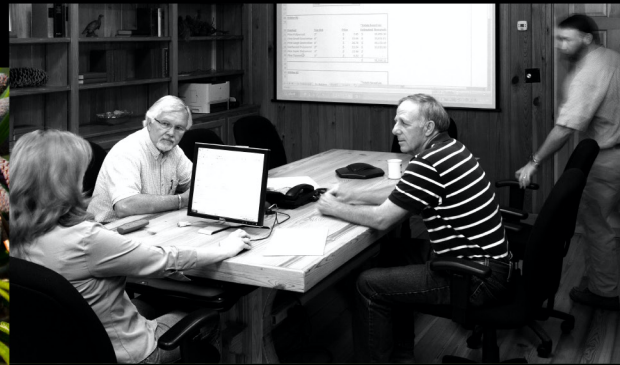




F&W
SINCE 1962

INFLUENTIAL FACTORS IN THE FOREST PRODUCTS MARKETPLACE

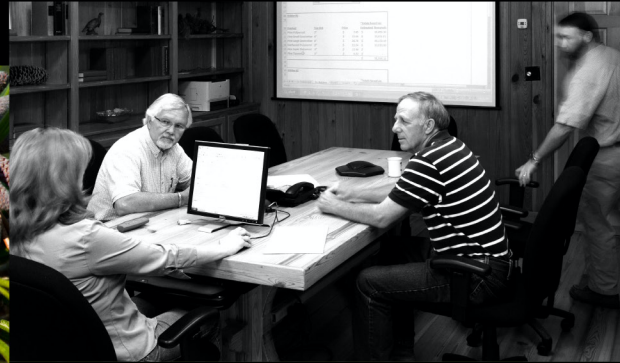
MARSHALL THOMAS
F&W FORESTRY SERVICES
6/17/2021





OR... A BORING (AND DEPRESSING) MOVIE SO FAR, BUT THE PLOT THICKENS!

MARSHALL THOMAS
F&W FORESTRY SERVICES
6/17/2021





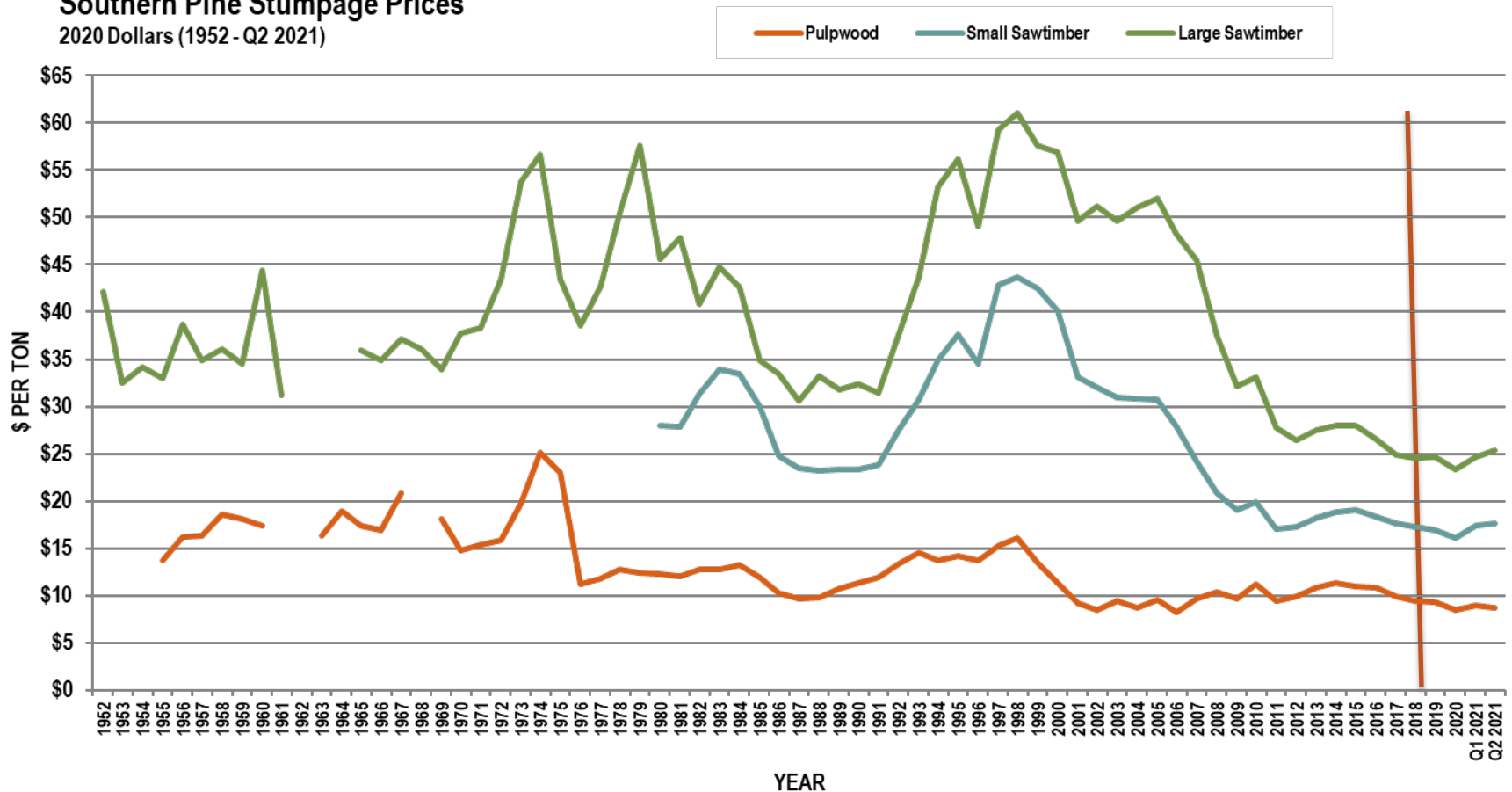
SOUTHERN TIMBER MARKETS – THE MOVIE

- Quick review of the previous seasons
 - Long term timber prices (deflated)
 - Demand forecasts
 - Supply - Age class distributions
 - FIA data on wood source (planted vs. natural)
 - Housing starts
- New season, new episodes
 - Covid
 - Chinese exports, Canadian imports
 - Lumber/stumpage price ratios
 - West coast fires and bugs
 - Ecosystem services, tax policy
- And some new characters? Oligopsony and Oligopoly
 - Number of sawmills, pulp mills, loggers over time
- Upcoming episodes (Points to ponder/discuss)



SOUTHWIDE REAL STUMPAGE PRICES FLAT/DECLINING

Southern Pine Stumpage Prices
2020 Dollars (1952 - Q2 2021)



