

STONEBRIDGE

STRATEGIC SOLUTIONS FOR THE WINE INDUSTRY

The Economic Impact of Washington State Wine and Grapes

Prepared for Washington State Wine Commission

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A STONEBRIDGE RESEARCH REPORT

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105b Zinfandel Lane, St. Helena, CA 94574
www.stonebridgeresearch.com

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HIGHLIGHTS

FULL 2009 ECONOMIC IMPACT OF WASHINGTON STATE WINE

\$8.6 billion in Washington State

\$14.9 billion in the U.S.

	IN WASHINGTON STATE	TOTAL U.S.
Number of Licensed Washington Wineries, 2011	739	739
Number of Vineyards	350	350
Vineyard Acreage	43,849	43,849
Grape Crop Size (Tons)	160,000	160,000
Value of Grape Crop/Vineyard Revenue	\$166,400,000	\$166,400,000
Full-time Equivalent Jobs	27,455	68,719
Wages Paid	\$1,174,010,066	\$2,831,104,049
Cases of Washington Wine Produced, 2010 (9L equivalents)	11.2 million	11.2 million
Retail Value of Washington Wine	\$1.47 billion	\$2.6 billion
Winery Revenue	\$1,007,854,109	\$1,007,854,109
Wine Related Tourism Expenditures	\$1,059,217,000.00	\$1,059,217,000
Number of Wine Related Visits	2.4 million	2.4 million
Taxes Paid	State and Local: \$237,724,633 Federal: \$304,891,053	All States & Local: \$634,732,581 Federal: \$716,951,240
Charitable Contributions ²	\$5.5 million	\$5.8 million

Source: Stonebridge Research, Washington NASS, U.S. Bureau of Labor Statistics and Industry Interviews

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Executive Summary

CURRENT OVERVIEW

Washington wine has grown its reputation and market by delivering quality wine at great value in multiple price segments and varietals. The number of wineries in Washington continues to grow, from 534 in 2007 to 739 in 33 counties in 2011. Most of Washington’s wineries are small family businesses, as they are in most of the U.S.

Vineyards continue to be developed, with grape bearing vineyard acreage growing from 30,500 acres to 35,000 acres, with several thousand additional acres planted in 2008-2009 still waiting to bear fruit.

Washington’s wineries produced 11.2 million cases of wine in 2010, generating revenue in excess of \$1 billion in direct winery revenue, providing the livelihoods for nearly 30,000 individuals and hundreds of allied businesses and organizations.

Throughout this period Washington wine has benefited from strong, pragmatic leadership, quality education and an increasingly effective research program which has enabled the industry to overcome a multitude of economic and environmental challenges. Washington wine has shown little of the complacency which has imperiled many other major producing regions in this difficult period.

ECONOMIC IMPACTS

Washington’s wine industry has shown impressive resilience through the “Great Recession” amid a highly competitive wine market.

In 2010/2011, Washington’s wine industry produced a total impact of nearly **\$8.6 billion** within the state, compared with a total impact of \$3 billion in 2007, and a total impact of **\$14.9 billion nationally**, compared with a total impact of \$4.7 billion in 2007, as shown in Table 1 above.

The growth in economic impact results in part from a far more comprehensive assessment of industry suppliers conducted for this study, including farm and wine machinery suppliers, bottle producers, cork and barrel finishers, marketing and professional services, banking, transport, laboratories, distribution, tourism, retailing and restaurants, in 33 counties in Washington and across the United States.

TABLE 1: TOTAL ECONOMIC IMPACT OF WASHINGTON WINE AND GRAPES, 2011

REVENUE	IN WASHINGTON STATE	TOTAL U.S.
WINERY REVENUE	\$1,007,854,109	\$1,007,854,109
DISTRIBUTOR MARKUP	\$72,505,655	\$233,889,210
RETAIL/RESTAURANT MARKUP	\$390,757,488	\$1,352,141,043
VINEYARD DEVELOPMENT	\$22,660,000	\$22,660,000

REVENUE	IN WASHINGTON STATE	TOTAL U.S.
WINE GRAPE SALES	\$166,400,000	\$166,400,000
TOURISM	\$1,059,217,000	\$1,059,217,000
SUPPLIERS	\$324,942,431	\$457,523,477
RESEARCH/EDUCATION/ GOVERNMENT	\$12,500,000	\$13,076,750
CHARITABLE CONTRIBUTIONS	\$5,500,000	\$5,800,000
TAX REVENUES – FEDERAL	\$328,054,438	\$634,732,581
TAX REVENUES – STATE AND LOCAL	\$237,209,075	\$716,951,240
INDIRECT (IMPLAN)	\$2,428,109,404	\$3,075,603,352
INDUCED (IMPLAN)	\$1,335,002,254	\$3,335,608,096
TOTAL REVENUE	\$7,390,711,854	\$12,081,456,858
WAGES		
WINERIES	\$128,943,675	\$142,253,675
DISTRIBUTORS	\$24,876,458	\$85,569,752
RETAIL/RESTAURANT	\$59,479,208	\$302,348,651
VINEYARD	\$54,949,908	\$54,949,908
TOURISM	\$98,379,943	\$98,379,943
SUPPLIERS	\$55,847,177	\$76,683,612
RESEARCH/EDUCATION/ GOVERNMENT	\$5,675,580	\$6,076,086
INDIRECT (IMPLAN)	\$450,247,039	\$990,871,236
INDUCED (IMPLAN)	\$295,611,078	\$1,074,656,554
TOTAL WAGES	\$1,174,010,066	\$2,831,789,417
TOTAL IMPACT	\$8,564,721,920	\$14,913,246,275

Source: Stonebridge Research, U.S. Bureau of Labor Statistics and industry interviews

Employment

Perhaps most importantly in this time of serious unemployment, Washington wine and allied industries, directly and indirectly provided **full-time equivalent jobs in Washington state for almost 30,000 individuals and for more than 71,000 individuals nationally, generating wages of nearly \$1.2 billion within the state and \$2.8 billion nationally.** Washington’s wine industry directly and indirectly accounts for nearly 1% of total employment in the state.

Table 2: Employment Impact of Washington Wine

SECTOR	WASHINGTON EMPLOYMENT (FTE)	TOTAL U.S. EMPLOYMENT (FTE)
WINERIES	3,630	3,890
DISTRIBUTORS	431	1,310
RETAIL AND RESTAURANT	2,882	16,149
VINEYARD	2,888	2,888
TOURISM	3,307	3,307
SUPPLIERS	994	1,491
RESEARCH/EDUCATION/ GOVERNMENT	93	96
TOTAL DIRECT JOBS	14,225	29,131
INDIRECT (IMPLAN)	8,518	17,911
INDUCED (IMPLAN)	6,929	24,379
TOTAL	29,672	71,421

Source: Stonebridge Research, U.S. Bureau of Labor Statistics and industry interviews

Government Revenue

The industry’s contribution to public revenues also continues to grow, with wine and allied industries in Washington paying **\$237.7 million in state and local taxes and nearly \$305 million in federal states. Nationally, the Washington wine industry, directly and indirectly, generates \$656.5 million in tax revenue to states and localities and \$722.3 million in federal taxes,** as shown in Table 3 below.

These amounts compare with those reported in the 2007 report of \$145 million in state and local taxes and 196.9 million in federal taxes generated in Washington state and \$267 million in federal taxes and \$203 million in state and local taxes generated nationally.

Table 3: Impact of Washington Wine on Government Revenues

STATE AND LOCAL TAX	WASHINGTON STATE	TOTAL U.S.
EXCISE TAX	\$4,130,000	\$25,947,170
EMPLOYEE	\$1,036,299	\$6,918,352
INDIRECT BUSINESS TAXES	\$223,713,514	\$519,698,512
HOUSEHOLD TAX	\$8,603,611	\$83,956,119
CORPORATE TAX	\$241,209	\$20,029,598
TOTAL	\$237,724,633	\$656,549,751
FEDERAL TAX		
EXCISE TAX	\$26,975,010	\$26,975,010
PAYROLL TAX	\$131,768,396	\$305,721,168
BUSINESS TAX	\$23,273,468	\$77,839,599
HOUSEHOLD TAX	\$86,047,208	\$202,495,504
CORPORATE TAX	\$42,126,948	\$109,249,936
TOTAL	\$310,191,030	\$722,281,217
TOTAL TAXES PAID	\$547,915,663	\$1,378,830,968

Source: Stonebridge Research, DISCUS and IMPLAN

Economic Impact of Washington Wine on Washington's Counties

The Washington wine industry creates jobs, wages and public revenues in 33 counties across the state. The leading counties in terms of economic impact of Washington wine are King, Benton, Yakima, Walla Walla, Chelan, Grant, Franklin, and Spokane, as summarized in Table 4 below and detailed further in Chapter VII. The industry generates jobs, revenues and tax proceeds, often quite substantially, through its supports suppliers, in 25 other Washington counties, from Adams to Whitman.

Table 4: Economic Impact of Washington Wine in Washington Counties

	Employment	Public Revenues	Total Impact
King County	9,220	\$172,076,721	\$2,966,676,771
Benton	5,191	\$94,979,417	\$926,837,714
Yakima	3,149	\$44,073,386	\$526,580,660
Walla Walla	2,657	\$46,665,055	\$502,089,318

	Employment	Public Revenues	Total Impact
Chelan	1,374	\$18,493,401	\$221,440,600
Grant	1,124	\$23,913,626	\$226,994,957
Franklin	703	\$10,557,028	\$34,042,517
Spokane	697	\$11,602,751	\$138,447,213

Source: Stonebridge Research, industry interviews and U.S. Bureau of Labor Statistics

PROSPECTS

Overall, the prospects for Washington wine are highly positive as Washington producers continue to provide quality wine at great value.

However, the industry still must overcome significant challenges.

