Department of Natural Resources

Economic & Revenue Forecast

Fiscal Year 2025, Third Quarter
March 2025

Forecast Summary

Lumber and Log Prices. Since the beginning of 2023, lumber prices have remained relatively stable and lower than the prior years, staying in between $370/mbf and $490/mbf (with one exception in December 2024, when it jumped above $500/mbf), with an average of $436/mbf.

Log prices generally trend with lumber prices, but the relationship is not one-to-one. Since the beginning of 2023, log prices have remained in a relatively narrow range - from around $610/mbf to $660/mbf. This is higher than most periods in the last 20 years in nominal terms, though not in real terms.

The outlook for both log and lumber prices is uncertain, even in the relatively short term. As discussed at the end of this forecast summary, there are multiple policies that have been enacted or proposed that could have meaningful effects on both lumber and log prices. While this policy uncertainty exists, we expect there to be meaningful volatility in lumber prices in particular. However, log prices are typically bounded on the low end because timberland owners can usually wait to harvest until prices get better. To that end, if nothing changes, we expect log prices to remain in their current range for the remainder of the calendar year.

Timber Sales Volume. The FY 25 timber sales volume forecast is reduced from 480 mmbf to 430 mmbf. This is due to a pause on timber sales with certain forest characteristics. The pause covers around 80 mmbf of sales, but the reduction in forecast volume is 50 mmbf because previous forecasts had built in risks from no-bid and legal challenges, so those forecasts were well below the planned sales volumes.

Historically, a buffer of around 10 percent of planned sales volume has been adequate to account for the typical risks to sales. However, for the last several years there has been increased opposition to DNR timber sales, both through challenges to sale approval and through lawsuits. Given these continued challenges, the FY 26 sales volume forecast is reduced to 470 mmbf. This vol-

ume does not include any of the FY 25 sales that have been paused — there is no assumption that they will be moved into FY 26 or any of the outlying years.

Timber Sales Prices.

The forecast timber sales price for FYs 25 is increased from $340/mbf to $375/mbf. This substantial increase is due to the very high prices from sales from November 2024 through January 2025. The sales in those three months were heavily weighted toward high value timber, while those in the rest of the year were comparatively lower value. The previous forecast price was unchanged, assuming that those higher and lower prices would balance each other out. However, the sales value for Nov-Jan sales was much higher than expected, bringing the average price of sales for the year up from around $340/mbf to over $410/mbf.

It is likely that this increase is still too small. To reach this new forecast price, the remaining auctions would need to average around $310/mbf. While writing this forecast document, the February timber auction occurred, with an average price of $346/mbf.

The FY 26 sales price forecast is unchanged at $340/mbf. This is lower than the outlying years because the reduced sales volume forecast is from sales that are typically higher value. Fewer high value sales will tend to reduce the average sales price.

Outlying years' prices are unchanged at the long-term average of $350/mbf. This is based on the assumption that current opposition to DNR sales will resolve in such a way that prices will return to their long term average. This may be optimistic.

Timber Removal Volume and Prices.

Harvests on DNR lands were slower than expected throughout FY 24. This was apparently largely due to readily available private logs, though weather issues likely contributed as well.

This has continued in FY 25, where harvests to-

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date are much lower than we expected — totaling only 207 mmbf through January. For context, this is the lowest volume harvested through January since at least FY 15, and possibly even longer. Because of this, the FY 25 harvest volume forecast is reduced substantially, to 435 mmbf. To be clear, this is entirely unconnected to the pause on some types of timber sales.

Forecast removal volumes in FY 26 and 27 are also reduced, to 450 mmbf and 475 mmbf respectively. We have updated the outlying years' harvest forecast to be based on sales in the previous three years.

Forecast timber removal prices are increased in FYs 25 through 27, due to both an increase in the value of timber harvested in FY 25 and due to the increase in sales price in that year.

Timber Revenue. The timber revenue forecast is reduced for FY 25 through 27 due to the decrease in harvest volumes outweighing the increase in harvest prices.

Non-Timber Uplands Revenues. In addition to revenue from timber removals on state-managed lands, DNR generates sizable revenues from managing leases on other uplands.

Overall, non-timber uplands revenue is accruing in line with expectations and revenues are on track to meet the forecast for the fiscal year. There have been no significant fluctuations during the last quarter in non-timber uplands revenue accruals. Only two minor adjustments have been made: a small decrease for communications and for minerals and hydrocarbons.

Communications revenue is expected to be $5.9 million, slightly below the previously forecasted $6 million for FY 25. While the revenue accrual to date is on track with the forecast, staffing challenges have led to a slight slowdown in the implementation of lease escalations and execution of new lease contracts. This is expected to resolve by FY 26.

Minerals and Hydrocarbons revenue forecast for FY 25 is reduced by $0.1 million from the previous optimistic $2.2 million forecast. In FY 28, two contracts are winding down which will result in about $0.4 million revenue reduction until new contracts come online. The lead time for executing new contracts in this industry is typically lengthy and uncertain, and we are conservatively forecasting a gap period in FY 28.

Aquatic Revenues. Non-water dependent rent forecast is increased by $0.3 million. Revenue accruals have been above expectations to date and we are tracking to generate significantly more than the $5.8 million that was previously forecasted.

The revenue forecast for water dependent rents is also increased by $0.3 million for FY 25. Revenues have accrued about $0.3 million over what is expected at this point in the year. This is largely due to a back-payment on rent and is a one-time increase for FY 25 only.

Revenue forecasts for aquaculture, easements, and other rents remain unchanged.

The geoduck revenue for FY 24 is notably higher than the surrounding years because bonus bid revenue that had been expected in FY 23 was shifted into FY 24.

Geoduck revenue for this forecast is decrease by $1 million based on lower than expected prices in the December 2024 auction. The December auction was much lower than we had expected. During that auction, there was discussion of both arsenic issues on some tracts and the possibility of reciprocal tariffs with China, which had caused a significant drop in geoduck prices in 2019. On consultation with the program it appeared that the arsenic issues were the actual driver of lower prices. As a result, we left the price forecast unchanged.

However, it appears that may not have been correct. The average price in the March auction, which occured as this report was being drafted, was only slightly higher than the December auction. From the beginning of FY 22 to the auction in September 2024 (the first auction of FY 25) the average geoduck auction price was $11.32/lb — with some lone auctions being significantly higher or lower, as is normal for geoduck. Geoduck

prices can vary significantly between auctions, but when there are auctions with a big change, the next auction often shows a change in the other direction. While it's certianly not conclusive, lower prices two auctions in a row suggests that there is a new, lower average price that purchasers are targeting.

As usual, geoduck revenue faces a number of risks that can cause it to vary wildly. In addition to what is discussed above, these include

- paralytic shellfish poison closures

- weather issues - such as sewage contamination from flooding run-off

- China's economic performance overall

Total Revenues. The forecast revenue for the 2023-25 biennium is decreased by $10.4 million to $500.5 million, while the 2025-27 biennium is decreased by $10.2 million to $489.4 million.

Other notes to the Forecast.

Since the last forecast, there is a new Commissioner for Public Lands (CPL) and a new President of the United States. The change in policies with these new administrations will likely affect revenue.

First, the new Commissioner, Dave Upthegrove, implemented a six-month pause on timber sales on select mature forests which has impacted 23 sales initially planned for FY 25. While the impact of this pause is relatively clear for FY 25, and is discussed earlier, there is still uncertainty about what will happen in FY 26 and beyond when the pause period is over. While we assume that none of the paused sales will be brought to auction in the forecast horizon, it is possible that some of the paused sales will be restructured and brought to auction in FY 26. This represents a potential upside to the FY 26 volume forecast. However, there is also the possibility that the Product Sales and Leasing team will have difficulty finding enough sales without the paused forest types, creating a downside risk for the FY 26 volume. There will be more clarity on the revenue impacts of this pause in the next quarter.

Second, at the federal level, there have been a number of sudden, meaningful changes to policy. This first major change has been the introduction of 25 percent tariffs on both Canada and Mexico. These were announced at the beginning of February, but were delayed until the beginning of March. After the tariffs were initially announced, CINTRAFOR, the Center for International Trade in Forest Products, produced a quick modeling exercise that estimated the effects. They found that lumber and log prices were likely increased in the US.

As of the writing of this forecast, all or parts of these tariff's have been delayed for an indeterminant period of time.

More recently, on March 1st, there were two executive orders signed that are focused on increasing timber harvest from federal lands and decreasing timber and lumber imports. Increasing the harvests off federal lands would increase the supply of logs on the market and likely supress prices. However, it is unclear how readily these harvests will be increased, given the legal constraints and the lack of available labor to prepare sales — at this point, around 3,400 USFS foresters have been fired and news reports suggest that there will be more USFS positions eliminated soon.

The final policy change of the new U.S. Presidential administration has been a "mass" deportation program. Lumber prices are largely driven by demand - primarily from homebuilding. By one estimate, around 14 percent of the construction workforce is undocumented immigrants, so large scale deportations could seriously limit labor supply for the industry - which would also limit homebuilding, and lumber demand, which would tend to push prices down. Additionally, a large portion of the agricultural labor force are undocumented immigrants as well.

To date, these policy changes do not appear to have directly impacted timber, geoduck, or Washington's agriculture sector in a broad way — though the cash lumber prices on the CBOE have increased markedly. Even so, the uncertainty surrounding federal policies, regulations, and the role of federal agencies still looms over the fore-

cast both in the short and long term.

Given the uncertainties around the policy environment, previous forecasts were made based on the most likely scenarios with a reasonable degree of certainty, with a bias toward the status-quo where there is significant uncertainty.

There are, as always, a number of other sources of uncertainty around DNR revenue specifically, and the overall economy more broadly. These include:

- uncertainty about the type and quality of stumpage DNR is able to bring to market more than six months out; and

- political tension with China directly affecting timber, agricultural products and geoduck exports and price.

Finally, climate change has emerged as a meaningful short- and long-term risk as opposed to an amorphous risk in the far future, as previously rare extreme weather events become more common. In 2021, drought in Washington decreased wheat production on DNR lands by about 40 percent. In September and October 2021, extraordinary rainfall in British Columbia destroyed roads and railways, essentially halting timber harvests, lumber production, and timber exports through the Port of Vancouver. In mid-June 2022, there was concurrently: massive flooding in Montana and Wyoming, thunderstorms that took out power-grids in the Great Lakes, and a record setting heat-wave that killed over 2,000 cattle in Kansas[1].