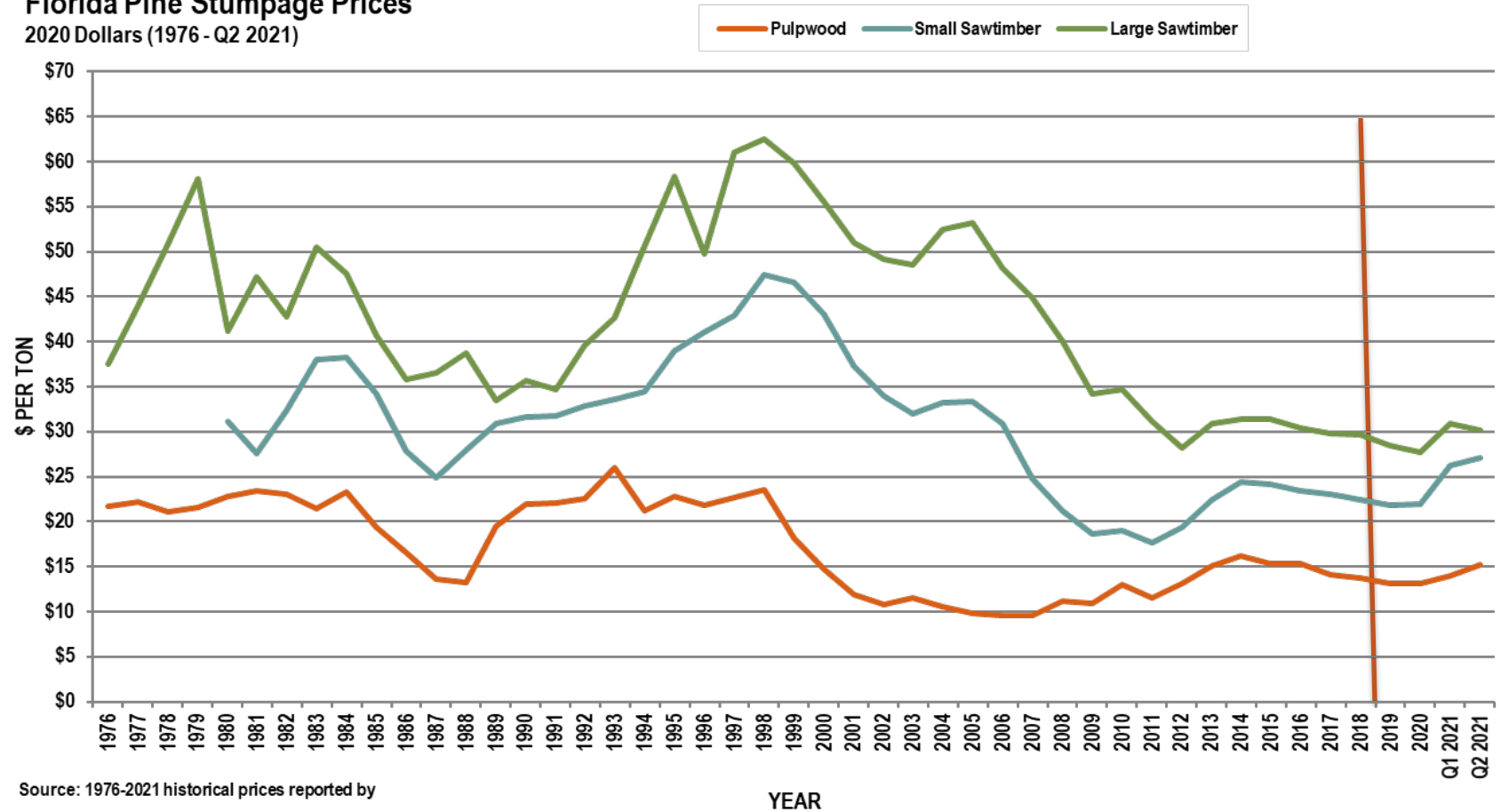
Source: 1952-1975 prices reported by GFCs timber sale records; 1976-2021 prices reported by Timber Mart -South across the southern U.S.



FLORIDA REAL STUMPAGE PRICES – MAYBE BETTER?

Florida Pine Stumpage Prices

2020 Dollars (1976 - Q2 2021)



Source: 1976-2021 historical prices reported by

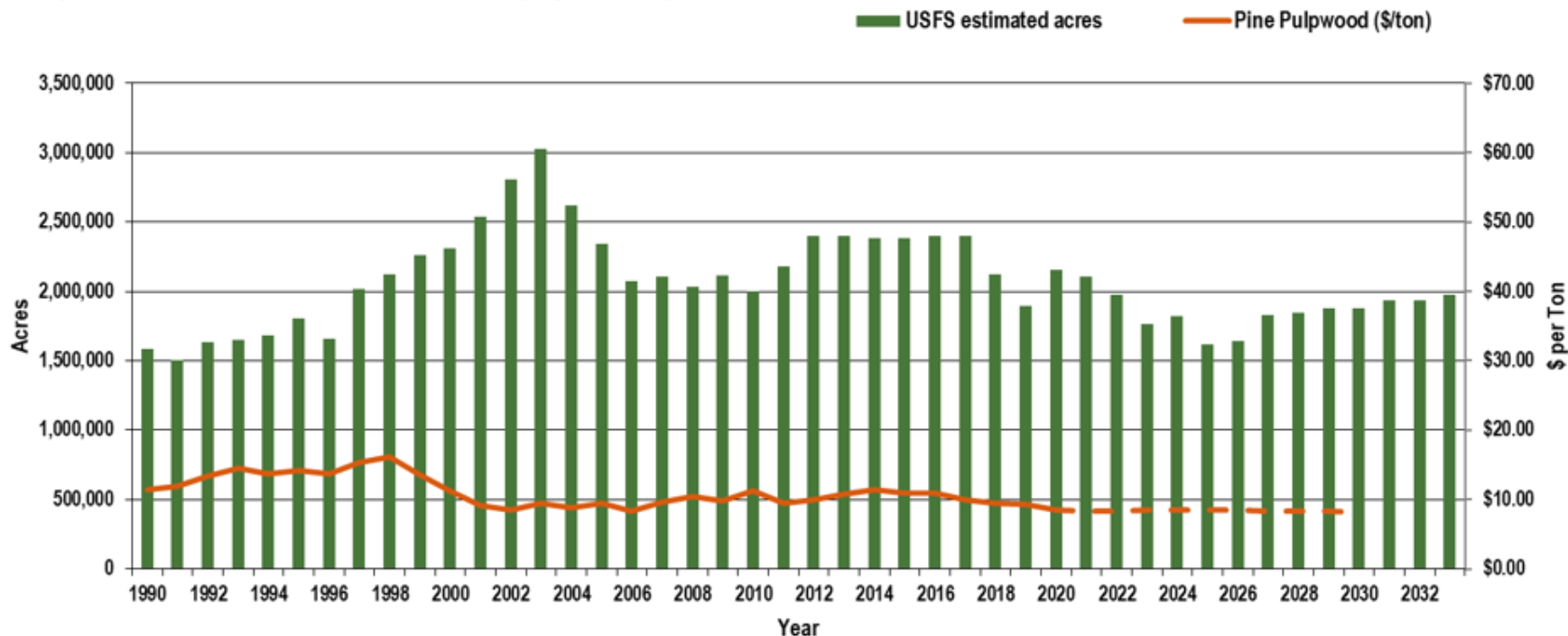


HOW ABOUT IN ALABAMA, FLORIDA, AND GEORGIA?

Stand Origin	Alabama	Florida	Georgia	Total	% of Total
Natural Stands	293,665,788	98,857,116	372,850,929	765,373,833	35%
Clear Evidence of Artificial Regeneration	543,973,513	242,189,630	615,460,172	1,401,623,315	65%
Total	837,639,301	341,046,746	988,311,101	2,166,997,148	100%
Plantations as % of total	65%	71%	62%	65%	65%

PINE PULPWOOD PRICE AND 15-YEAR-OLD PLANTATION ACRES – 2020 DOLLARS

South-wide Merchantable (Age 15) Pine and Hardwood Plantation Acres and Pine Pulpwood Price
(Historical and Forecasted Real Stumpage Prices)



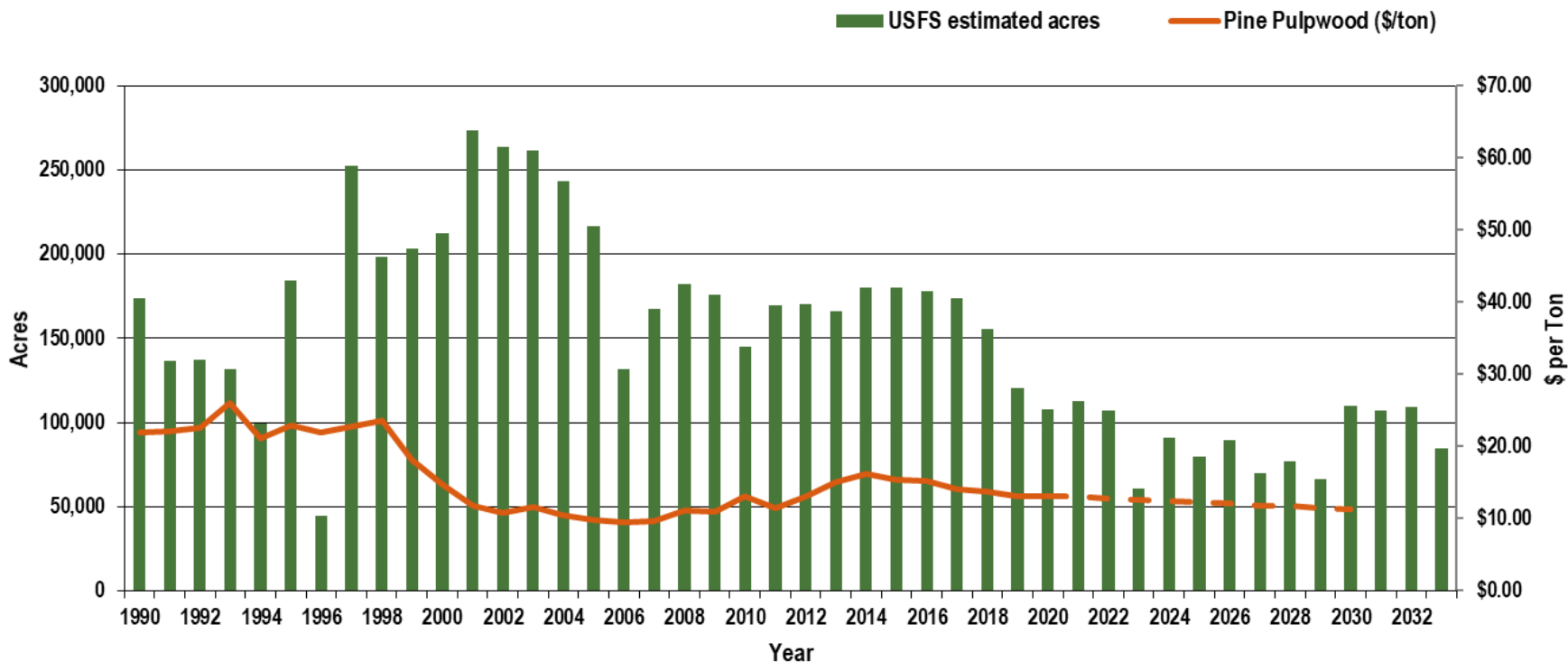
*Plantation acres reported in "Tree Planting in the South" (Harper, et al., 2013). The method for estimating plantation acres changed between 2014 and 2015 on the graph above. The difference between the two years (312,420 acres) was added to the years 1990 to 2014 in order to reconcile the two data sets.

