

Report on the Floral Greens Industry

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Executive Summary

This report is a survey of information on the floral greens industry. The results of a for academic, government, and industry literature are compiled in the BIBLIOGRAPHY section. There is a fairly good statistical and analytical database for the cut flower industry, but little detail on the wild floral greens sector at the global, national, or regional levels. Reasons for the lack of information include the rapid growth and globalization of trade in floricultural products, and the fact that most of the labor in the Northwest goes unreported by privately-owned companies that resist disclosure and regulation (see the SIX-PACK CORPORATIONS section). The information found is summarized by region in the INDUSTRY OVERVIEW section.

A general outline of the history and dynamics of the regional industry is given in a 2004 Ph.D. dissertation by Kurt Spreyer. His study, while focused on one county in Washington State, is probably the best single analysis of the economics of the industry. An extensive excerpt has been included as the POLITICAL ECONOMY OF FLORAL GREENS section.

Almost 7,000 pages of documents from the files of the Washington Department of Labor and Industries files were reviewed. They contained little perspective on the industry at the regional, national or international levels. Many of the documents were duplicated across the files. A few documents in the files mentioned the dollar value of the state or regional industry, but it was largely information published in previous years in academic papers or in the news media. Most documents were copies of forms and reports used by Washington State agencies to audit and report taxable labor. There were a few copies of audits of brush sheds, consisting mostly of interviews with workers, but also including some wage, hours, and revenues for by specific companies. Relevant documents are indexed in the WASHINGTON DEPT OF LABOR & INDUSTRIES FILES section and some of the data has been included in the INDUSTRY OVERVIEW section.

There are a growing number of certification programs for the horticultural, floricultural, or floral greens sectors. Most of these programs are based in Europe. They are described in the CERTIFICATION SYSTEMS section.

Finally, there is a list of EXPERT CONTACTS in academia, government, and industry who have knowledge of or regulatory authority over some aspect of the floral greens industry.

Further possibilities for research

- The literature encompassed English-language publications only. A search for European literature and making contact with European experts would be worth pursuing, especially since most of the North American floral greens are exported to Europe.
- The PIERS (Port Import Export Reporting Service) database has data on shipments of floral greens commodities from the U.S., including quantity, destination, and names of sellers, shippers, and buyers. PIERS data is expensive, about \$500 per month per commodity. An alternative to purchasing PIERS data would be to obtain it from the U.S. Department of Commerce. There are several U.S. trade officials and experts listed in the EXPERT CONTACTS section. A Freedom of Information Act request to the Commerce Department might also yield useful information.

Industry Overview

Industry Sectors / Terminology / Industry codes

- Chamberlain and Hammett (2002) have identified four major categories of nontimber forest products: edible and culinary products, medicinal and dietary supplements, floral and decorative products, and specialty wood products.
- Decorative and floral products include greenery, Spanish moss, dried plants, berries and flowers, wreath materials, and aromatic oils.
- Non-timber (or specialty) forest products: greenery, conifer boughs, aromatic oils, basketry filler, and fresh or dried flowers, floral greens, Christmas ornamentals and evergreen boughs, mushrooms, landscaping plants, edibles, herbs, and medicinals.
- Greenery plants include salal, sword fern, boxwood, evergreen huckleberry, deer fern, conifer boughs and cones, Christmas trees, and Aromatic oils.
- Floriculture: cut flowers, cut cultivated greens, potted flowering and potted foliage plants, and bedding and garden plants.

Harmonized Tariff Schedule (HTS)

HTS 0604

Foliage, branches and other parts of plants, without flowers or flower buds, and grasses, mosses and lichens, being goods of a kind suitable for bouquets or for ornamental purposes, fresh, dried, dyed, bleached, impregnated or otherwise prepared.¹

United Nations Standard International Trade Classification (SITC)

SITC 292.72

Foliage, branches and other parts of plants, without flowers or flower buds, and grasses, mosses and lichens, being goods of a kind suitable for bouquets or for ornamental purposes, fresh, dried, dyed, bleached, impregnated or otherwise prepared.² This code corresponds to the following HS 2002 codes: 0604.10 (Mosses and lichens), 0604.91 (Foliage, branches & oth. parts of plants, WO flowers/flower buds, & grasses, mosses & lichens, being gds. of a kind suit. for bouquets/ornamental purps., fresh), 0604.99 (Foliage, branches & oth. parts of plants...being gds. of a kind suit. for bouquets/ornamental purps., OT fresh).³

Standard Industrial Classification (SIC)

SIC 5193 Flowers and Florists Supplies

North American Industry Classification System (NAICS)

NAICS 113210 Forest Nurseries and Gathering of Forest Products

This industry comprises establishments primarily engaged in (1) growing trees for reforestation and/or (2) gathering forest products, such as gums, barks, balsam needles, rhizomes, fibers, Spanish moss, ginseng, and truffles.⁴

For correspondences between the codes see the US ITC website.⁵

United States

Floral Industry Overview

NOTE THAT STATISTICS IN THIS SECTION REFER TO CULTIVATED FOLIAGE

Floriculture item sales at all retail outlets: \$19.5 billion (estimated 2004)⁶

U.S. Industry Segments⁷

Retail florist shops (Average annual florist sales: \$290,000)	22,753
Supermarkets selling flowers	23,000
Plant nurseries and garden centers	16,432
Floral Wholesalers (estimate)	1,000
Domestic Floriculture Growers	11,913

Where Cut Flowers Come From⁸

Top 6 Import Countries (2004)		Top 6 Growing States (2003)	
Colombia	59%	California	72%
Ecuador	19%	Florida	5%
European Union	10%	Washington	4%
Canada	3%	Hawaii	4%
Costa Rica	3%	Oregon	3%
Mexico	2%	Michigan	2%

Imports account for approximately 70% of fresh cut flowers sold in the United States.

US Floriculture Sales 2002⁹

Product Type	Total Sales (million US \$)
Bedding plants	2,280
Potted flowering plants	822
Potted foliage plants	663
Cut Flowers	410
Cut Foliage	111

Source: USDA NASS Floriculture Crops, 2002 Summary

"Table 1 looks at the sales broken down on a crop basis. Bedding plants continue to dominate floriculture sales in the United States. In 2002 bedding plant sales were US\$2.28 billion. It represented close to 50% of floriculture sales. Potted geraniums were the largest single bedding plant crop with sales of US\$150 million. Impatiens flats were the second largest with sales of US\$112 million. In potted flowering plants, poinsettias had sales of US\$247 million or 30% of total sales. California was the largest cut flower grower with sales of US\$279 million or 68% of the nation's total. The top three cut flowers grown were lilies valued at US\$57.7 million, roses at US\$56.2 million, and tulips at US\$28.3 million. Florida was the

largest producer of foliage, accounting for 69% of potted foliage plants and 78% of cut cultivated foliage." ¹⁰

US Floriculture Sales 2004

"The total wholesale value of floriculture crops grown by operations exceeding the \$100,000 sales level is \$4.89 billion for 2004, up 2 percent from the revised 2003 total. These operations account for 94 percent of the total value of floriculture crops, but comprise only 41 percent of all growers. California contributes 21 percent of the total wholesale value for the 36 States surveyed. Florida ranks second with 16 percent. Michigan, Texas, and Ohio round out the top 5 States with 7 percent, 6 percent, and 4 percent, respectively.

Bedding and garden plants wholesale value, at \$2.53 billion, is the largest contributor to the value of production, up 4 percent from the previous year. Potted flowering plants value, at \$815 million, is up 1 percent from the revised 2003 value. The foliage category is valued at \$639 million for 2004. This is down 2 percent from the revised 2003 estimate. Value of cut flowers, at \$422 million, is virtually unchanged, while cut cultivated greens, at \$92.4 million, is down 9 percent from 2003...

Cut Cultivated Greens: Cut cultivated greens wholesale value for 2004, at \$92.4 million, is down 9 percent from 2003. Florida's value, at \$76.5 million, represents 83 percent of the category total. Value of Leatherleaf ferns, at \$47.3 million, is down 3 percent from last year. Other cut cultivated greens value is down 15 percent from a year earlier. The number of growers for 2004, at 202, is 2 higher than the previous year." ¹¹

"The U.S. Department of Commerce estimates that the U.S. retail floral industry was an approximately \$18 billion market in 2002 and has grown on average 4.3% per year over the last ten years. The floral retail market is comprised of retail florists, floral direct marketers, supermarkets and various other retail channels, and includes the sale of flowers, potted plants and related hard goods. The retail market space is highly fragmented with thousands of industry participants. Key trends in the floral retail market include:

- the increasing role of floral direct marketers;
- the advent of direct-from-grower floral delivery services, where floral orders are delivered via courier with no involvement of retail florists; and
- the increased presence of mass merchants.

In addition, given that specialty gift products can be an alternative for special-occasion floral purchases, floral retailers and floral direct marketers have expanded their product offerings to include items such as home, garden, gourmet, plush toys and other gift products.

The primary channels for floral retail distribution and FTD's role within each distribution channel are:

Florists. There are an estimated 51,500 retail florists in the U.S. We estimate that retail florists represent between 46% and 50% of the floral retail market. Approximately 50% of these florists are sole proprietorships with no external payroll. Retail florists have expanded merchandise offerings to include giftware, indoor plants, outdoor nursery stock, seasonal decorations, artificial trees and other merchandise to counteract the entrance into the floral retail market of supermarket chains, which historically had focused on the fresh cut flower business, and the expansion of other retail channels. This expansion also helps balance the seasonal nature of floral retail sales. Our Florist Segment is a supplier to retail florists, providing products and services to FTD-member florists to facilitate their ability to participate in the flowers-by-wire market and to effectively operate and grow their businesses. We do not own or operate any retail locations.

Floral Direct Marketers. Floral direct marketers take floral orders from consumers by telephone or through the Internet. These direct marketers represent a rapidly growing portion of the overall floral retail market and have become increasingly important in the floral delivery and direct-from-grower markets, benefiting from national exposure, online presence and prominent toll-free phone numbers. Within the floral marketing channel, Internet-sourced orders have been experiencing significantly higher growth than

telephone orders due to several key factors, including consumers' preference for previewing floral orders prior to making a purchase, the ability to obtain detailed product information, the convenience of shopping online and the ability to be personally reminded of upcoming purchasing occasions. Through our www.ftd.com Web site and our 1-800-SEND-FTD toll-free telephone number, we are one of the largest floral direct marketers in the U.S. We transmit orders received through our www.ftd.com Web site and toll-free telephone number to florists for processing and delivery.

Supermarkets. Food retailers are becoming an increasingly important distribution channel in the floral retail market. As food retailers increasingly focus on serving a full range of everyday customer needs, supermarkets often include flowers in their merchandise assortment. There are approximately 23,000 supermarkets that sell flowers in the U.S. We estimate that food retailers represent between 20% and 24% of the floral retail market. Our Florist Segment is a supplier to supermarkets. We currently provide services to approximately 2,700 supermarket locations in North America.

Other Retailers. During the past decade, mass merchants, home improvement and other retail locations have increased their presence in the floral retail market, adding floral products to their merchandise assortments. There are approximately 37,000 mass merchant locations selling floral items in the U.S. We estimate that mass merchants represent between 24% and 28% of the floral retail market. Our Florist Segment is a supplier to other retailers, as we are pursuing channel initiatives, such as FTD-branded store-in-store floral displays and departments at various mass market retailers.

Suppliers and service providers to the retail floral market include:

Wholesalers of Flowers and Floral Supplies. Wholesalers distribute and market fresh-cut flowers and greens, potted plants and floral-related hard goods to retail florists, supermarkets and other floral retailers. The domestic wholesale market is highly fragmented and includes approximately 1,000 independent wholesalers, including our Specialty Wholesaling sub-segment. These are primarily small, family-owned firms that operate from single locations or from a small number of regional outlets. We estimate that the wholesale market for flowers and floral supplies is between \$4.0 to 5.0 billion per year, approximately 25% of which is related to hard goods and approximately 75% of which is related to perishable products.

Wire-Service Providers. By operating clearinghouses and electronic communication networks, wire-service providers enable inter-florist communication, order routing and billing. We estimate that there are approximately 30 million floral orders processed through wire-service providers each year in North America. The wire-service market is highly concentrated. Prior to 2000, there were three primary wire-service providers: FTD, American Floral Services and Teleflora. With the 2000 acquisition of American Floral Services by Teleflora, the number of major floral wire-service providers decreased to two primary providers. A third market participant, Bloomlink, is a smaller floral wire-service provider operated by 1-800-FLOWERS.COM, Inc. While new entry into the market is not impossible, our management believes that a new entrant would be disadvantaged significantly because of the large networks that already exist in the floral industry. Larger networks have the opportunity to provide greater incoming order volume per member and enhanced coverage during peak floral holiday periods.

The following describes the operations of the floral industry and an overview of how we participate in floral transactions:

Ordering Consumer to Retail Florists or Floral Direct Marketers. Floral retail sales can be grouped into two categories: (i) cash and carry and (ii) delivery. The cash and carry category consists of flowers and other products that are sold to customers who take the merchandise with them. Since we do not own or operate any retail locations, we do not participate in the cash and carry category. The delivery category consists of deliveries made by a local florist who takes and delivers the order and deliveries made by a local florist who has received the order from another florist or a floral direct marketer. In the second case, the retail florist or floral direct marketer who takes the order from the consumer identifies a retail florist operating at the delivery destination, sometimes referred to in this prospectus as the "Receiving Florist," who fulfills the order by creating an arrangement and delivering it to the receiving consumer. Our Consumer Segment is a floral direct marketer. Since we do not own or operate any retail locations, we do not act as a Receiving Florist.

Role of Wire-Service Providers between the Retail Florist or Floral Direct Marketer and Receiving Florist. For deliveries made by a Receiving Florist who has received the order from a retail florist or floral direct marketer, the retail florist or floral direct marketer needs to communicate order information to the Receiving Florist regarding the floral selection, the consumer's accompanying message, the recipient's name and address, the time of delivery and a host of other details. In addition, the retail florist or floral direct marketer needs to remit payment to the Receiving Florist. Wire-service providers enable this coordination by providing electronic order transmission networks for communication and by providing clearinghouse services for billing and inter-florist settlement. Our Mercury Technology sub-segment participates in this sub-sector by operating the Mercury Network, an order transmittal network. Our Member Services sub-segment participates in this sub-sector by providing clearinghouse services to FTD-member florists.

Receiving Florist to Receiving Consumer. Having designed the floral arrangement according to the order specification, the Receiving Florist then delivers the product to the consumer. We do not participate in this sub-sector as these orders are fulfilled by local retail florists.

Role of Wholesalers. In order to fulfill orders, whether directly received from the consumer or via a wire-service, florists need to have a variety of floral arrangement components (including greens, flowers, etc.) and non-floral or "hard" goods (including vases, greeting cards, etc). This process usually incorporates a two- or three-step distribution chain with the florist directly interacting with a wholesaler. Our Specialty Wholesaling sub-segment participates in this sub-sector by supplying member and non-FTD-member florists with floral and non-floral goods purchased, through importers, from growers or manufacturers.

Typical Transaction Economics. The economics for floral out-of-town delivery orders are consistent throughout the industry. The retail florist or floral direct marketer retains 20% of the gross order value, the Receiving Florist receives 73% of the gross order value for fulfilling the order, and the wire-service provider earns a 7% commission for acting as a clearinghouse between the two florists. In addition, the Receiving Florist is charged \$1.00 per order for each order transmitted electronically. The wire-service provider may also offer a rebate to the retail florist or floral direct marketer to encourage use of its services."¹²

"Wholesalers of Flowers and Floral Supplies. Wholesalers distribute and market fresh-cut flowers and greens, potted plants and floral-related hard goods to retail florists, supermarkets and other floral retailers. The domestic wholesale market is highly fragmented and includes approximately 1,000 independent wholesalers, including our Specialty Wholesaling sub-segment. These are primarily small, family-owned firms that operate from single locations or from a small number of regional outlets. We estimate that the wholesale market for flowers and floral supplies is between \$4.0 to 5.0 billion per year, approximately 25% of which is related to hard goods and approximately 75% of which is related to perishable products."¹³

Of the \$18 billion U.S. floral retail market, FTD's 2004 revenues were \$405 million.¹⁴

U.S. Exports

U.S. Horticultural Exports, 1999-2003 (in thousand dollars)¹⁵

	HS CODES	1999	2000	2001	2002	2003
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NSRY PDT EXC CUT FLO		229,551	214,058	202,782	196,883	217,646
FOLIAGE,BRNCH FR	604910000	50,711	58,660	74,404	75,115	77,916
PLANTS LIVE NES	602909090	38,947	43,891	46,268	48,726	50,241
TREES/SHRBS LIVE	602909010	9,447	10,339	9,831	11,753	15,032
TREE,SHRUB,BUSH	602200000	15,471	11,467	13,740	13,064	14,745
LIVE CUTTINGS,OTH	602100000	10,641	12,951	11,745	8,755	12,423
BULBS, TUBERS	601100000	9,472	10,056	8,482	10,087	12,387
FOL,BR,D/D/BL/IM	604990000	14,569	9,009	10,380	6,202	7,475
ROSE, PLANTS	602400000	6,551	6,637	5,743	5,069	5,896
RHDODNDRNS,AZALS	602300000	5,521	5,020	5,655	5,913	5,798
MOSSES, LICHENS	604100000	20,573	14,616	1,909	2,051	4,214
PLTS LV WS RT NS	602906090	6,531	3,988	6,271	2,786	3,654
HER PER W/S NS	602904000	30,631	20,867	4,145	3,459	3,165
BULBS, ETC IN GR	601200000	6,614	3,655	3,373	2,206	2,978
TREE/SHB W/S	602906010	912	1,106	396	1,115	1,163
ORCHID PLANTS LV	602902000	506	144	236	249	271
HER PER WS LVNS	602903090	2,409	1,615	158	294	261
POINSET LV WS RT	602906020	8	34	19	3	26
CHRYSAN/LV,W/S	602903010	37	3	26	35	0
CUT FLOWERS		41,726	39,719	39,675	36,330	33,352
CT FLWRS/BUDS,FR	603100000	30,339	29,466	31,498	29,624	29,741
CUT FLR/BD D/D/P	603900000	11,387	10,253	8,177	6,706	3,610

The United States' largest floriculture export markets are Canada, Mexico, the Netherlands, and Germany. The U.S. exports \$37 million of floriculture products to Germany a year, primarily of ferns and other cut greenery.¹⁶

"Most floricultural products are marketed through two major distribution systems--the growers' market and the wholesale trade.

Domestic plants are typically auctioned at the growers' market, where wholesalers and importers also sell their products. Most importers sell their products to the wholesale trade.

Some companies, however, circumvent the standard distribution process by buying low-priced plants at auctions in the Netherlands and selling directly to retailers.

German retailers do not directly import U.S. floricultural products, but rather source them from a local importer. Local importers have the expertise needed by U.S. exporters to access the German retail market. The German importer can ensure that products meet all German and EU import requirements."¹⁷

Major U.S. Corporations

Continental
Sun Valley Floral Farms

Northwest

Products harvested include evergreen boughs, huckleberries, salal, ferns, Oregon grape, rhododendrons, mosses, beargrass, and cascara bark.

"In 1989 the floral greens industry in Oregon, Washington and British Columbia at the point of first wholesale transaction was valued at over \$128 million and employed or bought raw materials from 10,300 people."¹⁸

"In 1989, forest economists at Washington State University conducted one of the first economic studies of the non-timber forest products industry in the United States. At that time, they estimated that the value of floral greens products originating in the states of Washington, Oregon and British Columbia was approximately \$128.5 million. Of this value, slightly more than a third, or \$47.7 million, was paid to harvesters for raw products. They also estimated that the floral greens industry employed roughly 700 full-time workers and 4,180 part-time workers directly, and purchased products from 2,670 full-time and 2,750 part-time harvesters. In 2002, the harvest statewide was estimated at \$236 million, including salal, mushrooms, beargrass, ferns, huckleberries, wildflowers, nuts, herbs and evergreen boughs to be made into Christmas wreaths."¹⁹

Industry worth \$190 million regionally.²⁰

Industry worth \$250 million regionally.²¹

A Washington Farm Bureau memo to the Washington State Department of Labor and Industries estimated that there were 10,000 vendors [pickers] in Canada, WA, ID, OR, and CA.²²

WSU's Jim Freed's estimate that the 2003 value of mushrooms, beargrass, ferns, huckleberries, wildflowers, nuts, herbs, and boughs in WA State in 2003 was expected to be \$236 million.²³

"In FY 2005, BLM in Oregon and Washington issued 733 permits (contracts) for 425,437 pounds of floral & greenery. In return, it collected approximately \$26.575 or \$0.062/pound. It should be understood that many things can influence the price charged for a product, such as the price the harvester is being paid, how much, on average, can be harvested by a person during a 'normal' day, how far they have to transport the material, etc.. The district cruiser/appraiser is much more versed in this than I am, so I'd like to have him respond if you want (need) more detailed information. He is also more up-to-date as to what the companies pay as he has to use these figures in calculation our minimum price(s)."²⁴

It has been estimated that since the 1980s wholesalers have exported 80 to 90 percent of the greens harvested in the Pacific Northwest to Europe.²⁵

Year	salal shipped from PNW (million pounds)
1991	2.8
1992	2.9
1993	3.1
1994	3.2
1995	3.4
1996	3.9
1997	3.7
1998	3.8
1999	3.9
2000	4.0

Source: Seattle Post-Intelligencer, Feb 14, 2002.²⁶

Product prices

Salal²⁷

	Min Purchase Price	Max Purchase Price	Min Market Selling Price	Max Market Selling Price	Minimum Markup	Maximum Markup
Salal Long	0.6	0.75	3.5	4	467%	667%
Salal Tips	0.25	0.4	2.5	3	625%	1200%
Bear Grass	0.15	0.2	2.5	3.5	1250%	2333%
Bear Grass	0.15	0.5	2	2	400%	1333%
Cedar Boughs	0.05	0.06	3.5	4.5	5833%	9000%

Other Sources

USDA Fruit and Vegetable Market News Portal²⁸

- click on Ornamentals and then on Misc. Greens

USDA Agricultural Marketing Service Ornamental Crops Market Reports²⁹

- Wholesale Cut Flower Price Reports³⁰
- Shipping Point Cut Flower Price Reports³¹
- Cut Flower Import and Shipment (Movement) Reports³²
- Ornamental Wholesale (Terminal) Trends Report³³
- Ornamental Shipping Point Trends Report³⁴

Washington

The Washington harvest in 2002 was worth an estimated \$236 million.³⁵

In 1994 Washington exported 80% of the floral greens harvested, primarily via German and Dutch wholesalers.³⁶

A Washington Farm Bureau memo to the Washington State Department of Labor and Industries stated that fifty evergreen containers were exported from the Northwest a week, domestic sales accounted for another 15 containers.³⁷

An anonymous memo in the Washington LNI files which discusses the salal and beargrass markets. The memo estimates that 27 million pounds of salal and 10 million pounds of beargrass are exported to Europe each year; their shed value is \$54 million and the sales value to exporters and wholesalers is \$130 million. The top dozen companies control 80 percent of the European market and 70 percent of the U.S. and other markets.³⁸

The tentative nature of the estimates is exemplified by the memo's statement that there are about 3,000 salal and beargrass harvesters, but that "realistically, less than 100 are covered" by the state labor agency.³⁹

"Six-Pack" Corporations

Large players in brush picking industry in Washington State⁴⁰

1. Cascade Floral Products
2. Continental Wholesale Florists
3. Hiawatha
4. Pacific Coast Evergreens
5. Hood Canal Evergreens
6. Puget Sound Evergreens

All six are members of the Western Greens Coalition. Hood Canal and Puget Sound are the smaller of the six companies.

