored for pesticide contamination. Pesticide residues also have been measured in selected fish, shellfish, and sediments, particularly in Puget Sound. These studies have been limited in scope and duration. The level of effort and coordination invested in environmental monitoring of pesticides should be increased to provide policy makers and citizens with coherent and useful information on levels of pesticides in the environment and trends in those levels.

▲ *Educate homeowners and gardeners about the proper and appropriate use and disposal of pesticides and fertilizers.* The widespread use of pesticides in the home for lawn care, pest control, and gardening is emerging as a serious concern, perhaps more serious even than agricultural and commercial pesticide use, which is more closely regulated. Education of homeowners and gardeners will foster self-regulation, which in turn will reduce the risks associated with the household use of pesticides. The earlier section on environmental education included a recommendation for the creation of public-private partnerships to develop and implement educational programs for targeted audiences. Household pesticide use is an area in which such an approach could be especially effective.

Other Action Ideas

- ▲ Develop improved pesticide equipment and application techniques.
- ▲ Increase product stewardship by pesticide manufacturers and dealers, including their increased participation in collection and disposal of pesticide containers and wastes.
- ▲ Further evaluate alternatives to roadside spraying of pesticides, and spraying in especially sensitive areas, such as school yards and parks.

XIII. Keeping Cool

The Global Warming Challenge

“The true meaning of life is to plant trees, under whose shade you do not expect to sit.”

— Nelson Henderson

Keeping Cool

The potential impacts of global warming dwarf those of other environmental threats. Those impacts, however, are deferred. Many of the things we are doing today — activities that release carbon dioxide and other “greenhouse gases” into the atmosphere — may be fundamentally and irreversibly altering the earth’s atmosphere, and therefore, the lives of future generations.

The global warming phenomenon is the subject of considerable uncertainty, which, in turn, has bred controversy. Many scientists believe that global warming is already happening; some believe it never will. No one can speak with accuracy or authority about the magnitude or the timing of global warming’s potential impacts.

Our view, however, is that we cannot afford to wait — and be wrong.

When it comes to global warming, the state of Washington is a tiny fish in a big pond; our contribution to the total global loading of greenhouse gases is very small. Our ability to make a difference, however, is much larger. And so, in the Washington Environment 2010 spirit of “thinking globally and acting locally,” we offer a number of recommendations for contributions our state can make toward worldwide efforts to confront global warming.

Many of those recommendations are located in other sections of this action agenda, particularly the sections on conservation and air pollution, titled “Curbing Consumption” and “Clearing The Air” respectively. Additional recommendations are listed below:

▲ *Establish, by legislation or executive order, an interim goal of no net increases of greenhouse gas emissions in the state by 2010, and by 1993 assess the feasibility of achieving more aggressive long-term goals.*

▲ *Continue to monitor the issue and to develop approaches for adapting to the potential impacts of global climate change.* Trends in global warming, and its possible impacts on Washington State, can be monitored through subsequent State of the Environment Reports. In addition, the Department of Ecology’s Sea Level Rise Program should continue to explore ways in which resource managers and policy makers in the state can adapt to the changes that global warming may bring about.

▲ *Develop public-private partnerships to promote reforestation, particularly in urban areas.* Trees remove carbon dioxide — a major contributor to global warming — from the atmosphere through photosynthesis, and keep the carbon dioxide locked up for the life of the tree. The gas is returned to the atmosphere when the trees burn, or when they die and decay. Global deforestation causes 10 to 30 percent of the global increase in atmospheric carbon dioxide. Small-scale tree planting can make a small but meaningful contribution to larger efforts to offset this effect. Resource agencies in the state, such as the Department of Ecology and the Department of Natural Resources, should work with private corporations and local citizen groups to promote tree planting projects.

▲ *Educate the public and policy makers about global warming.* Participate, for example, in the international conference on global warming that is being planned by the Washington Environmental Council, in conjunction with the State Energy Office. The conference, slated for the spring of 1991, will bring together state, regional, national, and international figures from government, business, academia, and environmental groups from communities around the world to develop local action strategies to combat global warming.

▲ *Support and participate in national and international efforts to understand and address the global warming issue.* For example, the U.S. Environmental Protection Agency is sponsoring a case study on the potential impacts of global climate change on natural resources in the Pacific Northwest, and adaptive responses to those potential changes. The State of Washington should remain actively involved in this and similar projects. The Department of Ecology's Sea Level Task Force should be expanded into a "Global Climate Change Task Force" to coordinate these efforts.

Other Action Ideas

▲ Emphasize revegetation of highway medians and margins consistent with traffic safety requirements.

▲ Develop airplane fuels and technologies that emit fewer greenhouse gases.