Climate change will increasingly affect Washington's fire seasons — drought and rising temperatures dry out fuels fast, leaving conditions ripe for wildfires to begin earlier in the year, burn longer, and spread more unpredictably than in the past. Although these haven't seriously affected DNR timberland revenue since 2015, they pose a significant risk to both our short-term timber revenue forecast — potentially destroying standing timber under contract — and long-term revenue by destroying younger stands that would be harvested in future decades. Research suggests that the massive fires in Oregon around Labor Day 2020 caused not only immediate damage, but will reduce future Oregon harvests by *115 to 365 mmbf per year for the next 40 years*. That, with the more immediate damage from the fires, suggests an overall economic impact of $5.9 billion on Oregon's Forest Sector[2].

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[1] https://www.washingtonpost.com/climate-environment/2022/06/16/summer-climate-disasters/

[2] 2020 Labor Day Fires: Economic Impacts to Oregon's Forest Sector, Oregon Forest Resources Institute ''https://oregonforests.org/node/840''

Table 1: March 2025 Forecast by Source (millions of dollars)

Timber Sales		FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29
Volume (mmbf)		552	546	429	477	397	430	470	500	500	500
	Change						(50)	(10)	-	-	-
	% Change						-10%	-2%	0%	0%	0%
Price ($/mbf)		282	393	419	389	346	375	340	350	350	350
	Change						$ 35	$ -	$ -	$ -	$ -
	% Change						10%	0%	0%	0%	0%
Value of Timber Sales		**155.3**	**214.2**	**179.7**	**185.6**	**137.5**	**161.3**	**159.8**	**175.0**	**175.0**	**175.0**
	Change						$ (1.9)	$ (3.4)	$ -	$ -	$ -
	% Change						-1%	-2%	0%	0%	0%
Timber Removals											
Volume (mmbf)		526	521	491	508	471	435	450	475	500	500
	Change						(55)	(40)	(25)	-	-
	% Change						-11%	-8%	-5%	0%	0%
Price ($/mbf)		347	342	363	386	383	361	362	350	348	350
	Change						21.6	21.0	7.2	0.1	-
	% Change						6%	6%	2%	0%	0%
Timber Revenue		**182.3**	**178.2**	**178.5**	**196.1**	**180.3**	**157.0**	**162.8**	**166.4**	**173.7**	**175.0**
	Change						(9.2)	(4.0)	(5.3)	0.0	-
	% Change						-6%	-2%	-3%	0%	0%
Upland Leases											
Irrigated Agriculture		9.0	8.8	8.9	9.3	8.9	9.0	9.0	9.0	9.0	9.0
	Change						-	-	-	-	-
	% Change						0%	0%	0%	0%	0%
Orchard/Vineyard		8.8	9.4	8.2	9.4	8.4	9.7	8.4	8.4	8.4	8.4
	Change						-	-	-	-	-
	% Change						0%	0%	0%	0%	0%
Dryland Ag/Grazing		6.2	6.8	6.0	7.0	6.2	6.1	6.1	6.1	6.1	6.1
	Change						-	-	-	-	-
	% Change						0%	0%	0%	0%	0%
Commercial		10.3	11.3	11.2	11.1	9.7	10.6	11.2	11.2	11.2	11.2
	Change						-	(0.2)	(0.4)	(0.4)	(0.4)
	% Change						0%	-2%	-3%	-3%	-3%
Other Leases		10.0	13.7	11.9	12.3	12.3	11.8	11.8	12.0	11.8	12.0
	Change						(0.2)	(0.2)	(0.2)	(0.5)	(0.5)
	% Change						-2%	-1%	-1%	-4%	-4%
Total Upland Leases		**44.3**	**50.0**	**46.3**	**49.1**	**45.4**	**47.2**	**46.5**	**46.7**	**46.5**	**46.7**
	Change						(0.2)	(0.4)	(0.6)	(0.9)	(0.9)
	% Change						0%	-1%	-1%	-2%	-2%
Aquatic Lands											
Aquatic Leases		12.7	9.7	14.5	14.5	15.0	15.1	14.5	14.5	14.6	14.6
	Change						-	-	-	-	-
	% Change						0%	0%	0%	0%	0%
Geoduck		10.6	13.0	19.2	18.3	22.4	18.2	19.1	18.9	18.7	18.6
	Change						(1.0)	-	-	-	-
	% Change						-5%	0%	0%	0%	0%
Aquatic Lands Revenue		**23.4**	**22.6**	**33.8**	**32.8**	**37.3**	**33.3**	**33.6**	**33.4**	**33.3**	**33.2**
	Change						(1.0)	-	-	-	-
	% Change						-3%	0%	0%	0%	0%
Total All Sources		**249.9**	**250.8**	**258.6**	**278.0**	**263.0**	**237.5**	**242.9**	**246.4**	**253.5**	**254.9**
	Change						(10.4)	(4.4)	(5.8)	(0.8)	(0.9)
	% Change						-4%	-2%	-2%	0%	0%

Table 2: March 2025 Forecast by Fund (millions of dollars)

Key DNR Operating Funds		FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29
041	RMCA - Uplands	33.5	33.5	38.1	44.1	40.9	37.0	38.3	38.7	39.7	39.9
	Change						(2.7)	(1.0)	(0.9)	(0.2)	(0.2)
	% Change						-7%	-2%	-2%	-1%	-1%
041	RMCA - Aquatic Lands	9.9	10.2	14.8	14.3	16.5	14.4	14.6	14.5	14.5	14.4
	Change						(0.5)	-	-	-	-
	% Change						-3%	0%	0%	0%	0%
014	FDA	28.3	27.2	23.9	19.3	19.4	19.2	19.3	20.1	21.2	21.4
	Change						0.3	(0.6)	(0.8)	(0.0)	(0.0)
	% Change						2%	-3%	-4%	0%	0%
21Q	Forest Health Revolving	8.5	11.4	14.1	24.4	14.1	9.7	9.0	10.4	10.7	10.7
	Change						(0.3)	(0.6)	(0.2)	-	-
	% Change						-3%	-6%	-2%	0%	0%
Total DNR Key Operating Funds		**80.3**	**82.4**	**90.9**	**102.2**	**90.9**	**80.2**	**81.2**	**83.7**	**86.1**	**86.5**
	Change						(3.2)	(2.1)	(2.0)	(0.3)	(0.3)
	% Change						-4%	-3%	-2%	0%	0%

Current Funds		FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29
113	Common School Construction	59.5	53.2	57.6	67.3	63.5	59.2	62.3	63.7	65.7	66.0
	Change						(5.8)	(2.2)	(1.8)	(0.4)	(0.4)
	% Change						-9%	-3%	-3%	-1%	-1%
999	Forest Board Counties	68.7	69.5	53.6	46.2	42.8	47.4	46.4	48.8	52.0	52.4
	Change						(0.3)	(3.1)	(2.4)	(0.0)	(0.1)
	% Change						-1%	-6%	-5%	0%	0%
001	General Fund	4.7	4.4	5.5	4.3	4.6	3.3	4.1	3.5	3.4	3.4
	Change						0.4	1.1	0.2	(0.0)	(0.0)
	% Change						12%	37%	7%	0%	0%
348	University Bond Retirement	0.6	1.6	2.6	2.9	1.9	3.5	2.2	1.9	1.9	1.9
	Change						0.9	0.2	0.0	(0.0)	(0.0)
	% Change						32%	8%	0%	0%	0%
347	WSU Bond Retirement	1.9	2.6	1.6	2.0	1.8	1.7	1.6	1.6	1.7	1.7
	Change						(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
	% Change						-1%	-1%	-1%	-1%	-1%
042	CEP&RI	3.6	2.2	3.7	5.8	5.9	4.2	4.6	4.5	4.4	4.4
	Change						(0.8)	(0.1)	(0.0)	(0.1)	(0.1)
	% Change						-17%	-1%	-1%	-3%	-3%
036	Capitol Building Construction	4.4	7.7	6.0	11.8	12.1	7.4	7.3	7.4	7.4	7.5
	Change						(0.1)	(0.0)	(0.0)	(0.0)	(0.0)
	% Change						-1%	0%	0%	0%	0%
061/3/5/6	Normal (CWU, EWU, WWU, TESC) School	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Change						-	-	-	-	-
	% Change						0%	0%	0%	0%	0%
Other Funds		1.1	0.6	0.1	0.1	0.2	0.2	0.3	0.1	0.1	0.1
	Change						0.1	0.2	0.0	0.0	-
	% Change						119%	165%	17%	0%	0%
Total Current Funds		**144.7**	**141.9**	**130.8**	**140.5**	**132.9**	**127.1**	**129.1**	**131.8**	**136.7**	**137.6**
	Change						(5.7)	(4.0)	(4.1)	(0.6)	(0.6)
	% Change						-4%	-3%	-3%	0%	0%

(Continued)

Aquatic Lands Enhancement Account	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29
02R	13.5	12.4	19.0	18.5	20.9	18.9	19.0	18.9	18.8	18.8
Change						(0.5)	-	-	-	-
% Change						-3%	0%	0%	0%	0%
Permanent Funds										
601 Agricultural College Permanent	5.4	5.7	3.9	6.8	4.7	4.0	5.5	4.2	3.8	3.9
Change						(0.9)	1.5	0.4	0.0	-
% Change						-17%	36%	9%	0%	0%
604 Normal School Permanent	2.6	2.8	4.0	2.6	7.3	1.1	1.9	2.3	2.6	2.7
Change						(0.1)	(0.3)	(0.2)	0.0	-
% Change						-9%	-15%	-7%	0%	0%
605 Common School Permanent	0.2	0.4	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Change						-	-	-	-	-
% Change						0%	0%	0%	0%	0%
606 Scientific Permanent	3.1	4.9	9.3	5.2	3.9	5.2	4.9	4.5	4.6	4.6
Change						(0.1)	0.1	(0.1)	0.0	-
% Change						-2%	3%	-2%	0%	0%
607 University Permanent	0.1	0.3	0.5	2.1	1.0	0.6	1.0	0.6	0.5	0.5
Change						0.0	0.5	0.1	0.0	-
% Change						10%	88%	26%	0%	0%
Total Permanent Funds	**11.4**	**14.2**	**17.8**	**16.9**	**17.1**	**11.3**	**13.7**	**12.1**	**11.9**	**12.0**
Change						(1.0)	1.7	0.2	0.0	-
% Change						-8%	14%	2%	0%	0%
Total All Funds	**249.9**	**250.8**	**258.6**	**278.0**	**261.8**	**237.5**	**242.9**	**246.4**	**253.5**	**254.9**
Change						(10.4)	(4.4)	(5.8)	(0.8)	(0.9)
% Change						-4%	-2%	-2%	0%	0%

Figure 1: Timber Forecast Charts

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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 State 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
ITC   U.S. International Trade Commission

mbf   Thousand board feet
mmbf   Million board feet
PSP   Paralytic shellfish poisoning
PPI   Producer Price Index
Q1   First quarter of year (similarly, Q2, Q3, and Q4)
QE   Quantitative easing

RCW   Revised Code of Washington
RMCA   Resource Management Cost Account
SA   Seasonally adjusted
SAAR   Seasonally adjusted annual rate
SLA   Softwood Lumber Agreement

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* 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 ongoing changes. Forecasts discuss world and national macroeconomic conditions, and the demand and supply for forest products and other goods. Finally, each Forecast 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 influenced 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 2025 through 2029. Fiscal years for Washington State government begin July 1 and end June 30. For example, the current fiscal year, Fiscal Year 2025, runs from July 1, 2024, through June 30, 2025.