**1990-2020 prices reported by Timber Mart-South across the southern states. Pulpwood price projection from Forisk Research Quarterly Q2 2021 report.



FLORIDA AGE-15 PLANTATIONS AND PINE PULPWOOD PRICE (2020 DOLLARS)

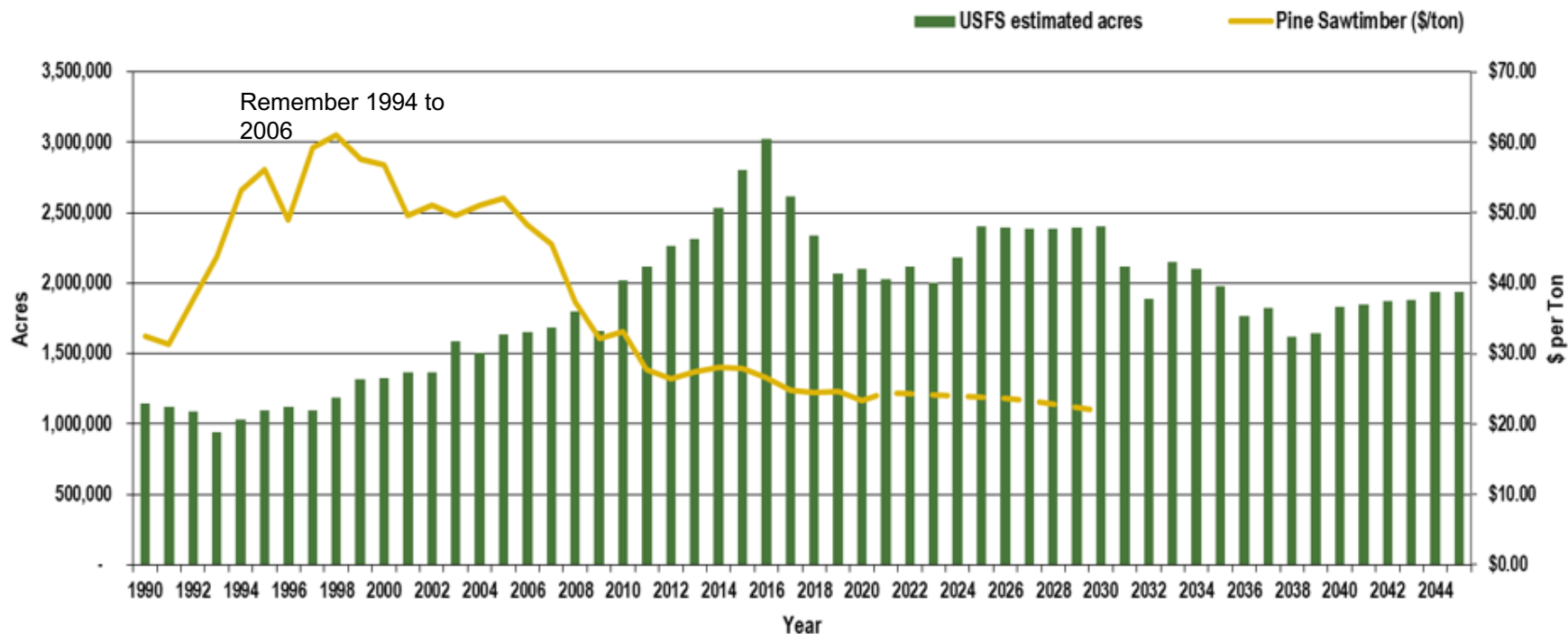
Florida Merchantable (Age 15) Pine and Hardwood Plantation Acres and Pine Pulpwood Price
(Historical and Forecasted Real Stumpage Prices)



*Plantation acres reported in "Tree Planting in the South" (Harper, et al., 2013). The method for estimating plantation acres changed between 2014 and 2015 on the graph above. The difference between the two years (312,420 acres) was added to the years 1990 to 2014 in order to reconcile the two data sets.

PINE SAWTIMBER PRICE AND 28-YEAR-OLD PLANTATION ACRES – 2020 DOLLARS

South-wide Merchantable (Age 28) Pine and Hardwood Plantation Acres and Pine Sawtimber Price (Historical and Forecasted Real Stumpage Prices)

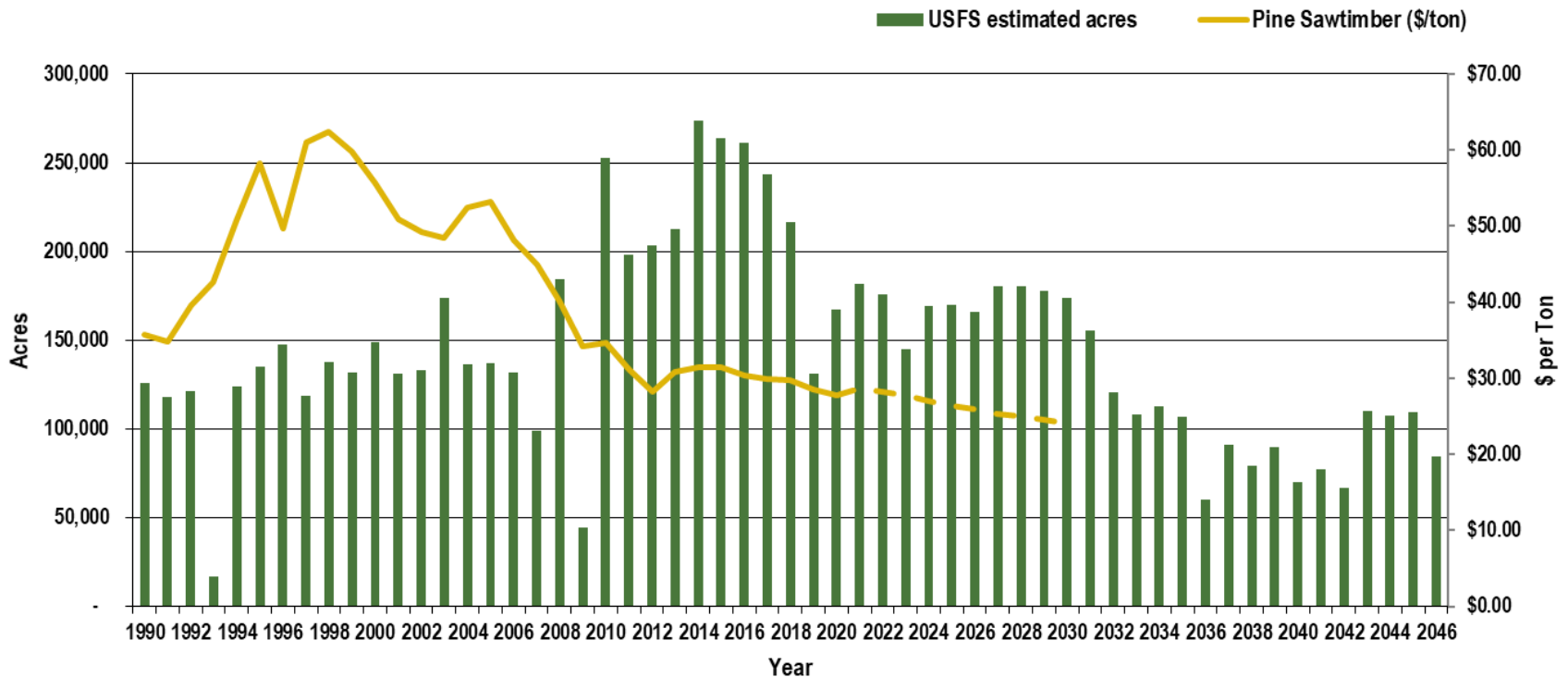


*Plantation acres reported in "Tree Planting in the South" (Harper, et al., 2013). The method for estimating plantation acres changed between 2027 and 2028 on the graph above. The difference between the two years (312,420 acres) was added to the years 1990 to 2027 in order to reconcile the two data sets.

