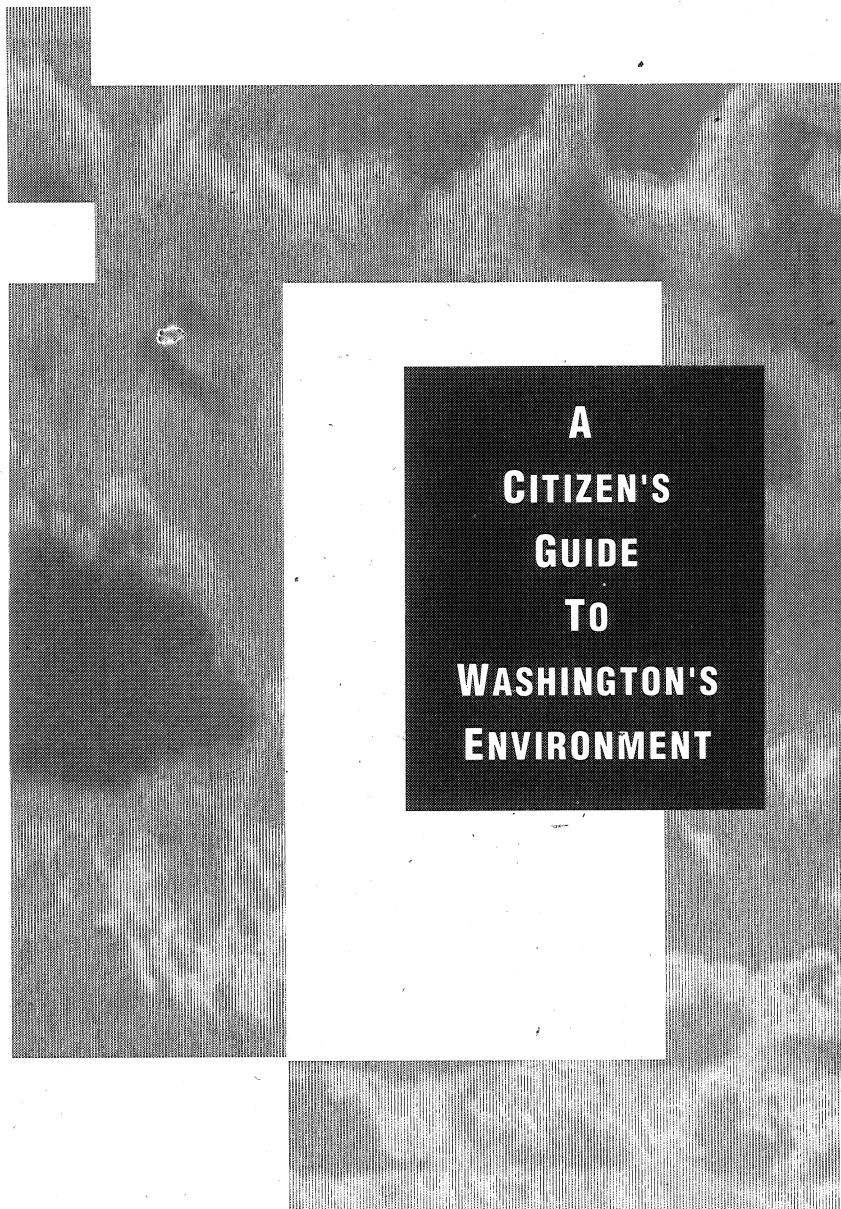


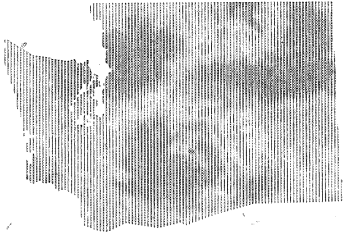
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**A
CITIZEN'S
GUIDE
TO
WASHINGTON'S
ENVIRONMENT**



Ecology Publication: 90-01-003



*A product of Environment 2010 made possible by
a grant from the Henry M. Jackson Foundation*



State of Washington
Office of the Governor

DEAR READER:

In December of 1988, our state launched an ambitious long-range planning effort called Environment 2010. The project analyzed the current and projected status of our resources, set priorities, and created strategies for action. During the last two years, over 6000 citizens have been involved in 2010 through direct contact, mailings, public meetings, and correspondence.

The analysis in Washington's first State of the Environment report showed that our magnificent natural resource base was suffering under the onslaught of rapid and unplanned growth. If we do no more than maintain the status quo in our environmental programs, our children will not enjoy the same quality of life that we do.

The report underscored that the sources of our current environmental problems are no longer only the large-scale polluters, but also the accumulated results of the choices we make daily in our own lives. Over 60 to 70 percent of our air pollution comes from automobiles and residential and outdoor burning.

The Action Agenda we released in July 1990 details the state-level actions that must be taken in existing environmental programs to meet the challenges of the next two decades.

The citizens handbook is designed to address another major part of our environmental crisis—me and you. It is designed to teach us ways that we can change our lifestyles for the benefit of our environment and future generations without affecting the overall quality of our lives. We ask you to act on the information that is here and pledge to change three daily habits for the sake of the air, land, and water resources of our state.

Our state still has the chance to debate the issues in the context of preserving the quality of life. For much of the world, these debates must occur in the context of preserving life itself. We can simply choose to accept our future or we can choose to participate in creating it by fundamentally changing the way we live our lives—personally, publicly, and corporately.

I urge you, the reader, to choose participation.

Sincerely,

Booth Gardner
Governor

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for making this publication possible.

IMAGINE A WASHINGTON STATE WHERE...

- 60 to 70 percent of lakes and rivers don't meet clean water standards,
- 90 percent of original forest, 70 percent of original prairies, and (on average) 50 percent of all wetlands are gone,
- 3.1 million tons of garbage and 500,000 tons of hazardous waste are generated each year,
- 2 million to 4.2 million people are exposed to harmful air pollution each year.

A grim future scenario? No, these facts simply represent our status quo. Increase these numbers by our anticipated twenty-year population growth rate of 32 percent, and you have some idea of our state's probable environmental future by the year 2010.

Statewide Priorities

- Outdoor Air Pollution
- Point and Non-point Discharges to Water
- Contamination of Drinking Water
- Waste Sites
- Wetlands Loss
- Global Warming
- Loss of Productive Forest and Farm Land
- Pesticides

Imagine, Instead, a Washington State Where...

- Our air, even in major cities, is healthy and mountain views are no longer obscured by air pollution,
- Our marine, surface and ground waters generally are in excellent condition. Major changes in land management and personal lifestyles have reduced water pollution,
- Our lands are managed on a truly sustainable basis and our recreational resources are thriving,
- There has been no net loss of wetlands for two decades and there continue to be net gains in restoring fish and wildlife habitat.

This is the preferred future for our state that was developed by a diverse public advisory committee and the citizens of Washington. Given our current situation, is this vision a pipe dream?

We think not. Despite many problems and a rapidly expanding population, Washington's air, land and water resources are incredibly abundant. We are much better off than many states and we have a citizen base with a long history of taking positive environmental action when it is needed. In a 1988 survey on five major environmental indicators, only nine states were ranked higher than Washington.

Environment 2010 was begun in the fall of 1988 by Governor Booth Gardner when it became very clear that our state was at an ecological crossroads. The project is a joint effort of state and federal agencies and a public advisory group of citizens reflecting the diverse economies and environmental interests of the state. Participants outlined the current and projected future of our resources and developed an action agenda to assure that future was the one we wanted.

With the help of the U.S. Environmental Protection Agency, Environment 2010 developed a set of priorities outlining the greatest threats facing our state's environment. That list was revised by the public advisory committee and citizens around the state. One striking aspect of 2010's public process was the type of threat that citizens demanded we add to our list.

Citizens clearly wanted Environment 2010 to address *causes* as well as *symptoms* of our environmental crisis. Growth, consumptive lifestyles, personal values, and a lack of environmental awareness were all added to our final list of priorities.

Our status report on Washington's environment and a plan for action have been built around 2010's final priorities and are reflected in the State of the Environment Report and Toward 2010—An Environmental Action Agenda. Environment 2010's major recommendations for *individual action* are included in this handbook.

Why an entire handbook for individual action? Because the State of the Environment Report made one thing compellingly clear. The nature of the environmental crisis has shifted since Earth Day 1. Given growth rates and consumptive lifestyles, a new and major source of pollution and environmental degradation has to be added to the industrial and corporate polluters of old: us. The accumulated result of each person's simple, daily, individual actions is a major environmental crisis.

More than 70 percent of air toxics emitted in our state come from automobiles and wood burning.

More than 60 percent of water pollution comes not only from municipal and industrial discharges, but from land use actions and individual decisions that are made by development, agriculture—and you.

Does this mean we quit regulating industry? Nope. These sources still represent a major problem. Because their impact tends to be concentrated in small areas, the exposure to surrounding ecosystems and people is more severe than impacts that are dispersed. Our 2010 Action Agenda outlines many actions that need to be taken to improve our existing system of laws and regulations.

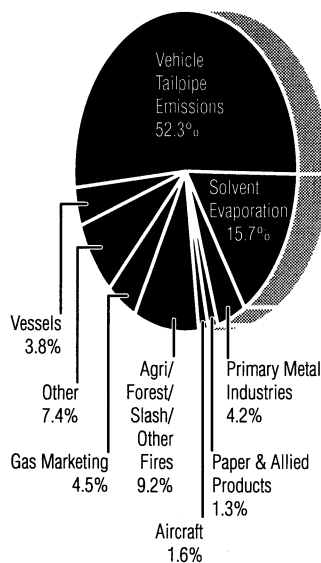
The reality is, however, the most stringent of regulatory and enforcement programs will not keep up with our current problems if we do not each also make hard decisions and take action relating to personal lifestyle choice.

Will your action, alone, make a difference? Let's be straight. No. But your actions, coupled with the collective action of your family, neighborhood and community, certainly will. You can begin to live the environmental ethic—and you can pass it on...

Many people say that changing lifestyles is just too hard—folks will never do it. History has proved the naysayers wrong. Twenty years ago, recycling in this state was for hippies and eccentrics. Now we have the number-one recycling rate in the nation, and are on our way to achieving a state-wide recycling goal of 50 percent! Individuals made that change—citizens just like you.

Environment 2010 believes we **can** change our lives and our habits, and we must. The decisions we make in the next five years will determine the quality of our lives well into the next century. And the political decisions that will or will not be made will be based on the collective will and actions of many individuals.

Volatile Organic Emissions Statewide for 1984



Yearly total in tons = 397,008

Math Quiz*

(1.) In Washington State, one person disposes of about 5 pounds of waste daily—that's around a ton a year! Statewide we dispose of 4 million tons of garbage annually. Our state-wide recycling goal is 50% by 1995.

To achieve that goal:

A family of four would have to recycle

a. _____

25 teachers and students would have to recycle

b. _____

A 1000 person business would have to recycle

c. _____

A 40,000 person community would have to recycle

d. _____

e. What percent of the total waste stream is saved by the 40,000 person community?

A wise man once said:

To compromise...is to decide; to postpone and evade decisions is to decide; to hide the matter is to decide...There are a thousand ways of saying no; one way of saying yes; and no way of saying anything else.

We believe Washington state will say a resounding YES! to the opportunity to create a truly sustainable environmental future for our children. We hope this handbook helps.

Here Is How It Works

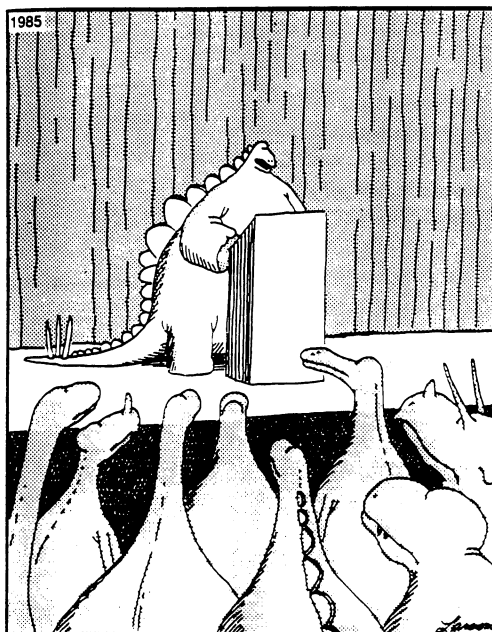
We know you won't be able to do everything in this book. Here's our suggestion. Read this material, take the eco-literacy test in the back, and incorporate at least three actions (that you are not currently doing) into your daily life.

Choose one action that relates to AIR POLLUTION. Air pollution is the number one threat to our state's overall environmental and public health. Reducing driving is the most significant thing an individual can do to reduce air pollution. Your action will not only benefit air, it will reduce risks associated with all aspects of the exploration, production, distribution, use and disposal of petroleum products. A double whammy, so to speak!

Choose one action that relates to the CONSERVATION OF WASTE OR ENERGY. We know that conservation prevents pollution from happening—and pollution prevention is far cheaper than cleaning up after our spills and messes. We also know that an act that conserves natural resources or energy is an act that protects all of our resources—air, land, water, fish and wildlife—simultaneously. Quite simply, conservation gives us more bang for our buck!

Finally, choose your third action to be SOMETHING THAT BENEFITS THE RESOURCE YOU CARE MOST PASSIONATELY ABOUT. If you're a hiker, adopt a trail. If you're a farmer, work on soil erosion and habitat protection. If you like to fish, restore a stream. If you love our coasts and estuaries, get involved in cleaning up our beaches. The nature of the environmental crisis we are facing is profound. If we are to turn the tide, we will have to set priorities and be practical; but we'll have to be passionate, too. Otherwise we may give up just a little bit too soon. Besides, nobody said Earth Care couldn't be fun!

*Answers on page 41



The Far Side © 1985 Universal Press Syndicate
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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."