The baseline date (the point that designates the transition from "actuals" to predictions) for DNR revenues in this Forecast is January 1, 2025. 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 January 2025. 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.

Economic Forecast Calendar

Forecast	Baseline Date	Final Data and Publication Date (approximate)
June 2025	May 1, 2025	June 25, 2025
September 2025	August 1, 2025	September 25, 2025
November 2025	October 1, 2025	November 25, 2025
February 2026	January 1, 2026	February 25, 2026

Acknowledgements

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 and geoduck auctions and lease revenues from managed lands.

Changes to Federal Policy

In the November forecast we knew that there would be a new Presidential administration, but like many political changes, it was unclear how campaign promises would translate into actual policy. Like many others we took a "wait and see" approach, with a bias toward the status quo.

However, there have been several major policy changes implemented at the federal level that have potentially significant implications across the economy and some for specific markets that DNR operates in. To make it easier for the reader, these are collected and reviewed here. We only cover those we think will most likely effect DNR revenue, but there have been many changes in the past month and a half so we may have missed some. Additionally, these changes have not yet driven a change in the forecast, however, they represent potentially substantial risks to the forecast in the future.

The four policies include:

- increased tariffs
- increased harvest from Federal forest lands
- significant layoffs from the U.S. Forest Service
- "mass" deportations

Tariffs

The first policy change is a significant increase in the tariff levels with the U.S.'s major trading partners. The Presidential administration announced

25 percent tariffs on both Canada and Mexico, the U.S.'s largest trading partners with a bit over 30 percent of the total trade volume, and 10 percent tariffs on China, which has another 11 percent of trade volume. Both Canada and Mexico have already made moves to enact reciprocal tariffs and other trade actions.

This could affect the forecast in a number of ways:

- lowering GDP by increasing costs
- increasing demand for local wood products
- increasing inflation

Tariffs are a tax on imports, increasing their price. The increased prices drive purchasers to look for cheaper alternatives and the common rationale for tariffs is that they will buy the same goods from domestic producers.

Tariffs are frequently likened to a tax increase, and indeed, modelling form the Peterson Institute suggests that the proposed tariffs and reciprocation will cost the typical U.S. household around $1,200 per year[3]. The increased cost means that, outside of any other changes, consumers will purchase less overall. Consumption is the primary driver of GDP growth in the U.S., so this drop in consumption could end up hindering the entire economy.

However, it appears the effects of tariffs and reciprocal tariffs on GDP will likely be fairly small, cutting between 0.2 and 0.3 percentage points off of U.S. GDP[4].

There is significant wood products trade with Canada. So, one might expect an increase in U.S. wood products' output, since imports will be more expensive, and that wood products' output would unambiguosly increase. However, Modelling from CINTRAFOR suggests that there would only be very small changes to the wood products sector's output. For instance, they show about a 0.2 percent increase in log output and a 0.04 percent de-

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[3]`https://www.piie.com/research/piie-charts/2025/trumps-tariffs-canada-mexico-and-china-would-cost-typical-us-ho`
[4]Based on modelling using GTAP (`https://www.gtap.agecon.purdue.edu/models/current.asp`) from both CINTRAFOR and The Brookings Institute (`https://www.brookings.edu/articles/trumps-25-tariffs-on-canada-and-mexico-will-be-a-blow-to-all-3-economies/`).

crease in softwood lumber output. Ultimately, it looks like the effects will be:

- lower demand overall, due to the higher prices

- higher demand for domestic wood products, to replace the imports

- a decrease in exports

Finally, broad based tariffs are inflationary because they increase the price of everything. Brookings Institute modeling suggests that the tariffs and their reciprocation will push up U.S. inflation by 0.77 percentage points.

As of the drafting of this forecast, there have been three recent changes that could change the calculus above. First, it appears that there are plans for increases specifically on Canadian lumber. Second, it looks like Canada has plans for a more wide-ranged response than simply reciprocal tariffs. For instance, it appears that they have levied additional taxes on electricity sales to the midwest, which will further fuel inflation, and have stopped alcohol purchases. Third, it *appears* that lumber has been excluded from the tariffs until April.

Increased Federal Harvests and Decreased USFS Workforce

On March 1st, the administration enacted two executive orders (EO), one to increase the amount of timber harvested from federal lands and one to decrease the amount of wood product imports. The EO regarding imports will likely have a similar effect as the tariffs — i.e. increasing the price of wood products. However, the other EO suggests that the administration is trying to limit the price effect by increasing the amount of timber harvested from federal lands.

Currently, it is unclear how much harvets would increase off of federal lands or how they would be increased in the current legal frameworks that govern them. However, it looks as though the administration is looking to significantly increase the harvests sometime between six months and a year.

Another issue that may undermine this EO is the recent reduction in the USFS workforce, and the plan for further reductions. In mid-February, around 3,400 USFS employees were fired, a significant reduction as the USFS had around 35,000 staff prior. There are reports of plans to fire an additional 7,000. Together these could amount to a total reduction of around 30 percent of the USFS workforce. It is unclear how the USFS would be able to increase the sales from forest service land with so many fewer employees.

Having said all that, an increase in the amount of timber available would have an opposite effect to some of the tariffs in that it would increase the supply of logs on the market and push down the price of logs. However, how that would affect lumber markets is unclear. Currently, lumber production on the West Coast is near capacity, so any increases in domestic demand could show up as sudden increases in lumber price, though this wouldn't necessarily translate into log prices.

Increased Deportations

The final policy change has been a promise of "mass" deportations of undocumented immigrants. Outside of tariffs and supply issues, lumber prices are typically driven by demand - primarily home building and renovations, which consume around 70 percent of the wood products in the U.S. By one estmate, around 14 percent of the construction workforce is undocumented immigrants. So large scale deportations could seriously limit labor supply for the industry — which would also limit homebuilding, push up house prices, and limit lumber demand. This would tend to push down lumber prices.

Log prices tend to move with lumber prices (though not in a one-to-one way), so this could reduce log prices.

Additionally, a large portion of the agricultural labor force are undocumented immigrants as well. A reduction in agricultural labor force will tend to push up the industries costs and the cost of their outputs.

Federal Policy Changes Summary

While all of these policy changes may affect DNR revenue, several of them push in different directions and it is not clear which of them will dominate. So, to summarize the risks to DNR revenue and the foreast:

- tariffs will tend to push up log prices

- increased logging from federal lands will tend to push down log prices

- the reduction in USFS workforce may limit the capacity to increase logging on federal lands

- increased deportations could increase house prices at the same time as limiting lumber, and therefore log, demand

There are potentially many more complications to the above discussion. For instance, the potential for tariffs to increase inflation, encouraging the Fed to increase interest rates, depressing demand for housing, etc.

U.S. Economy

Gross Domestic Product

Typically, GDP is a useful indicator of how the U.S. economy is growing overall. When GDP is increasing, then generally there will be an increase in jobs, spending, and overall economic welfare. This often includes growth in housing spending and construction, which influences timber prices and DNR's income from timber. It is a useful indicator of how other, more directly relevant indicators may move in the future.

Figure 4: U.S. Gross Domestic Product
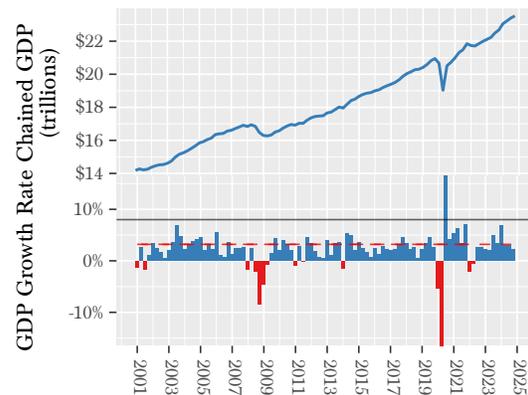
Note that the y-axis of the bottom chart is limited to 15 percent because the Q2 and Q3 2020 GDP growth are such outliers that they distort the chart.

After falling 2.8 percent in 2020 due to the onset of the COVID-19 pandemic, GDP increased in 2021 by 5.9 percent. This was very rapid growth that was largely due to a rebound from the contraction due to the pandemic, as well as the fiscal and monetary policies enacted in response to the pandemic. GDP growth slowed to 2.1 percent in 2022. GDP growth for the 2023 calendar year was consistently higher than expected. At the beginning of the year, most analysts were expecting increasing interest rates to constrain growth and were relatively pessimistic about the year. Most forecasts were for average growth consistent with the FOMC's December 2022 Central Tendency of 0.4-1.0 percent - including a small recession in the latter half of the year. However, there was no recession and real GDP grew 2.5 percent for the year.

GDP growth for the 2024 calendar year remained positive, and relatively high, with real GDP up 2.8 percent for the year. Looking forward into calendar year 2025, the Federal Open Market Committee (FOMC) forecasted real GDP to grow between 1.8 and 2.2 percent during the December 2024 meetings.

