

# **Sustainable Practices & Economic Development**

## **Potential Opportunities for the Eugene-Springfield Metro Partnership**

---

Prepared by

ECONorthwest  
99 West Tenth Ave., Suite 400  
Eugene, Oregon 97401  
541-687-0051  
niemi@eugene.econw.com

For

The Center for Watershed and Community Health  
Institute for a Sustainable Environment  
University of Oregon  
5729 Main St. #248  
Springfield, Oregon 97478  
541-744-7072  
bdoppelt@darkwing.uoregon.edu

February, 2003

This report briefly summarizes information from readily available sources about opportunities for economic development associated with the implementation of sustainable practices by private firms and public agencies in the Pacific Northwest. The report separately presents information regarding sustainable practices in eight areas:

- Renewable Energy Generation
- Energy Efficiency
- Energy Efficient Public Buildings
- Green Building
- Nurseries
- Waste Based Economic Development
- Organic Retail Trade
- Sustainable Agriculture

The information in the report strongly supports these conclusions:

- A. Many firms and agencies in the Pacific Northwest already have implemented sustainable practices that curtail wasteful uses of natural resources.
- B. The implementation of sustainable practices has generated jobs in the Pacific Northwest via five pathways:
  1. Sustainable practices create directly jobs, e.g., in the construction of renewable-energy energy generators.
  2. The cost savings from adopting sustainable practices can be used to protect jobs that otherwise would be lost or to create new jobs.
  3. When sustainable practices, such as reduced use of toxic materials in a production process, create better working conditions, workers can remain healthier, become more productive, and incur fewer health-related absences from work.
  4. Existing jobs can become more secure and new jobs can be created as firms implement sustainable practices to retain and increase their competitiveness in regional, national, and global markets that are tightening sustainability standards.
  5. Adoption of sustainable practices can enhance economic security by reducing vulnerability to disruptions from market instability and terrorism.
- C. Several studies indicate that considerable future growth can reasonably be expected for activities associated with the design, construction, and implementation of sustainable practices. The Pacific Northwest is generally well-positioned to ride the leading edge of this growth.

This report was prepared for the Center for Watershed and Community Health (CWCH) by Ernie Niemi and Scott Reed, the Eugene office of ECONorthwest, the oldest and largest economics consulting firm in the Pacific Northwest. The CWCH is affiliated with the Institute for Sustainable Resources at the University of Oregon and assists businesses, governments, communities, and groups representing workers in developing new approaches to environmental governance to achieve sustainable development.

For more information, please contact:

Ernie Niemi  
ECONorthwest  
99 West 10th Avenue Ste. 400  
Eugene, Oregon 97401  
Phone: 541-687-0051  
Email: [niemi@eugene.econw.com](mailto:niemi@eugene.econw.com)

Bob Doppelt  
The Center for Watershed and Community Health  
5729 Main St. #248  
Springfield, Oregon 97478  
Phone: 541-744-7072  
Email: [bdoppelt@darkwing.uoregon.edu](mailto:bdoppelt@darkwing.uoregon.edu)  
Website: <http://cwch.uoregon.edu>

## Clean (Renewable) Energy

In Washington, Oregon, and British Columbia, clean energy is currently a \$1.4 billion industry annually. This market is anticipated to be even larger as the nation adopts more strict standards for clean energy. However, even if government does nothing to support these new businesses, this sector is expected to grow to a total of \$2.5 billion a year over the next 20 years and over 12,000 jobs in the region. The Pacific Northwest is already a world leader in fuel cells, and has the ability to develop global leadership in power systems and solar photovoltaics as well. Wind, energy efficiency, and biomass energy sources also offer very substantial economic development potential in the region. (Climate Solutions 2001)