This handbook is designed to give you contacts, organizations, and written material that will help you achieve your goals. After this introduction we give you an overview of our state's environment and the major actions you can take to protect and conserve it. Our stewardship section breaks out actions you can take in your home, work, recreation area and community. The resource section at the back is organized by region. Symbols next to each organization listed will let you know what kind of information or activity you can get from them. There's a form in the back of this handbook that you can fill out to let us know how you are doing. It also lets you share with us what you know about groups and individuals that are being extraordinary stewards of Washington's environment.

Good luck. We believe you will find the process of changing your lifestyle for the earth to be rewarding and less painful than you think. The stakes are high. Quite simply, they are the environmental future of our state. While you, alone, cannot change our course, you can be a catalyst for collective change that is far more powerful than anything a council, a corporation, or a legislature can muster. As you begin, remember this:

It is not only upon the responsible men of science and the responsible men of faith that the ultimate issue depends, but upon the responsible men and women in all walks of life: the teachers, doctors, industrialists, housewives, nurses... seamen, farmers, civil servants... and a hundred others. They alone can change the values, the practices, institutions, by which we live; and it is by deeds, much more than by words, that the great majority of the peoples of the world will be reached.

—P.W. Martin

AIR

Air. From crisp mountain winds in the Cascades to spring breezes across Palouse wheatfields, our state floats in an ocean of air. We take it for granted. We can live without food for months, water for weeks. Deprived of air we would die in a few moments. Because we breathe much more air in a day than we drink water or eat food, our exposure to toxics and pollutants in it is greater and more pervasive.

We have grown increasingly concerned about the wastes and pollutants we are dumping, burying and pouring into our land and water. It seems strange, then, that we continue to view our air as an endless reservoir for disposal.

Environment 2010 found air pollution to be the greatest environmental threat to public health. While we have made noticeable headway in reducing some of the more common pollutants, there are still a number of places in the state, particularly the urban areas, where serious air quality problems persist. Carbon monoxide exceeds national standards in Seattle, Tacoma, Spokane and Yakima. There are problems in Bellingham and Vancouver, too.

Particularly disturbing is the fact that our growth rate is greater than our ability to clean up our air. We estimate that population growth will exceed our air pollution controls by 1995. We are running simply to catch up! Without new air pollution strategies, there will be a 30 percent to 50 percent increase in carbon monoxide, ozone and toxic pollutants.

Small particulates are one of the largest health concerns and they can be especially troublesome in the winter when woodstove use is heavy. They can cause respiratory problems, asthma, dizziness and headaches.

Two million to 4 million Washingtonians are exposed to potentially harmful levels of the more common air pollutants, and this number doesn't include people who are exposed to toxics in our air.

We emit more than fifty tons of toxic chemicals such as benzene, toluene, xylene, formaldehyde and chloroform each year. Seventy percent to 90 percent of all toxic air pollutants (and most of the common air pollutants, as well) don't come primarily from industry. They come from us—from our automobiles, our woodstoves and outdoor burning!

Don't get us wrong: industrial air pollution is still a big problem—30 percent to 40 percent of the problem. Because industry is largely in urban areas and because its smokestacks concentrate the pollution, many, many people can be exposed. But it is obvious that if we truly hope to clear our air, we are going to have to make big changes in how we live our daily lives.

Common Washington air pollutants and major sources

Carbon monoxide

Motor vehicles
Other transportation sources
Aluminum production
Woodstoves/fireplaces

Sulfur dioxide

Electric utilities
Industrial boilers
Pulp and paper mills
Home furnaces and coal-burning stoves

Ozone

Motor vehicles
Gasoline delivery, handling and storage

Particulates

Motor vehicles
Woodstoves/fireplaces
Slash burning

Lead

Gasoline combustion
Lead smelting

What can you, as one person, do? The single action you can take that will benefit Washington's air the most is simply drive less—and demand more efficient vehicles and fuels. Simple, yes. Easy, no! Our love affair with the automobile is so intense that many people laugh when we tell them they need to drive less. Yet the decision to drive by yourself or just for the fun of it leads to more direct pollution and degradation of the environment than almost any other daily decision that you or your friends will make. (The only other daily decisions you make that carry as much impact are the decisions you make on packaging and recycling.)

Driving less and driving more efficiently not only reduce pollution in the air, but reduce your contribution to global warming and all the environmental impacts related to the production, transportation, use and disposal of petroleum products.

Sources of major toxic air pollutants in Washington

Dioxins

Woodstoves/fireplaces
Other wood-burning

Benzene

Natural gas use
Gasoline
Slash burning

Toluene

Gasoline
Slash burning
Point sources

Phenols

Woodstoves/fireplaces
Other wood-burning

Manganese

Slash burning
Woodstoves/fireplaces
Other wood-burning

Xylene

Gasoline
Point sources

Formaldehyde

Woodstoves/fireplaces
Other wood-burning

Chloroform

Pulp and paper mills

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.

In addition to changing your driving habits, you can change your attitudes about burning. Do you burn your yard waste and scraps? Don't! They can really cause problems in your neighborhood. Consider chipping and composting yard waste.

If you live in an urban area and don't have a woodstove, don't buy one. If you do choose to buy one, get only the low emissions ones that are certified by the EPA. Be sure to burn only dry, well-seasoned wood.

If air is your AIRea of interest, agencies and organizations listed in the resource section should be able to help you get more involved. The number of citizen groups around this state is immense. We cannot list them all here. If you would like a more detailed listing—or if you know of groups that you feel should be included—please indicate this in the tracking sheet that is included with this handbook.

WATER

More than any of her resources, water defines Washington State—the mighty Columbia and Snake River systems, the coastal waters of the Olympic Peninsula and the fertile estuary of Puget Sound. These are the three major hydrologic regions of our state. They comprise 163 miles of coastal shoreline, 2,943 square miles of estuaries, and more than 8,000 lakes. They hold 40,492 miles of rivers and streams (with 346 more miles of interstate river on the Snake and Columbia).

These waters produce an economic and ecologic abundance that most states only dream of. In 1985 our rivers produced an estimated 76,900 billion watt hours of electricity (more than 90 percent of all electricity consumed in the state). Our sportfishermen spend more than half a billion dollars each year enjoying the fish that thrive in our waters. Our commercial fisheries are valued at more than \$100 million dollars. More than 1.6 million acres of our croplands are irrigated with this water.

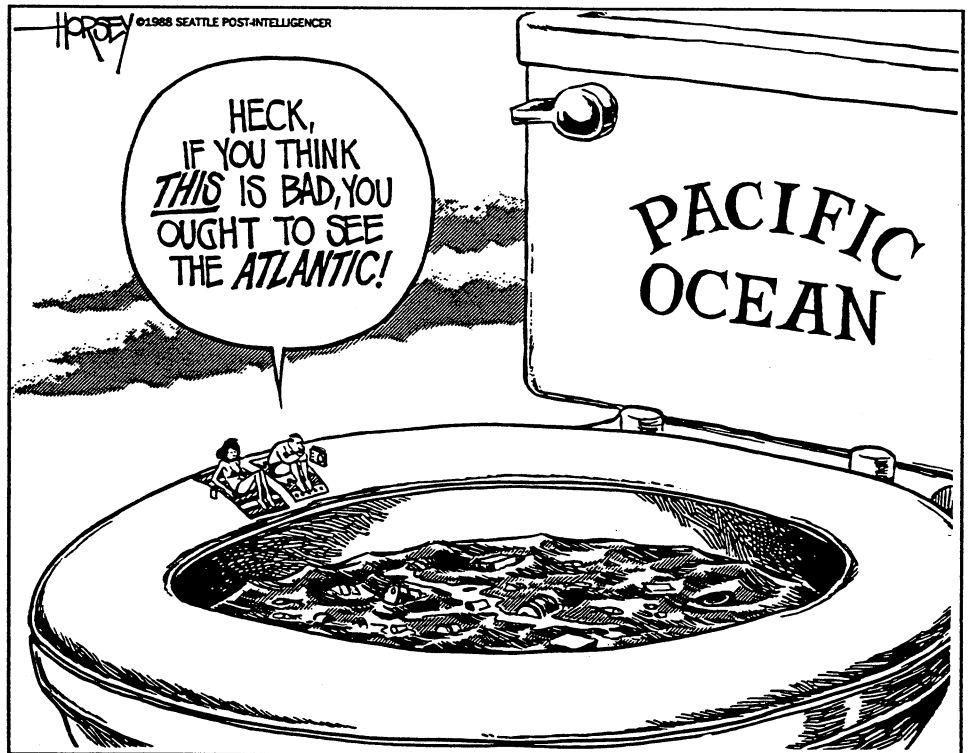
By Source: Surface waters contributed 82 percent of the water used in 1985; ground water contributed the rest. The proportion of ground water use is increasing (up from 10 percent in 1980), and fully two-thirds of the state's population rely on ground water sources for drinking water.

By use: Irrigation accounted for 76 percent of water use in 1985; industrial uses, 13 percent; and municipal uses, 11 percent.

By region: Each of three regions in the state has its own dominant water use. In the east Puget Sound region, municipal use is highest, with a significant industrial component. In southwestern Washington, and including the Olympic Peninsula, industrial use predominates, and in eastern Washington, irrigation far exceeds all other uses. (These figures do not include water used for hydropower.)

Water—Washingtonians take it for granted. Yet, currently 60 percent to 70 percent of our lakes and rivers are threatened with pollution created by our daily lifestyles. Agricultural, industrial and municipal wastes all contribute to this pollution too. The 60 percent of our residents who depend on ground water for drinking are realizing that contamination has been documented in the ground water in 28 of our 39 counties.

Our water resource faces problems not only of quality but of quantity. We use more than 2.4 trillion gallons of water annually. Seventy-six percent of that is used for agriculture. Despite our natural abundance of this resource, we are already seeing seasonal shortages. Some river waters are allocated beyond their capacity during portions of the year or during droughts. This will only accelerate as growth in the municipal areas increasingly competes with fish and wildlife, agriculture and industry for a resource that our grandfathers and mothers thought could never be used up.



As with our air resource, when we begin seeking the culprit in the water pollution scenario, we find—ourselves. Yes, industrial pollution is still a major problem. In our state, pulp mills, for example, can cause significant water quality problems, and they have already spent millions to control it. So how can we help the pulp mills reduce their pollution further? We can make a big difference by buying and creating a market for unbleached paper products. The production of these products doesn't produce dioxins.

Wastes from poorly managed agricultural operations and land development are major causes of water pollution. Agricultural pollution represents the greatest source of non-point pollution; but problems caused by sewers, stormwater and urban runoff create a greater volume of polluted water. Sediment runoff from construction sites is typically 10 to 20 times that of undeveloped land. Runoff from urban areas contributes about 60 percent of the lead, 30 percent of the zinc, and the majority of fecal coliform that pollutes our water supply.

Given our state's projected 32 percent population increase, we can expect water problems related to growth to increase. Thirty percent of our state uses septic tanks. There are 15,000 new ones installed each year. Between five to seven percent of those will leak—and our local health departments don't have the resources to inspect them. Taking responsibility for maintaining your septic systems in an environmentally sound way is an unglamorous and not necessarily fun suggestion for us to make. But it can make a big difference for our state's water quality.

Saving water is as important as keeping it clean. Like all acts of conservation, reducing water use saves more than the water itself. When we use less water we reduce the load on sewage treatment plants, so costs are reduced for the energy and chemicals needed to run the plants. Saving water means saving energy (20 percent of your home's energy is spent to heat water), so saving water means indirectly saving the habitat, fish and wildlife that will be lost if more dams and power plants have to be built.

What else can you do for Washington's waters? The "stewardship" section details actions you can take in your home, at work and in your community. Suffice it to say that we need to minimize our household toxics, we need to take great care in our recreational use of waters to not litter and dump, and we need to conserve all the water we can. Our supply is not as limitless as it looks.

A detailed citizen's guide to water quality has been funded by the Puget Sound Water Quality Authority. Called **Soundbook**, it will be available next Spring from:

The Marine Science Center

17771 Fjord Dr. N.E.
Poulsbo, WA 98370
Contact: Jim Kolb
(206) 779-5549

LAND AND HABITAT

One way or another, for reasons aesthetic or economic, most of us live in Washington state because we are attached to its incredibly abundant and diverse land base. Towering mountains, high desert prairies, fertile farmlands and rich coastal estuaries—some or all of these habitats have attracted us for their recreational or economic possibilities. We have 16 million acres of farmland, 24 million acres of forests and almost a million acres of wetlands. Around 8 million acres of state and federal land includes recreation as a sole or priority use.

These days, we're in trouble—for as Will Rogers said about land, "They ain't making more of it!" While Washington is by far the smallest of the 11 Western states, we have the largest population (with the exception of California) in the West. The population density is twice that of Oregon and, in western Washington, the density approaches that of California. An estimated 88,000 new residents are expected to be born in, or move to, Washington this year.

We lose 30,000 acres of land a year in this state to development. The wetlands, estuaries, prairies and forests where our almost 600 species of fish and wildlife live are literally 'losing ground' to urban development, timber harvesting, highway construction and other activities.