Building Its National Reputation

- As winery numbers have grown over the decade, the industry has become increasingly fragmented. While the five largest producers represent more than 70% of wine production, the next 30 wineries account for about 20% to 25% of production, with several hundred very small producers delivering about 5% of the state's total production.
- While some of these smaller producers are quite sophisticated, many lack the scale and resources (volume, marketing, sales force or expertise) needed to build a national presence and awareness. Many of the smaller producers may be under-capitalized in this quite capital-intensive industry.
- Industry sources estimated that only 50 Washington wine brands are in national distribution. Washington's smaller producers often lack access to professional distribution in many regions. Thus, except for the largest producers, the majority of the wine produced in Washington state is sold in the Pacific Northwest, with 35% or more sold within the state. Thus, Washington wine is estimated to have only about a 3% to 5% share of the overall U.S. wine market.
- Washington's largest producers tend to be focused on wines under \$15 -- where most of U.S. wine purchases are also focused. This focus has helped the industry cope with the recession. However, these producers also tend to be focused on the off-premise channels. Washington's highest end producers tend to be more oriented toward the on-premise market, although the supply of such wines is quite limited. The on-premise channels -- restaurants and other eating and drinking places -- are where consumers traditionally discover new wines.
- Washington wineries have proven adept at producing a wide range of varietals and wine styles well. However, this successful diversity may also complicate the development of a clear image for the region among consumers.
- Building a coherent national reputation, especially at the consumer level, with so many very small brands and such a diversity of wines, is a challenge.

- Image clarity is further complicated by the physical separation of grape and wine production, with wineries sourcing from multiple appellations and vineyards.
- These factors may also constrain pricing for some of Washington's wines.
- Overall, while those consumers and trade familiar with Washington wine are quite positively oriented towards it, limited awareness, particularly among consumers nationally, along with limited supply, presents a challenge to continued expansion of sales by Washington's smaller producers and in the higher end wine segments.

Wine Grape Production

- Industry sources expressed concern that Washington would need significantly larger wine grape production to support the brand development consistent with further national market development, noting that the grower base for Washington wine grapes has not grown proportionately with the growth in wineries.
- Perhaps uniquely for a major wine producing region, winemaking and wine grape growing have developed as largely separate, parallel industries, with some 95% of grapes produced in the Eastern part of the state and much of the winemaking concentrated closer to the population center in the West. This arrangement has both challenges and advantages.
 - Grapes or bulk wine for much of Washington's wine need to be trucked across the state, an expensive four hour trip.
 - As noted above, this separation reduces the identification of individual wines' with their "terroir" -- the soil and climate in which their grapes were grown -- and thus to some degree their perceived distinctiveness. However, this arrangement also allows Washington's winemakers to produce a greater variety of wines and take advantage of the diversity of Washington's growing regions.
 - The separation allows growers and winemakers to focus on their strengths: growing wine grapes and making and selling wine are very different occupations.
 - Few vineyards are planted without long-term purchase contracts from wineries, reducing the speculative risk in grape growing, supporting the large investments needed to develop Washington's vineyard potential. The downside of this practice is a relatively small spot wine market which may constrain wineries' ability to respond to shorter-term demand trends. The small spot market might also be expected to constrain new entrants to winemaking, but winery numbers continue their rapid increase.
- The greatest challenge to wine grape production in the state continues to be weather, and the resulting risk and costs for growers and the industry. Crop loss from frost and related weather remains a major risk to the industry, resulting in unpredictable production volumes and revenues for both growers and winemakers.
 - Crop loss, and the various investments undertaken to mitigate it, add to grape and wine costs. Weather and soil place a natural limit on crop yields even in good years. Thus, the environment sets a "floor" on the price of Washington wine grapes.

- Washington may be best known for producing “value” wines costing less than \$15 per 750mL but those wines are produced at very tight margins.
- Several parties noted that water management practices in the state may be due for modernization, clarifying rights and allocation rules and distribution arrangements in irrigation districts. While the Columbia Basin does not face a water shortage, new property developments do encounter issues in gaining access to water.
- The recession has led the state to reduce research and education funds, including those for viticulture and enology. Research programs have been cut, and viticulture and enology programs across the state have waiting lists of students. The industry has stepped up to fill the gap and has pledged major support for the new Wine Science Center.

Building Brand Ambassadors and Growing Wine Tourism

- Not only are visitors to wineries and vineyards important sources of wine sales themselves but, perhaps most importantly, research has repeatedly found that such visits have major, sustaining impacts on both visiting consumers and trade. These visitors become the winery’s “brand ambassadors,” passionate advocates for their “discoveries.”
- The wine consumer “demographic” is a very attractive consumer segment: affluent, well-educated, adventurous. Wine producing regions across the U.S. and worldwide, and their national and regional governments, have discovered the benefits of wine tourism and have launched aggressive marketing programs.
- Washington industry and county governments are trying to fill the gap in destination marketing resulting from the closure of the Washington state tourism agency. Washington’s wineries would benefit from better visitor information and a more strategic approach to developing these “brand ambassadors”.

Opportunities

Despite these challenges, Washington’s wine industry is remarkably well-positioned for continued growth:

- While focused on the \$8 to \$15 price segment which has become the heart of the U.S. wine market, Washington offers a wide range of wines in multiple price segments. Most importantly, Washington wine has retained and reinforced its reputation for excellent quality and value in all segments.
- Despite the concerns noted above, Washington has an excellent environment for wine grape growing, with abundant water and a long growing season. Neither phylloxera nor Pierce’s Disease can survive Washington’s severe winter cold, enabling Washington to grow wine grapes on their own rootstock, unlike California which depends on grafted rootstock.
- The industry is making progress in building an export market.
- The industry has received good cooperation from the state.

- The role of Chateau Ste Michelle, the major wine producer in Washington, in training professionals and building a skilled labor force, in supporting research, in building awareness for the entire industry and in maintaining industry stability has been remarkable.
- The gradual emergence of other large producers in the state, able to provide the resources to build national brands has also strengthened the industry.
- The industry shows little complacency, has been successful at working together and has benefited from strong, pragmatic leadership.

As Dr. Walter Clore noted many years ago, Washington retains vast potential capacity to expand the production of premium wine grapes and thus for continued successful growth of its wine industry and the many related benefits the industry brings to the state and communities of Washington.

I. Wine grapes and Vineyards in Washington

Washington State ranks second in the nation, after California, in the value of utilized wine grape production and in bearing wine grape acreage. Wine grapes are the third most valuable fruit crop in Washington State, after apples and cherries.

Table 5: Total U.S. Wine Grape Production

	Tons			Price		
	2008	2009	2010	2008	2009	2010
California	3,015,000	3,703,000	3,589,000	\$610	\$612	\$574
Michigan	5,300	4,300	3,800	\$970	\$1,000	\$1,100
Missouri	5,130	4,340	5,040	\$960	\$900	\$880
New York	45,000	44,000	52,000	\$516	\$523	\$537
North Carolina	5,250	4,370	4,500	\$800	\$630	\$700
Ohio	850	2,060	1,610	\$761	\$1,240	\$1,020
Oregon 2/	34,700	40,200	31,200	\$2,050	\$1,910	\$2,030
Pennsylvania	13,200	8,400	10,300	\$406	\$453	\$477
Texas	3,950	3,000	8,100	\$1,200	\$1,160	\$1,250
Virginia	6,800	7,980	6,450	\$1,530	\$1,600	\$1,700
Washington	145,000	156,000	160,000	\$1,030	\$989	\$1,040
Other States 3/ 4/	4,040	3,150	3,530	\$954	\$813	\$746
United States	3,284,220	3,980,800	3,875,530	\$574	\$599	\$571

2/ Includes small quantities for other uses.

3/ Includes data withheld above and/or data for States not listed in this table.

4/ Grapes processed for juice are included in Other States wine to avoid disclosure of individual operations.

Source: NASS National Fruit Report

As shown in Table 5, in 2010, Washington produced 160,000 tons of wine grapes, a record for the state, with an average price, as indicated in Table 6, and reported by the Washington State bureau of the USDA's National Agricultural Statistics Service (NASS), of \$1,040 per ton, also a record for the State.

Table 6: Washington State Wine Grape Acreage, Production and Value

	2007	2008	2009	2010
Bearing Acreage	30,500	32,000	34,000	35,000
Utilized Production (tons)	127,000	145,000	156,000	160,000
Price Per Ton	\$954	\$1,030	\$989	\$1,040
Value of Utilized Production	\$121,158,000	\$149,350,000	\$154,284,000	\$166,400,000

Source: Washington State NASS

Wine Grape Acreage

Wine grape bearing acreage totaled 35,000 acres in 2010, also a record high for the state, representing 91.8% of 43,849 total planted acreage. About 8.2% of planted acreage is expected to bear fruit over the next 3 years, reflecting newly planted or replanted vineyards.

The number of acres planted to wine grapes grew fivefold from 1991 to 2010, reflecting the mid-90s surge in wine grape planting. as indicated in Table 7 below.

Table 7: Wine Grape Acreage Planted by Year

Pre-1991	1991-1995	1996-2000	2001-2005	2006-2007	2008-2009	2010	Total Acres
8,263	3,699	13,455	7,260	6,297	3,744	1,133	43,849

Source: Washington NASS

Wine Grape Production

From 1993 to 2010 wine grape production grew by about 160%, as growers constrained yields to improve quality. Grape prices concurrently rose by about 67%.

Table 8: Wine Grape Production, 1993-2010

	Tons	Price per Ton \$	Value of Production (Million)
1993	62,000	623	\$38,626
1997	70,000	922	\$60,264
1999	70,000	910	\$63,700
2002	115,000	878	\$100,970
2003	112,000	920	\$103,040
2004	107,000	925	\$98,975

	Tons	Price per Ton \$	Value of Production (Million)
2005	110,000	930	\$102,300
2006	120,000	942	\$113,040
2007	127,000	954	\$121,158
2008	145,000	1030	\$149,350
2009	156,000	989	154,284
2010	160,000	1040	166,400

Source: Washington NASS

Wine grapes also claimed a growing share of all grape production in the state, rising from 26.4% of the state's total grape harvest of 265,000 tons in 1999 to 47.6% of 2010's total grape production of 336,000 tons.

Industry Structure

A major share of Washington's wine grapes are produced by independent growers and purchased by wineries, with a sizable share also crushed by independent processors, as suggested by Table 9 below.

Table 9: Wine Grape Crush Summary by Source, 2010

Crush Summary	Source Tons	% of Total
Crush of Estate Grown Grapes	47,100	29.44%
Crush of Purchased Grapes	83,700	52.31%
Crushed for other Wineries	29,200	18.25%
Total Wine Grapes Crushed	160,000	100.00%

Source: Washington NASS

Most Washington wine grapes are planted and produced under longer term contracts, whether written or verbal, with a very small spot market for grapes and limited bulk wine production. Contract buyers are often deeply involved in specifying both planting and farming practices.