### Northwest Clean Energy Firms

Technology	Representative Company	Technology	Representative Company	
Wind	Global Energy Concepts (WA)	Small Hydro	Canyon Industries (WA)	
	Wind Turbine Company (WA)		Dependable Turbines Ltd (BC)	
Solar Photovoltaic	JX Crystals (WA)	Fuel Cells	Hydro West Group (BC)	
	Schott Applied Power (WA)		Raytheon Infrastructure, Inc. (WA)	
	Siemens Solar (WA)		Avista (WA)	
	Xantrex (BC)		Ballard (BC)	
Biomass	Dynamotive (BC)		Power System	Cellex (BC)
	Heuristic Engineering (BC)			Idatech (OR)
	Pyro Industries (WA)			Innovatek (WA)
	Travis Industries (WA)			Neah Power (WA)
	Numerous Forest Product Companies (OR, WA, BC)			Ouestair (BC)
				Xcellisis (BC)
		Advanced Power Technology (OR)		
		Applied Power (WA)		
		Linesoft (WA)		
		Nxt Phase (BC)		
		PacificCorp (OR)		
		Power Measurement (BC)		
		Tantalus (BC)		
		Xantrex/Trace (BC/WA)		

Source: Climate Solutions, 2001

The technologies that present the best opportunity for the Pacific Northwest to develop a global clean energy industry are fuel cells, power

systems technologies, and solar photovoltaic system industries. (Climate Solutions 2001)

The renewable-energy industry includes sustainable energy sources, those that will not be depleted as we generate electricity or heat energy from them. Analysts generally consider renewable energy sources to be wind, solar, geothermal, biomass, and small hydropower. The data in the table below show that most of the activity occurred with firms that build and design solar energy systems and related equipment. Firms associated with solar energy generated sales of \$71 million and employed more than 420 people. Other renewable-energy firms design, build, or operate biomass fuel systems, small-scale hydroelectric facilities, wind energy generators, geothermal energy plants, fuel cells, and electric vehicles. (ECONorthwest 2001a)

### Washington's Renewable-Energy Firms, 1997

	Firms	Revenues (\$1,000 )	Wages (\$1,000 )	Jobs
Biomass, Biofuels, Muni. Solid Waste	26	54,240	325	11,940
Electric Vehicles	6	3,026	16	570
Geothermal	10	124	0	12
Small-scale hydroelectricity	21	15,452	119	5,384
Solar, Elec. Storage, Inverters	69	71,083	424	13,692
Wind	6	2,255	20	903
General	2	635	3	202
Total	140	146,815	907	32,703

Source: ECONorthwest, 1998

The Pacific Northwest already has developed and installed several renewable-resource electricity generators. Further development is anticipated.

### Generating Capacity Using Renewable Energy Sources, Installed since 1991 by Pacific Northwest Utilities

Energy Source	Capacity (megawatts)
Water Power	660.5
Biomass	234.1
Wind	66.3
Solar	10.0
Total	970.9

Source: ECONorthwest, with data from the Oregon Energy Office.

## Energy Efficiency

---

Sustainable energy practices also include devices and behaviors that increase energy efficiency. The energy-efficiency industry designs, manufactures, installs, and maintains facilities, equipment and processes that reduce the amount of energy consumed per unit of output or consumption.

In a report for the Washington Department of Community, Trade, and Economic Development, ECONorthwest (1998) found that the state’s energy-efficiency industry generated annual sales of about \$780 million. The industry employed approximately 2,900 workers, who earned annual wages of \$128 million, with an average wage of \$44,000. The analysis took a conservative approach to identifying firms in the industry and, hence, actual activity and employment in the industry probably are larger, and perhaps much larger. (2001a)

Most activity in the industry involves firms that provide a range of energy-management services to reduce the energy use of customers. The data in the table below show that, in 1997, this sector of the industry had revenues of \$431 million and employed 1,300 people. Other sectors of the industry include companies that design, build, and install energy-efficient lighting systems; various controls and other electrical equipment; and heating, ventilating, and air conditioning (HVAC) systems. ( 2001a)

### Washington’s Energy-Efficiency Firms, 1997

	Firms	Revenues (\$1,000 )	Wages (\$1,000 )	Jobs
Consultants	11	4,553	1,382	38
Controls	13	122,347	13,089	308
Electrical suppliers and contractors	19	56,980	13,022	333
Energy service companies & engineers	47	430,901	67,814	1,292
Heating, ventilation, air conditioning	8	17,558	5,025	106
Lighting	16	116,233	20,952	652
General	20	28,343	6,593	165
Total	134	776,916	127,877	2,895

Source: ECONorthwest, 1998

## Green Building

---

Builders prove every day that conserving the environment does not have to hurt the bottom line. They have shown that using green-building practices for design, construction, and landscaping can help conserve the environment and save money. By incorporating green building practices, Washingtonians and Oregonians could save more than \$90 million each year in energy, water, and construction-related costs.