The Washington Dept. of Labor and Industries estimates the six companies sell \$40 million of specialty forest products, primarily to Europe.⁴¹ [a note asks over what period]

By the 1980s, the big four companies largely controlled the export industry. For a discussion of the regional and global floral greens industry and the dynamics of labor in the Northwest, see Kurt Spreyer's dissertation *Tales from the Understory* (see section below).

Fourth-quarter 2004 wages and revenue reported by six-pack and other companies⁴²

Company	Gross Revenue	LNI Wages
Sherwood Forest Farms ⁴³	32,168,901	1,046,596
Hiawatha	30,931,882	276,234
Continental Floral Greens	5,500,447	796,489
Brothers United	3,723,524	280,145
Hood Canal Evergreens	2,134,635	88,402
Select Farms	1,876,254	283,369
Cascade Floral Products	1,447,720	148,224
Noble Valley Farms	1,350,719	262,678
Sono Inc	601,123	182,536
Pacific Coast Evergreen	n/a	923,732

There are ties between the six-pack companies and certain suppliers:⁴⁴

Continental	Emerald Forest Products Select Floral Greens
Hiawatha	Olympia Evergreens LA Evergreens Two Noble Guys
Brothers United	Eagle Mountain Products Emerald Forest Products

In some cases the connection is more than a supplier/buyer relationship. For example, Spreyer notes that

"Two Noble Guys is owned and managed by members of the same family that owns Hiawatha and is generally recognized as an appendage of the company. The major brush companies were experimenting with novel forms of labor control in response to new state Department of Labor and Industries (L&I) policies. Hiawatha set up Two Noble Guys as a 'shadow company' in 2001 to lease land, issue permits to harvesters and buy the brush picked on their land in an effort to protect itself from the L&I requirement that companies directly employing harvesters comply with a host of employer regulations... Two Noble Guys represents the historical persistence of wholesaler efforts to structure relationships between themselves and harvesters in order to intensify labor and resource control and avoid regulatory accountability."⁴⁵

Trade restrictions on boughs to and from Europe

"[Washington State] DNR's program to acquire the Danish noble fir seeds was developed through the Special Forest Products program coordinator Mark Savage. While marketing fir boughs from state-owned forests, he learned that forest landowners in Denmark are long-time experts in Christmas boughs. The Christmas bough business in Europe is dominated by the Danes who sell \$80 million worth of boughs every year," Mark said. "In the past 50 years, Danish forest researchers have selected specific noble fir qualities from seeds."...

Due to strict import and export restrictions, the United States cannot import or export boughs to and from Europe. Instead, the seeds can be imported after they are inspected and certified against infestations. DNR obtained an importer's license and purchased batches of seeds in 1996, 2000 and 2001.

The first batch was planted on test plantations on state trust land. Since the entire landscape of Denmark is no higher than 700 feet in elevation, DNR will evaluate and monitor the test plots at various elevations in western Washington.

The seeds purchased in 2000 are now being sold as seedlings at Webster, and a batch purchased in 2001 will be sold as seedlings in the future.

In 2000, three DNR forest managers joined a member team funded by a US Forest Service grant to inspect several Danish bough plantations, seed orchards, marketing centers and research facilities. The seed purchases in 2000 and 2001 involved reviewing hundreds of family forester groups in Denmark and selecting the most desirable characteristics for the North American bough and Christmas tree market."⁴⁶

Florida

"Other examples of forest farming include cultivating ferns, palmettos for fronds, or other ornamentals under shade (e.g., oak forest). Greenery products gathered from forests are sold for floral and holiday markets. Tips from lower limbs of conifer trees serve as raw materials for loose greenery, garlands, centerpieces, and wreaths or swags (Hammett & Chamberlain 2002). Numerous broadleaf evergreens and other herbaceous ornamentals exist in the coastal plain vegetation. Early in the 20th century for example, a fern grower's association developed out of Apopka, Florida, to supply asparagus-fern (*Asparagus setaceus*) to stores in the northeastern U.S. This foliage industry grew as a contract grower-brokerage business and evolved with changing modes of transportation and markets promoting leatherleaf (*Rumohra adiantiformis*) and asparagus-fern. In 1997 the industry grew floral greens on over 7,300 ac of land in Florida, with sales totaling \$85.5 million (FFGA 2001). These fern growers continue today as profitable enterprises with an expanded offering of floral greens, grown under shade of native or managed oak forest."⁴⁷

Canada

"Canada experienced a positive net balance of trade in floriculture and nursery products for the seventh consecutive year in 2002, reaching a record \$165.3 million. Statistics Canada estimated Canadian floriculture and nursery exports in 2002 were \$524.3 million, up 80% from 1997. Nearly two-thirds of these sales were in floriculture crops, mainly potted plants, cut flowers and greens. According to Industry Canada, the main export market for floriculture products is the United States, it generally purchases 89% of Canada's total floriculture exports. Canada supplies about 24% of the floriculture and nursery product imported into the United States. The Netherlands was the next largest Canadian floriculture export market, purchasing 7% of total exports, followed by Germany at 2%. Ontario is responsible for about 63% of export sales, BC ranks second with 22% and New Brunswick third with 11%. Mechanization, crop diversity, and an emphasis on quality enable the two ornamental industries to expand their export markets.

In 2002 Statistics Canada estimated imports of floriculture and nursery products to be \$359 million, mainly in cut flowers and live plants, including cuttings. The largest suppliers were the United States, the Netherlands, Columbia, Ecuador and Mexico. The United States supplied 50% of all floriculture and nursery products imported into Canada. Cut flowers from South America made up 25% of the total imports and the Netherlands supplied 22%, mainly in bulbs."⁴⁸

British Columbia

"The market for native floral greenery began to develop in earnest during the 1930s. Western swordfern (*Polystichum munitum*) and evergreen huckleberry were the products most in demand during the first phase of industry development. In the 1950s, salal was making an appearance as a 'florists green', likely due to its durable, long-lasting nature. By 1972, BC exports of salal had captured one-third of the total worldwide salal.

As salal grew in importance, the demand for swordfern began a long, slow decline caused in part by an inability to compete with cheaper ferns harvested in Florida, Mexico, and Guatemala.

Although swordfern is still harvested for the market, demand for the product is a mere fraction of what it once was, and the demand for salal has exploded into an industry worth tens of millions of dollars. The history of the development of the floral greens industry illustrates the highly dynamic nature of the non-timber forest products industry as a whole."⁴⁹

It is estimated that the 1997 gross revenue of British Columbia's 22 floral greens companies was C\$55 to \$60 million and that there were 13,000 pickers.⁵⁰ (Gagné 2004: 11).

In the late 1990s, salal harvesters on Vancouver Island were paid an estimated \$20 to 50 million per year.⁵¹

"95% of floral greens exported from Canada is salal... By far the largest amounts produced go directly to the US. Buyers with only a small commission or plant fee added. There are only 3 main exporters in Canada who directly export cut floral greens to Europe or Asia."⁵²

It is estimated that the special forest products in BC had pre-tax revenues of \$80 to \$105 million in 1998 and employed 16,000 to 25,000 pickers. These are conservative estimates since much is unreported.⁵³

Of the 22 companies known to harvesting floral greens in BC, four companies sold to European markets and 18 companies sold to US distributors.⁵⁴

Sixteen companies exporting edible mushrooms from BC had pre-tax revenues of \$25 to \$45 million per year. Pre-tax revenues for floral greens in BC was \$55 to \$60 million per year. The market for medicinal and nutraceutical mushrooms was \$150 million for North America and \$2.4 billion for North American herbal medicines.⁵⁵

Netherlands

The largest Dutch flower and plant trader is Zurel.⁵⁶

Vereniging van Bloemenveilingen (VBN) is the Dutch flower industry association. See www.vbn.nl

"The floricultural sector is important for the Dutch economy. In 2001, the production of floricultural products grown in greenhouses was worth more than EUR 3 billion. Approximately 80% of Dutch floricultural products are exported, in particular to Germany, the United Kingdom and France. The total service area of greenhouses for floricultural products is almost 6,000 hectares, divided over 6,000 businesses. An additional 2,300 hectares of land are used for the open air production of floricultural products. Dutch floricultural businesses employ some 50,000

people. That does not even include the employment offered by trading businesses, seed suppliers, greenhouse builders and other suppliers.

The Dutch auction system has proven its value. More than 60% of the international trade in cut flowers and 40% of that in the house plants is conducted from the Netherlands. Naturally, not only the auctions deserve credit for that. Breeding and propagation businesses, producers, auctions, traders and retailers supported by banks, marketing companies, packaging companies and agrotechnical firms, transport agencies and logistical services, knowledge networks, interest groups, research institutes and government agencies together form a tight cluster that forms the basis of the Dutch floricultural success."⁵⁷

Global

"Climate and low wages have made some South and Central American countries important producers of floriculture crops. Even when transportation costs are included, the lower production costs of these countries have displaced domestic production of cut carnations, roses, and chrysanthemums in North America and Europe. In fact, Colombia is the second largest cut flower exporter after the Netherlands. Flowers rank fourth behind petroleum, coffee, and bananas in export earnings. In the United States and Canada, growers are moving away from traditional flowers such as carnations and chrysanthemums to different specialty cut flowers such as gerbera, lizianthus, snapdragons, and alstroemeria that are usually more difficult to grow and to ship.

World wide trade in floriculture products was estimated at over US\$7.9 billion in 2001. Cut flowers account for 50% of sales, plants were 41%, bulbs made up 9%, and cut foliage accounted for 9%. Seven countries export 73% of the value of the world's floriculture crops: the Netherlands, Columbia, Italy, Belgium, Denmark, the United States, and Ecuador. The Netherlands continues to dominate the world floricultural industry; it is becoming the epicentre for world flower trading. It was estimated that in 2000 almost 50% of exported floriculture products came from the Netherlands, this figure includes crops that are grown domestically and crops that are imported, brokered, and then resold. Columbia was the second largest exporter at 7.5%, Italy, Belgium, Denmark, the United States, Ecuador, and Germany followed with approximately 3% each of exported products. Kenya, Costa Rica, Israel and Spain produced about 2% each. Major markets are Germany, the United States, Britain, France and the Netherlands. These five countries account for almost 70% of all imports of floriculture products."⁵⁸

UN data: 2001 floriculture imports⁵⁹

By Nancy Laws⁶⁰

The 2001 import statistics reported to the United Nations from more than 95 countries show world trade value in dollars of floriculture was \$7,907,491,000, an increase of 1.7% over the previous year. Of this amount, \$3,990,204,000 was attributed to fresh cut flowers; \$3,222,332,000 to live plants and \$694,955,000 to fresh cut foliage.

Trade in cut flowers rose only 0.2% in value between 2000 and 2001. Many smaller country markets experienced good growth, but the major import market, Germany, slumped. The United Kingdom market expanded. Aggressive France overtook the Netherlands and rose to become the world's fourth largest cut flower import market.

Import value of cut flowers in 2000 and 2001 (US \$1,000)

Importing Country	Value 2000	Value 2001
United States	770,804	714,787
Germany	713,933	705,340
United Kingdom	533,482	587,749
France	391,247	438,818
Netherlands	424,724	414,577
Japan	165,606	155,048
Italy	153,989	137,442
Switzerland	131,630	130,121
Austria	73,781	82,752
Denmark	62,583	66,647

Source: UN Comtrade, July 2003

The value of cut flower imports fell in the United States, Germany, the Netherlands, Japan, Italy and Switzerland between 2000 and 2001. However imports increased substantially in the United Kingdom, France, and smaller countries such as Austria, Denmark, Saudi Arabia, Lebanon, Spain and Ireland. Even Argentina recovered slightly. Russian flower imports more than doubled between 2000 and 2001.

The increase in the value of world trade of live plants rose almost 4% between 2000 and 2001. The top five import markets all gained strength.

Import value of live plants (other) in 2000 and 2001 (US \$1,000)

Importing Country	Value 2000	Value 2001
Germany	549,495	552,649
France	363,640	407,134
United States	298,692	332,792
Netherlands	248,684	288,610
Italy	189,354	185,379
Switzerland	174,988	164,769

Source: UN Comtrade, July 2003

The imports of fresh cut foliage greens declined ever so slightly from \$695 million to \$694 million. The Netherlands, Germany and the United States continue to be the biggest importers.

Importing Country	Value 2000	Value 2001
The Netherlands	174,614	168,577
Germany	133,951	130,839
United States	95,978	97,713
Japan	41,843	40,053
France	36,329	39,367
Switzerland	30,537	30,189
United Kingdom	28,159	27,856

Source: UN Comtrade, July 2003

Import value of fresh cut foliage in 2000 and 2001 (US \$1,000) - Five-year trends

The five-year picture, 1997 to 2001, shows that the total value of world floriculture trade is up less than one percentage point, but that the volume traded is up 61%. In Europe the total floriculture value is down 3%, but volume is up 62%. In the United States, value is up 13% and volume is up 61%.

Quantity statistics of the floriculture trade cannot be compared. European countries measure imports in tons, while the United States reports their quantities in units. Nonetheless, it appears that the volume of trade of cut flowers is up smartly. The live plant business is up strongly in the United States and the Netherlands, but down in Germany. Cut foliage imports are up, both in the United States and the Netherlands, because of their use of foliage in supermarket bouquets, but down in most other markets. The total value of the cut flower trade was down 5.5% in 2001 compared to five years earlier. The dollar value of imports of live plants, not including Christmas trees, was up 5%. The value of cut foliage imports was up 6% during the five-year period.

The value in dollars of European trade was adversely affected by the decline in the dollar exchange rate during the period. There was also underreporting of volumes of floriculture after the formation of the European Union. But even correcting for these two factors, the European floriculture market was not able to increase its growth because of a drop in sales in the largest of the world's markets, Germany.

During the five-year period, the percentage of German trade of all world floriculture commerce dropped from 25% in 1997 to less than 18% in 2001. The country reported that cut flower imports between 1997 and 2001 dropped 32% in dollars, and 28% in units. German imports of live plants were off 31% in value and 40% in units. Cut foliage imports were also off slightly. Since Germany is the world's largest import market for floriculture, and much of its depressed state were also reflected in Switzerland and Austria, no matter what the increases in other countries, the whole world market was affected negatively.

United States imports of cut flowers were off 4% in value though the quantities held. The imports of live plants was up 62% both in value and volume. Cut foliage imports were valued as up 25%.

French imports of cut flowers were up 20% in value and 9% in volume, though down 17% in volume from the import high in 1999. French imports of live plants were up 19% in value, but down 8% in volume, reflecting the import of larger, higher quality product.

The Netherlands reported a five-year increase in the value of cut flower imports in dollars. Imports of foliage were up slightly in value and up 13% in volume in the five years, indicating a significant increase in use of foliage in supermarket bouquets.

United Kingdom imports of cut flowers were 21% higher in value and 31% higher in volume at the end of the five years. Imports of live plants were up 32% in value and more than doubled in volume.⁶¹

Cut flower industry in the mid-1990s

From ILO website⁶²:

"The world cut flower trade is characterized by a high degree of concentration by product and sources. Roses are the main traded product, Germany is the main market for imports, and the Netherlands the world's leading exporter. Figures 1, 2 and 3 give trade flows by main region. They show in Europe the overwhelming share of the Netherlands as a supplier to Germany. Exports from the Netherlands to Germany are a principal component of the world cut flower trade; they made up 43 per cent of total EU exports in 1994. Switzerland, France, and the United Kingdom are the other main markets for Dutch flowers. In the Americas, Colombia stands out as a supplier to the United States (Ecuador is a good second), while in Asia, Japan (Asia's main market) receives its supplies from a more diversified base, with Taiwan (China), New Zealand and Europe being the most important ones.

...

International trade is thus, to a large extent, organized along regional lines. Asia-Pacific countries are the main suppliers to Japan and Hong Kong. New Zealand sells 70 per cent of its exports to Japan; Taiwan over 90 per cent. Hong Kong's principal suppliers are China, Taiwan (China), Malaysia, Singapore and

New Zealand. African and other European countries are the principal suppliers to Europe's main markets. Kenya sends over 60 per cent of its exports to the Dutch auctions; Zimbabwe 80 per cent, and Zambia over 90 per cent. The United States is supplied mainly by other countries in the hemisphere for which the United States in turn is their main market, Colombia and Ecuador being typical with over 70 per cent of their exports going to the United States.

...

World imports are highly concentrated geographically (table 2). Germany is the largest import market, followed by the United States. The Netherlands, the United States and Japan show fast growth, while German imports stagnated in the first half of the 1990s.

Europe takes around 70 per cent of world imports (much of which is intra-European trade), Germany alone taking close to one-third. Other sizeable European markets are the United Kingdom and France (both 9.7 per cent in 1995), the Netherlands (8.4 per cent) and Switzerland (4.5 per cent). The Netherlands re-exports a large proportion of its imported cut flowers (70 per cent of all auctioned imports (Protrade, 1996, p. 53)).

...

Most imports into the EU originate in other European countries, although the share of developing countries is growing rapidly. In 1990, developing countries' exports to the EU amounted to 243 million ecus (14.4 per cent of total EU imports). By 1995 these had grown to 409 million ecus, or 20.8 per cent of total EU imports of cut flowers and foliage (Protrade, 1996, pp. 2-3). The main non-EU suppliers of the EU are Israel, Kenya and Colombia. Imports from Ecuador, Zimbabwe and Kenya increased rapidly between 1993 and 1996 while those from Colombia decreased (table 3). Imports into the Netherlands originating in countries outside the EU show a comparable picture. Israel and Kenya are the main suppliers. Ecuador, Zambia and Zimbabwe show dynamic growth, while imports from Colombia are on the decline (table 4).

...

Europe is the principal source of the world's exports, albeit with a declining share from the 70 per cent peak reached in 1991. Developing countries as a group saw spectacular increases in market share, in less than four years making up around one-quarter of world exports by 1995. The Netherlands remains the world's leading exporter but again on a declining trend, from 64 per cent share of world exports in 1991 to 57 per cent in 1995. Colombia is second at 14 per cent (table 5). Kenya doubled its share to 2.7 per cent, Ecuador quadrupled, also to 2.7 per cent, while Zimbabwe tripled to 1.3 per cent. New Zealand, Malaysia, Belgium-Luxembourg, India and Guatemala more than doubled their share, but this was still below 1 per cent in 1995.

...