As of the November forecast, it appeard that ana-

lysts were taking a "wait and see" outlook for 2025 where, barring any significant outside events, the U.S. real GDP was projected to grow in a business as usual manner— with an apparent baseline assumption that actual policies the new Presidential administration implemented would not undermine economic growth.

However, as noted in the summary above, the new administration has implemented several significant policy changes that are likley to negatively affect GDP and analysts have downgraded both their Q1 and full year estimates of GDP growth. An outright recession is still deemed unlikely by most analysts, though stated probabilities seem to be ranging between 20 to 50 percent. Many analysts are still expecting that tariffs and other potentially negative policies will not end up being implemented — at all or not for the long term — because of the overall negative effects on business.

Employment and Wages

The labor market is the primary driving force behind consumption, which typically constitutes about 70 percent of GDP and naturally extends to the demand for housing, the major driver of U.S. timber demand. The U.S. headline unemployment rate measures the number of people looking for work as a percentage of the number of people in the labor force.

After exploding to 14.7 percent near the beginning of the COVID-19 pandemic in mid-2020, the unemployment rate has fallen considerably. Between February 2023 and February 2024, the unemployment rate fluctuated between 3.4 and 3.8 percent - which is historically very low (Figure 6). During this time, the labor force participation rate also recovered, by Feburary 2023 the rate was 62.5 and it has remained between that and 62.8 since. This is still well below the 63.3 percent peak in January 2020. Overall, it appears that the labor market has largely recovered from the shock of the COVID-19 pandemic.

The unemployment rate bottomed out at around

3.4 percent in April 2023. From then until July 2024, it crept up to 4.2 percent. Since then it has remained between 4.0 and 4.2 percent.

Figure 5: Unemployment Rate and Monthly Change in Jobs
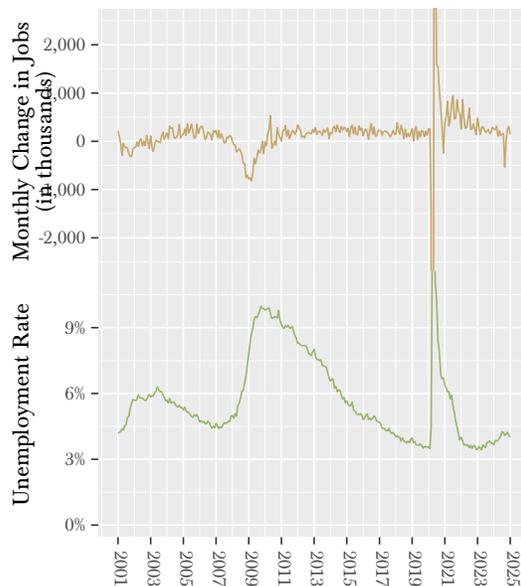
Note that the y-axes for these charts are limited because of the extreme changes in Q2 2020.

One area of potential concern is that the labor force participation rate appears to be stalled between 62.5 and 62.8. This is still meaningfully below the pre-pandemic rate of 63.3[5]. It seems that people aren't re-entering the labor force as quickly as they left.

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[5]While the difference here is only 0.6 percentage points, these represent more than 2 million potential workers
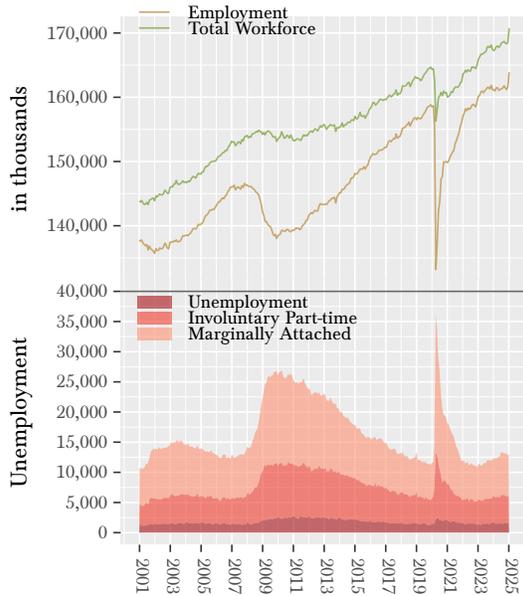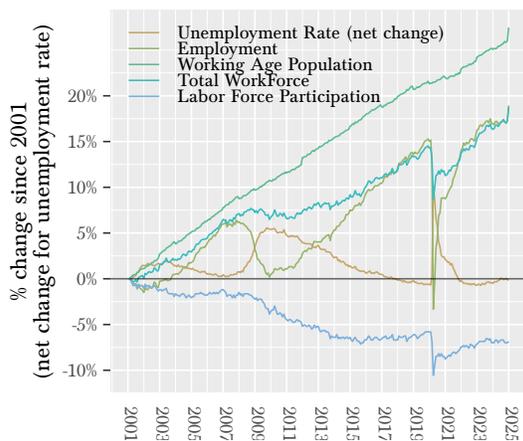
Figure 6: Employment and Unemployment

Figure 7: Labor Market Indicators

That being said, wages in the U.S. have been growing faster than inflation for some time. In January 2024, the Atlanta Fed's Wage Growth Tracker[6], showed 5.0 percent (annualized) growth in wages, while CPI was 3.3 percent (12-month change). More recently, in January 2025, wage growth was

4.1 percent while CPI was 3.0 percent. The increase of wages over inflation will increase purchasing power and may pull some people back into the labor force.

Assuming that there is no recession, then the unemployment rate is likely to either remain stable or increase slowly from its current level. The Fed had been raising interested rates (though it has started reversing this) with one of the stated purposes being to slow down job growth, and it seems that has happened.

Inflation

Aside from a short period in 2012, core inflation was below the FOMC's two percent target between the recession in 2008 and early 2021. During that period, inflation forecasts were consistently too high, with each year predicted to break the cycle of weak inflation, only to disappoint as the year progressed (Figure 8).

For policy purposes, the FOMC uses the core Personal Consumption Expenditures (PCE) index as the measure of inflation, which removes the more volatile fuel and food prices. In a fairly striking policy change, the FOMC announced in September 2020 that it would "aim to achieve inflation moderately above 2 percent for some time so that inflation averages 2 percent over time and longer-term inflation expectations remain well anchored at 2 percent." This was a marked departure from policy in the previous decade, when there were a number of (sometimes-contentious) interest rate increases even though inflation was well below 2 percent.

Since April 2021, core PCE inflation has been higher than the FOMC's target, and remained high on the back of supply chain issues and strong demand, as well as shocks to the market like Russia's invasion of Ukraine and high household savings bouyed by the stimulus packages in response to the COVID-19 pandemic.

In March 2022 the FOMC decided to start raising interest rates to bring inflation down — though at the end of 2024 they reduced interest rates. Since

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[6] https://www.atlantafed.org/chcs/wage-growth-tracker

then, core PCE has fallen from 5.5 percent to 3.0 percent (YOY) by January 2025. The expectation was that inflation would continue to fall and be closer to 2.0 percent now. However, it has taken much longer than expected as the U.S. economy has been remarkably resilient and continues to grow fairly well.

Figure 8: U.S. Inflation Indices
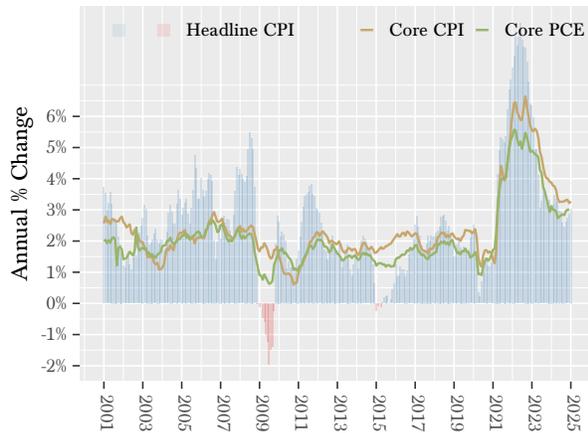
Interest Rates

Interest rates are a powerful tool used by the Federal Reserve Bank to influence the U.S. economy[7]. An increase in interest rates will generally slow down economic growth — business investment slows down because borrowing money becomes more expensive, so job and wage growth slow down (constraining consumption). Similarly, it becomes more expensive for consumers to borrow, impeding demand, particularly in the housing and auto markets. The opposite of all of this is also true — decreasing or lowering interest rates can help drive economic expansion through expanded investment and consumption.

As mentioned in the previous section, the Fed began increasing interest rates in March 2022 due to continued high inflation. They increased rates by 0.25 percent in each month from March through May 2022, and then increased rates more rapidly

by 0.75 percent in June, September *and* November 2022.

With inflation slowing and unemployment stable, the FOMC has reduced interest rates from a range of 5.25-5.5 percent to a range of 4.25-4.5 percent in the fourth quarter of 2024. As of January 2025, the FOMC decided to hold rates at 4.25-4.5 percent as they wait to assess new data and evolving outlooks on the economy.

The U.S. Dollar and Foreign Trade

Aside from the issues relating to foreign trade discussed in the section on federal policy, the value of the U.S. dollar can influence DNR revenue.

Between February and April 2020, the U.S. dollar trade-weighted index jumped almost 6 percent, largely due to a "flight to safety" from the uncertainty caused by the pandemic (Figure 9). From April 2020 to mid-2021, the index fell, but then quickly climbed through October 2022 to its highest point since at least 2006 (the earliest date for the data set we use). Between October 2022 and November 2024, the US dollar fell back, but surged upward in the last quarter of 2024 ending over 7 percent higher (YoY).

Figure 9: Trade-Weighted U.S. Dollar Index
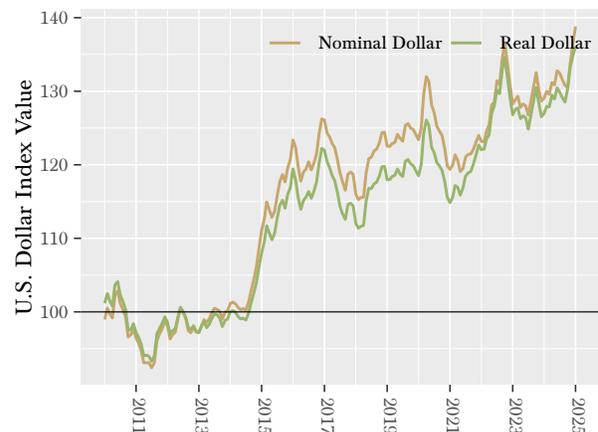
A higher dollar means that timber and lumber

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[7]We refer to interest rates broadly, but the Fed specifically governs the Federal funds rate, which heavily influences interest rates across the economy.

from the Pacific Northwest become more expensive for international buyers and, conversely, timber and lumber imported into the U.S. becomes less expensive. This will tend to undermine local prices and DNR's timber and agricultural revenues. Wildstock geoduck revenue will also be negatively affected because geoduck is primarily marketed abroad.