*We cannot afford to
wait for more
definitive answers
on global warming
— and be wrong...*

XIV. Getting Smart

The Challenge of Knowledge Building

*“If you don’t know
where you’re going,
then any old road
will do.”*

*— from Lewis
Carroll’s Through the
Looking Glass*

Getting Smart

The need to build a timely, meaningful, and accessible base of knowledge about the environment underlies every aspect of our vision for 2010. In order for educators to teach effectively about the environment — as discussed earlier in the section of this action agenda on environmental education — they need timely and easy to use information. In order to be successful stewards of natural resources and public funds, policy makers and environmental managers need accurate, applicable, and accessible information about the condition of those resources, the major threats to them, and the relative effectiveness of various approaches to reducing those threats. In order to be more environmentally responsible, citizens need to know what that means, and why it is important.

The Washington Environment 2010 experience to date suggests that these needs are not adequately met by the existing system — or lack thereof — for collecting and communicating environmental information.

Key Recommendations

▲ *Develop a comprehensive, integrated environmental information management system.* The development last year of the first State of the Environment Report revealed a number of weaknesses in how environmental information is currently collected and managed. For example, environmental data gathering activities do not always focus on the right type of information — information that provides meaningful measures of problems and progress for citizens and policy makers. In addition, environmental information gathering is not well coordinated across (or even within) government agencies and environmental media (i.e., air, water, land).

Because of problems such as these, debates and decisions about environmental issues — whether they take place in government offices, corporate board rooms, or private living rooms — usually are not as well informed as they could and should be. This can lead to misplaced anxiety, misallocated resources, and less than optimal protection of human health and the environment.

The development of an integrated information management system — to which all relevant agencies would contribute, and to which all would have access — would dramatically improve the situation. The first step is to establish meaningful environmental indicators, measures that will help citizens and policy makers alike make judgments about environmental quality and the effectiveness of environmental policies and programs. Step two involves developing integrated data systems to collect and store information on those environmental indicators over time.

These efforts should be coordinated by the Department of Ecology, which has a sufficiently broad mission, and which has already begun to explore the possibility of an integrated information system, based on its experience as organizer of the first State of the Environment Report. However, success will require the cooperation of a host of other state agencies (particularly the Department of Natural Resources, which has considerable experience with Geographic information systems), and with the Geographic Information Council.

XIV

▲ *Produce a State of the Environment Report every two years.* The Department of Ecology should be required by law to produce a report on the condition of the state's environment and natural resources, including an assessment and comparison of the major threats to those resources, on a regular basis. The report is useful in communicating environmental information in a way that focuses the environmental debate, and empowers greater numbers to participate in that debate. The process by which such reports are produced also is an important mechanism for bringing together government agencies to share and discuss information about environmental quality and public health. Related efforts to gather and analyze information, such as the State Board of Health's biennial health report, should be coordinated with the State of the Environment Report. Plans are already underway at the Department of Ecology for a second State of the Environment Report in 1991. A legislative mandate, however, would institutionalize the effort.

Other Action Ideas

- ▲ Provide better public access to environmental information.
- ▲ Expand the use of public environmental monitoring sites.
- ▲ Establish a Washington State Academy of Sciences to serve as science advisory to the governor, the legislature, and state agencies.

XV. Getting on With It

Implementing This Action Agenda

“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it is the only thing that ever has.”

— Margaret Mead

Getting On With It

This action agenda represents a commitment by the Washington Environment 2010 Steering Committee, consisting of the directors of twenty-one state and federal agencies, and the Public Advisory Committee, consisting of representatives from around the state in business, agriculture, the legislature, local government, the tribes, and the environmental and academic communities. We pledge to move toward the solutions outlined here: to refine them, to debate them, and, ultimately, to implement them.

In fact, many of these activities are currently proceeding. Planning for the second State of the Environment Report is already underway at the Department of Ecology, for example. That second report is slated for completion in 1991. In addition, state agencies are beginning to incorporate the results of the Washington Environment 2010 process into their planning and budgeting routines. The Department of Ecology, for example, has initiated a new strategic planning initiative that calls for a substantial reallocation of resources based on the findings of Washington Environment 2010.

The Public Advisory Committee has agreed to continue to meet regularly to monitor progress by all parties in implementing this action agenda.

Locally based groups are starting to get into the act, as well. A high percentage of the people attending Washington Environment 2010 public meetings in May expressed a strong desire to continue the dialogue within their communities, and to work toward implementation of recommended actions of particular concern in their area.

In addition, the legislature will address some of the key environmental issues raised in Washington Environment 2010 during their next session. Legislative proposals that address a number of the issues outlined in this action agenda are being drafted and discussed.

These activities amount to substantial early progress. But, by themselves, they will not be sufficient to meet the challenges described in this document. As the State of the Environment Report illustrated, the solutions to the environmental problems of the 1990s and beyond must be as broad-based as their causes.

The energy and the intellect to implement this action agenda, and to make our vision of the future a reality, exists. It is scattered among school yards, classrooms, corporate board rooms, legislative chambers, living rooms, and public meeting places across the state. Our hope is that this action plan catalyzes and unifies those forces and steers them all in the same direction: toward a 2010 that we are all happy to be part of, and proud to impart to future generations.

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