SBP

Sustainable Biomass Partnership

Supply Base Report for Enviva Cottondale

www.sustainablebiomasspartnership.org

Version 1.2
June 2016

NOTE:

This template, v1.2, is effective as of the date of publication, that is, 23 June 2016. Template v1.1 may still be used for those audits undertaken prior to 23 June 2016 and where the certificate is issued to Certificate Holders before 1 October 2016.

For further information on the SBP Framework and to view the full set of documentation see www.sustainablebiomasspartnership.org

Document history

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Contents

1 Overview

Producer name: Enviva Holdings LP

Producer location: 7200 Wisconsin Ave Suite 1000 Bethesda, MD 20814

Geographic position: Enviva Pellets Cottondale, Florida

N 30.739187, W-85.391074

Primary contact: Don Grant
4242 Six Forks Road
Raleigh, NC 27609
Don.grant@envivabiomass.com
984-789-3642

Company website: http://www.envivabiomass.com/

Date report finalised:

Close of last CB audit: 4/20/2018 Cottondale, FL, USA

Name of CB: SCS Global

Translations from English: NA

SBP Standard(s) used: Standard 1 version 1.0, Standard 2 version 1.0, Standard 4 version 1.0 and Standard 5 version 1.0

Weblink to Standard(s) used: http://www.sustainablebiomasspartnership.org/documents

SBP Endorsed Regional Risk Assessment: NA

Weblink to SBE on Company website: http://envivabiomass.com/sustainability/wood-sourcing/sustainable-biomass-partnership

Indicate how the current evaluation fits within the cycle of Supply Base Evaluations				
Main (Initial) Evaluation	**First Surveillance**	**Second Surveillance**	**Third Surveillance**	**Fourth Surveillance**
☐	☐	X	☐	☐

2 Description of the Supply Base

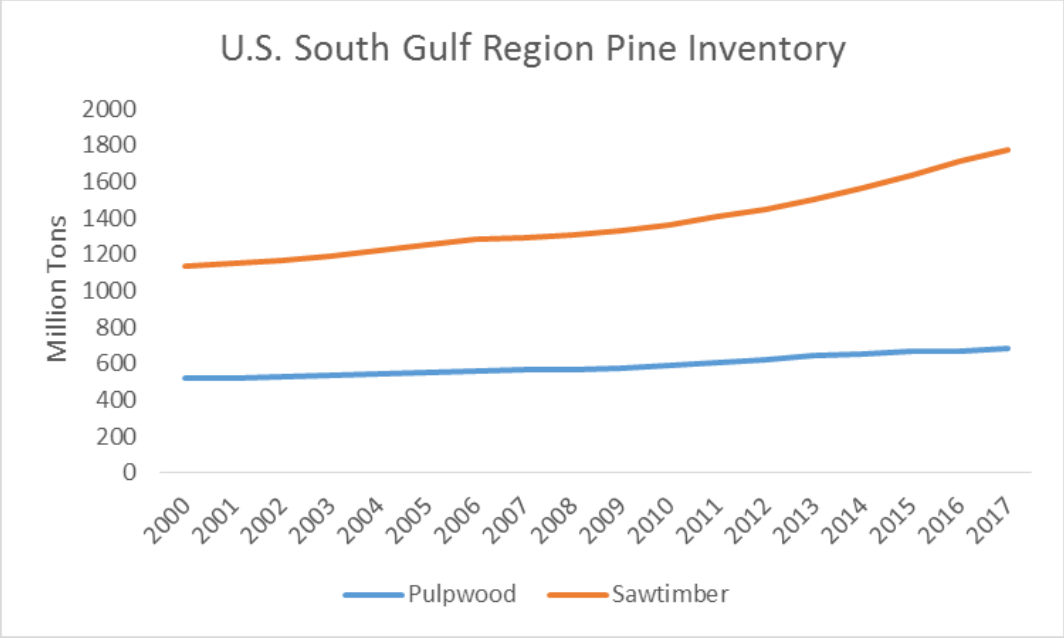
2.1 General description

Enviva Holdings LP ("Enviva") operates the Enviva Pellets Cottondale mill located in northwest Florida, USA. The supply base area for this facility includes counties from all or part of Alabama, Florida, Georgia, Mississippi, South Carolina, and Tennessee in the Southeast United States of America. Forest is the predominate land use in the supply area (67%) and include the following World Wildlife Fund (WWF) ecoregions; Appalachian Mixed Mesophytic Forests, Appalachian-Blue Ridge Forests, Central U.S. Hardwood Forests, Florida Sand Pine Scrub, Middle Atlantic Coastal Forest, Southeastern Conifer Forests, Southeastern Mixed Forests (WWF, 2018).

Forest cover-types and growth/drain ratios

The catchment area for Cottondale contains 33.6 million hectares of forested land. The annual growth to drain ratio of the supply base is 1.57:1 for all species, 1.86:1 for hardwood, and 1.50:1 for pine (US Department of Agriculture Forest Service, 2018). A positive growth to drain ratio indicates that forest growth exceeds harvest removals. [1]In the Gulf region of the U.S. South, total pine inventory has increased by an average of 2.3% annually between 2000 and 2017[2] (Table 1). Since 2000, US Forest Service Forest Inventory Analysis (FIA) data indicates an increase in forest area in the states covered included in the Cottondale supply base area (US Department of Agriculture Forest Service, 2018) (Table 2).

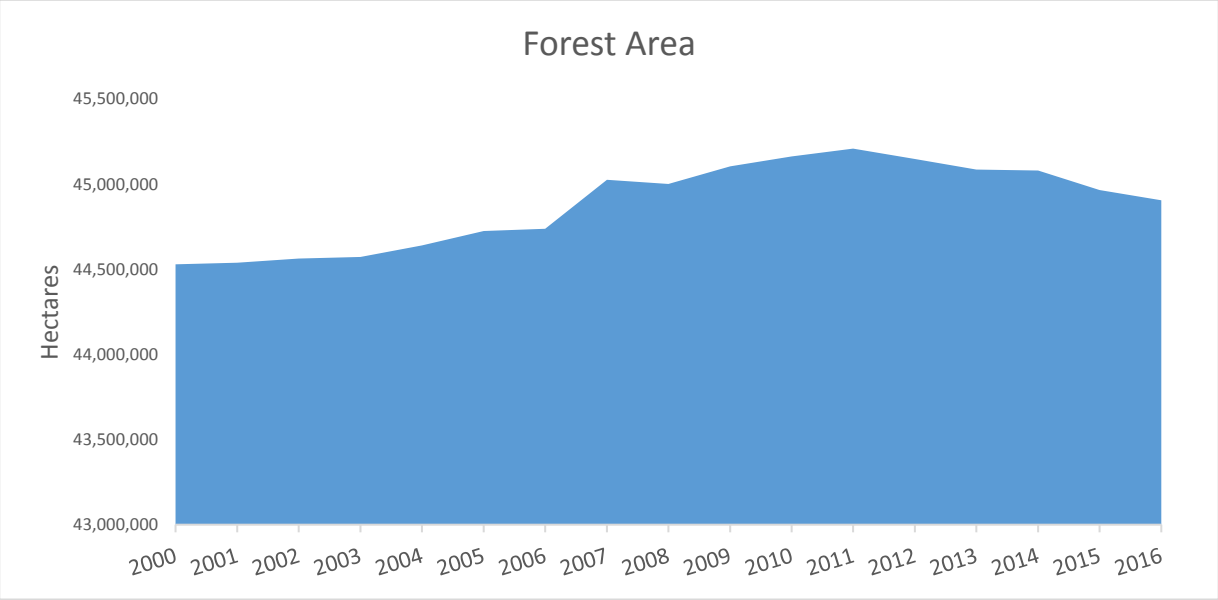
Table 1. U.S. South Gulf Region inventory 2000 – 2017



[1] The most recently available (as of 4/11/2018) FIA data for 6 states: AL, FL, GA, MS, SC, TN was used in this analysis. For a detailed explanation of our methods, please visit our Forest Trend Map Data Sources & Methods page on our website: http://www.envivabiomass.com/sustainability/track-and-trace/data-methods/

[2] Derived from 2016-2017 Forest2Market Inc. data, which is not publically available at this time.

Table 2. US Forest Service Timberland area in AL, FL, GA, TN, and SC 2000 – 2016 (State-wide Basis)



The forest in the supply base consists primarily of southern yellow pine and mixed hardwood species. Forest species composition for each state within the supply base is described in Table 3 (US Department of Agriculture Forest Service, 2014).

Table 3. Species Composition by State (Supply base area basis. FL, MS, SC and TN are partial state totals.)

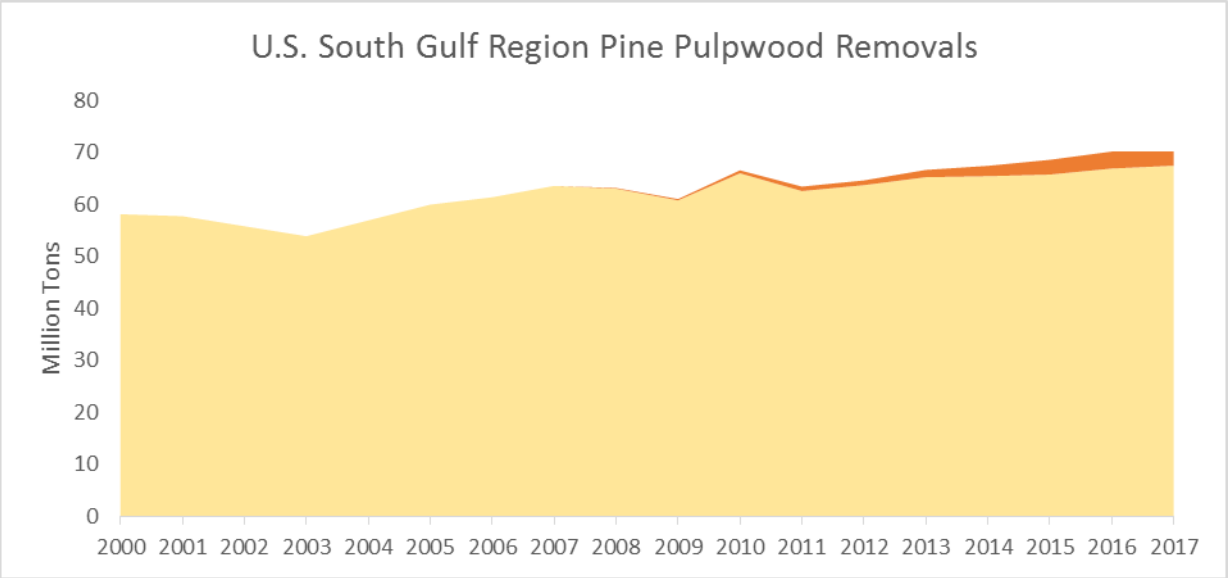
State	Forested Ha	Pine	Pine/Hwd	Hardwood	Other
Alabama	9,237,798	42%	13%	44%	1%
Florida	5,914,406	47%	10%	40%	3%
Georgia	9,969,394	45%	11%	42%	2%
Mississippi	4,170,472	52%	12%	35%	1%
South Carolina	2,822,700	49%	11%	39%	1%
Tennessee	1,471,019	11%	9%	80%	0%

Operating Scale

Enviva provides a market for low grade wood produced during harvests of higher-value timber. Removals of both pine and hardwood for pellet production in the Southern region comprised only 2.7% of total harvest volume in 2017. Primary harvesting activity and wood consumption in the South is driven by saw-timber markets, with total removals for the pellet industry comprising only 0.1% of the total pine inventory and 0.08% of the total hardwood inventory. In 2017, pine pulpwood removals for the entire pellet industry accounted for 3.8% of total pine pulpwood removals for all wood product classifications (Table 4).[3]

[3] Derived from 2016-2017 Forest2Market Inc. data, which is not publically available at this time.

Table 4. U.S. South Gulf Region Pine Pulpwood Removals 2000 – 2017.



CITES, IUCN Species

Enviva maintains a third party certified Forest Stewardship Council® (FSC) Controlled Wood Risk Assessment and Programme for the Endorsement of Forest Certifications™ (PEFC) Due Diligence System. These certifications provide a mechanism to evaluate the potential for use of CITES and/ or IUCN species concerns. The International Union for the Conservation of Nature (IUCN) Red List of Threatened Species includes *Pinus palustris* (Longleaf pine) that does grow within the supply base region (International Union for the Conservation of Nature, 2018). Longleaf pine is included in the IUCN list because its current extent is much reduced from its historical dominance in the southeast US. However, conservation groups, such as the Longleaf Alliance, agree that creating commercial viability of longleaf pine is crucial to its restoration (Longleaf Alliance, 2016). Enviva's use of material from longleaf stand thinning's or other harvest residuals supports the commercial viability of the species and encourages landowners to restore and continue to manage longleaf stands. Enviva does not source from natural longleaf stands that are being converted to another forest type.

General Forest Management Techniques

General forest management practices vary by landowner and location within the supply base and are conducted on both pine and hardwood sites. Most hardwood stands are naturally regenerated after harvest with little additional management taking place until the next harvest. Typically, hardwood management relies on natural regeneration of stands where forest tracts are harvested and the natural processes of seedling establishment and sprout growth from the remaining stumps (called "coppice") produce the next forest. Pine stands are both naturally regenerated and planted after harvest. Planted pine management includes various regimes designed to produce a variety of forest products. Typical management scenarios include a thinning between age 9 and 14, and a final harvest occurring between age 25 and 35. Pine management intensity depends on landowner objectives and resources, and could include additional treatments, and/or additional thinning. Many pine stands are established by planting then are not intensively managed. Once established they are left to grow and routinely have a hardwood dominated understory. This non-merchantable hardwood understory is used by Enviva Cottondale, if there is no other outlet for the wood.

Ownership, Land Use and Certification

Forest ownership patterns within the supply base are typical for the southern US, with the highest percentage of the forest owned by private landowners. Forest land ownership categories for each state in the supply base are presented in Table 5 (US Department of Agriculture Forest Service, 2014). The majority land use in the supply base area is generally agriculture or forestry. Land use data for the supply base was derived from the United States Department of Agriculture Major Land Use report, and is presented in Table 6 (US Department of Agriculture Economic Research Service, 2007). Major forest certification schemes such as the American Tree Farm System® (ATFS), Sustainable Forestry Initiative® (SFI®) and Forest Stewardship Council™ (FSC) have program participants within the supply base. From the states within the supply base 4.4 million hectares are SFI® certified, 3.8 million hectares are ATFS certified, and .6 million hectares are FSC certified.

Table 5. Forest Land Ownership by State (State-wide Basis)

State	Forested Area (Ha)	Federal	State/Local	Private
Alabama	9,359,121	4%	2%	94%
Florida	6,982,060	15%	20%	65%
Georgia	10,007,244	7%	3%	90%
Mississippi	7,863,376	9%	2%	89%
South Carolina	5,250,450	8%	4%	88%
Tennessee	5,652,301	10%	7%	83%

Table 6. Land Use by State (State-wide Basis)

State	Total Area (Ha)	Cropland	Pasture	Forest	Urban	Other
Alabama	13,142,571	10%	8%	69%	4%	9%
Florida	13,966,915	8%	16%	45%	12%	19%
Georgia	14,997,650	12%	3%	66%	7%	12%
Mississippi	12,148,663	19%	7%	65%	2%	7%
South Carolina	7,798,292	10%	4%	66%	6%	14%
Tennessee	10,675,202	23%	8%	53%	6%	10%

Regional Socio-economic Conditions

Annually the forest products industry in Florida generates over $25 billion in revenue impacts and provides over 124,000 jobs (Florida Forestry Association, 2018). The mean hourly wage for the farming, fishing and forestry occupational group in Florida in 2015 was $11.58, compared to the United States average of $12.67 for this same group (US Department of Labor, 2016). Forestry related industries are a leading economic driver in many rural counties in northern Florida, providing employment opportunities for loggers, foresters, consultants, truck drivers and mill workers. Enviva Cottondale provides opportunities for local residents to gain employment and currently employs approximately 90 people. As part of the wood procurement process, Enviva Cottondale accepts raw material deliveries from over 90 independent loggers and contract haulers, and purchases secondary feedstock in the form of sawdust and shavings from 26 mills within the region, which according to a recent study, creates almost 250 indirect jobs in the region. Further, employees at the Enviva COT plant, on average, earn wages that are almost 35% higher than other comparable jobs in the area. The same study found that Enviva Cottondale's total direct and indirect economic contribution to the region is over $240 million dollars (Chmura Economics and Analytics, 2016).

Pellet Feedstock Profile

Primary feedstock is sourced direct from the forest in the form of roundwood or wood chips from suppliers, all of whom are vetted and qualified prior to delivering. All suppliers must sign a contract with Enviva before wood can be delivered to an Enviva mill. The contract requires suppliers to use trained loggers during harvest, to follow best management practices for water quality, and to avoid controversial sources of wood supply, such as illegal logging. Enviva foresters confirm trained logger status and ensure that loggers delivering wood maintain their continuing education as required. All suppliers and loggers must also adhere to posted safety requirements while on Enviva property.

Primary feedstock from forest residues, such as tree tops, limbs, deformed and low grade trees, and any other wood produced during harvest that is otherwise unacceptable to other wood users in the area is delivered to an Enviva mill as woodchips. A single load of roundwood from the same harvest can contain tops, limbs, and/or small diameter or malformed understory trees that cannot be distinguished from one another through visual inspection. Enviva does not use sawlogs in the production of pellets, nor do we use any construction debris, treated wood, or post-consumer material.

Enviva also sources secondary feedstock from a variety of sawmill and wood industry suppliers. Sawmills source high-quality logs from the forest and mill them into products like two-by-fours. Wood industry suppliers use the products created by sawmills to produce products such as furniture or other assembled wood products. These feedstocks are most commonly in the form of sawdust or shavings and may be green or kiln-dried.

As Enviva Cottondale's feedstock supply comes mainly from commercial pine operations, there is no significant volume of wood from forests typically managed in 40-year or longer rotations. Table 7 shows the characteristics of each feedstock type. SBP Compliant feedstock originates within the defined supply base and meets all relevant SBP standards as demonstrated by the Supply Base Evaluation (SBE).

Table 7. Cottondale Feedstock Profile

Feedstock Type	Receipts	SBP-Compliant	Certified Source	Pine	Hardwood	Suppliers
Primary	64%	100%	21%	57.4%	42.6%	82
Secondary	36%	100%	0%	99.9%	0.1%	26

Enviva has 100% coverage of our primary feedstock through our Track & Trace monitoring program (see description of the program in the following "Track & Trace" section), meaning that we now have detailed information on the types of forests that provide our pellet feedstocks. During 2017, Enviva Cottondale received feedstocks from the following sources, by volume:

- 36% was made up of residues supplied by sawmills and wood industries.
- 26% was made up of hardwood and pine chips and roundwood from mixed oak-pine forests. These forests are managed for the production of pine sawtimber at low-intensities and contain a mixture of hardwood and pine trees. These forests are either planted in pine or naturally seeded from adjacent stands or seed trees, and little to no fertilizers or herbicides are applied to them throughout their life cycle. This establishes an overstory of straight, large-diameter pine trees with an understory of crooked, small-diameter hardwood trees that cannot be made into solid wood products.
- 31% was made up of hardwood and pine chips and roundwood from southern yellow pine forests. These are forests that were planted in pine and either managed moderately with minimal effort to prevent hardwood trees from growing in the understory, or more intensively to suppress significant

understory growth, thereby increasing the forest's growth rate and yield. These forests are generally thinned 1-2 times throughout their growth cycle, meaning that certain trees are removed to reduce density in the forest and create additional room for the remaining trees to grow to sawtimber size and quality. These thinned trees are sold to low-grade consumers like Enviva.