Foreign trade and access to export markets is normally and important issue for DNR revenues. Chinese demand for timber and lumber was a major support for lumber prices after 2010, even though DNR timber cannot be exported directly. In non-timber revenue sources, much of the soft white wheat produced in Washington is exported to Asia and the vast majority of the Pacific Northwest geoduck harvest is exported to China.

Petroleum

Crude oil and its derivatives strongly affect production, transportation, and consumption in the world and U.S. domestic economies. Broadly, an increase in oil prices acts like a tax increase for consumers and can discourage consumption. Additionally, all other things being equal, higher petroleum prices will increase diesel fuel prices and will make transportation-sensitive industries — such as Pacific Northwest logging and agriculture — less competitive in international markets.

The Russian invasion of Ukraine in early 2022 initially pushed oil prices much higher, with the nominal Brent Crude spot prices jumping from $86/barrel in January to $122/barrel in June — the highest they had been since 2014 (Figure 10). These prices were high enough to create a drag on economic growth. However, they were fairly short-lived. After peaking in June 2022, and barring a brief jump in September 2023, prices dropped to $80/barrel in December 2022 and stayed between $75 and $85/barrel until September 2024. From September to December 2025 prices floated around $70/barrel, but jumped in January to $75/barrel again.
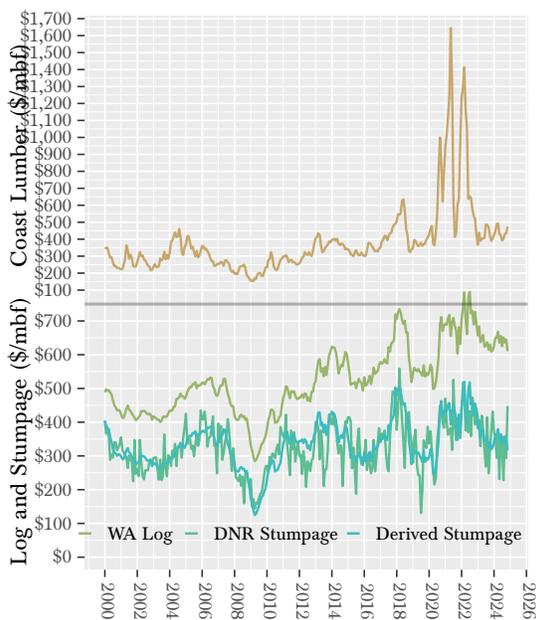
Figure 10: Crude Oil Prices
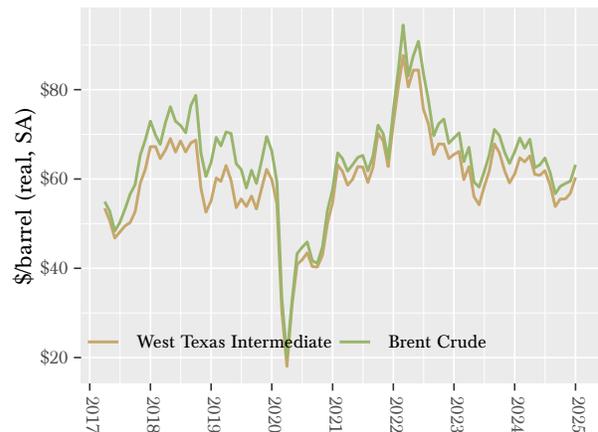
Oil prices are expected to remain in their current range for the foreseeable future.

Wood Markets

Timber stumpage revenue constitutes about 70 percent of total DNR revenues on average. Therefore, DNR is 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 revenue generated by DNR.
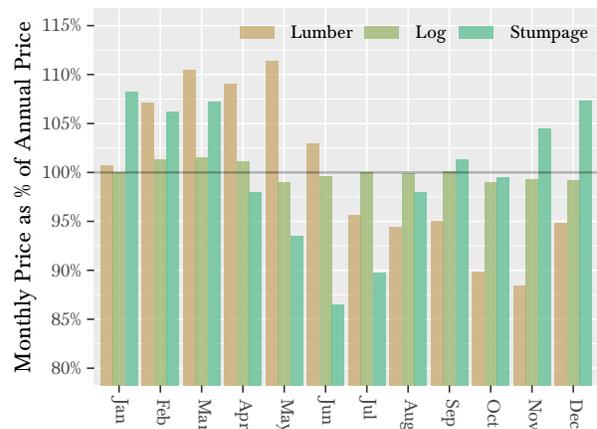
Figure 11: Lumber, Log, and Stumpage Prices in Washington

yards or standing inventory under contract) and from DNR-specific issues, such as the quality and type of the stumpage mix offered at auction, the region, and the road-building requirements of a particular sale.

The relationship between lumber 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 or stumpage prices to take advantage of high lumber prices. From the supply side, landowners often do not 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.

Figure 12: Lumber, Log, and DNR Stumpage Price Seasonality

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 stumpage prices (Figure 11). High log prices make access to logs more valuable, increasing purchasers' willingness to pay for stumpage (the right to harvest). Volatility in stumpage prices arise not only from log prices, but also from the volume of lumber and logs held in mills' inventories (either felled and in their

There are differences in price seasonality between lumber, logs, and stumpage, as illustrated in Figure 12. 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 be higher starting in February, when housing construction starts to pick up, and decline through fall as demand wanes, while stumpage prices tend to be highest

in December-March, 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 lower from July through September.

U.S. Housing Market

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

New residential construction (housing starts) and residential improvements are major components of the total demand for timber in the U.S. From 2000-2018, these sectors have averaged 69 percent of softwood consumption — 37 percent going to housing starts and 32 percent to improvements — with the remainder going to industrial production and other applications.

The 2007 crash in the housing market and the following recession reduced demand for new housing, which undermined the total demand for lumber. From the 2009-11 trough to the beginning of the COVID-19 pandemic in early 2020, an increase in housing starts drove an increase in lumber demand.

Figure 13: New Single-Family Home Sales
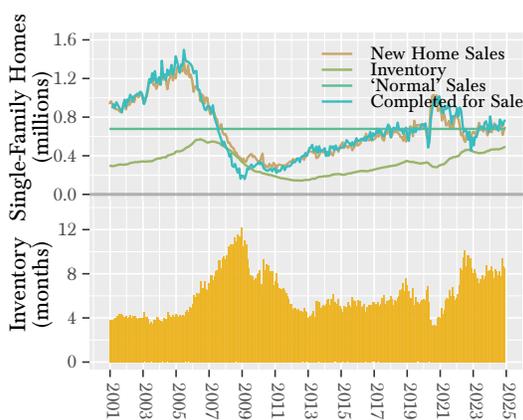
the coronavirus pandemic created a lot of uncertainty in the housing market. After the initial collapse in activity in early 2020, both starts and new home sales increased substantially — largely driven by strong household balance sheets and record-low mortgage rates. However, since the Fed began increasing interest rates, mortgage rates more than doubled from under 3.0 percent to above 7.0 percent. The increased costs of financing have significantly affected both sales and construction of homes.
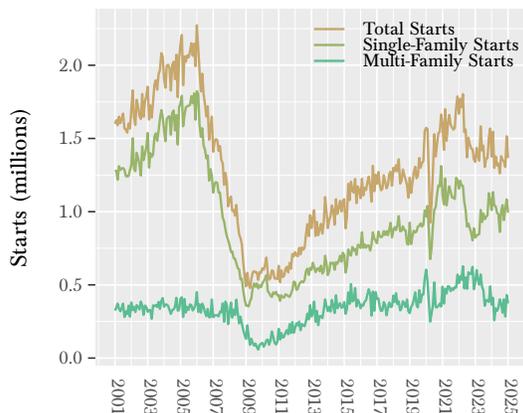
New Home Sales

Unsurprisingly, new home sales plummeted during the 2008-09 recession, reaching a record low of 306,000 (SAAR)[8] in 2011 before beginning a slow rise to average 680,000 in 2019 (Figure 13).

From January through April 2020, new single-family home sales fell from 708,000 to 570,000 as the initial effects of the pandemic took hold. However, April was the bottom. From then, new home sales quickly grew well beyond their January 2020 highs to a peak of 1,036,000 in August 2020, averaging 960,000 in the latter half of the year. New home sales slowed a little in 2021, averaging 769,000 per month. With the increased mortgage rates since March 2022, new single-family sales fell to a low of 567,000 in September 2022, basically at the level of April 2020. Sales have rebounded since and seem to be bound around the long term average of 678,000 new home sales.

Since around mid-2024, new home completions have been greater than new home sales, slowly increasing inventories. Typically, an increase in inventory could help suppress home prices. However, with the increase in interest rates, there are fewer people who currently own homes who are looking to sell - people typically do not want to trade out a sub-3.0 percent loan for a 6.0+ percent loan. So there is currently a dearth of existing houses on the market, suggesting there will be very little price suppression from an increased inventory of new homes.

As with almost every other part of the economy, Demand for housing appears to be relatively sta-

[8] Unless otherwise noted, all measures of housing construction or sales are in Seasonally Adjusted Annual Rates - SAAR

ble, with demand constrained by mortgage rates and high home prices. Households still have strong balance sheets and real wages are still increasing. But all of the excess savings from the pandemic years have been spent, so people don't have as much money readily available for down payments.

Figure 14: Housing Starts

Overall, it is likely that new home sales will remain higher than the period between 2008 and 2015, where they were consistently lower than the long-term average, but it would not be surprising to see them stay near the long-term average for some time.

Housing Starts

In April 2009, U.S. housing starts fell to the lowest point since the Census Bureau began tracking these data in 1959. U.S. housing starts picked up in 2011 and continued to rise, largely because of increases in multifamily starts. Single-family starts were more or less flat after the recession through 2012, but rose slowly from then through most of 2019 (Figure 14)[9].