An estimated 85% of these contracts are priced per ton of grapes with the balance, particularly for higher end wines, as per acre contracts, with yield minimums to reduce grower risk and yield maximums as quality protection for vintners.

Wine Grape Production Conditions and Environment

Washington's climate and terrain create a unique environment for wine grape cultivation:

- Neither phylloxera nor Pierce's Disease can survive Washington's severe winter cold, enabling Washington to grow wine grapes on their own rootstock, unlike California which depends on grafted rootstock. The severe cold also ensures true dormancy during winter.

- Washington’s climate provides a longer, warmer, dryer growing season, with strong temperature fluctuations, enabling ripening while retaining natural acidity.
- Although Eastern Washington has a near desert climate, the region also has abundant water for irrigation, particularly from snow runoff from the Cascade Mountains which cross the region, enabling careful management of water. The complexities of water rights and irrigation availability are major factors in vineyard site selection.
- Washington’s severely cold winters pose continued risk of costly vine damage. Winter frost is “crop limiting”, constraining potential yields, and thus setting a fairly high floor for grape prices.
- Frost risk also drives site selection, discouraging planting on flat ground in favor of hillsides, which are more expensive to plant and farm.

Data on total vineyards (not just wine grapes) suggests that, at least since 2002, Washington has seen a significant increase in the number of small vineyards (those under 15 acres), a decline in the number of vineyards of 15 to 100 acres, and a small increase in the number of vineyards up to 500 acres, while the number of vineyards of more than 500 acres increased by 50%, reflecting the development of several large vineyards along with the entry of small, often part-time growers into the industry.

Table 10: Number of (All Grape) Vineyards by Size

	Up to 15 Acres		15 to 100 Acres		More than 100 acres		of which 500 Acres Plus		Total Vineyards	Total Acres
	Number	Acres	Number	Acres	Number	Acres	Number	Acres		
2007	772	3,213	316	13,176	131	44,667	20	23,667	1219	61056
% of Total	63.3%	5.3%	25.9%	21.6%	10.7%	73.2%	1.6%	38.8%		
2002	645	2,621	399	16,464	155	43,431	13	16,683	1199	62515
	53.8%	4.2%	33.3%	26.3%	12.9%	69.5%	1.1%	26.7%		

Source: Washington NASS

Identifying the number of growers, rather than the number of vineyard parcels, is extremely difficult in all regions. The last estimate of 350 was developed by the 2007 Economic Census. The next Economic Census, which would update this estimate, will be conducted during 2012.

Land and Planting Costs

Prices for land suitable for wine grape vineyards, with water rights, ranges from a low of \$6,000 per acre to \$40,000 per acre or more, with the most expensive transactions recorded in the Red Mountain AVA. Vineyard land prices have tripled in the past decade.

Planting costs range from \$20,000 to \$30,000 per acre, depending on site and vine density and tend to be highest in the Walla Walla and Red Mountain AVAs. NASS data indicates as well that vine density has increased over the last decades, from an average of 745 vines per acre prior to 1991 to 1020 vines per acre

in 2010, reflecting industry practice through much of the West Coast, also contributing to rising planting costs.

Farming Costs and Yields

Grape yields range from 2.5 to 6 or 7 tons per acre¹, depending on the varietal, region and the wine price segment for which the grapes are destined. Farming costs range from \$2,000 to \$6,000 per acre, also depending on varietal, region and the wine segment for which the grapes are destined (and thus hand work required and yield constraints, for example.) Much of the acreage for higher volume production is mechanized, using mechanical harvesting and pre-pruning but less than 2% of vineyard land is mechanically pruned. Thus, wine grape production requires a stable supply of skilled labor.

Eastern Washington's severe winters limit potential yields and create costs which together put a floor under grape prices as well as farming costs. On the other hand, Washington's vineyards are not susceptible to phylloxera and several other vineyard diseases and pests, which can reduce chemical requirements.

Varietals

White Riesling, Cabernet, Chardonnay and Merlot are Washington's leading wine grape varietals, as shown below, together representing nearly 80% of total production. Production is almost evenly split between red and white varieties, although acreage has heavily favored red varieties since the early 1990s. Yields tend to be smaller among the red varieties.

Table 11: Wine Grape Varietal Acreage, Planting by Year

Variety	Year Planted						2010	Total Acres
	Pre-1991	1991-1995	1996-2000	2001-2005	2006-2007	2008-2009		
Chardonnay	1,779	877	3,199	222	588	572	417	7,654
Pinot Gris	26	24	359	297	675	195	0	1,576
Sauvignon Blanc	525	0	182	232	121	79	0	1,173
White Riesling	1,633	123	494	2,031	1,438	521	82	6,320
Other White	615	121	616	504	161	123	20	2,128
Total White	4,578	1,145	4,850	3,286	2,983	1,490	519	18,851
Cabernet Sauvignon	1,710	625	3,866	1,178	1,400	1,094	420	10,293
Merlot	1,547	1,654	2,369	811	966	770	119	8,235

¹ 2.5 to 5 tons per acre for reds, up to 5 tons per acre for Chardonnay, up to 7 tons per acre for Riesling.

Variety	Year Planted							Total Acres
	Pre-1991	1991-1995	1996-2000	2001-2005	2006-2007	2008-2009	2010	
Syrah	132	97	1,566	975	255	68	10	3,103
Other Red	295	179	804	1,010	692	322	64	3,367
Total Red	3,684	2,555	8,605	3,974	3,313	2,254	613	24,998
All Varieties	8,263	3,699	13,455	7,260	6,297	3,744	1,133	43,849

Source: Washington NASS

Acres devoted to Cabernet Sauvignon accelerated passed that of Merlot in 1996, at about the same time that planting of White Riesling began to overtake Chardonnay. Washington's planting of Syrah grew rapidly from 1996 through 2005, but may have been planted "ahead of the market", in the words of one producer, a over-enthusiasm found in much of the West Coast. One of the more interesting trends has been the gradual increase in the "Other Reds" category, from about 3.8% of total red wine grape production to about 5.8% of red wine production, with the growth of Malbec, which had been included in "other" until 2007, particularly noticeable in both price and total.

Table 12: Washington Wine Grape Production and Price by Variety, 2008-2011

Variety	Tons				Average Price			
	2008	2009	2010	2011	2008	2009	2010	2011
Chardonnay	28,000	33,400	28,600	28,500	883	857	899	803
White Riesling	28,500	32,100	33,500	31,700	812	781	789	784
Pinot Gris	4,100	6,300	6,100	7,500	879	792	765	765
Sauvignon Blanc	5,100	4,300	4,800	4,300	771	799	843	824
Gewurztraminer	4,000	4,000	3,100	2,900	720	672	688	740
Viognier	1,300	1,300	1,500	1,100	1,007	989	899	943
Semillon	1,200	1,200	800	800	747	839	761	858
Chenin Blanc	1,200	1,100	700	800	705	638	688	746
Other ¹	1,400	1,300	1,000	700	913	1,018	1,060	989
TOTAL White Varieties	74,800	85,000	80,100	78,300	837	813	830	794
Cabernet Sauvignon	26,100	27,600	31,900	23,100	1,306	1,276	1,297	1,312

Variety	Tons				Average Price			
Merlot	25,400	24,800	28,300	10,100	1,126	1,088	1,160	1,117
Syrah	10,700	10,000	10,900	10,100	1,149	1,152	1,199	1,133
Cabernet Franc	2,500	2,600	2,500	2,500	1,246	1,271	1,325	1,342
Malbec	1,000	1,000	1,100	1,300	1,655	1,473	1,540	1,413
Sangiovese	800	900	800	600	1,481	1,302	1,291	1,350
Pinot Noir	800	800	900	700	1,233	870	740	868
Other ²	2,900	3,300	3,500	3,500	1,454	1,468	1,476	1,470
TOTAL Red Varieties	70,200	71,000	79,900	63,700	1,227	1,200	1,241	1,224
STATE TOTAL	145,000	156,000	160,000	142,000	954	1,030	1,040	987

1/Includes Muller-Thurgau, Madeline Angevine, Siegerrebe, Rousanne, Muscat Ottonel, Orange Muscat, etc..

3/Includes Pink Varieties, Grenache, Zinfandel, Barbera, Petit Verdot, Niebbiolo, Mourverdre, Petit Syrah etc.

Source: NASS Grape Release 2011

Grape Prices

NASS reports that 2010 Preliminary average pricing for red varieties was \$1,241 per ton and \$830 per ton for whites, although prices vary widely by varietal. Some contracts are priced at a margin over NASS prices. Producers report that the price range for white grape varietals extends from as low as \$650/ton to as high as \$2,000/ton. Prices for red varietals range from \$800/ton to as high as \$4,200/ton. Prices have been gradually rising, following two relatively short harvests.

As noted above, about 85% of grape contracts are priced by the ton, particularly for large volume and lower to mid-price segments. Smaller, high end wineries are more likely to buy grapes by the acre, at prices ranging from \$4,000 to \$10,000 per acre with a few as high as \$13,000 per acre.

Employment

Assembling an estimate of wine grape vineyard employment is challenging. The U.S. Department of Labor provides employment estimates by industry, but counts only employees subject to unemployment compensation, excluding not just seasonal workers but owner/managers. The latest DOL data estimates all grape vineyard workers for Washington, but counts only 278 “establishments” while the 2007 Census of Agriculture, to be updated in 2012, counted at least 1,219 separate grape “farms” in the state.

We know the number of producers, especially small producers, has increased in the subsequent years. We were also able to identify vineyard consultants, independent managers as well as independent labor crews, noting that seasonal labor for wine grapes is drawn from stable, experienced tree fruit crews. We also talked with a cross section of growers to estimate labor requirements per acre for typical vineyards.

Extrapolating from these various sources, we have estimated wine grape vineyard employment as below:

Table 13: Vineyard Employment, 2010

Total Vineyard Employment	2,888
Total Vineyard Wages	\$54,949,908

Source: U.S. Bureau of Labor Statistics, industry interviews and Stonebridge Research Group LLC

Viticulture Research and Training

As wine grape production enters its second modern generation of planting, vineyard development now reflects increased grower sophistication and far more advanced knowledge, focusing on site characteristics, clone and rootstock selection, supported by increasingly cohesive research programs, active exchange of information and expanded training programs led by a strong growers association.