- 6% was made up of hardwood and pine chips and roundwood from upland hardwood forests. These are low-intensity managed hardwood forests that are naturally seeded with an overstory of large-diameter oak, poplar, and hickory hardwood trees and a significant understory of small-diameter maple, oak, and sweetgum hardwood trees.
- 2% was made up of hardwood and pine roundwood from bottomland hardwood forests. These are hardwood forests in lowland areas and floodplains containing mostly large-diameter oak, gum, and cypress sawtimber trees with smaller, crooked hardwood trees growing underneath. When the forest is harvested, the stems of sawtimber trees are sold to sawmills that make higher-grade solid wood products like furniture. The tops and branches of sawtimber trees and the crooked hardwood trees from below cannot be made into solid wood products, but need to be removed from the site so the next generation of the forest can begin growing. These harvest byproducts are sold to consumer of lower-grade wood like Enviva.

Enviva's Commitment to Responsible Fiber Sourcing

Track & Trace

Enviva has implemented management systems to ensure that the wood used to make wood pellets meets our strict sustainability requirements. Specifically, Enviva maintains a robust tracking and monitoring program to ensure that all our suppliers deliver wood that is sourced according to our expectations. First, Enviva uses our SFI® Fiber Sourcing verifiable monitoring program as a basis for monitoring tract harvests. Enviva implemented a third-party audited Track & Trace database which includes information at the tract level, including data on the forest type, age, GPS coordinates, acreage, and the percent of volume from that tract being sold to Enviva. Before agreeing to accept material from a certain tract, Enviva's Wood Procurement Foresters must obtain this tract-level data and enter it into our database, which generates a unique tract ID. Then, upon delivery to the Cottondale mill, each load is linked to that tract's ID number. As a result, Enviva knows the tract-level attributes for all the primary wood entering the mill.

The Track & Trace data collection is supported by tract audits performed by Enviva foresters. During tract audits, Enviva foresters validate data on the tract characteristics in addition to ensuring that best management practices (BMPs) for water quality are properly implemented, special sites are properly protected, and loggers are trained, along with other metrics for responsible harvesting. At the Cottondale mill, Enviva only accepts wood from tracts in which the logger has completed and maintains training through a SFI®-approved trained logger program. If any of these monitoring programs uncover issues with incoming raw material, Enviva will contact suppliers to notify them of the issue. If needed, Enviva will cease accepting deliveries from a supplier who does not perform to our sustainability standards. Enviva will not accept further deliveries from a poorly performing supplier until the supplier demonstrates the ability to adhere to Enviva's sustainability requirements.

Secondary Feedstock

Enviva purchases sawmill and wood industry residues in the form of sawdust, shavings, or other waste products from the milling process (Figure 1). Secondary feedstock suppliers receive an initial visit prior to beginning deliveries, to verify their operations and products. All sawmill and wood industry suppliers are required to complete a Residual Supplier Reporting Form, providing Enviva with information on the source of their wood supply as well as any certifications and species used. Enviva includes their supply areas in our supply base evaluation and provides each supplier with feedback on their supply area, noting any areas of risk that may be present. Enviva may choose to cease deliveries from a supplier which refuses to provide the necessary data for us to properly include their supply area in our risk assessment. Enviva contacts each sawmill and wood industry supplier annually to ensure their data is accurate.

With this information, in addition to our internal expertise and knowledge of the location of the mill and the products it produces, Enviva can evaluate each supplier's ability to provide feedstock that meets the SBP Feedstock Standard. Enviva works with its residual suppliers to ensure the data they have provided is complete and accurate, and will regularly check to ensure they are providing the material they have reported. In addition to an initial visit before signing a contract with a residual supplier to verify their operations and products are as-stated, Enviva can monitor the incoming products to ensure they are consistent with the data submitted annually in the Residual Supplier Data Sheet. Further, this data collection and monitoring process is now a part of Enviva's SBP implementation program, and thus is checked annually during certification audits.

2.2 Actions taken to promote certification amongst feedstock supplier

Enviva is third party certified in two of the major chain of custody systems (PEFC™ & SFI®). Enviva also maintains certification under the SFI® Fiber Sourcing Program. SFI® Fiber Sourcing requires Enviva to promote sustainable forestry activities and forest certification to our suppliers and landowners. Our staff are actively involved in the Florida SFI ®Implementation Committee, which is a group of SFI® certified companies that work together to enhance on-the-ground forestry operations in Florida.

Enviva actively pursues feedstock from certified sources to encourage those landowners to maintain and expand their certified holdings. Enviva foresters are active in the Alabama and Florida Forestry Associations and the Florida committee of the American Tree Farm System, both of which promote forest sustainability and certification.

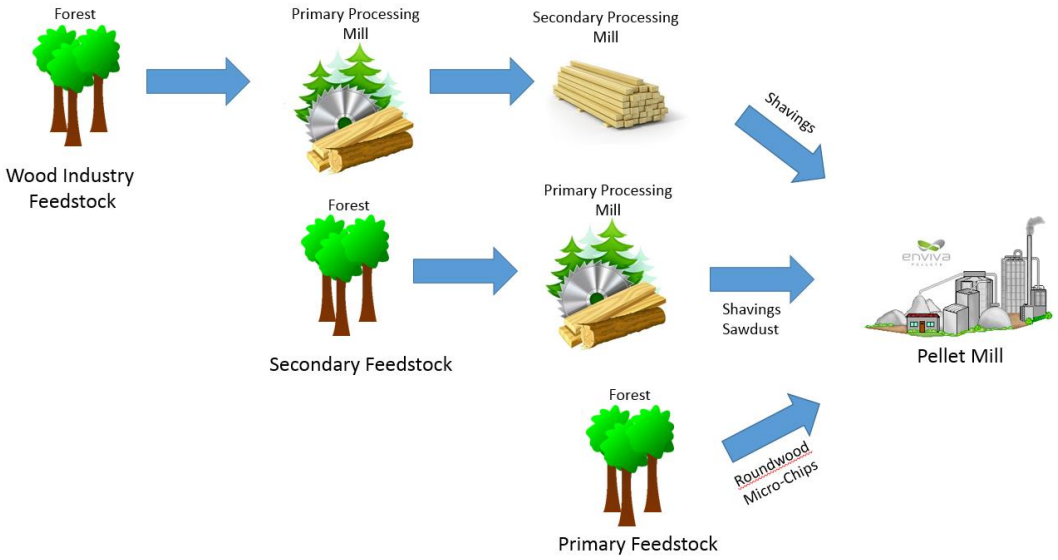
Enviva has partnered with the American Forest Foundation on a multi-year certification and Longleaf restoration project for private landowners in the Florida panhandle. This project will also involve The Nature Conservancy and will focus on restoring Longleaf pine ecosystems, improving wildlife habitat, and increasing certified forest around the Cottondale facility.

2.3 Final harvest sampling programme

As Enviva Cottondale's supply comes mainly from commercial pine operations, there isn't any significant volume of wood from forests typically managed in 40-year or longer rotations.

2.4 Flow diagram of feedstock inputs showing feedstock type [optional]

Figure 1. Cottondale Feedstock Flow Chart



2.5 Quantification of the Supply Base

Supply Base

a. Total Supply Base area (ha): 33,585,789ha of forest land
b. Tenure by type (ha): 8% Federal, 6%, State/Local and 86% private
c. Forest by type (ha): Temperate forest type comprise the entire 33,585,789 ha ha
d. Forest by management type (ha): (US Department of Agriculture Forest Service, 2014)
Overall, although many pine stands are "planted" they are not intensively managed plantations with little or no understory; instead, once established they are left to grow and routinely have a hardwood dominated understory. Therefore, it is difficult to determine the exact percentage of true plantations in the region.
e. Certified forest by scheme (ha): (e.g. hectares of FSC or PEFC-certified forest)

State	FSC	SFI®	ATFS
Alabama	271,511	1,191,750	1,117,865
Florida	51,154	760,642	438,014
Georgia	33,023	978,992	778,695
Mississippi	101,523	851,852	534,447
South Carolina	132,453	455,989	450,079
Tennessee	40,645	192,313	137,949

Feedstock

f. Total volume of Feedstock: 1,210,782 metric tonnes
g. Volume of primary feedstock: 774,547 metric tonnes
h. List percentage of primary feedstock (g), by the following categories. Subdivide by SBP-approved Forest Management Schemes:
    - Forest Stewardship Council: 0.0%
    - American Tree Farm System (Program for the Endorsement of Forest Certification): 4.0%
    - Sustainable Forestry Initiative®: 16.9%
    - Not certified to an SBP-approved Forest Management Scheme: 79.1%

i. List all species in primary feedstock, including scientific name

Species of Origin	
Common and Scientific Names	
Softwood	
Loblolly pine (*Pinus taeda*)	
Longleaf pine (*Pinus palustris*)	
Pond Pine (Pinus serotina)	
Slash Pine (*Pinus elliottii)*	
Sand Pine (Pinus clausa)	
Hardwood	
Black Cherry (Prunus serotina)	Red Bay *(Persea borbonia)*
Black Gum *(Nyssa sylvatica)*	Red Maple (Acer rubrum)
Blackjack Oak (Quercus marilandica)	River Birch (Betula nigra)
Black Oak (Quercus velutina)	River Oak (Casuarina cunninghamiana)
Black Walnut (Juglans nigra)	Shumard Oak (Quercus shumardii)
Cherry Bark Oak (Quercus pagoda)	Southern Magnolia *(Magnolia grandiflora)*
Chinkapin Oak (Quercus muehlenbergii)	Southern Red Oak *(Quercus flacata)*
Hackberry (Celtis occidentalis)	Sugar Maple (Acer saccharum)
Hickory (Carya spp.)	Swamp Bay *(Persea palustris)*
Holly (Ilex opaca)	Swamp Chestnut Oal (Quercus michauxii)
Laurel Oak *(Quercus laurifolia)*	Sweet Bay *(Magnolia virginia)*
Live Oak (Quercus virginiana)	Sweet Gum *(Liqaidambar styraciflua)*
Northern Red Oak (Quercus rubra)	Sycamore (Plantanus occidentalis)
Overcup Oak (Quercus lyrata)	Water Oak *(Quercus nigra)*
Pecan (Carya illinoensis)	Water Tupelo *(Nyssa aquatic)*
Persimmon (Diospyros virginiana)	White Oak *(Quercus alba)*
Pond Cypress (Taxodium ascendens)	Willow Oak (Quercus phellos)
Post Oak (Quercus stellata)	Yellow Poplar (Liridendron tulipifera)

j. Volume of primary feedstock from primary forest: 0.0 metric tonnes

k. List percentage of primary feedstock from primary forest (j), by the following categories. Subdivide by SBP-approved Forest Management Schemes:
   - Primary feedstock from primary forest certified to an SBP-approved Forest Management Scheme: 0.0
   - Primary feedstock from primary forest not certified to an SBP-approved Forest Management Scheme: 0.0

l. Volume of secondary feedstock: 36% of the total feedstock sourced is delivered as sawdust or shavings, with 99.9% being pine. The feedstock is delivered from within the defined supply base as described in section 2.1.

m. Volume of tertiary feedstock: 0%.

3 Requirement for a Supply Base Evaluation

SBE completed	SBE not completed
X	☐

Enviva has chosen to complete an SBE to ensure all of the raw material purchased by its facilities is SBP-compliant feedstock. Enviva has implemented procedures to address determination of origin, Supply Base Report (SBR) development and credibility, management systems and operations as well as procedures for handling comments or complaints. There currently is no SBP-endorsed Regional Risk Assessment (RRA) in the United States. The Cottondale SBE was independently reviewed by R.S. Berg and Associates, an expert consultant who has decades of experience in the forestry industry and provides services to numerous forest companies in meeting sustainability requirements.

4 Supply Base Evaluation

4.1 Scope

Enviva completed a SBE in order to ensure that all material is SBP-compliant. Enviva's SBE includes all sources of material. The Enviva SBE in conjunction with conformance to the SBP Chain of Custody Standard provides confidence that the products produced by Enviva are SBP-compliant.

Enviva has implemented policies and procedures appropriate to the size and scale of its operations to satisfy the requirements of SBP-compliant feedstock. The definitions of legal and sustainable as used in Standard 1 have been reviewed and met as substantiated in the supply base evaluations. Evidence to support this conclusion is offered at the supply base level.

Because there is no SBP approved risk assessment in the US, Enviva developed a set of Locally Applicable Verifiers (LAVs), which include a number of publically available sources, in addition to the internal monitoring process already described. Details on LAVs are in the sections below.

4.2 Justification

Only a small proportion of feedstock is sourced from SBP-approved certification programs; therefore, Enviva completed a SBE to justify its rationale for SBP-compliant feedstock. Enviva did not modify any indicators. For the indicators which are not already covered by our existing certifications, Enviva used a number of LAVs to support either risk determinations or mitigation measures, including:

- Draft FSC US National Risk Assessment
- All applicable Federal & state laws, including environmental laws, and occupational health and safety laws
- BMP implementation reports
- State Natural Heritage programs
- Maps and data regarding high conservation values
- Supplier contracts
- Residual Supplier Data Sheet

4.3 Results of Risk Assessment

Each criterion was evaluated and measured against Enviva's existing forest certification and chain of custody programs, the DRAFT FSC NRA (1.0) and the SBP Criteria and associated LAVs. The supply base evaluation was peer reviewed by R.S. Berg & Associates. The Cottondale Supply Base Evaluation identified all indicators as "low risk" for the Cottondale facility.

4.4 Results of Supplier Verification Programme

No indicators were defined as unspecified risk so therefore a Supplier Verification Program is not required.

4.5 Conclusion

Enviva has completed a robust supply base evaluation and fully meets the SBP requirements. All criterion have been fully evaluated and appropriate procedures and controls are in place to ensure successful management. As described above, Enviva has an extremely sophisticated data collection and monitoring program which supports the conclusions and actions in the risk assessment. Senior management is fully engaged and involved in the success of SBP Standard conformance. Enviva has a well-qualified and knowledgeable staff fully capable of maintaining process control to achieve conformance to the SBP Standards. Each criterion has specific controls (e.g. contractual, field verification, supplier data requests) to provide Enviva with the best level of confidence to ensure conformance to the criteria included in the SBP Standard. Thus, with implementation of all programs and procedures Enviva has in place, all feedstocks are considered SBP-compliant.

5 Supply Base Evaluation Process

The entire Cottondale supply base was assessed as part of the Supply Base Evaluation. This area consists of 50,008,007 ha located in Alabama, Mississippi, Florida, Georgia, South Carolina, and Tennessee. Data from Enviva's internal monitoring programs is reviewed annually to ensure the appropriate area is included in the risk assessment.

Enviva used the Draft FSC US Controlled Wood National Risk Assessment (NRA) (v0.1) along with its third party certified PEFC/SFI Due Diligence System as the basis for the SBE. The FSC NRA is being developed as a collaborative process between conservation groups, forestry companies and scientific organizations. Enviva believes this is the best and most comprehensive source of information to identify where the highest risk to high conservation values exist. Various third party data sources were also used for research in the region such as; FSC High Conservation Area Mapping tool, The Nature Conservancy website and various shapefiles, and the Databasin web mapping tool. Results from the stakeholder consultation were considered and incorporated if relevant to the SBE. The supply base evaluations were completed internally by qualified individuals and peer reviewed by R.S. Berg and Associates. These findings along with the corresponding mitigation measures were part of the risk assessment and evaluation process used by Enviva in completing the SBE.

Enviva uses the third party certified SFI Fiber Sourcing and Track and Trace programs to facilitate field sampling in order to ensure on the ground BMP conformance, responsible harvesting and credible data collection of the attributes of source forests. As described earlier, Enviva used the DOO data provided by its secondary suppliers to ensure their raw materials were also incorporated into the SBE and that their material meets the SBP Feedstock Standard.

6 Stakeholder Consultation

Because the supply base area for Cottondale changed slightly in 2016, Enviva performed a second stakeholder consultation from December 16, 2016 through February 3, 2017 to ensure all available data were considered in the SBE process. Enviva gathered contact information for 130 of local, potentially interested stakeholders and conducted the consultation via email. Each individual received a copy of the current SBE and a comment form, with instructions on how to comment. Enviva also set up a separate webpage on its website for each consultation as well that contained all the same information as the email and had a downloadable SBE and comment form.

6.1 Response to stakeholder comments

Enviva received 2 comments during this consultation, both from the Florida Fish and Wildlife Conservation Commission (FFWCC).

Comment #1

Indicator Number (i.e. 1.1.1)	Indicator Description (i.e. The BP Supply Base is defined and mapped)
2.1.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that forests and other areas with high conservation value in the Supply Base are identified and mapped.
Relevant SBE Area(s) (list Mill Location(s))	All Florida counties (Cottondale)
Comment(s) on LAV(s)	Enviva's Cottondale Supply Base Evaluation (Document # ENV-SBP-03, p 11) mentions Florida's Forestry Wildlife Best Management Practices (FWBMPs) for State Imperiled Species and states that they "…offer additional protection for the Gopher Tortoise during silvicultural operations in the state of Florida." It should be noted that these practices are voluntary and are therefore only effective where they have been implemented by Enviva's suppliers. These practical guidelines were designed to protect the 16 state-listed species that are expected to be impacted by silvicultural activities in Florida (FDACS 2014). The Florida Fish and Wildlife Conservation Commission (FWC) is the state agency responsible for state-listed fish and wildlife resources pursuant to its authorities under Chapter 379 Florida Statutes and Chapter 68A-27 of the Florida Administrative Code. FWC staff appreciates that purchased stumpage tracts are assessed for the presence of the Natural Heritage Program's Globally Ranked G-1 or G-2 species or communities (Document # ENV-SBP-03, p 11). This assessment has the potential to protect several state-listed species, such as the Florida bog frog (*Lithobates okaloosae*, State Species of Special Concern, G-2). However, many state-listed species do not fall into either of these rankings. For example, the Southeastern American kestrel (*Falco sparverius paulus*, State Threatened) is ranked G-5 by the Natural Heritage Program. However, Southeastern American kestrels have gone through large population declines over the last several decades that are continuing today (Hoffman and Collopy 1988, Sauer et al. 2007, Smallwood and Collopy 2009, Smallwood et al. 2009). Partly due to their small geographic range and declining population, this species has been classified as State-designated Threatened in Florida (FFWCC 2011). Florida's FWBMPs specifically address this species and others that may not be ranked as G-1 or G-2, but still are considered imperiled in the state of Florida. The FWBMPs are intended to be a practical approach to balancing natural resource conservation and forest resource utilization (FDACS 2014). FWC staff and the Florida Forest Service are responsible for monitoring the operations of landowners who have submitted Notices of Intent for the FWBMP program. FWC staff recognize and appreciate
	Enviva's previous efforts to promote FWMBPs in Florida. Should Enviva wish to have further conversation about FWBMPs for this effort, please contact FWC staff at 850-617-9380 or FFS staff at 850-681-5820.
Supporting Evidence	Florida Department of Agriculture and Consumer Services. (2014). Florida Forestry Wildlife Best Management Practices for State Imperiled Species (FDACS-01869). http://www.flrules.org/Gateway/reference.asp?No=Ref-04603 Florida Fish and Wildlife Conservation Commission. (2011). Biogical Status Review for the Southeastern American Kestrel (*Falco sparverius paulus*). Hoffman, M.L., and M.W. Collopy. 1988. Historical status of the American kestrel (Falco sparverius paulus) in Florida. Wilson Bulletin 100: 91 – 107. Sauer, J. R., J. E. Hines, and J. Fallon. 2007. The North American Breeding Bird Survey, Results and Analysis 1966-2006. Version 10.13.2007, USGS Patuxent Wildlife Research Center, Laurel, Maryland. http://www.mbr-pwrc.usgs.gov/bbs/bbs.html Smallwood, J.A., M.F. Causey, D.H. Mossop, J.R. Klucsarits, B. Robertson, S. Robertson, J. Mason, M.J. Maurer, R.J. Melvin, R.D. Dawson, G.R. Bortolotti, J.W. Parrish, Jr., T.F. Breen, and K. Boyd. 2009. Why are American kestrel (Falco sparverius) populations declining in North America? Evidence from nest-box programs. Journal of Raptor Research 43: 274 – 282. Smallwood, J.A., and M.W. Collopy. 2009. Southeastern American kestrels respond to an increase in the availability of nest cavities in north-central Florida. *Journal of Raptor Research* 43: 291 – 300.