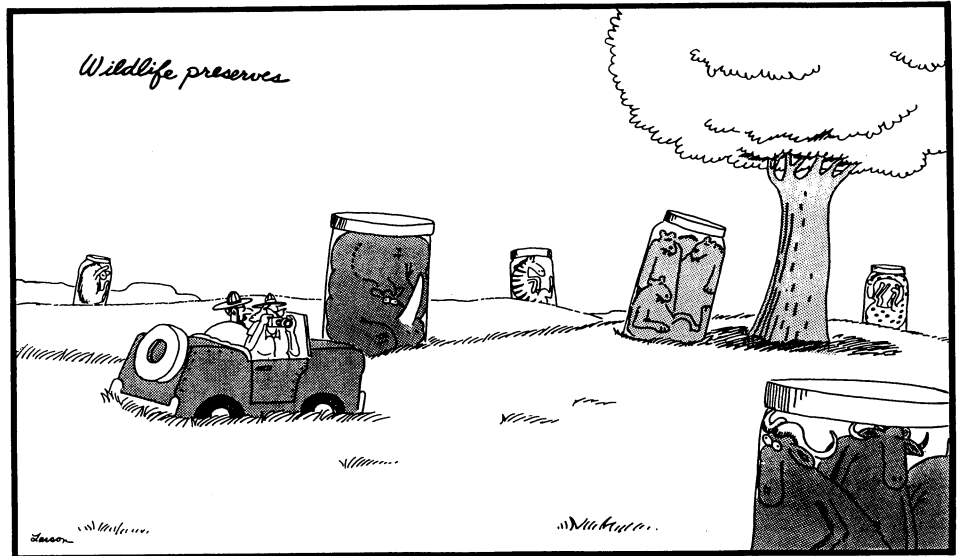
	Habitat Loss	Cumulative	Annual Loss to Development
	Original Forest	90%	up to 8,000 acres of forest land
	Prairies	70%	1500 acres of farmland
	Wetlands (on average)	50%	2000 acres of wetlands

While we have lost only 2 percent overall of our state's farmlands to development, the current rate of loss in the Puget Sound region is 16 percent. We estimate that we will lose 2,000 acres of wetlands this year and annual losses of forest land to development may run as high as 8,000 acres.

What does this mean for our finned, feathered and furry friends? Well, clearly, bad news. Nineteen species are on our state's endangered species list and we expect to lose breeding populations of 11 of them by the year 2010. Dams have reduced fish habitat on the Columbia River by 30 percent and have decreased salmon populations by 80 percent. The pollution that accompanies development has threatened or closed 22 percent of our commercial and 22 percent of our recreational shellfish beds.

Increasing urbanization means increasing pressure on our magnificent recreational lands. Despite a rapidly growing population, visitation to our state parks has stabilized at around 40 million per year, because we simply don't have facilities to accommodate new people.

Only 17 percent of the state's marine shoreline is accessible to the public (10 percent if you exclude ocean beaches) but 85 percent of us visit the beaches and shorelines several times each year.



Trail use is projected to increase by 30 percent by the turn of the century and without the funding to maintain old trails and build new ones, we will literally be loving our land to death.

While 84 percent of us say we regularly participate in some sort of wildlife recreation, less than 2 percent of our state's budget goes to manage, protect and enhance our natural resource base. Until 1989, we spent only slightly more than \$2 million each year to acquire parks and critical habitat.

A gloomy outlook, you say? Serious, yes, but irreversible? Certainly not! What can you, as an average citizen, do to protect our productive lands and unique fish and wildlife habitats? Lots and Lots! A coalition of groups (Washington Wildlife and Recreation Coalition, Olympia, (206) 754-1898) has organized to launch a major state-wide effort to protect existing recreation lands and acquire new parks and habitat. They were successful in earmarking \$53,000,000 for protection and acquisition of parks and critical habitat during the 1989 legislative session.

There are a wide variety of programs around the state that you can get involved with to protect wetlands and adopt beaches, streams and forests. Our state park system and the majority of your local parks have volunteer programs that will get you involved in protecting your local resources. Citizen land trusts that protect habitat and working farm and forest lands are spreading all over the state. The Department of Fisheries has an active volunteer program and our Department of Wildlife even has a program that teaches you how to create wildlife habitat in your own urban backyards. Our Department of Natural Resources has a 'Global Releaf' program that will get you involved in local reforestation efforts. If farmlands are your love, the Soil Conservation Service can hook you up with efforts to reduce soil erosion and maintain wildlife opportunities on farm lands.

Contact the agencies and organizations involved in managing and protecting our land base. Get involved and assure our state's fish and wildlife heritage.

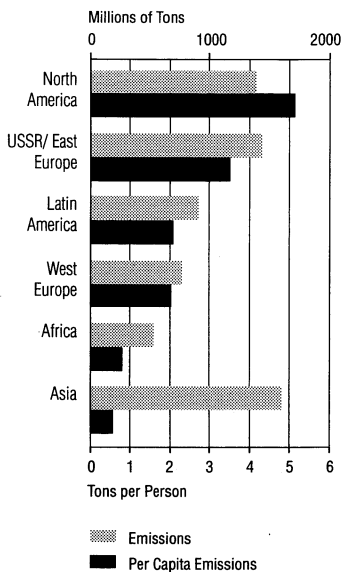
GLOBAL CONSERVATION

“Think globally, act locally.” That was a quote used repeatedly during the first Earth Day in 1970. It has been used commonly ever since to indicate that the most effective action you can take on environmental issues starts in your own back yard.

Rainforests burn in the Amazon while air pollution and acid rain plague Northern Europe. Famine devastates Ethiopia and elephants are slaughtered in Africa. During the last two decades, we have become increasingly aware of environmental catastrophes occurring worldwide because of overpopulation and non-sustainable resource use. Many of us contribute generously to efforts and organizations that are working to turn the tide of international ecological crises.

World Carbon Emissions 1988

Source: Worldwatch Institute



Courageous efforts, commendable support; but are there any actions that you as a citizen, can do in Washington state each day to contribute to the environmental well-being of all the earth? Yes!

No environmental issue has greater potential impact worldwide than global warming. Deforestation and atmospheric pollution are some of the many causes of global warming—famine and extinction are only a few of its unpleasant results. While much controversy exists over the exact nature and the specific timetable on which global warming will occur, there is no longer serious doubt in the scientific community that it will occur.

So what can you, a single human being, do to reduce the release of gases and chemicals that are causing the climate of an entire planet (ours!) to shift and change?

Reduce use of petroleum combusting products and other actions that generate carbon dioxide (CO₂) and gases contributing to the warming effect. You can do this through the conservation of energy and natural resources—reduce driving and minimize the amount of waste that you as an individual produce each day.

Washington Autos Produce:

56 % of our Nitrogen Oxide emissions,
57% of our Volatile Organic (air toxics) emissions,
61% of our Carbon Monoxide emissions.

Gasoline combustion in Washington’s vehicle fleet is not only the largest contributor of CO₂ in the state (20 million tons annually from cars) but it produces more than half of all our air pollution. Gasoline use and refueling also release such toxic pollutants into the air as benzene and toluene.

We are truly gas guzzlers in this state. Since 1985, motor gasoline use has increased almost 23 percent but our population has grown only 4.1 percent! Consider this: An average Washington family with two cars drives 18,000 miles a year at an average fuel efficiency of 20 miles per gallon. They contribute 18,200 pounds of CO₂ to our atmosphere each year. Buying a new car that gets 30 miles to the gallon would reduce CO₂ emissions by 30 percent, or 5,460 pounds a year.

If that same family reduced their vehicle miles traveled from 18,200 to 15,000 miles annually, they could further reduce CO₂ emissions by an additional 16.7 percent or 2,123 pounds!

Is driving less the only way to reduce CO₂ emissions? No. New laws that made our homes more energy efficient have reduced CO₂ emissions by 142 million tons since 1980. Here in Washington we are spending 3 billion dollars less for energy and producing 30 million tons less CO₂ each year, largely due to energy efficiency improvements implemented since 1973.

Math Quiz*

(2.) Cars in Washington emit 20 million tons of CO₂ annually. We have 3 million cars. Carpooling twice a week will save each individual 40 percent of his weekly CO₂ emissions.

a. How much CO₂ does one car emit?

b. If a two-car family of four carpools twice a week, they reduce their CO₂ emissions by how many tons a year?

c. Carpooling twice weekly would reduce CO₂ emissions by _____ for 25 teachers and students?

By _____ for a business of 1000? By _____ for a community of 40,000?

Many people don't think about the connection between our wasteful packaging and global warming. Remember that average Washington family? Well, they produce about 1 ton of waste a year. When deposited in landfills, these wastes eventually decompose, releasing CO₂ and methane. And methane is a gas 30 times more consequential to global warming than CO₂. A family's solid waste contributes 344 pounds of CO₂ and 124 pounds of methane to our atmosphere each year, but the 124 pounds of methane is the equivalent to 3,720 pounds of CO₂ when it comes to global warming.

By recycling paper products, a family could reduce this contribution to global warming by 25 percent. Because it takes 3 percent to 35 percent less energy to make new paper products from recycled paper, recycling also reduces the gases contributed by paper mills and the plants that supply the mills with electric power.

It takes 70 million British thermal units (MBtu) of Northwest power to produce a ton of aluminum. It only takes 7 MBtu to recycle that ton. That's an energy savings of 90 percent with a reduction in our contribution to global warming to boot!

Satisfying our love of mobility and our wasteful lifestyle does more than contribute to air pollution and global warming. Our annual fuel consumption requires 100 oil tankers coming into Puget Sound each year. Every additional trip increases the risk of an oil spill. We discard more than 4.5 million gallons of used oil each year in this state. More than 2 million of that ends up in Puget Sound!

While we have focused on the conservation of energy and waste in this section, it goes without saying (but we'll say it anyway!) that conservation of water and land also indirectly benefit efforts to slow global warming. Reforestation of forest lands and along waterways helps offset global warming because the trees planted generate oxygen.

*Answers on page 41



Just remember, an effort to conserve a resource is always quicker, cheaper and better than cleaning up a mess or figuring out how to put something back the way we found it!

Efforts you make to reduce driving and to generate less waste give you a double whammy in terms of environmental benefits. They help correct major problems in your own state and they reduce our state's contribution to global warming. Two for one! Act locally, think globally. It works!

STEWARDSHIP

While we may feel overwhelmed by the barrage of environmental issues facing us today, there is much to be said for taking action. For it is in the process of taking action that we create change and acknowledge our personal and collective power.

“Whatever you can do, or dream you can. . . begin it. Boldness has genius, power and magic in it.”

—Goethe

This chapter is designed to provide practical actions that can be woven into the fabric of our daily lives—where we live, work and play—so that we all can be entrusted as stewards of our resources. The more we initially do to incorporate these changes into our lifestyles, the easier it will be to “stick to it” over time.

During Environment 2010 town meetings that were held throughout Washington in the winter and spring of 1990, citizens repeatedly named “consumptive lifestyles” as a major contributor to many of our environmental problems. Using less and creating efficiencies wherever possible are the critical first steps to becoming environmental stewards.

Home: It All Begins Here

Home Construction

Since the mid-1970s, new construction techniques have become increasingly popular with energy-conscious builders in the residential housing industry.

In addition to construction and remodeling techniques, homeowners can also lower their utility bills by siting their homes to take advantage of solar access or natural windbreaks, and by do-it-yourself activities such as caulking, weatherstripping and installing storm windows.

If the money spent on the Alaska Pipeline had been used instead to insulate American homes, we could have saved four times the oil we got from the pipeline. In Washington state, we’re a little ahead of the game. Since 1980, our state has saved the equivalent of 100 million gallons of oil because of new energy standards required for homes.

Sediment run-off from construction sites is 10 to 20 times that of undeveloped land.

Run-off from urban areas contributes 60 percent of the lead, 30 percent of the zinc, and the majority of fecal coliform polluting our water supply.

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.

The Washington State Energy Office (WSEO) operates a library and local Energy Extension Services. These resources provide information on energy efficiency that you’ll find useful if you’re building a home, buying a new home, or seeking to reduce energy consumption in your current home.

The care you ask your builders to use when they construct your home can significantly reduce negative impacts on the land and water—during construction and over time.

- Ask your builder to leave as much of the original vegetation as possible on site. This will minimize the impact on existing wildlife, maximize your site's vegetative ability to clean the air, and reduce run-off that could pollute nearby streams.
- Associated General Contractors received a grant from the Puget Sound Water Quality Authority to write a booklet on responsible building site practices. You can receive a free copy by calling (206) 459-6000. Ask for "Control of Sedimentation, Use and Disposal of Hazardous Materials on Building Sites."
- If you build on a site that will use a septic system, make sure you site and design your system for minimum impact on surrounding surface and ground water. Your local public health officials can help you.

Appliances

Heating system

- The central heating system is the biggest energy user in the home. Turn down the thermostat at night or when you're away and close off rooms that aren't being used.
- Contact your local utility to compare heating system costs. You may qualify for a loan to convert to a more economical and efficient form of heat.

Water heater and plumbing

- Install in your toilet tank a displacement device—a small plastic bottle, displacement bag or toilet dam. These can save 12,000 gallons of water a year. If you can invest in a low flush toilet, you can save up to 34,000 gallons a year!
- Insulate the water heater tank on the top, sides and bottom and turn down the thermostat to 120° F.
- Insulate all hot water pipes and the first three feet of the cold water pipe leading into the tank.
- Install energy-efficient showerheads and faucet aerators on water taps. Low flow showerheads can reduce bathroom water use by 70 percent.

Refrigerator and freezer

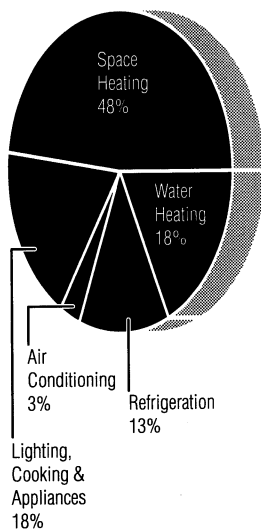
- Locate the refrigerator/freezer away from the stove, dishwasher or direct sunlight and leave space for air to circulate around the condenser coils.
- Defrost manual units when frost build-up is 1/4 inch or more.
- If you are in the market for a new refrigerator, call 1-800-654-LIST for a list of the most energy efficient refrigerators and freezers. Remember that side-by-side refrigerator/freezers use 15 percent more energy than top freezer models.

Up to 7 gallons of water are used each time we flush the toilet. In fact, about 40 percent of the pure water we use in our homes is flushed down the toilet.

A catalog of home conservation products comes from REAL GOODS. 1-800-762-7325.