The main export destinations of EU exports are other EU Member States. Intra-EU exports of cut flowers and foliage account for 82 per cent of total EU exports (1,800 million ecus). Germany is the major market, accounting for around 1,000 million ecus or nearly 50 per cent of the total export value in the EU. Exports from the Netherlands to Germany amounted to about 43 per cent of total EU exports in 1994. Extra-EU exports stood at 304 million ecus in 1995 (Protrade, 1996, pp. 26-27). 1.2.3 Products
Roses and carnations are the principal traded products, with the share of the former growing steadily and that of carnations stagnating. In 1995, world rose imports totalled Sw.frs.791 million and accounted for 23 per cent of all imports, while carnations had a 15 per cent market share, followed by chrysanthemums 9.5 per cent, orchids 1.7 per cent, gladioli 0.3 per cent and all other flowers 49.9 per cent (table 6). Between them, roses, carnations and chrysanthemums make up close to 50 per cent of the world cut flower trade. Table 6 also shows that preferences can differ markedly depending on the market. In the United Kingdom, for instance, carnations are far more popular than roses, whereas the Swiss buy very few carnations." (from ILO website⁶³)

The Netherlands and Colombia are the two biggest exporters of cut flowers to the US.⁶⁴

Floral greens

"Various products are more popular in the U.S. than abroad, and vice versa, but in many cases it is the seasonal demand for floral greens in the Netherlands that determines the price for harvesters on a daily basis. Harvesters know when to increase their efforts according to when markets in Europe will need florals for holidays like Valentine's Day and Mother's Day. Buying companies in Washington that buy directly from harvesters can then refrigerate the product for weeks or even months until the prices are highest in Europe, then ship them for the three week trip to the Netherlands. This means that harvesters often receive only a fraction of the true price of the product because they have no capital to invest in refrigeration systems of their own; and buying companies in the U.S. have the majority of the control over prices in the floral greens industry."⁶⁵

"The effects of globalization on natural resource management in western Washington become clearer when one considers that floral greens from the tropics are in direct competition with products from Washington in the market-place; boxes of "leatherleaf" fern from Costa Rica sit on the same shelf in the Netherlands as boxes of salal from Olympia, Washington. Leather-leaf, however, is generally grown on plantations without forest overstory, using shade-producing netting, pesticides, fertilizers, and machinery in addition to labor. Preliminary interviews suggest that as product quality from Washington decreases due to over-harvest in some areas, European markets can easily turn to the mass-produced tropical products like leather-leaf as a replacement."⁶⁶

Companies

Cut Flowers and Greens: Wholesale and Distribution (82 corps)

http://dmoz.org/Business/Agriculture_and_Forestry/Horticulture/Ornamentals/Cut_Flowers_and_Greens/Wholesale_and_Distribution/

Chart of Supply Chain Values

Harvesters	Sheds	Six-Pack	Wholesaler 1	Wholesaler 2	Retailer	Total Value	Source	this report
\$48M			\$128M				Wash LNI 2005 citing WSU 1989	p9, 11
	\$54M		\$130M				anon memo to Wash LNI	p11
		\$40M					Wash LNI 2a:189	p11
			\$128M in OR WA & BC in 1989				Schlosser 1991	p 9
						\$695M cut foliage trade worldwide	FloraCulture International citing UN statistics 2001	p 15
	C\$55-60M in BC in 1997						Gagne 2004	p14-15
	\$85M cultivated greens Florida 1997						FFGA 2001	p13
						\$236M in WA in 2002	Wash LNI 2005	p11
						\$190M in PNW	Wash LNI 2005	p9
						\$250 in PNW	Wash DNR 2004	p9
						\$111M cut foliage in US in 2002	USDA NASS Floriculture Crops 2002 Summary	p5
						\$92M cut cultivated greens in 2004 (\$76M was from FL)	USDA NASS Floriculture Crops 2004 Summary	p5
						1990s US exported \$37M floriculture products to Germany a year, mostly ferns & other cut greenery.	USDA FAS 1996 ⁶⁷	p8
Vancouver Island salal harvesters paid \$20-\$50M per year. ⁶⁸							Non-Timber Forest Products Workshop	p15

						Special forest products in BC pre-tax revenues \$80-\$105M in 1998; employed 16,000-25,000 pickers.	LNI 1.1:469	p15
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NOTES:

The Sheds and the Six-Pack companies are subsets of Wholesaler 1 (see Jefferson Center Bulletin 4, page 6). Wholesaler 2 and Retailers are often European companies.

The Political Economy of Floral Greens (from Spreyer 2004)

Excerpt from Chapter 2 of *Tales from the Understory: Labor, Resource Control, and Identity in Western Washington's Floral Greens Industry*, by Kurt Konrad Spreyer. Ph.D. dissertation, University of California, Berkeley, 2004.

The Political Economy of Floral Greens, Phase 3: 1989-2002

The late 1980s and early 1990s was a watershed period for the regional floral greens industry. The largest greens company in the world moved into the area, the DNR and private land managers became more aggressive in seeking rent from leases, and Latinos quickly moved to the center of the harvest and processing labor markets. The tumultuous industry began to draw the attention of legislators, the media, non-profit professionals, and agency and academic researchers.

In the early 1990s, European market demand declined for the first time in decades.⁶⁹ A general recession in central Europe was offset to some degree by the expansion of eastern European markets after the collapse of the Iron Curtain.⁷⁰ Global markets expanded, including those in the United States and Japan, but competition from cultivated cut foliage producers in the southern U.S, New Zealand, and the developing world was fierce.⁷¹

These changes put pressure on prices, margins and profits for greens wholesalers in the Pacific Northwest.⁷² They also reflected a shift in the floral products industry from an emphasis on high-volume commodity production to a focus on quality, characterized by strategies to capture surplus-value through specialization and segmentation of production processes. Efforts to achieve higher quality, and adhere to ecological and labor standards, required capital investment in production facilities, research, labor and 'cold chain' storage and shipping technologies for both cut flowers and cultivated cut foliage. This was further fueled by the emergence or expansion of extensive cut flower and floral greens cultivation and export operations across the global South, in countries such as Kenya, Sri Lanka, Columbia, Thailand, and particularly India and China.⁷³

Western greens wholesalers generally failed to follow global trends. Wild land harvest, rather than cultivation, remained standard practice. There was relatively little effort by most producers to establish higher product quality, or labor and ecological standards. Instead, wholesalers continued to focus on high-volume commodity production with little value-added processing. Competitive advantage was sought by appropriating greater surplus-value through increased domination of labor. Players pursued strategies based on intensified struggles over resource access and control, efforts to shape regulatory regimes to favor larger operations, limited innovation and investment in 'cold chain' storage and shipping facilities, professionalization of management, further vertical and horizontal integration, and some product diversification.⁷⁴

Salal remained the primary product for almost all buyers and wholesalers. Why would increasingly sophisticated firms continue to rely on wild land harvest in a shifting environment of leases and permits, when others in the industry were moving into tarp covered fields and greenhouses? Part of the answer to this question lies in the biology of salal and other western greens. The relatively low perishability of cut salal, due to its woody stem and hardy leaves, allows it to be handled with far less care than many other greens and stored for up to six months prior to retail consumption. Thus, harvesting and transportation by relatively low-skilled labor from remote wild land locations to processing and storage facilities does not greatly affect quality. The sheer abundance and resiliency of salal, despite a range of harvesting practices was a key incentive for not moving to cultivation. The low value of the product on a per-stem basis

relative to other floral greens also militates against shifting to cultivation, with high costs of conversion and long term production. Finally, the hidden nature of wild land biological reproduction and harvesting and lack of knowledge concerning its long-term ecological effects allows for a relatively unregulated appropriation of surplus value from labor and value from nature. All of these factors have underpinned the capital accumulation strategies pursued by wholesalers since the late 1980s.

The failure of wholesalers to follow the global trend to a more flexible, market orientation based on cultivated, high quality and specialized products has driven the regional industry toward new crises that eventually may spell disaster for in Mason County and the region. The continued exploitation of recently formalized resource tenure institutions, racially segmented labor markets and shifting ecological niches allowed players to temporarily push the ecological limits of production.

Boughs and Christmas greens

The expansion of the Christmas greens industry during the 1980s-1990s played an important role in structuring harvest labor markets and influenced other aspects of the greens industry.⁷⁵ A complicated relationship developed between the two industries during this period. Bough harvest and processing of Christmas greens in the form of wreaths, garlands, sashes, and ornamental arrangements had been part of the Christmas tree companies' and floral greens wholesalers' operations since the beginning. In the 1970s, the highest volume item was garlands. In the early 1980s, Alpine Evergreen and Hiawatha employed a few dozen people each making wreaths during October and November. The bough industry had used Balsam fir in northern New England, eastern Canada, and the upper Midwest since the turn of the century. Western red cedar and white pine from the west were used in small quantities. But, changes in the Christmas tree industry affected the available supply of raw materials for Christmas greens. Noble fir boughs from new Christmas tree farms in southwestern Washington and Oregon grew rapidly in market share during this period. When noble fir farms expanded to the point of over-capacity by late 1980s, they were forced to high grade and cull, leaving poorer quality trees to be harvested for boughs. This abundance of supply attracted greens wholesalers, who had the supply networks and processing infrastructure to develop the business. Raw materials were soon supplied to these wholesalers by as many as forty small greens buyers, many of whom contracted with Christmas tree farmers for bough harvesting.

When Hiawatha began mass-producing wreaths in the late 1980s, they were able to capture a large market. Soon other greens producers followed their lead, and the regional industry grew. As greens wholesalers expanded their Christmas greens operations, the two industries became more intertwined. They used the same storage and processing facilities, relied on the same managerial staff, and utilized some of the same upstream and downstream exchange networks domestically. Most importantly, bough operations soon developed into the primary source of income for many greens wholesalers and became part of the seasonal cycle for a new labor force.⁷⁶

Latino labor and labor market competition

Perhaps the most significant shift in the industry in the late 1980s involved the entry of Latinos into the harvest labor market. This signaled opportunities for wholesalers and lease holders to appropriate greater surplus-value, as the harvest labor market was soon flooded with workers who were particularly vulnerable to domination. Latinos had worked seasonally in the forests of the Pacific Northwest as tree planters and in the Christmas tree industry and associated bough harvest in small numbers since at least the 1970s. Crews were adopted from the central Washington fruit-harvesting model of organization in the Christmas tree industry starting in 1985, when the Douglas Fir Christmas Tree Company contracted for over one hundred workers from an Oregon-based Latino labor contractor.⁷⁷ Hiawatha first hired from the same labor contractor in 1989, replacing high school students and European American women wreath makers with Latinos – mostly men. Over three hundred people were recruited and paid piece-rates to

make tens of thousands of wreaths that year. The new workers rationalized wreath-making by replacing individual assembly of entire wreaths with assembly line techniques that increased productivity as much as three-fold. When the Christmas season ended, workers took advantage of the opportunity to pick greens and work in processing facilities, and the labor market changed almost immediately.

Until the mid-1990s, Latino harvesters were predominantly migrants. Most came from Mexico via California, other areas of the Pacific Northwest, and parts of the Southwest. Many had worked in the Yakima Valley, picking apples during the fall before traveling west to Mason County in order to make wreaths, cut boughs, and pick greens. Migrants soon stayed because the greens industry offered opportunities and benefits that other work could not match. These included: relative independence and flexibility on the job; steadiness and availability of work for up to ten months per year; little regulatory enforcement; availability of supplemental work in related local industries; and the potential for higher wages than in most agricultural jobs.⁷⁸

In the late 1980s and early 1990s, middle men, most of whom were European Americans, played a large role in the labor market. They established relationships with wholesalers, negotiated to supply deliverables, and assembled crews on an as needed basis. In this way, the middle men served as informal labor contractors, who managed a great deal of the labor force on a tree-planting model of contract labor. This broke down in the mid-1990s, as more people came into the market and newly resident Latinos established direct or networked relationships with buyers, leaseholders, and wholesalers. European American middle men decreased in importance, as they were no longer needed by many pickers and leaseholders, although newcomers and others were still recruited through middle men. But, many of these informal labor contractors were Latino raiteros or Southeast Asians. Raiteros are generally established members of the resident community. Most have been pickers themselves, who organize workers in small crews, usually of between four and eight pickers. Some raiteros were successful in organizing multiple crews and larger crews, and may have dozens of workers available as needed. Successful raiteros also moved into buying and leasing operations.

By the late 1990s, many Latinos had settled in the Shelton and Belfair areas.⁷⁹ The pressure on rural livelihood strategies in Mexico caused by NAFTA and neo-liberal policies and accelerated by the financial crisis of 1994-95 pushed more and more young Mexican men and women to seek opportunities in the United States.⁸⁰ Anecdotal evidence suggests that many came from south and central Mexico.

Guatemalans also entered the regional harvest labor market during this period. Some had come to the United States under refugee status in the early and mid-1990s, often in family units. Others were able to come under an amnesty program in 1997. According to informants, some were recruited in Guatemala by labor contractors in order to work for particular greens companies. Many were indigenous Mayans, who arrived with no English or even Spanish language skills. Without established connections to leaseholders and buyers, they tended to enter at the bottom of the labor market. Rarely do crews include both Mexicans and Guatemalans, unless a Mexican crew leader works with a Guatemalan crew.⁸¹

Mexican and Central American crews soon became essential to the large lease operations organized by big wholesalers. Most were recruited through informal, word-of-mouth networks to harvest on leased land, where they could earn between \$40 and \$80 per day. Often undocumented, with poor English language skills, no savings to acquire lease land, and limited knowledge of local employment opportunities, newcomers were particularly vulnerable to control by leaseholders. Most leaseholders consider brush pickers to be independent contractors, who pay 10% stumpage for the right to harvest. As such, they are legally free to sell their product to any buyer. In most cases, however, there is a clear understanding that all product must be sold to the leaseholder or their associated buyers if the worker hopes to be issued further permits.⁸²

The remaining old-timers and new European American harvesters found it difficult to compete in this new labor market. Many quit harvesting or moved to specialty products and value-added processing. By the early 1990s, few Southeast Asian harvesters continued to harvest salal in Mason County. Some turned to harvesting beargrass, mushrooms, and other products or moved operations to other areas. One major exception was on Simpson land, where Cham brush pickers continued to harvest for Mill Creek and acquired a large amount of lease land by the late 1990s.

Resource tenure and resource access

As land owners and managers grew increasingly aware of the value of floral greens and other non-timber forest products (NTFPs) in the late 1980s, they sought to control access and secure rents from harvesting through increased use of fee-based permits and leases.⁸³ As property relations shifted, statutory property rights overlapped with the customary usufruct claims that old-timer harvesters and other rural residents made to forest resources. This offended many people with traditional rights to enter timber land to hunt and gather firewood, downed cedar and a wide range of NTFPs.⁸⁴

Most land owners preferred to keep down administrative costs by leasing to large-scale operators. New policies governing access set up obstacles to lease holds by those with little capital. They also reshaped the landscape of resource access. Some European Americans pointed to Latinos and Southeast Asians as the cause of their difficulties in gaining access to resources, missing the broader shift in land tenure, its relationship to labor markets and processes, and its implications for them as a racial group.⁸⁵ In the context of rural socioeconomic and demographic change, new resource tenure policies put a heavy burden on those who had considered the forests a community resources for decades.⁸⁶

For wholesalers, securing access to land became more important as competition for raw materials increased in the early 1990s. For the first time, they were interested in leasing all available land, including unproductive land with no salal that abutted good greens patches in order to deter theft and smooth relationships with land managers. Some small buyers and wholesaler-funded shadow firms also acquired leases. The result was diverse and fluid patterns of lease holding that reflected differences of ecology, geography, land manager priorities, and resource access and control strategies. The details of lease and permit programs on DNR, Simpson and Forest Service land are describe in chapter four.

Demand for raw materials drove competition for land outside of Mason County. Salal grows from Alaska to California, but was historically harvested primarily between central Oregon and central British Columbia. As demand grew, resources were sought further from historical supply centers and more marginal land was harvested. The private industrial timber land south of the Olympic Peninsula saw more activity. The northwestern area of the Olympic Peninsula near Forks and the northern part of Vancouver Island became important supply areas in the mid-1990s.⁸⁷ This created opportunity for new players and led to increased competition for control over these areas through leases and satellite network expansion.

Greens markets: supply, demand, and prices

Mason County's greens wholesalers sell domestically to floral products brokers and wholesalers, floral retail chains and supermarket chains, as well as direct to retail stores. Most wholesale exchange in domestic markets is done in pre-order basis. These markets are diverse in terms of product demand, with huck, beargrass, and rush accounting for a far greater percentage of product sold relative to salal than in Europe. The expansion of supermarket retail floral bouquet sales in Europe and the United States since the mid-1990s has been a significant boon to wholesale demand.⁸⁸

European retail market volume declined significantly in the early 1990s, in step with a general decline in floral products (aggregate cut flowers, potted plants and cut foliage) imports in Europe and globally.⁸⁹ The constriction of market demand accentuated the competitive pressures experienced by western greens wholesalers as margins continued to tighten, global suppliers focused on product quality, diversification and price reduction, and new, leaner and more flexible regional players entered the wholesale trade.⁹⁰

Seasonal price cycles vary with supply and demand. High points of European demand are tied to holidays, particularly Christmas, Valentines Day, and Easter. Wholesale greens prices rose between the mid-1970s and the early 1980s, stabilized briefly, and then declined steadily in real terms beginning in the late 1980s.⁹¹ As prices declined throughout the 1990s, margins tightened, and salal tips became the most competitive and least profitable product in the regional greens industry. By the late 1990s, the larger companies reported that they made very little money or actually took losses in salal. Some informants, however, argue that wholesalers still make standard markups of 100% on product, with very low production costs. In any case, the salal trade allows wholesalers to utilize infrastructure and retain their labor force throughout the season.

Western greens supply is primarily affected by seasonal availability, which is driven by weather, reproduction cycles, and the biogeography of resources. Larger firms have more successfully mitigated the biologically determined risks associated with salal production. The key issue is freezing, which can cause significant price spikes. By having ample cooler space, firms can average down seasonal price flux and meteorological shocks, such as the ice storm of 1996.⁹² Supply can be also limited by other factors as well, such as labor shortages before Christmas. Marginal areas with commercial quality salal may remain unharvested due to the added costs of transportation, access, and buying infrastructure.

The expansion of salal production in British Columbia, particularly on Vancouver Island has contributed to increased supplies in global markets. Canadian greens producers had been in existence for decades, but sought to expand production significantly in the 1990s. Canadian operators have some distinct advantages over those in the United States. First, the regulatory environment is relatively undeveloped in Canada, so there are lower costs associated with labor and environmental law compliance and rents on state land.⁹³ Second, a great deal of high quality product is available on Vancouver Island, due to the timing of timber management practices and the low level of residential infrastructure development. Recent estimates suggest that production on Vancouver Island at approximately forty-eight million bunches of salal per year at a value of Canadian \$45-50 million.⁹⁴ Much of this is exported directly overseas, but some is imported into the US and sold to wholesalers in western Washington. Informants mentioned the specter of increased competition from Canadian exporters, fearing that markets may be flooded with supply in the near future as Canadian production expands.

Competition was also driven by the growth of the global cut foliage industry. Until the late 1980s, western greens were by far the dominant products available domestically and internationally. This changed in the 1990s, as alternatives from Chile and Argentina were able to compete in terms of cost and perishability. Soon, greens from Central America, South Africa, New Zealand and other areas were available on global markets. The expansion of leatherleaf fern floriculture in Costa Rica and Florida was the single most significant factor driving up global supplies and influencing prices.⁹⁵

Competitive pricing became more important to wholesaler strategies to forge downstream exchange connections and capture market share. Low prices reduced margins, reinforcing the high-volume based commodity export strategies that have remained the focus of regional competition. These strategies, in turn, continued to drive competition in raw materials, and push productivity.

Some informants blame recent price deflation on Cham and other small wholesalers who seek out domestic brokers and undercut established wholesalers. Others dispute this, arguing instead that the

weakness of wholesalers in relation to both domestic and international buyers is the cause of price deflation. Wholesalers in the Pacific Northwest have not received anywhere near the level of direct state subsidy provided to leatherleaf growers in Florida and elsewhere.⁹⁶

Competition among large wholesalers

Western greens wholesalers continued to focus on high-volume export commodity production, as competition for market share at the regional and global levels heated up. Global competition put wholesaler strategies to the test, pushing them to pursue the resource control and domination of labor. Players sought product supply and market niches in which they could successfully compete. This drove innovation in advertising and product type. For instance, by the late 1990s, two new salal products – bouquet (with stems of over 18 inches) and minis (with three leaves and a short stem) had been added to the two traditional products, tips and longs. New products, such as rush, and value-added products, such as dyed beargrass, were also marketed. New, smaller firms developed new products and market niches. While big wholesalers also diversified product lines, they continued to focus on high-volume production of salal tips.

Continental Floral Greens opened a large shed in Belfair in 1989. Headquartered in San Antonio, Texas, Continental is the largest wholesaler of floral greens in the world, with extensive floriculture operations in Mexico, Central America, Florida, and elsewhere.⁹⁷ Continental seized upon the opportunity to exploit a domestic supply of cheap raw materials in the Pacific Northwest. They already had a fleet of trucks and drivers, as well as relationships with floral product brokers throughout the country and the world. They hired managers from the area, who knew the business. They brought professional administrative experience and knowledge of the global greens industry to the table. The company was quickly able to obtain leases with private timber land owners and to concentrate on high-volume commodity production of salal and other greens for domestic markets. Continental did not, and for the most part still does not, focus on wreath-making and other Christmas ornaments. The scale and competitive pricing capabilities of the operation and their ability to under-price competitors in domestic markets put pressure on other firms.

Economies of scale became more important, as only larger firms were able to supply the consistent quality and quantity of product demanded by European and domestic brokers, as well as absorb risks associated with aggressive competitive strategies as margins tightened. High capitalization allowed leading firms to absorb the risk associated with fronting money to harvesters, buyers, and leaseholders, facilitating the establishment of flexible supply networks, creating leverage over workers and engendering loyalty. The leading firms acquired reliable credit, which was essential to product innovation and expansion of product volume, storage facilities, managerial capacity and solidifying downstream exchange relationships because it allowed for consistency of supply. This shielded them from the risk that product might be rejected by brokers as being damaged or of inferior quality. It also allowed them to cover the cost of more product during the three to six weeks between loading it on trucks at the processing plant door and receipt of payment from European brokers.