Five regional two year programs complement Washington State University's degree, graduate, adult and extension programs and regional and technical society training offerings, enabling the state to develop its own professionals. The challenge now is to fully integrate these programs and pull together a cohesive strategy for facilities, funding, researchers, and education.

All state sponsored wine and wine grape research is overseen by the Wine Advisory Committee (WAC), as a subcommittee of the Washington State Wine Commission. Five viticulture members are appointed by the Washington Association of Wine Grape Growers (WAWGG) and five enology members are appointed by the Washington Wine Technical Group. The WAC is chaired by a Wine Commission appointment. Research tends to focus more intensely on viticultural issues, given Washington State's unique environment, particularly moisture/irrigation management, site and varietal suitability, clean plant development and harvest as well as fermentation management. Key issues include more efficient water use, developing planting and farming techniques most appropriate to the challenging climate and clone selection to best survive the winter and maintain crop load.

Funding remains inadequate to sustain the program, fund needed research projects, operating and staffing, scholarship and extension requirements and to complete planned infrastructure, including the research vineyard, the Wine Science Center, the Viticulture and Enology building in Prosser and additional research laboratories and to provide services to the student waiting list. Budgets have been reduced to accommodate the state's budget pressures, with potential risk to all state funding for these programs. The industry has however recently committed substantial new resources to the Wine Science Center.

Potential for Wine Grape Production Expansion

Only a small percentage of Washington's wine grape growers responded to the inquiry from Washington NASS as to their planting intentions. This group alone indicated plans for a nearly 10% increase from 2011-2016 in acres planted, as shown in Table 14 below:

Table 14: Intentions to remove or plant wine grape acreage

Intentions for 2011		Intentions for 2011-2016	
Remove (acres)	New Plantings (acres)	Remove (acres)	New Plantings (acres)
100	999	177	3,319

Source: Washington NASS

Washington State does not yet produce enough grapes nor have sufficient crush capacity to support significant expansion in wine production. Dr. Walter Clore estimated that the Columbia Valley had the potential for 500,000 acres of vineyards. Most of this land is already planted to other crops, particularly tree fruits (apples and cherries) which offer higher profits but also greater risk. Some conversion of tree fruit acreage is already occurring but continued development will depend on demand and contract arrangements from Washington’s largest wine producers. The state’s complex water arrangements may also need updating.

Grape pricing may also prove a constraint on further development in some areas. Washington wine has flourished producing quality wines at value pricing, with much of the state’s wine sold for less than \$10, enabling stable growth even through the Great Recession. Producing wine under \$10 requires grapes to sell less than \$1000/ton, which can be challenging if yields fall below 5 tons/acre.

II. Washington Wine

Washington State is the second largest wine producer in the U.S., after California, producing a wide range of wine varietals at multiple price points².

As noted above, planting and farming costs driven by the state's climate and terroir, which also restrain vineyard yields, set a floor under wine grape production costs and thus grape prices. Consequently, wine production in Washington State focuses on the production of mid-price and more expensive wines: wines sold for \$7 per 750 ml and more. Most Washington wine is sold at about \$10 per 750ml.

Wine Production

In 2010, Washington produced 20.1 million gallons of wine, compared with 2 million gallons in 1981, indicating a tenfold increase in wine production in past thirty years. Over the same period, the number of wineries in the state rose from 19 to 686, reflecting significant growth among smaller producers, as shown in Table 15 below. The number of wineries grew to 726 in 2011.

Table 15: Wine Production and Winery Count

Year	Wine Production (Gallons)	Number of Wineries
1981	2 million	19
1996	5.3 million	80
1997	9.6 million	101
1998	10.9 million	129
2000	10 million	163
2001	14 million	170 (248 State Licenses)
2002	15.5 million	208 (214 State Licenses)
2003	17.7 million	240 (259 State Licenses)
2004	17.3 million	300 (360 State Licenses)
2005	16.5 million	360 (353 State Licenses)
2006	19 million	460 (437 State Licenses)
2007	20 million	540 (515 State Licenses)
2008	21.4 million	562 State Licenses
2009	25 million	620 State Licenses

² New York is listed as second in some documents because wine produced in California for New York based Constellation Wines is attributed to New York State.

Year	Wine Production (Gallons)	Number of Wineries
2010	20.1 million	686 State Licenses

Source: Washington State Wine Commission, Washington State Liquor Control Board

The top five wine producing groups in Washington produce more than 70% of the state's production, after which producer size falls off precipitously, such that 90% of Washington wineries produce less than 30% of Washington's wine. The last decade has seen a proliferation of small wine producers across the state, including in incubators in Eastern Washington and warehouses in Woodinville.

Washington's wine industry has managed through the Great Recession with less damage than other wine producing regions through its consistent focus on value at all price tiers. Some discounting was experienced in 2009, but to a lesser degree than other regions. However, smaller high end wineries were hurt not only on pricing but on increasingly difficult access to wholesale distribution, especially in the national market. Those wineries which did have access to the 3-tier system were further impacted by increasingly competitive restaurant wine sales, as consumers reduced restaurant visits and spending. Consumers traditionally discover new wines through restaurant experiences. Direct to consumer sales has thus assumed growing importance for many wineries. Several producers also shifted grapes from higher priced to mid-priced wines, further improving value for mid-price products. Selling Syrah remains a challenge outside of the Northwest and the market for Merlot can be difficult.

Winery Revenue

Stonebridge Research's estimate of winery revenues from sales of Washington wines is approximately \$1 billion.

Sales Patterns

More than 30% of Washington wine is sold in Washington state, up from 25% before the recession, and more than one third is sold in the Pacific Northwest. Washington wines claim about a 16-18% share of the Pacific Northwest wine market, including 18% of the Oregon wine market.

Washington wines have a 3-5% share of the national wine market. Market shares on the West Coast tend to be twice those on the East Coast. Sales generally are concentrated in the off-premise market, particularly the chain store market, with below industry shares of the restaurant market.

The weaker penetration of the national market reflects low levels of awareness about Washington wines in the national market, especially with consumers. Most Washington wineries are small and thus lack the sales force to develop a national market, complicating the challenge of building the Washington wine "brand" in the national market.

About 3% of Washington wines are exported.

Table 16: WINE REVENUE BY DISTRIBUTION CHANNEL

	Washington	Rest of U.S.	Total
WINERY REVENUE	\$1,008,000,000		
DIRECT TO CONSUMER	\$118,000,000		
SELF DISTRIBUTED TO TRADE	\$26,000,000		
EXPORTS	\$22,173,230		
THROUGH DISTRIBUTOR	\$260,953,394	\$580,831,749	\$841,785,143
DISTRIBUTOR MARGIN	\$72,505,655	\$161,383,555	\$233,889,210
RETAILER & RESTAURANT MARGIN	\$390,757,488	\$961,208,426	\$1,351,965,914
TOTAL RETAIL VALUE	\$1,471,263,143	\$1,122,591,981	\$2,593,855,124

SOURCE: Stonebridge Research Group and industry interviews

Direct Sales

The majority of Washington's wineries, by number, depend on direct to consumer sales for the majority of their revenue. However, for the total industry, direct to consumer sales represent only 11-12% of total industry sales. Thus, our preliminary estimate of winery direct to consumer sales in Washington are about \$118 million.

Small wineries with strong brands will have solid direct sales -- even as much as 60% of their sales - but also can access the three tier system. For wineries with lesser developed brands or the many wineries producing less than 10,000 cases, the three tier system is not a realistic option. They do not have sufficient volume to justify their own sales force, to supply most trade accounts or attract three tier distributors.

WINERY EMPLOYMENT

Wineries employ full and part-time workers as labor for bottling, storage, maintenance, and winemaking needs as well as hospitality, finance, sales and marketing functions. Some wineries also employ seasonal labor, for both harvesting and hospitality. Stonebridge Research estimates that 3,630 people are directly employed by Washington's wineries in Washington State and another 260 employees across the U.S., including both full-time and full-time equivalent seasonal and contract employees, generating total wages of more than \$142 million.

Table 17: Winery Employment

	Washington State	Rest of U.S.	Total U.S.
Employment	3630	260	3890
Total Wages	\$128,943,675	13,310,000	142,253,675

Source: Stonebridge Research Group LLC and industry interviews

Wine Distribution

Washington wines represent about 18% of total sales of wine in Washington, with close to 90% of those wines reaching the market through wholesalers/distributors. Thus, Washington wines generate about 431 jobs in wine distribution in the state, for a total payroll of about \$24.9 million. Representing about 3%-5% of total U.S. wine sales, Washington wines generate about 1300 jobs in wine wholesaling/distribution nationally, for total payroll of nearly \$86 million.

Table 18: Distributor Employment

	Washington State	Rest of U.S.	Total U.S.
Employment	431	879	1310
Wages	\$24,871,286	\$60,698,466	\$85,569,752

Source: Stonebridge Research Group and industry interviews

Winery Visitors

Tourists are attracted to Washington's wineries through a large variety of industry, regional and winery events and festivals. Wineries host private events and entertainment. Although most of Washington's wine grapes are produced in the Columbia Valley, wineries have proliferated closer to population centers, from in Woodinville, near to Seattle, to the Lake Chelan region, a popular tourism center, to make themselves more accessible to visitors.

Annual visitors to the Woodinville wine region, which now boasts more than 100 wineries, exceed 500,000. Although requiring a greater time commitment from travelers, visitor numbers continue to increase in Eastern Washington, wineries in Prosser, Walla Walla and other Eastern Washington wine center often receiving from 10,000 to 30,000 per year.

Many of Washington's wine regions do not track visitor numbers and, unfortunately, like many U.S. wine producing regions, do not develop the targeted visitor promotion strategies which such information permits.

Based on multiple interviews, we estimate Washington wineries receive 2.4 million total visits per year, representing 2.3% of overall tourism in the state and a large share of tourism in the rural communities of Eastern Washington.