Enviva Response:

Enviva appreciated the time the FFWCC took to reply to our consultation. We agree with the comment and changed the wording in the SBE to include that FWBMP's are voluntary and only effective when implemented. Enviva foresters are trained in FWBMP's and can and will assist landowners in identifying and protecting the 16 species listed in the guidelines. Stumpage landowners will now receive information on the Notice of Intent process and how to implement FWBMP's.

Comment #2

Indicator Number (i.e. 1.1.1)	Indicator Description (i.e. The BP Supply Base is defined and mapped)
2.2.1	The BP has implemented appropriate control systems and procedures to verify that feedstock is sourced from forests where there is appropriate assessment of impacts, and planning, implementation, and monitoring to minimize them.
Relevant SBE Area(s) (list Mill Location(s))	All Florida counties (Cottondale)
Comment(s) on LAV(s)	Enviva's Cottondale Supply Base Evaluation (Document # ENV-SBP-03, p 21) states that Enviva requires, through its contracts, that raw material suppliers employ silviculture Best Management Practices (referred to as "forestry Best Management Practices" in the document) during harvest. These practices were primarily designed to protect water quality, but can help protect certain wildlife habitats, particularly aquatic habitats (FDACS 2008). Florida Fish and Wildlife Conservation Commission (FWC) staff encourage Enviva to also continue promoting the adoption of Florida's Forestry Wildlife Best Management Practices (FWBMPs) for State Imperiled Species among their direct and indirect suppliers. The FWC is the state agency responsible for state-listed fish and wildlife resources pursuant to its authorities under Chapter 379 Florida Statutes and Chapter 68A-27 of the Florida Administrative Code. The FWBMPs were developed to enhance the contribution of silviculture to the conservation and management of wildlife in the state (FDACS 2014). The FWBMPs were designed to protect 16 of Florida's state-listed (protected) species expected to occur in areas where silviculture may cause impacts. For example, burrowing owls (*Athene cunicularia*, State Species of Special Concern), gopher tortoises (*Gopherus polyphemus*, State Threatened), and Florida sandhill cranes (*Grus canadensis pratensis*, State Threatened) are all state-listed species that may be protected by FWBMPs where they have been adopted and implemented (FDACS 2014). The FWBMPs are intended to be a practical approach to balancing natural resource conservation and forest resource utilization (FDACS 2014). FWC staff and the Florida Forest Service are responsible for monitoring the operations of landowners who have submitted Notices of Intent for the FWBMP program. FWC staff recognize and appreciate Enviva's previous efforts to promote FWMBPs in Florida. Should Enviva wish to have further conversation about FWBMPs for this effort, please contact FWC staff at 850-617-9380 or FFS staff at 850-681-5820.
Supporting Evidence	Florida Department of Agriculture and Consumer Services. (2014). Florida Forestry Wildlife Best Management Practices for State Imperiled Species (FDACS-01869). http://www.flrules.org/Gateway/reference.asp?No=Ref-04603 Florida Department of Agriculture and Consumer Services. (Revised 2008). Silviculture Best Management Practices. http://www.freshfromflorida.com/Divisions-Offices/Florida-Forest-Service/For-Landowners/Best-Management-Practices-BMP

Enviva Response:

Enviva agrees that we can assist the FFWCC in expanding the use of wildlife BMPs and will do so. We now state in our SBE that Enviva promotes wildlife BMP's to our primary suppliers, secondary suppliers, and stumpage landowners via the FWBMP fact sheet.

7 Overview of Initial Assessment of Risk

Enviva maintains third party certified chains of custody in two of the major forestry certification systems (PEFC & SFI®) which sufficiently support of the SBP criteria. The company also maintains a third party certified SFI® Fiber Sourcing Program that addresses many concerns such as conservation of biodiversity, contractual requirements for the use of forestry Best Management Practices (BMP's), logger training, legal and regulatory compliance, research support, community and landowner outreach, public communication and management review. Further, our Track & Trace program is third-party certified to ensure credibility in our data collection. Cottondale is located within the United States where there is a strong legal system with federal & state laws and regulations that are well enforced. Enviva also included additional LAV's described previously to ultimately lead to "low risk" designations on all legality aspects of the risk assessment. As described in section 5, Enviva used various credible third party data sources to determine the risk level for the criterion beyond the scope of the HCV portions of its Chain of Custody (CoC) systems such as the FSC US Controlled Wood Risk Assessment – DRAFT (v 0.1), FSC's High Conservation Area Mapping tool, The Nature Conservancy website and various GIS data shapefiles and the Databasin web mapping tool to support compliance with the SBP criteria. Relevant mitigation measures contained within any existing certification publications are communicated to suppliers and are considered "business as usual" and no further action is needed.

Table 8. Overview of results from the risk assessment of all Indicators (prior to implementation of mitigation measures).

Indicator	Initial Risk Rating		
	Specified	Low	Unspecified
1.1.1		X	
1.1.2		X	
1.1.3		X	
1.2.1		X	
1.3.1		X	
1.4.1		X	
1.5.1		X	
1.6.1		X	
2.1.1		X	
2.1.2		X	
2.1.3		X	
2.2.1		X	
2.2.2		X	
2.2.3		X	
2.2.4		X	
2.2.5		X	
2.2.6		X	
2.2.7		X	
2.2.8		X	
2.2.9		X	

Indicator	Initial Risk Rating		
	Specified	Low	Unspecified
2.3.1		X	
2.3.2		X	
2.3.3		X	
2.4.1		X	
2.4.2		X	
2.4.3		X	
2.5.1		X	
2.5.2		X	
2.6.1		X	
2.7.1		X	
2.7.2		X	
2.7.3		X	
2.7.4		X	
2.7.5		X	
2.8.1		X	
2.9.1		X	
2.9.2		X	
2.10.1		X	

8 Supplier Verification Programme

8.1 Description of the Supplier Verification Programme

Enviva has implemented a robust supply base evaluation including risk assessment and when necessary mitigation measures. Each criteria has been evaluated against the FSC US Controlled Wood Risk Assessment – DRAFT (v0.1) ("NRA") and other appropriate locally available verifiers. Enviva maintains third party certified SFI ®Fiber Sourcing Program and a PEFC Chain of Custody including a Due Diligence System (DDS) which supplements the supply base evaluation findings. Given the depth of detail of these documents no indicators are considered to be "unspecified risk" and therefore, a supplier verification programme is not required.

8.2 Site visits

The evidence from the NRA, Enviva's SFI® Fiber Sourcing Program, PEFC Chain of Custody Due Diligence System, and robust District of Origin processes ensures all indicators can be categorized as "low risk". There is no need for supplier site visits to determine risk levels for any indicator.

8.3 Conclusions from the Supplier Verification Programme

NA

9 Mitigation Measures

Because of the proven effectiveness of Enviva's Track & Trace Program, Secondary Supplier District of Origin Process and the strength of existing laws and regulation that exists in the United States offered in this reports Annex 1 Supply Base Evaluation, Enviva has moved Indicator 2.2.4 to low risk. Section 9.2 provides additional details.

9.1 Mitigation measures

Not Applicable; Enviva identified all indicators as “low-risk” so no mitigation measures are required.

9.2 Monitoring and outcomes

Enviva has issued a policy statement to all suppliers in order to ensure that feedstock delivered to our mill meets our expectations with regards to sustainability and the SBP requirements. Enviva employs contractual mechanisms, an SFI® Fiber Sourcing Program, and PEFC and SFI® Chains of Custody Programs, to ensure conformance and monitoring. All States within the supply base have BMP compliance reports readily available to monitor compliance.

Enviva maintains a rigorous district of origin process for all suppliers of secondary feedstock that collects catchment radius, raw material species, certification status and other specific information related to the source of its feedstock. The supplier’s responses are mapped and compared to Enviva’s Cottondale Supply Base Evaluation to ensure Enviva has included the area within its supply base. Each supplier will receive a map depicting the counties within their catchment area that may contain high conservation value areas, feedback on any areas of risk that are identified, and a list of mitigation measures appropriate to their operations. Enviva suppliers are encouraged to share this educational information with their suppliers.

Enviva monitors Longleaf Pine habitats at the landscape level from a variety of sources. The Longleaf Alliance maintains a variety of publications useful for monitoring Longleaf Pine restoration efforts in this area. One of the most comprehensive sources for information about on-the-ground restoration activities is the Longleaf Partnership Council’s annual Range-wide Accomplishment Report (Longleaf Partnership Council, 2014). Information from these sources will be monitored annually to determine if any changes to Enviva’s risk rating for HCV values within Longleaf Pine ecosystems are necessary.

Existing procurement policies, BMP’s, and landscape level protections all provide evidence to justify the Cottondale supply base area is “low risk” for all indicators.

10 Detailed Findings for Indicators

See Annex 1

11 Review of Report

11.1 Peer review

As stated previously, the Cottondale SBE was independently peer-reviewed by R.S. Berg and Associates. R.S. Berg & Associates, Inc. has more than thirty five years of experience in the forest, paper and bio-energy industries and has worked with over 220 organizations in understanding their options and achieving certification to the Standard(s) of their choice. Scott Berg is a trained ISO 14001 EMS Lead Auditor and has over thirty five years in the forest and paper industry working for national and regional trade associations. As the data compiled for this report is generated by the SBE process, further peer review is not required.

11.2 Public or additional reviews

Enviva maintains a third party certified SFI® Fiber Sourcing Program and PEFC and SFI® Chain of Custody programs. All of these programs are reviewed internally and by our third party certifying bodies on an annual basis. The Supply Base Evaluation was developed internally by qualified personnel using credible third party data sources such as; Forest Stewardship Council, The Nature Conservancy, United Stated Forest Service, United States Department of Labor, United Stated Department of Environmental Protection, State Forest Service Divisions, National Council for Air and Stream Improvement among others. Last, the draft SBE was included in the most recent stakeholder consultation, so anyone who was interested had the ability to review and comment on the document.

12 Approval of Report

Approval of Supply Base Report by senior management			
Report Prepared by:	***Don Grant***	***Manager, Sustainability Standards***	***April 13, 2018***
	Name	**Title**	**Date**
The undersigned persons confirm that I/we are members of the organisation's senior management and do hereby affirm that the contents of this evaluation report were duly acknowledged by senior management as being accurate prior to approval and finalisation of the report.			
Report approved by:	***Jennifer Jenkins***	***Vice President and Chief Sustainability Officer***	***April 13, 2018***
	Name	**Title**	**Date**
Report approved by:	***Thomas Meth***	***Executive Vice President for Sales and Marketing***	***April 13, 2018***
	Name	**Title**	**Date**
Report approved by:	***John Keppler***	***Chief Executive Officer***	***April 13, 2018***
	Name	**Title**	**Date**

13 Updates

13.1 Significant changes in the Supply Base

13.2 There were no changes to the supply base in 2017.

13.3 Effectiveness of previous mitigation measures

One of the foremost mitigation measures for high conservation value areas within the Enviva Cottondale supply base is compliance with Best Management practices. State wide BMP compliance rates are a strong indicator of how forest harvesting activities are conducted within the supply bases of our residual suppliers. In 2017 Florida reported a 99.6% BMP compliance rate, representing a 0.3% increase from 2015. 96% of sites evaluated in Florida scored 100% for BMP implementation, which is an increase of 6% since 2015 (Florida Forest Service, 2018). Georgia's 2017 BMP compliance rate was 93.2%, a 2% increase from 2015 (Georgia Forestry Commission, 2018). Alabama has a current BMP compliance rate of 98.2%, 0.4% greater than the previous survey (Alabama Forestry Commission, 2018). The other states within the supply base have not released survey updates at this time. BMP implementation and effectiveness are both linked to logger training and In 2017 SFI® reported that over 10,800 harvesting and resource professionals participated training courses (SFI® Inc, 2018). The Longleaf Partnership Council in conjunction with the Longleaf Alliance conducts regular monitoring of longleaf restoration efforts within the natural range of longleaf pine. In the 2015 Range-Wide Accomplishment Report published in 2016, the council reported longleaf restoration efforts on 520,217 acres, which was an increase in over 200,000 acres from 2014 (Longleaf Partnership Council, 2016).

13.4 New risk ratings and mitigation measures

Because of the proven effectiveness of Enviva's Track & Trace Program, Secondary Supplier District of Origin Process and the strength of existing laws and regulation that exists in the United States offered in this reports Annex 1 Supply Base Evaluation, Enviva has moved Indicator 2.2.4 to low risk.

13.5 Actual figures for feedstock over the previous 12 months

Feedstock

f. Total volume of Feedstock: 1,210,782 metric tonnes
g. Volume of primary feedstock: 774,547 metric tonnes
h. List percentage of primary feedstock (g), by the following categories. Subdivide by SBP-approved Forest Management Schemes:
    a. Forest Stewardship Council: 0.0%
    b. American Tree Farm System (Program for the Endorsement of Forest Certification): 4.0%

c. Sustainable Forestry Initiative®: 16.9%
d. Not certified to an SBP-approved Forest Management Scheme: 79.1%

i. List all species in primary feedstock, including scientific name

Species of Origin	
Common and Scientific Names	
Softwood	
Loblolly pine (*Pinus taeda*)	
Longleaf pine (*Pinus palustris*)	
Pond Pine (Pinus serotina)	
Slash Pine (*Pinus elliottii)*	
Sand Pine (Pinus clausa)	
Hardwood	
Black Cherry (Prunus serotina)	Red Bay *(Persea borbonia)*
Black Gum *(Nyssa sylvatica)*	Red Maple (Acer rubrum)
Blackjack Oak (Quercus marilandica)	River Birch (Betula nigra)
Black Oak (Quercus velutina)	River Oak (Casuarina cunninghamiana)
Black Walnut (Juglans nigra)	Shumard Oak (Quercus shumardii)
Cherry Bark Oak (Quercus pagoda)	Southern Magnolia *(Magnolia grandiflora)*
Chinkapin Oak (Quercus muehlenbergii)	Southern Red Oak *(Quercus flacata)*
Hackberry (Celtis occidentalis)	Sugar Maple (Acer saccharum)
Hickory (Carya spp.)	Swamp Bay *(Persea palustris)*
Holly (Ilex opaca)	Swamp Chestnut Oal (Quercus michauxii)
Laurel Oak *(Quercus laurifolia)*	Sweet Bay *(Magnolia virginia)*
Live Oak (Quercus virginiana)	Sweet Gum *(Liqaidambar styraciflua)*
Northern Red Oak (Quercus rubra)	Sycamore (Plantanus occidentalis)
Overcup Oak (Quercus lyrata)	Water Oak *(Quercus nigra)*
Pecan (Carya illinoensis)	Water Tupelo *(Nyssa aquatic)*
Persimmon (Diospyros virginiana)	White Oak *(Quercus alba)*
Pond Cypress (Taxodium ascendens)	Willow Oak (Quercus phellos)
Post Oak (Quercus stellata)	Yellow Poplar (Liridendron tulipifera)

j. Volume of primary feedstock from primary forest: 0.0 metric tonnes

k. List percentage of primary feedstock from primary forest (j), by the following categories. Subdivide by SBP-approved Forest Management Schemes:
   a. Primary feedstock from primary forest certified to an SBP-approved Forest Management Scheme: 0.0
   b. Primary feedstock from primary forest not certified to an SBP-approved Forest Management Scheme: 0.0

l. Volume of secondary feedstock: 36% of the total feedstock sourced is delivered as sawdust or shavings, with 99.9% being pine. The feedstock is delivered from within the defined supply base as described in section 2.1.

m. Volume of tertiary feedstock: 0%.

13.6 Projected figures for feedstock over the next 12 months

Feedstock

f. Total volume of Feedstock: 1,210,782 metric tonnes
g. Volume of primary feedstock: 774,547 metric tonnes
h. List percentage of primary feedstock (g), by the following categories. Subdivide by SBP-approved Forest Management Schemes:
    a. Forest Stewardship Council: 0.0%
    b. American Tree Farm System (Program for the Endorsement of Forest Certification): 4.0%
    c. Sustainable Forestry Initiative®: 16.9%
    d. Not certified to an SBP-approved Forest Management Scheme: 79.1%

i. List all species in primary feedstock, including scientific name

Species of Origin	
Common and Scientific Names	
Softwood	
Loblolly pine (*Pinus taeda*)	
Longleaf pine (*Pinus palustris*)	
Pond Pine (Pinus serotina)	
Slash Pine (*Pinus elliottii)*	
Sand Pine (Pinus clausa)	
Hardwood	
Black Cherry (Prunus serotina)	Red Bay *(Persea borbonia)*
Black Gum *(Nyssa sylvatica)*	Red Maple (Acer rubrum)
Blackjack Oak (Quercus marilandica)	River Birch (Betula nigra)
Black Oak (Quercus velutina)	River Oak (Casuarina cunninghamiana)
Black Walnut (Juglans nigra)	Shumard Oak (Quercus shumardii)
Cherry Bark Oak (Quercus pagoda)	Southern Magnolia *(Magnolia grandiflora)*
Chinkapin Oak (Quercus muehlenbergii)	Southern Red Oak *(Quercus flacata)*
Hackberry (Celtis occidentalis)	Sugar Maple (Acer saccharum)
Hickory (Carya spp.)	Swamp Bay *(Persea palustris)*
Holly (Ilex opaca)	Swamp Chestnut Oal (Quercus michauxii)
Laurel Oak *(Quercus laurifolia)*	Sweet Bay *(Magnolia virginia)*
Live Oak (Quercus virginiana)	Sweet Gum *(Liqaidambar styraciflua)*
Northern Red Oak (Quercus rubra)	Sycamore (Plantanus occidentalis)
Overcup Oak (Quercus lyrata)	Water Oak *(Quercus nigra)*
Pecan (Carya illinoensis)	Water Tupelo *(Nyssa aquatic)*
Persimmon (Diospyros virginiana)	White Oak *(Quercus alba)*
Pond Cypress (Taxodium ascendens)	Willow Oak (Quercus phellos)
Post Oak (Quercus stellata)	Yellow Poplar (Liridendron tulipifera)

j. Volume of primary feedstock from primary forest: 0.0 metric tonnes

k. List percentage of primary feedstock from primary forest (j), by the following categories. Subdivide by SBP-approved Forest Management Schemes:
    a. Primary feedstock from primary forest certified to an SBP-approved Forest Management Scheme: 0.0
    b. Primary feedstock from primary forest not certified to an SBP-approved Forest Management Scheme: 0.0

l. Volume of secondary feedstock: 36% of the total feedstock sourced is delivered as sawdust or shavings, with 99.9% being pine. The feedstock is delivered from within the defined supply base as described in section 2.1.

m. Volume of tertiary feedstock: 0%.