Where the Watts Go

In North America we consume the energy equivalent to 22 barrels of oil per person, per year, as opposed to 9.75 barrels in Europe and 8.5 barrels in Japan. Here's how we use it in our homes:



Source: U.S. Department of Energy

Stove

- Fit pots and pans to burner size and cook with lids on your pots.
- When cooking small meals, consider using a toaster oven or crock pot instead of the larger oven.

Clothes washer and dryer

- Choose the coolest water temperature appropriate to the clothes you are washing.
- When selecting a new washing machine, consider a model with a rinse water re-use feature or a front-loading machine. These use considerably less water than top-loading machines.
- Air dry clothes when possible, either outside or using the “air dry” setting. If you use your regular dryer, do only full loads.
- Clean the lint screen between loads. (You’d be surprised at how many people don’t do such obvious things as this!)
- When purchasing a new dryer, consider a moisture sensor control and a cool-down cycle. These features avoid over-drying and can prevent wrinkles.

Dishwasher

- Wash only full loads. If pre-rinsing is necessary, use cold water.
- When purchasing a new dishwasher, look for a booster heater feature. This can raise the dishwasher water to 140° F. while still allowing you to set your water heater to the lower 120° F. Also look for short cycle and air dry options.

Lighting

- Use “task lighting” whenever possible, such as at desks, for reading or in food preparation areas.
- Consider switching to florescents in some areas of the home. These bulbs are 3 to 4 times more energy efficient and last 8 to 15 times longer than incandescents. New compact florescents are more expensive but offer even greater efficiency.

Waste Reduction and Recycling

In 1987 alone, Washington residents generated enough garbage to cover four lanes of I-90 about six feet deep from Seattle to Spokane.

The good news is that Washington residents are recycling almost 29 percent of solid wastes produced in the state—the highest recycling rate in the nation. And we have set a goal of recycling 50 percent by 1995.

The environmental and energy benefits of recycling are compelling. For example:

Paper. The benefits of recycling paper include:

- 25 to 75 percent reduction in energy use,
- 75 percent reduction in air pollution,
- 35 percent reduction in water pollution,
- 58 percent reduction in water use.

Aluminum. The benefits of recycling aluminum are even more significant:

- 90 to 97 percent reduction in energy use,
- 95 percent reduction in air pollution,
- 97 percent reduction in water pollution.

Reducing Waste and Smart Shopping

We make many choices each day that effect the health of our planet and its inhabitants. Many of those choices are made in the super market. Not only can we significantly reduce the amount of waste we generate by being conscious shoppers, but we can influence the kinds of products that are manufactured.

Whether it is buying a long-lived product over a disposable one or buying a non-toxic product over a toxic one, what we place in our shopping cart sends a message that says, "This is the kind of product I want manufactured and this is the way I want it packaged."

Product packaging makes up approximately 1/3 of the average household's garbage and accounts for about 10 percent to 13 percent of a product's price. Becoming a smart shopper means that you'll reduce waste by not bringing it into your home in the first place. You'll save money, too. Good ecology is almost always good economics!



Nearly \$1 out of every \$10 spent for food and beverages in the United States pays for packaging.

Washington residents put an estimated 13.9 million pounds of hazardous waste in their garbage cans in 1988. This does not count the waste that was burned, buried, flushed down the drain, poured on the ground or dumped down storm drains.

- Avoid unnecessary packaging. Buy in bulk quantities or economy sizes when possible.
- When asked at the check-out counter, “Would you like your groceries bagged in plastic or paper?” select neither. Bring your own reusable shopping bag or take your purchase home without a bag.
- Avoid such disposable products as diapers, paper or plastic plates, cups, napkins and silverware.
- Look for products packaged in recyclable or recycled materials. This helps complete the recycling loop.
- Buy products that are durable and need few repairs. They may cost more in the beginning but will cost you less in the long run. Check consumer magazines for information on product durability.
- Read product warning labels and buy non-toxic or the least toxic products available. A book that is useful on this subject is **NON TOXIC AND NATURAL** by Debra Lynn Dadd.
- Store food and other items in reusable containers instead of plastic wrap or aluminum. If you do use food storage wraps, reuse them.

Here are some ways you can make your purchasing power work for our environment:

- Buy phosphate-free detergents.
- Buy unbleached paper products when available.
- Avoid products containing chloroflourocarbons (CFCs), which are associated with ozone depletion and global climate change.
- Buy high-efficiency electrical appliances.
- Purchase local products. You will support your local economy and save energy required in transportation.
- Don't buy products made from endangered species such as ivory or tortoise shell. A good resource on eco-buying is **SHOPPING FOR A BETTER WORLD** by Ben Corson.

Composting

You will be amazed at how much your household waste is reduced when you begin composting organic materials. In addition, compost provides a rich garden fertilizer. Composting instead of burning or landfilling these wastes protects our air, land and water resources.

Food and yard waste account for about 33 percent of Washington's waste stream.

Contact a local member of the Master Gardener program through your WSU Cooperative Extension county office or call your solid waste utility for assistance in creating a backyard compost bin. Call 1-800-822-9933 for technical assistance and referrals from the Department of Ecology, or 1-800-962-9731 for assistance from the Washington Energy Extension Service. The City of Seattle has an excellent model for community composting. To become a King County Master Recycler Composter call (206) 296-4466 or (206) 296-DIAL and ask for tape #1298. Call them if you are interested in developing a program for your town, too.

Recycling

Recycling saves resources, energy and landfill space, and reduces air and water pollution. You can have a major impact on these problems if you take a little time and make an effort to recycle regularly.

Citizens in some cities such as Seattle and Olympia now enjoy curbside recycling programs. Most communities in our state do have opportunities for recycling newspaper, other paper, glass, aluminum and metals.

Many areas in Washington also have programs for recycling used oil, car batteries, household batteries, tires, some plastics, appliances and yard waste. Ecology's recycling hotline, 1-800-RECYCLE, can tell you what the options are in your community.

Yard Maintenance

A beautiful yard and garden can be a show piece and a place for the owner to relax and enjoy the outdoors. Unfortunately, a picture perfect yard can also be the dumping ground for a wide assortment of chemicals.

Washington residents dump more pesticides per urban acre into the environment every year than are used on commercial croplands.

It's important to take the time to observe and understand what goes on in your yard and garden. Insects, commonly considered pests, are actually often beneficial to the garden ecosystem. Applying pesticides to rid your yard of insects can also eliminate the very organism you want to attract. Pesticides can be as deadly to beneficial birds and insects as they are to pests. Five grains of diazinon, a commonly used household pesticide, is enough to kill a songbird.

- A solid first step is learning to accept a certain level of plant damage.
- Landscape using plants suitable for the Northwest environment and for the conditions found in your yard. The "Pacific Northwest Native Plant Directory" can be ordered from Hortus N.W., P.O. Box 955, Canby OR 97013 (503) 266-7968. The "Specialty Nursery Guide" is available from Washington State University Cooperative Extension by calling (206) 296-3900.
- Landscape utilizing pest and drought resistant plants.
- Set your lawn mower high for grass length of about 2-3 inches high. This encourages deeper, healthier roots and helps soil retain moisture.
- Early morning watering is the optimum time to water because water is less likely lost to evaporation and the plant will be less susceptible to mildew.
- Maintain healthy plants by providing needed nutrients and moisture. A healthy plant is more often a pest resistant plant.
- Pull weeds instead of using pesticides. Use mulch or natural pest control techniques as alternatives to chemical pesticides, and organic fertilizers as alternatives to petroleum based synthetic fertilizers.
- Integrated Pest Management (IPM) is an alternative to using lots of pesticides and instead focuses on prevention as a strategy. Find out more about IPM and see if you can apply these strategies to your yard and garden management. Your County Cooperative Extension and their Master Gardener Volunteers can help you develop strategies for your yard. The Washington Toxics Coalition is also a good resource.

- Read pesticide and fertilizer labels thoroughly and follow the directions for use, storage and disposal of unused portions, or empty containers when you are finished. Check with Ecology or your city or county solid waste utility to find out if they host household hazardous waste collection days. This service will allow you to safely dispose of pesticides, household cleaners and some paints.

Creating Your Own Backyard Wildlife Habitat

Believe it or not, there's a connection between turning down your thermostat and saving Washington's wildlife. Everything you do to conserve energy, reduce waste and remove pollutants from the environment benefits the wildlife in our state.

By reducing the demand for electricity, we avoid building new dams that destroy fish and wildlife habitat. Reducing and recycling waste paper products saves trees and forest habitat.

Habitat is the most critical issue for Washington's wildlife. Our rapidly growing human population is squeezing wildlife into a corner. Without the proper combination of food, water, shelter and space, wildlife will disappear. We're already in danger of losing 25 species and more will follow if we don't take action now.

Bellevue Parks and Recreation has a wonderful working model of backyard habitat at: Lake Hills Greenbelt 15416 S.E. 16th in Bellevue.

- Turn your backyard into a wildlife sanctuary by growing native plants and providing food, water and shelter for birds and other wildlife.
- Attract certain wildlife to your yard with plants. Butterflies are attracted to vividly colored flowers in sunlight. Hummingbirds like honeysuckles and red morning glories. And birdfeeders will attract a wide variety of birds throughout the year.
- Chipmunks, rabbits, raccoons and even deer are not unusual visitors if adequate protection with a wall or shrubs is provided.
- Provide a heated watering source for birds and other wildlife that are often in need of water in the winter when the ground is frozen.
- Our Department of Wildlife has an excellent program to assist you in creating your very own backyard habitat. Call them at (206) 775-1311.

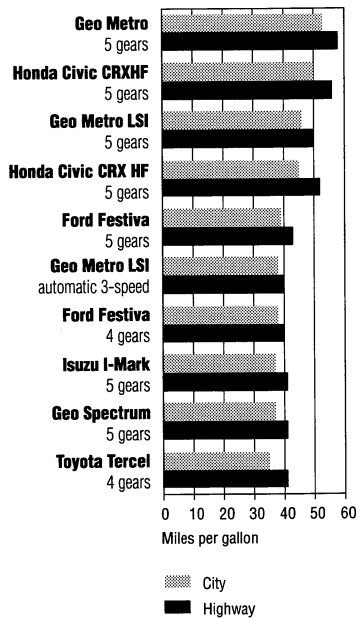
You Can Be Eco-Students And Eco-Employees

Hopefully, you have already taken steps to conserve energy and minimize waste at home. You are feeling the gratification that comes with your efforts to make a difference. But when you step into the workplace or school, your heightened awareness may cause you to be appalled at the "use up and throw away" mentality that can prevail in daily office, factory and education practices.

Perhaps because we aren't directly responsible for footing the bill for consumptive practices in the office or factory, we are less inclined to conserve. But somewhere down the line, we all pay the price. You need not get frustrated—you can make a difference at work and school also.

The Ten Most Fuel-Efficient Cars Available in America Today

Source: U.S. Environmental Protection Agency, 1989



Bellevue has had an employee incentive program for two years. Bellevue estimates 55 percent of their 500 employees walk, bus, bike or carpool between 60 percent to 100 percent of their workdays. Incentives for participation include free and priority parking, bus passes, and cash incentives.

Transportation

No actions that we take on a daily basis carry more environmental impact with them than the actions we take around the use and maintenance of our cars. Not only do our cars produce significant air pollution, their improper maintenance can lead to serious water pollution. Inefficient vehicles cause us to use more energy. This leads to increased pollution from oil and gas development and subjects us (and the earth!) to the pollution and global warming related to power plant construction and operation. The construction of roads leads to the fragmentation of fish and wildlife habitat. Runoff from roadways is a serious source of water pollution.

So—do we have to give up driving No! But we need to begin making decisions in our daily life that minimize our solo driving time and emissions and maximize our auto efficiency.

What can you do? Lots!

- Maintain your car to achieve maximum efficiency. A well maintained car can reduce emissions by up to 10 percent. Have a thorough tune-up every 6,000 miles or so. Check your tire pressure weekly.
- If you change your own oil—recycle it. It takes 42 gallons of crude oil to get 2 1/2 quarts of engine oil. A gallon of used oil can be recycled to produce 2 1/2 quarts of usable oil.
- Dispose of all auto wastes safely. More than 2 million of the 4.5 million gallons of used oil discarded in Washington state end up in Puget Sound! The average car battery contains 20 lbs. of lead and a gallon of lead-contaminated sulfuric acid. Ecology's hotline (1-800-RECYCLE) can tell you locations in your community to take such wastes.
- Drive less and don't drive alone. This book contains numbers for most of the mass transit and van pools in the state. If you simply choose to use mass transit, car and van pools two days a week, you would cut your individual emissions by 40 percent a year!
- Don't drive at all. Bikes are extremely efficient vehicles. Seattle has one of the highest bike commuter rates in the nation. There are lots of bike clubs around the state that can teach you safe bike commute habits and get you involved in efforts to increase bike lanes and urban bike access. Call them! Think of it as ecocise! The Washington State Energy Office can also assist you in developing bike commuting projects.

Employers could aid the transition from gas guzzling to energy conserving transit by developing incentive programs in the work place to encourage workers to use bus and van pools. Consider the impact on air quality if a major employer in Spokane or Seattle chose to provide free parking only to vehicles containing three or more employees!

Consider also what would happen if students and teachers organized a competition around the state to minimize their school's annual vehicle miles traveled. Why, vehicle emission reductions could become as important a part of school pride as football and SAT scores!

Energy Conservation

Energy-conscious employees and students can...

- Turn off lights in conference and class rooms and other areas when they are not being used.
- Use task lighting, when appropriate.
- Know when to turn off equipment, such as computers or photocopy machines.
- Use stairs instead of elevators whenever possible. Not only do you save energy, but stair climbing is great exercise.

Building operators and owners can...

- Complete low-cost energy measures such as caulking and weatherstripping.
- Institute energy accounting practices and establish an energy management program.
- Conduct regular preventive maintenance to keep plant equipment working efficiently.
- Refit lighting fixtures with more efficient fluorescent lamps and install lighting controls.