Total residential housing starts hit 1.6 million (SAAR) in February 2020 before collapsing in April to 0.9 million. This was from both single-

family starts, which fell from 1.0 million starts to 0.7 million, and multifamily, which fell from 0.5 million to 0.2 million.
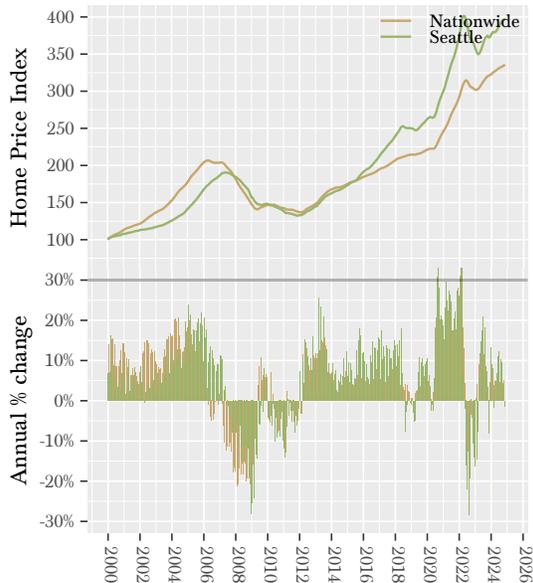
Again, as with sales, April 2020 was the nadir and April 2022 was the post-2008 apex. Total starts climbed back quickly and averaged 1.6 million in 2021 and 2022, and 1.4 million in 2023, while single family starts averaged 1.1 million in 2021, 1.0 million in 2022, and 0.9 million in 2023.

Two things are particularly notable about housing starts since they began falling from April 2022. First, even after a significant drop, starts have remained higher than almost any point between 2007 and mid-2019. Second, the drop from 2022 to mid-2023 was in single-family starts. This likely had a more substantial effect on lumber demand because single-family housing uses more lumber per unit than multifamily. Interestingly, since April 2023, single-family starts have started increasing, while multi-family have started declining.

As was noted in the Forecast Summary, the construction industry writ-large has an estimated high percentage of undocumented immigrant labor, around 14 percent. The President's promise of "mass deportations" could have a significant effect on the costs associated with homebuilding. Though there remain important questions about what kind of deportation program is actually possible, so the ultimate size and effect of the policy are uncertain.

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[9]Single-family starts are discussed specifically because they use more lumber than multifamily construction. So the change in single-family starts has more of an impact on lumber demand and prices than a change in multifamily starts.

Figure 15: Case-Shiller Existing Home Price Index

Price Outlook

Lumber Prices

Lumber prices were exceptionally volatile from 2020 through 2023 (Figure 11). In 2021, prices peaked at around $1,600/mbf in May then plummeted to $414/mbf in August (West Coast standard or better 2x4, Douglas-fir/Hemlock). Prices rebounded over the next several months to peak at $1,400/mbf in March 2022. However, after that they plummeted again, dropping from $1,056/mbf in May to $638/mbf in June. Prices continued to decrease until December 2022. Since the beginning of 2023, prices have remained relatively stable and lower than recent years, staying in between $370/mbf and $490/mbf, with an average of $427/mbf.

As discussed in the summary, the outlook for lumber prices are uncertain, even in the short term, due to policy changes at the federal level. Absent the uncertainty of the policy environment, we would expect to see lumber prices increase slightly through the year.

Housing Prices

The U.S. housing market experienced six unprecedented years of falling or flat prices following the 2008 recession. House prices started rising again only in 2012 as economic and employment indicators continued to improve. Figure 15 charts the seasonally adjusted S&P/Case-Shiller Home Price Index for the 20-city composite, which estimates national existing home price trends, as well as the Index for Seattle.

Although the pandemic initially stalled national price growth, the Case-Shiller ended 2020 with 10 percent December-December price growth. Locally, for Seattle, price growth was 13 percent. Between December 2020 and May 2022, prices increased even faster, but declined between May 2022 and February 2023 after the Fed began raising interest rates. Since February 2023, prices have been increasing, though not at the rate they were prior.

The high, and still increasing prices, should continue to incentivise housing construction, supporting starts and lumber demand.
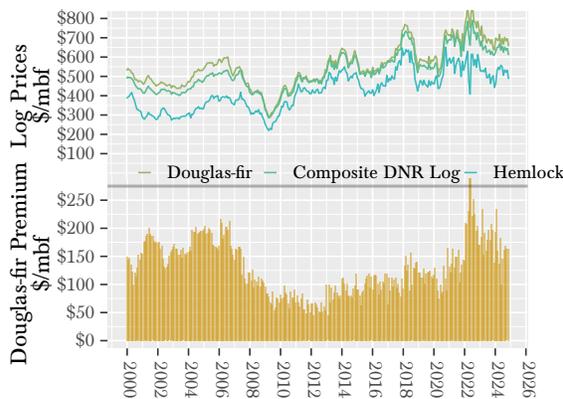
Log Prices

Figure 16 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 16 is the same as the light green line on Figure 11.

Log prices also bottomed in April 2020 and had recovered by August 2020, though they have obviously not reached the same extremes as lumber prices. Timber harvesters and mills often have an inventory of standing timber to draw from, so they don't always need to bid up prices on new logs.

Log prices declined in 2023, falling from an average of $660/mbf in the first quarter, to $615/mbf

in the fourth quarter. Prices increased in the first four months of 2024, and then weakened slightly. Absent the federal policy risks discussed previously, log prices would be expected to remain relatively stable or increase through 2025.

Figure 16: DNR Composite Log Prices

Stumpage Prices

Timber stumpage prices are the prices that successful bidders pay for the right to harvest timber from DNR-managed lands (Figure 17). At any time, the difference between the delivered log price and DNR's stumpage price can be thought of as equivalent to the sum of logging costs, hauling costs, and harvest profit (Figure 11). Subtracting the average of these costs from the log price line gives us a derived DNR stumpage price.

When actual DNR stumpage prices differ significantly from the derived stumpage prices, a correction is likely to occur. Overall, barring a couple of sales, recent stumpage prices have been roughly on par with what we would expect, given log prices.

Although log and lumber prices bottomed out in April 2020, DNR stumpage prices fell through May 2020. Since then, DNR timber auctions had average stumpages of $396/mbf for FY 21, $427/mbf for FY 22, and $390/mbf for FY 23 and $346/mbf for FY 24.

As always, these prices also depend heavily upon the characteristics of the sales, particularly the type and quality of the wood, the type of logging, and the costs associated with road-building and maintenance.

DNR Stumpage Price Outlook

DNR contracts with a forest economics consulting firm that provides log and timber stumpage price forecasts, as well as valuable insights into the housing, lumber, and timber markets. To reach a stumpage price outlooks, we model DNR's historical data on the FEA price forecast and then adjust it based on DNR or Washington specific circumstances (Figure 17, note that the FEA "forecast" series reflects the species and class characteristics of typical DNR timber; the original series were West Coast averages and are not shown).

It is important to note that these are nominal price expectations.

Figure 17: DNR Timber Stumpage Price
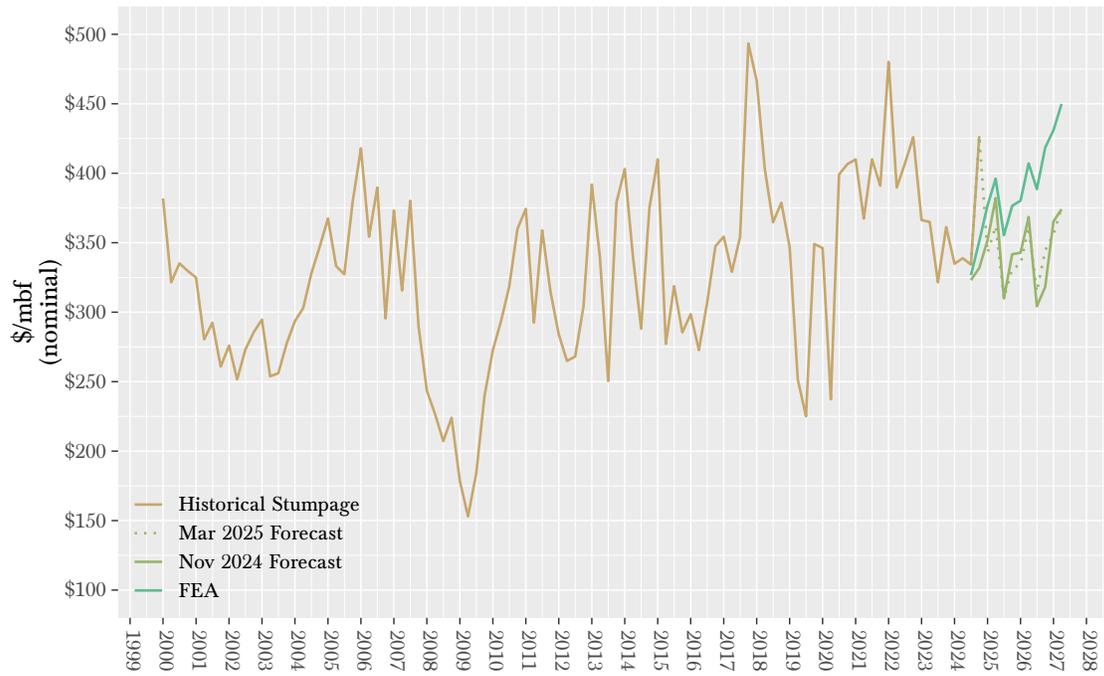
DNR Revenue Forecast

This Revenue Forecast includes revenue generated from timber sales on trust uplands, leases on trust uplands, and leases on aquatic lands. 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 Revenue

DNR sells timber through auctioned contracts that vary in duration. For instance, contracts for DNR timber sales sold in FY 2019 needed to be harvested between three months and three years from the date of sale, with most being about two years in length. The purchaser determines the actual timing of harvest within the terms of the contract, which is likely based on perceptions of market conditions. As a result, timber revenues to beneficiaries and DNR management funds lag behind sales.

