North American Woodchip Export Supply

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North America exports more woodchips into the Atlantic markets than the Pacific

<table>
<thead>
<tr>
<th>Port</th>
<th>Company</th>
<th>Softwood</th>
<th>Hardwood</th>
<th>Markets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Western North America</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Vancouver, BC</td>
<td>Fibreco</td>
<td>120</td>
<td></td>
<td>Japan</td>
</tr>
<tr>
<td>Coos Bay, OR</td>
<td>Roseburg Forest Products</td>
<td>460</td>
<td></td>
<td>Japan/China</td>
</tr>
<tr>
<td>OCT</td>
<td></td>
<td>150</td>
<td></td>
<td>Japan</td>
</tr>
<tr>
<td>Humboldt Bay, CA</td>
<td>California Redwood</td>
<td>53</td>
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<td>Japan/China</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>783</strong></td>
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<td></td>
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<tr>
<td><strong>Eastern North America</strong></td>
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<tr>
<td>Sheet Harbor, NS</td>
<td>Great Northern Timber</td>
<td></td>
<td>140</td>
<td>Turkey</td>
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<td>Dalhousie, NB</td>
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<td>80</td>
<td>Turkey</td>
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<td>Belledune, NB</td>
<td>Enviro SRL</td>
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<td>55</td>
<td>Turkey</td>
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<td>Morehead City, NC</td>
<td>Cogent Fibre</td>
<td></td>
<td>66</td>
<td>Turkey</td>
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<td>Wilmington, NC</td>
<td>Yildiz Entegre</td>
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<td>103</td>
<td>Turkey</td>
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<td>Savannah, GA</td>
<td>Cogent Fibre</td>
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<td>176</td>
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<td>Jacksonville, FL</td>
<td>Kastamonu</td>
<td></td>
<td>144</td>
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<td>Mobile, AL</td>
<td>Yildiz Entegre</td>
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<td>132</td>
<td>Turkey</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>714</strong></td>
<td><strong>195</strong></td>
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</table>
The USA exports about 1.0 million GMT of softwood chips to Canada; very little hardwood chip volume is traded cross-border.
Fibreco Export Dock, Vancouver
2016 – Wood pellet exports: 1.0 million tonnes
Woodchip exports: 120,000 BDMT
Fibreco: Exports of woodchips from Western Canada coming to an end

• Started by consortium of sawmill companies, including some of the largest lumber producers in British Columbia.
• Exporting woodchips since 1977
• Species: SPF (spruce-pine-fir) with some Douglas-fir
• Woodchip markets: Japan
• Includes several shipments per year of biomass chips
• Only 6,000 BDMT of chip exports planned in 2017, as the dock is being converted to other products
• But exports of about 1.0 million tonnes of wood pellets per year will continue
Roseburg Forest Products Terminal
Coos Bay, Oregon

2016 Shipments from Coos Bay
• Roseburg: 460,000 BDMT
• Oregon Chip Terminals (OCT): 150,000 BDMT (separate terminal)
Roseburg and OCT in Coos Bay, Oregon

- International trade in woodchips began in 1965 in Coos Bay
- Roseburg Forest Products is major wood products producer in Oregon (sawmills, wood panels)
  - Export terminal started loading woodchips in 1968
  - Species: mostly Douglas-fir with some “whitewood” (hemlock, true firs)
  - Markets: primarily Japan with some to China
  - Capacity is much greater than current volumes, could add loading of biomass chips/pellets if needed
- OCT is 100% owned by Daio Paper and exports Douglas-fir chips only to Daio Paper
California Redwood Company exported 53,000 BDMT of softwood chips to Japan in 2016

- Dredging was behind schedule in 2016, but in 2017 expect about 90,000 BDMT of softwood chip exports
- Tanoak (hardwood) chips are available, and have been exported to Japan in the past from this port
Possible new chip export terminals in the US West?

• Astoria Forest Products LLC is trying to develop a new export terminal for softwood chips at the Port of Astoria, Oregon (near the mouth of the Columbia River) and another at Port McKenzie, Alaska (near Anchorage) for birch chip exports

• Others?
Great Northern Timber – Nova Scotia

Sheet Harbor, Nova Scotia
Hardwood Chip Exports
2016 Volume: 140,000 BDMT
Great Northern Timber – New Brunswick

First loading at Dalhousie, New Brunswick in 2011
2016 Volume: 80,000 BDMT of Softwood
Great Northern Timber: Sheet Harbor and Dalhousie

- First loading December 1997
- Species: Maple and other mixed hardwood, black spruce
- Markets: Formerly Japan, northern Europe; currently Turkey
- Capacity: Increasing
Enviro SRL, Belledune, New Brunswick
2016 Volume: 55,000 BDMT Hardwood (Maple), 13,000 BDMT Softwood (Spruce)

Markets: Turkish MDF and Italian biomass
Cogent Fibre
Loading at East Coast Terminal Company, Savannah, Georgia
2016 Shipments: 176,000 BDMT
Cogent Fibre
Morehead City Terminal
2016 Shipments 66,000 BDMT
Cogent Fibre LLC: First major chip exporter to the Turkish market

- Savannah, Georgia
  - First shipment by Cogent in 2005
  - Loading by East Coast Terminal Co., which has been exporting woodchips from this facility since late 1970s
  - Species: Southern yellow pine
  - Market: Turkey

- Morehead City, North Carolina
  - First shipment by Cogent in 2011
  - Loading by Industrial Marine Services, Inc. (this site had woodchip exports to Japan in the 1980s and 1990s)
  - Species: Southern yellow pine and mixed hardwood
  - Market: Turkey
Wilmington, North Carolina (Yildiz Entegre)  
2016 Volume: 103,000 BDMT  
Market: Turkey

Started exporting woodchips in 2011 (facility formerly used by Jordan Lumber to export chips in the 1990s)  
Species: Southern Yellow Pine
Jacksonville, Florida (Kastamonu)
2016 Volumes: 144,000 BDMT
Market: Turkey
Species: Southern Yellow Pine

Keystone Terminal
First vessel: May 2011
Mobile Bay Woodchip Center (Yildiz Entegre)
2016 Volumes: 132,000 BDMT
Species: Southern Yellow Pine
Market: Turkey

Yildiz Entegre began exporting chips from this terminal in 2015; however, this facility loaded millions of tonnes of hardwood chips for export to Japan in the 1990s.
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