Wholesalers and buyers more actively sought out leases and permit arrangements on private industrial timber land. For instance, Hiawatha entered into an exclusive lease arrangement with Manke timber company, and Cascade Floral Greens arranged leases on most available Weyerhaeuser land south of the Satsop river in southwestern Washington. Tahuya State Forest leases were still coveted by family members of wholesaling firms, eventually driving up the cost of leases significantly.

High levels of capitalization allowed larger firms to expand satellite supply networks and warehouse space, and to adopt large-scale refrigeration necessary for arbitrage strategies based on seasonal supply cycles. During the late winter and early spring, labor is freed up from Christmas greens work and ready

for a second round of harvesting. At this time, wholesalers buy large quantities of raw materials at low prices (typically \$0.45-0.50 per bunch in February and March). The greens are stored and sold at the top of the market during late spring and summer budding, when less product is available and prices are substantially higher. During this period, wholesalers can sell to foreign brokers or supply other domestic wholesalers that have insufficient storage facilities. Arbitrage gives enormous advantages in price-realization and allows for mitigation of risk associated with meteorological uncertainty and the possibility of disease. But it has a downside of larger-scale losses due to fungal disease or other unforeseen problems associated with long-term, high-volume storage.

Wholesalers continued to use 'shadow firms' owned by family members, friends, and employees to lease land, buy greens, and serve as intermediaries with the harvest labor force. This practice can be traced back to the Christmas tree wholesalers, who farmed out buying operations. Separating buying and land leasing from selling allows for a great deal of flexibility in controlling exchange networks and creates a barrier between the labor force and the companies. This keeps costs down, and many informants claim that it has allowed for more under the table tenure arrangements, labor practices, and product exchange. It has also historically insulated the companies from the charge that harvesters are employees, entitled to employee benefits, including workman's compensation insurance.

Independent and satellite buyers

Competition for raw materials has intensified between small and mid-sized independent buyers and satellite buyers. As large wholesalers and their shadow firms gained increased control over lease land, requiring harvesters to sell to them, the independent buyers were squeezed for supply. Many dropped out due to old age, were driven out by competition and inability to match prices paid for low quality greens by wholesalers, or were integrated into the expanding satellite systems. Others were able to survive by buying large amounts of undocumented product. They also competed for raw materials by paying inflated prices.

Many smaller new sheds were operated independently by European American harvesters, who bought greens from local harvesters, stored them in their garage for a few days, and delivered pre-bundled shipments to wholesalers. Medium-sized sheds had a few thousand cubic feet of refrigerated storage and regular contract deliveries to wholesalers. Their ability to compete sometimes depended on relationships with wholesalers, who paid a 20-30% premium to independent buyers for pre-sorted and bundled product of consistent quantity and quality. Such arrangements often evolved into de facto satellite relationships, as wholesalers absorbed independents. This allowed wholesalers to compete indirectly for supply in areas in which competitors controlled lease-land and buying networks, effectively skimming off the top in local supply niches.

By the late 1990s, some mid-sized buyers who had survived the shake-out of the previous decade were able to establish relationships with European wholesalers. Lower overhead costs enabled them to undermine the dominant position of the large wholesalers by underselling them. This reflected a dominant pattern in the floriculture industry, in which vertical links in commodity chains were shortened by skipping over mid-level wholesalers or brokers.⁹⁸ Initially the buyers contacted the Europeans. Soon, Dutch and German brokers came to the Pacific Northwest, looking for small buying operations in Washington that would sell directly to the brokers in the Netherlands to. They paid for product prior to shipment, offering direct loans and backing bank credit. Cham Cambodians were leaders in this move to supply lower-priced salal. Large wholesalers in the region are very concerned about these competitive pressures, which is driving many to seek to capture more U.S. market share.

There are shifting market niches, supply locations, and labor processes in which differential scales of capitalization can give players advantage in gaining access to raw materials and distribution networks.

Smaller firms may be able to exploit advantages in lower overhead, including physical plant, payroll, and capital costs. With less cooler space to fill and few employees to retain, they may be burdened by less risk associated with short-term under-supply or stored product disease. Smaller firms may be more adaptive and flexible in shifting markets than large firms with high sunken capital costs and formal and informal connections up and down distribution streams that tie them to their traditional focus on high-volume commodity production. Many specialize in market niches requiring value-added processing – e.g., specialty ornamental crafts, which a number of small European American buyers produced in the 1990s.

Latino and Southeast Asian harvesters and buyers were able to gain competitive advantage by means of increase self-exploitation and utilization of identity based social, labor and product exchange networks. Informants described the willingness of non-European Americans to work relatively long hours and labor in hazardous or unpleasant conditions for relatively low wages. This tendency is reinforced by social practices, such as sharing housing, food, and transportation costs among many workers and family members and the ability to more effectively avoid some of the financial costs associated with legally recognized employment status and citizenship (e.g., payment of income taxes).

Latino and Cham-owned sheds that emerged in the 1990s were often able to operate more effectively under the radar of regulatory agencies, such as The U.S. Occupational Health and Safety Administration and the U.S. Department of Labor. These sheds have also benefited from the ability to recruit and utilize labor through racially and ethnically differentiated networks. Paternalistic relationships that differed from the ones established between Latino workers and large wholesalers, for instance, allowed for greater flexibility in access to labor supply, wages and organization.

The new satellite and independent European American, Cham and Latino sheds reflected and facilitated intensified harvest in long-established areas of Mason County and the expansion of picking areas throughout western Washington, from the Cascades to the northwestern Olympic Peninsula. They also were a focal point of an increasingly conflict-ridden scramble for raw materials.

Conclusion: The Emerging Crisis

Wholesalers and buyers have sought to compete during periods of crisis by pursuing innovative strategies to dominate labor processes, resource tenure systems, and exchange networks. The introduction of racially differentiated labor markets has been a key means of resolving the supply shortage problem in the mid-1970s and the competitive pricing issues that began in the late 1980s. The ability to capture surplus-value through domination of labor – by expanding and increasing the productivity of the labor force – was the central issue for firms faced with an increasingly competitive economic environment and growing regulatory pressures. As global markets expanded, firms sought to control market share by providing consistent high quantities of product. Success in supplying markets led to further capitalization, which, in turn, allowed firms to dominate domestic exchange networks by pursuing technological innovations, vertical and horizontal integration, control over more lease land, and professionalization of management.

By the late 1990s, a new crisis of capital accumulation had emerged that will shape the development of the floral greens industry in Mason County and the Pacific Northwest in coming years. Overharvesting and unpermitted harvesting threatened the stability of raw materials supplies. This was grounded in changes in labor processes, the reproductive capacity of ‘overharvested’ resources, and the nature of accountability and regulatory control in the industry.

The emerging crisis is another point of inflection in the structuring of production and exchange. Livelihood and business strategies are driven by a complex set of historical market relations and other factors. Each moment of crisis has precipitated new, more sophisticated, means of engaging biological

barriers, pathways, and risks to capital and resolving the business organization problems faced by wholesalers. The reconfiguring of racially and ethnically mediated labor, tenure, and exchange relations described in this chapter are at the core of these strategies. The system that has evolved in the last decade encompasses power-laden relationships that are reinforced and contested daily. The resolution of the critical issues of the current crisis will be based on continued restructuring of these relationships through negotiation of resource access and control throughout the forest to florist commodity chain.

Washington Dept of Labor & Industries Files

Six Department of Labor and Industries files were compiled as a result of public disclosure requests. Although there were 6,980 pages in the electronic six files, they contained little perspective on the industry at the regional, national or international levels. Many of the documents were duplicated across the files. A few documents in the files mentioned the dollar value of the state or regional industry, but it was largely information published in previous years in academic papers or in the news media. Most documents were copies of forms and reports used by Washington State agencies to audit and report taxable labor. There were a few copies of audits of brush sheds, consisting mostly of interviews with workers, but also including some wage, hours, and revenues for by specific companies. These have been noted below and summarized in the Industry Overview section above.

Note: LNI files page numbering is as follows: [electronic file number : page numbers]

1:70	bid amounts
1:72	Eagle Mountain Products, Rain Forest Evergreens, Hoh Grown, Sol Duc Evergreens
1:75	Brothers United wages
1:76	Olympic Evergreens - 150 pickers
1:80	not employees because don't track hours
1:82	C & J Cedar, Green Crow, Mountain Mist Floral Greens
1:87	Olympic Forest Co, Skaperud Timber Co
1:88	Two Noble Guys; Leo Salazar - Rayonier - sells to Brothers United - 80,000 bunches; Hector Jimenez - Cascade - Hiawatha
1:92	Turnbull Evergreens
1:94	Europe sets price for tips; Rain Forest Evergreens
1:95	Aberdeen Green
1:96	PT Evergreens
1:100	300,000 Mexicans in Oregon; recent trend is more indigenous people with only 20% speaking Spanish
1:114	T&N Contractor sells to Continental, PCE, Golden Eagle, Hood Canal, PCE gets from DNR .35/b/beargrass, .10/b/beargrass, beargrass \$50 for 5 days; Tacoma Tax & License contact
1:120	Natural Evergreen sells to Contiental, Mountain Nature Greens, Select Floral
1:131	Hiawatha list of wages paid for certain days
1:135	Antonio [Lopez?] rents 6,000 acres for 3 years for \$8,000
1:137	people who died
1:139	Olympic National Forest harvest 16,940 acres stumpage \$7500 for 6700 acres for 3 years; 150,000 bunches - 16,940 acres
1:184	Olympic Evergreens
1:188	get paid .50 per bunch
1:190	pickers pay \$75 permits for 5 days
1:207	Quality Evergreen Products owned by Pacific Coast (Puget Sound Evergreen)
1:467-529	testimony about how picking & packing business works - prices paid, etc
1:629-645	wages paid by Cascade Floral Products 2001-2004
1:661-672	wages paid by Continental Floral Green 2001-2004
1:759, 767	list of companies with brush land leases: Rayonier, Weyerhaeuser, Forest Systems, Green crow, MSR/Green Crow/Merrill Ring, Port Blaekely, Gleason Skik, Kirk, Manke, Hampton, Hancock, Menasha, Campbell Group, Murray Pacific

1:806-817	wages paid by Hiawatha 2001-2004
1:821-828, 849-856	list of 44 brush sheds January 2005
1:831-833	list of 22 brush sheds
1:862-863	list of buying stations
1:890-891	Washington Farm Bureau memo to LNI states 50 evergreen containers are exported from PNW weekly, and domestic sales account for another 15 containers. There are 10,000 vendors [pickers] in Canada, WA, ID, OR, and CA.
1:1009-1020	wages paid by Hood Canal 2001-2004
1:1032-1067	list of Washington DNR land leases
1:1087-1091	Perkins Coie to DNR letter arguing that land leases don't create LNI liability
1:1105	2002 Washington DNR memo stating that DNR has 40 brush and bough sales or leases not counting non-exclusive permits
1:1109	list of DNR commercial land leases for special forest products
1:1117-1118	February 2005 list of Western Greens Coalition [six-pack] shed companies with name of owner, contact info, and number of employees
1:1159-60	sheds that sell directly to the six-pack companies or Brothers United
1:1167-1169	Nov 4, 2002 Mason County Superior Court declaratory judgement that greens companies are not employers (lists 5-part test); they are not in the picking business, they are in the buying and packing business
1:1170-1175	six-pack companies complaint
1:1262-1265	memo on the sheds' and Farm Bureau's organized resistance to LNI
1:1271-1282	lists from shed audits: name of owner, contact info, number of employees p1359ff; LNI August 2003 report Farm labor Contractor for Specialty Forest Products Industry (complaint form, checklists, regulations, etc)
1:1415-1417	2003 FLC contractor list
1:1467-1477, 1496-1504, 1527-1571	lists from shed audits: name of owner, contact info, number of employees
1:1627-1631	specialized forest products permit for Green Diamond Resource Company
1:1671-1672	Grays Harbor harvesting permits Feb 2005
1:1684-1690	wages paid by Grays Harbor Greens 2004
1:1708-1713	wages paid by Floral Evergreen 2004
1:1722-1731	audit & wages paid by L&O Evergeens 2004
1:1736-1750	audit and wages paid by Elma Evergreen 2004
1:1757	value of PNW salal shipments from 1991-2000 [table appears in Industry Overview section above] from an article in the Seattle Post-Intelligencer, Feb 14, 2002. The article cites WSU's Jim Freed's estimate that the 2003 value of mushrooms, beargrass, ferns, huckleberries, wildflowers, nuts, herbs, and boughs in WA State in 2003 was expected to be \$236 million, according to.
1:1797-1800	Oregon Farmers Handbook on farm labor contracting
1:1804-1806	Arizona Republic news article (Dec 2, 2002) states that non-timber forest products nationwide generates \$5 billion annually. At least half of that is illegal and documented. About half is harvested in the PNW. The 2001 harvest from national and state forests in OR and WA was more than 10,500 tons of pine, cedar, and fir boughs. Harvest of holiday greens and floral grasses in the PNW generates between \$129 and \$500 million a year. It is estimated that 10,000 pickers work legally in PNW national forests, with twice that many working illegally.
1:1839-1857	2004 list of Oregon Farm/Forest Labor Contractors
1:1858-1919	Oregon Bureau of Labor finding and order re Ochoas greens

1.1:54-66	list of 76 sheds, including owner and address
1.1:123-139	Farm Labor Contractor Compliance Project - Report to Interested Parties, January 2004
1.1:150-156	July 2004 draft Brush-Picker Project Plan states that western Washington harvest of specialty forest products is worth \$150 to \$300 million annually.
1.1:262-263	wages for Puget Sound Evergreen 2001-2004
1.1:372-375	wages paid by Two Noble Guys circa 1999-2001 and description of operations
1.1:468-491	December 1998 report on The Need to Regulate Botanical Forest Products in British Columbia states that the special forest products in BC had pre-tax revenues of \$80 to \$105 million per year and employs 16,000 to 25,000 pickers. These are conservative estimates since much is unreported. (p469). Of the 22 companies known to harvesting floral greens in BC, 4 sell to European markets and 18 sell to US distributors (p488). 16 companies exporting edible mushrooms from BC had pre-tax revenues of \$25 to \$45 million per year. Pre-tax revenues for floral greens in BC was \$55 to \$60 million per year. The market for medicinal and nutraceutical mushrooms was \$150 million for North America and \$2.4 billion for North American herbal medicines (p.489, citing de Gues).
1.1:500	A good picker can pick 200 to 250 bunches of salal in a day.
1.1:504	rate for FLC people is 37 cents per day
1.1:513-514	global industry overview PUT INTO GLOBAL NOTES SECTION
1.1:523	Meeting attended by Raymond Evergreens, Simpson Resources Co, Golden Eye Evergreens, Zaldivar's Forestry Corp, Grupo de Trabajadores Hispanos, Alliance of Forest Workers and Harvesters, Noble Valley Farms, Superior Evergreens,
1.1:523	90% of specialty forest products is comprised of salal, beargrass, huckleberry, boughs, cascara, and cones
1.1:534-540	lists of companies audited
1.1:543	list of L&I contacts involved
1.1:545	list of landowner contacts for Rayonier, Green Diamond, Weyerhaeuser, DNR, USFS
1.1:561	L&I January 2004 report Protecting Workers in Washington's Fast-Growing Brush Industry
1.1:587-588	summary of Washington law on farm labor contractors and employees
1.1:600-611	long list of brush dealers, companies and individuals, with addresses and phone numbers
1.1:770	2003 price list for various special forest products
1.1:861	WA, OR, and federal farm labor contractor rules compared
1.1:998-1003, 1012	wages paid by Washington Evergreen Co-op 2001-2004
1.1:1030-1044	wages paid by White Pearl 2004
1.1:1144-1145	wages paid by Allied Cambodian Industries
1.1:1216	2004 revenues of Natural Evergreens (sells to Mountain Nature Greens and Continental)
2a:7	contact info for FLC advocates at LNI
2a:103-115	2003 Farm Labor Contractor list
2a:160	from LNI shed checklist, product:amount a good worker can pick in a day: salal tips:250 bunches; salal long:150 bunches; cedar boughs:2000 pounds; huckleberry:150 bunches; beargrass:1000 pounds; beargrass (cleaning):800 bunches
2a:189	LNI notes estimate the 6 big companies sell \$40 million of specialty forest products, primarily to Europe. [a note asks over what period]
2a:191-201	text of RCW 76.48 regulations on specialized forest products
2a:203	2005 LNI guidelines say someone must answer yes to all 6 to be a contractor: are they free of supervision, do they have an office, were they previously established in the

	business, do they file a tax return, do they have UBI and contractor registration, do they maintain books.
2a:206	DNR brush permits are non-exclusive access allowances given to individuals or to soleproprietors, costing \$300 to \$450 per year depending on the area.
2a:220-231, 240-255	summary of October 2004 shed visits
2a:233-239	Report on LNI FLC Project - doesn't contain any new info on economics of the industry
2a:256	Marcia Holt 4/5/2004 memo quotes WSU estimate of Washington's special forest products industry worth \$236 million in 2002. Says 45 [of 70] sheds were identified for audits; of 16 audits completed, LNI identified 135,269 hours as unreported, with more than half being harvesters who couldn't pass as contractors
2a:868-871	list of 26 brush sheds
2b:157	several large brush dealers identified by LNI: Moises Bahena in Aberdeen (more than \$1 million per year), Abdu Aman in Olympia (more than \$1 million per year), and Eagle Mountain in Tumwater (more than \$500,000 per year)
2b:350	telephone numbers of LNI staff on farm labor contractor program
2b:355-356	Feb 2005 list of companies audited and to be audited by April 2005
2b:359-367	list of 38 sheds audited as of Feb 2005: owner, address, number of employees
2b:383	list of suppliers (subsidiaries?): Continental (Emerald Forest Products, Select Floral Greens); Hiawatha (Olympia Evergeens, LA Evergeens, Two Noble Guys); Brothers United (Eagle Mountain Products, Emerald Forest Products)
2b:401-404	agriculture-related law in ID, OR, WA, and federal
433-434	May 2005 list of companies audited and to be audited
2b:631	list of Pierce County sheds with addresses and phones
2b:648	list of Mason County sheds with addresses and phones
2b:735	list of farm labor contractor advocates
2b:1162	Talmadge public disclosure request May 18, 2005
2c:p42	Mountain Nature Greens audit - list of potential FLCs
2c:45-46	list of potential sheds
2c:47-59	list of 76 sheds with addresses and owners
2c:89-90	wages reported by Puget Sound Evergreen 2001-2004
2c:97	reference to LNI computer file comparing the six-pack companies (is this the table at page 105?)
2c:793-797	list of farm labor contractors in WA state as of Sept 30,2004
2c:953ff	WA attorney general opinion Aug 22, 2001
2c:975-988	4th qtr 2004 wages and revenue reported by six-pack and other companies (see table in Industry Overview section above)
2c:992	description of Two Noble Guys operations
2c:998	DOR reporting by Hiawatha and Two Noble Guys

Certification Systems

ISO 9001:2000

<http://www.my-mps.com/asp/page.asp?sitid=501>

MPS is an international certification organisation from Holland, which assesses and certifies the performance on environment, quality and social aspects of entrepreneurs from the floriculture industry ... Environment, quality and social aspects are the main topics of MPS.

<http://www.my-mps.com/asp/page.asp?sitid=336>

Flowers for Justice [FIAN]

"The international flower industry is a typical example of the globalized economy. Improved transport and communication facilities make it easy to grow cut-flowers in one part of the world and sell them the next day 10.000 km away, even cheaper than locally produced flowers. More and more cut-flowers like roses or carnations are produced in a developing country - the climatic advantages of the South are obvious and contribute to lower productions costs, which of course are partially due to the disrespect for economic and social rights of the flower workers and destructive practices against the environment. The growth rates of most of the newly producing countries in the South are impressive, the negative side effects for labour and the environment, too. Violations of basic human rights like freedom of association or the right to food, discrimination and harsh exploitation of predominantly female labour, negative health effects and pollution of the environment due to the massive use of pesticides are some of the most striking feature of this new agro-industry. See our examples from Tansania, Zambia, Kenya and Colombia. In terms of a sustainable development cut-flowers deserve a big question mark, but they are a fact. Nowadays, nearly every third cut-flower traded internationally is grown in Africa, Asia or Latin America. In terms of social development the flower industry is important, since it's creating many jobs due to the labour-intensive production pattern.

Nearly all the cut-flowers grown in the South are sold in the industrialised North. There cut-flowers are used to express positive feelings and emotions. This explains the strong reactions among consumers when the first complaints and reports about the sad working conditions in flower plantations were made public. Using these reactions in the market international unions and NGOs are running a Flower Campaign since a couple of years.

As one result of this campaign the International Code of Conduct (ICC) (<http://www.fian.de/fian/downloads/pdf/blumen/guidelines-icc.pdf>) for the production of cut-flowers, was presented by unions and NGOs in 1998. The ICC gained quite some prominence in national as international discussions and, moreover, it resulted in concrete impact in social labelling initiatives in Europe. FIAN is especially assisting in the Flower Label Programme FLP. This contributed to a remarkable improvement of working conditions in some dozen of flower farms in Africa (see chapter on Tanzania) and Latin America."⁹⁹

The Flower Campaign

<http://www.fian.de/fian/index.php?option=content&task=view&id=7&Itemid=50>

The International Code of Conduct for the Production of Cut-Flowers
<http://www.fian.de/fian/index.php?option=content&task=view&id=8&Itemid=50>

Guidelines ICC
<http://www.fian.de/fian/index.php?option=content&task=view&id=9&Itemid=50>

The Flower Label Program
<http://www.fian.de/fian/index.php?option=content&task=view&id=10&Itemid=50>

Colombia, intense labour and anti-union
<http://www.fian.de/fian/index.php?option=content&task=view&id=177&Itemid=50>

Kenya - weak laws for a strong industry
<http://www.fian.de/fian/index.php?option=content&task=view&id=178&Itemid=50>

Tanzania - collective bargaining agreement for social standards
<http://www.fian.de/fian/index.php?option=content&task=view&id=179&Itemid=50>

Flowers in Zambia - Tragedy, Flowers and Dreams
<http://www.fian.de/fian/index.php?option=content&task=view&id=180&Itemid=50>

Support for the Flower Campaign
<http://www.fian.de/fian/index.php?option=content&task=view&id=11&Itemid=50>

Flower Label Program [FIAN]

from FIAN website Nov 2005

After long years of debate the German Flower Campaign signed in January 1999 an agreement with the German flower importers association BGI about the "Flower Label Programme" (FLP). Its public launch in the market was before Mothers Day in May 1999. The ICC was incorporated completely into FLP, and its 10 criteria are now the message which all workers in participating farms of FLP have to know. In FLP, the NGOs and unions are directly responsible in the whole process as well as the workers and the local organisations in the respective countries should be involved.

