



Economic and Revenue Forecast



Fourth Quarter
Fiscal Year 2015

June 2015



WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark - Commissioner of Public Lands

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Acronyms and Abbreviations

bbf	Billion board feet
BLS	U.S. Bureau of Labor Statistics
CAD	Canadian dollar
CNY	Chinese yuan (renminbi)
CPI	Consumer Price Index
CY	Calendar Year
DNR	Washington Department of Natural Resources
ECB	European Central Bank
ERFC	Washington State Economic and Revenue Forecast Council
FDA	Forest Development Account
FEA	Forest Economic Advisors
Fed	U.S. Federal Reserve Board
FOMC	Federal Open Market Committee
FY	Fiscal Year
GDP	Gross Domestic Product
HMI	National Association of Home Builders/Wells Fargo Housing Market Index
IMF	International Monetary Fund
mbf	Thousand board feet
mmbf	Million board feet
PPI	Producer Price Index
Q1	First quarter of year (similarly, Q2, Q3, and Q4)
QE	Quantitative Easing
RCW	Revised Code of Washington
RISI	Resource Information Systems, Inc.
RMCA	Resource Management Cost Account
SA	Seasonally Adjusted
SAAR	Seasonally Adjusted Annual Rate
TAC	Total Allowable Catch
USD	U.S. Dollar
WDFW	Washington Department of Fish and Wildlife
WWPA	Western Wood Products Association
WTO	World Trade Organization

Preface

This *Economic and Revenue Forecast* (Forecast) projects revenues from Washington state lands managed by the Washington State Department of Natural Resources (DNR). These revenues are distributed to management funds and beneficiary accounts as directed by statute.

DNR revises its Forecast quarterly to provide updated information for trust beneficiaries and state and department budgeting purposes. Each DNR Forecast builds on the previous one, emphasizing on-going changes. Each re-evaluates world and national macroeconomic conditions, and the demand and supply for forest products and other commodities. Finally, each assesses the impact of these economic conditions on projected revenues from DNR-managed lands.

DNR Forecasts provide information used in the *Washington Economic and Revenue Forecast* issued by the Washington State Economic and Revenue Forecast Council. The release dates for DNR Forecasts are determined by the state's forecast schedule as prescribed by RCW 82.33.020. The table below shows the anticipated schedule for future *Economic and Revenue Forecasts*.

This Forecast covers fiscal years 2015 through 2019. Fiscal years for Washington State government begin July 1 and end June 30. For example, the current fiscal year, Fiscal Year 2015, runs from July 1, 2014 through June 30, 2015.

The baseline date (the point that designates the transition from “actuals” to predictions) for DNR revenues in this Forecast is May 1st, 2015. The forecast numbers beyond that date are predicted from the most up-to-date DNR sales and revenue data available, including DNR's timber sales results through May 2015. Macroeconomic and market outlook data and trends are the most up-to-date available as the Forecast document is being written.

Unless otherwise indicated, values are expressed in nominal terms without adjustment for inflation or seasonality. Therefore, interpreting trends in the Forecast requires attention to inflationary changes in the value of money over time separate from changes attributable to other economic influences.

Acknowledgements

The Washington Department of Natural Resources' (DNR) *Economic and Revenue Forecast* is a collaborative effort. It is the product of information provided by private individuals and organizations, as well as by DNR staff. Their contributions greatly enhance the quality of the Forecast.

Special thanks are due to those in the wood products industry who provided information for DNR's survey of timber purchasers. These busy individuals and companies volunteered information essential to forecasting the timing of timber removal volumes, a critical component of projecting DNR's revenues on behalf of beneficiaries.

Thanks also go to DNR staff who contributed to the Forecast. Tom Shay, Andrew Hayes, Rick Roeder, Tom Heller, Duane Emmons, Kristin Swendall, and Blain Reeves provided data and counsel, including information on revenue flows in their areas of responsibility. Luis Prado designed the front cover.

In the final analysis, the views expressed are our own and may not necessarily represent the views of the contributors, reviewers, or DNR.

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Economic Forecast Calendar

Forecast Title	Baseline Date	Draft Revenue Data Release Date	Final Data and Publication Date (approximate)
June 2015	May 1, 2015	June 8, 2015	June 30, 2015
September 2015	August 1, 2015	September 5, 2015	September 30, 2015
November 2015	October 1, 2015	November 9, 2014	November 30, 2014
February 2016	January 1, 2016	February 18, 2016	February 31, 2016

Forecast Summary

Lumber and Log Prices. Lumber and log prices have fallen markedly since the beginning of 2015. Random Lengths' Coast Dry Random and Stud composite lumber price index averaged \$370/mbf in 2013, \$373/mbf in 2014, but only \$315/mbf thus far in 2015. The price of a 'typical' DNR log moved up sharply from a two-year plateau in 2013 to \$591/mbf in 2014. Prices have declined to average \$532/mbf so far in 2015, mostly because of the dramatic slowdown in demand from China (noted as a significant risk in the March Forecast) and ample regional supply of both logs and lumber. A price decline was largely foreseen; however, the depth of the drop was unexpected.

Timber Sales Volume. DNR has sold 393 mmbf thus far this fiscal year through May and will likely sell another 77 mmbf in June, leading to a revised volume estimate of 470 mmbf for FY 15. About 21 mmbf will be pushed from the current FY sales plan to FY 16, increasing the FY 16 volume forecast to 521. Given current timber sales plans—and absent a new sustainable harvest calculation—sales volumes are still pegged at about 500 mmbf in the outlying years.

Timber Sales Prices. Weighted by volume, stumpage prices for FY 15 have averaged \$359/mbf through May, compared to \$363/mbf as of the same time last year. The forecast average sales price for FY15 is \$352/mbf, unchanged from March. Stumpage sales price estimates are lowered to \$346/mbf in FY16 and to \$371/mbf in FY17, four and two percent, from the March forecast due to revisions in the price outlook for logs and lumber.

Timber Removal Volume and Prices. The near-term harvest plans of DNR timber purchasers have been scaled back significantly since March. This is driven by the same market conditions that have pushed down prices; sluggish domestic and export demand (from China in particular) and ample log and lumber inventory at mills. These changes have led to large shifts in anticipated timber removal volumes throughout the forecast period. Removal volumes for FYs 15-17 are forecast to

be 432 (-55), 608 (-4), and 558 (+59) mmbf. Timber removal prices are projected to be about \$343 (+\$4), \$347 (-\$4), \$352 (-\$6) per mbf for FYs 15-17. These removal prices reflect changes in the removal timing and follow from, and lag behind, the changes projected in timber sales prices.

Bottom Line for Timber Revenues. The above changes to timber sales prices, sales volumes, and harvest timing have reduced projected revenues in all years except FY 17. The timber revenue projection for the 2013-2015 Biennium is lowered 5.4 percent to \$300 million. Revenues in the 2015-2017 Biennium are predicted to be \$407 million, up 3.6 percent from March's forecast.

Uplands and Aquatic Lands Lease (Non-Timber) Revenues. In addition to revenue from timber removals on state-managed lands, DNR also generates sizable revenues from managing leases on uplands and aquatic lands.

Projected revenues from agricultural and other upland leases are revised up slightly to \$37 million in FY 15. Outlying years are unchanged.

Revenues from aquatic lands are projected to total about \$31 million in FY 15, up about \$1 million from the March estimate. Revenue expectations for FYs 16 and 17 have been revised down to \$29 million due to changes in both aquatic leases and geoduck sales.

Total Revenues. Revenues for the 2013-2015 Biennium are projected to total \$443 million, down \$16 million (3.6 percent) from the previous forecast. Revenues for the 2016-2017 Biennium are expected to total \$540 million, up \$10 million (1.8 percent) from the March Forecast.

Notes to the Forecast. Although the sales volume estimates in FYs 15-16 are based on the best available internal planning data, they are subject to potentially large downward adjustments due to on-going operational and policy issues. These issues may also affect sales volumes in outlying years, where the assumed sustainable harvest volume of 500 mmbf could prove too high.

We had incorporated fairly conservative market assumptions into the March forecast, based on industry analyst forecasts of falling stumpages prices. However, these assumptions appear to have been insufficiently conservative: prices in the last two timber auctions have strongly reversed from the first quarter of 2015, dropping from an average of \$411/mbf to \$285/mbf. In the current fiscal year, an average price of \$313/mbf in the June sale is needed to reach the un-revised timber price estimate.

A continuing major downside risk for the forecast is timber and lumber demand from China. While it seems that a decrease in demand has largely been accounted for in the market, there is growing concern that that the slowdown in Chinese construction, and economic growth more generally, will be much more dramatic than previously expected.

There is an unlikely upside potential for increases in timber price due to unexpectedly rapid strengthening of US housing demand. This potential has become somewhat more likely given the strong employment growth and reasonable wage growth from 2014 continuing into 2015. However, there are still a number of issues that are likely to impede demand—many that are especially meaningful for younger, would-be first-time homebuyers, who are facing a tough labor market, student loan debt, and persistently tough lending standards.

Although the end of the Chinese ban on geoduck imports from the Pacific Northwest has eased much of the uncertainty surrounding geoduck demand, geoduck prices are historically volatile and there is no guarantee that a blanket ban will not be reinstated. Additionally, on-going friction between purchasers and divers has further disrupted the market. Taken together, both the geoduck sales price and harvest volumes may become even more difficult to predict in the coming years.

Macroeconomic Conditions

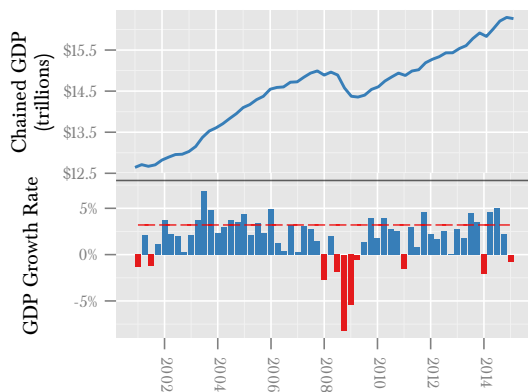
This section briefly reviews macroeconomic conditions in the United States and world economies because they influence DNR revenue—most notably through the bid prices for DNR timber sales and lease revenues from DNR-managed lands.