- **Electricity Conservation:** Widespread adoption of common-sense-practices to conserve electricity would save about 800 megawatts. At the average retail rate, this conservation would save residential and commercial consumers \$77 million per year.
- **Water Conservation:** If simple conservation measures were adopted throughout Washington and Oregon, region-wide water consumption would fall by 14.9 billion gallons each year, and water customers would have a net savings of \$12 million annually on their water bills.
- **Erosion:** Excess runoff from each acre also imposes about \$110 in costs on others by clogging-stream channels, raising the risk of flood damage, and increasing filtration costs for water users. Each year, construction occurs on 15,500 acres in Washington and Oregon. Eliminating excess sediment would save taxpayers \$1.7 million annually.
- **Toxic Pollution:** Landscaping designs greatly influence the amount of pollution harmful to fish. For example, urban use of pesticides in the Puget Sound area—about 1.1 million pounds per year—is more than three times agricultural use and costs about \$760,000. Reducing usage to agricultural levels would save about \$500,000. With similar reductions throughout the region the total savings would be \$900,000 in Washington and \$780,000 in Oregon.

### Available case studies of green building projects in Oregon and Washington

Tolman Creek Shopping Center, Ashland  
Wieden & Kennedy Headquarters, Portland  
Portland General Electric Gas Transmission Headquarters, Portland  
Double Tree Inns, Portland  
Norm Thompson Outfitters, Hillsboro  
King Street Center, Seattle  
Town and Country, Seattle  
Seven Generation Systems Sustainable Technology Center, Friday Harbor

Source: (ECONorthwest 2000)

## Energy Efficient Public Buildings

Public buildings offer a prime opportunity for initiating some important sustainable practices. Extensive research has shown that sustainable practices can reduce wasteful consumption, improve productivity of workers, and create jobs in the process.

One recent study catalogued these potential savings, if sustainable practices were adopted at public buildings in Oregon and Washington (ECONorthwest 2001b).

### Potential Cost Savings and New Jobs from Adoption of Energy-Efficiency Practices: Government Office Buildings, Hospitals, and Schools

	No. Employees	Annual Energy Cost (\$ millions) <sup>a</sup>	Potential Cost Savings (\$ millions) <sup>b</sup>	Potential New Jobs from Savings <sup>c</sup>
<b>Oregon</b>				
State Government <sup>d</sup>	24,105 <sup>e</sup>	\$13.84	\$3.04	20
Universities/Colleges	13,381 <sup>e</sup>	\$12.40	\$2.73	50
Local Government <sup>d</sup>	51,122 <sup>e</sup>	\$29.35	\$6.46	85
Elem./Sec. Schools	71,010 <sup>e</sup>	\$65.82	\$14.48	285
Hospitals	40,365 <sup>e</sup>	\$98.10	\$21.58	265
<b>Oregon Total</b>	<b>199,983</b>	<b>\$219.50</b>	<b>\$48.29</b>	<b>710</b>
<b>Washington</b>				
State Government <sup>d</sup>	43,234 <sup>f</sup>	\$25.29	\$5.56	35
Universities/Colleges	33,990 <sup>f</sup>	\$32.11	\$7.06	130
Local Government <sup>d</sup>	78,904 <sup>f</sup>	\$46.16	\$10.16	125
Elem./Sec. Schools	139,275 <sup>f</sup>	\$131.57	\$28.95	655
Hospitals	55,384 <sup>f</sup>	\$137.20	\$30.18	355
<b>Washington Total</b>	<b>350,787</b>	<b>\$372.33</b>	<b>\$81.91</b>	<b>1300</b>
<b>Total</b>	<b>550,770</b>	<b>\$591.84</b>	<b>\$130.20</b>	<b>2010</b>

<sup>a</sup> Numbers based on these assumptions: (a) electricity prices = \$.052 per kWh (Oregon,) and \$.053 per kWh (Washington); and (b) energy use per 1,000 employees = 11,039,000 kWh (state and local government), 46,739,000 kWh (hospitals), 17,824,000 kWh (elem./sec. schools and universities) Source: ECONorthwest with data from the EIA, "Estimated U.S. Electric Average Revenue per Kilowatt-hour to Ultimate Consumers by Sector", and "1995 Commercial Buildings Energy Consumption Survey".