FLP functioning on base of ICC

FLP is a rather complex building. Therefore, we give in the following a short description of its main structure, tasks and actors. Responsibility of the overall program is with the Board of Directors of FLP. Therein the following four groups have one vote each:

1. The German Flower Campaign (Bread for the World, FIAN, terre des hommes),
2. the IUF-affiliate IG BAU (Union for construction, agriculture, environment),
3. the producers and
4. the traders (importers association BGI and German Florists Association)

The Board decides on the basic direction of the work of FLP, the criteria of the program and the certification agency for the independent inspections of the farms. The Board is also responsible for public

relations and marketing. The board members receive all inspection reports about the plantations and decide on base of the report and other available information about the grant of the label and recommendations which have to be implemented until the next follow-up inspection. Board members have the right to full insight into all details of the program. This means, for example, that the participating NGOs and unions have the right to enter each plantation.

The criteria of FLP are comprising all 10 paragraphs of the ICC. The detailed "Guidelines for the socially and environmentally responsible production of cut-flowers" serve as preparatory document for newly interested farms and as inspection tool for the certification agency. Interested farms contact the FLP office, get the Guidelines and further information. If the farm applies for FLP certification, first they send in relevant basic information about conditions of production (Pre-Inspection Questionnaire). After this the first inspection takes part, paid by the farm. This first inspection is always done by an international agency, in the moment by the German based Agrar-Control GmbH. The ACG is a private agency under the Chamber of Agriculture of Rhineland which is administrated commonly by the government, producers and the union. The ACG is a known certification agency for quality controls and worked as such in the European agriculture. Always two specialists of the ACG (one for the social part, the other for the technical part) do the inspection of the farm, have access to all documents, do separate interviews with the workers and prepare an extensive report for the FLP Board. All FLP certified farms are re-inspected at least once per year, partially without prior information. For these re-inspections the FLP Board names a professional institution in the respective country. If a farm refuses re-inspection, it loses the FLP label.

More details: www.flower-label-programme.org

At least as important as the independent professional inspections is the right to lodge complaints of the workers. It's the employees of a plantation who best know where the problems are. These complaints must be presented in a confidential way, without the risk of dismissal. The Flower Campaign has respective contacts with church institutions, NGOs and trade unions in the different countries. It's worth to mention that the confidential statements in the interviews with the ACG inspectors are noted in a separate report which only goes to the representatives of the unions and the NGOs in the FLP Board.

Local organisations have the possibility to accompany the process and to make use of FLP. FLP certified farms are publicly known. They committed themselves to strict social and environmental standards. The workers, unions and NGOs can, in co-operation with their international partners, make prove of this in the day to day reality.

FIAN is running a broad programme of capacity building for flower workers in Africa and Latin America on the ICC and FLP, supported by the gtz and the Friedrich Ebert Foundation.

As of today there are about 60 flower farms in Ecuador, Kenya, South Africa, Tanzania and Zimbabwe, and a firsts one joining from Colombia recently, which implemented all ICC criteria, accepted independent inspection and were certified under ICC. Flowers from these farms are sold in Austria and Germany under the FLP Label, in Switzerland in co-operation with the Max Havelaar foundation. There are nearly 15 000 workers in the FLP certified farms, their working and living conditions have improved considerably.

Flower Label Program [FLP]

<http://www.fairflowers.de/>

English <http://www.fairflowers.de/startseite.html?&L=1>

The International Code of Conduct for the Production of Cut-Flowers

from <http://www.fian.de/fian/index.php?option=content&task=view&id=8&Itemid=50>
accessed Nov 13, 2005

Preamble

The following code aims to guarantee that flowers have been produced under socially and environmentally sustainable conditions.

The code provides a concise statement of minimum labour, human rights and environmental standards for the international cut-flower industry. Companies should pledge to require their suppliers, contractors and sub-contractors to observe these standards. The code is concise in order to display it in workplaces and in order to avoid any confusion between these basic principles and the application of principles.

An independent body, established to provide independent verification of compliance with the code and to assist companies to implement the code, will provide an auditable check-list of practices and conditions that are consistent with the standards set forth in the code.

The company pledges to observe the core ILO standards, the universal human rights standards and basic environmental standards, which are the base for this code. The company pledges to make observance of the code a condition of any agreement that it makes with contractors and suppliers and to require them to extend this obligation to their sub-contractors. The company accepts that the implementation of the code is subject to independent verification.

The code establishes only minimum standards that must not be used as a ceiling or to discourage collective bargaining. The company shall comply with all national laws and legal regulations. When national law and these criteria address the same issue, that provision which is most stringent applies.

The text of the code, which is intended to be posted where workers can see it, shall also include a means by which workers can report failure to comply with the code in a confidential manner.

Code of Conduct

1. FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING

The rights of all workers to form and join trade unions and to bargain collectively shall be recognised (ILO Conventions 87 and 98). Workers representatives shall not be subject of discrimination and shall have access to all workplaces necessary to enable them to carry out their representation functions. (ILO Convention 135)

2. EQUALITY OF TREATMENT

Workers shall have access to jobs and training on equal terms, irrespective of gender, age, ethnic origin, colour, marital status, sexual orientation, political opinion, religion or social origin (ILO Conventions 100

and 111). Physical harassment or psychological oppression, particularly of women workers, must not be tolerated.

3. LIVING WAGES

Wages and benefits paid for a standard working week shall meet at least legal or industry minimum standards and always be sufficient to meet basic needs of workers and their families and to provide some discretionary income. Pay should be in cash, direct to the workers, promptly and in full. Information to wages shall be available to workers in an understandable and detailed form.

4. WORKING HOURS

Hours of work shall comply with applicable law and industry standards. In any event, workers shall not on a regular basis be required to work in excess of 48 hours per week and shall be provided with at least one day off every week. Overtime shall be voluntary, shall not exceed 12 hours per week, shall not be demanded on a regular basis and shall always be compensated at a premium rate.

5. HEALTH AND SAFETY

A safe and hygienic working environment shall be provided. Companies shall provide free and appropriate protective clothing and equipment, and comply with internationally recognised health and safety standards. (ILO Convention 170) Workers and their organisations must be consulted, trained and allowed to investigate safety issues. There should be regular monitoring of workers' health and safety. Companies shall supply drinking water, provide clean toilets and offer showers and washing facilities. Where housing is provided, it should comply at least with the minimum standards for size, ventilation, cooking facilities, water supply and sanitary facilities. (ILO Convention 110, Articles 85-88)

6. PESTICIDES AND CHEMICALS

Every company should assess the risks of the chemicals used and apply measures to prevent any damage to the health of their workers. Companies shall record and reduce pesticide and fertilizer use by adequate techniques and methods. No banned, highly toxic (WHO I) or carcinogenic pesticide and chemical should be used. Safety instructions and re-entry intervals must be strictly observed and monitored. Spraying, handling and storing pesticides and chemicals should be done by specially trained people with suitable equipment. Stores, apparatus and equipment must be clean, safe, handy and conforming to international standards.

7. SECURITY OF EMPLOYMENT

Work which is by its nature not seasonal or temporary shall be done by workers on permanent contracts. Provisions for non-permanent and seasonal workers, including freedom of association, should be not less favourable than for permanent workers. Every worker shall get a copy of their contract.

8. PROTECTION OF THE ENVIRONMENT

Companies should make every effort to protect the environment and the residential areas, avoid pollution and implement sustainable use of natural resources (water, soil, air, etc.).

9. CHILD LABOUR IS NOT USED

There shall be no use of child labour. There shall be no workers under the age of 15 years or under the compulsory school-leaving age, whichever is higher. Children under 18 shall not work in hazardous conditions. (ILO Convention 138) Adequate transitional economic assistance and appropriate educational opportunities shall be provided to any replaced child workers.

10. NO FORCED LABOUR

There shall be no forced labour, included bonded or involuntary prison labour (ILO Conventions 29 and 105). Nor shall workers be required to lodge "deposits" or their identity papers with their employer.

Section of Implementation

1. To overview the implementation of the Code of Conduct an independent body, accepted by all parties involved (for example trade unions, NGOs, employers), shall be formed.
2. This body will set the terms for an independent process of verification of compliance with the Code of Conduct.
3. The companies shall report regularly about the progress made in the implementation of the Code.
4. The independent body shall make provisions for workers, trade unions and other concerned groups to lodge complaints about violations of the Code, which if serious, have to be followed-up.
5. The Code shall be translated into local languages and prominently displayed in the place of work.

Language: The English version of the text of this Code is the authoritative version.

August 1998 proposed by:

- * IUF - International Union of Food, Agricultural, Hotel, Restaurant, Catering, Tobacco and Allied Workers' Associations, Geneva
- * Flower Campaign, Germany (Bread for the World, FIAN, terre des hommes)
- * IG BAU - Trade Union for Construction, Agriculture and Environment, Germany
- * FNV - Trade Union Confederation, Netherlands
- * OLAA - Organisatie Latijns Amerika Activiteiten, Netherlands
- * INZET, Netherlands
- * Fair Trade Center, Sweden
- * Flower Coordination, Switzerland
- * Christian Aid, UK

Contact:

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Max Havelaar

Fair trade of cut flowers was launched in April 2001 by the Swiss fair trade organization "Max Havelaar" Switzerland

MPS

<http://www.my-mps.com/asp/page.asp?sitid=336>

MPS is an international certification organisation from Holland, which assesses and certifies the environmental performance of its 4.000 participants. MPS concentrates on entrepreneurs from the floriculture-, bulb-, nursery stock- and vegetables sector. Environment, quality and social aspects are the main topics of MPS.

"In 1995, the Dutch floricultural sector created the MPS [AMilieu Project Sierteelt] foundation in response to consumers' growing concerns about the way flowers and plants were being produced; to raise the awareness of participants and to encourage them to produce in a more environmentally friendly way; and to improve the sector's generally poor image. Participating growers must keep a record of the amounts of crop protection agents and fertilizers used, the energy consumed, and the amounts of waste produced. As a first step, registration is meant to make growers more aware of their levels of consumption of toxic waste and energy and to allow them to compare these levels with those of other participants. Four times a year participants are awarded an environmental qualification. A rating system is used in which crop protection agents make up 40 per cent, energy use 30 per cent, fertilizers 20 per cent, and waste 10 per cent of the total. Participants are awarded points according to which they are classified in environmental class A, B or C. Those classified in class A use the most environmentally friendly cultivation methods (and have kept records for the previous consecutive 12 months at the least). Thus far, over 3500 Dutch growers are participating in the MPS project. They represent over 50 per cent of supplies"¹⁰⁰

MPS TradeCert

a certification scheme for traders

<http://www.my-mps.com/asp/page.asp?sitid=503>

Ethical Trade Initiative (ETI)

<http://www.my-mps.com/asp/page.asp?sitid=502>

ETI was specifically set up for traders supplying the British market. This is an initiative by companies, non-governmental organisations (NGOs) and trade unions in the United Kingdom with the aim of guaranteeing working conditions at companies, which operate within the chain.

The Ethical Trade Initiative Base Code

The nine provisions of the ETI Base Code are:

1. Employment is freely chosen
2. Freedom of association and the right to collective bargaining is respected
3. Working conditions are safe and hygienic
4. Child labour shall not be used
5. Living wages are paid
6. Working hours are not excessive
7. No discrimination is practised
8. Regular employment is provided
9. No harsh or inhumane treatment is allowed

Full text of code at <http://www.ethicaltrade.org>

Fair Flowers Fair Plants (FFP)

<http://www.my-mps.com/asp/page.asp?sitid=607>

For some time MPS has been involved in setting up a European project aimed at developing a consumer label for sustainably grown flowers and plants called FFP.

What is FFP? FFP guarantees that the flowers and plants sold under this label comply with high standards regarding the environment and social aspects. The unique feature of FFP is that all the links in the chain can participate, i.e. grower, dealer, retailer/supermarket. This guarantees the traceability of the products and the consumer is guaranteed that the flowers or plants which he buys are sustainably produced. The label will start in Sweden, The Netherlands, Germany, Austria and the United Kingdom. The purpose of the label is to encourage more and more growers to produce in an environmentally- and socially responsible manner by generating demand for flowers and plants produced under these conditions and thus improve the living and working conditions of flower workers and the protection of the environment all over the world.

Basic Criteria:

- For the environmental part of the label the criteria meet with MPS-A or MPS-B.
- For the social part, growers have to meet with the International Code of Conduct and her regulations. The latter can be realised in combination with MPS Socially Qualified (contains criteria for safety, health and working conditions) or the FLP Label.

Parties involved: BGI (German wholesalers), Brot für die Welt, FDF (German retail florists), FIAN, IG Bau and Terre des Hommes. In addition the label is also receiving broad support from the Nederlands Bloemen Beraad (in which OLAA, FNV Bondgenoten and Vereniging Inzet are represented), the International Union of Food and Allied Workers (the umbrella organisation of the international trade unions) and the Union Fleurs (the umbrella organisation of the international trade and export organisations, including the trading organisation).

Bibliography

Alaska Boreal Forest Council. 2003. Proceedings: hidden forest values. The first Alaska-wide nontimber forest products conference and tour. Gen. Tech. Rep. PNW-GTR-579. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 150 p. AVAILABLE ONLINE <http://www.fs.fed.us/pnw/pubs/gtr579/>. The Hidden Forest Values Conference brought together a diverse assemblage of local, state, and federal agencies, tribal governments, traditional users, landholders, cottage enterprises and other nontimber forest products (NTFP) related businesses, scientists, and experts. The purpose of this forum was to exchange information, cooperate, and raise awareness of issues on sustainable and equitable, environmentally and economically viable opportunities for NTFP in Alaska. This discourse sought a balance of development and sustainability, with respect for traditional uses. Nontimber forest products were defined by the conference organizers as biological material harvested from the forest that has not been produced from commercially sawn wood such as lumber, pulp, and paper. These proceedings include extended summaries of presentations by speakers and panelists at the conference. All summaries were compiled and edited by the Alaska Boreal Forest Council and reviewed by the authors. Some authors elected to provide their full presentation or supplemental material; those are included in Appendix V.

Alexander, Susan J. and Rebecca J. McLain. 2001. An Overview of Non-Timber Forest Products in the United States Today. In: *Non-Timber Forest Products: Medicinal Herbs, Fungi, Edible Fruits and Nuts, and Other Natural Products from the Forest*. Edited by Emery, Marla R. and Rebecca J. McLain. Binghamton, NY: Haworth Press, 2001. Also published in *Journal of Sustainable Forestry* 13(3/4): 59-66. Abstract: As people become more interested in personal health and family activities, demand for wild forest products has increased. This increased demand coupled with an increased concern for sustainable management practices has focused attention on the variety of issues and products involved in the non-timber forest products industry. Forest management organizations have gradually increased funding for research and management of non-timber forest products over the past two decades. The broad categories of U.S. non-timber forest products include floral greens, Christmas greens, ornamentals and craft materials, wild edibles, medicinals, ceremonials/culturals, and native transplants. The increase in resource pressure has had many policy reactions, including restricted access, harvesting fees, and harvest limits. Opportunities for public input to policy decisions on federal, state and private land are often unclear or nonexistent. Researchers, managers, and policy makers are working to understand the multitude of issues surrounding non-timber forest products, including biology, management, public policy and equity issues.

Alexander, S.J., J. Weigand, and K. Blattner. 2002. Nontimber forest product commerce. Pages 115-150 in: *Nontimber Forest Products in the United States*, edited by E.T. Jones, R. McLain, and J. Weigand. University Press of Kansas. Abstract: Discusses the impacts of nontimber forest products on commerce and economics.

Alexander, Susan J., Rebecca J. McLain, Keith A. Blattner. Socio-Economic Research on Non-Timber Forest Products in the Pacific Northwest. *Journal of Sustainable Forestry* 13(3/4): 95-103. The non-timber forest products industry in the Pacific Northwest has been viable for nearly a century. Although it is a small part of the regional economy, the industry involves many people in the region and products are exported worldwide. Harvest of non-timber forest products has become more scrutinized as landowners, forest managers, and harvesters struggle to meet their sometimes conflicting needs and requirements, and deal with growing demand for many wild products. Much of the research on non-timber forest products has focused on biology and ecology, although there has been some research on the social and economic aspects of non-timber forest products over the past several decades. There are several social and economic studies of the industry that are underway or just being completed in the Pacific Northwest. Current

research includes studies on product yield, market surveys, price analysis, product management and silviculture, recreational use, and policy analysis. Recommendations for future research are outlined. The non-timber forest product industry is a highly varied and frequently changing industry, with issues ranging from biological sustainability to equity. Social and economic research helps resolve questions surrounding management, harvesting, production and marketing of these highly demanded and often poorly understood products.

Armitage, Allan M. and Judy M. Laushman. 2003. *Specialty Cut Flowers*. Portland, Oregon: Timber Press, 2nd ed. 2003. Discussion of domestic and foreign production, a brief overview of trends, and general comments and techniques for the postharvest care of flowers, including drying and preserving. The main body of the book gives extensive coverage of annual, perennial, bulbous, and woody species for commercial cut flower production, including propagation and growing-on methods, environmental factors, yield in the field, greenhouse forcing, stage of harvest, postharvest handling, and pests and diseases.

Ballard, Heidi, Don Collins, Antonio Lopez, James Freed. 2002. *Harvesting Floral Greens in Western Washington as Value-Addition: Labor Issues and Globalization*. Meeting of the International Association for the Study of Common Property.
<http://dlc.dlib.indiana.edu/archive/00001077/00/BALLAR1.pdf>

Blatner, K.A; Alexander, S. 1998. Recent price trends for nontimber forest products in the Pacific Northwest. *Forest Products Journal*. 48(10): 28–34.

Blatner, K. A., and W. E. Schlosser. 1997. *The floral and Christmas greens industry of the Pacific Northwest*. Project report to the USDA Forest Service Pacific Northwest Research Station, Portland, OR.

Brown, Beverly A. 1997. *The multi-ethnic, non-timber forest workforce in the Pacific Northwest. Reconceiving the players in forest management*. Unpublished document.

Brown, Beverly A and A. Marín-Hernández, eds. 2000. *Voices from the woods: lives and experiences of nontimber forest workers*. Wolf Creek, OR: Jefferson Center for Education and Research. 52 p.

Buxton, Boyd M. and Darina Batkova. 1996. *Overview of U.S. horticultural exports to Asia*. Washington, D.C.: U.S. Dept. of Agriculture, Economic Research Service. SuDocs A 1.34:934.

Capital Press. 2002. *Court rules floral greens pickers are independent vendors*. Salem, OR. November 6.

Chamberlain, James L.; Bush, Robert J.; Hammett, A.L.; Araman, Philip A. 2002. Eastern national forests: managing for nontimber products. *Journal of Forestry*. 100(1): 8-14. AVAILABLE ONLINE http://www.srs4702.forprod.vt.edu/cgi-bin/pre_pdf.stm?../pubsubj/pdf/02t1.pdf. Many products are harvested from the forests of the eastern United States that are not timber-based but originate from plant materials. Over the past decade, concern has grown about the sustainability of the forest resources from which these products originate, and an associated interest in managing for these products has materialized. A content analysis of the management plans of 32 eastern national forests revealed that seven of the plans addressed nontimber forest products (NTFP). We used interviews with USDA Forest Service district- and forest-level managers to convey their ideas about NTFP management and to identify critical issues that affect efforts to manage for these products.

COLEACP Floriculture department and Emmanuelle Bougault. 2000. *Development opportunities for the European foliage market for ACP origins*.

http://216.239.63.104/search?q=cache:5HnCYybz20AJ:www.coleacp.org/en/documentation/rapports/rap_pfeu98a.rtf+costa+rica+leatherleaf+fern+cartel&hl=en&ie=UTF-8

Cravens, David W. 2002. *Strategic Marketing Management Cases*. McGraw Hill/Irwin. 7th ed. 2002. UW BOTHELL LIB HF5415 C6944 2002.

de Beer, J.H.; McDermott, M.J. 1996. *The economic value of nontimber forest products in Southeast Asia with emphasis on Indonesia, Malaysia, and Thailand*. Amsterdam, The Netherlands: International Union for the Conservation of Nature. 197 p.

de Gaus, N. 1995. *Botanical forest products in British Columbia: an overview*. Victoria, B.C.: Integrated Resources Policy Branch, British Columbia Ministry of Forests.

Donovan, Jason and Barry Krissoff. 2001. *Trade issues facing U.S. horticulture in the WTO negotiations*. Washington, D.C.: U.S. Dept. of Agriculture, Economic Research Service. SuDocs A 93.12/2:285-01.