U.S. Economy

Gross Domestic Product

Since the end of the Great Recession during 2008 and 2009, when GDP declined in five out of six quarters, GDP growth has averaged a weak 2.2 percent on a real annualized basis (Figure 1). This is markedly less than the annualized average of 3.2 percent over the previous 50 years (1960-2009). The Great Recession set back economic growth and seriously harmed many sectors of the economy, particularly employment.

Figure 1: U.S. Gross Domestic Product



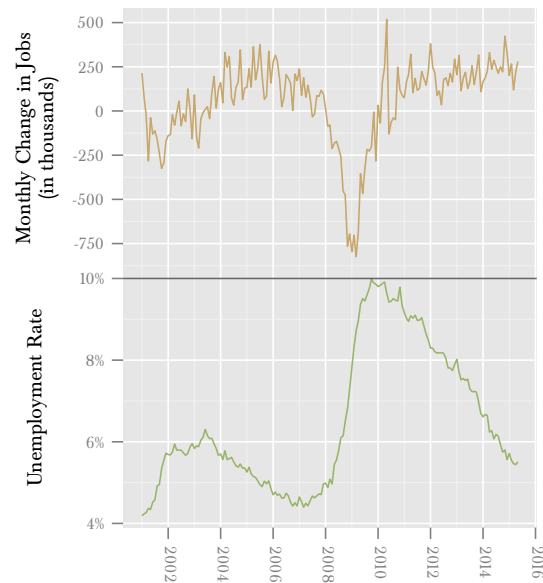
GDP growth in 2014 was promising for most of the year, but the annual growth was held down to 2.4 percent by poor first quarter performance due to a harsh winter and business inventory adjustments. The first quarter of 2015 was also quite poor, again due in large part to a harsh winter, with current estimates showing an annualized decline of 0.8 percent. Forecasts generally predict real GDP growth in 2015 to be around the average for the past several years, ranging from 1.6-2.4 percent. Addi-

tionally, the FOMC in June significantly lowered its forecast range, from 2.1-3.1 percent to 1.7-2.3 percent.

Employment and Wages

The U.S. headline unemployment rate has remained stable since February at around 5.5 percent (Figure 2). This is down from a high of 10.0 percent in October 2009 and slightly above the average unemployment rate of 5.2 percent from 2001-2006. The economy added over 3 million jobs in 2014, around 260,000 jobs per month. This is the fastest rate of job growth since 1999. Analysts had been predicting over 250,000 jobs created per month in 2015 and 2016; however, 2015 is currently averaging 217,000 jobs per month.

Figure 2: Unemployment Rate and Monthly Change in Jobs



The U-6, a broader alternative measure of unemployment, has declined slightly from February and was 10.8 percent in May, down from a high of 17.1 percent in 2010. (Figure 3). The U-6 is a useful measure because it includes involuntarily part-time employment and marginally attached workers, who are not included in the headline rate, but who, nevertheless, are likely looking for work and would

benefit from better job prospects. The U-6 rate was 11 percent in February, down from 13.1 percent a year earlier and from highs of 17.1 in 2010. The decline in the year-on-year U-6 is the result of a drop in all three of its components.

Positive month-over-month job gains have been the main driver behind the unemployment rate's decline, though reductions in the labor force participation rate have also helped move the unemployment rate lower (Figure 4). The decline in the labor force participation rate is an important confounding factor when examining the unemployment rate and is a key consideration when forecasting whether an increase in employment will trigger an increase in wages. If there are many people waiting to look for employment until jobs are easier to find—such as when people are staying out of the labor force and the participation rate declines—then as employment grows more people will enter the labor force and there will be little or no pressure on wages. However, if people are not in the labor market for other reasons, then the number of people in the labor market is relatively fixed and wages will be pushed up as companies compete for labor.

Figure 3: Employment and Unemployment

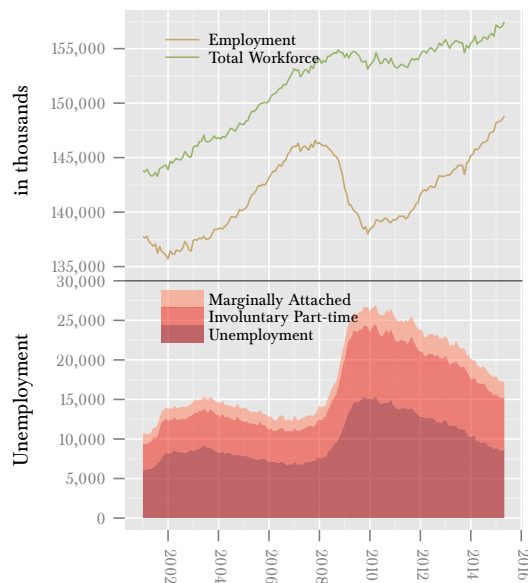
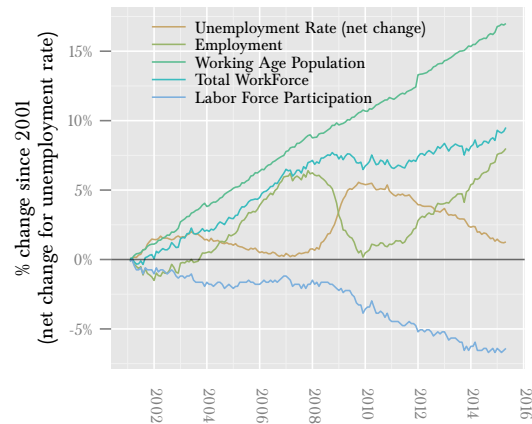


Figure 4: Labor Market Indicators



The drop in the participation rate since 2008 suggests that something about the recession itself caused people to leave the labor market, and implies that they may return when things are looking a bit better. However, some analysts have pointed out the recent decline in participation may be part of a longer-term decline starting in the late 1970s and pausing during the 1990s. If so, and there are no former workers waiting in the wings, then the recent growth in employment should put pressure on wages over the next year.

Recent real wage estimates suggest that there has been some upward pressure on wages, with a 2.3 percent increase in real wages from April 2014 to April 2015. This increase in real wages seems to be having lasting effects, given an increase in personal consumption expenditures of around 2.5 percent from 2013 to 2014. It remains to be seen whether these changes in real wages will translate into support for an increase in household formations, which fell dramatically during the recession and remain subdued.

Inflation

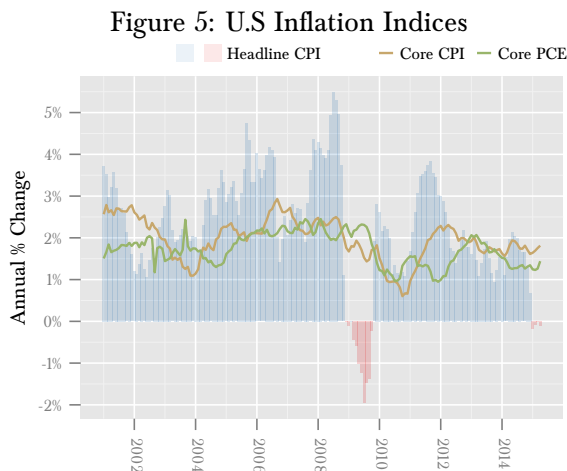
The inflation outlook for 2015 has deteriorated significantly since the March forecast, with analysts downgrading the outlook from two percent to below one percent. The FOMC has also reduced its outlook, from a range of 1.0-2.2 percent in its

December Summary of Economic Projections, to a range of 0.6-1.5 percent in its March Projections and further down to 0.6-1.0 percent in its June Projections. The consensus among forecasters, including the FOMC, hasn't changed for the outlying years, with inflation rates of around two percent still expected.

Figure 5 shows several measures of the U.S. inflation rate. It is notable that the headline CPI has remained negative since January. This is largely due to the sudden fall in oil prices, which are excluded from the 'core' measurements.

The FOMC uses the core Personal Consumption Expenditures (PCE) index as the guiding measure of inflation. The PCE shows that long-term inflation has been at or below the two percent target since September 2008 (79 consecutive months).

Estimates of expected long-term inflation—derived from the behavior of bond and other financial markets—appear to range between 1.6 and 1.8 percent.



Interest Rates

The Committee anticipates that it will be appropriate to raise the target range for the federal funds rate when it has seen further improvement in the labor market and is reasonably confident that inflation will move back to its 2 percent objective over the medium term.

Janet Yellen
Chair of the FOMC

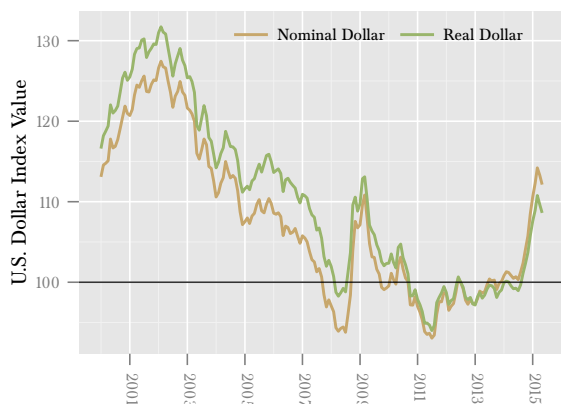
Seldom in U.S. history has it been so inexpensive to borrow money. Interest rates have remained at record lows while the Federal Reserve has continued to hold the funds rate in the 0.0-0.25 percent range since December 2008. Since 2008, the FED has pledged to keep rates near zero until it judges that there has been sufficient progress toward its dual-mandate of maximum employment and two percent inflation.

Since the unemployment rate has been approaching the long term average, analysts have been closely examining both current and expected inflation rates in an attempt to divine when rate rises will begin. Many speculate that rate rises will begin this year. In its June 2015 meeting, the FOMC kept interest rates at the 0.0-0.25 percent range, but set the stage for increases in the forthcoming September meeting, adding that “the Committee expects inflation to rise gradually toward 2 percent over the medium term...” However, with the poor first quarter GDP growth and low inflation outlook for the remainder of the year, many experts, including at the IMF, suggest that the FOMC should hold off until it is clear that rate changes will not derail the recovery.

The U.S. Dollar and Foreign Trade

The trade-weighted U.S. dollar index has climbed dramatically since July 2014, increasing by 9.5 percent in real terms over the past year (Figure 6).

Figure 6: Trade-Weighted U.S. Dollar Index



The climb in the dollar has threatened the recent improvement in the U.S. economy by making imported goods relatively cheaper than those locally produced, while also making U.S. exports less competitive abroad. This effect is measurable: real exports of goods and services decreased 5.9 percent (annualized) in the first quarter of 2015, although this followed an increase in exports of 4.5 percent in 2014.