<sup>b</sup> Assumes 22 percent savings (High-Performance Commercial Building Systems Program, Lawrence Berkeley National Laboratory).

<sup>c</sup> Assumes labor's share of savings approximate its estimated current share of total costs per sector (assumptions and sources available upon request). Oregon: state government 25%; universities/colleges 62%; local government 45%; elem./sec. schools 57%; hospitals 43%. Washington: state government 25%; universities/colleges 67%; local government 45%; elem./sec. schools 63%; hospitals 45%.

Assumes mean earnings per worker per sector (sources: same as no. employees). Oregon: state government \$35,823; universities/colleges \$33,900; local government \$34,764; elem./sec. schools \$29,120; hospitals \$35,202. Washington: state government \$38,633; universities/colleges \$35,882 local government \$37,909; elem./sec. schools \$27,778; hospitals \$39,019. Calculations reflect rounding.

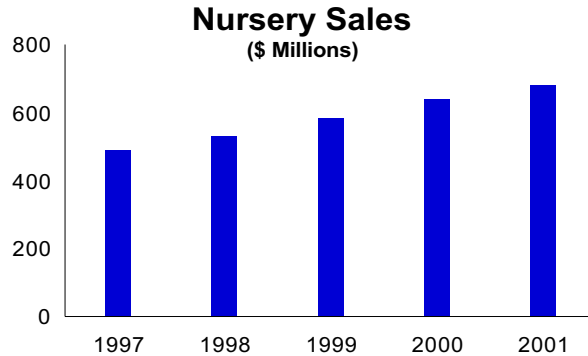
<sup>d</sup> Refers to the "Public Administration" sector of the state and local governments.

<sup>e</sup> Source: "1999 Oregon Covered Employment & Payrolls," State of Oregon Employment Department.

<sup>f</sup> Source: "1999 Employment and Payrolls in Washington State by County and Institution," Washington State Employment Security.

## Nurseries

At a time when agriculture has struggled in the rest of the state and nation, the region's nursery products producers have flourished, growing almost



Source: ECONorthwest using data from the Oregon Statistics Service, 2001

twice as fast as the industry nationally, and becoming Oregon's leading agricultural product. Nursery products differ greatly from traditional agriculture. Most of the State's production is concentrated close to the most densely urbanized part of the state, producing products targeted at high end

residential and commercial markets. The Oregon nursery products industry accounts for about 11% of the total US market. (Cortright and Provo 2000)

Oregon's nursery and greenhouse industry continued its growth in 2001 by establishing yet another record high sales total of \$680 million, marking the eleventh straight year that record sales were recorded. The Industry further solidified its place atop all Oregon agricultural commodities by claiming the top ranking for the ninth consecutive year. (Goodwin and Hoddick 2001)

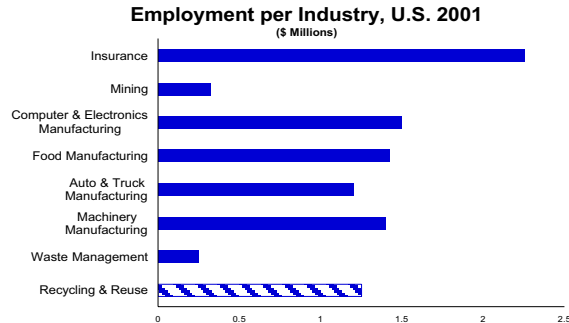
### Employment and Payroll, Nursery Cluster, Metro Portland & Marion County, 1998

	Firms	Jobs	Wages
Nursery products	189	6,408	125,594
Landscape and horticultural consulting services	57	359	9,677
Lawn and garden services	520	3,226	72,750
Shrub and tree services	71	306	8,201
Wholesale flowers and florist supplies	56	791	15,772
Retail nursery and garden supply stores	97	740	15,898
<b>Total*</b>	<b>990</b>	<b>11,829</b>	<b>247,894</b>

Source: Oregon Employment Department, 1998 Covered Employment and Payroll Data (\*Does not include Clark County, Washington. The most recent data available, 1996, shows Clark County with totals for all segments of 137 firms, 457 workers)

# Waste Based Economic Development

Each year businesses divert all kinds of waste material from landfills or waste incinerators, using them instead to make money and create jobs.