**1990-2020 prices reported by Timber Mart-South across the southern states. Sawtimber price projection from Forisk Research Quarterly Q2 2021 report.

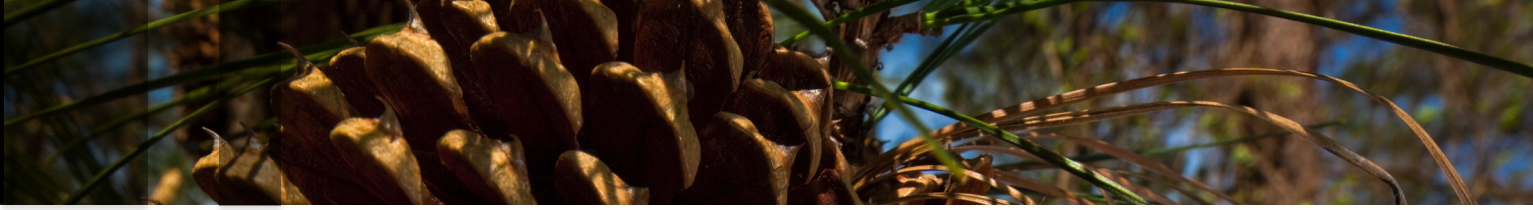
FLORIDA AGE-28 PLANTATIONS AND PINE SAWTIMBER PRICE (2020 DOLLARS)

Florida Merchantable (Age 28) Pine and Hardwood Plantation Acres and Pine Sawtimber Price
(Historical and Forecasted Real Stumpage Prices)



*Plantation acres reported in "Tree Planting in the South" (Harper, et al., 2013). The method for estimating plantation acres changed between 2027 and 2028 on the graph above. The difference between the two years (312,420 acres) was added to the years 1990 to 2027 in order to reconcile the two data sets.

**1990-2020 prices reported by Timber Mart-South across the southern states. Sawtimber price projection from Forisk Research Quarterly Q2 2021 report.



NEW SEASON, NEW EPISODES

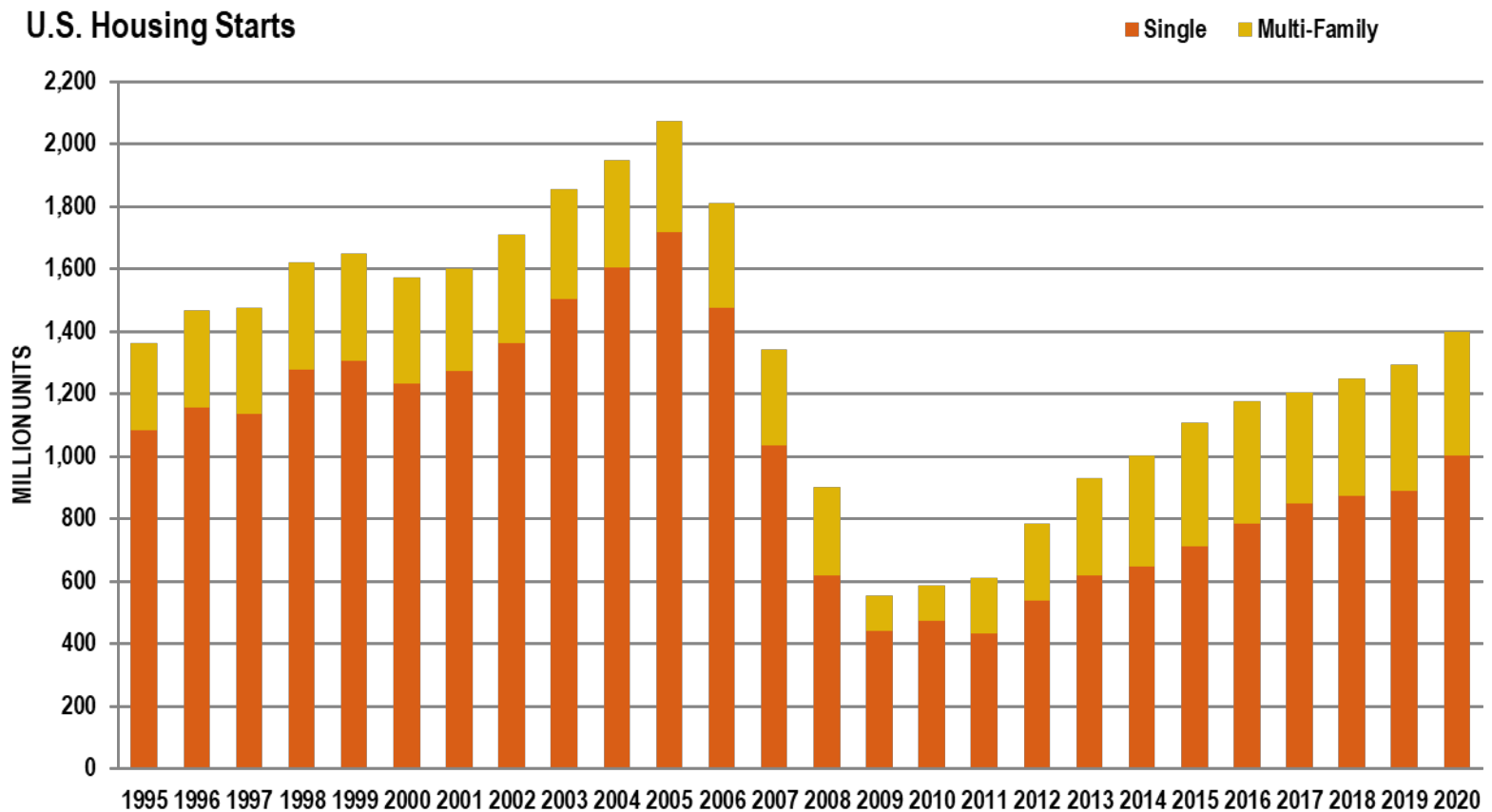


COVID? POSITIVE SO FAR.

- Shift back to single family housing – 2 to 3 times more lumber. (next slide)
- Concerned that current high prices for lumber could lead to substitution – but everything is going up.
 - Or, since overall building costs are rising so fast, do we have a housing collapse?
- Remote working
 - What happens to urban centers? Overbuilt? Remodel to lower density?
 - Move to rural settings for corporate headquarters?
 - Remote working and need for offices increases house size?



