ADMINISTRATIVE ORDER 258, ITEM 8:
ALASKA'S TIMBER RESOURCE AND WOOD PRODUCTS

BACKGROUND

Alaska's forests have supported families, businesses, and communities for generations. Alaska Natives harvested wood products for subsistence uses. Homesteaders utilized wood products as they built homes, infrastructure, and communities. Eventually Alaska's timber resource, particularly in Southeast, became heavily commercialized. The commercial timber industry became a major regional economic driver as a pulp industry grew, supported by ample Tongass National Forest timber supply. Pulp mill companies thrived, sawmills kept busy, and small businesses flourished across Southeast Alaska. In short, the timber industry and associated wood product businesses drove a population and economic boom across Southeast Alaska that lasted for decades.

The commercial timber industry peaked in Southeast Alaska during 1989 with more than one billion board feet harvested. In contrast, the past ten years have yielded harvests measured only in millions board feet (range 22 mmbf to 49 mmbf); only 35 mmbf were harvested during 2010. Implementation of federal policy regarding the Tongass National Forest continues to evolve through the varied and inconsistent execution of the 2008 *Tongass Land Management Plan* (TLMP). The timber industry and wood products businesses operate in an uncertain business climate and without sufficient timber supply. The industry that once drove an economic boom, is a shadow of its former self. An overwhelming majority of Southeast communities have experienced significant population decline over the past ten years as families migrate out of the region in search of economic security elsewhere. Secondary impacts of the population loss have had far reaching consequences in many communities including declining school enrollments, decreasing municipal tax bases, and difficulty in transitioning to alternative local economic drivers.

During May 2011, Governor Sean Parnell established the Alaska Timber Jobs Task Force (hereafter Task Force) to review and recommend actions related to:

- management of state-owned forest land, establishment and expansion of legislatively-designated state forests, and state timber harvesting statutes and regulations; and
- Tongass National Forest management, Southeast Alaska land ownership, timber supply and demand, current and potential wood products, and additional research needs.

The purpose of this briefing is to provide draft information related to Administrative Order 258, Item 8. In particular, the objectives of Item 8 include: 1) reviewing current wood products; and 2) identifying potential new products and uses that could be developed pending an increase in timber supply. Notably, while the Administrative Order noted a focus on the Tongass National Forest, the Task Force agreed to adopt a wider scope and explore wood products across Alaska, with particular focus on Southeast Alaska. Furthermore, background is provided regarding Alaska timber, properties, and potential wood products.

ALASKA'S TIMBER RESOURCE

Alaska's timber resource is composed of boreal and coastal forest species located in Southeast, Southcentral, and the Interior. The forests of Interior and Southcentral are generally referred to as Boreal Forests. South to north, these forests stretch from Kenai Peninsula to the Tanana Valley to the foothills of the Brooks Range. East to west, they extend from Porcupine River near the Canadian border to the Kuskokwim River Valley. The nation's second largest national forest, the Chugach National Forest, is located in Southcentral Alaska and encompasses 5.4 million acres, including Prince William Sound and much of the Kenai Peninsula.

Boreal Forests are home to white spruce, quaking aspen, paper birch, black spruce, balsam poplar, and larch. Extreme climatological variation and short growing seasons cause most of the trees to have tight growth rings, making the wood prized for strength and beauty. The timber industry in Southcentral and the Interior are largely limited to small mills and cottage industries.

Alaska's coastal forests range from the Southeast panhandle to Kodiak Island. Southeast, in particular, is the most densely-forested area in Alaska and home to the nation's largest national forest – the Tongass National Forest. The Tongass encompasses 16.8 million acres and covers 80% of Southeast Alaska. As a coastal rainforest, primary species include Sitka spruce, western hemlock, mountain hemlock, western red cedar, and yellow cedar. Mountain hemlock dominates the upper slopes. Sitka spruce, both cedars, and western hemlock dominate the lower slopes. All species of the coastal rainforest are valued for their durability, versatility, and beauty. Southeast's timber industry ranges from exporting unprocessed logs, to sawmills, to value-added timber product cottage industries.

POTENTIAL WOOD PRODUCTS

Although virtually any wood can be forced to accommodate a particular use, certain species are superior for certain applications. Notably, the critical factor is linking unique wood properties to their highest and best use. The properties of the wood materials will drive market values; a successful match between properties and highest use will yield the greatest market value.