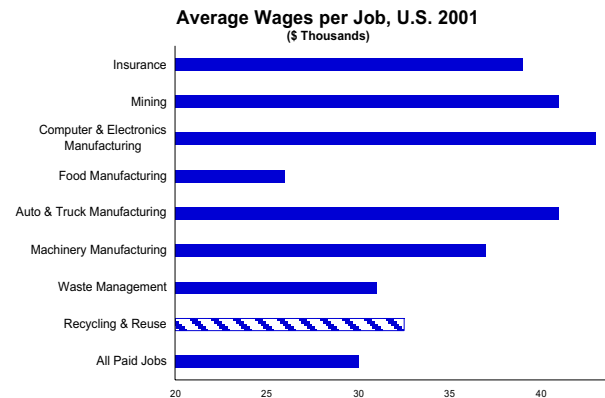
Source: ECONorthwest using data from the U.S. Environmental Protection Agency, 2003

Currently, there are over 400 such businesses in Oregon who add value through reuse, remanufacturing, and recycling. (Garcia 2002)

These firms vary from grocers, to construction, furniture manufacturers, mills, and clothing. Through the development of new technologies and markets, substances that we currently

think of as waste become inputs for new products. A growing demand for these products is translating directly into new, well paying jobs for the region. A recent study by the

United States Environmental Protection Agency (2001) indicates that the wages earned in the reuse and recycling industry are equally competitive with other major manufacturing jobs in the U.S. The average manufacturing wage for Oregon in 2000 was \$45,839, compared to the average wage of \$32,776. (Waste to Work Partnership 2002) Firms world-wide are picking up on reuse and remanufacturing trends, fortunately many examples reside here in Oregon.



Source: ECONorthwest using data from the U.S. Environmental Protection Agency, 2003

## Case Study Examples

- The Lane County affiliate of St. Vincent de Paul re-manufactures appliances, mattresses, furniture, clothing, and most recently, glass, at the Aurora Glass Foundry. St. Vincent de Paul employs 255 people per year, contributing 5 million dollars in annual payroll of which 75% is directly attributed to recycled products. (Barnes 2000)
- Saint Gobain Containers manufacturers wine bottles and other glass containers using recycled glass. Saint Gobain employs 400 people annually. 30-40% of the firm's payroll is directly attributed to recycled products.

- Rising Star Furnishings of Bend, Oregon, manufactures futon mattresses using recycled polyester from plastic containers. They employ 10 to 14 people annually. 30% of their payroll is attributed to recycled products.
- Agri-Plas collects and processes agricultural plastics and remanufactures it into plastic nursery containers. They employ 41 workers annually, whose wages are solely attributed to recycled products.
- The Rebuilding Center of Our United Villages sells used building material recovered dismantled buildings. They employ over 40 workers annually, whose wages are solely attributed to recycled products.
- Hickory Springs Manufacturing Company makes carpet padding using recycled polyurethane from a variety of sources. They employ 100 workers annually. 55% of their payroll is attributed to recycled products.