Elshof, Paul. 2000. *The Dutch flower sector: structure, trends and employment*. Food World Research and Consultancy. International Labor Organization. Sector Publications. [3 February 2003] www.ilo.org/public/english/dialogue/sector/papers/flrsect/index.html

Emery, Marla R. and Rebecca J. McLain, eds. 2001. *Non-Timber Forest Products: Medicinal Herbs, Fungi, Edible Fruit and Nuts, and Other Natural Products from the Forest*. Binghamton, NY: Haworth Press. Also published as a special issue of the *Journal of Sustainable Forestry*. 13(3/4):1-165.

Emery, Marla and Shandra L. O'Halek. 2001. *Brief Overview of Historical Non-Timber Forest Product Use in the U.S. Pacific Northwest and Upper Midwest*. In: *Non-Timber Forest Products: Medicinal Herbs, Fungi, Edible Fruits and Nuts, and Other Natural Products from the Forest*. Edited by Emery, Marla R. and Rebecca J. McLain. Binghamton, NY: Haworth Press, 2001. Also published in *Journal of Sustainable Forestry*, 13(3/4): 25-30. Abstract: Non-timber forest products (NTFPs) have sustained indigenous and immigrant populations alike since their arrival in North America. This brief overview focuses on the historical use of NTFPs in the U.S. Pacific Northwest and Upper Midwest. Drawing on sources as diverse as accounts by early European arrivals, archaeological evidence, and contemporary ethnobotanical studies, we touch on documented uses of forest vegetation from prehistory to the present century. The residents of these regions have used NTFPs for food, medicine, and cultural materials. NTFPs have met their livelihood needs through subsistence uses and both non-market and market exchanges. We conclude that in spite of U.S. incorporation into a global market-based economy, there is notable continuity in the harvest and use of NTFPs in the United States from prehistory to current times.

Fitzpatrick, Shandra. 1997. *Nontimber forest products: using local knowledge*. Olympia: Evergreen State College. M.A. thesis.

Frederickson, Kirk and Lynn Ellen Fairbanks Scroggins. 1997. *No title*. Olympia, WA: Evergreen State College. M.P.A. thesis.

Freed, James. 2001. *Non-Timber Forest Products in Local Economies: The Case of Mason County, Washington*. In: *Non-Timber Forest Products: Medicinal Herbs, Fungi, Edible Fruits and Nuts, and Other Natural Products from the Forest*. Edited by Emery, Marla R. and Rebecca J. McLain. Binghamton, NY: Haworth Press. Also published in *Journal of Sustainable Forestry* 13(3/4): 67 - 69. Non-timber forest products (NTFPs) have been a vital part of the local economies of Mason County, Washington since the first peoples came there over 9,000 years ago. First Americans used NTFPs in every part of their lives. The new Americans, from early Euroamericans to the newest Asian Americans, have used nontimber

forest products to provide subsistence resources and income support. Beginning in the 1970s, increased demand for medicinals, wild mushrooms, and floral products brought Mason County's NTFP industries back into the limelight. Unfortunately, the rise in demand for NTFPs has increased social conflict in Mason County. Indeed, disputes over harvesting practices and the tension between floral greens and wild mushroom business over access to NTFP leaves have made Mason County the floral point of recent efforts to expand government regulation of the NTFP industry in Washington. However, NTFPs may also provide opportunities for decreasing the political conflict over timber management in the region by creating financial incentives for landowners to maintain longer timber rotations.

Freed, James R. and John R. Davis. 1997. Management opportunities and constraints: State and Federal land management perspectives. Chapter 4 in: *Special Forest Products Biodiversity Meets the Marketplace*, edited by Nan C. Vance and Jane Thomas. US Forest Service Gen Tech Rep GTR-W0-63, <http://www.fs.fed.us/pnw/pubs/gtr63/gtrwo63d.pdf#search='James%20Freed%20Washington'>

Gagné, Janet et al. 2004. Integrating non-timber forest products into forest planning and practices in British Columbia. Forest Practices Board Report.

Goodman, Edmund Clay. 2002. Nontimber Forest Products Customary Claims. In: *Nontimber Forest Products in the United States*. Edited by Jones, Eric T.; McLain, Rebecca J.; Weigand, James. Lawrence, Kansas: University Press of Kansas. Abstract: Summarizes rights on public lands based on customary law or claims.

Hammett, A.L.; Chamberlain, J.L. 1999. Non-timber forest products in Central Appalachia: market opportunities for rural development . Proceedings, North American Conference on Enterprise Development Through Agroforestry: Farming the Agroforest for Specialty Products AVAILABLE ONLINE http://www.srs4702.forprod.vt.edu/cgi-bin/pre_pdf.stm?../pubsubj/pdf/9918.pdf. The gathering of forest products has supplemented the incomes of Central Appalachia residents for many generations. Non-timber forest products (NTFPs) can be grouped within four general categories: edibles such as mushrooms; medicinal and dietary supplements, including ginseng, ginkgo, and St. Johnswort; floral products such as moss, grape vines, and ferns; and specialty wood products including carvings, utensils and containers. Increased NTFP harvest may have serious long-term effects on the forest ecosystem and efforts to sustainably manage the region's forests. Less is known about managing forests for NTFPs than for timber-based products, even though they contribute significantly to local and regional economies. The region's NTFP industry is growing rapidly, perhaps faster than the timber industry. Some estimate that NTFP markets have grown nearly 20 percent in the last few years. The size of Virginia's NTFP industry has been estimated at \$35 million. In 1991, Virginia collected and exported nearly 6.5 tons of ginseng worth more than \$1.8 million. Despite the value of these products, little is known about the extent of harvesting or the long-term effects of this extraction. The Appalachian forests have vast diversity, much less is known about the multitude of other NTFPs found in our forests. Information is needed that draws attention to critical issues related to non-timber forest products. Through interviews, and structured and unstructured meetings with local communities, the project team has gathered data needed to better understand this burgeoning forest use and essential for developing policies to sustain forest resources. Local management practices, the value and volume of products traded, and the scope of NTFP markets have been documented. Those who gather, market, and manage NTFP resources were involved at all stages of the research. This work will show that NTFPs offer opportunities both for increased income in rural areas, and the sustainable management of forest resources.

Hammett, A.L.; Chamberlain, J.L. 2002. Greenery - an opportunity for forest landowners. *Forest Landowner*. 61(2): 44-46. AVAILABLE ONLINE http://www.srs4702.forprod.vt.edu/cgi-bin/pre_pdf.stm?../pubsubj/pdf/02t4.pdf. For generations, materials gathered from American forests have been used for holiday decorations and floral arrangements including Christmas wreaths, roping, swags,

and sprays. Forest species utilized for these products include Fraser fir, Norway and blue spruce, mountain laurel, boxwood, ivy, grape vine, juniper, Douglas fir, incense cedar, and holly. White pine (common in Central Appalachia) and White Noble Fir (common in the Pacific North West) are commonly used for many greenery products. The most common holiday greenery products are Christmas wreaths and roping. Wreaths range in diameter from 12 to 48 inches, and roping is generally produced in lengths of 8 to 75 feet and sold in rolls. Other greenery products include swags, garlands, centerpiece arrangements, and loose greenery. The primary raw material is the ends of branches— short tips harvested from lower limbs. The production of greenery products has excellent income potential for landowners in many regions. Income from just one year of tipping can more than offset planting and other plantation costs. Tipping can provide landowners with income while waiting for timber to grow to merchantable size.

Hansis, Richard. 1998. A Political ecology of picking: nontimber forest products in the Pacific Northwest. *Human Ecology*. 26(1): 49-68.

Hansis, Richard. Latinos/Hispanics and Federal Lands in the Interior Columbia River Basin. Submitted to the Interior Columbia Basin Ecosystem Management Project.
http://www.icbemp.gov/science/hansisrichard_10pg.pdf

Hansis, Richard. 1996. The harvesting of special forest products by Latinos and Southeast Asians in the Pacific Northwest: preliminary observations. *Society and Natural Resources*. 9(6): 611–615.

Hansis, Richard. 2002. Case study: workers in the woods: confronting rapid change. In: *Nontimber Forest Products in the United States*. Edited by Jones, McLain and Weigand.

Hansis, Richard, Eric T. Jones, and Rebecca J. McLain. 2001. Recent Trends Non Timber Forest Products in the Pacific Northwest. In: *Non-Timber Forest Products: Medicinal Herbs, Fungi, Edible Fruits and Nuts, and Other Natural Products from the Forest*. Edited by Emery, Marla R. and Rebecca J. McLain. Binghamton, NY: Haworth Press. Also published in *Journal of Sustainable Forestry*. 13(3/4): 141 - 146. The Pacific Northwest is a region where commercial demand for a variety of NTFPs--floral greens, mushrooms, berries, mosses--has expanded rapidly over the past fifteen years, creating space for new types of harvesters. These are mainly recent Southeast Asian and Latino immigrants who find this work allows them some degree of self-direction and income. Tensions have arisen between Native Americans, Euro-Americans, and recent immigrants over access rights to NTFPs as competition for these previously abundant resources has increased. Increased harvesting has also brought concerns about sustainable harvesting forward.

Hentig, W. 1995. Development of new ornamental plants in Europe. In: *New Ornamental Crops and the Market for Floricultural Products*, edited by Ohkawa, K., C. Vonk Noordegraaf, and W.U. von Hentig, editors. *ISHS Acta Horticulturae* 397. Abstract: The development of "new ornamental plants" in Europe is described and evaluated. After introduction with basic economic data and information on per-person-expenditures for ornamental plants in 14 European countries with highest gross national product the history of plant collecting is presented and explained by means of examples. This is followed by definitions and explanations on subject of "old/new ornamental plants", "new ornamental plant products" and "genuine new ornamental plants". Details on search and development especially of "new ornamental plants" in past and at present are given for 14 European countries. Finally an evaluation and a summary of the information on the different countries is presented.

Hughes, Alex and Suzanne Reimer. 2004. *Geographies of Commodity Chains*. UW SUZ ALLEN HF1040.7 G46 2004 HOLD REQUESTED 11/14/05.

Icon Group International, Inc. 2004. The World Market for Prepared Foliage, Grasses, Mosses, and Other Parts of Plants for Bouquets or Ornamental Use Excluding Flowers and Flower Buds: A 2005 Global Trade Perspective. 127 pages. Pub ID: ICN1029656. www.icongrouponline.com

Icon Group International, Inc. 2004. The World Market for Prepared Cut Flowers and Flower Buds Suitable for Bouquets or Ornamental Use: A 2005 Global Trade Perspective. 148 pages. Pub ID: ICN1029546. www.icongrouponline.com

Inner Coast Natural Resource Centre. Non-Timber Forest Products Workshop, Alert Bay B.C., April 3-5, 1998. <http://www.icnrc.org/documents/NTFP%20proceedings.pdf>

Institute for Culture and Ecology, Non Timber Forest Products Bibliography Database
<http://www.ifcae.org/cgi-bin/ntfp/db/dbsql/db.cgi?db=bib&uid=default>

International Labour Organization. The world cut flower industry: Trends and prospects. SAP 2.80/WP.139. <http://www.ilo.org/public/english/dialogue/sector/papers/ctflower/139e1.htm>

International Society for Horticultural Science, Section for Ornamental Plants. STATISTICS?

Iqbal, M. 1995. Trade restrictions affecting international trade in nonwood forest products. Nonwood forest products 8. Rome, Italy: Food and Agricultural Organization. 39 p.

Jefferson Center. 2002. Are forest brush harvesters employees? The legal battle over nontimber forest products workers heats up in Washington State: a report on the current status of the debate and its relationship to national issues in nontimber forest products. Bulletin 4. Wolf Creek, OR. 20 p.

Jones, Eric T. 2000. Non Timber Forest Products: Considerations for Tribal Forestry. In, Natural Resource Management: Merging Tradition and Technology. Intertribal Timber Council: Portland, Oregon. Pp. 245-61.

Jones, Eric T. and Kathryn A. Lynch. [Forthcoming]. Integrating Commercial Nontimber Forest Product Harvesters into Forest Management: Opportunities and Challenges. In: Communities and Forest Management. Ellen M. Donoghue and Victoria Sturtevant (eds). Washington, D.C.: Resources for the Future.

Jones, Eric T. and McLain, Rebecca J. 2003. The Importance of an Integrated Research Approach. In, Understanding Community Forest Relations. Editor: Linda Kruger. PNW-GTR-566. Portland, Oregon: Pacific Northwest Forest Sciences Lab. <http://www.ifcae.org/publications/downloads/PNW-GTR-566-Feb03.pdf>

Jones, E.T.; McLain, R.J.; Weigand, J., eds. 2002. Nontimber forest products in the United States. Lawrence, KS: University of Kansas Press. 445 p.

Jones, Eric T., Rebecca J. McLain, and Kathryn A. Lynch. 2004. The relationship between nontimber forest products and biodiversity in the United States. Washington, D.C.: National Commission on Science for Sustainable Forestry.
http://www.ifcae.org/publications/downloads/US_NTFF&Biodiversity_IFCAE2004_Revised2005.pdf

Jorgensen, B.L. Fair Trade In Ornamental Plants - Introducing The Fair Plant Nursery. In: ISHS Acta Horticulturae 683: V International Symposium on New Floricultural Crops. Abstract: Fair trade is an alternative approach to conventional international trade. It is a trading partnership which aims at

sustainable development for excluded and disadvantaged producers in developing countries. Fair trade is well established within a range of edible horticultural products. Fair trade of cut flowers was launched in April 2001 by the Swiss fair trade organization "Max Havelaar" Switzerland, and has occupied a market share of 8 % of all imported cut flowers, or 5% of the total cut flower market in Switzerland. To date, no other ornamental horticultural products have been adapted to fair trade. With this background, the world's first fair trade nursery, the "Fair Plant Nursery", has been launched in South Africa. The objective of Fair Plant Nursery is to establish and run a modern and prosperous wholesale production and export nursery, with a high ethical and social consciousness. Fair Plant Nursery will develop and produce exclusive, niche products of ornamental plants. The plants are to be exported as semi-finished pot-plants for the off-season markets in the northern hemisphere. Fair Plant Nursery will honor all generic standards of Fairtrade Labeling Organizations International (FLO) for companies dependent on hired labor, and Fair Plant Nursery will work to obtain certification from FLO, to enable the use of its member's trade-labels internationally.

Kantor, S. 1994. Local knowledge and policy development: special forest products in coastal Washington. Seattle, WA: University of Washington. 46 p. M.S. thesis.

Kerns, B.K. 2003. Compatible Management of Understory Forest Resources and Timber.

Knudson, Tom and Hector Amezcua. 2005. The Pineros: Men of the Pines. Series in The Sacramento Bee, Nov 13-15, 2005. <http://www.sacbee.com/content/news/projects/pineros/>

KOMO Staff & News Services. 1997. Now it's ice. <http://komotv.com/stories/29118.htm>

Love, Thomas; Jones, Eric T. and Liegel, Leon. 1998. Valuing the Temperate Rainforest: Wild Mushrooming on the Olympic Peninsula Reserve. *Ambio Special Report Vol. 9.*

Love, Thomas; Jones, Eric T. 2001. Why is NTFP Harvesting an 'Issue'? Excluding Local Knowledge and the Paradigm Crisis of Temperate Forestry. *Journal of Sustainable Forestry* 13 (3/4):105-121. Special issue on North American non-timber forest products.

Liegel, Leon; Pilz, David; Love, Thomas and Jones, Eric T. 1998. Integrating Biological, Socioeconomic, and Managerial Methods and Results in the MAB Mushroom Study. *Ambio Special Report Vol. 9.*

Lund, H.G.; Pajari, B.; Korhonen, M., eds. 1998. Sustainable development of nonwood goods and benefits from boreal and cold temperate forests: Proceedings of the international workshop in Joensuu, Finland (18–22 January 1998). European Forest Institute Proceedings No. 23. Joensuu, Finland: European Forest Institute. 264 p.

Lynch, Kathryn A. 2004. Workshop guide and proceedings: harvester participation in inventory and monitoring of nontimber forest products. Washington, D.C.: National Commission on Science for Sustainable Forestry. <http://www.ifcae.org/publications/downloads/USNTFPHarvesterIMWorkshop-IFCAE2004.pdf>

Lynch, Kathryn A., Eric T. Jones, and Rebecca J. McLain. 2004. Nontimber Forest Product Inventorying and Monitoring in the United States: Rationale and Recommendations for a Participatory Approach. Washington, D.C.: National Commission on Science for Sustainable Forestry. <http://www.ifcae.org/publications/downloads/USNTFPParticipatoryIM-IFCAE2004.pdf>

Lynch, Kathryn A., Eric T. Jones, Rebecca McLain. Institute for Culture and Ecology (IFCAE), June 2004 - July 2005. Funding: National Commission on Science for Sustainable Forestry (NCSSF) (Doris Duke Charitable Foundation, National Forest Foundation, Surdna Foundation, The David and Lucille Packard Foundation). In 2002-03 IFCAE conducted a national study examining the relationship between nontimber forest products and biodiversity conservation (report). In this study we found that NTFPs, such as wild foods, medicinal plants and floral greens, are often overlooked in natural resource management and policy, despite their widespread presence and use. However, increasing attention to ecosystem management, the conservation of biological diversity, sustainable forestry and economic diversification in rural communities has meant a growing interest in NTFPs. Universities and extension programs are now seeking to include information about NTFPs in their curricula. To address this need, IFCAE has developed a NTFP Curriculum Workbook, which contains over 100 lesson plans, handouts, and homework assignments. Final Report to NCSSF <http://ifcae.org/projects/ncssf2/NCSSF-A4AddOnGrant-FinalReport-Jun05.pdf>. Curriculum Workbook <http://ifcae.org/projects/ncssf2/curriculum.htm>

Lynch, Kathryn A.; McLain, Rebecca J. 2003. Access, labor, and wild floral greens management in western Washington's forests. Gen. Tech. Rep. PNW-GTR-585. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 61 p. AVAILABLE ONLINE <http://www.fs.fed.us/pnw/pubs/gtr585.pdf>. This report compares the changes that took place between 1994 and 2002 in the nontimber forest product (NTFP) management regime that governed access to floral greens and other NTFPs in western coastal Washington. A rapid rural appraisal approach was used to gather data from 24 NTFP stakeholders during phase I (1994) and from 37 NTFP stakeholders during phase II (2002). Phase I findings summarized the rules of access to NTFPs on private, state, tribal, and federal lands in 1994, as well as comparing the perspectives of land managers to those of pickers and buyers regarding the need for and the impacts of those rules. A preliminary diagram of NTFP knowledge exchange networks was developed from information provided by informants who participated in the 1994 study. This diagram suggested that in 1994, buyers and land managers functioned as key information exchange nodes in NTFP networks at the study site. Phase II findings indicated that the formalization of NTFP access process still nascent in 1994 had solidified sufficiently by 2002 that many pickers and buyers had come to take the permit requirements for granted. However, NTFP stakeholders noted that leases were increasingly difficult to acquire. It appears that a few larger floral greens companies based on the southeastern Olympic Peninsula now control most floral greens leases on private and state lands. By 2002, the floral greens labor market was dominated by Latinos, many of whom lacked legal work documents and thus occupied a precarious position in the labor market. To counteract the power of the larger buying companies, some of the smaller buying companies and harvesters have worked with social justice organizations to pressure the Washington State Department of Labor to enforce regulations regarding employer-contractor relations. The study has several key implications for forest managers, including the need for managers and policymakers to recognize the heterogeneity of the harvester and buyer populations and to consider the possibility that interventions in domains seemingly unrelated to forest management, such as labor policy, might constitute key elements of a sustainable forest management strategy. The report ends with a list of steps managers and researchers can take to support sustainable floral greens management.

Maben, Scott. 2004. Losses from gathering moss raising ecological concerns. Eugene Register Guard, Aug 30, 2004. Rolling stones may gather no moss, but tons of the velvety clusters roll out of Oregon forests each year. The floral moss trade, operating in relative obscurity, is a multimillion-dollar business in the Northwest. However, so much moss is harvested in some areas botanists are beginning to worry about ecological damage and the spread of potentially invasive insects...

Maharaj, Niala. 1995. *The Game of the Rose: The Third World in the Global Flower Trade*. Amsterdam: Institute for Development Research, 1995.

Massey, Douglas S. March of Folly. The American Prospect Online, Mar 1, 1998.

McLain, Rebecca J. 2000. Controlling the forest understory: wild mushroom politics in central Oregon. Seattle, WA: University of Washington. 468 p. Ph.D. dissertation.

McLain, Rebecca J. 2004. Bringing Wildcrafters to the International Policy Table: Reflections on the Nontimber Forest Products Side Event at the 12th World Forestry Congress, Quebec City 2003. Prepared for the Ford Foundation's Institute for International Education. March 2004. Portland, Oregon: IFCAE. <http://www.ifcae.org/publications/downloads/IFCAE-WFC-Report-050104.pdf>

McLain, Rebecca J., Susan Alexander, and Eric T. Jones. [In Press]. The Informal-Formal Economy Interface. PNW-GTR. Portland, OR: USDA Forest Service, Pacific Northwest Research Station.