Waste Reduction at Work and School

To Reduce Office and School Waste. . .

- Use two-sided copying whenever possible.
- Use the back side of waste paper to print draft documents or for informal notes.
- Avoid using adhesive backed paper (“post-its”) to attach notes to documents. A small piece of waste paper and a paper clip serve the same purpose and can be recycled.
- Avoid using unrecyclable paper (“fax” paper) and use water-based glues for affixing labels.
- Reuse envelopes and file folders.
- Route or post memos and documents rather than making copies for each individual.
- Bring your own cup to work and make ceramic cups available to guests instead of paper or polystyrene cups.
- Avoid using disposable plates, cups, silverware and napkins in lunchrooms or for parties.

To Recycle Workplace and School Waste. . .

- Recycle office paper. Depending on the recycler, you may need to separate paper into high grade white paper and mixed paper. Placing a compartmentalized recycling box by each desk or in each classroom will ensure that employees and students separate recyclable paper. Smaller containers for non-recyclable materials will help re-emphasize your goals.

- Educational facilities produce 240 lbs. of waste per student per school year.
- Offices generate 580 lbs. of waste per employee per year.
- Government agencies produce 1,180 lbs. of waste per employee per year.
- Retail/wholesale businesses generate 4,580 lbs. of waste per employee per year.

- Recycle glass and aluminum. Place receptacles by pop machines or in common spaces such as lunch rooms.
- Purchase recycled paper, recycled oil, batteries, tires and xerox cartridges to support the market for recycled products.

Support for our home and office recycling efforts is only a phone call away. The Department of Ecology provides assistance for many waste issues.

Recycling Hotline: 1-800-RECYCLE

Litter Hotline: 1-800-LITTERS

Waste Reduction Technical Assistance Hotline: 1-800-822-9933

General waste reduction and recycling information specific to your area can be obtained by calling the Ecology regional office nearest you.

Central Washington (509) 454-7208

Eastern Washington (509) 456-5055

Northwest Washington (206) 867-7040

Southwest Washington (206) 586-1741

Recreation

The Washington State Parks and Recreation Commission estimates that, by 1995, more than 51 million people will visit our state parks and recreation areas each year. Just as we make needed lifestyle changes in our homes, work and schools, it is equally important that we preserve and protect those areas where we play, recreate and commune with nature and our spirits.

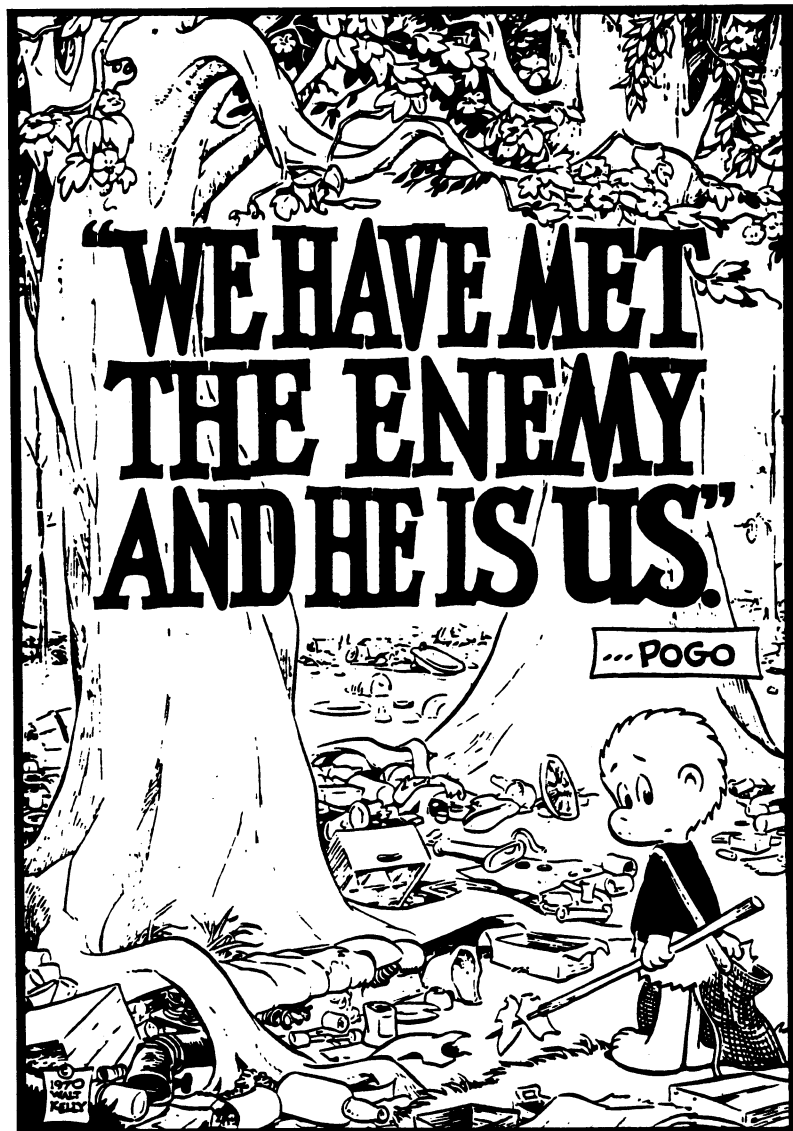
While you're at the beach. . .

In 1988, 2,000 Washington volunteers cleaned 100 miles of beach in just one day. They picked up 32 tons of litter. Fifty-eight percent of that was plastic.

- Bring a bag to take your trash home. While you're at it, pack out someone else's deadly plastic litter. Plastic litter kills many thousands of seabirds, sea mammals and fish each year. Animals become entangled and die by strangulation or drowning, or they mistake bits of plastic for food and die of starvation or infection.
- You can provide some protection for wildlife by snipping the circles on six pack rings. This will at least assure that sea birds and young marine mammals will not be hurt by our lifestyles.
 - Join a beach cleanup. The Adopt a Beach program has good opportunities and Ecology's Spring Rally in April is lots of fun. There is a fall cleanup in September during Coast Week. If you want more information, call Brian Hauger at 1-800-852-3514.
 - Practice good marine sanitation if you own a boat. Call the Boater Education Program at the State Parks and Recreation Commission at (206) 586-8592 and the Hood Canal Environmental Council's Boater Education Project at (206) 877-5747 for detailed tips. Call the Coast Guard if you see any boat—commercial or recreational—dumping plastics or other trash in the water. It's illegal—(206) 286-5540.

While in the woods. . .

- Pack out your trash!
- Stay on designated trails. Hikers and campers can destroy fragile ecosystems when they venture into wilderness territory.
- Be extremely careful with fire and take every precaution to ensure your campfires are completely out. Douse campfires with water and dirt before going to sleep or leaving the area. Each year thousands of acres of forest land are lost to fires, most of them caused by people.
- If you are interested in volunteering in the out of doors, send a stamped, self addressed envelope to Washington Trails Association, 1305 Fourth Avenue, Suite 512, Seattle, WA 98101. They will send you the pamphlet, "Whom to Ask." Donations for the pamphlet are appreciated. General trail information is available at (206) 625-1367. State Parks volunteer coordinator is Joan Hauser-Crowe, 1-206-753-5759.



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Community: Don't Stop at Work and School—Carry On!

"Together we can solve the problem; it is our opponent, not each other."

—Gandhi

In addition to the actions we take in our homes, offices and schools, we can team up with others in our communities and nearby rural areas to sponsor larger-scale projects that benefit the environment.

- Enlist a group of children or adults to stencil storm drains. The storm drain stenciling program helps draw attention to the fact that wastes dumped down storm drains go directly to streams, lakes and bays. Obtain stencils from the Department of Ecology by calling (206) 438-7541.
- Acquire, restore and maintain a wetland. The Department of Ecology, National Audubon Society, The Washington Environmental Council's "Wetlands Watch," Nature Conservancy and Washington Wildlife Heritage Foundation all provide information and technical assistance. Often your local government will be interested in working with you. **ADOPTING A WETLAND, A NORTHWEST GUIDE** by Steve Yates is available from the Adopt a Stream Foundation for \$5. Write to Adopt a Stream, Box 5558, Everett, WA 98206. Add \$2 for postage and handling and \$.40 state tax.
- Coordinate or participate in a spring community tree planting effort as a way to create urban green belts, cut down on air pollution or beautify parks or school yards. Contact the Washington Arbor Day Council, Keep Washington Green, Department of Natural Resources or U.S. Forest Service for assistance or free seedlings. DNR conducts a program for woodlot owners to grow forest stands near cities and developed areas. They also have an innovative program for citizens called "Global Releaf." (Contact Michail Perez-Gibson at (206) 753-5315.)
- Coordinate the creation of wildlife corridors among private landowners with adjoining properties. Corridors allow wildlife to migrate and forage for food despite impacts of land uses on habitat. Seek assistance from the Department of Wildlife, Nature Conservancy, your local conservation district and Washington Wildlife Heritage Foundation or local county land trusts.
- Participate in annual "Spring Rally" events in your area. Each April, the Department of Ecology works with other public and private sponsors to clean up litter, host educational forums, distribute litter bags and plant trees.
- Restore critical fish and wildlife habitat. Sediment build-up, run-off from rural and suburban land uses and flooding from eroding stream banks can seal the doom of wildlife and fish habitats, in addition to effecting water quality and quantity. Because many in-stream projects require permits, please contact the Department of Fisheries' Habitat Office at (206) 753-6550 before beginning any in-stream work. Adopt A Stream programs can help coordinate your activities. They have a new handbook available to help you. You can order, "Adopting a Stream, a Northwest Handbook," by calling toll free 1-800-441-4115. In Seattle, call 543-8870.

A list of county land trusts and excellent information on land conservation is available for free from the Department of Ecology at (206) 438-7429. Ask for publication #90-5, *Wetlands Preservation*.

Seventy percent of the wildlife in our state are dependent on the plants and vegetation along river banks for habitat during all or part of the year.

To prevent streambank erosion. . .

- Plant willows, snowberry, vine maple, red-stem dogwood, wild rose, oceanspray, hardhack (all available at local nurseries), or other native riparian trees and shrubs along streambanks.
- Leave a buffer zone of trees and shrubs along streams and creeks when clearing or improving land. Buffer zones help stabilize streambanks, help purify water runoff and provide wildlife habitat.

To improve fish passage. . .

- First obtain assistance or referrals from Department of Fisheries biologists about correcting physical problems with streams and creeks.
- Remove litter and other garbage from streams.
- Incubate salmon eggs in a classroom aquarium and help students learn more about salmon lifestyles and their habitat requirements. Contact the Volunteer Fisheries Resource Program for more information about classroom aquarium and other fisheries enhancement projects.

To reduce soil erosion. . .

Poor land management and development practices cause erosion and destroy valuable wildlife, fish and shellfish habitats as well as recreation opportunities.

- Seek assistance in coastal zone and shellfish protection from Ecology, your local Conservation District and the Puget Sound Water Quality Authority to aid in reducing erosion in our coastal areas.
- If you are more interested in erosion caused by agricultural or forest practices, you can contact the Soil Conservation Service and county Conservation District personnel. They have excellent programs that help landowners practice better land management.
- Fencing animals away from streams and water bodies can reduce non-point pollution and help stabilize stream banks. Conservation Districts and the Department of Ecology offer technical assistance and Ecology provides some funding to qualifying applicants.

FUNDING SOURCES

Now that you're aware of some of the problems facing Washington's environment in the year 2010, you may be asking, "What can I do?" If you have an idea for a project in your community—whether it be a recycling program, habitat restoration, or a household hazardous waste cleanup—you may need some money. Luckily, a variety of options await you in your individual quest for a healthy hometown. Many Washington state and U.S. government agencies have grant programs and volunteer resource programs designed especially for the citizens of Washington. In addition, a number of charitable foundations across the state provide citizen groups and organizations with desperately needed funds.

When you get the funding you need to start your project, let us hear about it! Just fill out the form attached to this handbook and send it in. Our ability to design good programs depends on the information we get from the public on what works and what doesn't. C'mon, brag a little!

*Leadership is best when
the people say, "we did it
ourselves."*

—Lao Tse

Money for Citizens From Governments

1. Public Participation Grants

The Washington State Department of Ecology offers citizens access to almost \$500,000 in state funds for their Public Participation Grants Program. These grants invite citizens to become involved in the investigation and cleanup of toxic sites by reviewing technical documents, soil and water analyses, and engineering plans. Also funded are education efforts.

The recipients of these grants must be a citizen group of three or more persons or a not-for-profit public interest group organized for the purpose of working on environmental issues or providing public involvement services.

Each project can receive up to \$50,000, renewed annually. For example, Washington Citizens for Recycling Foundation received \$28,000 to design a poster on solid waste management priorities and recycling which, upon completion, will be distributed to Washington's public schools.

For more information, please contact:

Laurie Davies

Waste Management Grants Section

Department of Ecology

PV-11

Olympia, WA 98504-8711

(206) 459-7562

2. PIE Fund: Public Involvement and Education

The Washington State Puget Sound Water Quality Authority also offers contracts to citizens with its Public Involvement and Education (PIE) fund. The PIE fund has distributed \$2.2 million dollars around Puget Sound, helping citizens, citizen's groups, local agencies, trade associations, schools and tribes develop model projects to clean up and promote the water quality of Puget Sound.

New monies for the PIE fund will be proposed during the 1991 legislative session.

For more information, please contact:

Susan Handley
The PIE Fund
217 Pine Street, Suite 100
Seattle, WA 98101
(206) 464-7320 or 1-800-54-SOUND

3. Fish and Wildlife Enhancement

The Washington State Departments of Fisheries and Wildlife offer interested citizens a Volunteer Cooperative Fish and Wildlife Enhancement Program. This \$1 million program is designed to assist interested and valuable volunteers across the state improve the wildlife and fish habitats in their home areas.