Table 1. Alaska Timber, Properties, and Products **[Source: 1997 Timber Task Force Report]**

Select Species	Characteristics and Properties	Example Products
Western Hemlock	takes paint, glue, and varnish well moderately hard, strong, and light weight very wet low decay resistance	framing lumber posts and beams laminated beams plywood pulping molding and trim
Sitka Spruce	takes glue, paint, and varnish well high strength to weight ratio moderately soft and light weight long and high density fibers good resonance quality clear and straight grain	airplanes and boats veneers millwork pulping musical instruments light framing ladders/scaffolding
Western Red Cedar	takes paint, glue, and vanish well low thermal conductivity very light weight dimensional stability high resistance to decay	siding sheathing and subflooring shingles decking furniture posts and poles outdoor uses
Alaska Cedar	extreme durability resistance to acid and fire very workable uniform texture strong odor dimensional stability easy to kiln dry low nail-holding capacity heavy	boat building carving window frames storage tanks canoes and paddles bridge and dock decking doors molding and trim
Red Alder	uniform texture moderately strong and lightweight excellent for machining takes glue, paint, and varnish well	fine furniture cabinets pulpwood
Black Cottonwood	lightweight uniform texture soft and moderately week takes nails well, but low nail-holding capacity	plywood care boxes and crates pulpwood excelsior
White Spruce	Good for machining Excellent resistance to nail splitting Good nail and screw holding ability Very good for gluing	pulpwood lumber insulating board particle board
Paper Birch	Excellent for machining Good resistance to nail splitting Very good nail and screw holding Good for gluing	pulpwood utensils flooring

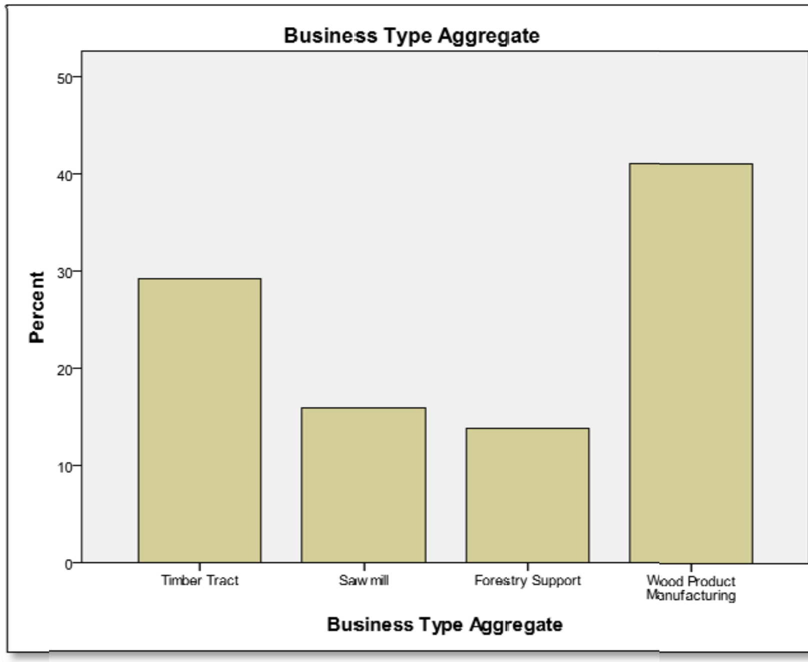
STATEWIDE WOOD PRODUCTS

Determining total business activity across all wood products and timber industry business types is a challenging task as it requires collecting and verifying data across multiple sources including federal data, state data, and on-the-ground research. In short, there are many forest product businesses operating in Alaska that may not be adequately reflected in government data sources because business owners and/or operators may not fully-disclose or accurately self-report current enterprises or business activity.

The Alaska Department of Commerce, Community, and Economic Development's (DCCED) Business License database contains 419 current licenses for wood product businesses spanning 15 different types of businesses. Additional businesses located via informal interviews with various advocacy groups and business leaders yields a *draft* total of 451 forest product businesses across Alaska (Table 2). Nearly one-third (29%) of all licensed wood product businesses are timber tract operations (i.e., traditional logging operations). Fifteen percent (15%) are traditional sawmills, and 12% are forestry support activities. Notably, nearly one-quarter (22%) are classified as "all other miscellaneous wood product manufacturing businesses", which generally represents small cottage wood product businesses that are not adequately described using traditional wood product terminology.