### U.S. Recycling and Reuse Manufacturing Industries, 2001

---

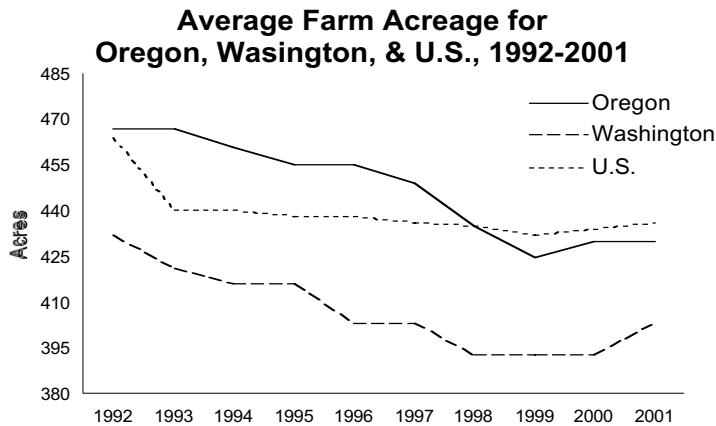
	Recycling Manufacturing	Reuse and Remanufacturing
Firms	8,047	26,716
Number Employed	759,746	169,183
Annual Payroll	\$ 29,181,749,000	\$2,747,498,000
Revenues	\$ 178,390,423,000	\$ 14,182,531,000

---

Source: ECONorthwest using data from the Environmental Protection Agency, 2003

# Sustainable Agriculture and Organic Retail Trade

The US Department of Agriculture and regional farmers indicate that using proper conservation tillage methods and applying integrated pest management techniques often result in net savings for the farm. These experts also note that these two production modifications have not been adequately exploited yet in the Pacific Northwest relative to national trends. Besides increasing farmers' earnings, these practices have



Source: ECONorthwest using data from Oregon and Washington Agricultural Statistics Service

substantial environmental benefits, ensure future productivity of land resources, and provide production inputs to organic food processors. (Sable and Doppelt 2000)

## Conservation farming through conservation tillage systems:

Soil erosion generates private and public costs in Oregon of between \$20-\$80 per acre/year and in Washington averages \$32 per acre/year. For the average farm (400-acres) this amounts to between \$8,000 and \$32,000 dollars annually. If you consider all cropland in Oregon and Washington, soil loss costs between \$242 million and \$968 million annually. Soil conservation practices can greatly reduce these costs.

A recent study of Pacific Northwest Farmers found that no-till farm methods lowered the total cost of growing wheat by an average of 10% per bushel. The cost savings come from not having to replace eroded topsoil and less field preparation. On a farm in Lewis County, Idaho, Steve and Nathan Riggers recently converted their whole farm to no-till. The Riggers state that, "The most notable benefit of direct seeding on our farm has been yield increases in both fall and spring crops." And, "The fact that we direct-seeded isn't going to turn a dry year into a good year, but it may give us a 10% to 20% higher yield. That can make a big difference."

## Integrated pest management practices:

The Codling Moth Area Wide Management Area Program (CAMP) incorporates 240 growers who have agreed to follow integrated pest

management (IPM) protocols and keep records of pests and pesticide use. The program thus far has succeeded in an average of 75% reduction in synthetic pesticide use and has saved growers between \$180-\$335 per acre on the cost of materials. Source:

If croplands in Oregon and Washington could realize even just one tenth of these gross savings (\$18/acre), the region could save \$217 million dollars per year. To be increasingly conservative, if farms in the region could save one one-hundredth of these gross savings, (\$1.80/acre) the agricultural community could save approximately \$22 million dollars per year. (Sable and Doppelt 2000)

### Introducing riparian buffers:

It is possible to offset the private costs of installing and maintaining a riparian buffer by planting harvestable trees such as cottonwood, fast growing poplar hybrids, silver maple, willow and green ash. Over a ten-year period, Northwest farmers could expect an average annual net return of at least \$300 per acre from selective harvest of fast growing poplars, according to one study. This study estimated total costs to establish and maintain a hybrid poplar "micro" or mini tree system over a 10-year period would range from \$4,000 to \$6,000 per acre with tree value between \$9,000 and \$12,000 per acre.