The program funds a project's equipment, supply, and technical needs while the volunteers supply the labor hours.

For example, a volunteer group could protect wildlife and fish habitats, rear food fish and wildlife, or establish wildlife interpretive centers in their area.

For more information, please contact:

Manager, Cooperative Wildlife Program
Department of Wildlife
600 Capitol Way N.
Olympia, WA 98501-1091
(206) 586-5511

Manager, Volunteer Resource Program
Department of Fisheries
115 General Administration Building
Olympia, WA 98504
(206) 753-6600

4. Boater Education

The Washington State Parks and Recreation Commission provides financial assistance for educating boaters on proper disposal of human waste, boat waste management, and environmentally safe boat maintenance.

Both private and other organizations can apply for these funds. For example, Northwest Marine Trade, local yacht clubs, and the Boy Scouts of America have all received grants in the past year.

For more information, please contact:

Washington State Boating Program
7150 Cleanwater Lane
Olympia, WA 98504
(206) 586-8686

5. Technical Assistance Grants

The United States Environmental Protection Agency offers a program designed to fund projects involving citizen groups. The Technical Assistance Grant (TAG) program provides funds for qualified citizens' groups to hire independent technical advisors to help them understand and comment on Superfund cleanup decisions affecting their community.

The grants must go to groups interested in examining the cleanup efforts at an EPA Superfund site. The EPA awards up to \$50,000 for each TAG project.

The Association of Bainbridge Committees, for example, received a TAG grant to examine the cleanup of the Eagle Harbor site.

For more information, please contact:

Dwight Davis
EPA
1200 6th Ave
HW-113
Seattle, WA 98101
(206) 442-2594

Money Available to Citizens from Private Foundations

Many private foundations and charitable trusts offer grants to non-profit organizations that help restore and protect the environment. The list compiled here appeared in the Directory of Charitable Trusts published by the Washington State Attorney General's Office. You may request a copy of this directory.

1. Bottler Charitable Trust makes contributions to tax exempt organizations in the areas of health, education, the environment and the arts. However, no legislative or political activities, no contributions to individuals, and no religious activities may be undertaken with this money.

2. The Bullitt Foundation funds non-profit organizations dedicated to improving the Northwest's environment, promoting international peace and understanding, and preventing damage to the Northwest's children. Applicants should be from the states of Washington, Oregon, Idaho, Montana, or Alaska.

3. The Committee for Litter Control and Recycling provides funds to organizations to build public awareness of the need for litter control and greater public utilization of recycling. Applicants must be from the State of Washington.

4. The Forest Foundation provides money to groups committed to community improvement through culture and art, education and the environment, and health and counseling services. Applicants must be from Western Washington with emphasis on Tacoma and Seattle.

5. The Foster Foundation funds organizations dedicated to enhancing the quality of life in the Pacific Northwest and Alaska through support of cultural activities, social and community service, health, and the environment.

6. The Martin (Charolette Y) Foundation provides scholarships for graduate and undergraduate study, and grants to youth organizations and wildlife habitat organizations.

7. The Mountaineers Foundation grants money to organizations committed to the preservation of mountains, forests, watercourses, flora, and fauna. Applicants should use the money in the State of Washington.

8. MRCW Foundation supports environmental and other organizations with tax exempt status.

9. The Natural Resource and Wildlife Fund, Inc. funds projects committed to the development, promotion and support of a comprehensive program for the advancement, restoration, wise use, management, and conservation of wildlife and other natural resources. The foundation only provides grants to charitable, educational, and scientific organizations dedicated to this purpose.

10. The Northwest Fund for the Environment supports environmental research, education and litigation.

11. The True North Foundation supports organizations that work to improve our environment and community—with a concentration on conservation organizations and some social service groups. The foundation distributes grants to projects in Oregon, Washington, and Northern California.

12. R.E.I.-Recreational Equipment, Inc. supports projects benefiting the environment. Their grants coordinator is Kathleen Beamer.

Money Available to Local Governments from State Governments

If you've identified a project that needs to be done in your area, but your local government is short on funds, the Washington State Department of Ecology offers local governments a host of funding options. Everything from curbside recycling programs to lake and stream cleanups, to hazardous household waste collection days can find their funding help through the Department of Ecology's grant programs.

Although private citizens or citizen groups cannot directly receive these funds, they can make it happen in their communities anyway. By getting grant information from the Department of Ecology, citizens like you can urge local governments to follow suit and apply formally for environmental funds.

With your help, your local governments can receive grants to build public access to shorelands and wetlands (**Coastal Zone Management 306 Grants**), investigate and clean up municipally owned hazardous waste sites (**Remedial Action Grants**), cut down on their area's water pollution problems (**Centennial Clean Water Fund, State Parks Pump Out and Dump Station Grants**), and establish community wide collections of household hazardous waste (**Household Hazardous Waste Collection Events Grants**).

Of special note is the **Citizen/Proponent Negotiations Grants**. The Department of Ecology awards these grants to local governments whose area has become the site of a waste management facility. The local government uses the grant money to establish a citizen negotiating committee to meet with the facility proponent to discuss mitigation of potential impacts on the community.

The Department of Ecology also provides grants to local governments to encourage tire recycling and removal (**Tire Recycling Grants**), inform the public on how to maximize recycling and waste reduction in their communities (**Waste Reduction and Recycling—Public Information and Education Grants**), and establish the feasibility of composting food and yard waste (**Composting Grants**).

For more detailed information on these and other grants available from the Department of Ecology, please call Marian Cook-Andrews at (206) 438-7416 for all recycling, remedial action, and waste management grants; Steve Carley at (206) 459-6104 for the Centennial Clean Water Fund; and Steve Craig at (206) 459-6780 for the Coastal Zone Management grants.

The Public Involvement and Education Fund of the Puget Sound Water Quality Authority places high priority on funding local and tribal governments. For a list of all previously funded projects, call Susan Handley at (206) 464-7320.

The Interagency Committee for Outdoor Recreation provides technical and financial services to local governments throughout Washington state for the purpose of improving the state's parks and recreation facilities. The IAC is currently involved through its grants and planning programs in habitat and wildlife enhancement. They also provide grants to local governments for projects like new interpretive trails, and support facilities like restrooms and park marinas. The Interagency Committee is also in the process of writing the rules for a new program designed for urban wildlife enhancement.

RESOURCES

We have organized this section to connect you with agencies and organizations that are working to protect Washington's environment. The groups are organized regionally and the symbols listed below indicate what kind of information or activity you can get from them.



Air



Water



Land and Habitat



Transportation



Energy Conservation



Recycling



Toxics



Volunteer Opportunities



Information and Education



General

The monitoring sheet at the back of this handbook will let you tell us if we're missing critical groups in your region. Thanks for filling it out!

STATEWIDE ORGANIZATIONS



Adopt-A-Stream Foundation
Box 5558
Everett, WA 98201



Air Quality Coalition
c/o American Lung Association
2625 3rd Ave.
Seattle, WA 98121-1213



American Lung Association
2625 Third Avenue
Seattle, WA 98121-1213
(206) 442-5100

Back Country Horsemen of Washington
P.O. Box 563
Leavenworth, WA 98826
(509) 763-3470



Citizens Against Woodstove Fumes
(CAWF)
16540 37th Ave. NE
Seattle, WA 98155



President: Donna Larson
(206) 364-9588 or 776-2391



Citizens for Greenways
P.O. Box 669
Bellingham, WA 98227
(206) 734-9657



Conservation and Renewable Energy
Inquiry and Referral Service (CAREIRS)
P.O. Box 8900
Silver Springs, MD 20907
1-800-523-2929



*Conservation Commission
Mail Stop: PV-11
Olympia, WA 98504-8711
(206) 459-6226



Friends of the Earth
Northwest Office
4512 University Way NE
Seattle, WA 98105
(206) 633-1661



Greenpeace
4649 Sunnyside Ave. N.
Seattle, WA 98103
(206) 632-4326



Interagency Committee for Outdoor
Recreation
4800 Capitol Boulevard, KP-11
Tumwater, WA 98504-5611
(206) 754-7140



*The Mountaineers
300 3rd Ave.
Seattle, WA 98119
(206) 281-8509



*National Audubon Society
Northwest Regional Office
P.O. Box 462
Olympia, WA 98507
(206) 786-8020



National Appropriate Technology
Assistance Service (NATAS)
U.S. Department of Energy
P.O. Box 2525
Butte, MT 59702-2525
1-800-428-2525



National Park Service
Pacific Northwest Regional Office
83 South King Street
Seattle, WA 98104
General Info: (206) 442-5622
Volunteer Contact: Chief of Interpretation
and Visitor Services—(206) 442-5201



The Nature Conservancy
1601 2nd Ave.
Seattle, WA 98101
(206) 728-9696



Northwest Indian Fisheries Commission
6730 Martin Way East
Olympia, WA 98506
(206) 438-1180



Northwest Rivers Council
P.O. Box 88
Seattle, WA 98111-0088
(206) 547-7886





























Outdoor Recreation Information Center
915 Second Avenue, Suite 442
Seattle, WA 98174
(206) 442-0181





Pacific Northwest Four Wheel Drive
Association
946 18th
Longview, WA 98632

* List of local or county contacts available.


-  *Sierra Club
Northwest Regional Office
1516 Melrose
Seattle, WA 98122
(206) 621-1696
-  State of Washington Water Research Center
Washington State University
Pullman, WA 99164-3002
(509) 335-5531
-  Trout Unlimited
P.O. Box 2137
Olympia, WA 98507
(206) 433-3122
-  *Trust for Public Lands
506 2nd Ave.
Seattle, WA 98104
(206) 587-2447
-  U.S. Coast Guard, Commanding Officer
Pollution and Emergency Response
Marine Safety Office
1519 Alaskan Way South
Seattle, WA 98143
(206) 286-5540
-  U.S. Environmental Protection Agency
Region X
1200 Sixth Avenue, HW-113
Seattle, WA 98101
(206) 442-1354
-  U.S. Fish & Wildlife Service
Fish & Wildlife Enhancement
2625 Parkmont Lane, SW, Building B
Olympia, WA 98502
(206) 753-9460
-  U.S. Soil Conservation Service
Washington State Office
Rock Pointe Tower II, Suite 450
W. 316 Boone Avenue
Spokane, WA 99201-2348
(509) 353-2336 or 1-800-THE-SOIL
-  Volunteers for Outdoor Washington
4516 University Way NE
Seattle, WA 98105-4511
(206) 545-4868
-  Washington Citizens for Recycling
4224 University Way NE
Seattle, WA 98105
(206) 633-3366
-  *Washington Environmental Council
5200 University Way, NE, Number 201
Seattle, WA 98105
(206) 527-1599 or
(206) 357-6548 (Olympia)
-  Washington State Department of Agriculture
406 General Administration Building
Mail Stop: AX-41
Olympia, WA 98504
(206) 753-5063
Pesticide Monitoring: (206) 753-5064
Organic Certification: (206) 753-5043
-  Washington State Department of Community Development
Ninth and Columbia Building
Mail Stop: GH-51
Olympia, WA 98504
(206) 753-0548 or 1-800-227-0210
State Office for Voluntary Action
Toby Winans, Contact
-  Washington State Department of Ecology
Mail Stop PV-11
Olympia, WA 98504
(206) 459-6000
(see page 40 for additional details)
-  Washington State Department of Fisheries
115 General Administration Building
Mail Stop AX-11
Olympia, WA 98504
Volunteer Programs:
Rich Kolb (206) 586-3944
Diane Ludwig (206) 753-4490
Habitat (206) 753-6550
-  Washington State Department of Natural Resources
201 John Cherberg Building
Mail Stop: QW-21
Olympia, WA 98504
(206) 753-5327
Hotline 1-800-517-3305: Information on logging practices, urban forestry, wildlife
Hotline 1-800-852-3514, Marine Debris: contact Brian Hauger
-  Washington State Energy Office
809 Legion Way SE, FA-11
Olympia, WA 98504-1211
(206) 956-2000
• Energy Extension Service
914 East Jefferson, Room 300
Seattle, WA 98122
1-800-962-9731
• Energy Library
(206) 956-2076
• Bike Commuter
(206) 956-2148
-  Washington State Parks and Recreation Commission
7150 Cleanwater Lane
Mail Stop KY-11
Olympia, WA 98504
Contact: Volunteer Coordinator
(206) 753-5759
Boater Environmental Education:
(206) 586-8686
-  Washington State Department of Wildlife
600 Capitol Way North, GJ-11
Olympia, WA 98504
(206) 753-5700
-  Washington State Department of Wildlife
Backyard Wildlife Sanctuary Program
16018 Mill Creek Blvd.
Mill Creek, WA 98102
(206) 775-1311
-  *Washington Toxics Coalition
4516 University Way NE
Seattle, WA 98105
(206) 632-1545
-  Washington Trails Association
1305 4th Ave., #518
Seattle, WA 98101
(206) 625-1367
-  *Washington Wildlife and Recreation Coalition
112 E. 4th Ave, #202
Olympia, WA 98501
(206) 754-1898
-  Washington Wildlife Federation
Route 2, Box 195
Pullman, WA 99163
(509) 332-4587
-  The Wilderness Society
Northwest Region
1424 4th Ave., Room 813
Seattle, WA 98101
(206) 624-6430

 Wildlife Society
Washington Chapter
905 East Heron
Aberdeen, WA 98520
Contact: Dave Brittell


 WSU Cooperative Extension
Dr. Ronald B. Hermanson
Water Quality Program Leader
Smith Ag. 220B
Pullman, WA 99164-6120
(509) 335-2914


 WSU King County Cooperative
Extension
506 2nd Avenue
Seattle, WA 98104
(206) 296-3986
Land/Water Stewardship Volunteer
Coordinator Robert Fox


PUGET SOUND


 Admiralty Audubon Society
P.O. Box 666
Port Townsend, WA 98368
(206) 437-2566 or 385-6199