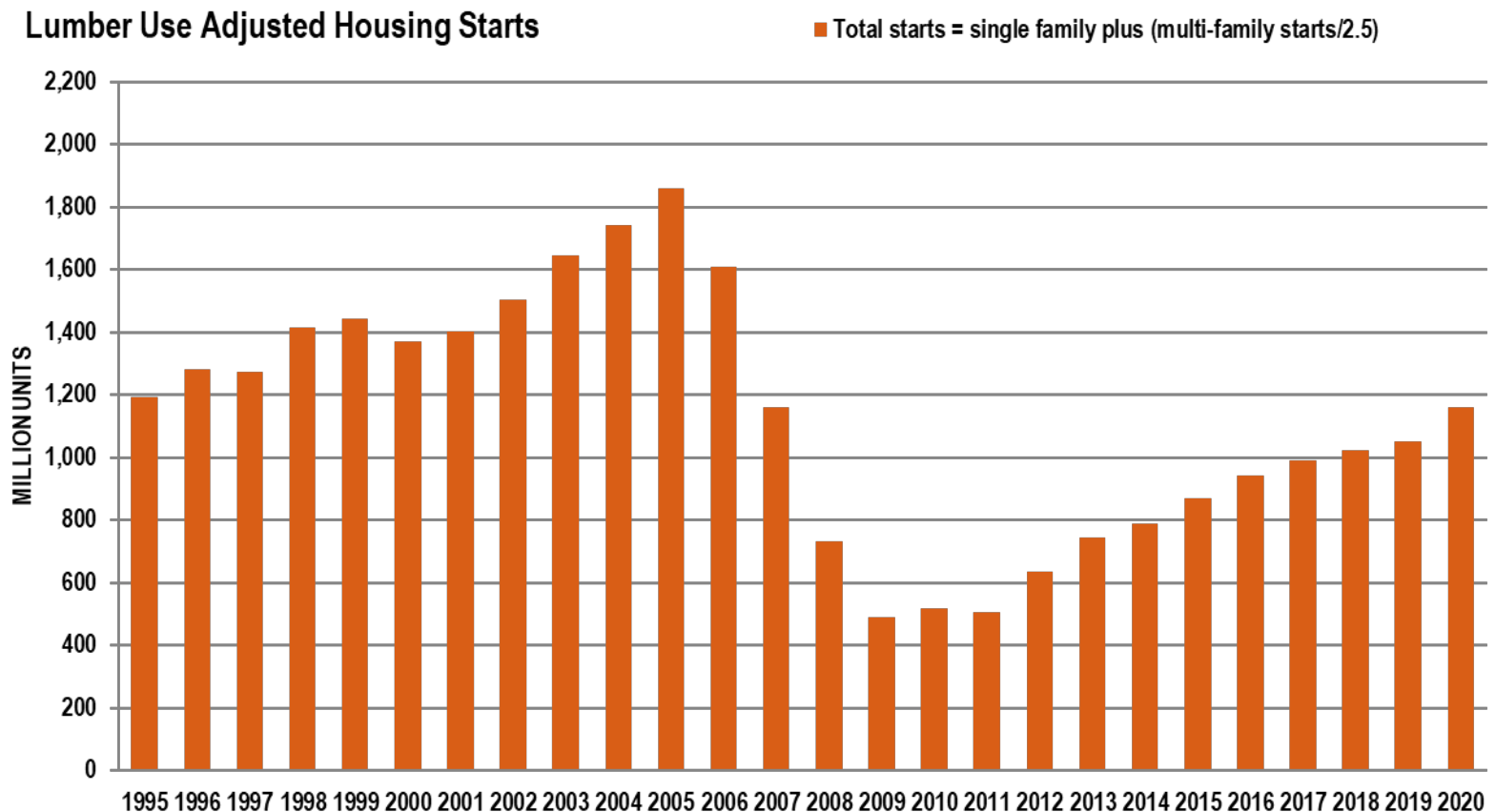
SINGLE & MULTI-FAMILY HOUSING STARTS (1995-2020)



Sources: U.S. Census



LUMBER USE ADJUSTED HOUSING STARTS (1995-2020)



Sources: U.S. Census

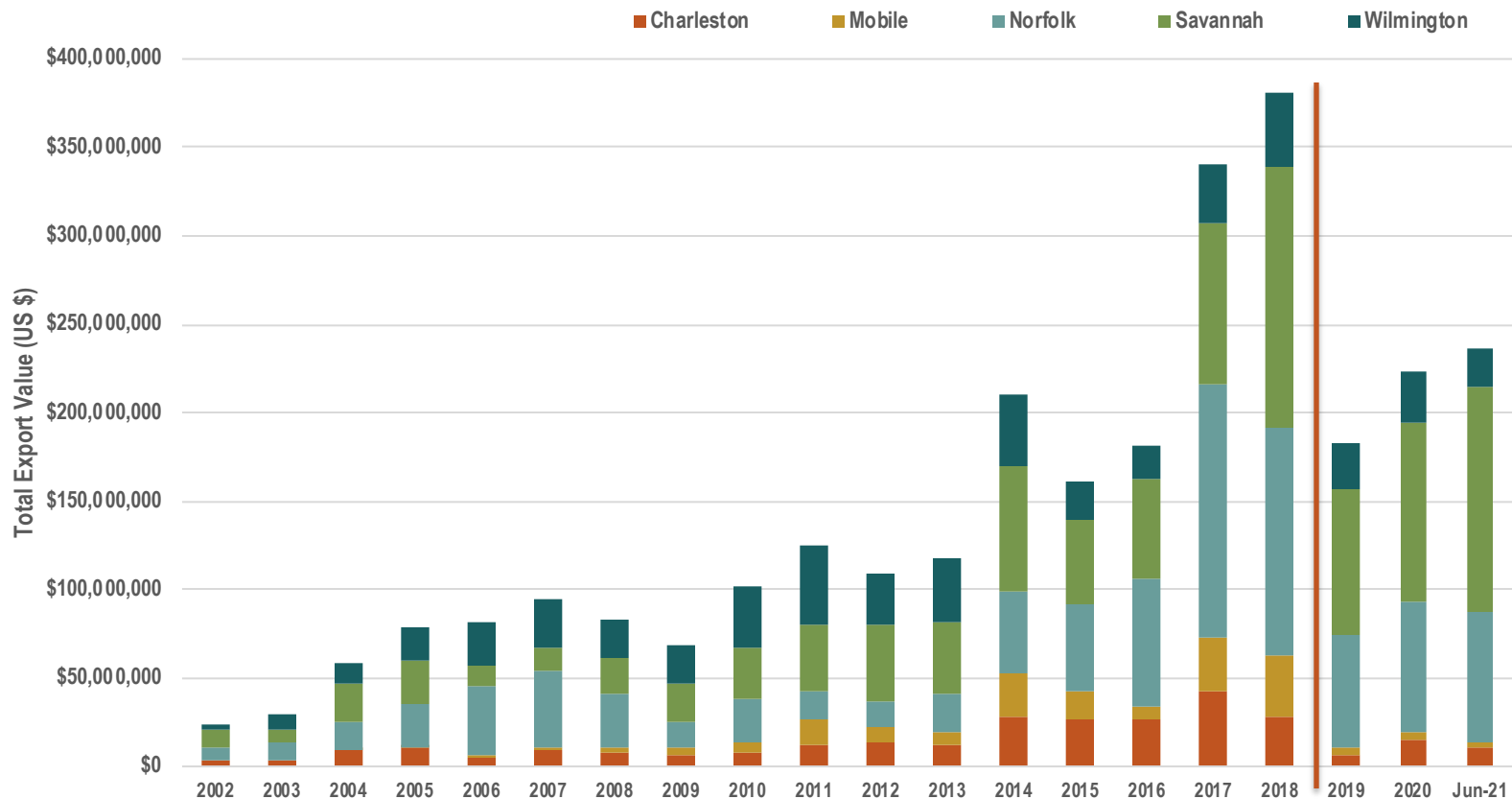


CHINESE EXPORTS, CANADIAN IMPORTS

- Panama Canal expansion opened Jun 2016, doubled capacity and allowed passage of much larger vessels – opening a much more efficient door to China.
- Much of the early trade has been loading empty containers with logs for the ride back – cheap freight.
- Trade wars, then Covid, slowed things down – next slide.

SOUTHERN LOG EXPORTS TO CHINA 2002 - JUNE 2021(US \$) TOOK A HIT, BUT RECOVERING – A WILDCARD!