### Organic agriculture:

The US retail market for organic and natural food was over \$6 billion in 1999, \$7.8 billion in 2001, \$11 billion in 2002, and continues to grow by



Source: ECONorthwest using data from Korbech-Olesen, 2002

roughly 20% per year. A recent study by the World Trade Organization and the United Nations expects the US retail market for organic food and beverages to reach \$20 billion by 2005. New data and testimonials from farmers show that farmers can receive from 20% to 100% increases over conventional products when they market their products as

environmentally certified. (Cunningham 2002; Korbech-Olesen 2002)

Much of the rapidly increasing demand for organic food follows a growing public concern of the possible health and environmental effects of pesticide and fertilizer use in the production of food. This trend which started in the fringes of US markets is becoming increasingly mainstream. Prior to 2000, organic products were distributed predominantly through natural food stores, farmers markets, and similar small venues (1% of total

US foodstores). Today, over 50% of all foodstores are carrying organic products. (Dimitri and Greene 2002)

### **Increases in Certified Organic Acreage by State, 1997-2001**

	Percent Increase
California	59%
Iowa	125%
North Dakota	75%
Oregon	62%
Washington	199%

Source: ECONorthwest using data from the Economic Research Service, US Department of Agriculture, 2003

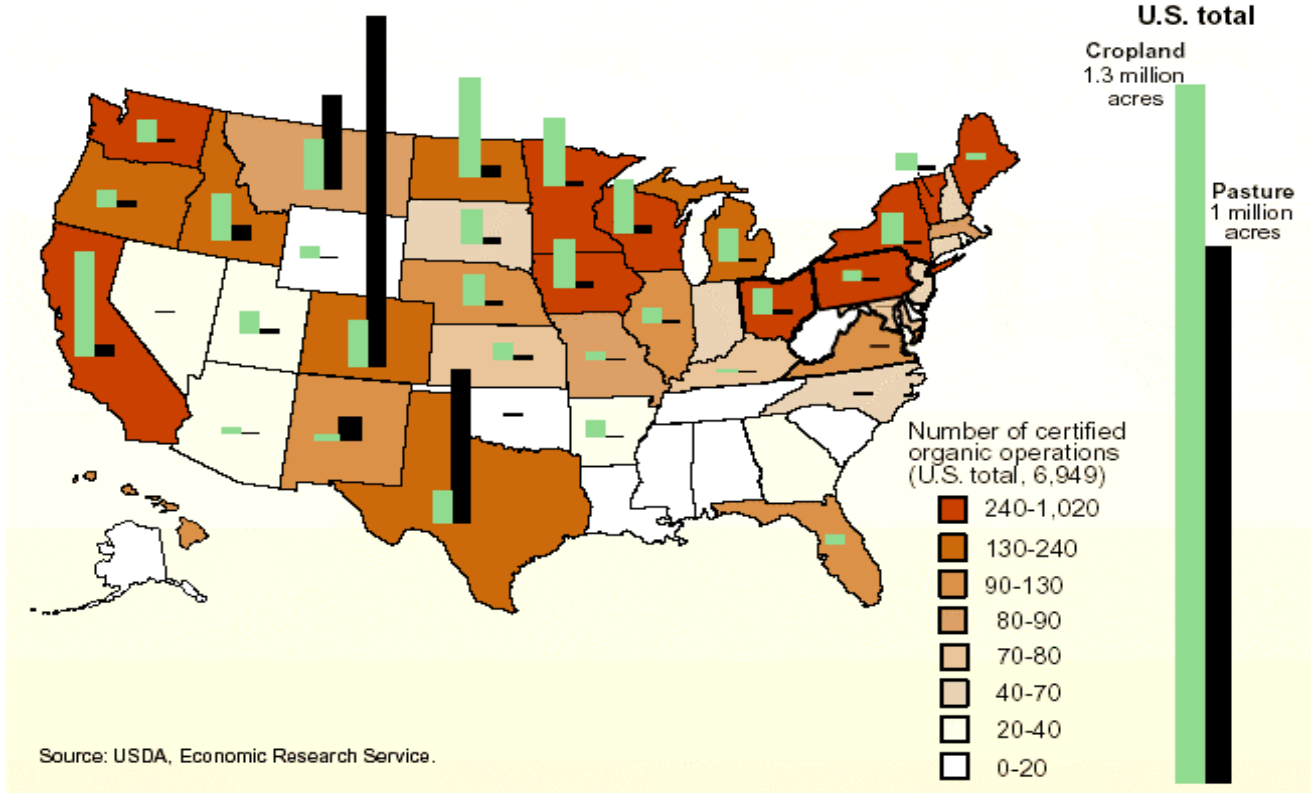
“Organic farming became one of the fastest growing segments of U.S. agriculture during the 1990's” (Economic Research Service, US Department of Agriculture). “Although part of a high-value niche market, organic products are no longer found exclusively at farmers’ markets or health food stores. Instead, mainstream shoppers are finding increasing numbers of organic products on supermarket shelves around the country.”