McLain, Rebecca J.; Jones, Eric T. 1997. Challenging 'Community' Definitions in Sustainable Natural Resource Management The Case of Wild Mushroom Harvesting in the USA. Gatekeeper Series No. 68. IIED Sustainable Agriculture Programme. AVAILABLE ONLINE <http://www.ifcae.org/publications/downloads/Gatekeeper1997.pdf>

McLain, Rebecca J. and Jones, Eric T. 2001. Expanding NTFP Harvester/Buyer participation in Pacific Northwest Forest Policy. In: Non-Timber Forest Products: Medicinal Herbs, Fungi, Edible Fruits and Nuts, and Other Natural Products from the Forest. Edited by Emery, Marla R. and Rebecca J. McLain. Binghamton, NY: Haworth Press. Also published in Journal of Sustainable Forestry 13(3/4):147-161. Abstract: During the past decade, a variety of new state and federal laws and regulations have been developed to regulate the use and management of NTFPs on federal and state lands. A growing body of literature on the social aspects of NTFPs indicates that few NTFP harvesters and buyers are involved in the development of these rules. This policy overview draws upon the authors' five years of ethnographic research on the politics of NTFPs and wild mushrooms in the Pacific Northwest region of the United States to describe and analyze barriers to NTFP harvester and buyer participation in NTFP policy fora. Three case examples of efforts by participants in NTFP industries to organize themselves politically so that they can have a voice in policy and management decisions are discussed. The overview concludes with a series of recommendations for steps that non-governmental organizations and public land management agencies can take to support harvester/buyer efforts to expand their influence over forest policy and management decisions.

McLain, Rebecca J. and Eric T. Jones. [In Press]. Nontimber Forest Products Management on National Forests in the United States. PNW-GTR. Portland, OR: USDA Forest Service, Pacific Northwest Research Station.

McLain, Rebecca J., Bettina von Hagen, James F. Weigand, Roger Fight and Chris Christensen. 1996. Conservation and Development of Nontimber Forest Products in the Pacific Northwest: An Annotated Bibliography. USDA-FS Pacific Northwest Research Station. General Technical Report GTR-PNW-375.

McManus, Sean Michael. 2004. Production performance, timing... Eastern Washington. MS Thesis, Washington State University.

Mid-Florida Research & Education Center, University of Florida Institute for Food and Agricultural Science. 1996. Cut foliage production in Florida. <http://mrec.ifas.ufl.edu/cutfol/cutinfo.htm>

Miller, M.M. Floriculture industry overview: production, sales and marketing in North America. In: ISHS Acta Horticulturae 543: VII International Symposium on Postharvest Physiology of Ornamental Plants.

Abstract: The U.S. Department of Agriculture's National Agricultural Statistical Service (USDA/NASS) annually releases the results of a survey of the top 36 production states. The Floriculture Crops: 1998 Summary was released in June 1999. Total production for the 36 major production states was reported at \$3.934 billion for the 1998 farm gate wholesale value. For growers with at least \$100,000 in sales, the production value was \$3.561 billion.

Mohammed, G.H. 1999. Nontimber forest products in Ontario: an overview. Forest Research Information Paper 145. Sault Ste. Marie, ON: Ontario Forest Research Institute, Ministry of Natural Resources. 64 p.

Nantiyal, S. and A.K. Kaul. 2003. Non-timber forest products of India.

Nemarundwe, Nontokozo and Michael Richards. 2002. Participatory Methods for Exploring Livelihood Values Derived from Forests: Potential and Limitations. In: *Uncovering the Hidden Harvest: Valuation Methods for Woodland & Forest Resources*. Edited by Campbell, Bruce M. and Martin K. Luckert. London: Earthscan Publications. Abstract: Since the 1980s, rural development research has gradually shifted from the use of conventional extractive approaches towards participatory investigation and analysis. Participatory approaches, such as participatory rural appraisal (PRA), have been used both as development and research tools. The emphasis here is on the use of PRA as a research tool. This chapter describes the procedures for planning and conducting PRA to enhance interactive participation by local communities in the process of learning about rural people's values, with regard to trees and forests. Field experiences show that there are various potential benefits for the people who adopt the PRA approach in the research process. PRA gives researchers the opportunity and skills to facilitate local people to articulate their opinions, identify and prioritize their problems and needs and, most importantly, to seek ways and means of solving their problems. This chapter discusses the definition of participation, the background, history, and principles of PRA, PRA tools and techniques for quantifying and valuing forest benefits, strengths and weaknesses of PRA for understanding forest values, and the way forward.

Neumann, Roderick P. and Eric Hirsch. 2000. Commercialisation of non-timber forest products: review... Bogor, Indonesia: United Nations FAO. UW NAT SCI LIB SD543 N48 2000.

Olson, Dorothy. 1993. Beat out of brush. Shelton-Mason County Journal 2 December .

Patch, Steve. 1993. Brush-pickin's a pretty boring way of life. Shelton-Mason County Journal, April 10, 1993.

Reid, M.S. 2003. Trends in flower marketing and postharvest handling in the United States. In: *ISHS Acta Horticulturae 669: VIII International Symposium on Postharvest Physiology of Ornamental Plants*, edited by N. Marrison. AVAILABLE ONLINE <http://www.actahort.org/books/669/>. Abstract: In the past four decades, the handling and marketing of cut flowers in the United States has undergone dramatic changes. The local production and specialized retailing of the 1950's has been replaced by a system where flowers produced almost anywhere in the world are largely sold by mass-market retailers. Despite a substantial increase in total sales of flowers during this period, and a considerable reduction in real dollar retail prices, per capita consumption of cut flowers is low compared to that in other major markets. This may partly be explained by differences in lifestyle and culture, but a major component of the low sales of cut flowers in the U.S. is customer dissatisfaction with quality, particularly vase life, of the flowers that they purchase, whatever the price. Poor vase life is the result of long transportation times, excessive storage durations, and poor temperature management in the supply chain. Mass markets have a great opportunity to alter the cut flower consumption pattern in the U.S. by demanding better postharvest handling of the flowers that they sell, and thereby providing high quality flowers with long vase life.

Ringgold, Paul. 2002. Applying Stewardship Contracting Principles to Nontimber Forest Products. In: Nontimber Forest Products in the United States. Edited by Jones, Eric T.; Rebecca J. McLain, and James Weigand. Lawrence, Kansas: University Press of Kansas. Abstract: A brief overview of stewardship contracting and its recent history as applied within the national forest system.

Roberts, Donna H. and Barry Krissoff. 2004. Regulatory barriers in international horticultural markets. Washington, D.C.: U.S. Dept. of Agriculture, Economic Research Service. SuDocs A 93.29/2-3:04-01.

Robinson, C. 1994. Multiple perspectives: rules governing special forest products management in coastal Washington. Seattle, WA: University of Washington. 80 p. M.S. thesis.

Rubin, S.M.; Fish, S.C. 1994. Biodiversity prospecting: using innovative contractual provisions to foster ethnobotanical knowledge, technology, and conservation. In: Colorado Journal of International Environmental Law and Politics, ed. Endangered peoples: indigenous rights and the environment. Niwot, CO: University Press of Colorado: 23–58.

Savage, Mark. 1995. Pacific Northwest special forest products: An industry in transition. Journal of Forestry. 93 (3): 6-11.

Savage, Mark. 1995. Private consultant perspective. In: Dancing With an Elephant; Proceedings: The Business and Science of Special Forest Products, edited by Chris Shnepf. Portland, OR: Western Forestry and Conservation Association.

Savage, Mark. 1997. The bough market: a base-line document specifically designed to guide the State of Washington, Department of Natural Resources Bough Sales Program. Washington State Department of Natural Resources, internal document.

Schlosser, William E. and Keith A. Blatner. 1997. Special forest products: An east-side perspective. USDA Forest Service Gen. Tech. Rep. PNW-GRT-380.

Schlosser, William E., Keith A. Blatner and Roger C. Chapman. 1991. Economic and Marketing Implications of the Special Forest Products Harvest in the Coastal Pacific Northwest. Western Journal of Applied Forestry. 6(3): 67-72.

Schlosser, W., and K. Blatner, B. Zamora. 1992. Pacific Northwest lands potential for floral greenery production. Northwest Science 66(1):44-55.

Schlosser, William E., Cindy Talbott Roch, Keith A. Blatner, and David M. Baumgartner. A Guide to Floral Greens: Special Forest Products. EB1659. Washington State University, May 1997. 16 pages. AVAILABLE ONLINE <http://cru84.cahe.wsu.edu/cgi-bin/pubs/EB1659.html>. This bulletin focuses on eight major plants used in the floral greens industry that grow as understory vegetation in Pacific Northwest forests. [dwarf Oregon-grape, deer fern, Scotch broom, salal, pachistima or Oregon boxwood, sword fern, evergreen huckleberry, beargrass] Land managers may increase revenues from forest lands by taking advantage of the special forest products industry. Harvesting, processing, and wholesale distribution constitute a multimillion dollar a year business.

Seely, H. 1993. An economic assessment of the special forest products industry in southwest Washington. Tacoma, WA: Pacific Lutheran University. 35 p. Unpublished thesis. On file with: Rebecca McLain, Institute for Culture and Ecology, P.O. Box 6688, Portland, OR 97220.

Shnepf, Chris, editor. *Dancing With an Elephant; Proceedings: The Business and Science of Special Forest Products*. Portland, OR: Western Forestry and Conservation Association, 1995.

Sills, Erin O.; Lele, Sharachandra; Holmes, Thomas P.; Pattanayak, Subhrendu K. 2003. Nontimber Forest Products in the Rural Household Economy. In: Sills, Erin O.; Abt, Karen Lee, eds. *Forests in a market economy*. 2003. Dordrecht, The Netherlands: Kluwer Academic Publishers. p. 259-281. AVAILABLE ONLINE http://www.srs.fs.usda.gov/pubs/ja/ja_sills002.pdf. Among the multiple outputs of forests, the category labeled nontimber forest products, or NTFPs, has drawn increased policy and research attention during the past 20 years. NTFPs have become recognized for their importance in the livelihoods of the many relatively poor households who live in or near forests, especially in the tropics. Policy concern about NTFPs takes two forms. On the one hand, collection of relatively high-volume, low-value NTFPs, such as fuelwood, fodder, and mulch, has raised concerns about degradation of the forest resource, potentially resulting in hardships for households and negative environmental externalities. On the other hand, collection of relatively high-value, low-volume NTFPs, such as specialty food products, inputs to cosmetics and crafts, and medicinal plants, has drawn interest as an activity that could raise standards of living while being compatible with forest conservation. Addressing these policy concerns requires an improved "understanding of how households interact with natural resources and how one can affect household behavior in desired ways" (Ferraro and Kramer 1997: 207).

Society of American Florists. 2001. *The Changing Floriculture Industry*. Industry sales, production levels and trends for each segment of the industry.

Southern Interior Forest Extension and Research Partnership. *Non-Timber Forest Products Workshop*, Creston, B.C., May 22-24, 2000: report and recommendations. <http://www.forrex.org/publications/Filereports/fr00-2.pdf>

Spreyer, Kurt Konrad. 2004. *Tales from the Understory: Labor, Resource Control, and Identity in Western Washington's Floral Greens Industry*. Ph.D. dissertation, University of California, Berkeley.

Streeter, April. 2005. Flower power. *Sustainable Industries*, July 29, 2005. <http://www.sijournal.com/living/1744762.html>

Tedder, S.; Mitchell, D.; Hillyer, A. 2002. Property rights in the sustainable management of non-timber forest products. Victoria, BC: Forest Renewal BC; British Columbia Ministry of Forests. 130 p.

Tewari, D.N. 1994. *Tropical forest produce*. Dehra Dun, India: International Book Distributors. 665 p.

Thadani, R. 2001. International nontimber forest product issues. *Journal of Sustainable Forestry*. 13(3/4): 5-23. Author: Rajesh Thadani, Central Himalayan Rural Action Group, CHIRAG, Sitla, India, rajesh.thadani@yale.edu.

United Nations. 1987. *Floriculture products: a study of major markets*. UNCTAD/GATT.

United Nations, Food and Agriculture Organization. 2002. *Non-Wood Forest Products*. AVAILABLE ONLINE <http://www.fao.org/forestry/FOP/FOPW/NWFP/new/nwfp.htm>.

U.S. Department of Agriculture, Economic Research Service. *Situation Outlook Report: Vegetables and Specialties*.

U.S. Department of Agriculture, Foreign Agricultural Service. *An Economic Overview of Horticultural Products in the United States*. AVAILABLE ONLINE

[http://www.fas.usda.gov/http/Presentations/2004/An%20Economic%20Overview%20of%20HTP%20-%20\(08-04\).pdf](http://www.fas.usda.gov/http/Presentations/2004/An%20Economic%20Overview%20of%20HTP%20-%20(08-04).pdf). The Horticultural and Tropical Products (HTP) division of FAS covers trade in fruit, vegetables, and edible tree nuts, including fresh, dried, frozen, and otherwise processed or prepared fruit, vegetable, and nut products. HTP encompasses nursery and greenhouse products, including cut flowers. Trade in wine and wine products, ginseng, hops, and essential oils is also covered with the HTP division as well as a broad category of miscellaneous horticultural products that includes food preparations, beer, and many other products. Nursery and Greenhouse products: Nursery, greenhouse, floriculture, and sod value of sales was \$14.6 billion in 2002, or 14.6 percent of total crop sales. Total horticultural sales (including vegetables, melons, potatoes, sweet potatoes, fruits, tree nuts, berries, nursery, greenhouse, floriculture, and sod) were valued at \$28.5 billion in 2002. GET MORE STATS FROM THIS REPORT & MOVE TO ANALYSIS SECTION

U.S. Department of Agriculture, Foreign Agricultural Service. Horticultural and Tropical Products Division website <http://www.fas.usda.gov/http/default.htm>

U.S. Department of Agriculture, Foreign Agricultural Service. QUERY FAS
<http://www.fas.usda.gov/query.asp>

U.S. Department of Agriculture, Foreign Agricultural Service. FAS Reference Guide To World Horticultural Trade: 2005 Charts Edition
http://www.fas.usda.gov/http/Hort_Circular/2005/Charts%20Circular/toc.htm

U.S. Department of Agriculture, Foreign Agricultural Service. Horticultural Products Review. 1987 - . SuDocs A 67.18:FHORT.

U.S. Department of Agriculture, Foreign Agricultural Service. World Horticultural Trade & U.S. Export Opportunities. 1994 - . SuDocs A 67.18:FHORT. World Horticultural Trade and U.S. Export Opportunities are now updated on the Horticultural and Tropical Products Division website
<http://www.fas.usda.gov/http/>.

U.S. Department of Agriculture, Foreign Agricultural Service. FAS quarterly reference guide to world horticultural trade. 2003 - . SuDocs A 67.18:FHORT.

U.S. Department of Agriculture, National Agricultural Statistical Service. Annual survey of the top 36 floriculture production states.

U.S. House. Committee on Agriculture. Subcommittee on Specialty Crops and Natural Resources. 1993. Fresh Cut Flowers and Fresh Cut Greens Promotion and Information Act of 1993: hearing before the Subcommittee on Specialty Crops and Natural Resources of the Committee on Agriculture, House of Representatives, One Hundred Third Congress, first session, on H.R. 1738, May 12, 1993. SuDocs Y 4.Ag 8/1:103-17.

U.S. International Trade Commission, Office of Industries. 2003. Cut Flowers. USITC Publ 3580.
http://hotdocs.usitc.gov/docs/pubs/industry_trade_summaries/PUB3580.PDF

U.S. Senate. Committee on Agriculture, Nutrition, and Forestry. 1994. Fresh Cut Flowers and Fresh Cut Greens Promotion and Information Act of 1993: report (to accompany S. 994). SuDocs Y 1.1/2:14221.

U.S. World Agricultural Outlook Board.

van Liemt, Gijsbert. 2003. The world cut flower industry: trends and prospects. Geneva: International Labor Organization. <http://www.ilo.org/public/english/dialogue/sector/papers/ctflower/139e1.htm>.

van Tilburg, A. Agricultural University Wageningen.

Vance, Nan C. 1997. Special Forest Products Biodiversity Meets the Marketplace. USDA Forest Service General Technical Report. GTR-WO-63.

Vance, Nan C. 2003. Managing the "other" forest: collecting and protecting nontimber forest products. Science Findings. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. January (50): 1-5. AVAILABLE ONLINE <http://www.fs.fed.us/pnw/science/scifi50.pdf>. Wild harvest of nontimber forest products (NTFP) contributes to an international commercial trade in plant material--thought to be thousands of tons of raw product valued at billions of dollars. From 1991 through 1998, international trade in pharmaceutical plants alone was valued at over \$1 billion, with the United States second only to China in value of export (United Nations Statistics Division, New York). Perceptions of economic opportunity and plentiful resources have encouraged people to collect wild plants with relatively little inventory, monitoring, or effective oversight. When plant species are threatened by careless and destructive harvesting techniques, loss of habitat, and declines in populations and genetic diversity, efforts to sustain biodiversity are severely challenged. Yet Forest Service land managers are charged with the task of making available to the public the uses and benefits of the forest while maintaining biological diversity, as well as forest health. Research needs to develop not only comprehensive knowledge on species useful to humans but also to create information that can be used to prevent their being at risk and to identify and protect those species that may already be at risk.

Vance, Nan C.; Borsting, Melissa; Pilz, David; Freed, Jim. 2001. Special forest products: species information guide for the Pacific Northwest. Gen. Tech. Rep. PNW-GTR-513. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 169 p. AVAILABLE ONLINE <http://www.fs.fed.us/pnw/pubs/gtr513/>. This guide is a collection of information about economically important vascular and nonvascular plants and fungi found in the Pacific Northwest that furnish special forest products. Many of these plants and fungi are also found in Alaska, northern Idaho, and western Montana. They contribute to many botanical, floral, woodcraft, and decorative industries and to the rapidly growing medicinal, herbal, and natural foods industries. Internet commerce has made these products available to consumers worldwide and expanded interest in medicinal plants, decorative floral products, and edible wild fruits and mushrooms. This guide provides a consolidated information resource that briefly describes biological, ecological attributes of over 60 plants and fungi, and their wild harvest methods, alternatives to wild harvest, and uses. The harvest techniques described in the guide are based on the recommendations of experienced harvesters and experts who have worked with these botanical resources and support sustainable practices. Information for this guide was gathered from various documents and other sources. The technical areas of expertise consulted spanned a wide range of knowledge including plant biological and ecological sciences, ethnobotany, horticulture, mycology, and forest ecology.

von Hagen, Bettina; Fight, Roger D. 1999. Opportunities for conservation-based development of nontimber forest products in the Pacific Northwest. Gen. Tech. Rep. PNW-GTR-473. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 18 p. AVAILABLE ONLINE http://www.fs.fed.us/pnw/pubs/gtr_473.pdf. Declines in timber harvests on public lands and new market opportunities have rekindled an interest in nontimber forest products. Such products as edible mushrooms, medicinal plants, and floral and holiday greens provide alternative sources of revenue and employment for rural communities. This paper describes and analyzes the contribution of the nontimber forest product industries in the Pacific Northwest from economic, social, and ecological perspectives. We

conclude that promises of replacement for declining timber harvests has been largely unfulfilled: the nontimber forest product industries are seasonal, cyclical, and competitive, with generally low returns to harvesters. On the other hand, harvesting of nontimber forest products provides opportunities to those with the fewest options: recent immigrant groups and residents of economically distressed communities. The current economic contribution of nontimber forest products, however, may be considerably less than their future potential under management regimes that emphasize both timber and nontimber products. Forest management systems that emphasize a variety of forest products and services are generally higher in diversity, habitat value, recreation value, and aesthetic appeal.

von Hagen, Bettina, James F. Weigand, Rebecca McLain, Roger Fight, and Harriet H. Christensen. 1996. Conservation and development of nontimber forest products in the Pacific Northwest: an annotated bibliography. Gen. Tech. Rep. PNW-GTR-375. Portland OR: U.S. Department Forest Service, Pacific Northwest Research Station.

Weigand, J. 2002. Overview of cultural traditions, economic trends, and key species in nontimber forest products of the Pacific Northwest. In: Jones, E.T.; McLain, R.J.; Weigand, J., eds. Nontimber forest products in the United States. Lawrence, KS: University of Kansas Press: 57–64.

Wills, Russell and Richard Lipsey. 1998. An Economic Strategy to Develop Non-Timber Forest Products and Services in British Columbia. Renewal BC Project No. PA97538-ORE. Abstract: This report describes some of the most economically-valuable non-timber forest products and services emerging from BC wildlands and analyses their associated industries, production technologies and markets. It then presents an economic strategy for rapid development of these industries. The products and services highlighted are: wild food mushrooms; nutraceutical and medicinal mushrooms (mycomedicinals) and fungi; nutraceuticals and pharmaceuticals from plants, bark, lichens, insects, soil organisms, and wood waste; biocides (non-toxic insecticides) from the same sources; anti-phytovirals (medicines for plants); floral greenery; and ecotourism. The term nutraceutical broadly means a substance with both nutritional and therapeutic benefits, something one consumes when healthy to remain so or get healthier. Nutraceutical food products and herbal supplements had estimated global sales of between US \$10-\$12 billion in 1998, and a variety of popular nutraceuticals are found on BC wildlands. Saskatchewan, Alberta and several US states are actively supporting their nutraceutical companies. Emerging products and industries typically have high risks and high development costs at the outset, and, if successful, high payoffs in terms of employment and diversification over the long haul. Asian market economies, Ireland and many other countries which have been successful in diversifying on the basis of new industries have often done so with substantial government assistance at the outset. The key facet of such assistance is that small amounts of seed money early on can yield dividends in terms of employment, profits and government revenues once the initial hurdles are surmounted.