III. Evolution of the Industry

Grapes were planted as early as 1825 at Fort Vancouver, across the Columbia River from Portland, by Italian and German immigrants, who founded the wine industry in much of the U.S. Grapes were first planted in Eastern Washington in 1860, in Walla Walla, with additional vineyards developed in both Eastern Washington and the Puget Sound region over the next decades, periodically interrupted by severe freezes. By 1900, about 1,500 gallons of wine were being produced in Washington State. Development of major irrigation projects in the Columbia Valley from 1903 enabled expanded planting in Eastern Washington. Prohibition came early to Washington, in 1916, driving most Washington wineries out of business, although wine grapes continued to be produced for “home winemaking.”

Two Seattle wine companies, the National Wine Company (NAWICO) and the Pommerelle Wine Company, opened shortly after the end of Prohibition. They produced mostly fruit wines, like blackberry, loganberry, and currant that were sold primarily in local grocery stores. Laws in Washington state protected these wines from any significant competition from California or other wineries. With this protection, by 1955, 7,500 acres of grapes produced 1.2 million gallons of wine, 97% from Eastern Washington. However, most of the wines produced were sweetened, fortified and considered poor quality.

Associated Vintners was formed by University of Washington professors in the 1960s as Washington’s first premium wine producer, eventually evolving into what is today the Columbia Winery.

Washington’s modern wine industry dates to the arrival of Dr. Walter Clore at Washington State University Research Station near Prosser in 1937. Dr. Clore began investigating optimal growing sites and varieties of *Vitis Vinifera* for Eastern Washington. In 1964, the Washington Wine Project, chaired by Dr. Clore, proved that high quality *Vitis Vinifera* could be successfully grown in the Columbia Valley, and produce high quality wines. The testimony of Dr Clore and his colleague, Dr. Ernest Nagel, helped convince the Washington State legislature, in 2009 to change the protectionist laws. The Washington State Liquor Authority was formed, permitting wine to be sold directly to licensed distributors and on-premise. Faced with competition from California’s *Vinifera* wines, Washington’s wine industry began to modernize.

NAWICO and Pommerelle merged in 1954 to form American Wine Growers. In 1967, American Wine Growers began a new line of premium *vinifera* wines called “Ste. Michelle Vintners” under the direction of legendary California winemaker Andre Tchelistcheff. American Wine Growers eventually became Stimson Lane Winery and then was renamed as Chateau Ste Michelle. Chateau Ste Michelle and Associated Vintners became the driving force in premium wine production for the early modern Washington wine industry. Associated Vintners eventually became Columbia Winery. It was sold to several different companies and is now part of the Ascentia wine company.

Over the subsequent decades Chateau Ste Michelle’s emergence as a respected producer of quality wines at value prices has built a national reputation for Washington wine, trained many of the state’s wine industry professionals, developed a stable market for Washington wine grapes and advanced research in the state.

IV. Allied Industries

Allied industries include a wide variety of industries and occupations immediately dependent upon wine and wine grape production in Washington state, ranging from education, research and trade organizations to suppliers of equipment and services to the industry, tourism immediately generated by wineries and vineyards and vendors of Washington wine. Products fully consumed in the making of wine, such as chemicals, are not included in this analysis.

Reviews of the industry often do not appreciate the wine industry's high degree of capital intensity, which significantly magnify wine's economic impact. Wine is at times referred to as "grapes in a glass" but producing quality wine is far more complex. For that matter, producing quality wine grapes is itself far more complex and expensive than generally appreciated.

Viticulture Research and Education

Viticulture Research and Education

The Washington Wine and Grape Growers Council and various state and federal sources provided wine research funding to Walter Clore and Charles Nagel. However, funding ended with their retirements. In 1981 the legislature responded to a request for research funding from the Washington Wine Society by authorizing the Washington State Liquor Control Board to collect a one half cent per liter tax on all Washington wine sales. The proceeds were provided to Washington State University and the University of Washington. An industry oversight committee was established, composed of volunteer members of the Washington Wine Society, which was later renamed the Wine Advisory Board. In 1998, the Wine Advisory Board was formalized as the Wine Advisory Committee, a subcommittee of the Washington State Wine Commission.

The Wine Advisory Committee today oversees state sponsored wine and wine grape research and provides recommendations to WSU for these expenditures. Five members are appointed by the Washington Association of Wine Grape Growers and five by the Washington Wine Technical Group. The Committee chair is appointed by the Wine Commission.

Wine and wine grape related research is described in more detail on page 22 above. The industry recently committed \$8.4 million toward the development of a new Wine Science Center at Washington State University. The Center, a collaboration between the Port of Benton, the City of Richland, and the university will house the university's Viticulture and Enology, which has expanded rapidly since the 2009 arrival of Dr. Thomas Henick-Kling, its Director.

Wine and wine grape related education is provided by a network of university, community college and extension programs providing degree programs at associate, bachelors and graduate levels, plus along with an extensive program of professional and certificate level training. Participating institutions include Washington State University, Central Washington University, Yakima Valley Community College, Columbia Basin College, Lake Washington Technical College, South Seattle Community College, Wenatchee Valley College and Walla Walla Community College. The industry also supports some research outside Washington State.

Table 19: Education and Research Impact

	Washington State	National
DIRECT EMPLOYMENT	70	73
TOTAL WAGES	\$4,080,580	\$4,265,257
TOTAL REVENUE	\$7,500,000	\$7,776,750

Source: Washington colleges and universities, WAWGG and U.S. Bureau of Labor Statistics

Government and Association Support

The industry is supported by the Washington State Wine Commission, a state government agency funded almost entirely by the assessments on Washington grapes and wine. The Commission supports research on wine and wine grapes and builds demand for Washington wine through marketing and education programs. The Washington Wine Institute, a non-government organization funded by the industry, addresses public policy issues concerning the industry. A variety of regional organizations further support industry and appellation marketing. The industry also has some national and export-oriented representatives.

Table 20: Public Sector and Association Impact

	Washington State	National
DIRECT EMPLOYMENT	23	26
TOTAL WAGES	\$1,210,000	\$1,430,000
TOTAL REVENUE	\$5 million	\$5.3 million

Source: Stonebridge Research, Washington State Wine Commission and U.S. Bureau of Labor Statistics

Winery and Vineyard Equipment, Supplies and Services

Producing and selling wine is a complex activity, involving a vast range of suppliers, service providers and tiers of buyers. These parties typically generate a large share of the industry's economic impact. Such suppliers include cooperage, farm and winery equipment, construction, professional services, tanks, printers, trucking, lab, and vineyard development. Economic impact calculations focus on capital expenditures -- equipment, barrels, closures, bottles, construction -- rather than "consumables" involved in winemaking, such as chemicals.

Although the number of such suppliers to the industry within the state has grown significantly, Washington's wine industry still acquires much of its equipment from specialized suppliers outside of Washington. Much of the specialized equipment in wineries is still produced in Europe, although final processing of some products has shifted to the U.S. Less specialized equipment -- tanks, valves, irrigation equipment, bottles -- and construction tends to be acquired locally or at least domestically. This study considers both those products and employees based in the state and those based in the rest of the U.S.

Such suppliers to the industry account for 994 jobs in Washington and 1,491 jobs nationally, with wages totaling \$52.7 million in Washington and \$76.7 million nationally, as summarized in Table 21. The total industry spend on such suppliers is estimated at nearly \$325 million in the state and \$458 million total in the U.S. There are undoubtedly many additional suppliers to be identified as research becomes more refined. This report aggregates supplier information to avoid disclosing confidential information provided by these enterprises.

Table 21: Supplier Impact

Impact of Washington Wine on Winery/Vineyard Suppliers		
	In Washington State	Total U.S.
Direct Employment	994	1491
Total Direct Wages	\$52,725,240	\$76,683,612
Total Direct Revenue	\$324,942,431	\$457,523,477

Source: Stonebridge Research Group LLC, WAWGG and U.S. Bureau of Labor Statistics

WINE TOURISM

Wine tourism is growing across the U.S.. As one study³ noted, in anxious times, visiting a winery is a “safe adventure.” Wine tourism has major impact on building wine brands as well as consumer direct wines sales. It also helps revitalize the economies of rural communities.

Washington wine is estimated to be responsible for 2.3% of overall tourism⁴ in the state but a much larger share of visitors in winery communities. Wine tourism is estimated to account for 3,307 jobs in the state and total wages of more than \$98 million.

Table 22: Tourism Impact

Tourism Impact of Washington Wine	
Direct Employment	3307
Total Wages	\$98,379,943
Total Revenue	\$349.2 million

Source: Stonebridge Research Group LLC and “Washington State Travel Impacts 1991–2010”, published by the Washington State Department of Commerce, prepared by Dean Runyan Associates, Inc.

³ “Understanding and Enhancing the Market for California Wine in the U.S.,” a study conducted by Yankelovich Partners for the Wine Institute, 2005.

⁴ Based on information provided in “Washington State Travel Impact, 1991-2010,” published by the Washington State Department of Commerce, prepared by Dean Runyan Associates in January 2011.

V. Other Economic Benefits

The wine and grape industry generated a variety of tax revenues from grape to consumer. The industry is also unique in the scale of its charitable support of its communities.

Tax Revenues

The wine and wine grape industry generates significant tax dollars, benefiting federal, state and local governments. Tax dollars are raised through sales taxes, excise taxes, income taxes, estate and gift taxes, payroll taxes, property taxes and other business taxes and fees, such as licenses, and import duties.

Washington's wine, grape and allied industries, directly and indirectly paid \$237.7 million in state and local taxes in Washington state, generated \$656.5 million in state and local taxes across the U.S. and \$722.3 million nationally in federal taxes in 2010.