Ron Stewart, owner of Columbia Gorge Organic Fruit Company in Hood River, Oregon, sells organic apples, pears, cherries, and peaches in addition to juices, and some concentrates nationwide. He says, “we get from 50% to 100% more for our fruit than conventional growers.” (Sable and Doppelt 2000)

Natural Harvest Farms in Canby, Oregon, gets between 50% to 100% more for his products than conventional growers. “In the beginning of every year I go to market with strawberries at \$4 a pint while conventional growers are getting \$1.25 per pint and organic strawberries from California get about \$2.25 per pint, and we can't keep up with demand. We also sold free-range Duck eggs from our organic farm. We wholesaled them at \$3 a dozen, they retailer for \$4.50 to \$5.00 a dozen, while conventional growers were getting \$2.25 a dozen.” (Sable and Doppelt 2000)

“In the United States, 0.2% of cropland is now certified organic, compared with nearly 10% in several European nations. Globally, consumers now spend \$22 billion a year on organic products. Organic farming is the fastest growing sector in the agricultural economy. Nearly half of the major U. S. supermarkets now carry organic products.” (McGinn 2000)

### Certified organic acreage and operations, 2001



---

## References

- Barnes, S. 2000. "Waste Not." *Oregon Quarterly* (Spring 2000).
- Beck, R.W. Inc. 2001. *U.S. Recycling Economic Information Study*. U.S. Environmental Protection Agency, National Recycling Coalition, Inc. July.
- Climate Solutions. 2001. *Poised for Profit: How Clean Energy Can Power the Next High-Tech Job Surge in the Northwest*.
- Cortright, J. and J. Provo. 2000. "Metropolitan Portland's Nursery Industry Cluster." *Regional Connections*, 28.
- Cunningham, R. 2002. *Canadian Natural and Organic Retail Markets*. Alberta Agriculture Food and Rural Development, Strategic Information Services Unit.
- Dimitri, C. and C. Greene. 2002. *Recent Growth Patterns in the US Organic Foods Market*. Economic Research Station, United States Department of Agriculture. September.
- ECONorthwest. 2000. *Green Building: Saving Salmon, the Environment, and Money on the Path to Sustainability: Opportunities for the Pacific Northwest*. Center for Watershed and Community Health, Portland State University. September.
- ECONorthwest. 2001a. *Sustainable Energy, Sustainable Prosperity in the Pacific Northwest An Overview*. The Center for Watershed and Community Health, Mark O. Hatfield School of Government. November.
- ECONorthwest. 2001b. *Sustainable Practices, Public Buildings, and Jobs*. Center for Watershed and Community Health, Mark O. Hatfield School of Government. November.
- Garcia, D. 2002. "Waste to Work Partnership: Making Waste Work - Creating New Jobs in Oregon Through Waste-Based Economic Development." August.
- Goodwin, J.A. and K. Hoddick. 2001. *2001 Oregon Nursery and Greenhouse Survey*. United States Department of Agriculture, Oregon Agricultural Statistics Service.
- Korbech-Olesen, R. 2002. *The United States Market for Organic Food and Beverages*. United Nations, World Trade Organization. March.

McGinn, A. 2000. *Why Poison Ourselves? A Precautionary Approach to Synthetic Chemicals*. Worldwatch Institute. 153. November.

Sable, K. and B. Doppelt. 2000. *Saving Salmon, Sustaining Agriculture: Opportunities to Conserve the Environment While Improving the Economic Well-Being of Farms in the Northwest*. The Center for Watershed and Community Health, Portland State University.

Waste to Work Partnership. 2002. *Making Waste Work: Creating Jobs in the Pacific Northwest Using Waste Materials*. Center for Watershed and Community Health. April.