Expert Contacts

NAME	ADDRESS	NOTES
Alexander, Susan	Regional Economist Alaska Region USDA Forest Service PO Box 21628 Juneau AK 99802 907-586-8809 salexander@fs.fed.us	Referred by Nan Vance 11/9/2005 and by Richard Hansis 11/23/05. Sent email 11/23/05. She sent publs list and USFS and BLM appraisals contacts 11/28/05.
Ballard, Heidi	University of California Dept. of Environmental Science, Policy and Management 151 Hilgard Hall Berkeley CA 94720 hballard@nature.berkeley.edu	Her dissertation was on sustainable management of non-timber forest products. She worked with harvester Don Collins. Emailed inquiry 11/9/2005.
Blatner, Keith	Department of Natural Resource Sciences PO Box 646410 Washington State University Pullman WA 99164 509-335-4499 blatner@wsu.edu	Professor and Chair of WSU Dept Nat Res Sciences. Referred by Roger Fight. 11/10/2005 email: "No new economic data has been compiled... since the late 1990s. During much of the 1990s there was considerable interest... Unfortunately, during this same period the industry also received a great deal of media attention, which was less than helpful to its overall well being. As a result, their willingness to provide further economic data declined to the point where it was impossible to develop reliable estimates about the size of the industry. No further work has been attempted in this area in recent years to my knowledge. If you would like to talk about this in more detail please feel free to give me a call."
Christensen, Chris	US Forest Service PNW Research Station	
Collins, Don	Northwest Research and Harvester Association W 121 Arrowhead Dr Elma WA 98541 dwlacollins@centurytel.net	President of NRHA. Was Heidi Ballard's community partner. Emailed inquiry 11/9/2005. He replied he did not have any info.
Corets, Elaine	Northwest Natural Resources Group Port Townsend WA	NNRG is funded by Flintridge Foundation to educate harvesters about best practices and environmentally sensitive harvesting techniques.

Coulson, Justine	Centre for Architectural Research and Development Overseas (CARDO) School of Architecture Planning and Landscape University of Newcastle upon Tyne Newcastle upon Tyne NE1 7RU UK Tel: +44 (0)191 222 6024 j.a.coulson@ncl.ac.uk	PhD dissertation 2000 on women working in flower industry in Ecuador. Worked for Save the Children Foundation UK.
Cunningham, Kyle	U.S. Dept of Agriculture Foreign Agricultural Service Horticultural and Tropical Products Division 202-720-0875	Agricultural economist for tree nuts, cut flowers, and nursery products. Emailed inquiry 11/15/2005.
Rachel Da Silva	Columbia Legal Services 711 Capitol Way S #304 Olympia WA 98501 360-943-6260 800-260-6260 Rachel.daSilva@ColumbiaLegal.org	
Fight, Roger	PNW Research Station USDA Forest Service 10600 NE 51st Circle Vancouver WA 98682 360-891-5218 rfight@fs.fed.us	Referred by Nan Vance 11/9/2005. He referred it to Keith Blatner.
Freed, James	DNR Coop. Ext. Washington State University PO Box 47037 Olympia WA 98504 freedj@wsu.edu	BIO http://www.aces.edu/n4hfi/page36.html . Emailed inquiry 11/9/2005.
Gilden, Jennifer		
Gordon, Jeff	US Bureau of Land Management Salem OR 503-375-5611 Jeffrey_Gordon@blm.gov	BLM appraisal system for nontimber forest products. Referred by Susan Alexander 11/28/05. Emailed him on 12/9/05.

Hansis, Richard	Humboldt State University Dept of Environmental and Natural Resource Sciences 707-826-4148 rah14@humboldt.edu	11/23/05 referred me to Sue Alexander at USFS PNW Station Corvallis, and to Alliance of Forest Workers and Harvesters, Willow Creek CA. On 11/28/05 he said: "I haven't been doing the empirical work lately so I don't have much that is up-to date. The increasingly global market for mushrooms especially, has meant lower prices for pickers. Matsutakes are a prime example what with production in the PNW, Oaxaca, the Far East, and who knows where now. The last stuff I heard about floral greens was the overharvest of salal in the Olympic Peninsula area, but that has been going on for a while now."
Haynes, Richard	US Forest Service PNW Research Station	
Holt, Marcia	Washington Dept of Labor and Industries PO Box 44652 Olympia WA 98504 360-902-4716 holt235@Lni.wa.gov	Farm Labor Contractor Supervisor (Specialty Forest Products). Emailed inquiry 11/9/2005. She sent some web links. She said she was "limited on specifics due to disclosure protection laws."
Jones, Eric T	Institute for Culture and Ecology PO Box 6688 Portland OR 97208 www.ifcae.org 503- 331-6681	
Kardas, Peter	Labor Center Sem II E2126 The Evergreen State College 2700 Evergreen Parkway NW Olympia WA 98505 360-867-6526 Peter 360-867-6055 Labor Center	
Lipsey, Richard	431 Sunset Road RR#1 Q70 Bowen Island BC V0N 1G0 Canada 604-947 9714 rlipsey@sfu.ca jlipsey@shaw.ca	economic consultant on development of nontimber forest products with Russell Wills
Loose, Sarah	Jefferson Center for Education & Research Portland OR jeffctr.org 503.331.7440	
Lopez, Antonio	Northwest Research and Harvester Association W 121 Arrowhead Dr Elma WA 98541	

Lynch, Kathryn	Institute for Culture and Ecology PO Box 6688 Portland OR 97208 www.ifcae.org 503- 331-6681	Writing international nontimber forest policy book with People and Plants International.
McLain, Rebecca	Institute for Culture and Ecology PO Box 6688 Portland OR 97208 www.ifcae.org 503- 331-6681	
Miller, Marvin N.	Ball Horticultural Company West Chicago IL	market research manager
Minshall, Peter	Washington Dept of Labor and Industries PO Box 44151 Olympia WA 98504 360-902-5578 minp235@Lni.wa.gov	Auditor. Emailed inquiry 11/9/2005.
Morris, Lennie	Mill Creek Floral Greens International	President of big player in Washington brush-picking trade.
Nussbaum, Larry	Northwest Natural Resource Group Port Townsend WA	NNRG is funded by Flintridge Foundation to educate harvesters about best practices and environmentally sensitive harvesting techniques.
Prince, Thomas and Timothy	Prince & Prince, Inc PO Box 2465 Columbus OH 43216 614-299-4050 www.floralmarketresearch.com P-and-P@worldnet.att.net	Floral industry research, analysis, consulting.
Savage, Mark	Washington DNR 360-902-1774 mark.savage@wadnr.gov	Special Forest Products Manager
Smith, Jerry	US Forest Service grsmith@fs.fed.us	Developed USFS appraisal system for nontimber forest products harvested on Forest Service lands in western US. Referred by Susan Alexander 11/28/05. Emailed him on 12/9/05.
Spreyer, Kurt	University of California Dept of Environmental Science Policy and Management Div of Society and Environment 116 Giannini Hall 510-601-0551 kspreyer@nature.berkeley.edu	Lecturer at UC Berkeley. 2004 dissertation Tales from the Understory: Labor, Resource Control, and Identity in Western Washington's Floral Greens Industry. Emailed inquiry 11/9/2005. Talked 11/15/05 and he sent his thesis.
Trettevick, Johnie		

Vance, Nan	US Forest Service PNW Station Corvallis OR 541-750-7302 nvance@fs.fed.us	Plant physiologist. Emailed inquiry 11/9/2005.
Wills, Russell	Cognetics International Research Vancouver BC rmw@idmail.com	Economic consultant on development of non-timber forest products in B.C. with Richard Lipsey

¹US International Trade Commission, Tariff Information Center, <http://www.usitc.gov/tata/hts/bychapter/>

² United Nations Statistics Division website
<http://unstats.un.org/unsd/cr/registry/regcs.asp?Cl=14&Lg=1&Co=292.7>

³ United Nations Statistics Division website
<http://unstats.un.org/unsd/cr/registry/regso2.asp?Cl=14&Co=292.72&Lg=1>

⁴ <http://www.census.gov/epcd/naics02/def/NDEF113.HTM#N1132>

⁵ US International Trade Commission website <http://reportweb.usitc.gov/commodities/naicsicsitc.html>

⁶ Society of American Florists website http://www.aboutflowers.com/press_b1.html accessed Nov 16, 2005.

⁷ Society of American Florists website http://www.aboutflowers.com/press_b1.html accessed Nov 16, 2005.

⁸ Society of American Florists website http://www.aboutflowers.com/press_b1.html accessed Nov 16, 2005.

⁹British Columbia Ministry of Agriculture and Lands, An Overview of the BC Floriculture Industry, October 2003, http://www.agf.gov.bc.ca/ornamentals/overview_floriculture.htm

¹⁰British Columbia Ministry of Agriculture and Lands, An Overview of the BC Floriculture Industry, October 2003, http://www.agf.gov.bc.ca/ornamentals/overview_floriculture.htm

¹¹ US Dept of Agriculture, National Agricultural Statistics Service, Floriculture Crops 2004 Summary, Sp Cr 6-1 (05), April 2005, p. 3-4.

¹² FTD Group Inc., SEC Form S-1 Registration Statement, Preliminary Prospectus, Nov 23, 2004, p. 61-63, <http://sec.gov/Archives/edgar/data/1283157/000104746904035123/a2147169zs-1.htm>

¹³ FTD Group Inc., SEC Form S-1 Registration Statement, Preliminary Prospectus, Nov 23, 2004, p. 62, <http://sec.gov/Archives/edgar/data/1283157/000104746904035123/a2147169zs-1.htm>

¹⁴ FTD Group Inc., SEC Form S-1 Registration Statement, Preliminary Prospectus, Nov 23, 2004, p. 64, <http://sec.gov/Archives/edgar/data/1283157/000104746904035123/a2147169zs-1.htm>

¹⁵ USDA Foreign Agricultural Service, FAS Quarterly Reference Guide To World Horticultural Trade: Trade Data Edition, July 2004.
[http://www.fas.usda.gov/http/Hort_Circular/2004/2004%20Quarterly%20Trade%20Data%20Edition/2004%20Quarterly/02%20US%20Hort%20X%20by%20\\$%20Grp%20&%20Detail.pdf](http://www.fas.usda.gov/http/Hort_Circular/2004/2004%20Quarterly%20Trade%20Data%20Edition/2004%20Quarterly/02%20US%20Hort%20X%20by%20$%20Grp%20&%20Detail.pdf) accessed Nov 15, 2005.

¹⁶ U.S. Floricultural Exporters Unearth German Blumen Market,
<http://www.fas.usda.gov/info/agexporter/1996/December%201996/blumen.html>

¹⁷ U.S. Floricultural Exporters Unearth German Blumen Market,
<http://www.fas.usda.gov/info/agexporter/1996/December%201996/blumen.html>

¹⁸ Schlosser et al, Economic and Marketing Implications, Western Journal of Applied Forestry, 1991.

¹⁹ Washington State Department of Labor and Industries. July 2005. Harvesting Washington's Brush: Monitoring compliance with labor laws in the floral greens industry, p. 4.

²⁰ Washington State Department of Labor and Industries. July 2005. Harvesting Washington's Brush: Monitoring compliance with labor laws in the floral greens industry, p. 2.

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- ²¹ Washington State Department of Natural Resources. Forest Legacy Program 2004 AON Update for Washington State, p. 2-7, http://www.dnr.wa.gov/htdocs/amp/forest_legacy/final102504/2forres.pdf
- ²² LNI File 1, p. 890-891.
- ²³ Seattle Post-Intelligencer, Feb 14, 2002; copy in LNI File 1:1757.
- ²⁴ Email Dec 16, 2005 from Jeffrey A. Gordon, Supervisor - Forestry Support Team, Salem District - BLM
- ²⁵ Spreyer, Tales from the Understory, Chapter 2 (citing Patch 1980 and Savage 1995).
- ²⁶ Article is at LNI File 1 p. 1757.
- ²⁷ Marcia Holt email Dec 8, 2005, citing Dec 2, 2005 USDA San Francisco Wholesale Ornamental Crops Report for Decorative Greens and Cut Foliage <http://www.ams.usda.gov/fv/mncs/sxo.pdf>
- ²⁸ <http://marketnews.usda.gov/portal/fv>
- ²⁹ <http://www.ams.usda.gov/fv/mncs/fwires.htm>
- ³⁰ <http://www.ams.usda.gov/fv/mncs/ornterm.htm>
- ³¹ <http://www.ams.usda.gov/fv/mncs/ORNSHIPprice.HTM>
- ³² <http://www.ams.usda.gov/fv/mncs/orimport.htm>
- ³³ <http://www.ams.usda.gov/fv/mncs/ORNTREND.HTM>
- ³⁴ <http://www.ams.usda.gov/fv/mncs/ORNSHIP.HTM>
- ³⁵ Washington State Department of Labor and Industries. July 2005. Harvesting Washington's Brush: Monitoring Compliance with Labor Laws in the Floral Greens Industry.
- ³⁶ Savage 1995.
- ³⁷ Washington Farm Bureau, Background for L&I Assistant Director Mooly, Washington's Secondary Forest Products Industry, at LNI File 1, p. 890-891.
- ³⁸ 2002 "Dear Patty" memo at LNI File 1.1, p. 513-514.
- ³⁹ 2002 "Dear Patty" memo at LNI File 1.1, p. 513-514.
- ⁴⁰ Washington State Department of Labor and Industries. July 2005. Harvesting Washington's Brush: Monitoring Compliance with Labor Laws in the Floral Greens Industry, p. 5.
- ⁴¹ Source: LNI File 2a, p. 189.
- ⁴² Source: LNI File 2c, p. 975-988.
- ⁴³ Sherwood Forest Farms (owned by Callisons Incorporated www.callisonsinc.com) sells wreaths, garlands, holly, etc to not-for-profit organizations to use for fundraising. They use "evergreens harvested by trimming trees that are farmed for commercial use." Sherwoods website claims it doesn't send evergreens overseas, but the affiliated IP Callisons Inc is "the market leader in the global supply of premium mint oils, mint flavors, and mint-related ingredients." (from Sherwood Forest Farms website <http://www.sherwoodforestfarms.com/contact-us/qa.html> and IP Callisons website <http://www.ipcallison.com/> accessed Feb 12, 2006).
- ⁴⁴ LNI File 2b, p. 383.
- ⁴⁵ Spreyer, Tales from the Understory, Chapter 3.
- ⁴⁶ Washington State Department of Natural Resources. State nursery offers Danish noble fir seedlings: European tree developed for Christmas trees and wreaths. News Release No. 03-006, Jan 6, 2003. <http://www.dnr.wa.gov/htdocs/adm/comm/nr03-006.htm> accessed Nov 15, 2005.
- ⁴⁷ Workman, Sarah W. and Samuel C. Allen. 2004. The Practice and Potential of Agroforestry in the Southeastern United States, University of Florida, Institute of Food and Agricultural Sciences, Center for Subtropical Agroforestry, Circular 1446, http://edis.ifas.ufl.edu/BODY_FR146
- ⁴⁸ British Columbia Ministry of Agriculture and Lands, An Overview of the BC Floriculture Industry, October 2003, http://www.agf.gov.bc.ca/ornamentals/overview_floriculture.htm
- ⁴⁹ <http://web2.uvcs.uvic.ca/courses/ntfp/history/unit03.htm> accessed October 27, 2005, citing market Rick Ross, owner of Western Evergreens.
- ⁵⁰ Gagné, Janet et al. 2004. Integrating non-timber forest products into forest planning and practices in British Columbia. Forest Practices Board Report.

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- ⁵¹ Inner Coast Natural Resource Centre. Non-Timber Forest Products Workshop, Alert Bay B.C., April 3-5, 1998, p. 12, <http://www.icnrc.org/documents/NTFP%20proceedings.pdf>
- ⁵² Inner Coast Natural Resource Centre. Non-Timber Forest Products Workshop, Alert Bay B.C., April 3-5, 1998, p. 15, <http://www.icnrc.org/documents/NTFP%20proceedings.pdf>
- ⁵³ LNI File 1.1, p. 469.
- ⁵⁴ LNI File 1.1, p. 488.
- ⁵⁵ LNI File 1.1, p.489, citing de Gues.
- ⁵⁶ Kras, Japp. Leaders in Dutch horticulture. FloraCulture International website, <http://www.floracultureintl.com/archive/articles/159.asp> accessed Nov 16, 2005
- ⁵⁷ Vereniging van Bloemenveiligen website <http://www.vbn.nl/es/cijfers/index.asp> accessed Nov 15, 2005.
- ⁵⁸ British Columbia Ministry of Agriculture and Lands, An Overview of the BC Floriculture Industry, October 2003, http://www.agf.gov.bc.ca/ornamentals/overview_floriculture.htm
- ⁵⁹ FloraCulture International website <http://www.floracultureintl.com/archive/articles/701.asp> accessed Nov 16, 2005
- ⁶⁰ Nancy Laws is a floriculture marketing consultant in Lestrechure, France, nlaws@attglobal.net
- ⁶¹ SOURCE???
- ⁶² <http://www.ilo.org/public/english/dialogue/sector/papers/ctflower/139e1.htm>
- ⁶³ <http://www.ilo.org/public/english/dialogue/sector/papers/ctflower/139e1.htm>
- ⁶⁴ Streeter, 2005. <http://www.sijournal.com/living/1744762.html> accessed Nov 15, 2005.
- ⁶⁵ Ballard, Collins, Lopez, Freed, 2002.
- ⁶⁶ Ballard, Collins, Lopez, Freed, 2002.
- ⁶⁷ U.S. Floricultural Exporters Unearth German Blumen Market, <http://www.fas.usda.gov/info/agexporter/1996/December%201996/blumen.html>
- ⁶⁸ Inner Coast Natural Resource Centre. Non-Timber Forest Products Workshop, Alert Bay B.C., April 3-5, 1998, p. 12, <http://www.icnrc.org/documents/NTFP%20proceedings.pdf>
- ⁶⁹ Blatner and Schlosser 1998.
- ⁷⁰ Elshof 2000.
- ⁷¹ COLEAPC and Bougault 1998.
- ⁷² Informants noted that wholesale prices for salal stagnated in the early and mid-1990s and have declined since then. In December of 1993, a disgruntled ‘old-timer’ complained that “This time of the year, normally, there is always work with brush selling for about 85 cents for 32 to 38 pieces of about 18 inches of salal. Now it sells for 50 cents a bunch” (Olson 1993). This discrepancy may be accounted for in part by increased demand for “salal tips” sprays, which bring a lower price than the old single grade of “salal longs.” Alexander et al. (2002: 134) found that the mean per-bunch prices of salal tips harvested in Oregon, Washington, and Idaho were: \$0.50 in 1989, \$0.72 in 1994, \$0.59 in 1995, and \$0.76 in 1996. The range in values may indicate seasonal fluctuation, rather than differences in annual mean prices. Salal tips prices paid by a major wholesaler in Mason County ranged between \$0.47-0.72 per bunch between August 2001-July 2002. The mean price was \$0.69 per bunch. However, when compared against monthly volume data, the average price per bunch during the entire period drops to under \$0.60 per bunch. In inflation adjusted terms, this indicates a significant decline in prices in comparison to estimates during the mid-1990s.
- ⁷³ van Liempt 2003.
- ⁷⁴ von Hagen et al. eds. 1996.
- ⁷⁵ Christmas greens are products made from the boughs of conifer trees, as well as holly, mistletoe and other species used for Christmas holiday decorations, including wreath and garlands. For a summary of the regional industry see Savage 1997: 1-10.
- ⁷⁶ Shelton-Mason County Journal. 23 November 1989.
- ⁷⁷ Ibid.
- ⁷⁸ Jefferson Center for Education and Research 2000: 39-44.

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- ⁷⁹ The United States Census lists 883 Latinos in Mason County in 1990 (U.S. Census Bureau 1990) and 2361 in 2000 (U.S. Census Bureau 2000). These are clearly underestimates.
- ⁸⁰ Fredrickson and Scroggins 1997: 22. Massey 1998.
- ⁸¹ Brown 1977: 5) notes that crews are usually segregated by race and ethnicity.
- ⁸² See Jeff CTR publication. Hansis (2002: 55) suggests that some sheds have recently begun to allow harvesters who pick on their leased land to sell the product to other sheds. This is done on the condition that the harvester pay a fee for access based on the weight of product, ten percent of its value, or nickel per bunch.
- ⁸³ Freed and Davis 1997: 54.
- ⁸⁴ Lynch and McLain 2003: 22-24.
- ⁸⁵ Fitzpatrick 1997: 47.
- ⁸⁶ Brown 2002: 2.
- ⁸⁷ De Gaus 1995.
- ⁸⁸ International Labor Organization 2003.
- ⁸⁹ Blatner and Schlosser 1998; van Liemt 2003.
- ⁹⁰ Elshof 2000.
- ⁹¹ Blatner and Scholler 1998.
- ⁹² KOMO News Services 7 January 1997.
- ⁹³ Gagné 2004: 14.
- ⁹⁴ Wills and Lipsey 1999: 10. In 1997, the total gross revenue of British Columbia's 22 floral greens firms was Canadian \$55-\$60 million. That year, it was estimated that there were 13,000 commercial pickers in the industry (Gagné 2004: 11). It is unclear whether these figures include harvesting and sales of evergreen boughs.
- ⁹⁵ COLEAPC and Bougault 1998.
- ⁹⁶ Mid-Florida Research & Education Center 1996.
- ⁹⁷ <http://www.cfg-greens.com/>
- ⁹⁸ van Liemt 2003.
- ⁹⁹ <http://www.fian.de/fian/index.php?option=content&task=category§ionid=5&id=25&Itemid=50> accessed November 13, 2005.
- ¹⁰⁰ <http://www.ilo.org/public/english/dialogue/sector/papers/ctflower/139e1.htm>