14 References

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Annex 1: Detailed Findings for Supply Base Evaluation Indicators

Preamble

Enviva's Cottondale Pellet mill is located in the United States. The country has a robust legal system developed using democratic processes. The "rule of law" social system is acknowledged by the World Bank as ranking in the top 90th percentile in *Government Effectiveness* and *Rule of Law and Regulatory Quality*, indicating that the United States has proven that it possesses effective means to ensure all laws and regulatory requirements are met or addressed if lacking through legal recourse. All verifiers were reviewed by third party auditors. **Internal verifiers** (identified in bold text) may contain sensitive information that cannot be made publically available. External verifiers are publically available.

Enterprise wide Enviva maintains the following third party certifications:

- American Tree Farm System™ Independently Managed Group
- Forest Stewardship Council® (FSC) Chain of Custody and Controlled Wood Standard
- Program for the Endorsement of Forest Certifications™ (PEFC) Chain of Custody
- Sustainable Forestry Initiative® (SFI) Fiber Sourcing
- Sustainable Forestry Initiative® (SFI) Chain of Custody

The Cottondale mill maintains the SFI® Fiber Sourcing, SFI® Chain of Custody, and PEFC Chain of Custody certifications.

Enviva developed its Supply Base Evaluation using the following Landscape Level Risk Assessments and sources of information:

- FSC® US National Controlled Wood Risk Assessment *DRAFTv0.1*,
- Global Forest Registry
- **Enviva's FSC® Controlled Wood Risk Assessment**
- **Enviva's PEFC™ Due Diligence System**

Enviva also used a report prepared for the American Hardwood Export Council (AHEC) entitled, *Assessment of Lawful Harvesting & Sustainability of US Hardwood Exports*.

  - Developed to assess the level of risk associated with legality and sustainability of harvesting hardwoods in 33 states, which account for 96% of US hardwood production
  - In-depth report covering all states in the supply area

Approximately 36% of the feedstock used at Enviva's Cottondale mill is comprised of secondary sawdust and shavings supplied by regional saw mills and other wood industry sources. 99.9% of secondary feedstock originates from southern yellow pine. This feedstock is a true waste stream generated by the manufacture of higher, better use products. Enviva’s secondary feedstock supply system has been assessed and implemented in accordance with the Sustainable Biomass Program (SBP) Standard 2 Section 8.4 guidance found in the Interpretations Q&A for Standard 2 (https://sbp-cert.org/documents/sbp-framework/interpretation-qa).

Enviva uses a robust District of Origin (DOO) process to establish the risk of sourcing unwanted material for all secondary feedstock suppliers. The DOO process requires the secondary feedstock supplier to complete an initial Data Request Form before wood can be delivered so Enviva can assess the secondary supplier sourcing area to ensure it is within the bound of Enviva's Supply Base Evaluation and determine the risk, if any, associated with the supplier’s sourcing area. Enviva Cottondale has ensured that all of its secondary

feedstock supplier mill locations and their sourcing areas are included in the Cottondale Supply Base Evaluation. The completed Data Request Forms are also used to evaluate changes, to make adjustments to supplier risk assessments and to determine if a supplier can continue providing feedstock to the Cottondale Pellet mill.

The system has been verified effective by an independent third party Certifying Body (CB), who reviewed both internal and external sources of information. The CB conducted the required secondary supplier site visits, interviews and analysis. The CB confirmed that the information supplied by the secondary suppliers was accurate, and that Enviva's DOO process is sound and is operating consistently with SBP Guidance.

Many of the indicators contain references to forestry BMP's (BMP). BMP guidelines were developed at the state level in response to the federal Clean Water Act requirement pertaining to non-point source water quality. Most states have monitoring programs to evaluate BP effectiveness and compliance rates, and some states require their use. Enviva and many other wood industry companies, however, require the use of forestry BMP's regardless of the state's stance. Table 1 below* shows the high rate of BMP compliance across Cottondale's supply base area.

Table 1. Selected Percent Forestry Best Management Compliance Rates by State[1]

	AL	FL	GA	MS	SC	TN
Timber Harvest	98	99	98		94	
Forest Road	93	99	94	84	98	88
Skid Trail		100	95	84		85
Log Landing		100	99	94		92
Stream Crossing	96	98	93	92	81	82
SMZ[2]	97	98	95	94	92	88
Wetlands		99	97	95		70
Reforestation		99	100		100	
State Average	97	99	97	91	91	84

1. Not all categories are ranked in every state
2. Streamside Management Zone

*Source National Association of State Foresters publication, *Protecting Water Quality through State Forestry BMP's* (https://stateforesters.org/sites/default/files/issues-and-policies-document-attachments/Protecting_Water_Quality_through_State_Forestry_BMPs_FINAL.pdf)

	Indicator

1.1.1	The Biomass Producer's Supply Base is defined and mapped.
Finding	The Enviva Cottondale supply base area is determined through information gathering efforts as outlined in SBP Standard 1 Feedstock Compliance Standard. Primary feedstock supplies are from known sources and are tracked to the forest management unit level through our Track and Trace program. Secondary feedstock supplies are tracked through a robust District of Origin process that annually require secondary feedstock suppliers to describe: their supply area's country of origin, size of their sourcing area, species used, and how they track their primary wood supply. Cottondale's supply base area includes counties in Alabama, Florida, Georgia, Mississippi, South Carolina, and Tennessee. Data is entered into computer programs and is reviewed annually to ensure the appropriateness. Enviva maintains SFI and PEFC CoC certification for its mills. These certifications track wood through the supply chain, while also ensuring unwanted sources of wood do not enter the supply chain. Enviva's Chain of Custody certifications require the company to develop and maintain a Controlled Wood Risk Assessment/ Due Diligence System that ensure Enviva annually reviews its supply base area for accuracy.
Means of Verification	a. Preamble citations **b. ENV-COC-03 Controlled Sources Risk Assessment** **c. ENV-COC-02 Controlled Sourcing Procedure** **d. Residual Supplier Data Form** **e. Enviva Track and Trace Program**
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.1.2	Feedstock can be traced back to the defined Supply Base.
Finding	All wood sources are tracked to the county level, at a minimum, through the Track and Trace program, District of Origin process, and contracts with individual vendors/producers. All suppliers are required to sign agreements prior to delivering wood feedstock to the Cottondale mill. An internal software program is employed by the procurement staff to capture appropriate data. Enviva delivery documents linked to supply agreements are generated prior to delivery of feedstock and the district of origin and other essential information is captured and maintained. Residual wood is tracked through the residual supplier data form. Enviva maintains FSC and/or PEFC CoC certification for this pellet mill. These certifications track wood through the supply chain, while also ensuring unwanted sources of wood do not enter the supply chain. Enviva's Chain of Custody certifications require the company to develop and maintain a Controlled Wood Risk Assessment/ Due Diligence System that ensures that the origin of all feedstocks is known.
Means of Verification	a. Preamble citations **b. ENV-COC-03 Controlled Sources Risk Assessment** **c. ENV-COC-02 Controlled Sourcing Procedure** **d. ENV-SFIS-01 Certified Sourcing Implementation Manual** **e. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation**

	f. ENV-PEFCCOC-01 Enviva PEFC Chain of Custody Procedures and Implementation **g. Residual Supplier Data Form** **h. Enviva Track and Trace Program** i. **Supplier Agreements**
Evidence Reviewed	All means of verification reviewed
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.1.3	The feedstock input profile is described and categorised by the mix of inputs.
Finding	Enviva Cottondale tracks purchased and consumed material by product type (roundwood, in-wood chips, residuals, etc.) and general species groupings of softwood or hardwood. Wood is stored at the mill site and input verified by monthly inventory processes. Enviva maintains SFI and PEFC CoC certification for this pellet mill. These certifications track feedstock through the supply chain, while also ensuring unwanted sources of wood do not enter the supply chain.
Means of Verification	a. Preamble citations **b. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **c. ENV-PEFCCOC-01 Enviva PEFC Chain of Custody Procedures and Implementation** **d. ENV-COC-03 Controlled Sources Risk Assessment** **e. ENV-COC-02 Controlled Sourcing Procedure** f. FSC US Controlled Wood National Risk Assessment **g. Yard Boss/Report Boss Database** h. **Mill specific Monthly Wood Excel**
Evidence Reviewed	All means of verification reviewed
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.2.1	The Biomass Producer has implemented appropriate control systems and procedures to ensure that legality of ownership and land use can be demonstrated for the Supply Base.
Finding	Enviva uses contractual language requiring vendors/producers to declare they have legal rights to access and harvest wood delivered to Enviva mill sites. Enviva does appropriate due diligence to ensure wood is only purchased from reputable known sources. Enviva's due diligence through its Controlled Wood/Controlled Sources Risk Assessment demonstrates that the rule of law and public agency governance are upheld and so illegality is considered low risk. And Enviva has implemented procedures to conform to EUTR. In the United States regulation of forestry practices has its roots in Federal law and in Acts designed to provide guidance to states for developing state specific laws and regulations. The US ranks in the top 88th percentile in Regulatory Quality in the World Bank, Worldwide Governance Indicators and in the top 90th percentile in Rule of Law. Evidence of the effectiveness of law enforcement is evident in news reporting and this reporting reveals no widespread or systematic criminal activity in the Cottondale supply base area. Enviva uses sources such as the Illegal Logging Portal to assess the likelihood of illegal logging activity in the supply area. In addition, according to the National Association of State Foresters Timber Assurance web page, each state in the supply base area has laws protecting landownership rights and governing land use.
Means of Verification	a. Preamble citations **b. ENV-COC-03 Controlled Sources Risk Assessment** **c. ENV-COC-02 Controlled Sourcing Procedure** **d. ENV-SFIS-01 Certified Sourcing Implementation Manual** **e. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **f. ENV-PEFCCOC-01 Enviva PEFC Chain of Custody Procedures and Implementation** **g. Supplier Agreements** h. Enviva Sustainability Policy i. World Bank Governance Index j. Illegal logging Portal k. State Laws l. Local Zoning restrictions m. National Association of State Foresters Timber Assurance web site
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.3.1	The BP has implemented appropriate control systems and procedures to ensure that feedstock is legally harvested and supplied and is in compliance with EUTR legality requirements.
Finding	Enviva has a Controlled Sources Risk Assessment and a Due Diligence System in place to ensure legality requirements within the Supply Base are met. These Assessments required an in-depth look into legality of harvest and provide assurance that Enviva's Cottondale mill is in compliance with EUTR legality requirements. Some of the evidence used includes: • www.illegal-logging.info - indicates Enviva's Cottondale sourcing area is not at risk for illegal logging • www.eia-international.org - indicates a low risk for trade in illegally logged wood • www.eldis.org - Enviva's Cottondale supply base area is not included in regions with illegal logging issues • www.transparency.org - identified no issues with corruption bribery or other illegal activates in the Cottondale supply base area. The FSC US National Risk Assessment draft also ranked the US as having low risk for illegal logging. The AHEC Legality Study indicates that the states within the Cottondale Supply Base area have laws to address timber theft and there is evidence these laws are enforced and highly effective. Government agencies exist to enforce laws and legislation related to preventing illegal harvesting of wood. The company is committed to legal compliance and does not procure wood from any areas where suspected legality issues exist. ENV-COC-03 Controlled Sources Risk Assessment contains evidence for compliance with EUTR.
Means of Verification	a. Preamble citations **b. ENV-COC-03 Controlled Sources Risk Assessment** **c. ENV-COC-02 Controlled Sourcing Procedure** **d. ENV-SFIS-01 Certified Sourcing Implementation Manual** **e. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **f. ENV-PEFCCOC-01 Enviva PEFC Chain of Custody Procedures and Implementation** g. Enviva Track and Trace Program h. Residual Supplier Data Form **i. Supplier Agreements** j. Enviva EUTR Compliance Document k. AHEC Legality Study
Evidence Reviewed	All means of verification reviewed
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.4.1	The Biomass Producer has implemented appropriate control systems and procedures to verify that payments for harvest rights and timber, including duties, relevant royalties and taxes related to timber harvesting, are complete and up to date.
Finding	Enviva requires legally binding contracts from all suppliers verifying that all relevant timber fees and taxes are paid. Alabama timber severance reports are filed quarterly when Enviva Cottondale purchases stumpage directly from Alabama landowners. The states in Enviva's Cottondale supply all have laws governing taxation. The US legal system is robust and capable of enforcing these Federal and state laws. • Transparency International identified no issues with corruption bribery or other illegal activates in the Cottondale supply base area. • AHEC Legality Study determined the region Cottondale supply base area is located is a low risk for illegal activity • The World Bank ranked the US in the top 90th percentile in the Rule of Law category
Means of Verification	a. Preamble citations **b. ENV-COC-03 Controlled Sources Risk Assessment** **c. ENV-COC-02 Controlled Sourcing Procedure** **d. ENV-SFIS-01 Certified Sourcing Implementation Manual** **e. Supplier Agreements** **f. Severance Tax Reports** g. Transparency International h. World Bank Governance Index
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.5.1	The Biomass Producer has implemented appropriate control systems and procedures to verify that feedstock is supplied in compliance with the requirements of CITES.
Finding	Enviva's Controlled Wood Risk Assessment and Due Diligence System determined the Cottondale supply base area to be a low risk for CITES species and no wood is imported from outside the south eastern region. CITES enforcement is controlled at the federal level involving US Customs and Border Protection, Animal and Plant Health Inspection Services and the US Fish and Wildlife Service. Under the Endangered species Act the US Fish & Wildlife Service has been designated with carrying out the provisions of CITES. Implementation Reports can be found on the US Fish & Wildlife Service International Affairs web page. Enviva supplier contracts require our suppliers to abide by all laws and regulations.
Means of Verification	a. Preamble citations **b. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **c. ENV-PEFCCOC-01 Enviva PEFC Chain of Custody Procedures and Implementation** **d. ENV-COC-03 Controlled Sources Risk Assessment** **e. ENV-COC-02 Controlled Sourcing Procedure**

	f. Enviva Sustainability Policy **g. Residual Supplier Data Form** **h.** Enforcement of the Convention on International Trade in Endangered Species **i.** US Fish & Wildlife Service International Affairs web page **j. Suppler Agreements**
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.6.1	The Biomass Producer has implemented appropriate control systems and procedures to ensure that feedstock is not sourced from areas where there are violations of traditional or civil rights.
Finding	In the US, land use and tenure questions have long been decided and in the southeast there are no indigenous people groups with controversial traditional or civil rights to forestlands. Enviva has a Controlled Sources Risk Assessment System in place to ensure operations do not violate traditional or civil rights. Existing policies declare that Enviva will avoid being directly or indirectly involved in the violation of traditional and human rights. The Cottondale wood and wood supply area is not designated within a country or district that is a source of conflict timber. There is tribal and federal government owned Native American reservations within the supply base, but no traditional or civil rights issues are present in these areas. The FSC US National Risk Assessment draft concluded; “Within the U.S. there is no UN Security Council ban on timber exports, the areas are not designated as a source of conflict timber, child labor does not occur systematically, and ILO Fundamental Principles and rights at work are generally respected. In addition, the U.S. has recognized and equitable processes in place to resolve conflicts of substantial magnitude pertaining to traditional rights including use rights, cultural interests or traditional cultural identity. In the U.S., Native Americans with a land base are recognized as Sovereign Nations and accorded rights to manage their land and affairs. In addition, Native Americans have an equitable process to resolve conflicts over land management. Through the U.S. court system, many Native American tribes have challenged, won decisions, and resolved issues concerning land management and use rights. There are many examples within the U.S. where tribes have successfully been able to exercise treaty rights through formal and informal conflict resolutions systems.” The AHEC Legality Study found the same to be true.
Means of Verification	a. Preamble citations **b. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **c. ENV-PEFCCOC-01 Enviva PEFC Chain of Custody Procedures and Implementation** **d. ENV-COC-02 Controlled Sourcing Procedure** **e. ENV-COC-03 Controlled Sources Risk Assessment** f. Enviva Sustainability Policy g. FSC US Controlled Wood National Risk Assessment h. AHEC Legality Study i. Advisory Council on Historic Preservation
Evidence Reviewed	All means of verification reviewed

Risk Rating	X **Low Risk**	☐ **Specified Risk**	☐ **Unspecified Risk at RA**

	Indicator
2.1.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that forests and other areas with high conservation values are identified and mapped.
Finding	Enviva uses credible third party data and sources to identify HCV areas, utilizes trained loggers who are trained to recognize threatened and endangered species and assesses all stumpage tracts for HCV areas. Enviva has implemented the Enviva High Conservation Value (HCV) Process to identify and protect sensitive wetland habitats. Enviva's Controlled Wood Risk Assessment and Due Diligence System evaluated the following World Wildlife Fund ecoregions: 1. Southeastern Mixed Forests (Temperate Broadleaf and Mixed Forests biome) 2. Southeastern Conifer Forests (Temperate Coniferous Forests biome) 3. Appalachian-Blue Ridge Forests (Temperate Broadleaf and Mixed Forests biome) 4. Appalachian Mixed Mesophytic Forests (Temperate Broadleaf and Mixed Forests biome) 5. Florida Sand Pine Scrub Forests (Temperate Coniferous Forests biome) 6. Middle Atlantic Coastal Forests (Temperate Coniferous Forests biome) 7. Central U.S. Hardwood Forests (Temperate Broadleaf and Mixed Forests biome) Southeastern Mixed Forests Ecoregion WWF does not identify at risk High Conservation Value Forests. The 9 identified Remaining Blocks of Intact Habitat are the most likely places where HCVFs might exist. The largest of these are located within U.S. National Forests. Harvests in the U.S. National Forests are subject to intensive Environmental Assessment and Environmental Impact analysis. In recent years there have been harvests on a very small proportion of national forests in this ecoregion, and most harvests that do occur are designed to restore forest vegetation to structures and processes within the natural range of variability. The entire span of the Enviva forestry programs was considered when assessing this information from WWF. Enviva's management systems such as its tract approval process, third-party audited Track & Trace database, and verifiable monitoring program and the company's core forestry programs such as outreach, logger training and an emphasis on the correct use of BMP's all help ensure that there is a low risk of sourcing unacceptable sources involving threats to eco-regionally significant high conservation values in the Southeastern Mixed Forests ecoregion. Southeastern Conifer Forests Ecoregion WWF shows that the major "Remaining Blocks of Intact Habitat" are in managed or protected status that is consistent with HCVF protection. While conversion of native cover to Slash pine plantation is listed as having an impact this conversion was done decades ago, and many areas of public lands are being converted back to native Longleaf pine. Procurement of pine for the Enviva mills is from pine-dominated stands converted to pine plantation decades ago, or managed primarily for pine over the past several decades or longer. Forestry in this region does not comprise a threat to existing HCVF forests, which are centred on large blocks of remaining Longleaf pine and associated forest cover managed primarily by public agencies using long-rotations, prescribed-fire, and harvest practices designed to emulate natural disturbance regimes.