Table 23: Impact of Washington Wine Industry on Tax Revenues

STATE AND LOCAL TAX	WASHINGTON STATE	TOTAL U.S.
EXCISE TAX	\$4,130,000	\$25,947,170
EMPLOYEE	\$1,036,299	\$6,918,352
INDIRECT BUSINESS TAXES	\$223,713,514	\$519,698,512
HOUSEHOLD TAX	\$8,603,611	\$83,956,119
CORPORATE TAX	\$241,209	\$20,029,598
TOTAL	\$237,724,633	\$656,549,751
FEDERAL TAX		
EXCISE TAX	\$26,975,010	\$26,975,010
PAYROLL TAX	\$131,768,396	\$305,721,168
BUSINESS TAX	\$23,273,468	\$77,839,599
HOUSEHOLD TAX	\$86,047,208	\$202,495,504
CORPORATE TAX	\$42,126,948	\$109,249,936
TOTAL	\$310,191,030	\$722,281,217
TOTAL TAXES PAID	\$547,915,663	\$1,378,830,968

Source: Stonebridge Research, the Distilled Spirits Council of America (DISCUS) and IMPLAN

Charitable Contributions

The wine industry is unique in its charitable contributions to its community. Based on discussions with the industry, charitable contributions are estimated at about \$5.5 million in kind and in cash, plus several hundred thousand dollars in donations, generally in kind (wine for auctions or sponsorship) for charities in the rest of the country. Within that figure, almost half a million dollars a year is donated by the wine industry to the region's largest charity wine auction, the Auction of Washington Wines, through cash and in-kind donations.

VI. Washington's Wine Regions

This report extends previous studies of the economic impact of Washington wine into the analysis of its regional economic impact. This chapter describes the industry's structure by county and American Viticulture Area (AVA). Chapter VII, which follows, assesses the economic impact of Washington wine by county.

Wine and Wine Grapes in Washington's Counties

Vineyards

Based on the findings of the Economic Census of 2007, Benton County leads in vineyard acreage, with several large vineyard developments, with a large number of smaller vineyards in several other counties. New data will be available when the next such Census is conducted in 2012.

Table 24: Wine Grape Vineyard Acreage by County, 2007

County	Number Vineyards	Acreage
Benton	226	23,322
Yakima	430	18,871
Clark	53	118
Klickitat	51	118
Walla Walla	52	NA
Franklin	33	2,612
Grant	46	7,637
Chelan	39	298

Source: USDA Census of Agriculture 2007

Wineries

There are wineries in 33 of Washington's counties, as listed in the Appendix to this report. Walla Walla leads in the number of wineries but numbers are rapidly expanding in Woodinville in King County and in other areas such as Chelan County.

Table 25: Number of Wineries by County

Counties Ranked by Number of Wineries		
County	Trade Names	% of Wineries
Walla Walla	123	20.2%
King	117	19.2%
Benton	64	10.5%
Yakima	53	8.7%
Chelan	48	7.9%
Klickitat	19	3.1%

Source: Washington State Wine Commission

Larger scale production is concentrated in Benton, Grant, King and Yakima counties.

Table 26: Production by County

Counties Ranked by Wine Production		
County	Gallons	% of Washington Production
Benton	11,074,062	41.6%
Grant	6,050,772	22.8%
King	4,561,515	17.2%
Yakima	2,477,342	9.3%
Walla Walla	965,649	3.6%
Klickitat	220,495	0.8%
Chelan	189,135	0.7%
Franklin	172,240	0.6%
Whatcom	73,598	0.3%
Spokane	62,716	0.2%

Source: Washington State Wine Commission and Washington State Liquor Control Board

Washington's Appellations

Washington has eleven TTB-certified American Viticultural Areas. All but the Puget Sound AVA are located in Eastern Washington.

The vast majority of Washington's grapes are grown in the Columbia Valley AVA; the Puget Sound and Columbia Gorge AVA's are the only AVAs outside this "umbrella" AVA. Inside the Columbia Valley (north to south, west to east) are a subset Lake Chelan, Wahluke Slope, Yakima Valley, Horse Heaven Hills, and Walla Walla Valley. The Rattlesnake Hills, Red Mountain, and, as of 2009, Snipes Mountain AVAs are within the Yakima Valley AVA.

Table 27: Washington Appellations

AVA	Year Approved	Total Planted Vineyard Acreage, 2011
Yakima Valley	1983	13,452
Walla Walla Valley	1984	1,304
Columbia Valley	1984	7,469
Puget Sound	1995	178
Red Mountain	2001	1,273
Columbia Gorge	2004	394
Horse Heaven Hills	2005	10,584
Wahluke Slope	2006	6,645
Rattlesnake Hills	2006	1,599
Snipes Mountain	2009	704
Lake Chelan	2009	247

Source: Washington State Wine Commission, Alcohol and Tobacco Tax and Trade Bureau of the U.S. Department of the Treasury (TTB) and Washington NASS.

Yakima

The Yakima Valley AVA, approved in 1983, was Washington State's first appellation. Today, the region, located in Benton and Yakima Counties in South Central Washington, has more than 13,000 vineyard acres planted, with more than one third of Washington's wineries and about 40% percent of the state's wine production. Smaller wineries continue to proliferate, with the number of wineries having increased from 47 in 2004 to 88 in 2011.

Wine grapes were first planted in the region in 1868, with commercial vineyards beginning in 1914. The principal grapes planted are Chardonnay, Merlot and Cabernet.

Walla Walla Valley

The Walla Walla Valley AVA, in the foothills of the Blue Mountains in the Southeastern corner of Washington State, was established in 1984, with 4 wineries and 60 acres planted in wine grapes. In 2011, the area had more than 100 wineries and 1304 planted acres of wine grapes. Cabernet Sauvignon is the leading varietal, followed by Merlot, Chardonnay and Syrah, with twelve other varietals also produced.

Wine grape cultivation and home winemaking could be found in Walla Walla in the 19th century. Although the first post-prohibition winery opened in 1960, the modern wine industry in the area dates from the planting in the early 1970s of what became, in 1977, Leonetti Cellars.

Columbia Valley

The Columbia Valley covers a third of Washington State's land mass. Within its nearly 11 million acres are planted almost 99% of the wine grapes grown in the state.

The Columbia Valley AVA includes 8 of Washington's AVAs: Red Mountain, Yakima and Walla Walla Valleys, Wahluke Slope, Rattlesnake Hills, Horse Heaven Hills, Snipes Mountain, and Lake Chelan. 7,469 vineyard acres of wine grapes are planted in the Columbia Valley AVA and not included in any other sub-AVAs in Washington.

Riesling, Merlot, Chardonnay and Cabernet Sauvignon are the most widely planted varietals.

Puget Sound

Puget Sound, one of the the smallest AVAs in the state by acreage, surrounds Seattle in Northwest Washington. It is the one Washington viticultural area able to grow wine grapes without irrigation. The mild maritime climate is most suitable for growing Pinot Noir, Siegerrebe and Madeleine Angevine grape varieties but research continues to identify the varietals best suited to the region.

Vines were first planted in Puget Sound region in the 19th century, with the first commercial winery and vineyard, the St Charles Winery, established in 1870, surviving until Prohibition. The first modern vineyards and wineries were established in 1977.

Red Mountain

The Red Mountain AVA is located between Benton City and Richland on the eastern edge of the Yakima Valley. The Cascade Mountain rain shadow has its greatest effect in Red Mountain, where the desert climate experiences an average annual rainfall of seven inches, and almost no precipitation during the growing season. The result is dramatically lower mold and mildew pressure compared to most vineyard regions.

The region is home to several wineries, with many additional wineries sourcing grapes from Red Mountain's nearly 1,300 vineyard acres, with additional acreage being developed. Primarily red varietals are planted, including Cabernet Sauvignon, Merlot, Cabernet Franc, Syrah, Sangiovese, Malbec, and Petit Verdot.

Grape growing in the area began in the 1970s. The first Red Mountain winery was bonded in 1980. Red Mountain grape prices are among the highest in Washington, approximately three times the state average, with yields averaging 3.2 tons per acre.

Columbia Gorge

The Columbia Gorge AVA includes areas bordering the Columbia River in both Washington State and Oregon. Approximately 394 acres of wine grapes are planted within its approximately 280 square miles running from the cool maritime climate of Western Washington to the high desert climate of Eastern Washington's vineyards.

The Eastern region produces primarily Bordeaux, Rhone and Italian varietals while Eastern vineyards produce cool-weather varietals such as Gewurztraminer, Chardonnay, Pinot Gris and Riesling.

Grapes were planted in the area by early settlers but commercial vineyards did not begin to emerge until the early 1970s, gradually followed by wineries.

Horse Heaven Hills

The Horse Heaven Hills AVA lies within the southern Yakima Valley appellation, bordered on the south by the Columbia River. With a total area of 570,000 acres, about 10,584 acres of the Horse Heaven Hills are planted to grapes, representing 25% of Washington's total grape production. Growers have raised wine grapes in the Horse Heaven Hills region since 1972. The region includes a small number of wineries and some of the longest established vineyards in the state. Multiple grape varieties are planted, led by Cabernet Sauvignon, Merlot, Chardonnay, Riesling, and Syrah.

Wahluke Slope

Naturally bounded by the Columbia River to the west and south, by the Saddle Mountains on the north, and on the east by the Hanford Reach National Monument, the Wahluke Slope AVA in Grant County is home to more than 20 vineyards and at least three wine production facilities. Approximately 6,645 acres of the region's 81,000 acres are planted to wine grapes, representing nearly 15 percent of the total wine grape acreage in the state.

Grape growing has a long history in this region. From early planting of white varieties, red wine grapes now account for about two thirds of all vineyard acreage.

Rattlesnake Hills

Located in the upper Yakima Valley, this 68,500 acre appellation has 1,599 acres under vines, out of its 68,500 acres. The first commercial vineyards in the region date back to 1968, followed by large plantings in the late 1970's and early 1980's, which are still in production today.

The Rattlesnake Hills provide many Washington producers with Cabernet Sauvignon, Merlot, Syrah, Chardonnay and Riesling. Much of the vineyard acreage in the region is winery owned. Many of the wineries are small and sell directly.

Snipes Mountain

The Snipes Mountain AVA is named after its most prominent landmark, but also includes eastern neighbor Harrison Hill. It is located above and between the towns of Sunnyside and Granger around Outlook, Washington, in the southeast corner of the Yakima Valley. Both slopes, encompassing 4,145 acres, are planted with 704 acres of wine grapes. Among the numerous grape varieties planted in the region are the oldest vines in the state (Muscat planted in 1917.)

Lake Chelan

The 24,040-acre Lake Chelan AVA includes the southern and eastern portions of land surrounding the lake and shares a northern border with the Columbia Valley AVA. The mild climate created by the Lake environment results in a longer growing season and a reduced risk of frost. The region's long standing status as a major tourist destination in North Central Washington has also attracted many wineries to the region.