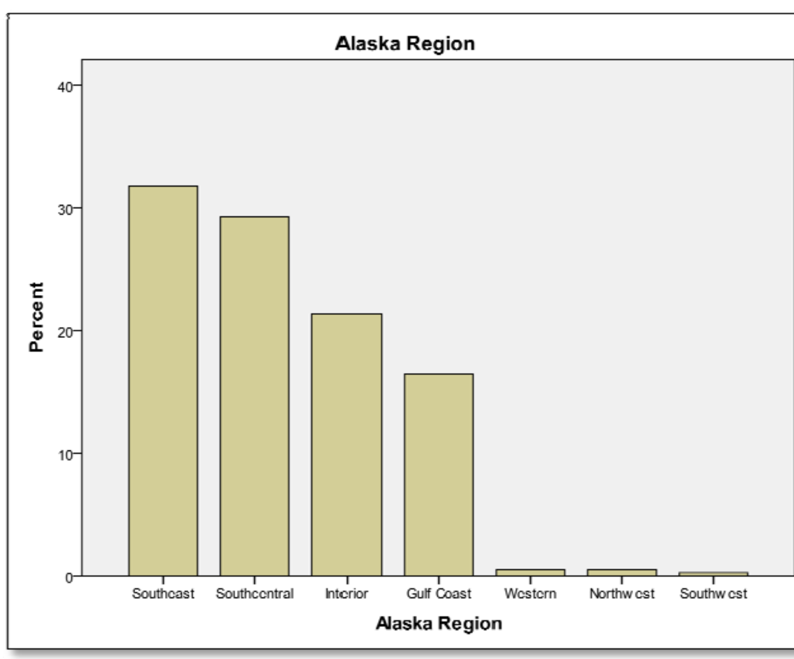
Table 2. 2011 Statewide Wood Product Businesses

Business Type	Statewide	Percent
Timber Tract Operation	132	29%
Sawmill	69	15%
Forestry Support Activities	55	12%
Kitchen Cabinet/Countertop Manufacturing	40	9%
Furniture Manufacturing	16	3%
Veneer/Plywood Manufacturing	13	3%
Prefab Wood Building Manufacturing	9	2%
Woodworking/Sawmill Equipment	5	1%
Container/Pallet Manufacturing	4	1%
Window/Door Manufacturing	2	1%
Wood Preservation	2	1%
Cut Stock, Resawing, Lumber, and Planing	2	1%
Other Millwork (including flooring)	1	0%
Reconstituted Wood Product Manufacturing	1	0%
Other Wood Product Manufacturing	100	22%
Total	**451**	**100%**



Considered more broadly, the 15 categories of wood product businesses can be further aggregated by business type ranging from timber harvesting activities (i.e., timber tract operation), to processing (i.e., sawmill), to value-added manufacturing (i.e., wood product manufacturing). Additional wood product businesses include a wide array of forest support activities that occur along the harvest to manufacturing industry continuum. Notably, timber tract operations are nearly one-third (29%) of all wood product businesses, followed by sawmills (16%) and forestry support (14%). All types of wood product manufacturing, from household consumables to packing materials, comprise 40% of all Alaska wood product businesses. Of noteworthy importance, this brief analysis focuses on total businesses and does not address total jobs created by businesses. Furthermore, this analysis does not account for the change in total wood products over time.

WOOD PRODUCTS BUSINESSES BY REGION



Considering all 451 wood product businesses, less than ten percent (10%) are registered to addresses outside of Alaska (i.e., nonresidents). Ninety-two percent (92%) are Alaska owned and operated businesses; one is a Canadian firm operating in Southeast Alaska, but headquartered out of Calgary, Alberta.