	Appalachian-Blue Ridge Forests Ecoregion WWF reports “exceptional (biodiversity) due to the broad range of microhabitats, presence of numerous relict species and communities, and geologic stability over long periods of evolutionary history” despite land-clearing for farming and other development and extensive logging. Ecological resiliency explains this in part, but the presence of large blocks and extensive areas of lightly-managed and unmanaged public land support this biodiversity: “Several blocks of more or less intact habitat remain as patches on the landscape. A large majority of them can be found within public lands.” The information on the site regarding management practices on federal lands is out of date; there are very low levels of timber management on federal land in this region, and most practices which are implemented are designed to maintain or restore native community types and to emulate natural disturbance regimes. Numerous peer-reviewed studies show that Oak forests on medium- and high-quality (richer) sites are at risk of loss from lack of appropriate types of disturbance. Reductions in the amount and severity of fires are a major factor. Federal researchers and managers are attempting to develop “fire surrogate” strategies, with timber harvesting one such option to maintain the forest type within the natural range of variability regarding forest age and structure. Considering the amount of land protected from development and managed primarily for watershed, aesthetic, and ecological values and the entire span of Enviva’s management systems such as its tract approval process, third-party audited Track & Trace database, and verifiable monitoring program as well as the company’s core forestry programs such as outreach, logger training and an emphasis on the correct use of BMP’s there is a low risk of sourcing regarding threats to eco-regionally significant high conservation values in the Appalachian-Blue Ridge Forests ecoregion. Appalachian Mixed Mesophytic Forests Ecoregion WWF describes a somewhat disturbed forest region which has maintained an extraordinary degree of biological diversity. This is due in part to the ecological resiliency of mixed hardwood forests, but the presence of large public forests in many portions of the ecoregion helps support the diversity. “Remaining Blocks of Intact Habitat: Few remaining patches of undisturbed forest remain, although older pioneer forests (i.e., forests that have regrown from previously cleared land) can be relatively large. The larger habitat blocks that do exist are found primarily on public lands.” The information on the site regarding management practices on federal lands is out of date; there are low levels of timber management on federal land in this region. Most practices which are implemented on federal and state lands in this ecoregion are designed to maintain or restore native community types and to emulate natural disturbance regimes. Numerous peer-reviewed studies show that Oak forests on medium- and high-quality (richer) sites are at risk of loss from lack of appropriate types of disturbance. Reductions in the amount and severity of fires are a major factor. Federal and state researchers and managers are attempting to develop “fire surrogate” strategies, with timber harvesting one such option to maintain the forest type within the natural range of variability regarding forest age and structure. Considering the amount of land protected from development and managed primarily for watershed, aesthetic, and ecological values and the entire span of the Enviva management systems and forestry programs (its tract approval process, third-party audited Track & Trace database, and verifiable monitoring program and the company’s core forestry programs such as outreach, logger training and an emphasis on the correct use of BMP’s) a finding of low risk of sourcing unacceptable sources that would comprise threats to eco-regionally significant high conservation values in the Appalachian Mixed Mesophytic Forests ecoregion. Florida Sand Pine Scrub Ecoregion WWF defines this as "Florida's most distinct ecosystem, physiognomy and composition are quite distinct from surrounding habitats" noting between 40% - 60% of scrub species

	are considered to be endemic. WWF estimates there is only about 10% - 15% of the original habitat remaining. There are significant protected areas such as the Ocala National Forest and the Archbold Biological Station. Threats to this ecoregion are citrus production and residential development. Middle Atlantic Coastal Forest Ecoregion WWF describes the region's importance for biodiversity because it "contains the most diverse assemblage of freshwater wetland communities in North America and perhaps of all temperate forest ecoregions… River swamp forests or bottomland forests were once prominent in this ecoregion and are one the most visually appealing habitats in North America. This forest type is dominated by bald cypress (Taxodium distichum) and swamp tupelo (Nyssa sylvatica var. biflora)." In recognition of this diversity and the importance of existing examples of these types that are older and less disturbed Enviva consulted with leading independent academics and environmental organizations, the Endowment identified four specific bottomland priority forest types; Cypress-tupelo swamps, Atlantic white cedar stands, Pocosins and Carolina bays. See the Enviva Forest Conservation Fund website (http://envivaforestfund.org/about-the-enviva-forest-conservation-fund/about-bottomland-forests/) for additional information about these bottomland forest types. Enviva has committed not to source from high conservation value areas that might fall into one of these four categories." In consideration of Enviva's tracking and monitoring program (Track and Trace), commitments not to source from High Conservation Value Forests, its partnership with the US Endowment, Enviva's tract approval process and other forestry programs (logger training, use of BMP's), and the Enviva Forest Conservation Fund entire the information from WWF on this site supports a finding of low risk for the Middle Atlantic Coastal Forests Ecoregion. Central U.S. Hardwood Forest This ecoregion is one of the richest in North America for herbaceous plants and shrubs, but much of the natural habitat in this ecoregion has now been destroyed by development and agriculture. Only about 1% of this ecoregion remains intact. The greatest threats to this region are urban sprawl and agriculture conversion. The remaining blocks of this habitat are small and fragmented, and are generally located in protected areas. A review was made of regions identified by the IUCN as a Centre of Plant Diversity available on maps on the following websites: http://www.biodiversitya-z.org/content/centres-of-plant-diversity-cpd http://www.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=29673486d08b41a2bea0a3e19d5c573e . The North American Serpentine Flora (NA25) is shown within portions of the Enviva supply area as a high-priority Center of Plant Diversity indicates scattered sites. These small and widely-scattered sites are often associated with "barrens vegetation" where trees are mostly absent or are small and poor quality. Many of these barrens sites are within protected areas. Threats listed include invasive plants and tree encroachment; logging is not listed as a threat ("In eastern North America, two major threats to serpentine barrens are the spread of invasive species and the encroachment of trees into open habitats." http://www.bioone.org/doi/abs/10.3159/TORREY-D-16-00030). As such the limited presence of North American Serpentine Flora in Enviva's supply area does not indicate specified risk. On February 18, 2016 the designation of the North American Coastal Plain Biodiversity Hotspot was announced (http://www.cepf.net/news/top_stories/Pages/Announcing-the-Worlds-36th-Biodiversity-Hotspot.aspx#.WA5qeZMrJE4). This area, which covers most of the eastern seaboard and the Atlantic and Gulf Coastal plains, was found to meet the criteria for a global biodiversity hotspot of more than 1,500 endemic vascular plants and greater than 70 percent habitat loss (Myers et al. 2000). The conservation priorities for this hotspot focus on the reduction of urban sprawl and population growth as well as identifying more localized hotspots at a finer scale (Source: Noss, R.F. 2016. "Announcing the World's 36th Biodiversity Hotspot: The North American Coastal Plain." Available from:

	http://www.cepf.net/news/top_stories/Pages/Announcing-the-Worlds-36th-Biodiversity-Hotspot.aspx. Active forest management within this hotspot supports the listed conservation priorities through proper management of the resource, providing connectivity and important habitat, as well as alternative land uses for private forest owners seeking income from their land. A large number of stakeholders have long been involved in the promotion of good forestry practices in this newly-named biodiversity hotspot. These include most states' forestry departments (known in most southern states as "Forestry Commissions) which administer the Forest Stewardship Program. This program supports natural resource planning on private non-industrial forest lands. Perhaps the largest and most-active stakeholder groups are the various "Forestry Associations" which advocate active forestry practices in extensive, long-standing outreach, education, and lobbying efforts. Each state within this biodiversity hotspot has also developed a wildlife action plan and a state-wide forestry strategy. Both sets of documents were developed using extensive stakeholder input processes, and the reports advocate continued active forestry by private landowners, in part to provide incentives to keep forests as forests. They also list many ongoing and some proposed conservation efforts and show widespread support for conservation of biodiversity and of diverse, productive forests. Considering that forest management is not listed as a threat to HCVs within the ecoregion, and the evidence of stakeholder support for conservation initiatives, we can conclude that this ecoregion is low risk based on Indicator 3.1. Protection and reserve areas are in place to ensure the survival of any HCVs that may be identified in the eco-regions. Therefore, none of the forests within the wood supply areas of Enviva Cottondale are considered "threatened." The two major threats identified by WWF in their assessments are due to conversion and degradation (fire suppression, dams and ditching, poaching of plants and animals). Forestry was not named as one of the current threats. In instances where timber harvesting was mentioned as a potential threat, existing forestry regulations and protected areas are sufficient to ensure Enviva's sourcing practices will not have a negative impact on forest of high conservation value. Enviva assessed the updated websites as identified by Greenpeace (www.intactforests.org) for any evidence of Intact Forests within Enviva's districts of origin. The Company does not source any wood raw material from any of the Green Shaded areas which depict Intact Forests. (The maps do show the company's procurement territory as "other forest areas".) There are no regions identified by Conservation International as a High Biodiversity Wilderness Areas (defined as areas that contain contiguous forest ecosystems greater than 500 km2 based on the map of such areas prepared by Conservation International (CI). The World Conservation Union (IUCN) Centers of Plant Diversity designation applies to areas of global botanical importance that are priorities for conservation (Source: "World Wildlife Fund and IUCN. 1997. Centres of plant diversity. A guide and strategy for their conservation. Volume 3: The Americas. IUCN Publications Unit. Cambridge, U.K."). Sites were selected due to their species-richness and large number of endemic species. A map from the publication (reproduced nearby) shows the major centers. The Alliance for Zero Extinction identified the Apalachiacola National Forest as an AZE site because of the Florida yew. The forest is managed by the United States Forest Service to restore historic landscapes in the region.

Means of Verification	a. Preamble citations **b. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **c. ENV-PEFCCOC-01 Enviva PEFC Chain of Custody Procedures and Implementation** **d. ENV-COC-03 Controlled Sources Risk Assessment** **e. ENV-COC-02 Controlled Sourcing Procedure** **f. ENV-SFIS-01 Certified Sourcing Implementation Manual** g. Enviva Sustainability Policy h. FSC US Controlled Wood National Risk Assessment **i. Enviva HCV Process** j. Florida Forestry Wildlife Best Management Practices for State Imperiled Species k. World Wildlife Fund l. Conservation International m. Greenpeace n. World Resource Institute o. Global Forest Frontier Forests p. World Conservation Union q. Critical Ecosystem Partnership Fund r. Alliance for Zero Extinction
Evidence Reviewed	All means of verification reviewed
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.1.2	The Biomass Producer has implemented appropriate control systems and procedures to identify and address potential threats to forests and other areas with high conservation values from forest management activities.
Finding	Enviva's supplier contracts require adherence to all applicable laws, including those related to forestry BMP's. Our legally binding contracts also include the expectation that the supplier require the same from its suppliers and the wood supply chain, as well as that the supplier support the programs used by Enviva to maintain its certification systems. Harvesting contractors are trained in the use of state BMP's and harvest sites are monitored for implementation. State wide BMP compliance rates are a strong indicator of how forest harvesting activities are conducted within the supply bases of our residual suppliers. Primary feedstock is controlled by Track & Trace Enviva has implemented management systems to ensure that the wood used to make wood pellets meets our strict sustainability requirements. Specifically, Enviva maintains a robust tracking and monitoring program to ensure that all our suppliers deliver wood that is sourced according to our expectations. First, Enviva uses our SFI® Fiber Sourcing verifiable monitoring program as a basis for monitoring tract harvests. In addition, in 2016 we implemented a third-party audited Track & Trace database which includes information at the tract level, including data on the forest type, age, GPS coordinates, acreage, and the percent of volume from that tract being sold to Enviva. Before agreeing to accept material from a certain tract, Enviva's Wood Procurement Foresters must obtain this tract-level data and enter it into our database, which generates a unique tract ID. Then, upon delivery to the Cottondale mill, each load is linked to that tract's ID number. As a result, Enviva knows the tract-level attributes for all the primary wood entering the mill.

	The Track & Trace data collection is supported by tract audits performed by Enviva foresters. During tract audits, Enviva foresters validate data on the tract characteristics in addition to ensuring that best management practices (BMPs) for water quality are properly implemented, special sites are properly protected, and loggers are trained, along with other metrics for responsible harvesting. At the Cottondale mill, Enviva only accepts wood from tracts in which the logger has completed and maintains training through a SFI®-approved trained logger program. If any of these monitoring programs uncover issues with incoming raw material, Enviva will contact suppliers to notify them of the issue. If needed, Enviva will cease accepting deliveries from a supplier who does not perform to our sustainability standards. Enviva will not accept further deliveries from a poorly performing supplier until the supplier demonstrates the ability to adhere to Enviva's sustainability requirements. Secondary feedstock is controlled with District of Origin Process Enviva purchases sawmill and wood industry residues in the form of sawdust, shavings, or other waste products from the milling process (Figure 5). Secondary feedstock suppliers receive an initial visit prior to beginning deliveries, to verify their operations and products. All sawmill and wood industry suppliers are required to complete a Residual Supplier Reporting Form, providing Enviva with information on the source of their wood as well as any certifications and species used. Enviva includes their supply areas in our supply base evaluation and provides each supplier with feedback on their supply area, noting any areas of risk that may be present. Enviva may choose to cease deliveries from a supplier which refuses to provide the necessary data for us to properly include their supply area in our risk assessment. Enviva contacts each sawmill and wood industry supplier annually to ensure their data is accurate. An example of the reporting sheet is in Appendix I. With this information, in addition to our internal expertise and knowledge of the location of the mill and the products it produces, Enviva can evaluate each supplier's ability to provide wood that meets the SBP Feedstock Standard. Enviva works with its residual suppliers to ensure the data they have provided is complete and accurate, and will regularly check to ensure they are providing the material they have reported. In addition to an initial visit before signing a contract with a residual supplier to verify their operations and products are as-stated, Enviva can monitor the incoming products to ensure they are consistent with the data submitted annually in the Residual Supplier Data Sheet. Further, this data collection and monitoring process is now a part of Enviva's SBP implementation program, and thus is checked annually during audits. Currently, all of Enviva's residual suppliers have returned completed Residual Supplier Data Forms, and so Enviva has all the data to properly assess each suppliers supply chain, and to incorporate their source area into its SBE, to ensure it is SBP-Compliant. The National Association of State Foresters (NASF) website offers fact sheets and reports useful in confirming the effectiveness of various forestry related programs.
Means of Verification	a. Preamble citations **b. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **c. ENV-PEFCCOC-01 Enviva PEFC Chain of Custody Procedures and Implementation** **d. ENV-COC-03 Controlled Sources Risk Assessment** **e. ENV-COC-02 Controlled Sourcing Procedure** **f. ENV-SFIS-01 Certified Sourcing Implementation Manual** g. Enviva Sustainability Policy **h. Supplier Agreements** i. FSC US Controlled Wood National Risk Assessment **j. Residual Supplier Data Form** **k. Enviva HCV Process** l. NASF Water Quality Report m. State BMP sites

	n. NASF State Forestry and Wildlife Plans o. World Wildlife Fund p. World Resource Institute Global Forest Frontier Forests q. **Track & Trace** r. **Secondary Supplier District of Origin Process**
Evidence Reviewed	All means of verification reviewed
Risk Rating	**X Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.1.3	The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is not sourced from forests converted to production plantation forest or non-forest lands after January 2008.
Finding	Enviva's Sustainability Policy Land Ethic pillar states Enviva will not from forests where the landowner does not intend to reforest. We believe forest should continue to be forests after they are harvested. Enviva's supplier contracts also state the company's position to avoid wood from conversion sources and the expectation our suppliers will adhere to that desire. Enviva monitors land use change as part of its proprietary Track & Trace Program. Information about forest cover and changes over time are available on the company's Track & Trace webpage. Enviva does not source from production plantations as defined in the SBP Glossary as "forests of exotic species that have been planted or seeded by human intervention and that are under intensive stand management, are fast growing and subject to short rotations (e.g. Poplar, Acacia or Eucalyptus plantations)."
Means of Verification	a. Preamble citations **b. ENV-SFIS-01 Certified Sourcing Implementation Manual** **c. ENV-COC-03 Controlled Sources Risk Assessment** **d. ENV-COC-02 Controlled Sourcing Procedure** **e. Supplier Contracts** f. Enviva Policy on Wood Deliveries From Land Use Change and Arboriculture g. FSC US Controlled Wood National Risk Assessment h. Track & Trace web page.
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.1	The Biomass Producer has implemented appropriate control systems and procedures to verify that feedstock is sourced from forests where there is appropriate assessment of impacts, and planning, implementation and monitoring to minimise them.
Finding	All of the states in Cottondale's supply base area offer reforestation incentive programs and the success of these programs as well as BMP compliance information for most states can be found on the National Association of State Foresters website in the form of fact sheets and reports. Enviva requires through contracts, that all suppliers of raw material adhere to all applicable laws and regulations and employ BMPs during harvest. Enviva also requires the use of trained loggers, which have completed training on BMPs, threatened and endangered species, identification of special sites, and more. The AHEC Legality Study found: "States in the hardwood-producing region have very complex and diverse legal authorities over various aspects of forests and each state has crafted its own approach to fostering sustainable forest management." "Many states have implemented voluntary or incentive-based programs to achieve sustainable forestry objectives. Only sporadic information can be found in the formal literature or in media reporting about violations or potential violations of state regulations in the hardwood-producing states. Information that is readily available suggests that state regulatory agencies are not timid about issuing citations or pursuing violators." "While states in the hardwood-producing region take different approaches to regulating harvesting and forest practices, the data suggest that all states direct significant resources to forest sustainability issues. The extent of regulation in a given state is not necessarily an indication of how well forests are managed, but it does relate to legal compliance with state laws and thus the legality of hardwood production. The available data suggest that states in the hardwood region are diligent about enforcing regulations that affect forest practices." The Threatened and Endangered Species Act is vigorously enforced in the United States and effective: this conclusion is supported by Martin et al. (2005), in the peer-reviewed publication entitled “The Effectiveness of the Endangered Species Act: A Quantitative Analysis” (BioScience (2005), Vol. 55 Is. 4(1): 360-367.)
Means of Verification	a. Preamble citations **b. ENV-SFIS-01 Certified Sourcing Implementation Manual** **c. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **d. ENV-PEFCCOC-01 Enviva PEFC Chain of Custody Procedures and Implementation** **e. ENV-COC-02 Controlled Sourcing Procedure** **f. ENV-COC-03 Controlled Sources Risk Assessment** **g. Supplier Agreements** h. BMP Manuals and Compliance Reports i. Enviva Track and Trace Program j. Residual Supplier Data Form k. NASF Water Quality Report l. NASF State Forest Fact Sheets m. Bioscience website
Evidence Reviewed	All means of verification reviewed

Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.2	The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is sourced from forests where management maintains or improves soil quality (CPET S5b).
Finding	Each State Forestry Agency/Commission is responsible for implementing forestry best management practices as directed by the Clean Water Act and conducts periodic BMP implementation monitoring and reports are available of state wide compliance with BMPs. USDA and NRCS programs also strengthen compliance and improve water quality. The NASF website contains many useful reports including, *Effectiveness of forestry BMP's in the United States: Literature Review*, which was published in Forest Ecology and Management (2016: 133 - 151). The review determined forestry BMP's are effective when implemented as recommended by state forestry agencies. Proper implementation of forestry BMP's protect soil quality. There are few studies looking at the effect of timber harvesting on forest soils in the United States. The United States Department of Agriculture Forest Service General Technical Report INT-69 titled, *Forest Soil Biology - Timber Harvesting Relationships: A Perspective*, concluded generally timber harvesting does not have a long term impact on forest soil productivity and if changes do exist these are generally small and only last a few years. The SFI Fiber Sourcing Standard certification provides evidence of logger training, use and promotion of forestry “Best Management Practices”, and monitoring of the use of these practices in order to address soil quality. The NASF Timber Assurance web page contains comprehensive federal and state level information about forestry BMP laws, regulations and enforcement.
Means of Verification	a. Preamble citations **b. ENV-SFIS-01 Certified Sourcing Implementation Manual** **c. ENV-COC-02 Controlled Sourcing Procedure** **d. ENV-COC-03 Controlled Sources Risk Assessment** **e. Supplier Agreements** **f. Enviva Track and Trace Program** g. NASF Water Quality Report h. BMP Manuals and Compliance Reports i. Effectiveness of forestry BMP's in the United States: Literature Review. j. Forest Soil Biology - Timber Harvesting Relationships: A Perspective k. National Association of State Foresters Timber Assurance web page
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

<table>
<tr><th></th><th>Indicator</th></tr>
<tr><td>2.2.3</td><td>The Biomass Producer has implemented appropriate control systems and procedures to ensure that key ecosystems and habitats are conserved or set aside in their natural state (CPET S8b).</td></tr>
<tr><td>Finding</td><td>The USGS Protected Area Database (PAD) mapping data provides many examples of ecosystem protection. The table below describes the protected hectares and ownership in the Cottondale supply base area using the USGS PAD database information.