China Log Exports from Southern Ports



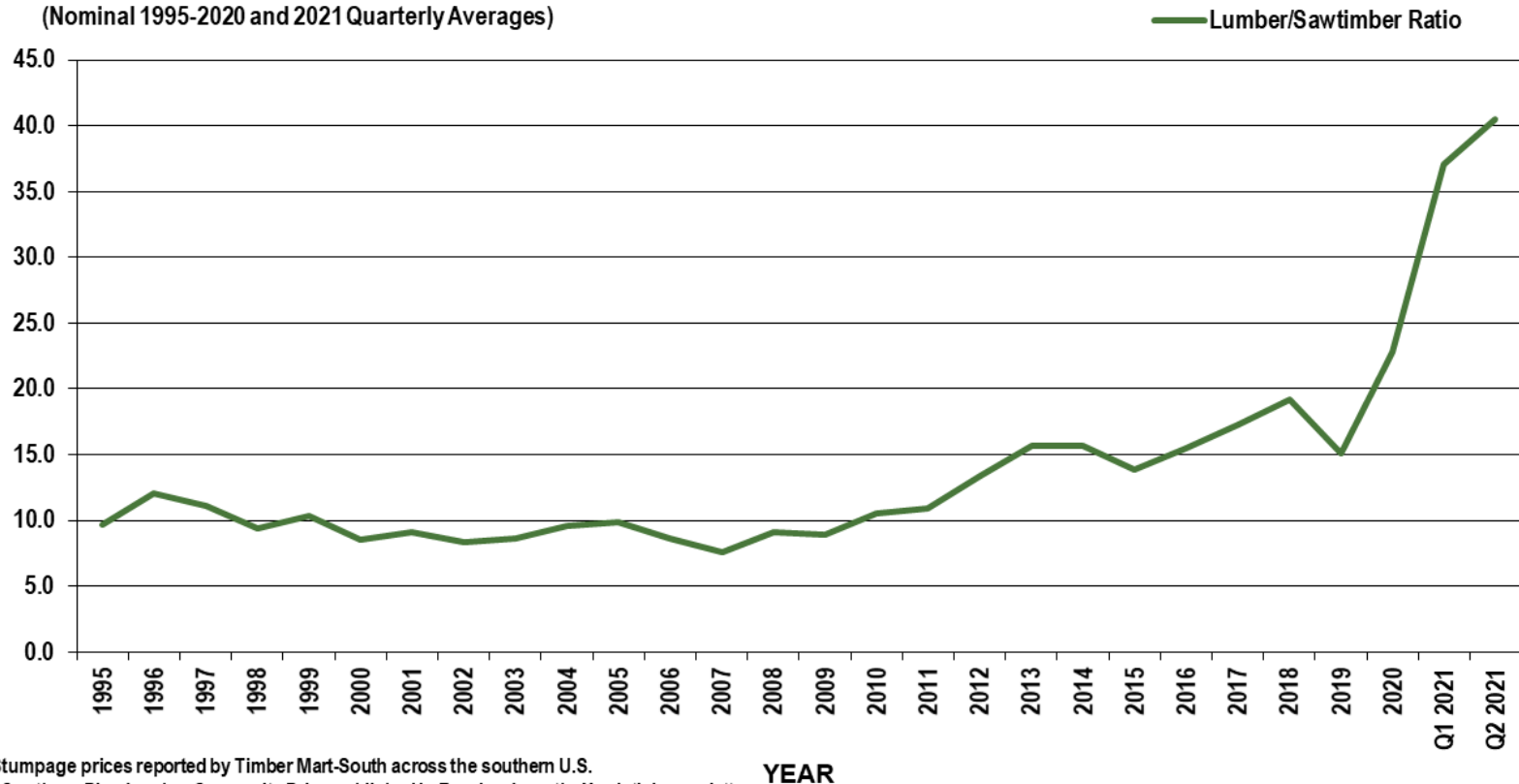
Source: <http://usatrade.census.gov/Perspective60>



RANDOM LENGTHS COMPOSITE PRICE/LARGE SAWTIMBER STUMPAGE

PLENTY OF ROOM FOR STUMPAGE PRICE INCREASES.

RL Southern Pine Lumber Composite Price/TMS Southern Pine Large Sawtimber Stumpage Price
(Nominal 1995-2020 and 2021 Quarterly Averages)



*Stumpage prices reported by Timber Mart-South across the southern U.S.

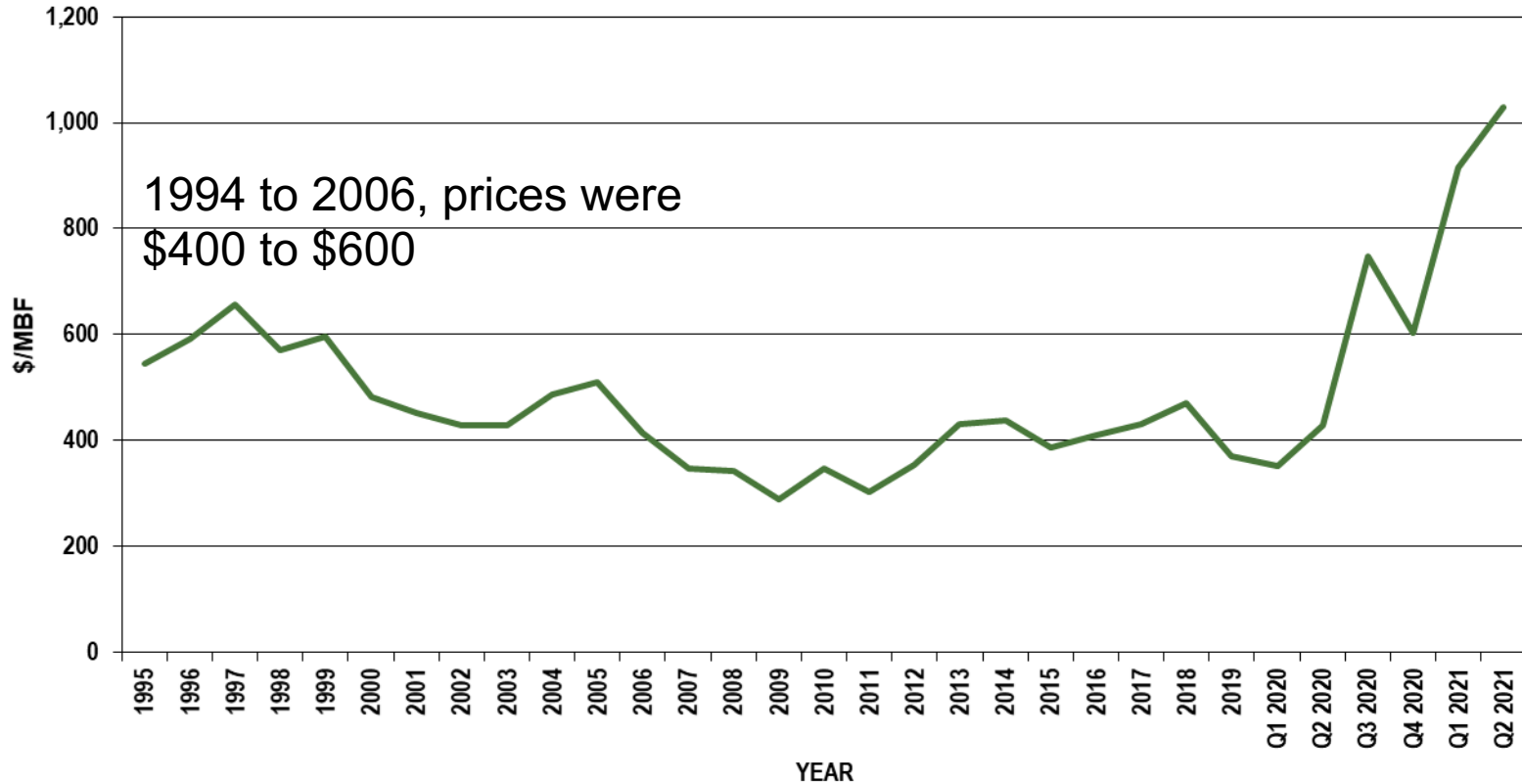
** Southern Pine Lumber Composite Price published in Random Lengths Yardstick newsletter.



SOUTHERN PINE LUMBER COMPOSITE PRICE (2020 DOLLARS)

RL Southern Pine Lumber Composite Price
Yearly (1995-2019) and Quarterly (Q12020-Q22021) Average Prices (2020 \$)

— Lumber Price



Southern Pine Lumber Composite Price published in Random Lengths Yardstick newsletter.



WEST COAST SUFFERS SIGNIFICANT SUPPLY LOSSES

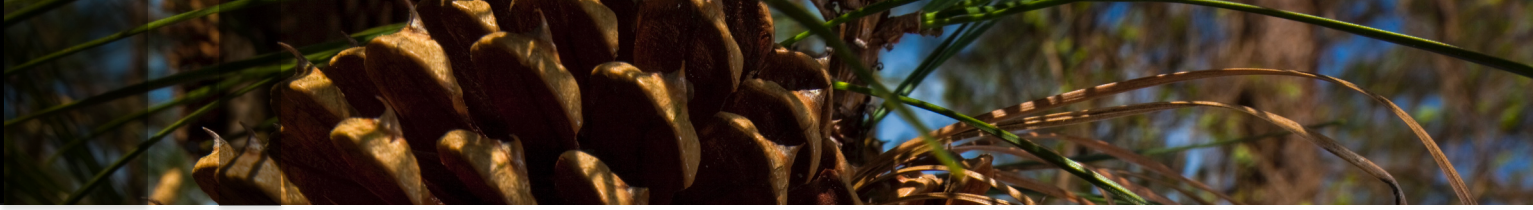
- “As of May 2013, the Pine Beetle is aggressively devastating forests in all 19 US-American western states and Canada, destroying approximately 88 million acres of timber at a 70–90% kill rate.”
- “In 2020, the [Western United States](#) experienced a series of major [wildfires](#)... burning more than 10.2 million acres...”
- Is this another “spotted owl” supply disruption?
- Where in the world can people go to find trees?