Figure 18: Forecast Timber Sales Volume
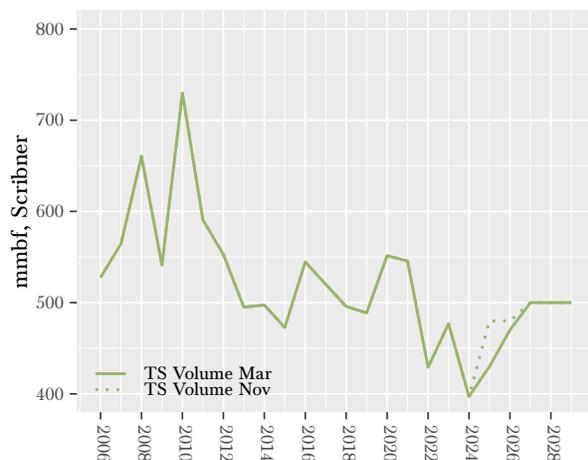
For the purposes of this chapter, timber that is sold but not yet harvested is referred to as "inventory" or "under contract." Timber volume is added to the inventory when it is sold and placed under contract, and it is removed from the inventory when the timber is harvested.

Timber Sales Volume

The sales volume for FY 22 was 430 mmbf, a significant decrease from the 530 mmbf planned at the beginning of the fiscal year. In the middle of the fiscal year, the proposal to limit DNR timber harvests to only stands less than 120 years old stalled many planned sales and required review of many sales that had already been prepared, delaying the preparation of other sales. Additionally, severe winter weather delayed some sales planning in December 2021 and January 2022, while staffing constraints in some regions also affected sales planning.

Figure 19: Forecast Timber Removal Volume
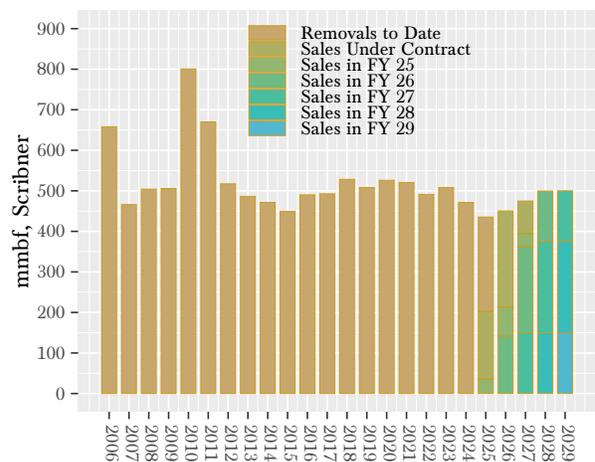
The sales volume forecast for FY 23 was also decreased near the end of the fiscal year, to 465 mmbf – a significant decrease from the previously planned 530 mmbf and the previously forecast 500 mmbf. This was apparently due to some internal policy decisions and an increase in community opposition to some sales.

The planned sales volume for FY 24 was also decreased substantially, though not until the June forecast — from 480 mmbf to 391 mmbf. This was again due to increased pressure from actual or threatened lawsuits, and opposition to some prepared sales. These issues have been partic-

ularly problematic for volume delivery because they have occurred on sales that have already been fully prepared - the work that went into them is a sunk cost and is gone, and the program often doesn't have enough time or resources to bring new, alternative sales to auction.

The FY 25 timber sales volume forecast is reduced from 480 mmbf to 430 mmbf. This is due to a recently implemented six-month pause on timber sales on select mature forests which has affected 23 sales initially planned for FY 25. While the impact of this pause is relatively clear for FY 25, and is discussed earlier, there is still uncertainty about what will happen in FY 26 and beyond when the pause period is over. While we assume that none of the paused sales will be brought to auction in the forecast horizon, it is possible that some of the paused sales will be restructured and brought to auction in FY 26. This represents a potential upside to the FY 26 volume forecast. However, there is also the possibility that the Product Sales and Leasing team will have difficulty finding enough sales without the paused forest types, creating a downside risk for the FY 26 volume. There will be more clarity on the revenue impacts of this pause in the next quarter.

Historically, a buffer of around 10 percent of planned sales volume has been adequate to account for the typical risks to sales. However, for the last several years there has been increased opposition to DNR timber sales, both through challenges to sale approval and through lawsuits. Given these continued challenges, the FY 26 sales volume forecast is reduced to 470 mmbf.

It is not clear yet how this type of risk will change in the future as the program adapts to the new environment. We are leaving the outlying years' sales volume unchanged at 500 mmbf. We are assuming that the program will adapt to the new political and policy environment and will be able to bring the sales volume back to the long-term average. It is not clear whether this will be the case, but absent better information we are reverting to the status quo and long-term average.

Figure 20: Forecast Timber Sales Price
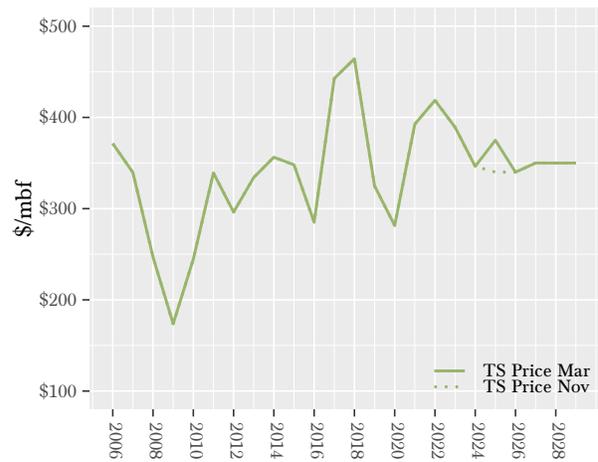
Timber Removal Volume

In the November forecast we noted that harvests had been somewhat slower than expected for FY 25. In the intervening months, the harvest rate has been much slower than we had forecast — totaling only 207 mmbf through January — necessitating a reduction in the timber removal volume forecast for FY 25. For context, this is the lowest volume harvested through January since at least FY 15, and possibly even longer. Because of this, the FY 25 harvest volume forecast is reduced substantially, to 435 mmbf. To be clear, this is entirely unconnected to the pause on some types of timber sales.

Forecast removal volumes in FY 26 and 27 are also reduced, to 450 mmbf and 475 mmbf respectively. We have updated the outlying years' harvest forecast to be based on sales in the previous three years.

Figure 21: Forecast Timber Removal Price

$340/mbf. This is lower than the outlying years because the reduced sales volume forecast is from sales that are typically higher value. Fewer high value sales will tend to reduce the average sales price.

Outlying years' prices are unchanged at the long-term average of $350/mbf. This is based on the assumption that current opposition to DNR sales will resolve in such a way that prices will return to their long term average. This may be optimistic.

Timber Sales Prices

The price results of monthly DNR timber sales can be quite volatile (Figure 11). As discussed in the stumpage price outlook, the DNR sales price forecast is informed by West Coast log and stumpage price estimates from a forest economics consulting firm.

The forecast timber sales price for FYs 25 is increased from $340/mbf to $375/mbf. This substantial increase is due to the very high prices from sales from November 2024 through January 2025. The sales in those three months were heavily weighted toward high value sales, while those in the rest of the year were comparatively lower value. The previous forecast price was unchanged, assuming that those higher and lower prices would balance each other out. However, the sales value for Nov-Jan sales was much higher than expected, bringing the average price of sales for the year up from around $340/mbf to over $410/mbf.

It is likely that this increase is still too small. To reach this new forecast price, the remaining auctions would need to average around $310/mbf. While writing this forecast document, the February timber auction occurred, with an average price of $346/mbf.

The FY 26 sales price forecast is unchanged at

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 auctioned timber removed in each time period (Figure 21). Forecast timber removal prices are increased in FYs 25 through 27, due to both an increase in the value of timber harvested in FY 25 and to the increase in sales price.

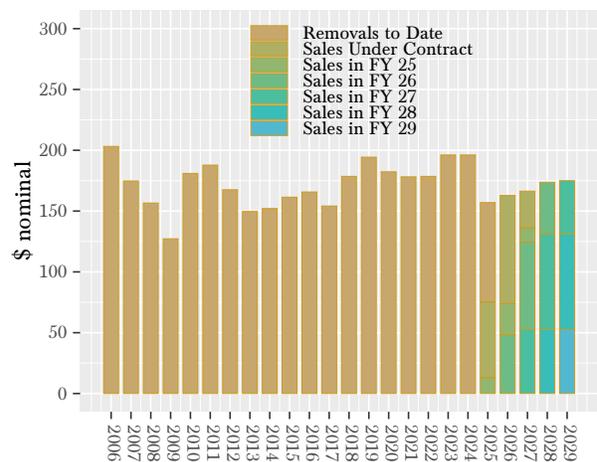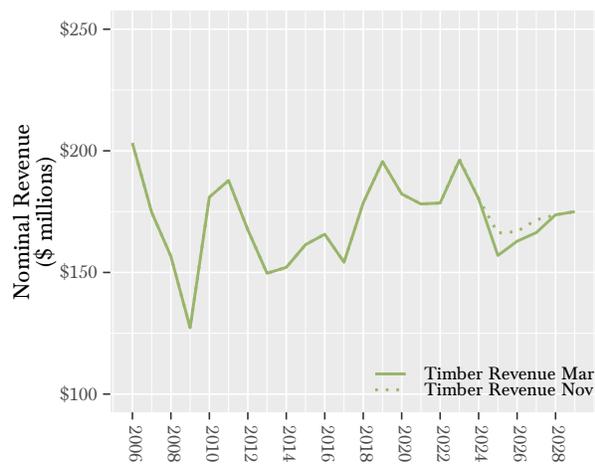Figure 22: Forecast Timber Removal Value

Figure 23: Forecast Timber Removal Revenue

Timber Removal Revenue

Figure 22 shows projected annual timber removal revenues, broken down by the fiscal year in which the timber was sold. Revenue estimates reflect all of the changes described above.

Forecast timber revenues for the 2023-25 biennium are $337 million and forecast revenues for the 2025-27 biennium are $329 million, a reduction of around $9 million in each year.

Upland Lease Revenues

Upland lease revenues are generated primarily from leases and the sale of valuable materials other than timber on state trust lands (Figure 24).

Overall, non-timber uplands revenue is accruing in line with expectations and revenues are on track to meet the forecast for the fiscal year. There have been no significant fluctuations during the last quarter in non-timber uplands revenue accruals. Only two minor adjustments have been made: a small decrease for both communications, and minerals and hydrocarbons.

Communications revenue is expected to be $5.9 million, slightly below the previously forecasted $6 million for FY 25. While the revenue accrual

to date is on track with the forecast, staffing challenges have led to a slight slowdown in the implementation of lease escalations and execution of new lease contracts. This is expected to resolve by FY 26 to $6 million with lease escalations accruing in subsequent years.