Grapes have been grown in the Chelan Valley since before the turn of the twentieth century by a few Native Americans and a group of Italian immigrants. In 1949, the area produced grapes from 154 vineyard acres. Modern wine grape growing began more extensively in the last decade. The first winery was opened in 2000. Today 247 acres are planted to grapes, with new wineries opening regularly.

Planting is almost evenly divided between red and white varieties, led by White Riesling, Petit Verdot, Sangiovese and Gewurtztraminer.

VII. ECONOMIC IMPACT OF WASHINGTON WINE BY COUNTY

Washington wine has particularly significant direct impact on the economies of 8 counties, as summarized below⁵. While Benton County leads in direct winery and vineyard employment, King County places first given its lead in supplier locations, the number of wineries in the county, particularly in Woodinville, and the density of visitors to the Woodinville wine community.

However, whether through the growing presence of vineyards or wineries or from that of one or more of the many suppliers and service providers to the industry, Washington's wine industry generates employment, tax revenues and other positive economic impacts in another 25 counties. The most concrete measure of impact is the direct employment generated by the industry, in wine growing, wine making, immediate suppliers and winery visitors.

And of course restaurants and retailers across the entire state, as well as all the components of Washington's tourism industry, benefit from the halo cast by being able to offer Washington's fine wines to their customers. Wine is a very effective ambassador for Washington's earth, culture and people.

We have aggregated data in the Table 28 below to respect the confidentiality of data provided. The data was collected from interviews with key suppliers and vintners, combined with public records, U.S. Bureau of Labor Statistics employment and wage data. The key driver of impact is employment by type of industry. Thus, comparable employment numbers may generate different revenues and taxes, depending upon industry. The IMPLAN model, discussed in the following chapter, produced the tax impact estimates based upon this employment data. We did not attempt to include estimates of excise taxes collected on wine in the county analysis as these calculations are highly sensitive to the presence of small producers who pay reduced rates.

There are undoubtedly additional suppliers to be added to such an analysis in the future. Allocating employment and revenues for wine and grape producers and some suppliers by county proved challenging. Thus, the calculations which follow should be taken as orders of magnitude rather than precise numbers.

KING COUNTY

In addition to many wineries (but only a few vineyards), King County is home to Washington's wine wholesale/distribution industry, many professional services providers and a range of equipment suppliers, including manufacturers. It is also a lively tourism center for the state. All of these components produce an **economic impact of Washington wine in King County of more than \$3.3 billion.**

Altogether, wine and related industries in King County produce nearly 5,700 jobs directly and more than 3,500 jobs indirectly, along with wages totaling nearly \$387 billion.

⁵ We do not include either state or federal wine excise taxes in these county impact estimates as sufficient information is not available to identify the effects of small producer incentives.

Table 28: Washington Wine Employment Impact on King County

	Jobs	Wages	Revenues
Direct	5,677	\$176,298,034	\$1,338,724,336
Indirect (IMPLAN)	1,634	\$113,879,619	\$290,289,348
Induced (IMPLAN)	1,909	\$96,393,439	\$1,337,663,087
Total	9,220	\$386,571,092	\$2,966,676,771
Total Impact		\$3,353,247,863	

Source: Stonebridge Research, Industry Interviews, U.S. Bureau of Labor Statistics and IMPLAN

The industry in King County directly and indirectly generates nearly **\$75 million in state and local government revenues, and nearly \$100 million in Federal taxes**, as detailed below.

Table 29: Tax Revenues Generated by Washington Wine in King County

STATE AND LOCAL TAX	
EMPLOYEE	\$269,754
INDIRECT BUSINESS TAXES	\$71,380,177
HOUSEHOLD TAX	\$2,736,155
CORPORATE TAX	\$77,088
TOTAL	\$74,463,174
FEDERAL TAX	
PAYROLL TAX	\$50,462,933
INDIRECT BUSINESS TAX	\$8,328,640
HOUSEHOLD TAX	\$25,358,538
CORPORATE TAX	\$13,463,436
TOTAL	\$97,613,547
TOTAL TAXES PAID	\$172,076,721

Source: Stonebridge, Industry Interviews, Bureau of Labor Statistics and IMPLAN

BENTON COUNTY

The total economic impact of Washington wine and its related industries in Benton County exceeds \$926 million. The industry, directly and indirectly, provides 5,192 jobs in the county.

Eastern Washington generates fewer visitors, proportionately, than the King County area. While several financial institutions and professional services firms serving the industry operate from Benton County, most of the other suppliers in the county tend to be agricultural equipment dealers and sales representatives for wine equipment.

Table 30: Economic Impact of Washington Wine on Benton County

	Jobs	Wages	Revenues
Direct	3377	\$80,777,320	\$528,089,590
Indirect (IMPLAN)	866	\$38,189,784	\$140,183,415
Induced (IMPLAN)	949	\$32,998,166	\$106,599,439
Total	5,192	\$151,965,270	\$774,872,444
Total Impact		\$926,837,714	

Source: Stonebridge, Industry Interviews, Bureau of Labor Statistics and IMPLAN

Washington wine and related industries generate nearly \$95 million in taxes in Benton County, including \$42.9 million in state and local taxes and \$52.1 million in federal taxes.

Table 31: Tax Revenues Generated by Washington Wine in Benton County

STATE AND LOCAL TAX	
EMPLOYEE	\$128,107
INDIRECT BUSINESS TAXES	\$41,225,597
HOUSEHOLD TAX	\$1,460,601
CORPORATE TAX	\$53,871
TOTAL	\$42,868,176
FEDERAL TAX	
PAYROLL TAX	\$23,297,926
INDIRECT BUSINESS TAX	\$4,326,374
HOUSEHOLD TAX	\$15,078,354
CORPORATE TAX	\$9,408,587
TOTAL	\$52,111,241
TOTAL TAXES PAID	\$94,979,417

Source: Stonebridge, Industry interviews, U.S. Bureau of Labor Statistics, IMPLAN

YAKIMA COUNTY

Washington wine, directly and indirectly, has a total economic impact of more than \$526 million on Yakima County, providing 3,149 jobs paying nearly \$114 million wages in the county, as summarized in Table 32 below. Vineyard and winery jobs constitute most of this employment but agricultural suppliers and professional services providers also contribute to the industry's impact on the county.

Table 32: The Economic Impact of Washington Wine on Yakima County

	Jobs	Wages	Revenue
Direct	1916	\$69,631,101	\$285,302,213
Indirect (IMPLAN)	654	\$24,429,083	\$64,859,577
Induced (IMPLAN)	579	\$19,924,063	\$62,434,623
Total	3,149	\$113,984,247	\$412,596,413
Total Impact		\$526,580,660	

Source: Stonebridge, Industry Interviews, Bureau of Labor Statistics and IMPLAN

Washington wine and its related activities in Yakima County generate nearly \$114 million in local, state and federal taxes in the county.

Table 33: Tax Revenues Generated in Yakima County by Washington Wine

STATE AND LOCAL TAX	
EMPLOYEE	\$118,622
INDIRECT BUSINESS TAXES	\$17,477,126
HOUSEHOLD TAX	\$656,358
CORPORATE TAX	\$19,642
TOTAL	\$18,271,748
FEDERAL TAX	
PAYROLL TAX	\$12,962,451
INDIRECT BUSINESS TAX	\$1,876,190
HOUSEHOLD TAX	\$7,532,600
CORPORATE TAX	\$3,430,397
TOTAL	\$25,801,638
TOTAL TAXES PAID	\$44,073,386

Source: Stonebridge Research, Industry interviews, U.S. Bureau of Labor Statistics and IMPLAN

WALLA WALLA COUNTY

Washington wine, directly and indirectly, has a total economic impact in Walla Walla County of more than \$502 million, accounting for 2,657 jobs in the county, as summarized in Table 34 below.

Wine growing and wine making account for most of the wine related employment in the county, but winery visitors also generate significant tourism related employment. Education, professional services and farm and winery equipment dealers serving the industry also add to the industry's impact in the county.

Table 34: Economic Impact of Washington Wine in Walla Walla County

	Jobs	Wages	Revenues
Direct	1,625	\$34,776,174	\$276,871,150
Indirect (IMPLAN)	691	\$24,808,618	\$102,345,836
Induced (IMPLAN)	442	\$14,538,896	\$48,748,644
Total	2,657	\$74,123,688	\$427,965,630
Total Impact		\$502,089,318.00	

Source: Stonebridge, Industry Interviews, Bureau of Labor Statistics and IMPLAN

Washington wine and related activities generate more than \$46 million in tax revenues in Walla Walla County, including \$23.8 million in state and local taxes and \$22.9 million in federal taxes, as summarized in Table 35.

Table 35: Tax Revenues Generated by Washington Wine in Walla Walla County

STATE AND LOCAL TAX	
EMPLOYEE	\$97,750
INDIRECT BUSINESS TAX	\$23,147,677
HOUSEHOLD TAX	\$525,645
CORPORATE TAX	\$17,906
TOTAL	\$23,788,978
FEDERAL TAX	
PAYROLL TAX	\$10,902,174
INDIRECT BUSINESS TAX	\$2,834,772
INCOME TAX	\$6,011,905
CORPORATE TAX	\$3,127,226
TOTAL	\$22,876,077
TOTAL TAXES PAID	\$46,665,055

Source: Stonebridge, Industry interviews, U.S. Bureau of Labor Statistics and IMPLAN

CHELAN COUNTY

Chelan County's flourishing recreational tourism attracts a growing number of wineries to the region. The wineries in turn have attracted more visitors to the county, a key component of Washington wine's impact in the county. **Washington wine accounts for 1,374 jobs in the county with wages in excess of \$35 million, producing a total impact of \$221.4 million.**

Table 36: Economic Impact of Washington Wine in Chelan County

	Jobs	Wages	Revenues
Direct	839	\$18,254,269	\$127,836,631
Indirect (IMPLAN)	349	\$11,178,462	\$37,345,866
Induced (IMPLAN)	186	\$6,409,175	\$20,416,197
Total	1,374	\$35,841,906	\$185,598,694
Total Impact		\$221,440,600	

Source: Stonebridge, Industry interviews, U.S. Bureau of Labor Statistics and IMPLAN

Washington wine generates \$9.5 million in state and local taxes and \$9 million in federal taxes in Chelan County.