Both quotes from Wikipedia



ECOSYSTEM SERVICES, TAX POLICY

- Can ecosystem services fill the income gap?
 - Already provide clean air, water, recreation
 - We sequester carbon in trees and products.
 - It could be that this is the solution to oversupply
 - And prices... carbon folks will have to pay enough to stall harvests, mills will have to pay enough to prevent people from entering into carbon agreements.
- Biden's tax plans potentially:
 - Taxing incomes greater than \$1mm at ordinary rates...
 - Puts large private holdings at a huge disadvantage to tax advantaged pension funds/REITs
 - May force fragmentation – holdings that average less than \$1mm in sales per year will be taxed at a substantially lower level.
 - Change in estate tax exemptions may force liquidation at death, further fragmentation.



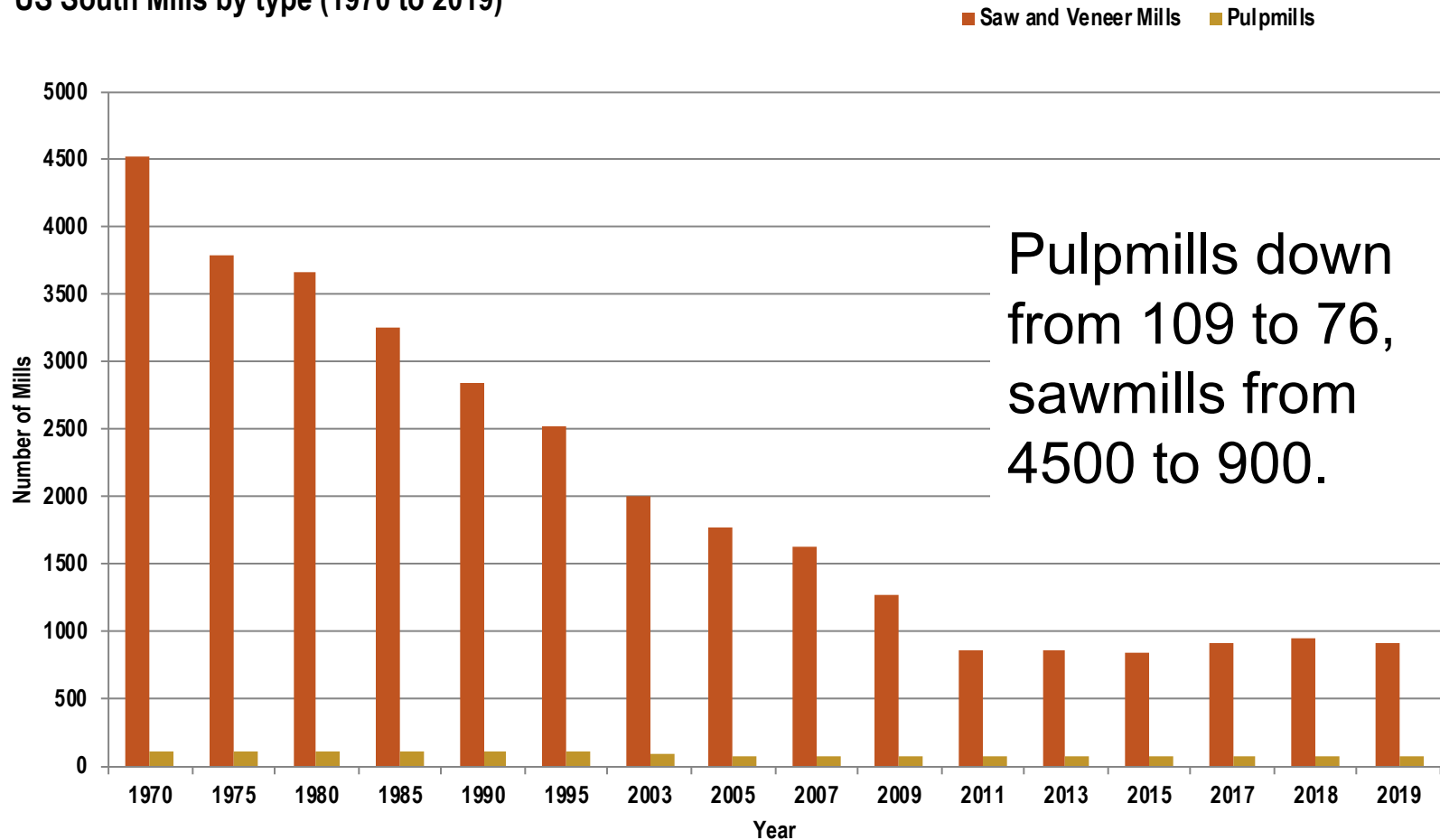
TWO NEW CHARACTERS... (AKA A NEW MACROECONOMIC LANDSCAPE?)

- Or... where did my favorite character, Perfect Competition, go?
- Shrinking numbers of mills are changing our economic landscape



NUMBER OF US SOUTH MILLS OVER TIME

US South Mills by type (1970 to 2019)