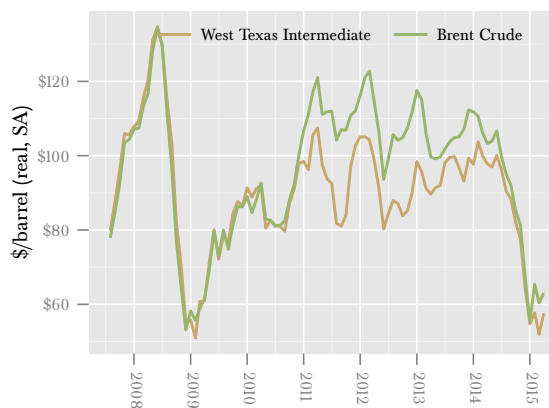
Importantly, a rising dollar means that timber and lumber from the Pacific Northwest become more expensive for international buyers and imported timber and lumber become less expensive. This will tend to suppress local prices and DNR's timber and agricultural revenues. Wildstock geoduck revenue will also be negatively affected because geoduck is primarily marketed abroad.

Petroleum

Crude oil and its derivatives strongly affect production, transportation, and consumption in the world and U.S. domestic economies. Prices for Brent crude oil have plummeted from \$108/barrel in January 2014 to \$47/barrel in January 2015 (in real terms), but have since increased to \$64/barrel.

This drop in costs will make transportation-sensitive industries—such as PNW logging and agriculture—more competitive in international markets, despite the countervailing force of the rising dollar. Moreover, oil prices, especially sharp fluctuations, have the ability to influence intangible 'forces' such as consumer and producer confidence, though there is little evidence that this is currently happening in a meaningful way.

Figure 7: Crude Oil Prices



World Economy

Europe

Forecasts for the U.S. economy often cite Europe's ongoing financial crisis and very weak economic performance as a significant downside risk. The EU (28 countries) is the fourth largest trading partner of the U.S. and, as a whole, was hammered by the Great Recession, collectively suffering a 4.5 percent contraction in 2009. This was followed by two years of slow growth, and another year of contraction. After no growth in 2013, 2014 saw real EU GDP growth of 1.3 percent—finally surpassing 2007's GDP in real terms.

Currently, the biggest concern regarding the European economy is the increasing likelihood of a Greek default and exit from the euro (a 'Grexit'). Although the Greek financial system and economy are less integral to the EU than was the case several

years ago, a Grexit might still cause turmoil in the fragile union economy. It appears that Greek debt will never be repaid without significant restructuring because it simply cannot grow fast enough to maintain or resolve the debt, though there seems to exist little political will from its creditors to restructure.

The concern over a Grexit has overshadowed other pressing issues with the EU economy. There remains a worrying risk of the EU entering a deflationary spiral—where falling prices reduce production and wages, which further reduce prices—seems to have abated. The European Central Bank recently cut interest rates and pledged to buy private sector bonds as a form of quantitative easing. The ECB's intervention seems to be helping, since core inflation has stabilized and GDP rose by 0.3 percent in the fourth quarter of 2014. As in the U.S., fiscal remedies appear politically impossible.

Weakness in Eurozone economies means reduced demand for U.S. exports, but it has thus far been impossible to identify significant tangible effects on the U.S. economy. As of thus writing, the only good news is that the worst case European scenarios have not yet occurred.

China

China is a major export market for logs and lumber from the Pacific Northwest. The Seattle Customs District sent China 324 mmbf of softwood logs (out of a total regional export volume of 493 mmbf) and 109 mmbf of softwood lumber (out of a total of 474 mmbf) in 2012. Changes to the Chinese economy can have a dramatic impact on the prices for logs and lumber (and geoduck) in the Pacific Northwest.

While China weathered the global economic and financial crisis of the past seven years better than most other economies—at least in terms of GDP growth and employment—there are a number of questions about the costs and the sustainability of that apparent economic resilience. Already, Chinese GDP growth has slowed from 10.4 percent in 2010 to a 7.4 in 2014, missing the official target of 7.5 percent. The IMF forecasts a further decline to

6.8 percent in 2015 and 6.3 percent in 2016.

There is growing concern that these forecasts are overly optimistic and that Chinese GDP growth will fall much lower, possibly even into recession. This risk is mostly due to the prominence of investment as a component of GDP, the huge amount of debt in the country, and the way that debt is held. Investment is almost 50 percent of the China's GDP. A debt crisis would undermine that investment, which would have an outsized effect on China's GDP.

Analysts seem to broadly agree that in order to continue growing and to stabilize its economy China needs to pivot from its heavy reliance on investment toward a broader consumption basis. In order to do this it would need to encourage domestic spending and move away from saving. However, FEA notes that double digit growth in all other sectors of the economy would be needed to offset a five percent decline in investment; this scenario would still only lead to three percent GDP growth.

Debt in China skyrocketed from 110 percent of GDP to over 190 percent in 2014; about 45 percent of that debt is exposed to inflated property markets. There is little concern of a full-blown banking crisis because the government has enough tools at its disposal to avoid it, but a property price drop that precipitates a debt crisis is not impossible and could significantly slow growth. Additional bad signs for the economy include a 6.3 percent year-on-year drop in new house prices from April 2014, and over-production in many manufacturing sectors.

Japan

Japan is another major export market for the Pacific Northwest—importing 68 mmbf of softwood logs and 153 mmbf of softwood lumber from the Seattle-Snohomish customs district in 2012. Unfortunately, Japan's growth has stagnated since the early 1990s after a stock market and property bubble bust trapped the economy into a deflationary spiral. After his election in late 2012, Japanese Prime Minister Shinzo Abe began a fairly bold

combination of economic policy moves, dubbed 'Abenomics', in an attempt to revitalize Japan's economy.

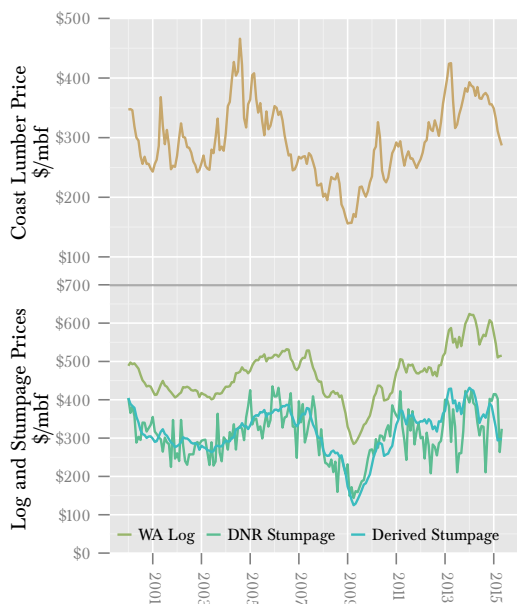
These policies were initially well received by the Japanese, judging by increasing consumer confidence and GDP growth. However, GDP in 2014 actually shrank by 0.1 percent and the IMF expects weak growth of 1.0 and 1.2 percent in 2015 and 2016, respectively.

On the other hand, it appears that Japan may be escaping from the deflationary spiral, with CPI growing by 2.7 percent in 2014 and positive inflation projected for 2015 and 2016.

Log, Lumber, and Stumpage Prices

Over the past decade, timber stumpage revenue have constituted over 75 percent of total revenues. DNR is, therefore, vitally concerned with understanding stumpage prices, log prices, lumber prices, and the related supply and demand dynamics underlying all three. This section focuses on specific market factors that affect timber stumpage prices and overall timber sales revenues generated by DNR.

Figure 8: Lumber, Log and Stumpage Prices in Washington

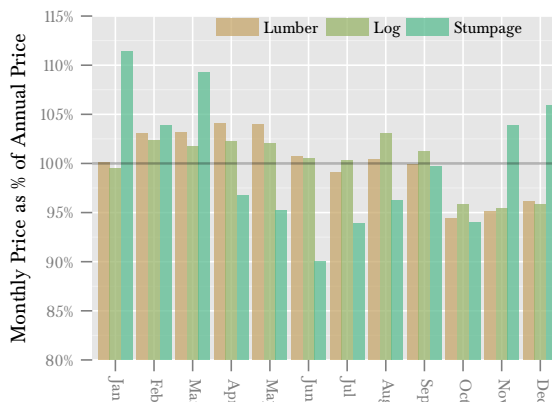


In general, timber stumpage prices reflect demand for lumber and other wood products, timber supply, and regional lumber mill capacity. There is a consistent, positive relationship between log prices and DNR’s stumpage prices, despite notable volatility in DNR’s stumpage prices (Figure 8). High log prices make access to logs more valuable and increase purchasers’ willingness to pay for stumpage, or the right to harvest. Volatility in stumpage prices arises not only from log prices, but also from the amount of lumber and logs held in mills’ inventories and from DNR-specific issues, such as the quality and type of the stumpage mix offered at auction.

The relationship between lumber prices and log prices is less consistent. Lumber prices are significantly more volatile and both the direction and size of price movements can differ from log prices. This is due to both demand and supply side factors. On the demand side, mills will often have an inventory of logs in their yards, as well as an inventory of standing logs, so they do not always need to bid up log prices to take advantage of high lumber prices. From the supply side, land owners do not often need to sell their timber, so when prices fall too far, they can withhold supply and allow their trees to grow and increase in quality.

There are differences in price seasonality between lumber, logs, and stumpage, as illustrated in Figure 9. These prices are affected by a degree of seasonality that is largely the result of when each of these commodities will be used. For instance, lumber prices tend to peak in spring, when housing construction picks up, and decline through fall as the demand wanes, while stumpage prices tend to be highest when harvesters are lining up harvestable stock for the summer. DNR stumpage price volatility is also affected by the firefighting season and the quality of the stumpage mix, which varies throughout the year but tends to be lowest from August through September.

Figure 9: Lumber, Log, and DNR Stumpage Price Seasonality



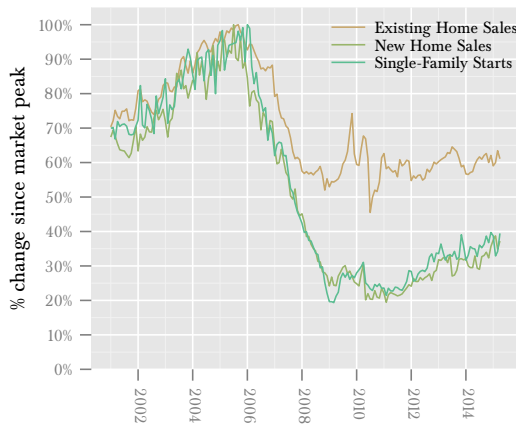
U.S. Housing Market

This section continues with a discussion of the U.S. housing market because it is particularly important to overall timber demand in the U.S.

