

# Adel, GA Biomass Analysis

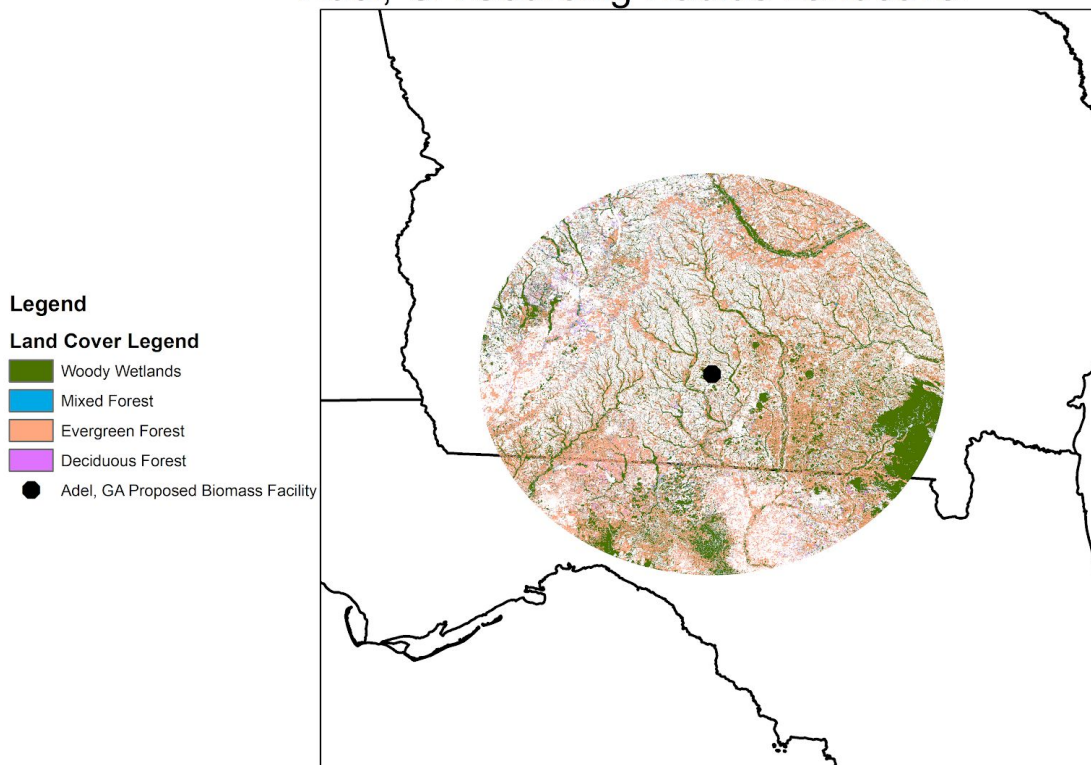
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Most wood products facilities have a 50-75 mile sourcing radius, before transportation costs outweigh the benefit of wood sourcing.[1] A 75 mile radius represents approximately 11.3 million total acres available for sourcing, but that area includes developed space, open water, etc.

The Adel, GA sourcing region is approximately 58% forested, with 47% of forests being classified as wetland forests, 47% being classified as pine or plantation, 4% being classified as mixed hardwood and softwood forest, and 2% being classified as Deciduous / hardwood forest.

The total amount of available forest for logging in this sourcing region is: 3,076,553 acres of wetland forests, 3,075,677 of pine/plantation forest, 275,374 of mixed forest, and 117,390 of hardwood forest.

## Adel, GA Sourcing Radius Landcover



The biomass facility proposed for Adel, GA will produce 500,000 tons per year of wood pellets. According to our previous analysis, this means that up to 12,000 acres of forest in the sourcing region will be impacted annually.[2]

Assuming a random / equal distribution of harvest, this means that:

- 5,640 acres of wetland forest could be logged each year
- 5,639 acres of pine & plantation forest could be logged each year
- 504 acres of mixed hardwood/softwood forest could be logged each year
- 215 acres of hardwood / deciduous forest could be logged each year

### **Focus on Wetland Forests**

Wetland forests that are *not managed* for timber regularly (e.g., thinning, pesticide and herbicide application) are worth approximately \$18,600 per acre in ecosystem services. In contrast, forests managed for timber are worth a fraction of that coming in at \$1,200 per acre.[3]

Pine forests located in the Adel, GA sourcing region are likely already managed for timber and providing far less ecosystem service value than the natural wetland forests in the same sourcing region. However, as wetland forests are cut, their ecosystem service value will be lost. It will take decades for a natural wetland forest to reoccur, and many landowners choose to replant in pine after logging. In those cases, the ecosystem service value will be gone permanently.

If 5,640 acres of wetland forest are logged, that represents a loss of nearly \$100 million in ecosystem service value. This logging will cause a loss of approximately:

- \$30 million in protection from extreme events
- \$25 million in recreation, tourism, and aesthetics
- \$23 million in water filtration and waste treatment
- \$22 million in other ecosystem services, including air filtration, carbon sequestration, food production, and raw materials.

### **Focus on Carbon**

A 500,000 tons per year biomass facility will produce 1,076,978 tons of carbon dioxide equivalent annually in the logging, transportation, and production processes. This carbon dioxide emission is equivalent to:

- 207,435 passenger vehicles driven for one year
- 1,076,539,675 pounds of coal burned
- 165,415 homes electricity use each year
- 0.25 coal plants operating for one year

### **References**

1. Tornatore F. Woody biomass power potential in Sacramento area. Biomass Technical Advisory Group 2nd Quarter meeting; 2016 Jun. Available: <https://tssconsultants.com/wp-content/uploads/2016/07/BTAG-PPT-20160623.pdf>
2. Koester S, Davis S. Siting of Wood Pellet Production Facilities in Environmental Justice Communities in the Southeastern United States. *Environ Justice*. 2018;11: 64–70. doi:10.1089/env.2017.0025
3. Davis SL. Treasures of The South: The True Value of Wetland Forests. Dogwood Alliance; 2018 Feb. Available: <https://www.dogwoodalliance.org/wp-content/uploads/2018/01/Treasures-of-the-South-Web-Report.pdf>