Minerals and Hydrocarbons revenue forecast for FY 25 is reduced by $0.1 million from the previous optimistic $2.2 million forecast. In FY 28, two contracts are winding down which will result in about $0.4 million revenue reduction until new contracts come online. The lead time for executing new contracts in this industry is typically lengthy and uncertain, and we are conservatively forecasting a gap period starting FY 28 where annual revenues will be approximately $1.7 million until new contracts come online in FY 29.

Figure 24: Forecast Upland Lease Revenue
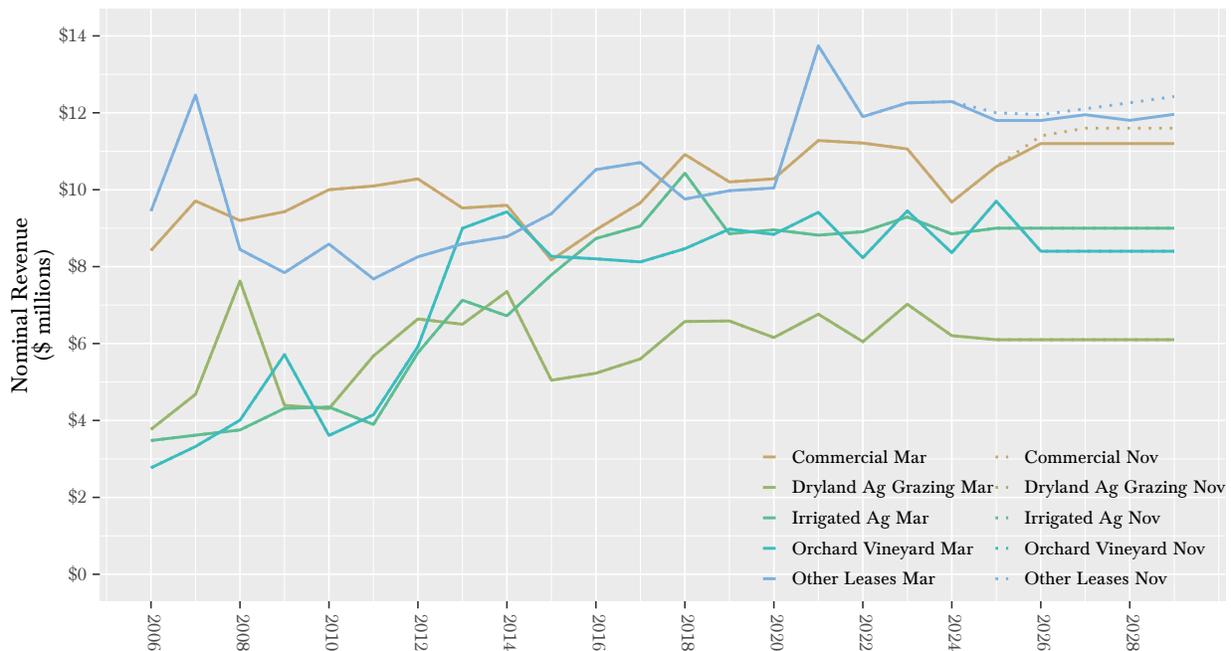
Aquatic Lands Revenues

Aquatic lands revenues are generated from leases on aquatic lands and from sales of geoduck. In the past, on average, leases have accounted for one-third of the revenue and geoduck sales accounted for the remainder. However, prices for geoduck plummeted in the beginning of FY 20, so that it accounted for less than half of the aquatic lands revenue that year. Geoduck prices have since recovered and geoduck revenue is currently forecast to account for between 55 and 60 percent of aquatic revenue, however this will likely change in upcoming forecasts.

Non-water dependent rent forecast is increased by $0.3 million. Revenue accruals have been above expectations to date and we are tracking to generate significantly more than the $5.8 million that was previously forecasted.

The revenue forecast for water dependent rents is also increased by $0.3 million for FY 25. Revenues have accrued about $0.3 million over what is expected at this point in the year. This is largely due to a back-payment on rent and is a one-time increase for FY 25 only.

Revenue forecasts for aquaculture, easements, and other rents remain unchanged (Figure 25).

The geoduck forecast revenue for FY 24 is notably higher than the surrounding years because bonus bid revenue that had been expected in FY 23 was shifted into FY 24.

We re-worked the geoduck pricing model in February 2024 to only include data from post-2010. China meaningfully entered the geoduck markets in 2010 and created a step-change in prices. The previous model included those pre-2010 prices and it caused the model to predict a continued upward trend in the future, which does not seem likely. Basing the model on post-2010 period gives the model a better fit and provides a more reasonable forecast.

The increased forecast for all years is based on the new pricing model. Additionally, the FY 24 revenue forecast is increased based on actual prices

for the more recent auctions, which were still higher than our previous forecasts.

Geoduck revenue for this forecast is decreased by $1 million based on lower than expected prices in the December 2024 auction. The December auction was much lower than we had expected. During that auction, there was discussion of both arsenic issues on some tracts and the possibility of reciprocal tariffs with China, which had caused a significant drop in geoduck prices in 2019. On consultation with the program it appeared that the arsenic issues were the actual driver of lower prices. As a result, we left the price forecast unchanged.

However, it appears that may not have been correct. The average price in the March auction, which occured as this report was being drafted, was only slightly higher than the December auction. From the beginning of FY 22 to the auction in September 2024 (the first auction of FY 25) the average geoduck auction price was $11.32/lb — with some lone auctions being significantly higher or lower, as is normal for geoduck. Geoduck prices can vary significantly between auctions, but when there are auctions with a big change, the next auction often shows a change in the other direction. While it's certianly not conclusive, lower prices two auctions in a row suggests that there is a new, lower average price that purchasers are targeting.

Figure 25: Aquatic Lands Revenues
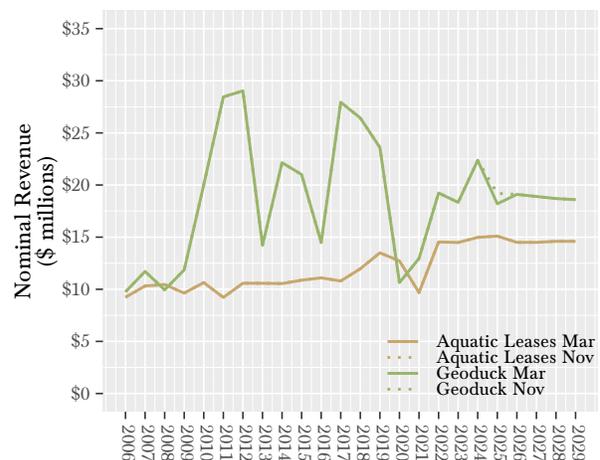
Additionally, there are, as always, potentially significant downside risks to geoduck revenues, even in the near term and in addition to the pandemic, that are important to consider but difficult to forecast:

- China's economy appears to be slowing meaningfully.

- Harvests (and therefore revenues) could be deferred or lost if geoduck beds are closed due to occurrence of paralytic shellfish poison or arsenic.

- Harvests will be slowed or delayed if there is an injury or death of a diver.

- Early in 2021, heavy rains overwhelmed sewage treatment plants in the Puget Sound, spilling untreated sewage into the sound and closing geoduck tracts for several weeks. Although program staff were able to offer alternative harvest from different tracts, this type of risk will continue as the effects of climate change grow more severe.

- A recent Washington Department of Fish and Wildlife survey of closed South Puget Sound geoduck tracts showed declining recovery rates and evidence of active poaching, suggesting that future commercial harvest levels may be further reduced.
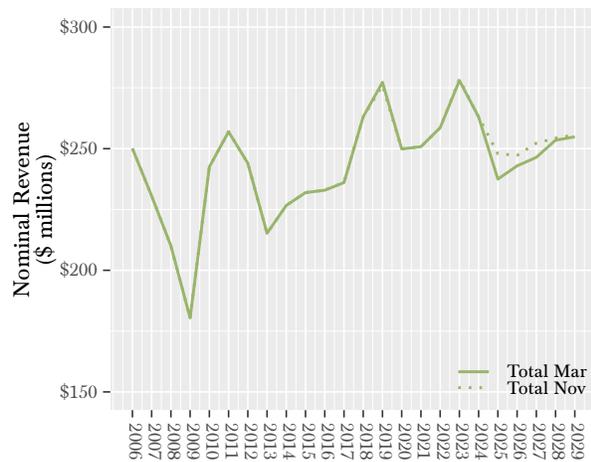
Figure 26: Geoduck Auction Prices
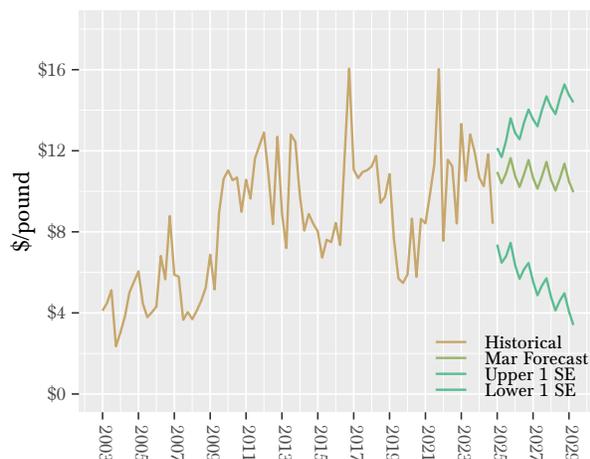
Total Revenues from All Sources

The forecast revenue for the 2023-25 biennium is decreased by $10.4 million to $501 million, while the 2025-27 biennium is decreased by $10.2 million to $489 million. (Figure 27).

Figure 27: Total Revenues

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 FYs 24 and 25 by trust, and relative historical timber prices by DNR region by trust; and

- The volumes of timber by trust for other years based on output of the sustainable harvest model and relative historical timber prices by DNR region by trust.

Because a single timber sale can be worth more than $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 biennial budget bills, the Legislature has repeatedly authorized a fee of up to 27 percent for FDA since 2013, and a fee of up to 32 percent for RMCA since 2015. However, the Board has not approved those full amounts, deciding on 31 percent for RMCA and 25 percent for FDA.

The Forecast assumes that the Legislature and Board will continue to approve the RMCA management deduction at 31 percent and that the BNR will continue to approve a 25 percent deduction for FDA.