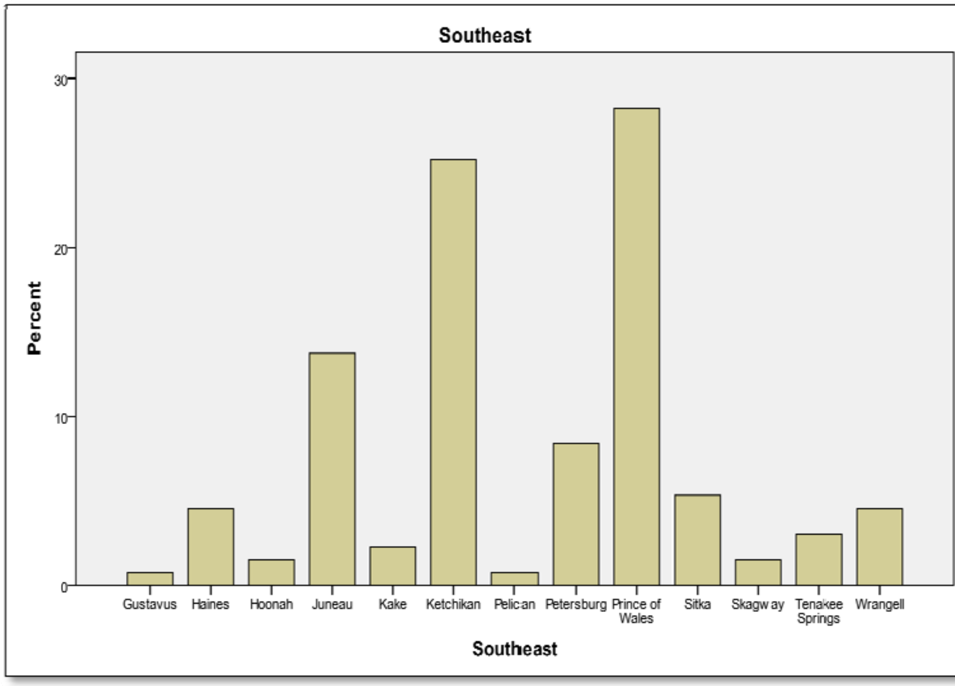
Although Southeast is home to the famed Tongass National Forest with worldclass cedar, hemlock, and spruce timber, the region only contains about one-third of all current Alaska wood products businesses (32%) (Figure 2). Southcentral follows closely with 29% of all wood product businesses; less than one-quarter of all businesses are located in the Interior. Notably, current data to describe regional distribution does not adequately represent the significant change Southeast has undergone over the past decade. Tongass National Forest timber supply has been choked off; the pulp mills and many timber product businesses have gone out of business. See Appendix for graphical representation of regional boundaries.

SOUTHEAST WOOD PRODUCTS

Notably, one-third (32%) of all wood product businesses are located in Southeast Alaska in 20 distinct communities (Table 3). The remaining timber product businesses are located across Alaska with the highest concentration in Anchorage (15%), Fairbanks (10%), and Wasilla (9%).

Table 3. 2011 Southeast Alaska Wood Product Businesses

Community	Timber Tract Operation	Sawmill	Forestry Support Activities	Other Wood Product Manu	Veneer and Plywood Manu	Kitchen Cabinet and Countertop Manu	Prefab Wood Building Manu	Wood Container and Pallet Manu	Cut Stock, Resawing Lumber, and Planing	Other Millwork (Including Flooring)	Wood Office Furniture Manu	Community Total
Coffman Cove			2	1		1						4
Craig	3	3		1				1	1			9
Edna Bay		2										2
Gustavus		1										1
Haines	2		1	2		1						6
Hoonah		2										2
Hydaburg	1											1
Juneau	5	1	3	4	2	1	1	1				18
Kake	2	1										3
Kasaan	2											2
Ketchikan	13	4	10	4						1	1	33
Klawock	2		5									7
Pelican	1											1
Petersburg	3	4	2	2								11
Point Baker		1										1
Sitka	3	1	3									7
Skagway	1			1								2
Tenakee Springs	1	1		1		1						4
Thorne Bay	1	5		2	2		1					11
Wrangell	1	3	2									6
Total	**41**	**29**	**28**	**18**	**4**	**4**	**2**	**2**	**1**	**1**	**1**	**131**



Over half (53%) of all Southeast wood product businesses are located in the southern half of the region; namely Ketchikan area and Prince of Wales Island. Juneau and Petersburg follow with 14% and 8% percent of all wood product businesses respectively. Although not a strong current economic presence and likely no rival to years prior, wood product businesses are active in many additional Southeast communities including Haines, Skagway, Hoonah, Kake, Pelican, Sitka, Tenakee and Wrangell. In short, 60% of all Southeast communities (N = 34) have a forest products business that is currently operating or has operated in the recent past. As previously noted, current data clearly does not represent the robust timber industry and large quantity of businesses that operated across Southeast Alaska during the pulp mill era.

APPENDIX: ALASKA REGIONS