Cottondale's supply base area contains about 50.0MHa. A little over 14% (7.1MHa) of the supply base area is currently controlled and protected by the federal (3.9MHa) or state (1.8MHa) governments and restrictive easements (.6MHa). The remaining hectares are controlled by Native Americans, regional authority's cities and counties. The United States has a long history of forest conservation and protection supported by taxation at various levels as well as tax incentives to encourage those who qualify to place protective easements on lands they deem special. Enviva and its suppliers provide tax revenues that permit the conservation work in the Cottondale supply base area to grow. The table below describes the ownership patterns of the protected areas in Cottondale's supply area.
<table>
<tr><th>Ownership</th><th>Hectares (m)</th><th>% of total</th></tr>
<tr><td>Federal</td><td>3,941</td><td>8%</td></tr>
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<tr><td>Protected Area</td><td>7,119</td><td>14%</td></tr>
<tr><td>Cottondale SBA acres</td><td>50,008</td><td></td></tr>
</table>

US has a strong network of protected areas through its National Park System, National & State forests, designated wildlife refuges and the US Fish and Wildlife Service. All of the Southeastern States have Forestry Assessments and Strategies, as well as Wildlife Action Plans. Federal and State legislation such as Endangered Species Act, Clean Water Act are policed effectively. The United States has a long history of forest conservation and protection supported by taxation at various levels as well as tax incentives to encourage those who qualify to place protective easements on lands they deem special.

Various federal programs exist to assist forest landowners in protecting special places in their forests such as; The Conservation Resource Program, Environmental Quality Incentive Program and the Wildlife Habitat Incentive Program.

The United States has laws such as The Clean Water Act that provides protections for special places such as wetlands and the Endangered Species Act (ESA) to protect special plant and animal species. The ESA has special provisions for landowners to participate:
• Habitat Conservation plans that help owner assess their land for T&E species and create habitat to help with species conservation.
• Safe Harbor Agreements provide regulatory assurances for landowners who voluntarily aid in the recovery of a listed species
• Candidate Conservation Agreements used to prevent taking of species that are at risk of being listed unless conservation efforts are employed
• Conservation Banks used by landowners and businesses to permanently conserve land. Landowners agree to conserve their property in exchange</td></tr>
</table>

conservation credit they can them sell through a Conservation Bank Agreement to companies interested in mitigation efforts

Some other programs include:

- The Florida Forest Legacy Program provides landowners the opportunity to conserve forestland to ensure forests can remain forests. The program provides fee simple purchases and voluntary easement opportunities to slow the threat of forest conversion to non-forest uses.
- Georgia Forest Legacy & Conservation Easements provides a means for forest landowners to enter into voluntary easements or in some cases provides fee simple purchases to conserve forest land from non-forest conversion uses.

Enviva's sourcing practices ensure it does not source from at risk ecosystems. Enviva's Track & Trace and Secondary Supplier District of Origin Process ensures Enviva can identify and avoid potentially sensitive ecosystems and habitats.

Enviva's supplier contracts require adherence to all applicable laws, including those related to forestry BMP's. Our legally binding contracts also include the expectation that the supplier require the same from its suppliers and the wood supply chain, as well as that the supplier support the programs used by Enviva to maintain its certification systems. Harvesting contractors are trained in the use of state BMP's and harvest sites are monitored for implementation. State wide BMP compliance rates are a strong indicator of how forest harvesting activities are conducted within the supply bases of our residual suppliers.

Primary feedstock is controlled by Track & Trace
Enviva has implemented management systems to ensure that the wood used to make wood pellets meets our strict sustainability requirements. Specifically, Enviva maintains a robust tracking and monitoring program to ensure that all our suppliers deliver wood that is sourced according to our expectations. First, Enviva uses our SFI® Fiber Sourcing verifiable monitoring program as a basis for monitoring tract harvests. In addition, in 2016 we implemented a third-party audited Track & Trace database which includes information at the tract level, including data on the forest type, age, GPS coordinates, acreage, and the percent of volume from that tract being sold to Enviva. Before agreeing to accept material from a certain tract, Enviva's Wood Procurement Foresters must obtain this tract-level data and enter it into our database, which generates a unique tract ID. Then, upon delivery to the Cottondale mill, each load is linked to that tract's ID number. As a result, Enviva knows the tract-level attributes for all the primary wood entering the mill.

The Track & Trace data collection is supported by tract audits performed by Enviva foresters. During tract audits, Enviva foresters validate data on the tract characteristics in addition to ensuring that best management practices (BMPs) for water quality are properly implemented, special sites are properly protected, and loggers are trained, along with other metrics for responsible harvesting. At the Cottondale mill, Enviva only accepts wood from tracts in which the logger has completed and maintains training through a SFI®-approved trained logger program. If any of these monitoring programs uncover issues with incoming raw material, Enviva will contact suppliers to notify them of the issue. If needed, Enviva will cease accepting deliveries from a supplier who does not perform to our sustainability standards. Enviva will not accept further deliveries from a poorly performing supplier until the supplier demonstrates the ability to adhere to Enviva's sustainability requirements.

Secondary feedstock is controlled with District of Origin Process
Enviva purchases sawmill and wood industry residues in the form of sawdust, shavings, or other waste products from the milling process (Figure 5). Secondary feedstock suppliers receive an initial visit prior to beginning deliveries, to verify their operations and products.

	All sawmill and wood industry suppliers are required to complete a Residual Supplier Reporting Form, providing Enviva with information on the source of their wood as well as any certifications and species used. Enviva includes their supply areas in our supply base evaluation and provides each supplier with feedback on their supply area, noting any areas of risk that may be present. Enviva may choose to cease deliveries from a supplier which refuses to provide the necessary data for us to properly include their supply area in our risk assessment. Enviva contacts each sawmill and wood industry supplier annually to ensure their data is accurate. An example of the reporting sheet is in Appendix I. With this information, in addition to our internal expertise and knowledge of the location of the mill and the products it produces, Enviva can evaluate each supplier's ability to provide wood that meets the SBP Feedstock Standard. Enviva works with its residual suppliers to ensure the data they have provided is complete and accurate, and will regularly check to ensure they are providing the material they have reported. In addition to an initial visit before signing a contract with a residual supplier to verify their operations and products are as-stated, Enviva can monitor the incoming products to ensure they are consistent with the data submitted annually in the Residual Supplier Data Sheet. Further, this data collection and monitoring process is now a part of Enviva's SBP implementation program, and thus is checked annually during audits. Currently, all of Enviva's residual suppliers have returned completed Residual Supplier Data Forms, and so Enviva has all the data to properly assess each suppliers supply chain, and to incorporate their source area into its SBE, to ensure it is SBP-Compliant.
Means of Verification	a. Preamble citations **b. ENV-SFIS-01 Certified Sourcing Implementation Manual** **c. ENV-COC-02 Controlled Sourcing Procedure** **d. ENV-COC-03 Controlled Sources Risk Assessment** **e. Supplier Agreements** f. FSC US Controlled Wood National Risk Assessment g. BMP Manuals and Compliance Reports h. Track & Trace i. Secondary Supplier District of Origin Process j. USGS Protected Area Database
Evidence Reviewed	All means of verification reviewed
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

<table>
<tr><th></th><th>Indicator</th></tr>
<tr><td>2.2.4</td><td>The Biomass Producer has implemented appropriate control systems and procedures to ensure that biodiversity is protected (CPET S5b).</td></tr>
<tr><td>Finding</td><td>
The USGS Protected Area Database (PAD) mapping data provides many examples of ecosystem protection. The table below describes the protected hectares and ownership in the Cottondale supply base area using the USGS PAD database information.

Cottondale's supply base area contains about 50.0MHa. A little over 14% (7.1MHa) of the supply base area is currently controlled and protected by the federal (3.9MHa) or state (1.8MHa) governments and restrictive easements (.6MHa). The remaining hectares are controlled by Native Americans, regional authority's cities and counties. The United States has a long history of forest conservation and protection supported by taxation at various levels as well as tax incentives to encourage those who qualify to place protective easements on lands they deem special. Enviva and its suppliers provide tax revenues that permit the conservation work in the Cottondale supply base area to grow. The table below describes the ownership patterns of the protected areas in Cottondale's supply area.

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<tr><td>Ownership</td><td>Hectares (m)</td><td>% of total</td></tr>
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The United States has laws such as The Clean Water Act that provides protections for special places such as wetlands and the Endangered Species Act (ESA) to protect special plant and animal species. The ESA has special provisions for landowners to participate:
• Habitat Conservation plans that help owner assess their land for T&E species and create habitat to help with species conservation.
• Safe Harbor Agreements provide regulatory assurances for landowners who voluntarily aid in the recovery of a listed species
• Candidate Conservation Agreements used to prevent taking of species that are at risk of being listed unless conservation efforts are employed
• Conservation Banks used by landowners and businesses to permanently conserve land. Landowners agree to conserve their property in exchange conservation credit they can them sell through a Conservation Bank Agreement to companies interested in mitigation efforts

In 2017 Enviva entered a multi-year agreement with The American Forest Foundation (AFF) and The Nature Conservancy (TNC) to assist private forest landowners in restoring longleaf pine forest and the valuable ecosystems that are associated with this habitat. Landowners will be encouraged to create or improve longleaf pine habitat which will have positive impacts on the biodiversity and wildlife habitat found in these ecosystems. The Nature Conservancy will utilize their vast knowledge of longleaf pine restoration to develop a demonstration forest site where landowners can learn first-hand about the longleaf ecosystem and the practices needed to sustain it. Enviva will assist landowners with any harvest operations needed in the longleaf restoration process. This project
</td></tr>
</table>

	focuses on 16 counties in the Florida panhandle that surround the Cottondale mill, and will also help landowners obtain forest certification through the American Tree Farm System. Enviva's sourcing practices ensure it does not source from at risk ecosystems. Enviva's Track & Trace and Secondary Supplier District of Origin Process ensures Enviva can identify and avoid potentially sensitive ecosystems and habitats. Primary feedstock is controlled by Track & Trace Enviva has implemented management systems to ensure that the wood used to make wood pellets meets our strict sustainability requirements. Specifically, Enviva maintains a robust tracking and monitoring program to ensure that all our suppliers deliver wood that is sourced according to our expectations. First, Enviva uses our SFI® Fiber Sourcing verifiable monitoring program as a basis for monitoring tract harvests. In addition, in 2016 we implemented a third-party audited Track & Trace database which includes information at the tract level, including data on the forest type, age, GPS coordinates, acreage, and the percent of volume from that tract being sold to Enviva. Before agreeing to accept material from a certain tract, Enviva's Wood Procurement Foresters must obtain this tract-level data and enter it into our database, which generates a unique tract ID. Then, upon delivery to the Cottondale mill, each load is linked to that tract's ID number. As a result, Enviva knows the tract-level attributes for all the primary wood entering the mill. The Track & Trace data collection is supported by tract audits performed by Enviva foresters. During tract audits, Enviva foresters validate data on the tract characteristics in addition to ensuring that best management practices (BMPs) for water quality are properly implemented, special sites are properly protected, and loggers are trained, along with other metrics for responsible harvesting. At the Cottondale mill, Enviva only accepts wood from tracts in which the logger has completed and maintains training through a SFI®-approved trained logger program. If any of these monitoring programs uncover issues with incoming raw material, Enviva will contact suppliers to notify them of the issue. If needed, Enviva will cease accepting deliveries from a supplier who does not perform to our sustainability standards. Enviva will not accept further deliveries from a poorly performing supplier until the supplier demonstrates the ability to adhere to Enviva's sustainability requirements. Secondary feedstock is controlled with District of Origin Process Enviva purchases sawmill and wood industry residues in the form of sawdust, shavings, or other waste products from the milling process (Figure 5). Secondary feedstock suppliers receive an initial visit prior to beginning deliveries, to verify their operations and products. All sawmill and wood industry suppliers are required to complete a Residual Supplier Reporting Form, providing Enviva with information on the source of their wood as well as any certifications and species used. Enviva includes their supply areas in our supply base evaluation and provides each supplier with feedback on their supply area, noting any areas of risk that may be present. Enviva may choose to cease deliveries from a supplier which refuses to provide the necessary data for us to properly include their supply area in our risk assessment. Enviva contacts each sawmill and wood industry supplier annually to ensure their data is accurate. An example of the reporting sheet is in Appendix I. With this information, in addition to our internal expertise and knowledge of the location of the mill and the products it produces, Enviva can evaluate each supplier's ability to provide wood that meets the SBP Feedstock Standard. Enviva works with its residual suppliers to ensure the data they have provided is complete and accurate, and will regularly check to ensure they are providing the material they have reported. In addition to an initial visit before signing a contract with a residual supplier to verify their operations and products are as-stated, Enviva can monitor the incoming products to ensure they are consistent with the data submitted annually in the Residual Supplier Data Sheet. Further, this data collection and monitoring process is now a part of Enviva's SBP implementation

	program, and thus is checked annually during audits. Currently, all of Enviva's residual suppliers have returned completed Residual Supplier Data Forms, and so Enviva has all the data to properly assess each suppliers supply chain, and to incorporate their source area into its SBE, to ensure it is SBP-Compliant. One of the foremost measures for protecting biodiversity within the Enviva Cottondale supply base is compliance with Best Management practices. State wide BMP compliance rates are a strong indicator of how forest harvesting activities are conducted within the supply bases of our residual suppliers.
Means of Verification	a. Preamble citations **b. ENV-SFIS-01 Certified Sourcing Implementation Manual** **c. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **d. ENV-PEFCCOC-01 PEFC Chain of Custody Procedures and Implementation** **e. ENV-COC-02 Controlled Sourcing Procedure** **f. ENV-COC-03 Controlled Sources Risk Assessment** **g. Enviva Track and Trace Program** **h. Residual Supplier Data Form** i. FSC US Controlled Wood National Risk Assessment j. Track & Trace k. Secondary Supplier District of Origin Process l. BMP Manuals and Compliance Reports
Evidence Reviewed	All means of verification reviewed
Risk Rating	**X Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.5	The Biomass Producer has implemented appropriate control systems and procedures for verifying that the process of residue removal minimises harm to ecosystems.
Finding	Each State Forestry Agency/Commission is responsible for implementing forestry best management practices as directed by the Clean Water Act and conducts periodic BMP implementation monitoring and reports are available of state wide compliance with BMPs. USDA and NRCS programs also strengthen compliance and improve water quality. The NASF website contains many useful reports including, *Effectiveness of forestry BMP's in the United States: Literature Review*. Published in Forest Ecology and Management (2016, pgs. 133 - 151). The review determined forestry BMP's are effective when implemented as recommended by state forestry agencies. Proper implementation of forestry BMP's protect soil quality. Additionally, the NASF Timber Assurance web page contains comprehensive federal and state level information about forestry BMP laws, regulations and enforcement. There are few studies looking at the effect of timber harvesting on forest soils in the United States. The United States Department of Agriculture Forest Service General Technical Report INT-69 titled, *Forest Soil Biology - Timber Harvesting Relationships: A Perspective*, concluded generally timber harvesting does not have a long term impact on forest soil productivity and if changes do exist these are generally small and only last a few years. The SFI® Fiber Sourcing Standard certification provides evidence of logger training, use and promotion of forestry best management practices, and monitoring of the use of these practices. SFI® Fiber Sourcing also requires that company foresters annually conduct and

	use BMP monitoring information to maintain rates of conformance to best management practices and to identify areas for improved performance. Enviva's contracts require suppliers to ensure their supply chain follows all applicable laws including those that protect special habitats by following BMP's and other laws and rules protecting special areas. Enviva will not contract with companies exhibiting poor performance. SFI Fiber Sourcing Standard Objective 1 Biodiversity in Fiber Sourcing requires Program Participants to address conservation and biodiversity individually or through work with others such as the Nature Conservancy (TNC). Enviva collaboration with TNC is focused on biodiversity in supply base areas helping Enviva ensure our sourcing practices do not have a negative impact on ecosystems. In addition to the Longleaf restoration partnership with AFF and TNC, Enviva is actively collaborating with TNC to ensure our sourcing practices do not have a negative impact on forest ecosystems. Enviva, TNC and other stakeholders are collaborating to use timber harvesting practices to assist with regional ecological restoration projects.
Means of Verification	a. Preamble citations **b. ENV-SFIS-01 Certified Sourcing Implementation Manual** **c. ENV-COC-02 Controlled Sourcing Procedure** **d. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **e. ENV-PEFCCOC-01 PEFC Chain of Custody Procedures and Implementation** **f. ENV-COC-03 Controlled Sources Risk Assessment** **g. Enviva Track and Trace Program** **h. Residual Supplier Data Form** i. BMP Manuals and Compliance Reports j. Effectiveness of forestry BMP's in the United States: Literature Review. k. Forest Soil Biology - Timber Harvesting Relationships: A Perspective l. The Nature Conservancy m. National Association of State Foresters Timber Assurance web page
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.6	The Biomass Producer has implemented appropriate control systems and procedures to verify that negative impacts on ground water, surface water and water downstream from forest management are minimised (CPET S5b).
Finding	The US Clean Water Act requires each state to develop non-point source BMP's to address run off. The NASF Timber Assurance web page contains comprehensive federal and state level information about forestry BMP laws, regulations and enforcement. The SFI® Fiber Sourcing Standard certification provides evidence of logger training, use and promotion of forestry “Best Management Practices”, and monitoring of the use of these practices in order to address soil quality. SFI® Fiber Sourcing also requires that Company annually conduct and use BMP monitoring information to maintain rates of conformance to best management practices and to identify areas for improved performance. All States within the supply base have BMP compliance reports readily available to monitor compliance. BMP compliance is also monitored and tracked through the Track and Trace program. Enviva's contracts require suppliers to ensure their supply chain follows all applicable laws including those that protect special habitats by following BMP's and other laws. Each Enviva mill also maintains a wet weather response plan, to ensure the mill has wood without negatively impacting sites during times of poor weather.