New residential construction (housing starts) and residential improvements are major components of the total demand for timber in the U.S. Historically, these sectors have constituted over 70 percent of softwood consumption—45 percent going to housing starts and 25 percent to improvements—with the remainder going to industrial production and other applications.

The crash in the housing market and the following recession drastically reduced demand for new housing, which undermined the total demand for lumber (Figure 10). Since the trough from 2009-11, the lumber demand for residential construction has increased slightly, coinciding with an increase in housing starts. Prolonged growth in starts is essential for a meaningful increase in the demand for lumber.

Figure 10: Home Sales and Starts as a Percentage of Pre-Recession Peak



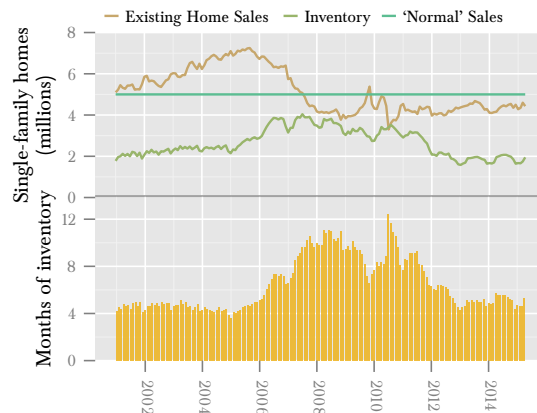
A number of measures suggest that the modest recovery in housing demand, which was driven by new home sales, has resumed after stalling through late 2014. In April, total sales were up 6.1 percent year-on-year, though they were down 3.8 percent from March. Housing demand has remained subdued due to tight lending standards, weak labor

markets, and declining real wages for much of the population.

Existing Home Sales

Existing home sales plummeted during the recession and have remained stagnant at around 4.5 million (SAAR) units per month (Figure 11).

Figure 11: Existing Home Sales



The month's supply of housing—the number of months it would take to clear the inventory of used homes on the market at current sales rates—averaged 5.1 months in 2013-2014, slightly above the 2001-05 average of 4.6 months, but fell slightly to average 4.8 in the first four months of 2015.

Changes in inventory can be a useful signal about the current relationship between supply and demand. A decreasing inventory suggests that demand is outstripping supply, which should put upward pressure on prices and encourage more homes to be listed or built. The current inventory, relatively stable at around two million since 2012, suggests that demand for existing houses is, on average, matching well with supply.

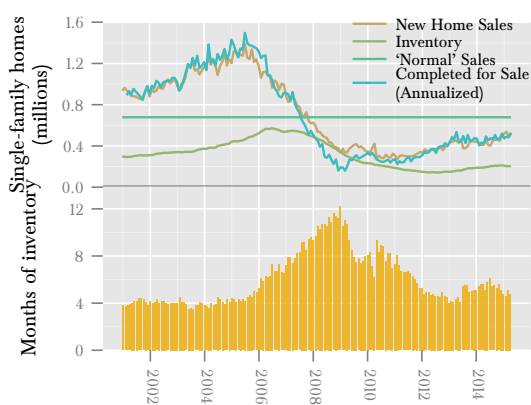
After house prices fell in the recession, private investors moved into depressed housing markets and purchased large numbers of lower-priced foreclosed residential properties. These investors have helped drive demand and may have set a floor under several key urban housing markets.

Investor purchases appear to have fallen slightly since the beginning of 2014, when they represented more than 20 percent of home sales, to 14 percent of homes in April. There is concern among analysts about the potential impact on the house prices if investors were begin selling en-masse and increase the housing supply while demand continues to be weak.

New Home Sales

Unsurprisingly, new home sales also plummeted during the recession, reaching a record low of 306,000 in 2011 before beginning a slow rise (Figure 12). New home sales have increased from 440,000 in 2014 to 515,000 (SAAR) in the first four months of 2015, still well below the long-term (1963-2010) ‘normal’ rate of 678,000 sales per year.

Figure 12: New Single-Family Home Sales



As low as new home sales fell, new home construction fell even lower from early 2007 through mid-2011, causing the inventory of newly built homes for sale to decline over the period. After bottoming out in July 2012, the inventory of new homes has crept up as construction slightly out-paced sales.

Shadow Inventory

The inventories of existing and new homes discussed above are made up of those housing units that are currently listed for sale (‘on the market’). While it exists even in normal times, there is also

a ‘shadow inventory’ that has gained attention as an important measure of the health of the housing market. The shadow inventory is the number of homes not currently on the market, but expected to be listed in the next few years. The shadow inventory usually includes the number of properties currently in the process of foreclosure, properties with seriously delinquent mortgages, and properties owned by banks or real estate firms. A large shadow inventory can drive distressed sales (including short sales), put downward pressure on prices, and stifle housing starts.

The share of distressed sales (either short sales or foreclosures) has continued to decline, from 15 percent in April 2014 to 10 percent in April 2015. Additionally, serious delinquencies have declined from 1.78 million in April 2014 to 1.38 million in April 2015. During the same period, the number of houses in the process of foreclosure fell from 694,000 to 521,000 and completed foreclosures fell from 50,000 to 40,000.

Household Formation

Household formation (or the growth in the number of households) is the key component of housing demand and a major driver of U.S. housing starts. Due to the job and income losses and to the greater financial precarity that the recession occasioned, household formation fell as people shared housing and many younger people, who were hit especially hard, moved back in with their parents. Net immigration from Mexico also approached zero following the Recession, and may have actually been negative, contributing to slowing household formation.

The drop in household formation and the consequent reduction in demand for home purchases contributed to the surge in the inventory of available housing units and the significant drop in housing starts. Historically U.S. household formation has ranged between 1.2 and 1.3 million per year. Since the recession, household formations have dropped dramatically to average 0.7 million per year from 2009-2014.

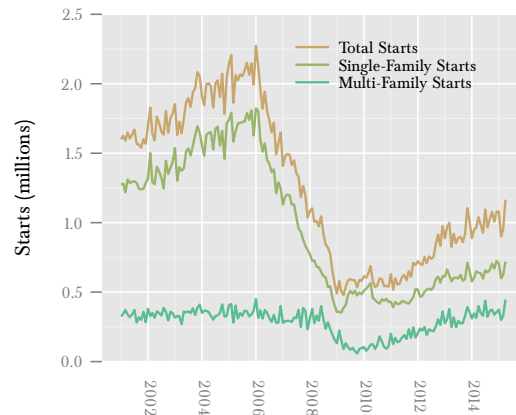
An important concept frequently discussed in relation to household formation is that of ‘pent-up’ demand—the demand for housing from those who wish to form households, but are currently unable to because of employment, earnings, or credit eligibility issues. Much of the discussion from analysts in the past several years has been around how there is a large, and growing, pent-up demand as more young adults want to move out and create their own households. Analysts have consistently overestimated its impact on the housing market, repeatedly predicting a strong rebound in household formation and housing starts that has yet to emerge. In other words, pent-up demand has so far failed to become real demand, largely because of issues with employment, wages, credit requirements, and affordability.

Looking forward, household formation will depend on both the continued recovery in the U.S. labor market—more than just job growth, but also real wage growth—and improvements in affordability. Unfortunately, first quarter 2015 household formations may have actually contracted, with the occupied housing stock declining by around 400,000 units. Despite this, FEA forecasts that formations will continue to improve, given improvements in employment and wage growth, and will average 1.2 million in 2015-2020. This is a key risk to their forecast of housing starts. RISI predicts formations to total about 1.1 million in each of the next two years.

Housing Starts

U.S. housing starts picked up in 2012 and continued to rise in 2013, after having moved more or less sideways at historically low levels in the three previous years (Figure 13). In April 2009, U.S. housing starts fell to an all-time record low since the Census Bureau began tracking housing starts in 1959. In 2014 there were around 1.0 million starts, while 2015 is forecast to increase modestly to 1.1 million and 2016 is forecast to be around 1.3 million.

Figure 13: Housing Starts



Much of the growth in housing starts since the end of the recession has come from multi-family units. This is notable because multi-family structures use much less lumber than single-family houses per unit, so the increase in overall starts has had a more muted effect on timber prices than historical starts increases.

The outlook for housing starts in 2015 is fairly positive, despite first quarter starts being dragged down by severe weather. Continued improvements in household formations will increase demand, though it is unclear how long it will take before formations increase. Additionally, a recovery in house prices should facilitate the ‘move-up’ market. Combined with low market and shadow inventories constraining the supply of existing housing, prices should start increasing and provide incentives to build more housing.

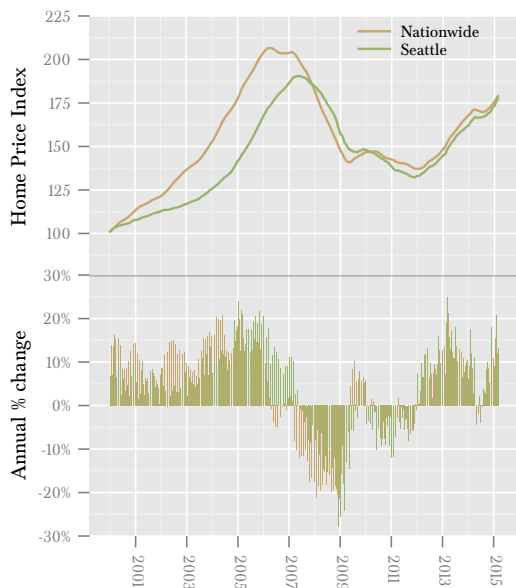
Impediments to increased housing starts include the sentiment of construction companies, who report being very wary of building more houses until demand clearly picks up, and supply impediments, such as the lack of buildable lots or problems getting permits in a timely manner. Given the lead time necessary to build houses, these could cause some volatility in both prices and supply.

Housing Prices

U.S. housing experienced six unprecedented years of falling or flat prices following the recession. House prices started rising again only in 2012 as economic and employment indicators continued to improve. Figure 14 charts the seasonally adjusted S&P/Case-Shiller Home Price Indices for the 20-city composite, which estimates national existing home price trends. The 20-city composite index has increased most months since bottoming out in January 2012—its lowest point since October 2002, almost ten years earlier.