 Adopt-A-Beach
c/o King County Surface Water
Management
770 Dexter Horton Bldg.
Seattle, WA 98104
(206) 296-6544


 American Lung Association
Puget Sound-Southwest Regional Office
4109-C Bridgeport Way West
Tacoma, WA 98466
(206) 565-9555


 B.I.K.E.S.
P.O. Box 5242
Everett, WA 98206
(206) 339-7655


 Cascade Bicycle Club
P.O. Box 31299
Seattle, WA 98103-1299
(206) 522-3222


 Citizens for Clean Industry
629 Slice Street
Anacortes, WA 98221
(206) 293-6453


 *Conservation Commission
Field Representative
Western Washington Office
Olympia, WA 98504-8711
(206) 459-6232


 Department of Fisheries
Skagit Lab
333 East Blackburn Road
Mt. Vernon, WA 98273
(206) 428-9538 or 428-1520


 Friends of the San Juans
Post Office Box 1344
Friday Harbor, WA 98250
(206) 378-2319


 Friends of the Snohomish Delta
4404 222nd Street, SW
Mountlake Terrace, WA 98043
(206) 778-7568


 Hood Canal Environmental Council
17208 Olympic View Rd. NW
Silverdale, WA 98383
(206) 692-6340


 International Bicycle Fund
4887 Columbia Drive South
Seattle, WA 98108-1919
(206) 767-3927


 Kitsap Audubon Society
P.O. Box 961
Poulsbo, WA 98370
(206) 779-2612
or 842-5378


 MetroCenter YMCA, Earth Corp
(for students)
909 Fourth Avenue
Seattle, WA 98104
Contact: Nan Little
(206) 382-5013


 N.W. Air Pollution Authority
302 Pine Street, Number 207
Mount Vernon, WA 98273
(206) 676-2223


 North Cascades Audubon Society
P.O. Box 5805
Bellingham, WA 98225
(206) 733-0212 or 647-1192


 North Cascades Conservation Council
P.O. Box 95980
University Station
Seattle, WA 98145 -1980
(206) 783-9340 or 746-2257


 Olympic Peninsula Audubon Society
P.O. Box 502
Sequim, WA 98382
(206) 683-3164 or 543-6825


 Protect the Peninsula's Future
336 Atterberry Rd.
Sequim, WA 98383
(206) 683-5051


 Puget Sound Air Pollution Control
Agency
200 West Mercer Street, Room 205
Seattle, WA 98119-3958
(206) 296-7330


 *Puget Sound Alliance
10545 41st Pl. NE
Seattle, WA 98125
(206) 548-9343


 Puget Sound Water Quality Authority
217 Pine St., Suite 1100
Seattle, WA 98101
(206) 464-7320
1-800-54-SOUND


 Puget Sounders
P.O. Box 4112
Bellingham, WA 98227
(206) 676-8094


 Seattle Audubon Society
619 Joshua Green Building
Seattle, WA 98101
(206) 622-6695 or 543-6825


 Seattle Tilth Association
4649 Sunnyside Ave. North
Seattle, WA 98013
(206) 633-0451


 Snohomish Wetlands Alliance
2433 Del Campo Drive
Everett, WA 98208
(206) 334-2324


 Tacoma Wheelman's Club
P.O. Box 99555
Tacoma, WA 98499


 Tahoma Audubon Society
1919 South Tyler Street
Tacoma, WA 98405
(206) 759-0997


 Urban Wildlife Coalition
12356 Northup Way, Suite 105
Bellevue, WA 98005
(206) 869-0745 or 568-9524




 Washington State Department of Ecology
Northwest Regional Office
4350 150th Avenue, NE
Redmond, WA 98052-5301
(206) 867-7000 (24 hours)


 Washington State Department of Natural Resources
Northwest Region
919 North Township Street
Sedro Woolley, WA 98284
(206) 856-0083


 Washington State Department of Natural Resources
Olympic Region
Route 1, Box 1375
Forks, WA 98331
(206) 374-6131

 Washington State Department of Natural Resources
South Puget Sound Region
P.O. Box 68
28329 Southeast 448 Street
Enumclaw, WA 98022
(206) 825-1631


 Wetlands of West Hylebos, Inc.
P.O. Box 3691
Federal Way, WA 98002
(206) 946-2328





 Whidbey Island Audubon Society
 3330 South Smugglers Cove Road
 Greenbank, WA 98253
(206) 678-4801


 Whidbey Tilth
P.O. Box 252
Langley, WA 98260-0252


 WSU Cooperative Extension
Dr. Christopher F. Feise
Western Washington Water Quality
Coordinator
WSU-Puyallup
7612 Pioneer Way
Puyallup, WA 98371-4998
(206) 840-4556


SOUTHWEST



 Bicycle Federation of Washington
P.O. Box 1625
Olympia, WA 98507
(206) 943-9025



 Black Hills Audubon Society
 P.O. Box 2524
 Olympia, WA 98507
 (206) 352-7299



 Capital Cycling Club
P.O. Box 642
Olympia, WA 98507
(206) 786-1822


 Clark County Natural Resource Council
11523 Southeast Evergreen Highway
Vancouver, WA 98664
Contact: Linda Sacamano



 Columbia Gorge Audubon Society
Post Office Box 512
Hood River, OR 97031



 Conservation Commission
 Field Representative
Western Washington Office
Olympia, WA 98504-8711
(206) 459-6232


 Department of Fisheries
 Coastal Field Station
331 State Highway 12
Montesano, WA 98563
(206) 249-4628


 Department of Fisheries
 Columbia River Research Lab
16118 NE 219th Street
Battleground, WA 98604
(206) 696-6261


 Earthwave Foundation
Suite 2
164 Harrison Avenue, NW
Olympia, WA 98502
(206) 357-1785 or 273-5996


 Nisqually Delta Association
 P.O. Box 7444
Olympia, WA 98507
(206) 459-0596


 Nisqually River Basin Land Trust
 P.O. Box 1148
Yelm, WA 98503
(206) 456-5221, or (206) 843-2376


 Olympia Air Pollution Control Authority
120 East State Avenue
Olympia, WA 98501
(206) 586-0593


 Olympia Oyster Growers Association
SE 481 Fagergren Rd.
Shelton, WA 98501
(206) 426-3523


 Pacific Coast Oyster Growers Association
1023 S. Adams, #129
Olympia, WA 98501
(206) 459-2828


 Southwest Air Pollution Control Authority
1308 Northeast 134th Street, #D
Vancouver, WA 98685
(206) 574-3058


 S.P.E.E.C.H.-South Puget Sound
Environmental
Education Clearinghouse
218 West Fourth Avenue
Olympia, WA 98501
Contact: Anne Butler (206) 786-6349


 Vancouver Audubon Society
P.O. Box 1966
Vancouver, WA 98668
(206) 693-2683 or 695-2777

 Vancouver Bike Club
P.O. Box 1456
Vancouver, WA 98668
(206) 254-1915


 Washington Department of Wildlife
Region 5
5404 Northeast Hazel Dell
Vancouver, WA 98663
(206) 696-6211


 Washington Department of Wildlife
Region 6
905 East Heron
Aberdeen, WA 98250
(206) 533-9335


 Washington State Department of Ecology
Southwest Regional Office
7272 Clean Water Lane, LU-11
Olympia, WA 98504-6811
(206) 753-2353 (24-hours)


 Washington State Department of Natural Resources
Central Region
1405 Rush Road S-3
Chehalis, WA 98532
(206) 753-3410


CENTRAL


 Alpine Lakes Protection Society
Route 1, Box 890
Ellensburg, WA 98926
President: Jim Stevenson
(206) 325-5412 Seattle or (206) 328-3918


 American Lung Association
Central Regional Office
901 Summitview, Suite 241
Yakima, WA 98902
(509) 248-4384


 Central Basin Audubon Society
Post Office Box 86
Moses Lake, WA 98837


 *Conservation Commission
Thomas Newcomb
Field Representative
Central Washington Office
IAREC, Rt. 2
Box 2953-A
Prosser, WA 99350
(509) 786-2226


 Department of Fisheries
330 King Street, Suite 2
Wenatchee, WA 98801
(509) 662-0503 or 662-0481


 Grant County Clean Air Authority
Post Office Box 37
Ephrata, WA 98823
(509) 754-2011


 Kittitas Audubon Society
Post Office Box 1443
Ellensburg, WA 98926


 Lower Columbia Basin Audubon Society
1327 Hains Avenue
Richland, WA 99352
(509) 943-1029 or 547-4815


 North Central Washington Audubon Society
P.O. Box 2934
Wenatchee, WA 98801-0027
(509) 484-3276


 Tri-Cities Bicycle Club
Post Office Box 465
Richland, WA 99352
(509) 375-7789

 Tri County Air Pollution Control Authority
650 George Washington Way
Richland, WA 99352
(509) 545-2354


 Washington Department of Wildlife
Region 2
Post Office Box 850
Ephrata, WA 98823
(509) 754-4624


 Washington Department of Wildlife
Region 3
2802 Fruitvale Boulevard
Yakima, WA 98902
(509) 575-2740


 Washington State Department of Ecology
Central Regional Office
3601 West Washington
Yakima, WA 98903-1164
(509) 575-2800
24-hour number: 575-2490


 Washington State Department of Natural Resources
Northeast Region
P.O. Box 190
Colville, WA 99114
(509) 684-5201

 Washington State Department of Natural Resources
Southeast Region
713 East Bowers Road
Ellensburg, WA 98926
(509) 925-6131


 WSU Cooperative Extension
Dr. Edward B. Adams
Eastern Washington Water Quality Coordinator
WSU-Spokane
W. 601 First Avenue
Spokane, WA 99204-0399
(509) 456-3275


 Yakima Air Pollution Control Authority
Yakima County Courthouse
Yakima, WA 98902
(509) 575-4116


 Yakima Greenway Foundation
Barbara Feasey, Executive Director
103 South Third Street
Yakima, WA 98901
(509) 453-8280


 Yakima Valley Audubon
P.O. Box 2823
Yakima, WA 98907
(509) 453-2550

EASTERN


 American Lung Association
Eastern Regional Office
North 1322 Ash Street
Spokane, WA 99201
(509) 325-6516


 Blue Mountain Audubon Society
P.O. Box 1106
Walla Walla, WA 99362
(509) 529-9647


 Citizens for Recycling/Earthworks
Recycling
East 1900 Broadway
Spokane, WA 99216
Contact: Jeannie Schrock
(509) 489-2262


 *Conservation Commission
Ray Ledgerwood
Field Representative
Eastern Washington Office
N.E. 1325 Terre View Drive
Pullman, WA 99163
(509) 332-3333


 Council for Land Care and Planning
W. 3210 Velview Dr.
Spokane, WA 99208
(509) 466-0436


 Inland Empire Public Land Council
P.O. Box 2174
Spokane, WA 99210
(509) 328-1087


 Palouse Audubon Society
Post Office Box 3606, University Station
Moscow, ID 83843-0156


 Spokane Audubon Society
15418 North Little Spokane Drive
Spokane, WA 99208
(509) 466-6626


 Spokane Bicycle Club
P.O. Box 62
Spokane, WA 99210


 Spokane County Air Pollution Control Authority
West 1101 College, Room 230
Spokane, WA 99201
(509) 456-4727


 Spokane Regional Solid Waste Disposal Projects
W. 808 Spokane Falls Blvd.
Spokane, WA 99201
(509) 456-7403

 Walla Walla Wheatland Wheelers
P.O. Box 2315
Walla Walla, WA 99362
(509) 525-1801

 Washington State Department of Ecology
Eastern Regional Office
North 4601 Monroe, Suite 100
Spokane, WA 99205-1295
(509) 456-2926 (24 hours)

 Washington Department of Wildlife
Region 1
8702 North Division Street
Spokane, WA 99218
(509) 456-4082

 Washington State Energy Office
Energy Extension Service
North 1212 Washington, Number 106
Spokane, WA 98201
(509) 456-6150

 WSU Cooperative Extension
Dr. Edward B. Adams
Eastern Washington Water Quality
Coordinator
WSU-Spokane
W. 601 First Avenue
Spokane, WA 99204-0399
(509) 456-3275



Educational Resources

If you are interested in education on our state's natural resources (as a teacher or as a student and lover of the environment) here are some critical resources that are available to you.

Organizations

Environmental Education Association of Washington
c/o North Cascades Institute
2105 Highway 20
Sedro Woolley, WA 98284

Northwest Association of Marine Educators
c/o Ken Carrasco
2346 N.E. 94th St.
Seattle, WA 98115
(206) 526-7076

Washington Office of Environmental Education
Tony Angell
17011 Meridian Avenue N.
Seattle, WA 98133
(206) 542-7671

WSU Cooperative Extension
• Water Quality Education
Ron Hermanson
(509) 335-2914
Edward Adams (509) 456-3275
Chris Feise (206) 840-4556
• Stewardship Volunteers
Robert Fox (206) 296-3986

Curriculum and Magazines

'Clearing' Magazine
A resource guide for environmental teaching in the Pacific N.W.
P.O. Box 751
Portland, OR 97207
(503) 464-4721

Conserving Soil
(Teacher material on soil conservation)
National Association of Conservation Districts
P.O. Box 855
League City, Texas 77573-9989

Project Learning Tree
(Teacher training in wildlife biology and habitat)
Washington Forest Protection Association
711 Capitol Way, Suite 608
Olympia, WA 98501
(206) 352-1500

Project Wild
(Teacher training in wildlife biology and habitat)
Washington Department of Wildlife
16018 Mill Creek Blvd
Bothell, WA 98012
1-206-775-1311

A list of all environmental curriculum available in Washington State is available from the Washington Office of Environmental Education.