	Enviva's Controlled Wood Risk Assessment/ Due Diligence System and SFI Fiber Sourcing Program requires monitoring and assessment of the impacts forestry has on water quality. Enviva works with state Sustainable Forestry Initiative Committees (SIC) to promote BMP compliance and education.
Means of Verification	a. Preamble citations **b. ENV-SFIS-01 Certified Sourcing Implementation Manual** **c. ENV-COC-02 Controlled Sourcing Procedure** **d. ENV-COC-03 Controlled Sources Risk Assessment** **e. Enviva Track and Trace Program** f. BMP Manuals and Compliance Reports g. NASF Water Quality Report h. National Association of State Foresters Timber Assurance web page
Evidence Reviewed	All means of verification reviewed
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.7	The Biomass Producer has implemented appropriate control systems and procedures for verifying that air quality is not adversely affected by forest management activities.
Finding	In the United States regulation of forestry practices has its roots in federal law and acts designed to provide minimum guidance to states in developing state specific laws and regulations and ranks in the top 88th percentile in Regulatory Quality in the World Bank, Worldwide Governance Indicators and in the top 90th percentile in Rule of Law. Chemical use in forest management activities also follow EPA guidance under FIFRA and include in-woods practices. A review of the EPA Civil Cases and Settlements by Statute has no findings related to forest management activities in 2017. The United States has a robust legal system that deters the abuse of state and Federal regulation. The US Clean Air Act requires each state to implement air quality controls to ensure the public's safety. The USDA Forest Service website, Forest Service Air Management Responsibilities describes how the Clean Air Act affects forestry operations in general. States in the Enviva Cottondale supply base area have haze/smoke laws. In the United States, state and federal forest practices laws and other legislation that cover forestry operations, such as the Clean Air Act, EPA regulations, Forestry acts, and FIFRA are all drawn up within a dynamic democratic system, subject to free comment by all stakeholders. State best management practices also address forest practices that may adversely affect air quality. The USDA Forest Service website, *Forest Service Air Management Responsibilities* describes how the Clean Air Act affects forestry operations in general. States in the Enviva Cottondale supply base area have haze/smoke laws. Examples of enforcement of forestry fire laws can be found on the United States Fire Administration website (https://www.usfa.fema.gov/prevention/outreach/wildfire_arson/court_cases.html). State laws can be found at the following locations: State of Florida: http://www.freshfromflorida.com/Divisions-Offices/Florida-Forest-Service/Wildfire/Prescribed-Fire State of Alabama: http://www.forestry.state.al.us/BurnPermitLaw.aspx?bv=1&s=1 State of Georgia: http://www.gfc.state.ga.us/forest-management/prescribed-fire/ State of Mississippi: http://www.mfc.ms.gov/wildfirecontrol.php State of South Carolina: http://www.state.sc.us/forest/fire.htm

	State of Tennessee: https://www.tn.gov/agriculture/article/ag-forests-wildfire US Environmental Protection Agency website (https://cfpub.epa.gov/compliance/criminal_prosecution/). Additionally, the NASF Timber Assurance web page contains comprehensive federal and state level information about forestry laws, regulations and enforcement.
Means of Verification	a. Preamble citations b. Clean Air Act c. USDA Forest Service d. US EPA e. US Fire Administration f. State regulatory websites g. World Bank h. National Association of State Foresters Timber Assurance web page
Evidence Reviewed	All means of verification reviewed
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.8	The Biomass Producer has implemented appropriate control systems and procedures for verifying that there is controlled and appropriate use of chemicals, and that Integrated Pest Management (IPM) is implemented wherever possible in forest management activities (CPET S5c).
Finding	In the United States regulation of forestry practices has its roots in federal law and acts designed to provide minimum guidance to states in developing state specific laws and regulations and ranks in the top 88th percentile in Regulatory Quality in the World Bank, Worldwide Governance Indicators and in the top 90th percentile in Rule of Law. Chemical use in forest management activities also follow EPA guidance under FIFRA and include in-woods practices. A review of the EPA Civil Cases and Settlements by Statute has no findings related to forest management activities in 2017. The United States has a robust legal system that deters the abuse of state and Federal regulation. In the US, there is a strong legal framework for the use of pesticides, enforced effectively through the EPA, and penalties exist for non-compliance. This includes application by licensed operators only for the intended uses on the label and periodic inspections. Enviva is not involved in any type of chemical application on privately owned timberlands but does participate in forestry associations and Sustainable Forestry Initiative State Implementation Committee's and interacts with forest landowners These interactions allow Enviva personnel keep informed of current forest management trends. Examples of enforcement of Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) can be found on the United States Environmental Protection Agency website (https://cfpub.epa.gov/compliance/criminal_prosecution/). States are required to manage programs to ensure FIFRA is properly implemented and monitored. Integrated Pest Management in forest stands is largely controlled by proper forest management and maintaining vigorous tree growth. Information about Integrated Pest Management can be found on the USDA Forest Service website (https://www.fs.fed.us/foresthealth/protecting-forest/integrated-pest-management/). Additionally, the NASF Timber Assurance web page contains comprehensive federal and state level information about forestry laws, regulations and enforcement.

Means of Verification	a. Preamble citations b. U. S. Environmental Protection Agency web site c. USDA Forest Service d. Florida Forestry Association web site e. World Bank f. National Association of State Foresters Timber Assurance web page
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.9	The Biomass Producer has implemented appropriate control systems and procedures for verifying that methods of waste disposal minimise negative impacts on forest ecosystems (CPET S5d).
Finding	Enviva's SFI® Fiber Sourcing Program requires suppliers to adhere to all applicable laws and regulations. Contracts require adherence to all applicable laws and regulations. State BMPs require the removal of garbage and all contracts require the use of BMPs. In the United States regulation of forestry practices has its roots in federal law and acts designed to provide minimum guidance to states in developing state specific laws and regulations and ranks in the top 88th percentile in Regulatory Quality in the World Bank, Worldwide Governance Indicators and in the top 90th percentile in Rule of Law. Chemical use in forest management activities also follow EPA guidance under FIFRA and include in-woods practices. A review of the EPA Civil Cases and Settlements by Statute has no findings related to forest management activities in 2017. The United States has a robust legal system that deters the abuse of state and Federal regulation.
Means of Verification	a. Preamble citation **b. ENV-SFIS-01 Certified Sourcing Implementation Manual** **c. Supplier Agreements** d. BMP Manuals and Compliance Reports e. NASF Water Quality Report
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.3.1	Analysis shows that feedstock harvesting does not exceed the long-term production capacity of the forest, avoids significant negative impacts on forest productivity and ensures long-term economic viability. Harvest levels are justified by inventory and growth data.
Finding	The Cottondale supply base area has an annual growth to drain ratio is 1.57:1 for all species, 1.86:1 for hardwood, and 1.50:1 for pine (The most recently available (as of 4/11/2018) FIA data for 6 states: AL, FL, GA, MS, SC, TN was used in this analysis. For a detailed explanation of our methods, please visit our Forest Trend Map Data Sources & Methods page on our website: http://www.envivabiomass.com/sustainability/track-and-trace/data-methods/) According to Forest2Market data updated to reflect 2016-7 statistics the Gulf region of the U.S. South, total pine inventory has increased by an average of 2.3% annually between 2000 and 2017. The procurement of wood material contributes to reducing environmental impacts and enhancing the productivity of forests. A 2017 Forest2Market report, *Historic Perspectives on the Relationship between Demand and Forest Productivity in the US South*, concluded further that a positive relationship exists between forest harvest and forest growth, proving that forest landowners respond to robust forest products markets by planting more trees. Markets for low valued wood products allow for more efficient site preparation and reforestation.
Means of Verification	a. Preamble citation **b. ENV-SFIS-01 Certified Sourcing Implementation Manual** **c. ENV-COC-02 Controlled Sourcing Procedure** **d. ENV-COC-03 Controlled Sources Risk Assessment** e. USFS FIA web site **f. Internal Growth to Drain information based on USFS FIA data** g. National State Foresters web site • Forest2Market Reports https://www.forest2market.com/hubfs/2016_Website/Documents/20151119_Forest2Market_USSouthWoodSupplyTrends.pdf • https://www.forest2market.com/hubfs/2016_Website/Documents/20170726_Forest2Market_Historical_Perspective_US_South.pdf?t=1516993507491
Evidence Reviewed	All means of verification reviewed
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.3.2	Adequate training is provided for all personnel, including employees and contractors (CPET S6d).
Finding	Enviva conducts in-depth internal training for all responsible staff. Enviva's staff have achieved educational levels appropriate with their specific job duties. Enviva's staff with Sustainable Biomass Program responsibility all have college/university degrees in Forestry or a related field. Other staff training may include: • State level logger training to enhance understanding of state harvesting regulations and forestry BMP's; • Training in the structure and requirements of Enviva's SFI Fiber Sourcing, and FSC/PEFC/SFI Chain of Custody systems; • Internal high conservation value area identification; • Track & Trace; • Climate change; • Community relations; and • Safety. All on site contractors are vetted prior to signing work contracts including a review of their safety policies, OSHA 300 log, and all other relevant records. Enviva's contracts require suppliers to ensure their supply chain follows all applicable laws including those that protect special habitats by following BMP's and other laws. Logger training can be verified via each state's logger training program website.
Means of Verification	a. Preamble citations **b. ENV-SFIS-01 Certified Sourcing Implementation Manual** **c. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **d. ENV-PEFCCOC-01 PEFC Chain of Custody Procedures and Implementation** **e. ENV-COC-02 Controlled Sourcing Procedure** f. Logger Training web sites **g. Supplier Agreements** **h. Staff training documentation**
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.3.3	Analysis shows that feedstock harvesting and biomass production positively contribute to the local economy, including employment.
Finding	The National Association of Sate Foresters website contains State-wide Assessments describing the contributions the timber industry has in each state contained in the Cottondale supply base area. The forests of the Southeast provide a number of economic and societal benefits such as manufacturing, employment, recreation, aesthetics, and environmental protection. To ensure that the forests can meet the current and future economic, ecological, cultural, and recreational demands placed on them, State Foresters, Forest Managers and others must focus their efforts to address changing landowner objectives, parcelization and fragmentation, current and emerging markets, forest regulation, critical habitats, and cultural/recreational concerns. From the 2017 Florida Forestry Association Economic Impact Study, the forest products industry in Florida generated approximately $25 billion in revenue impacts and provided over 124,000 jobs. Forestry related industries are a leading economic driver in many rural counties in northern Florida, providing employment opportunities for loggers, foresters, consultants, truck drivers and mill workers. Five counties in the Florida panhandle have 10% of their population employed in some type of forestry related industry. Enviva Cottondale has an estimated annual economic impact of about $60 million within its supply base, included in that is about $4 million of direct impact to over 50 local businesses for parts, fuel, etc. Enviva provides opportunities for local residents to gain employment and currently has about 90 employees. Annual payroll including benefits is in the neighborhood of $6 million. All of the company's management staff resides within the supply base. Local taxes and fees from the facility add up to nearly $860,000 annually. As part of the wood procurement process, Enviva Cottondale accepts raw material deliveries from over 82 independent loggers and contract haulers. Enviva Cottondale purchases secondary feedstock in the form of sawdust and shavings from 26 mills within the region.
Means of Verification	a. Preamble citation b. National State Forester web site **c. ENV-COC-03 Controlled Sources Risk Assessment** **d. Chmura Analysis** e. Florida Forestry Association web site
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.4.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that the health, vitality and other services provided by forest ecosystems are maintained or improved (CPET S7a).
Finding	The US Forest Service and State Forest Services undertake research into forest health, their research results are available. The SFI® Fiber Sourcing Program requires Program Participants to individually or jointly participate in research related to forest health issues. The procurement of wood material contributes to reducing environmental impacts and enhancing the productivity of forests. Markets for low valued wood products allow for more efficient site preparation and reforestation. For instance, wood sourced from thinning allows landowners to achieve future benefit in higher value timber sales, which in turn supports reforestation in the region. Enviva Cottondale has a program in place to inform landowners about the benefits of sustainable forest management. Enviva is also a member of the National Council on Air and Stream Improvement (NCASI). NCASI Technical Bulletin No. 982 and the 2014 update No. 1022 *Summary of Conservation Planning Efforts in Forested Regions of the United States: 2014 Update* describes conservation plans and initiatives states are undertaking to ensure forest health. Enviva's sourcing practices ensure it does not health, vitality or other services provided by forest ecosystems are maintained or improved. Enviva's Track & Trace and Secondary Supplier District of Origin Process ensures Enviva can identify and avoid these areas. Primary feedstock is controlled by Track & Trace Enviva has implemented management systems to ensure that the wood used to make wood pellets meets our strict sustainability requirements. Specifically, Enviva maintains a robust tracking and monitoring program to ensure that all our suppliers deliver wood that is sourced according to our expectations. First, Enviva uses our SFI® Fiber Sourcing verifiable monitoring program as a basis for monitoring tract harvests. In addition, in 2016 we implemented a third-party audited Track & Trace database which includes information at the tract level, including data on the forest type, age, GPS coordinates, acreage, and the percent of volume from that tract being sold to Enviva. Before agreeing to accept material from a certain tract, Enviva's Wood Procurement Foresters must obtain this tract-level data and enter it into our database, which generates a unique tract ID. Then, upon delivery to the Cottondale mill, each load is linked to that tract's ID number. As a result, Enviva knows the tract-level attributes for all the primary wood entering the mill. The Track & Trace data collection is supported by tract audits performed by Enviva foresters. During tract audits, Enviva foresters validate data on the tract characteristics in addition to ensuring that best management practices (BMPs) for water quality are properly implemented, special sites are properly protected, and loggers are trained, along with other metrics for responsible harvesting. At the Cottondale mill, Enviva only accepts wood from tracts in which the logger has completed and maintains training through a SFI®-approved trained logger program. If any of these monitoring programs uncover issues with incoming raw material, Enviva will contact suppliers to notify them of the issue. If needed, Enviva will cease accepting deliveries from a supplier who does not perform to our sustainability standards. Enviva will not accept further deliveries from a poorly performing supplier until the supplier demonstrates the ability to adhere to Enviva's sustainability requirements. Secondary feedstock is controlled with District of Origin Process Enviva purchases sawmill and wood industry residues in the form of sawdust, shavings, or other waste products from the milling process (Figure 5). Secondary feedstock suppliers receive an initial visit prior to beginning deliveries, to verify their operations and products.

	All sawmill and wood industry suppliers are required to complete a Residual Supplier Reporting Form, providing Enviva with information on the source of their wood as well as any certifications and species used. Enviva includes their supply areas in our supply base evaluation and provides each supplier with feedback on their supply area, noting any areas of risk that may be present. Enviva may choose to cease deliveries from a supplier which refuses to provide the necessary data for us to properly include their supply area in our risk assessment. Enviva contacts each sawmill and wood industry supplier annually to ensure their data is accurate. An example of the reporting sheet is in Appendix I. With this information, in addition to our internal expertise and knowledge of the location of the mill and the products it produces, Enviva can evaluate each supplier's ability to provide wood that meets the SBP Feedstock Standard. Enviva works with its residual suppliers to ensure the data they have provided is complete and accurate, and will regularly check to ensure they are providing the material they have reported. In addition to an initial visit before signing a contract with a residual supplier to verify their operations and products are as-stated, Enviva can monitor the incoming products to ensure they are consistent with the data submitted annually in the Residual Supplier Data Sheet. Further, this data collection and monitoring process is now a part of Enviva's SBP implementation program, and thus is checked annually during audits. Currently, all of Enviva's residual suppliers have returned completed Residual Supplier Data Forms, and so Enviva has all the data to properly assess each suppliers supply chain, and to incorporate their source area into its SBE, to ensure it is SBP-Compliant.
Means of Verification	a. Preamble citation **b. ENV-SFIS-01 Certified Sourcing Implementation Manual** **c. ENV-COC-03 Controlled Sources Risk Assessment** d. SFI Informational Packet e. USFS websites f. Track & Trace g. Secondary Supplier District of Origin Process h. State Forest Service web sites i. NCASI Technical Bulletin No 982 & No. 1022 Summary of Conservation Planning Efforts in Forested Regions of the United States: 2014 Update
Evidence Reviewed	All means of verification reviewed
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.4.2	The Biomass Producer has implemented appropriate control systems and procedures for verifying that natural processes, such as fires, pests and diseases are managed appropriately (CPET S7b).
Finding	Each state within the Cottondale supply base has a forest action plan in place that is designed to guide the work of forestry professionals to help manage, protect, enhance, and conserve forest resources within the state. These plans address forest pest, disease, and wildfire to insure healthy forest and are available on the National State Forester Website. Indicator 2.2.7 regarding air quality and this indicator are related. Examples of enforcement of forestry fire laws can be found on the United States Fire Administration website (https://www.usfa.fema.gov/prevention/outreach/wildfire_arson/court_cases.html). Forest pest management information and controls can be found on the USDA Forest Service website (https://www.fs.fed.us/foresthealth/protecting-forest/) and includes information on plants, pathogens and insects.

	These sites permit verification of program successes. Each state in the Enviva Cottondale supply base area participates in these programs. Enviva sources low grade wood which helps reduce the potential fuel load. This inherently reduces the potential fire intensity of uncontrolled wild fire.
Means of Verification	a. Preamble citations **b. ENV-SFIS-01 Certified Sourcing Implementation Manual** **c. ENV-COC-03 Controlled Sources Risk Assessment** d. SFI Informational Packet e. USDA Forest Service web site f. NASF web site – State Forest Action Plans
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.4.3	The Biomass Producer has implemented appropriate control systems and procedures for verifying that there is adequate protection of the forest from unauthorised activities, such as illegal logging, mining and encroachment (CPETS7c).
Finding	In the United States regulation of forestry practices has its roots in federal law and acts designed to provide minimum guidance to states in developing state specific laws and regulations and ranks in the top 88th percentile in Regulatory Quality in the World Bank, Worldwide Governance Indicators and in the top 90th percentile in Rule of Law. Chemical use in forest management activities also follow EPA guidance under FIFRA and include in-woods practices. A review of the EPA Civil Cases and Settlements by Statute has no findings related to forest management activities in 2017. The United States has a robust legal system that deters the abuse of state and Federal regulation. There is a low perception of corruption related to the granting or issuing of harvesting permits and other areas of law enforcement related to harvesting and wood trade. Enviva tracks wood deliveries to verify we have the appropriate information to ensure we can prevent material from illegal harvests. All contracts require legal ownership before delivery. Risk assessments for the wood supply areas concluded “Low Risk” for “Illegally Harvested Wood.” Additionally, the NASF Timber Assurance web page contains comprehensive federal and state level information about forestry laws, regulations and enforcement.
Means of Verification	a. Preamble citations **b. ENV-SFIS-01 Certified Sourcing Implementation Manual** **c. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **d. ENV-PEFCCOC-01 PEFC Chain of Custody Procedures and Implementation** **e. ENV-COC-03 Controlled Sources Risk Assessment** f. AHEC Legality Study g. National Association of State Foresters Timber Assurance web page
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.5.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that legal, customary and traditional tenure and use rights of indigenous people and local communities related to the forest are identified, documented and respected (CPET S9).
Finding	In the United States regulation of forestry practices has its roots in federal law and acts designed to provide minimum guidance to states in developing state specific laws and regulations and ranks in the top 88th percentile in Regulatory Quality in the World Bank, Worldwide Governance Indicators and in the top 90th percentile in Rule of Law. The US is an industrial nation that does not have people groups dependent on a particular site or resource for basic human need. Further, federal and State legislation governs Native Americans and their rights are strictly enforced. Because Enviva and its supplier's source from private forestlands there are no issues related to traditional use or tenure rights. Public lands are required to engage with stakeholders of all kinds to ensure harvests maintain the forest as a public good, including working with Native Americans. Enviva also has a formal process for receiving and responding to public inquiries, particularly those that potentially relate to practices that appear to be inconsistent with existing certification requirements.
Means of Verification	a. Preamble citations b. Federal and State laws and statutes c. Enviva Sustainability Policy **d. ENV-COC-03 Controlled Sources Risk Assessment** **e. ENV-SFIS-01 Certified Sourcing Implementation Manual** f. **Supplier Agreements**
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.5.2	The Biomass Producer has implemented appropriate control systems and procedures for verifying that production of feedstock does not endanger food, water supply or subsistence means of communities, where the use of this specific feedstock or water is essential for the fulfilment of basic needs.
Finding	In the United States regulation of forestry practices has its roots in Federal law and acts designed to provide minimum guidance to states in developing state specific laws and regulations and ranks in the top 88th percentile in Regulatory Quality in the World Bank, Worldwide Governance Indicators and in the top 90th percentile in Rule of Law. Certain Native American groups depend on clean water and healthy forest for their basic needs, but these areas are located either on publicly owned lands or on their own private reservations. Enviva mainly purchases from private landowners and in the event we do purchase from public lands, laws and regulations are in effect to protect the resources that these communities need. Forestry BMPs through the Clean Water Act are designed to protect water resources. Enviva requires through contracts, that all suppliers of raw material adhere to all applicable laws and regulations and employ BMPs during harvest. Enviva also requires the use of trained loggers, which have completed training on BMPs,