Seattle house prices are following a similar trajectory to national prices, having increased 6.5 percent year-on-year as of March 2015. When Seattle prices bottomed in February 2012—at their lowest point since June 2004—the average existing house in Seattle was worth only 70 percent of the May 2007 peak. As of March, the average Seattle home was worth 93 percent of its peak price.

Figure 14: Case-Shiller Existing Home Price Index



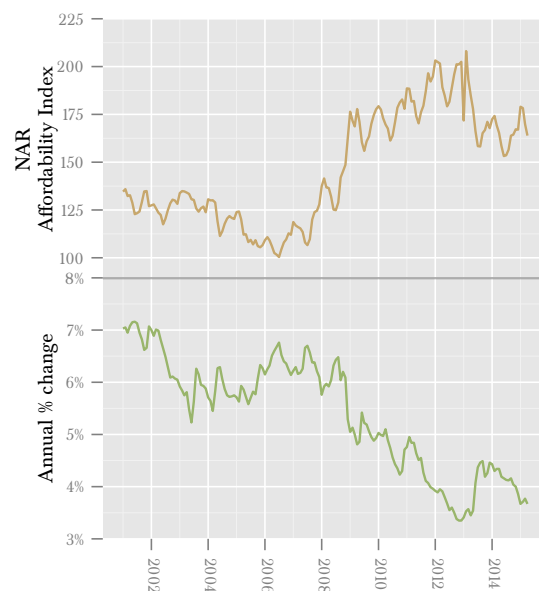
An increase in prices would allow the return to more normal foreclosure conditions, in which homeowners are able to make rational decisions about when or whether they wish to sell—as op-

posed to being forced to sell or to remain ‘underwater’ to avoid taking a loss or damaging their credit.

Housing Affordability

The National Association of Realtors’ (NAR) U.S. Housing Affordability Index is a useful, though imperfect, measure of how affordable or attainable houses are to the average American. Index values increase as affordability increases, and decline as homes become less affordable.

Figure 15: Housing Affordability



Affordability peaked at a record high of 208.0 in February 2013 and then crashed to 156.3 in August of that year—its steepest decline in 30 years—on the back of increased interest rates and house prices (Figure 15). Following that decline the index rose and fell as housing market sentiment oscillated between bullish in the wake of price increases, and bearish as buyers withdrew and interest rates increased. From August 2014 the index increased on the back of declining mortgage rates and increases in the median wage, but has fallen since January due to a roughly 10 percent increase in prices, but very little change in income or mortgage rates.

The income needed to purchase a house is

growing much faster than actual annual incomes. For now, low mortgage rates are offsetting this, but this trend cannot continue indefinitely, either price growth will need to slow or incomes will need to rise. The urgency for this type of adjustment will increase when interest rates begin to rise.

Export Markets

Although Federal law forbids export of logs from public lands west of the 108th meridian, log exports still have a meaningful impact on DNR stumpage prices. Exports compete with domestic purchases for privately sourced logs and strong export competition pulls more of the supply from the domestic market, thereby raising all domestic prices. However, changes in export prices do not influence domestic prices in a one-to-one relationship.

Export prices are almost always higher than domestic prices, a difference which is referred to as the ‘export premium’ (Figure 16). The export premium exists primarily due to the characteristics of the export markets, which can include a demand for higher quality wood, a high value placed on long-term contracts, and high transaction costs.

Note that the export prices shown in Figure 16 are based on prices reported by RISI and FEA, but weighted by DNR’s typical species mix.

Figure 16: Lumber Export Prices



Since 2010, demand from China has been a major support of log and lumber prices in Wash-

ington. That demand waned significantly in late 2014 as China’s economic health wavered, the U.S. dollar appreciated while the value of the euro and ruble dropped (making U.S. timber comparatively more costly), and the Russian tariff on log exports was reduced. The downward trend in demand has continued into 2015, with lumber exports down 35 percent in the first two months.

In May, China re-entered the North American markets and forecasters expect demand to remain elevated in the near term. Further out, market analysts expect the export premium to shrink due to strong demand from recovering domestic markets increasing domestic prices and decreased demand from importing countries, China in particular. In the long run, the export premium may shrink yet more as West Coast log exports face stronger international competition and export prices are pushed down, though much will depend on supply constraints from key international suppliers.

Timber Supply

Timber supply is up in the Coast region, as well as in the competing U.S. Inland and South timber regions, because timberland owners reduced harvests during the recession in response to low prices. Although timber growth has exceeded timber harvest since the beginning of the recession, thereby increasing the potential timber inventory, strong log exports in the U.S. West Coast have constrained the growth of the timber inventory in that region. Thus the deferred volume in the Coast region is not as great as elsewhere. FEA expects that harvesting on the U.S. West Coast exceeded growth in 2014, which will begin to deplete the stumpage inventory.

The timber resources of British Columbia have been devastated by the mountain timber beetle, which has affected about a third of the province’s timber resources. This damage has increased British Columbia’s timber supply since 2007: timber killed by beetles must typically be harvested between 4 and 10 years after being killed, so the government increased the allowable harvest to ensure that the dead timber not be wasted. Analysts expect that British Columbia’s elevated timber sup-

plies will not fall until after 2015. The supply from Canada will be further diminished by Quebec's allowable annual cut being reduced by Bill 57, which was implemented in April 2013, and may be additionally reduced by the 'North for All' plan (formerly Plan Nord).

Price Outlook

Lumber Prices

As shown in Figure 8, lumber prices have dropped precipitously since mid-2014 to April 2015. This was largely due to a bitterly cold winter across much of the U.S. causing weak domestic demand, ample local timber and lumber inventories, and the drop in export demand from China. Since May, futures prices have rebounded strongly as Chinese demand increased and housing starts resumed—though futures prices are not always the best indicator of prices in the Pacific Northwest.

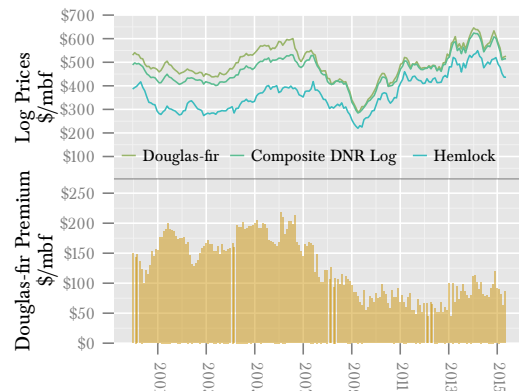
For the remainder of 2015, analysts expect that prices will increase for a number of reasons. On the supply side, a lack of buying has driven dealer inventories down, a spate of curtailments has further reduced inventories and will constrain production, and many mills shut down for maintenance around the July holidays, which will reduce supply further. At the same time there will be a seasonal increase in demand as summer construction increases. In the fourth quarter of 2015, prices are expected to move back down.

Prices in 2016 are expected to increase as higher housing starts provide upward pressure.

Log Prices

Figure 17 presents prices for Douglas-fir, hemlock, and DNR's composite log. The latter is calculated from prices for logs delivered to regional mills, weighted by the average geographic location, species, and grade composition of timber typically sold by DNR. In other words, it is the price a mill would pay for delivery of the typical log harvested from DNR-managed lands. The dark green line for the DNR composite log price on Figure 17 is the same as the light green line on Figure 8.

Figure 17: DNR Composite Log Prices



Readily visible on the graph is the decline in the premium for Douglas-fir—due in large part to Chinese demand fortifying hemlock prices.

Stumpage Prices

Timber stumpage prices are the prices that successful bidders pay for the right to harvest timber from DNR-managed lands (Figure 18). At any time, the difference between the delivered log price and DNR's stumpage price is equivalent to the sum of logging costs, hauling costs, and harvest profit (Figure 8). Subtracting the average of these costs from the log price line gives us a derived DNR stumpage price.

Stumpage prices from actual DNR timber sales in 2012 were generally lower than stumpage prices inferred from log prices, which suggested that an upward market 'correction' would be forthcoming. This correction seems to have occurred with generally higher stumpage in 2013 and 2014. However, the situation reversed in late 2014, when actual DNR stumpage prices were well above the inferred stumpage prices. They have since fallen back to trend.

DNR Stumpage Price Outlook

There are moderate downward adjustments to the stumpage prices throughout the forecast years (Figure 18). Note that the RISI and FEA 'forecast' series

are both adapted to reflect the species and class characteristics of typical DNR timber; the original series were regional averages.

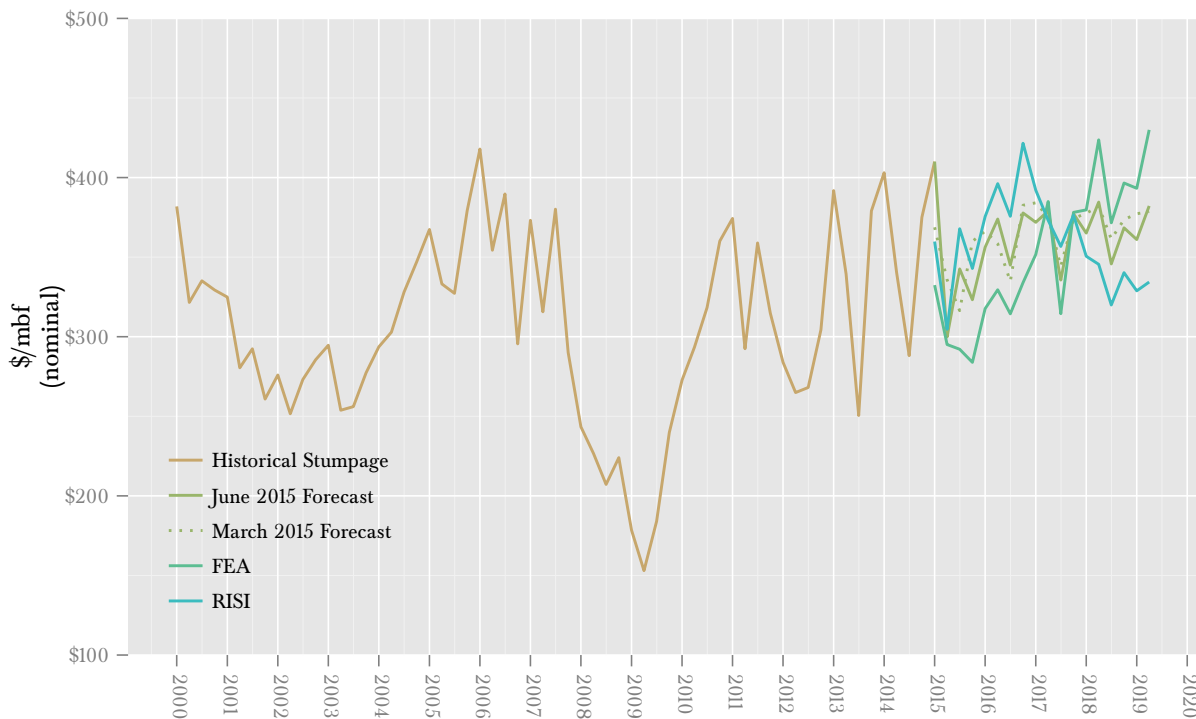
DNR currently contracts with two forest economics consulting firms that provide log and timber stumpage price forecasts, as well as valuable insights into the housing, lumber, and timber markets. By modeling DNR’s historical data on their price forecasts, we arrive at two alternative stumpage price outlooks (Figure 18).