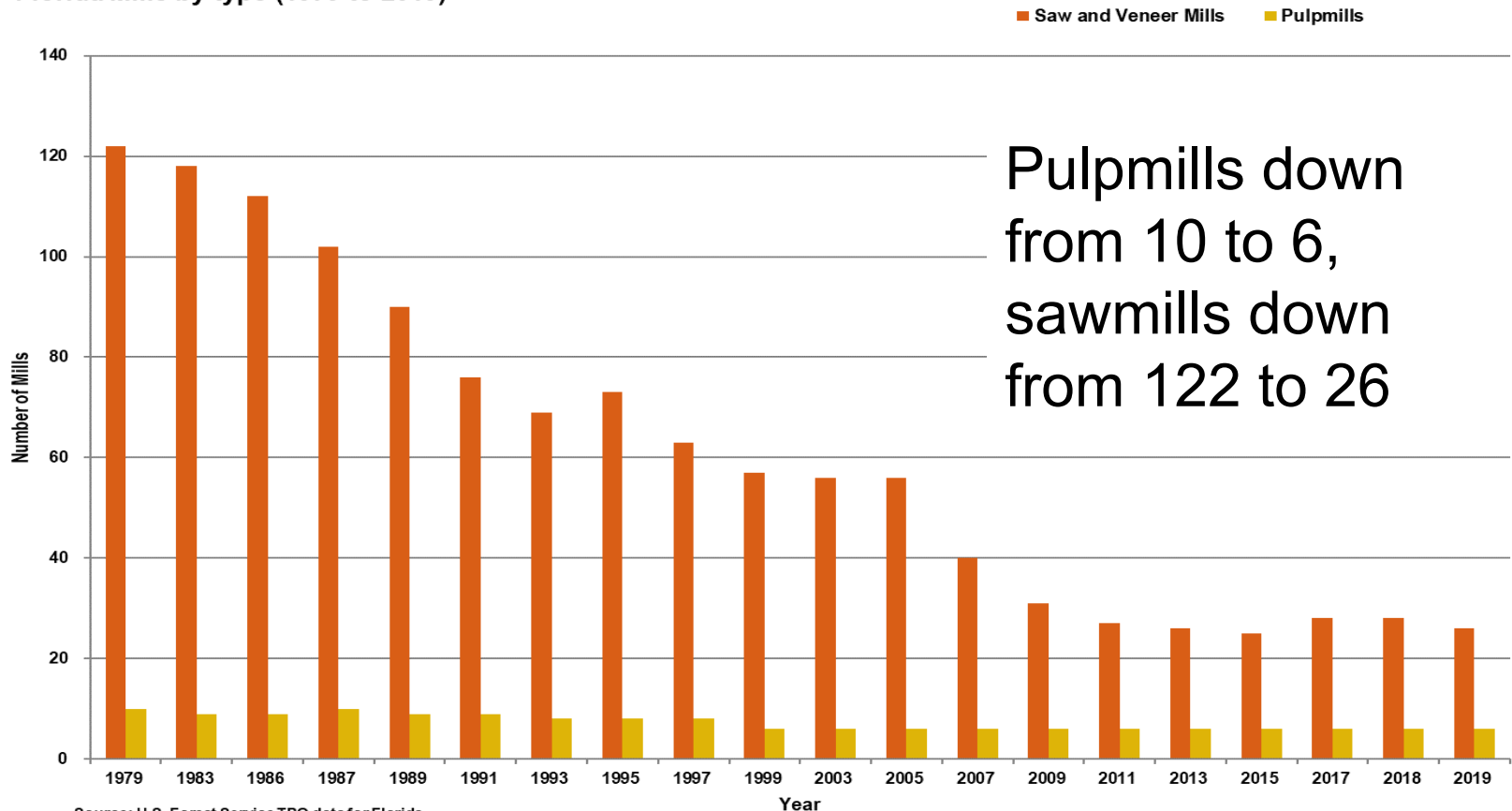


Source: U.S. Forest Service TPO data for 13 Southern States



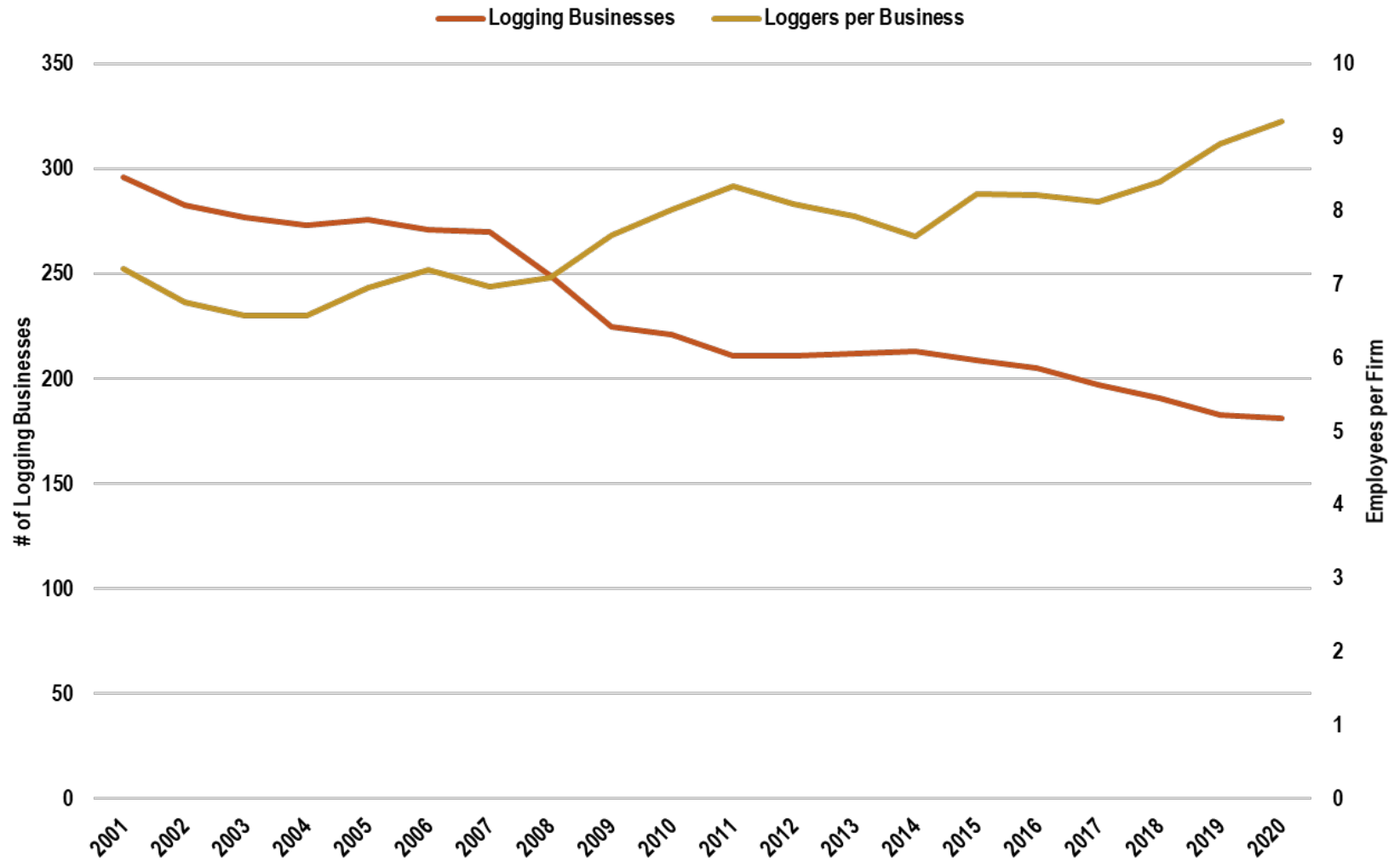
NUMBER OF FLORIDA MILLS OVER TIME – CONCENTRATING – AMPLIFIED BY COMMON OWNERSHIP

Florida Mills by type (1979 to 2019)





FLORIDA LOGGING BUSINESS DEMOGRAPHICS





PERFECT VS. IMPERFECT COMPETITION

	<i>One</i>	<i>Few</i>
<i>Seller(s)</i>	Monopoly	Oligopoly
<i>Buyer(s)</i>	Monopsony	Oligopsony



OLIGOPSONY (FROM WIKIPEDIA)

- An oligopsony... is a market form in which the number of buyers is small while the number of sellers in theory could be large.
- This typically happens in a market for inputs where numerous suppliers are competing to sell their product to a small number of (often large and powerful) buyers.
- An oligopsony is a form of imperfect competition.



FURTHER DEFINITION (WIKIPEDIA)

- **“...the buyers have a major advantage over the sellers.**
They can play off one supplier against another, thus lowering their costs. They can also dictate exact specifications to suppliers, for delivery schedules, quality, and (in the case of agricultural products) crop varieties. **They also pass off much of the risks of overproduction, natural losses, and variations in cyclical demand to the suppliers”**

Overproduction = CRP, natural losses = Hurricane Michael,
cyclical demand = early Covid



OLIGOPSONY CONTINUED

- Question: Are stumpage sellers moving from a relatively free market to selling into an oligopsony? What does that mean for us?
- How about loggers and truckers?



OLIGOPOLY (FROM WIKIPEDIA)

- An oligopoly ...is a market form wherein a market or industry is dominated by a small group of large sellers (oligopolists). For example, it has been found out that electrical and tobacco industry are highly oligopolist in the US.
- ...Another difference between oligopoly and perfect competition is that oligopolists do not have a supply curve. Instead, they search for the best price-output combination.



OLIGOPSONY/OLIGOPOLY IMPLICATIONS

- These concepts, if true, could mean that sawmills may be able to operate at higher margins than they could historically by maintaining lower stumpage costs and higher lumber prices.
- Same probably true for pulpmills – for a long time.
- But even in a state of imperfect competition, there will slowly be pressure to raise prices for stumpage, so the ability (perhaps) to maintain higher lumber prices should trickle down to truckers, loggers, and landowners – just more slowly and perhaps not as much.
- Nothing illegal unless they collude – and I am not saying or implying nor do I believe they are colluding. This is perhaps a market reality, and you need to know the kinds of markets you are dealing in.



SELLING A COMMODITY IN AN OLIGOPSONISTIC MARKET

- Same principles as always, but more important
- Only way to differentiate a commodity (other than price) is ease of delivery.
- “Commodity” includes trucking, logging, lumber, pulp.



UPCOMING EPISODES (POINTS TO PONDER/DISCUSS)

- Wild Cards
 - Chinese exports from the South
 - Carbon, etc.
 - Government tree planting programs
 - Biden's tax bill
 - West coast supply reductions
 - Is the remaining "natural" timber in the south really available for harvest, if not will the end of oversupply come abruptly and more quickly than we think?
- What do you think about the oligopsony/oligopoly phenomena? Is this or sawtimber oversupply the biggest factor in our sawtimber price doldrums? Bad or good for landowners?
 - Are barriers to entry high enough to prevent new sawmill owners from moving in?
- What can sellers do to make things easier for their customers, the wood dealers and mills?
- Can higher end product prices cure our logger/trucking/stumpage price problem?