	threatened and endangered species, identification of special sites, and more. Enviva will not contract with companies exhibiting poor performance. The U.S. has a very low risk of food insecurity.
Means of Verification	a. Preamble citations b. Federal and State web sites **c. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **d. ENV-PEFCCOC-01 PEFC Chain of Custody Procedures and Implementation** **e. ENV-COC-02 Controlled Sourcing Procedure** **f. ENV-COC-03 Controlled Sources Risk Assessment** **g. ENV-SFIS-01 Certified Sourcing Implementation Manual** h. Supplier Contracts i. State BMPs j. NASF Water Quality Report k. World Bank
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.6.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that appropriate mechanisms are in place for resolving grievances and disputes, including those relating to tenure and use rights, to forest management practices and to work conditions.
Finding	In the United States has a robust legal system and well established laws and regulations protecting land use, tenure rights and forestry practices. The country ranks in the top 88th percentile in Regulatory Quality in the World Bank, Worldwide Governance Indicators and in the top 90th percentile in Rule of Law. Federal Law regarding forestry dictate that: Forest fire fighting and forest fire prevention occupations, timber tract occupations, forestry service occupations, logging occupations, and occupations in the operation of any sawmill, lathe mill, shingle mill, or cooperage stock mill abide by (Order 4). [75 FR 28453, May 20, 2010] OSHA work rules ensure workers have a right to a safe workplace. The law requires employers to provide their employees with working conditions that are free of known dangers. The OSHA law also prohibits employers from retaliating against employees for exercising their rights under the law (including the right to raise a health and safety concern or report an injury). For more information see www.whistleblowers.gov or worker rights. AHEC reports that: “Forest employment in the US is regulated under federal and state laws and codes, which prohibit child labor and are consistent with the ILO Fundamental Principles and Rights at work.” The World Bank does not list the United States as a country with land use and tenure challenges. In the US, Federal and State legislation regarding worker health and safety is monitored by the Occupational Safety and Health Administration (OSHA) which provides good protection and strong recourse if safety protocols are breached. Enviva requires through contracts, that all suppliers of raw material adhere to all applicable laws and regulations. Enviva will not contract with companies exhibiting poor performance. Enviva will not contract with companies exhibiting poor performance.
Means of Verification	a. Preamble citations b. OSHA website **c. ENV-COC-03 Controlled Sources Risk Assessment**

	d. ENV-SFIS-01 Certified Sourcing Implementation Manual **e. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **f. ENV-PEFCCOC-01 PEFC Chain of Custody Procedures and Implementation** g. **ENV-COC-02 Controlled Sourcing Procedure** h. AHEC Legality Study i. World Bank
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.7.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that Freedom of Association and the effective recognition of the right to collective bargaining are respected.
Finding	In the United States regulation of forestry practices has its roots in federal law and acts designed to provide minimum guidance to states in developing state specific laws and regulations and ranks in the top 88th percentile in Regulatory Quality in the World Bank, Worldwide Governance Indicators and in the top 90th percentile in Rule of Law. U.S. law clearly specifies rights to collective bargaining and freedom of association. Enviva's HR practices ensure worker rights are protected. All contracts contain verbiage requiring suppliers to conform to all applicable laws and annually Enviva sends suppler correspondence requiring its suppliers to comply with all labor laws. The United States ratified ILO C150 – Labor Administration Convention securing the rights of worker organization and collective bargaining. Verification of this and other ILO US Ratified Conventions can be found on the ILO NORMLEX website Enviva post all of the US required employee information posters in key locations for all employees to see and read. Enviva's employee handbook describes the rights each worker enjoys including the right of free association and collective bargaining. The United States Department of Labor provides verification of enforcement. (https://www.dol.gov/general/aboutdol/majorlaws)
Means of Verification	a. Preamble citations **b. Enviva HR policies and Procedures** **c. Enviva Supplier correspondence** **d. ENV-COC-03 Controlled Sources Risk Assessment** **e. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **f. ENV-PEFCCOC-01 PEFC Chain of Custody Procedures and Implementation** g. ILO US Ratified Conventions **h. Enviva Employee Handbook** **i. Mill Site Employee Postings** j. ILO NORMLEX Information System k. US Dept. of Labor l. World Bank
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.7.2	The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is not supplied using any form of compulsory labour.
Finding	In the United States regulation of forestry practices has its roots in federal law and acts designed to provide minimum guidance to states in developing state specific laws and regulations and ranks in the top 88th percentile in Regulatory Quality in the World Bank, Worldwide Governance Indicators and in the top 90th percentile in Rule of Law. US Code 18 Code § 1589 - Forced labor: Whoever knowingly provides or obtain labor by force in the US is subject to be fined under this title, imprisoned not more than 20 years, or both. The U.S. supply areas where Enviva L.P. procures wood material have comprehensive laws prohibiting the use of compulsory labor or violating citizen's rights. Enviva's HR practices ensure worker rights are protected and employment is "at will". Enviva's PEFC Due Diligence Risk Assessment was verified to show "There is no evidence of child labor or violation of ILO Fundamental Principles and Rights at work taking place in forest areas in the district concerned." The United States Department of Labor provides verification of enforcement. (https://www.dol.gov/general/aboutdol/majorlaws)
Means of Verification	a. Preamble citations b. Federal and State web sites **c. Enviva HR Policies and Procedures** **d. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **e. ENV-PEFCCOC-01 PEFC Chain of Custody Procedures and Implementation** f. **ENV-COC-03 Controlled Sources Risk Assessment** g. ILO US Ratified Conventions h. United States Code i. US Dept. of Labor j. World Bank
Evidence Reviewed	All means of verification reviewed
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.7.3	The Biomass Producer has implemented appropriate control systems and procedures to verify that feedstock is not supplied using child labour.
Finding	In the United States regulation of forestry practices has its roots in federal law and acts designed to provide minimum guidance to states in developing state specific laws and regulations and ranks in the top 88th percentile in Regulatory Quality in the World Bank, Worldwide Governance Indicators and in the top 90th percentile in Rule of Law. The United States Department of Labor provides verification of enforcement. (https://www.dol.gov/general/topic/youthlabor/enforcement) The U.S. supply areas where Enviva L.P. procures wood material have comprehensive laws prohibiting the use of child labor or violating citizen's rights. Enviva's HR practices ensure the company complies with minimum worker age requirements and all supplier contracts contain verbiage requiring suppliers to conform to all applicable laws. From the AHEC Legality Study:

	"We come to the conclusion that wood procured in the study area can be considered Low Risk of violating traditional and civil rights. This conclusion is based on the determination that there is no UN Security Council ban, there is no evidence of prolific child labor, there is no evidence that ILO Fundamental Principles are not respected, and there are recognized and equitable processes in place to resolve conflicts of substantial magnitude." Enviva does not employ anyone under the age or 18 years.
Means of Verification	a. Preamble citations b. Federal and State web sites **c. Enviva HR Policies and Procedures** **d. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **e. ENV-PEFCCOC-01 PEFC Chain of Custody Procedures and Implementation** f. **ENV-COC-03 Controlled Sources Risk Assessment** g. AHEC Legality Study h. ILO US Ratified Conventions i. US Dept. of Labor j. World Bank
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.7.4	The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is not supplied using labour which is discriminated against in respect of employment and occupation.
Finding	In the United States regulation of forestry practices has its roots in federal law and acts designed to provide minimum guidance to states in developing state specific laws and regulations and ranks in the top 88th percentile in Regulatory Quality in the World Bank, Worldwide Governance Indicators and in the top 90th percentile in Rule of Law. The U.S. supply areas where Enviva L.P. procures wood material have comprehensive laws prohibiting the violation of citizen's rights. Enviva's HR practices ensure the company is an equal opportunity employer and prohibit discrimination in all of the federal and state laws in our areas of operation. Enviva's PEFC Due Diligence Risk Assessment was verified to show "There is no evidence of child labor or violation of ILO Fundamental Principles and Rights at work taking place in forest areas in the district concerned." The United States Department of Labor provides verification of enforcement.(https://www.dol.gov/general/aboutdol/majorlaws)
Means of Verification	a. Preamble citations b. Federal and State web sites **c. Enviva HR Policies and Procedures** **d. ENV-COC-03 Controlled Sources Risk Assessment** **e. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** f. **ENV-PEFCCOC-01 PEFC Chain of Custody Procedures and Implementation** g. ILO US Conventions h. US Dept. of Labor i. World Bank

Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.7.5	The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is supplied using labour where the pay and employment conditions are fair and meet, or exceed, minimum requirements.
Finding	In the United States regulation of forestry practices has its roots in federal law and acts designed to provide minimum guidance to states in developing state specific laws and regulations and ranks in the top 88th percentile in Regulatory Quality in the World Bank, Worldwide Governance Indicators and in the top 90th percentile in Rule of Law. The U.S. supply areas where Enviva L.P. procures wood material have comprehensive laws prohibiting the violation of worker's rights. Enviva's HR practices ensure worker wages are comparable to other similar employment opportunities in the regions we operate. Enviva's PEFC Due Diligence Risk Assessment was verified to show "There is no evidence of child labor or violation of ILO Fundamental Principles and Rights at work taking place in forest areas in the district concerned." The United States Department of Labor provides verification of enforcement. (https://www.dol.gov/general/aboutdol/majorlaws)
Means of Verification	a. Preamble citations b. Federal and State web sites c. **Enviva HR Policies and Procedures** **d. ENV-COC-03 Controlled Sources Risk Assessment** **e. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **f. ENV-PEFCCOC-01 PEFC Chain of Custody Procedures and Implementation** g. ILO US Ratified Conventions h. US Dept. of Labor i. World Bank
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.8.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that appropriate safeguards are put in place to protect the health and safety of forest workers (CPET S12).
Finding	In the United States regulation of forestry practices has its roots in federal law and acts designed to provide minimum guidance to states in developing state specific laws and regulations and ranks in the top 88th percentile in Regulatory Quality in the World Bank, Worldwide Governance Indicators and in the top 90th percentile in Rule of Law. The US Occupational Health and Safety Organization is responsible for implementing, monitoring and enforcing worker health and safety laws and regulations. Enviva complies with all applicable laws and regulation and contractually requires its suppliers to do the

	same. The SFI® Fiber Sourcing Standard requires Program Participants to adhere to health and safety laws. Enviva will not contract with companies exhibiting poor performance. Enviva has safety manuals in place for both mill workers. Enviva also has an in-depth safety program in place at each mill to prevent accidents and share best practices amongst sites. OSHA records of reportable injuries and rates are publicly available. The United State Department of Labor Occupational Safety and Health Administration provides verification of enforcement. (https://www.osha.gov/dep/index.html)
Means of Verification	a. Preamble citations b. OSHA web site **c. ENV-SFIS-01 Certified Sourcing Implementation Manual** **d. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **e. ENV-PEFCCOC-01 PEFC Chain of Custody Procedures and Implementation** **f. ENV-COC-03 Controlled Sources Risk Assessment** g. Supplier Agreements h. Enviva Employee Handbook i. Supplier Agreement j. World Bank
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.9.1	Biomass is not sourced from areas that had high carbon stocks in January 2008 and no longer have those high carbon stocks.
Finding	Wetlands and peatlands are recognized as areas of high carbon stocks as well as areas of important ecological function. While current BMP's are structured to allow selective harvesting within a wetland, guidelines are in place to protect wetland function and minimize site impacts during harvest. BMP's specifically do not allow forestry activities to alter the hydrologic conditions or drainage patterns of wetlands. No change can be made to the hydrology of wetlands without the permission of the Army Corps of Engineers, who oversee and implement Clean Water Act legislation. By limiting harvest size and requiring leave trees and Streamside Management Zones within the wetland, BMP's work to maintain the carbon sink values associated with wetlands. The use of innovative harvesting techniques such as mat or shovel logging utilize concentrated skid trails and "mats" of felled wood to minimize ground disturbance during wetland harvest. It is common practice for logging slash to be left on site during wetland harvest and natural regeneration of the wetland takes place fairly quickly after harvest.
Means of Verification	a. Supplier Agreements b. BMP Manuals and Compliance Reports **c. ENV-SFIS-01 Certified Sourcing Implementation Manual** **d. ENV-COC-02 Controlled Sourcing Procedures** **e. ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **f. ENV-PEFCCOC-01 PEFC Chain of Custody Procedures and Implementation** g. Clean Water Act
Evidence Reviewed	All means of verification reviewed

Risk Rating	X **Low Risk**	☐ **Specified Risk**	☐ **Unspecified Risk at RA**

	Indicator
2.9.2	Analysis demonstrates that feedstock harvesting does not diminish the capability of the forest to act as an effective sink or store of carbon over the long term.
Finding	Understanding the role of managed forests in forest-carbon relationships is an essential component of global carbon dynamics and greenhouse gas (GHG) reductions. The ability of forests to act as carbon storage pools (sinks) and prevent additional carbon from entering the atmosphere in a key factor in this relationship. Recent studies have shown that a "hands off" strategy of forest preservation may not always produce the desired climatic results, but sustainably managed forests can provide carbon sequestration and storage benefits as well as a range of environmental and social benefits such as timber and biomass production, clean water, wildlife habitat, and recreational opportunities. The UN Intergovernmental Panel on Climate Change (IPCC) acknowledged this in their Fourth Assessment Report: "In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre or energy from the forest, will generate the largest sustained mitigation benefit." Healthy and vigorously growing forests are efficient at capturing and storing atmospheric carbon, but older mature forests, while maintaining large carbon stores, have very low rates of additional carbon sequestration. If natural mortality is allowed to occur in these mature forests, they can actually become carbon emitters and lose the benefit of stored carbon. The harvest of forest resources from such stands provides a mechanism for capturing and utilizing stored carbon. Sustainable forest management practiced at the landscape level provides a mosaic of forest stands from young to old and maintains carbon sequestration potential of the forests. Mature stands are harvested and reforested while younger stands are managed to maintain vigor and held for future harvest. Forest management practices such as thinning and prescribed burning reduce the potential for stand mortality from natural disturbances and the carbon emissions associated with such disturbances. The decay of trees destroyed by wildfires, storms, insects and diseases emits stored carbon back into the atmosphere without any realized benefit. As long as harvests and mortality do not exceed net growth across the forest, carbon stocks will remain stable or increase through time. In the U.S. we have experienced over 70 continuous years of net forest growth exceeding removals and mortality, thus indicating forest management practices are having a positive impact on the long term storage of carbon. Forest Inventory Analysis (FIA) data shows that all states within the Cottondale supply base follow the U.S. trend of steady to increasing forested acres. Harvest and utilization of forest products have additional GHG reduction and carbon flow benefits beyond the forest that are often not realized in society. The premise of Enviva's operations is to utilize forest materials and residuals from wood processing facilities in order to produce renewable energy and lower GHG emissions. By accepting lower quality wood produced from forest thinnings, Enviva is promoting the sustainable forest management practices that are essential to forest-climate interactions. Energy obtained from forest biomass uses far less of the Earth's stored carbon; therefore, the use of our wood pellets reduces the flow of fossil fuel based carbon emissions into the atmosphere. Solid wood products and wood based products used in construction, furniture, and other industries maintain their stored carbon for the life of the product. The reuse or recycling of these wood products only compounds their impact on carbon flow. It takes less energy (embodied energy) and thus less fossil fuel to process raw forest materials into useful products than it does for other materials such as steel, aluminum, concrete, or plastic.

	When wood products are used in place of these other materials, there exist a real substitution effect that serves to reduce overall societal carbon emissions. Sustainable forest management along with the additive effect of various wood use strategies, insure that forest operations have substantial carbon sequestration, storage, and substitution benefits that reduce global GHG emissions. Society of American Foresters, 2011, Managing forests because carbon matters: integrating energy, products, and land management policy, Supplement to Journal of Forestry, October/November 2011, Volume 109, Number 7S http://www.fs.fed.us/pnw/pubs/journals/pnw_2011_malmsheimer001.pdf http://www.woodforgood.com/assets/Downloads/AHEC%20Carbon%20Storage%20through%20Forest%20Management.pdf Forest Inventory Analysis Data: http://www.fia.fs.fed.us/
Means of Verification	a. Preamble citations b. USFS FIA data, c. Ecological objectives can be achieved with wood derived bioenergy (peer reviewed letter), d. SAF Journal of Forestry e. AHEC article (peer reviewed)
Evidence Reviewed	All means of verification reviewed
Risk Rating	X **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.10.1	Genetically modified trees are not used.
Finding	There are no commercial uses of Genetically Modified Organisms (GMO's) inside the Enviva, LP supply area. Enviva communicates its desire to avoid these source annually to its suppliers. Excerpt from Enviva's PEFC Chain of Custody Due Diligence System: International groups have general consistency regarding the term GMO to ensure that it is not confused with hybrids, cultivars, and breeds, which are derived from traditional breeding programs. A GMO is an organism that has been transformed by the insertion of one or more genes (called transgenes). Often the inserted genes are from a different species than the recipient organism. Genetic modification does not include traditional breeding or natural hybridization, i.e. GM trees cannot be obtained through conventional tree breeding methods. There is a single synthesis document that provides an up to date (as of 2004) evaluation of forest GMO (Genetically Modified Organisms). Currently, the only commercial user of GMO trees is China and only a single species, Populus nigra (Black Poplar, Lombardy Poplar). The majority of GMO tree research takes place in the U.S. As of 2004, there were field trials of multiple genera, but no commercial plantings. Enviva did not find its wood supply areas on any lists contained in the FAO preliminary review of biotechnology in forestry (http://www.fao.org/docrep/008/ae574e/ae574e00.htm). There are no commercial uses of genetically modified trees taking place across the wood supply area. Enviva is therefore confident that its wood supply does not source wood from forests in which genetically modified trees are planted. The FSC U.S. in its Draft Guidance on Controlled Wood Sources has concluded that:

	"At this time all wood sourced in the U.S. can be considered to not contain wood from GMO trees."
Means of Verification	a. **ENV-COC-03 Controlled Sources Risk Assessment** b. **ENV-SFICOC-01 SFI Chain of Custody Procedures and Implementation** **c. ENV-PEFCCOC-01 PEFC Chain of Custody Procedures and Implementation** d. FSC US Draft Guidance on Controlled Wood e. Food and Agriculture Organization
Evidence Reviewed	All means of verification reviewed
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**