The RISI forecast suggests higher prices through 2016, with a downturn starting in late

2016 with prices continuing downward through the forecast period. The FEA Forecast suggests lower prices in the near term, but increasing through the forecast period. The two outlooks are essentially opposite, only agreeing on a price decline in late-2016 or early-2017. The updated DNR Forecast represents a weighted middle ground between these two outlooks.

It is important to note that these price expectations are for nominal prices. In real (inflation adjusted) terms, the forecast stumpage prices will be much lower than the highs achieved during the real estate boom.

Figure 18: DNR Timber Stumpage Price



DNR Revenue Forecast

This Revenue Forecast includes revenue generated from timber sales on trust uplands, leases on trust uplands, and leases on aquatic lands. In the final summary table, it also forecasts revenues to individual funds, including DNR management funds, beneficiary current funds, and beneficiary permanent funds. Caveats about the uncertainty of forecasting DNR-managed revenues are summarized near the end of this section.

Timber Revenues

DNR sells timber through auctioned contracts which vary in duration. For instance, contracts for DNR timber sales sold in FY 2014 needed to be harvested between three months and four and a half years from the date of sale, with an average (weighted by volume) of about 25 months. The purchaser determines the actual timing of harvest within the terms of the contract. As a result, timber revenues to beneficiaries and DNR management funds lag behind sales, are subject to purchaser's harvest decisions, and are likely based on their perceptions of market conditions.

For the purposes of this chapter, timber that is sold but not yet harvested is referred to as 'inventory' or 'under contract'. Timber volume is added to the inventory when it is sold and placed under contract, and it is removed from the inventory as the timber is harvested.

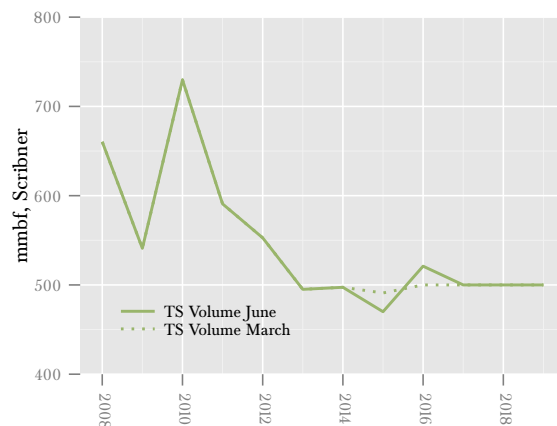
Timber Sales Volume

As of May, DNR had sold 394 mmbf of stumpage volume in FY 15. Projected timber sales volume for the current fiscal year is lowered by 21 mmbf, from 491 mmbf to 470 mmbf based on an updated sales plan (Figure 19). This volume has been pushed out to FY 16.

FY 15 is the first year of the next sustainable harvest decade (FY 15 through FY 24) for western Washington; however, new harvest limits for the this sustainable harvest decade have not yet been determined or approved by the Board of Natural Resources. Without an updated sustainable harvest

limit, annual Westside sales volumes are forecast to be 450 mmbf for future years. Together with projected Eastside timber sales of 50 mmbf for each of the next several years, we arrive at a projected annual timber sales volume of about 500 mmbf for FYs 17-19.

Figure 19: Forecast Timber Sales Volume

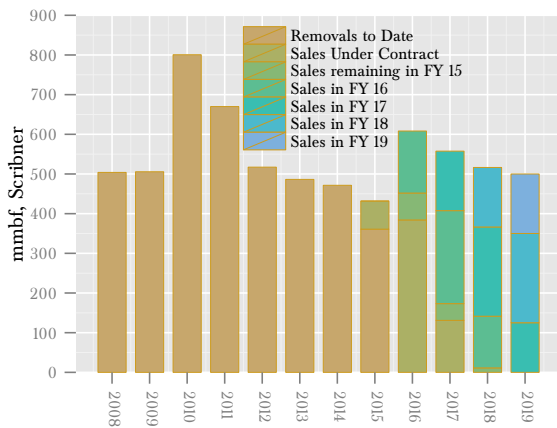


Timber Removal Volume

At the end of April, the Department had 591 mmbf of timber under contract, valued at \$209 million, or \$353/mmbf. For each Forecast, we survey timber sale purchasers to determine their planned harvest timing for the timber volume they have under contract at the time of the survey. This Forecast's survey, conducted in the first half of May, indicates that purchasers will likely harvest 71 mmbf of inventory volume in the remainder of this fiscal year, 384 mmbf of the existing inventory in FY 16, and the remaining 136 mmbf in FY 17 and FY 18 (Figure 20).

Including the survey responses, removals to date, and removals expected from future FY 15 sales, about 432 mmbf will be removed in FY 15, 11 percent less than the March estimate of 487 mmbf. Due to the changes in harvest plans and the shift in sales volume from FY 15 to FY 16, our harvest forecasts have been decreased to 608 mmbf (-4 mmbf) for FY 16 and increased to 558 (+59 mmbf) for FY 17.

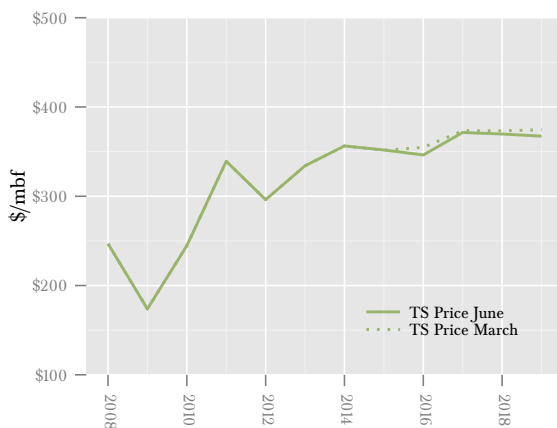
Figure 20: Forecast Timber Removal Volume



Timber Sales Prices

The price results of monthly DNR timber sales are quite volatile (Figure 8). As discussed in Part 2, the DNR sales price (stumpage) forecast uses estimates from two forest economics consulting firms. Primarily because of reductions in the consultants’ forecast log and stumpage prices, the FY 15 average DNR timber sales price projection is unchanged at \$352/mbf (Figure 21). This estimate also reflects the best information available about the planned composition of the sales.

Figure 21: Forecast Timber Sales Price



As of the end of May, the average DNR stumpage price for sales in FY 15, weighted by

volume, is \$359/mbf, slightly higher than the forecast annual price of \$352/mbf. In April, a downward price correction occurred with stumpage sales prices dropping from \$403/mbf in March to \$264/mbf. The drop was expected and already incorporated into the March forecast, so the current forecast is unchanged. A price of \$313/mbf is needed on the remaining July sale to result in an average of \$352/mbf for FY 15.

Timber Removal Prices

Timber removal prices are determined by sales prices, volumes, and harvest timing. They can be thought of as a moving average of previous timber sales prices, weighted by the volume of sold timber removed in each time period (Figure 22).

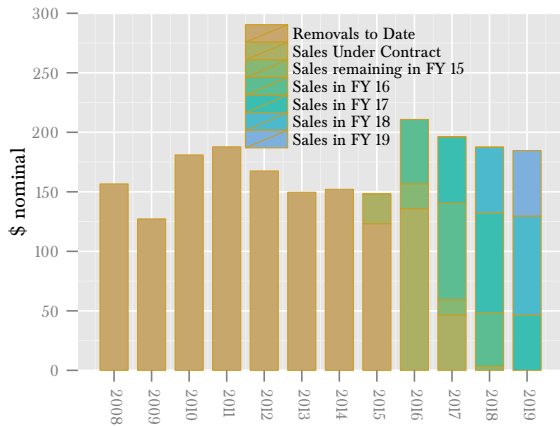
Figure 22: Forecast Timber Removal Price



Timber Removal Revenues

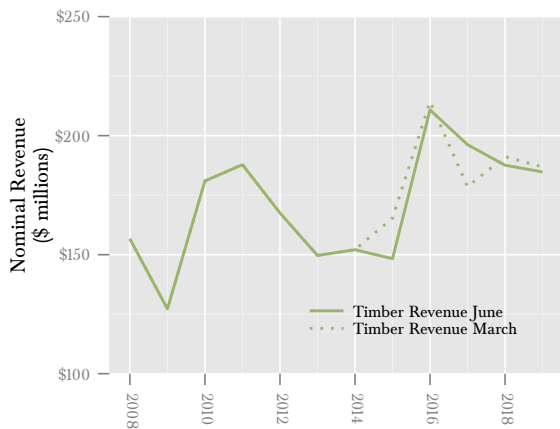
Figure 23 shows projected annual timber removal values, broken down by the fiscal year in which the timber was sold (‘sales under contract’ are already sold as of May 1st, 2015). Expected removal value for FY 15 is reduced by around \$17 million, to \$148 million, due to the decrease in forecast removal volumes. FY 16 removal value is reduced to \$210 million on both lower volumes and prices. Expected FY 17 removal value is increased to \$196 million, because the increase in volume will outweigh the decrease in price.

Figure 23: Forecast Timber Removal Value



These changes result in the projected 2013-2015 biennium timber revenues being reduced from \$317 million to \$300 million—a reduction of 5.4 percent (Figure 24). In the 2015-2017 Biennium, forecast timber removal revenues are projected to increase by 3.6 percent to \$407 million.