Table 37: Taxes Generated in Chelan County by Washington Wine

STATE AND LOCAL TAX	
EMPLOYEE TAX	\$35,553
INDIRECT BUSINESS TAXES	\$9,225,122
HOUSEHOLD TAX	\$196,146
CORPORATE TAX	\$7,909
TOTAL	\$9,464,730
FEDERAL TAX	
PAYROLL TAX	\$4,229,025
INDIRECT BUSINESS TAX	\$1,321,388
INCOME TAX	\$2,096,887
CORPORATE TAX	\$1,381,371
TOTAL	\$9,028,671
TOTAL TAXES PAID	\$18,493,401

Source: Stonebridge, Industry interviews, U.S. Bureau of Labor Statistics, and IMPLAN

GRANT COUNTY

Vineyard and winery employment, along with tourism attracted by the wineries, account for most of Washington wine's economic impact in Grant county. Washington wine provides **1,085 jobs in Grant County, paying wages of nearly \$49 million. The total impact of Washington wine in the county approaches \$227 million.**

Table 38: Economic Impact of Washington Wine in Grant County

	Jobs	Wages	Revenues
Direct	625	\$31,767,260	\$116,747,446
Indirect (IMPLAN)	277	\$11,669,987	\$41,464,817
Induced (IMPLAN)	183	\$5,557,210	\$19,788,237
Total	1,085.00	\$48,994,457	\$178,000,500
Total Impact		\$226,994,957	

Source: Stonebridge, industry interviews, U.S. Bureau of Labor Statistics and IMPLAN

Washington wine generates almost \$10.2 million in state and local taxes and \$11.7 million in federal taxes in Grant County.

Table 39: Taxes Generated in Grant County by Washington Wine

STATE AND LOCAL TAX	
EMPLOYEE	\$48,973
INDIRECT BUSINESS TAXES	\$9,832,604
HOUSEHOLD TAX	\$283,208
CORPORATE TAX	\$13,393
TOTAL	\$10,178,178
FEDERAL TAX	
PAYROLL TAX	\$4,981,875
INDIRECT BUSINESS TAX	\$1,116,064
INCOME TAX	\$3,298,429
CORPORATE TAX	\$2,339,080
TOTAL	\$11,735,448
TOTAL TAXES PAID	\$21,913,626

Source: Stonebridge, Industry interviews, U.S. Bureau of Labor Statistics and IMPLAN

FRANKLIN COUNTY

Wineries, vineyards and agricultural equipment and services account for most of Washington wine's impact in Franklin County. Washington wine provides, directly and indirectly, 703 jobs in the county, paying more than \$17 million. Total economic impact of Washington wine in the county totals more than \$34 million.

Table 40: Economic Impact of Washington Wine in Franklin County

	Jobs	Wages	Revenues
Direct	536	\$11,144,018	\$83,208,185
Indirect (IMPLAN)	77	\$2,960,014	\$9,129,562
Induced (IMPLAN)	90	\$2,916,875	\$9,974,573
Total	703	\$17,020,907	\$17,021,610
Total Impact		\$34,042,517	

Source: Stonebridge, Industry Interviews, U.S. Bureau of Labor Statistics and IMPLAN

Washington wine generated almost \$4.7 million in state and local taxes and \$5.9 million in federal taxes in Franklin County, for a total of nearly \$10.6 million in taxes.

Table 41: Taxes Generated in Franklin County by Washington Wine

STATE AND LOCAL TAX	
EMPLOYEE	\$25,825
INDIRECT BUSINESS TAXES	\$4,491,877
HOUSEHOLD TAX	\$155,070
CORPORATE TAX	\$5,644
TOTAL	\$4,678,416
FEDERAL TAX	
PAYROLL TAX	\$2,670,820
INDIRECT BUSINESS TAX	\$536,159
INCOME TAX	\$1,685,924
CORPORATE TAX	\$985,709
TOTAL	\$5,878,612
TOTAL TAXES PAID	\$10,557,028

Source: Stonebridge, Industry interviews, U.S. Bureau of Labor Statistics and IMPLAN

SPOKANE COUNTY

Wine and farm equipment suppliers, professional services and winery employees account for most of Washington wine's impact in Spokane County, The industry, directly and indirectly, provides 697 jobs paying nearly \$22.4 million in wages. The total impact of Washington wine in Spokane County exceeds \$116 million.

Table 41: Economic Impact of Washington Wine in Spokane County

	Jobs	Wages	Revenues
Direct	382	\$9,459,967	\$74,483,653
Indirect (IMPLAN)	160	\$7,428,672	\$23,830,579
Induced (IMPLAN)	155	\$5,471,716	\$17,772,626
Total	697	\$22,360,355	\$116,086,858
Total Impact		\$138,447,213	

Source: Stonebridge, Industry interviews, U.S. Bureau of Labor Statistics, IMPLAN

Washington wine, directly and indirectly, generate more than \$11.6 million in taxes in the county, including almost \$5.8 million in state and local taxes and \$5.6 million in federal taxes.

Table 42: Taxes Generated in Spokane County by Washington Wine

STATE AND LOCAL TAX	
EMPLOYEE	\$23,810
INDIRECT BUSINESS TAXES	\$5,825,766
HOUSEHOLD TAX	\$150,430
CORPORATE TAX	\$5,779
TOTAL	\$6,005,785
FEDERAL TAX	
PAYROLL TAX	\$3,094,827
INDIRECT BUSINESS TAX	\$746,379
HOUSEHOLD TAX	\$746,379
CORPORATE TAX	\$1,009,381
TOTAL	\$5,596,966
TOTAL TAXES PAID	\$11,602,751

Source: Stonebridge, Industry interviews, U.S. Bureau of Labor Statistics and IMPLAN

As noted above, Washington wine generates employment and taxes in 25 other counties in Washington, including Adams, Asotin, Clallam, Clark, Cowlitz, Douglas, East Snohomish, Grays Harbor, Island, Kitsap, Kittitas, Lewis, Lincoln, Mason, Okanagan, Pierce, Skagit, Snohomish, Stevens, Thurston, Waukesha, Whatcom and Whitman. Those counties which are not home to wineries and vineyards have suppliers and service providers to the industry.

VIII. Methodology

To produce this assessment, Stonebridge Research Group LLC focused on the largest and most significant section of the industry involved in wine production and consumption, grape cultivation and allied industries - distribution, tourism, and equipment and suppliers. Other economic benefits, including tax revenues, financing, charitable contributions and other indirect and induced benefits generated by the wine industry are also summarized.

This report is an update of the 2007 study of the economic impact of Washington wine, which was based on 2005 data. This study is based primarily on 2010 data, although 2011 data was included for some data items where it was considered important to understanding the industry's current position.

In some areas, data sources available to us have changed or been somewhat revised. *In certain other areas, we have been able to improve substantially the accuracy of the analysis, such as the supplier impact calculations.* Within this framework, every effort has been made to make this report as comparable as possible with the previous reports so that readers may assess the progress of the industry.

Direct, Indirect and Induced Effects (IMPLAN)

Much like dropping a rock into a pond, the wine industry has ripple effects on the Washington economy. Economic impact studies estimate the impact of an industry in a defined geographical area by identifying and measuring specific concrete economic "events." The events tracked in this report are jobs by industry code.

IMPLAN is the acronym for "**IM** impact analysis for **PLAN**ing." **IMPLAN** is a well established and widely used economic model that uses input-output analyses and tables for over 500 industries to estimate regional and industry-specific economic impacts of a specific industry.

Thus, the full economic impact of Washington wine, as shown in Table 1, combines the Washington wine industry's direct, indirect and induced economic effects as measure by the application of the IMPLAN model to the employment data presented in Table 2 this report.

The IMPLAN model and its structure are updated annually to reflect changes in the U.S. economy, in wages, in productivity assumptions and in regional economic structures. Thus, readers should not try to directly compare the IMPLAN results from the first report with the results of this update.

The IMPLAN model and methodology classifies these effects into three categories, as defined below: Direct Effects, Indirect Effects, and Induced Effects.

Direct Effects

Direct effects are economic changes in industries **directly** associated with the product's final demand. Thus, direct effects in this case consider the direct employment and spending of wineries, vineyards, distributors, and immediately allied industries, data on which Stonebridge Research Group LLC collected through primary research.

Indirect Effects

Indirect effects are economic changes - income created through job creation - in industries that supply goods and services to the directly affected industries noted above. Examples of industry effects are purchases of electricity and gasoline by wineries or of janitorial services by wine bottle manufacturers. These may also be defined as “secondary economic exchanges.”

Induced Effects

Induced effects are the effects of these new workers spending their new incomes, creating a still further flow of income in their communities and a flow of new jobs and services.

Examples are spending in grocery and retail stores, medical offices, insurance companies, internet providers, and other non-wine related industries by workers in industries allied to the wine industry - such as the spending by the janitor working under contract to the wine industry supplier. These tertiary exchanges induce more jobs and incomes throughout the state and the nation, based on the original economic flows from the Washington wine industry.

Measuring the Full Economic Impact of Washington Wine

Washington’s wine industry has a “multiplier” effect, extending across a broad network of economic benefits. The revenue derived by the wine industry becomes income for other workers and firms, who spend more money on other goods and services.

Appendices

Appendix 1: Wineries and Estimated Wine Production by County

County	Trade Names	Gallons
Benton	64	11,074,062
Grant	15	6,050,772
King	117	4,561,515
Yakima	53	2,477,342
Walla Walla	123	965,649
Klickitat	19	220,495
Chelan	48	189,135
Franklin	6	172,240
Whatcom	10	73,598
Spokane	16	62,716
Thurson	13	59,479
Island	8	49,896
Snohomish	19	47,590
Skagit	9	38,795
Clallam	4	22,319
Okanogan	10	22,107
Mason	4	20,216
Grays Harbor	1	16,147
Clark	12	14,952
San Juan	3	13,754
Kitsap	11	13,505
Jefferson	6	8,733

County	Trade Names	Gallons
Lincoln	1	6,400
Asotin	1	3,951
Pierce	11	3,306
Cowlitz	2	2,729
Skamania	3	2,685
Whitman	3	1,802
Kittitas	1	944
Douglas	2	575
Stevens	2	465
Adams	1	-
Lewis	5	5,976
	609	26,596,521

Source: Washington State Wine Commission