Nature and Interpretive Centers

Nisqually Reach Nature Center
4949 D'Milluhr Rd. N.E.
Olympia, WA 98506
(206) 459-0387

Pacific Science Center
200 2nd Ave. N.
Seattle, WA 98109
(206) 443-2001

Padilla Bay National Estuarine Research Center
1043 Bayview Edison Road
Mt. Vernon, WA 98272
(206) 428-1558

Pt. Defiance Zoo and Aquarium
5400 N. Pearl St.
Tacoma, WA 98407
(206) 548-9343

Port Townsend Marine Science Center
Fort Worden, WA 98368
(206) 385-5588

Seattle Aquarium
Pier 59, Waterfront Park
Seattle, WA 98101
(206) 386-4300

Snake Lake Nature Center
1919 S. Tyler
Tacoma, WA 98405
(206) 591-6439

Whale Museum
P.O. Box 945
Friday Harbor, WA 98250
(206) 378-4710

Woodland Park Zoo
5500 Phinney Ave. N.
Seattle, WA 98103
(206) 684-4800
Volunteer Coordinator,
Shirley Cotter (206) 684-4845

Nature Experiences and Field Trips

Cispus, Natural Resources Youth Camp
c/o John Bergvall
4511 Sleater Kinney Road N.E.
Olympia, WA 98506

North Cascades Institute
2105 Highway 20
Sedro Wooley, WA 98284
(206) 856-5700

Olympic Park Institute
HC 62 Box 9T
Port Angeles, WA 98362
(206) 928-3720

Pure Sound Society
P.O. Box 526
Vashon, WA 98070
(206) 463-5607

Resource Institute
4337 Phinney Ave. N.
Seattle, WA 98103
(206) 545-3718

Other Resource Guides

No single citizen guide can list all the opportunities available to folks who want to get involved. The organizations that are marked with asterisks in this book are all coalitions and have more detailed listings of their member groups available.

Here are a few others you might be interested in:

Environmental Education Directory for
Spokane County
Spokane County Conservation District
N. 222 Havana Street
Spokane, WA 99202

Environmental Education Resource
Directory
EPA Library Publication Clerk
Region X, EPA MD-103
1200 Sixth Avenue
Seattle, WA 98101
(206) 442-1519

Environmental Resources Directory
EPA Document #910/9-89-009
Region X, MD-103
1200 Sixth Avenue
Seattle, WA 98101
(206) 442-1200

Puget Sound Water Quality Directory
Puget Sound Water Quality Authority
217 Pine Street, Suite 1100
Seattle, WA 98101
1-800-54-SOUND

Volunteer Resource Guide
(Outer Coast and Puget Sound)
Adopt a Beach
710 2nd Ave., Suite 730
Seattle, WA 98104

Washington State Trails Directory
Interagency Committee for Outdoor
Recreation
4800 Capitol Blvd., KP-11
Tumwater, WA 98504-5611
(206) 753-7140



Volunteer Placement

If you are interested in local volunteer opportunities, these folks can help place you with local agencies and organizations.

Benton/Franklin Counties:
Volunteer Center
205 North Dennis Street
Kennewick, WA 99336
Contact: Karen Leach

Clallam County:
United Way Clallam County
P.O. Box 937
Port Angeles, WA 98362
(206) 457-3011

Clark County:
Volunteer Bureau Clark County
P.O. Box 425
Vancouver, WA 98666

Colville County:
Volunteer Services Program
Rural Resources
320 North Main Street
Colville, WA 99114
(509) 684-2515

Issaquah Volunteer Center
P.O. Box 830
Issaquah, WA 98207
(206) 391-3775

King County:
Eastside Human Services
Volunteer Services
P.O. Box 92700
Bellevue, WA 98009-2037
(206) 641-2418

United Way of King County
Volunteer Center
107 Cherry Street
Seattle, WA 98104
(206) 461-3706

Lewis County:
Lewis County Volunteer Center
P.O. Box 337
Chehalis, WA 98114
(206) 748-0547

Pierce County:
Volunteer Center of United Way
P.O. Box 2215
Tacoma, WA 98401
(206) 272-4263

Skagit County:
Voluntary Action Center
Skagit County CAC
P.O. Box 1507
Mt. Vernon, WA 98273
(206) 336-6627

Snohomish County:
Volunteer Services
United Way of Snohomish County
P.O. Box 2977
Everett, WA 98203
(206) 258-4521

Spokane County:
United Way's Volunteer Center
North 597 Howard
Spokane, WA 99201
(509) 838-6581

Senior Volunteer Corps
(for 55 years and older)
Abbot Raphael Hall, PV-11
Olympia, WA 98504
1-800-243-7890

Whatcom County:
Volunteer Center—Red Cross
2111 King Street
Bellingham, WA 98225
(206) 676-8727

Yakima County:
Greater Yakima Volunteer Bureau
320 West Lincoln
Yakima, WA 98901

Our statewide office for Voluntary Action is coordinated by the Department of Community Development. Contact Toby Winans, 1-800-227-0210, or (206) 753-0548.



Transportation and Vanpool Numbers

PUGET SOUND

Clallam County

CLALLAM TRANSIT SYSTEM
Information: (206) 452-4511

Kitsap County

KITSAP COUNTY TRANSIT
Routed Service: (206) 373-2877
Vanpools/Carpoos: (206) 876-7433
Paratransit (toll free): 1-800-422-2877

Jefferson County

JEFFERSON TRANSIT
Information: (206) 385-4777

King County

METRO
Bus Information: (206) 447-4800
Carpool/Vanpool Information:
(206) 625-4500

Pierce County

PIERCE TRANSIT
Bus/Rideshare Information:
(206) 581-8000
Administrative Office: (206) 581-8080

Snohomish County

COMMUNITY TRANSIT
Bus Information: (206) 778-2185
Carpool/Vanpool Information:
(206) 778-2185
Toll Free: 1-800-562-1375

Whatcom County

WHATCOM TRANSPORTATION
AUTHORITY
Bus Information: (206) 676-6843
or: (206) 354-RIDE
Administrative Office: (206) 676-6843
County Residence: (206) 384-3844

SOUTHWEST

Clark County

C-TRAN
Information: (206) 695-0123
Cowlitz County
COMMUNITY URBAN BUS SERVICE
Information: (206) 577-3399

Grays Harbor County
Information: (206) 532-2770

Thurston County

INTER-CITY TRANSIT
Schedule Information: (206) 786-1881
Carpool/Vanpool Information:
(206) 786-8800
Business Office: (206) 786-8585

CENTRAL

Benton/Franklin Counties

BEN FRANKLIN TRANSIT
Administrative Office: (509) 735-4131
Bus Information: (509) 735-5100
Rideshare/Vanpool Information:
(509) 943-5442

Yakima County

YAKIMA TRANSIT
Information: (509) 575-6175

EASTERN

Palouse Region

PULLMAN TRANSIT
Information (509) 332-6535

Spokane County

SPOKANE TRANSIT AUTHORITY
Schedule Information: (509) 328-7433
Vanpool/Rideshare Information:
(509) 326-7665
Business and Administrative Office:
(509) 352-6000

Walla Walla County

VALLEY TRANSIT
Information: (509) 525-9140

Toll Free Hotline Numbers at Ecology:

Burn Ban Updates 1-800-523-4636
 Hazardous Substance Information
 1-800-633-7585
 Litter Information 1-800-LITTERS
 Motor Vehicle Emissions and Testing
 Information 1-800-272-3780
 Recycling Information
 1-800-RECYCLE
 Superfund (Toxic) Site Information
 1-800-458-0920
 Underground Storage Tanks Information
 1-800-826-7716
 Wood Smoke and Wood Heating
 Information 1-800-523-4636

**Department of Ecology
Additional Contacts**

Agricultural Water Pollution
 (206) 459-6067
 Air Pollution Control Authorities
 (206) 459-6255
 Burning, Burn Bans, Slash Burns
 (206) 459-6252
 Greenhouse Effect (206) 459-6261
 Wood Heating Information
 (206) 459-6231
 Community Right-to-Know
 (206) 459-6312
 Ecology Youth Corps (206) 459-6313
 Ground Water Education (206) 459-6115
 Hazardous Waste Cleanup Information
 (206) 438-3000
 Marine Debris (206) 459-6782
 (206) 438-7541
 Publications/Newsletters (206) 459-6712
 Senior Environmental Corps
 (206) 459-6131
 Speakers Bureau (206) 459-6148
 Spill and Fish Kill Reporting, 24-hour
 numbers
 Central WA (509) 575-2490
 Eastern WA 456-2926
 Northwest WA (206) 867-7000
 Southwest WA (206) 753-2353
 Spring Rally (206) 459-6257
 Storm Drain Stencils (206) 438-7541
 Streamside Management Projects
 (206) 438-7069
 Timber, Fish and Wildlife
 Central WA (509) 575-2800
 Eastern WA 456-2877
 Northwest WA (206) 575-2616
 Southwest WA 586-5421
 Washington Conservation Corps
 (206) 459-6131
 Water Conservation
 (206) 459-6115
 Wetlands Acquisition
 (206) 438-7429
 Wetlands Education & Curriculum
 (206) 459-6774
 Wild and Scenic Rivers
 (206) 459-6781

**Waste Reduction, Recycling
and Litter Control**

A-Way With Waste Curriculum
 (206) 867-7043
 Battery Recycling
 (206) 459-7043
 Business and Government Assistance
 (206) 459-6302
 Public Information and Education
 (206) 459-6276
 Recycling Information
 (206) 459-6731
 Small Business Waste Reduction
 (206) 438-7235
 Tire Recycling (206) 459-6258
 Used Oil Recycling (206) 438-7541
 Waste Minimization (206) 438-7370
 Waste Reduction Resource Center
 (206) 438-7482

Answers to Math Quizzes

1. a. 2 tons annual
 b. 12.5 tons annual
 c. 500 tons annual
 d. 20,000 tons annual
 e. 5 %

2. a. 6.67 tons annual
 b. 5.3 tons annual
 c. 66.7 tons annual
 d. 2,668 tons annual
 e. 106,720 tons annual

ECOLITERACY TEST

Are you an eco-wimp or an eco-wonder? Our test lets you know how you're already working to fulfill the recommendations of Environment 2010—and how you can do more. Actions that protect the air are top of 2010's list. Conservation of energy and waste aren't far behind. Protection of our water resources and critical habitat score big, too!

Air Quality

In an urban area, do you drive your vehicle to work alone?
If yes,
 Score 0

Car/vanpool, use mass transit more than twice weekly?
 Score 8

Use alternate transit (bikes, electric autos, feet, etc.)?
 Score 10

Use forms of heating other than wood?
 Score 5

Use a woodstove meeting EPA's low emission standards?
 Score 3

Energy Conservation

Leave lights on, run air conditioner all summer, keep winter heat above 65?
 Score 0

Maintain your car for maximum fuel efficiency?
 Score 5

Get 30 or more MPG?
 Score 5

Own high efficiency appliances?
 Score 4

Insulate floor and ceiling?
 Score 4

Waste Conservation

Throw it away?
 Score 0

Recycle glass, aluminum & paper?
 Score 5
(Score 10 if in area without curbside)

Compost yard waste?
 Score 4

Buy products with minimum packaging?
 Score 4

Use string, cloth or your own bag at grocery store?
 Score 4

Water Quality and Conservation

Water sidewalk as much as lawn?
 Score 0

Safely dispose household toxics?
 Score 5

Have low-flush toilet?
 Score 3

Habitat Protection

Leave plastic litter on beaches?
 Score 0

Plant your yard to encourage wildlife?
 Score 4

Participate in stream cleanup?
 Score 4

Plant trees?
 Score 4

Personal Involvement

Make environment someone else's problem?
 Score 0

Purchase non-toxic household products and pesticides?
 Score 3

Buy environmentally friendly products when possible?
 Score 3

Spend personal time on environmental or conservation projects?
 Score 10

Total Score

I pledge to improve my ecoliteracy score by:

1. _____
2. _____
3. _____

How did you do? You don't need to tell us, but we would like to know if you're committed to improving the score. Fill out the pledge section on the last page and let us know the new action/s you are willing to take over the next six months to improve Washington's environment. Also let us know if you made more than 90 points on the test—you we want to honor!

We'll contact you in six months and find out how you and other Washington citizens did. If you get really enthused, organize your office, neighborhood, or class to take this test as a group. The key to our environmental future is individual actions done collectively!

CITIZEN MONITORING FORM

It isn't much fun to change your lifestyles for Mother Earth, if no one knows what you've done! We're enclosing this monitoring form so we can keep in touch—and so you can tell us what additional information you need. If you know of groups in your region that are active and would like to be listed, please let us know. We are also trying to identify groups and individuals that are extraordinary Earth Stewards.

1. Are you an eco wimp or an eco wonder? What three actions will you take on over the next six months to protect Washington's Environment. Let us know on this form and then post your ecoliteracy test in a prominent place to remind yourself! If you need help in deciding, remember what we said in the introduction. Choose one action to clean the air, one to conserve energy or waste, and one that protects the resource you love best!

1. _____

2. _____

3. _____

(You don't have to stop at three!)

4. _____

2. What area are you most interested in?

AIR

LAND

WATER

FISH AND WILDLIFE

GLOBAL

CONSERVATION (Energy, waste, water, land)

Please take a moment to fill this sheet out and mail it to us.

Name _____

Address _____

Phone _____

Work or Area of Interest

Address on back of this mail-in form

3. Do you know of groups in your region that should be listed in this handbook?

4. Are there individuals, activities, organizations that you believe deserve special recognition for Earth Stewardship? Briefly describe for us please.

5. Would you be interested in getting involved with local follow-up to Environment 2010? (If you indicated interest at one of our public meetings, please ignore this question.)

6. Would you like a copy of:

State of the Environment Report

Towards 2010—An Environmental Agenda

Detailed Organizational List

Complete Foundation Information

**Place
Stamp
Here**

ENVIRONMENT 2010

Washington Department of Ecology, PV-11
Olympia, WA
98504-8711