Figure 24: Forecast Timber Removal Revenue



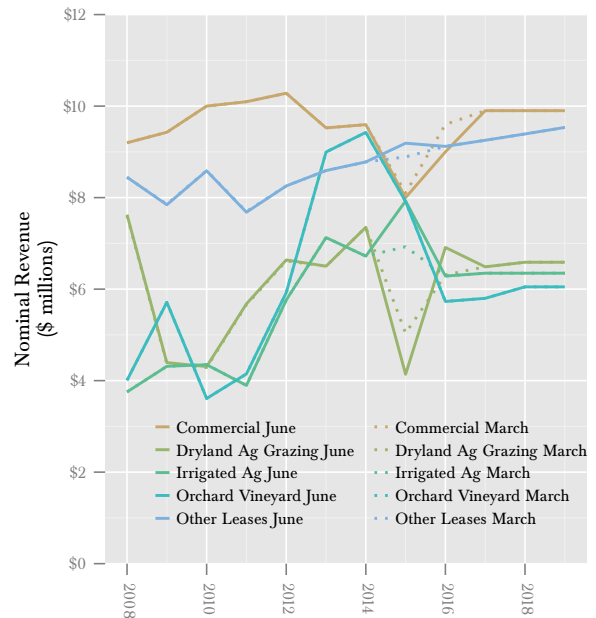
Upland Lease Revenues

Upland lease revenues are generated primarily from leases and the sale of valuable materials, other than timber, on state trust lands. The forecast for commercial leases is reduced by \$100,000 in the current fiscal year due lower than expected rents and by \$600,000 in FY 16 due to one-off maintenance costs (Figure 25).

The estimate for revenue from dryland agriculture in FY 15 is reduced by \$700,000 due to both surprisingly low wheat prices and unsold wheat volume. FY 16 is increased by a commensurate amount based on the assumption that the retained wheat volume will be sold in that fiscal year.

Irrigated agriculture is increased by \$1 million in the current year due to stronger than expected returns to date.

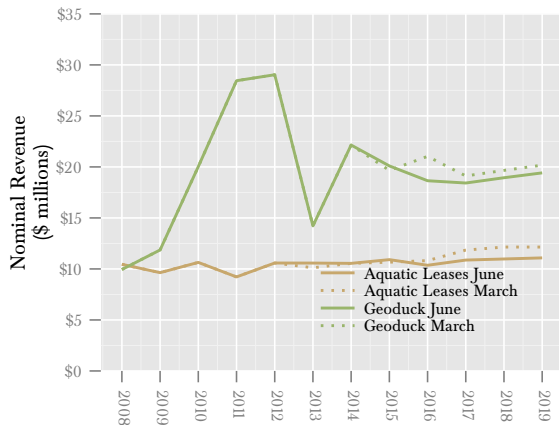
Figure 25: Forecast Upland Lease Revenue



Aquatic Lands Revenues

The expected revenue from geoduck marketing is increased by \$440,000 million in FY 15 due to the final geoduck auction results and a change in the minimum bid, which has the effect of moving some revenue into FY 15 from FY 16 (Figure 27). FY 16 revenue has been reduced by \$2.39 million based on a shift in revenue to the current year and a downward revision in predicted prices (Figure 26).

Figure 26: Aquatic Lands Revenue

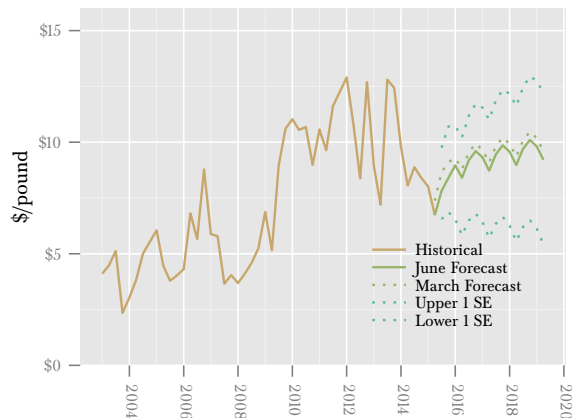


There are significant downside risks to geoduck revenues, even in the near term, that are important to consider but difficult to forecast:

1. Harvests (and therefore revenues) could be deferred or lost if geoduck beds are closed due to occurrence of PSP toxin.
2. A further slowdown in China’s economic growth could lower demand for this luxury export in its largest market.
3. In light of recent WDFW surveys of closed south Puget Sound geoduck tracts showing declining recovery rates, and of evidence of active poaching, future commercial harvest levels may be further reduced.

Importantly, if none of the downside risks eventuate, it is quite possible for geoduck prices to be much higher than expected, given its historic volatility. On balance, the forecast is conservative given the range of likely prices given by our modeling.

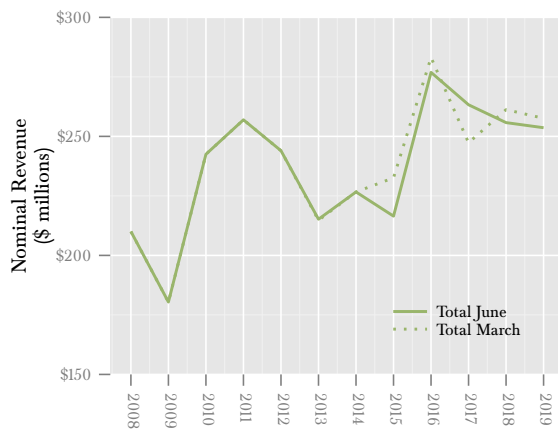
Figure 27: Geoduck Auction Prices



Total Revenues from All Sources

Total forecast revenues for the 2013-15 Biennium (FYs 14 and 15) are down from the previous Forecast by \$16 million (3.5 percent) to \$443 million. Revenues for the 2015-2017 Biennium (FYs 16 and 17) are projected to be up by \$10 million (9.7 percent) to \$540 million (Figure 28). Overall, most of the revenue change is driven by a change in planned timber harvests and timber sales prices.

Figure 28: Total Revenues



Some Caveats

DNR strives to produce the most accurate and objective projections possible, based on the Department's current policy directions and available information. Actual revenues will depend on future policy decisions made by the Legislature, the Board, and DNR, as well as on market and other conditions beyond DNR's control.

As events and market conditions develop, DNR will incorporate new information into future Forecasts. After FY 15, we judge the downside to the overall forecast to be slightly greater than the upside because of the risks to the timber sales volume (and therefore to timber removal volume and revenues) as well as the ongoing weakness and vulnerabilities of the U.S. and world economies that affect the housing market, and therefore stumpage prices.

See the Forecast Summary for more details.

Distribution of Revenues

The distribution of timber revenues by trust are based on:

- The volumes and values of timber in the inventory (sales sold but not yet harvested) by trust;
- The volumes of timber in planned sales for FY 15 by trust, and relative historical timber prices by DNR region by trust; and
- The volumes of timber by trust for FYs 15-17 based on provisional output of the sustainable harvest model and relative historical timber prices by DNR region by trust.

Since a single timber sale can be worth over \$3 million, dropping, adding, or delaying even one sale can represent a significant shift in revenues to a specific trust fund.

Distributions of upland and aquatic lease revenues by trust are assumed to be proportional to historic distributions unless otherwise specified.

Management Fee Deduction. The underlying statutory management fee deductions to DNR as authorized by the legislature are 25 percent or less, as determined by the Board of Natural Resources (Board), for both the Resources Management Cost

Account (RMCA) and the Forest Development Account (FDA). In budget bills, the Legislature has authorized a deduction of up to 30 percent to RMCA since July 1, 2005, now in effect through the 2013-2015 Biennium.

At its April 2011 meeting, the Board adopted a resolution to reduce the RMCA deduction from 30 to 27 percent and the FDA deduction from 25 to 23 percent. At its July 2011 meeting, the Board decided to continue the deductions at 27 percent for RMCA (so long as this rate is authorized by the legislature) and at 23 percent for FDA. At its October 2011 meeting, the Board approved a resolution to reduce the FDA deduction from 23 to 21 percent. The Board decided in July 2013 to raise the FDA deduction to 25 percent and the RMCA deduction to 29 percent.

By using 29 percent for the RMCA deduction in FYs 15-19, the Forecast assumes that the Legislature will approve RMCA deductions of up to 30 percent for the 2016-2017 Biennium in their biennial budget bills, continuing its practice which started in FY 06.

Given this background of official actions by the legislature and the Board, the management fee deductions assumed in this Forecast are:

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
FDA	25	25	25	25	25
RMCA	29	29	29	29	29

Revenue Forecast Tables

The tables on the following pages provide further forecast details. Table 1 focuses on the source of revenues—timber sales and removals, uplands

leases, and aquatic lands leases. Tables 2 and 3 focus on the distribution of revenues to various state accounts—DNR management funds, beneficiary current and permanent funds, and the Aquatic Lands Enhancement Account.

Table 1: June 2015 Forecast by Source (millions of dollars)

Timber Sales	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19
Volume (mmbf)	497	470	521	500	500	500
Change		(21)	21	-	-	-
% Change		-4%	4%	0%	0%	0%
Price (\$/mbf)	\$ 356	\$ 352	\$ 346	\$ 371	\$ 370	\$ 367
Change		\$ 0	\$ (9)	\$ (2)	\$ (4)	\$ (7)
% Change		0%	-2%	-1%	-1%	-2%
Value of Timber Sales	\$ 177.2	\$ 165.4	\$ 180.4	\$ 185.7	\$ 184.9	\$ 183.7
Change		\$ (7.3)	\$ 3.0	\$ (1.0)	\$ (1.8)	\$ (3.6)
% Change		-4%	2%	-1%	-1%	-2%
Timber Removals	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19
Volume (mmbf)	471	432	608	558	522	500
Change		(55)	(4)	59	2	-
% Change		-11%	-1%	12%	0%	0%
Price (\$/mbf)	\$ 323	\$ 343	\$ 347	\$ 352	\$ 360	\$ 369
Change		\$ 4	\$ (4)	\$ (6)	\$ (8)	\$ (4)
% Change		1%	-1%	-2%	-2%	-1%
Timber Revenue	\$ 152.1	\$ 148.3	\$ 210.8	\$ 196.2	\$ 187.6	\$ 184.7
Change		\$ (17.1)	\$ (3.4)	\$ 17.6	\$ (3.6)	\$ (2.1)
% Change		-10%	-2%	10%	-2%	-1%
Upland Leases	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19
Irrigated Agriculture	\$ 6.7	\$ 7.9	\$ 6.3	\$ 6.3	\$ 6.3	\$ 6.3
Change		\$ 1.0	\$ -	\$ -	\$ -	\$ -
% Change		14%	0%	0%	0%	0%
Orchard/Vineyard	\$ 9.4	\$ 7.9	\$ 5.7	\$ 5.8	\$ 6.0	\$ 6.0
Change		\$ -	\$ -	\$ -	\$ -	\$ -
% Change		0%	0%	0%	0%	0%
Dryland Ag/Grazing	\$ 7.4	\$ 4.1	\$ 6.9	\$ 6.5	\$ 6.6	\$ 6.6
Change		\$ (0.9)	\$ 0.6	\$ -	\$ -	\$ -
% Change		-18%	10%	0%	0%	0%
Commercial	\$ 9.6	\$ 8.0	\$ 9.0	\$ 9.9	\$ 9.9	\$ 9.9
Change		\$ (0.1)	\$ (0.6)	\$ -	\$ -	\$ -
% Change		-1%	-6%	0%	0%	0%
Other Leases	\$ 8.8	\$ 9.2	\$ 9.1	\$ 9.3	\$ 9.4	\$ 9.5
Change		\$ 0.3	\$ -	\$ -	\$ -	\$ -
% Change		3%	0%	0%	0%	0%
Total Upland Leases	\$ 41.9	\$ 37.2	\$ 37.0	\$ 37.8	\$ 38.3	\$ 38.4
Change		\$ 0.3	\$ -	\$ -	\$ -	\$ -
% Change		1%	0%	0%	0%	0%
Aquatic Lands	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19
Aquatic Leases	\$ 10.5	\$ 10.9	\$ 10.4	\$ 10.9	\$ 11.0	\$ 11.1
Change		\$ 0.3	\$ (0.5)	\$ (1.0)	\$ (1.2)	\$ (1.1)
% Change		2%	-4%	-8%	-10%	-9%
Geoduck	\$ 22.1	\$ 20.1	\$ 18.6	\$ 18.4	\$ 18.9	\$ 19.4
Change		\$ 0.4	\$ (2.4)	\$ (0.7)	\$ (0.7)	\$ (0.8)
% Change		2%	-11%	-4%	-4%	-4%
Aquatic Lands Revenue	\$ 32.7	\$ 31.0	\$ 29.0	\$ 29.3	\$ 29.9	\$ 30.5
Change		\$ 0.7	\$ (2.8)	\$ (1.7)	\$ (1.9)	\$ (1.8)
% Change		2%	-9%	-5%	-6%	-6%
Total All Sources	\$ 226.6	\$ 216.5	\$ 276.9	\$ 263.3	\$ 255.8	\$ 253.6
Change		\$ (16.1)	\$ (6.2)	\$ 16.0	\$ (5.5)	\$ (3.9)
% Change		-7%	-2%	6%	-2%	-2%

Table 2: June 2015 Forecast by Fund (millions of dollars)

Management Funds		FY 14	FY 15	FY 16	FY 17	FY 18	FY 19
041	RMCA - Uplands	\$ 33.2	\$ 28.7	\$ 38.7	\$ 38.1	\$ 37.4	\$ 38.0
	Change		\$ (3.2)	\$ (2.4)	\$ 1.0	\$ (1.1)	\$ (0.3)
	% Change		-10%	-6%	3%	-3%	-1%
041	RMCA - Aquatic Lands	\$ 14.8	\$ 14.0	\$ 12.9	\$ 13.0	\$ 13.3	\$ 13.6
	Change		\$ 0.3	\$ (1.4)	\$ (0.7)	\$ (0.8)	\$ (0.7)
	% Change		2%	-9%	-5%	-5%	-5%
014	FDA	\$ 19.6	\$ 21.3	\$ 28.7	\$ 26.0	\$ 24.5	\$ 24.1
	Change		\$ (1.1)	\$ 1.8	\$ 3.6	\$ 0.1	\$ (0.3)
	% Change		-5%	7%	16%	0%	-1%
Total Management Funds		\$ 67.6	\$ 64.0	\$ 80.3	\$ 77.2	\$ 75.2	\$ 75.7
	Change		\$ (4.0)	\$ (1.9)	\$ 3.9	\$ (1.8)	\$ (1.3)
	% Change		-6%	-2%	5%	-2%	-2%
Current Funds		FY 14	FY 15	FY 16	FY 17	FY 18	FY 19
113	Common School Construction	\$ 56.6	\$ 49.1	\$ 68.3	\$ 67.3	\$ 67.4	\$ 67.4
	Change		\$ (6.2)	\$ (3.6)	\$ 2.2	\$ (1.6)	\$ (0.5)
	% Change		-11%	-5%	3%	-2%	-1%
999	Forest Board Counties	\$ 52.0	\$ 57.6	\$ 73.6	\$ 67.3	\$ 61.7	\$ 59.1
	Change		\$ (3.4)	\$ 1.6	\$ 9.2	\$ 0.5	\$ (0.7)
	% Change		-6%	2%	16%	1%	-1%
001	General Fund	\$ 2.2	\$ 2.1	\$ 3.6	\$ 3.2	\$ 3.5	\$ 3.9
	Change		\$ 0.1	\$ 0.8	\$ 0.4	\$ (0.1)	\$ (0.0)
	% Change		6%	30%	15%	-3%	-1%
348	University Bond Retirement	\$ 1.8	\$ 2.6	\$ 2.1	\$ 1.8	\$ 2.5	\$ 2.0
	Change		\$ (0.2)	\$ (0.4)	\$ 0.1	\$ (0.1)	\$ (0.0)
	% Change		-7%	-16%	3%	-5%	-1%
347	WSU Bond Retirement	\$ 1.7	\$ 1.7	\$ 1.7	\$ 1.7	\$ 1.7	\$ 1.7
	Change		\$ 0.0	\$ 0.0	\$ -	\$ -	\$ -
	% Change		1%	2%	0%	0%	0%
042	CEP&RI	\$ 5.5	\$ 3.3	\$ 5.4	\$ 4.5	\$ 4.3	\$ 4.5
	Change		\$ (0.9)	\$ (0.8)	\$ (0.4)	\$ (0.5)	\$ (0.0)
	% Change		-21%	-13%	-9%	-11%	-1%
036	Capitol Building Construction	\$ 6.7	\$ 5.1	\$ 7.7	\$ 8.9	\$ 9.1	\$ 8.7
	Change		\$ (0.8)	\$ (0.5)	\$ 0.7	\$ 0.1	\$ (0.1)
	% Change		-14%	-6%	9%	1%	-1%
061/3/5/6	Normal School (CWU, EWU, WWU, TESC)	\$ 0.2	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1
	Change		\$ 0.0	\$ 0.0	\$ -	\$ -	\$ -
	% Change		1%	3%	0%	0%	0%
Other Funds		\$ 1.5	\$ 0.6	\$ 0.0	\$ 0.0	\$ 0.1	\$ 0.2
	Change		\$ (0.0)	\$ 0.0	\$ (0.0)	\$ (0.0)	\$ (0.0)
	% Change		0%	21%	0%	-1%	-1%
Total Current Funds		\$ 128.1	\$ 122.3	\$ 162.4	\$ 154.9	\$ 150.5	\$ 147.6
	Change		\$ (11.4)	\$ (2.9)	\$ 12.2	\$ (1.7)	\$ (1.4)
	% Change		-9%	-2%	9%	-1%	-1%
(Continued)							

Table 3: June 2015 Forecast by Fund (millions of dollars), cont'd

		FY 14	FY 15	FY 16	FY 17	FY 18	FY 19
02R	Aquatic Lands Enhancement Account	\$ 17.9	\$ 17.0	\$ 16.1	\$ 16.3	\$ 16.6	\$ 16.9
	Change		\$ 0.4	\$ (1.5)	\$ (1.0)	\$ (1.1)	\$ (1.1)
	% Change		2%	-8%	-6%	-6%	-6%
Permanent Funds							
601	Agricultural College Permanent	\$ 3.5	\$ 4.3	\$ 7.8	\$ 5.3	\$ 4.1	\$ 4.2
	Change		\$ (1.4)	\$ 0.5	\$ 1.0	\$ (0.2)	\$ (0.0)
	% Change		-25%	7%	22%	-4%	-1%
604	Normal School Permanent	\$ 1.8	\$ 1.8	\$ 2.9	\$ 3.4	\$ 3.3	\$ 3.0
	Change		\$ 0.0	\$ (0.4)	\$ (0.7)	\$ (0.5)	\$ (0.0)
	% Change		2%	-12%	-17%	-14%	-1%
605	Common School Permanent	\$ 0.4	\$ 0.3	\$ 0.3	\$ 0.3	\$ 0.3	\$ 0.3
	Change		\$ -	\$ -	\$ -	\$ -	\$ -
	% Change		0%	0%	0%	0%	0%
606	Scientific Permanent	\$ 6.1	\$ 6.7	\$ 6.4	\$ 5.4	\$ 5.2	\$ 5.4
	Change		\$ 0.3	\$ (0.2)	\$ 0.5	\$ (0.1)	\$ (0.1)
	% Change		5%	-3%	11%	-2%	-1%
607	University Permanent	\$ 1.1	\$ 0.2	\$ 0.6	\$ 0.6	\$ 0.6	\$ 0.6
	Change		\$ (0.0)	\$ 0.1	\$ 0.0	\$ (0.0)	\$ (0.0)
	% Change		-11%	31%	9%	-4%	-1%
Total Permanent Funds		\$ 13.0	\$ 13.2	\$ 18.1	\$ 15.0	\$ 13.5	\$ 13.5
	Change		\$ (1.1)	\$ (0.0)	\$ 0.8	\$ (0.8)	\$ (0.2)
	% Change		-8%	0%	6%	-6%	-1%
		FY 14	FY 15	FY 16	FY 17	FY 18	FY 19
Total All Funds		\$ 226.6	\$ 216.5	\$ 276.9	\$ 263.3	\$ 255.8	\$ 253.6
	Change		\$ (16.1)	\$ (6.2)	\$ 16.0	\$ (5.5)	\$ (3.9)
	% Change		-7%	-2%	6%	-2%	-2%