

Supply Base Report:

Pinnacle Renewable Energy Inc. Longview Division

Sustainable Biomass Program sbp-cert.org

Completed in accordance with the Supply Base Report Template Version 2.0

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

Document history		
Version 1.0	Published 26 March 2015	
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Overview	
Producer name:	Pinnacle Renewable Energy Inc.
Producer address:	8545 Willow Cale Road, V2N 6Z9 Prince George, Canada
SBP Certificate Code:	SBP-06-54
Geographic position:	
Primary contact:	Joseph Aquino, Sustainability.Northern@drax.com
Company website:	https://www.drax.com/northamerica/?source=pinnacle
Date report finalised:	
SBR reporting period from:	01 Jan 2024
SBR reporting period to:	31 Dec 2024
Name of the Certification Body:	Control Union Certifications BV
Certification Body Approval date:	
SBP Standard(s) used:	SBP Standard 1: Feedstock Compliance v2.0, SBP Standard 2: Feedstock Verification v2.0, SBP Standard 4: Chain of Custody v2.0, SBP Standard 5: Collection and Communication of Data v2.0, SBP Standard 6: Energy and Carbon Balance Calculation v2.0, Instruction Document 1A: SBP Requirements for Primary Feedstock from Trees Outside Forests (TOF) v1.0, Instruction Document 5E: Collection and Communication of Energy and Carbon Data v2.0
Feedstock origin (countries)	United States
Weblink to Standard(s) used:	https://sbp-cert.org/documents/standards-documents/standards



2 **Description of the Biomass Producer and the Supply Base**

Country	United States		
Area/Region	Pacific Northwest (see map)		
Exclusions			
Feedstock types	Primary, Procession residues, Post-consumer feedstock		
Feedstock Product Groups	Forest feedstock (1A), Trees outside forest (TOF) - Urban and landscape feedstock (2A), Trees outside forest (TOF) - Agricultural land feedstock (3A), Processing residues feedstock (4A), Post- consumer feedstock (5A)		
Feedstock inputs	SBP Compliant feedstock , SBP Controlled feedstock		
Is the forest managed to supply energy and non-energy markets?	Yes - Majority		
For the forests in the Supply Base, is there an intention to retain, restock or encourage natural regeneration within 5 years of felling?	Yes - Majority		
Risk assessment(s)	Yes – Biomass Producer's own risk assessment used (SBE)		

Provide a concise summary of why a SBE was determined to be required or not required here:

The supply base evaluation is an essential component of Drax's procurement process as it seeks to purchase biomass from suppliers within its supply base. This evaluation serves as a risk assessment, aligning with the Sustainable Biomass Program (SBP) standards, to ensure that the risk of noncompliance with SBP standards is minimized or mitigated throughout the supply base.

The primary objective of the supply base evaluation is to maintain a low level of risk in relation to noncompliance with SBP standards. By conducting this assessment, Drax aims to safeguard the integrity and sustainability of its supply chain, ensuring that forest biomass is sourced responsibly and in accordance with established environmental and social standards.

Feedstock types included in SBE:	Primary, Processing residues, Post consumer feedstock	
Includes RED II SBE:	Yes	
Size of Supply Base area (million ha):	117.4520	
Map(s) of the Supply Base area:		



3 Supply Base Risk Assessments and Risk Management Measures

Guidance: Biomass Producers shall demonstrate that any specified risks of sourcing feedstock not in compliance with SBP Standard 1 have been adequately reduced to low risk, following Standard 2 requirements. Following section applies to Biomass Producer's implementing SBP Supply Base Evaluation (SBP RRA or company own risk assessment). RED II Supply Base Evaluation details are reported in Annex 2.

□ Not Applicable – Supply Base Evaluation not implemented

3.1 Summary of the Supply Base Evaluation

To comprehensively evaluate the risks associated with the supply base, the evaluation process has been divided into two distinct subscopes: Federal Lands and State & Private Lands. This division allows for a focused analysis of specific risk factors within each subscope and enables tailored mitigation strategies to be implemented accordingly.

The evaluation of Federal Lands focuses on suppliers operating within forested areas under federal jurisdiction. This subscope recognizes the unique regulations, policies, and considerations associated with these lands, necessitating a specific assessment approach. These regulations and policies generally remain consistent across federal lands in all states of the supply base.

Simultaneously, the evaluation of State & Private Lands concentrates on suppliers operating within forested areas under state or private ownership. This subscope acknowledges the diverse regulatory frameworks and management practices that may exist across different states or private landowners. By evaluating risks within this subscope, Drax can identify and address any potential noncompliance issues pertaining to state or private regulations, promoting responsible sourcing practices in these areas.

Through the supply base evaluation process, Drax endeavours to uphold the highest standards of sustainability and environmental stewardship within its supply chain. By meticulously assessing risks within the Federal Lands and State/Private Lands subscopes, Drax can effectively mitigate potential compliance issues, foster transparency, and contribute to the sustainable sourcing of biomass.

3.2 Conflicts with applicable national and sub-national legislation

n/a

3.3 Risk Management Measures

Guidance: Please provide more details about specified risk indicators in each supply country and describe mitigation measures taken to address all specified risks associated with indicators.

Country: United States

Area/sub-scope: State & Private lands

Risk Assessment used:	
	□ British Columbia, Canada
	Denmark
	□ Estonia
	🗆 Latvia
	🗆 Lithuania
	🗆 Quebec, Canada
	⊠ Biomass Producer's own risk assessment
Indicator with	specified risk: 2.2.1 – Land Conversion
Indicator with	specified risk: 2.2.1 – Land Conversion

Description of the specific risk: Feedstock shall not be sourced from land that had one of the following statuses in January 2008 and no longer has that status (land conversion):

a. Forests defined as: Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use (FAO, 2020);

b. Wetlands;

c. Peatlands;

d. Highly biodiverse grasslands: spanning more than one hectare that is: (i) natural, namely grassland that would remain grassland in the absence of human intervention and that maintains the natural species composition and ecological characteristics and processes; or (ii) non-natural, namely grassland that would cease to be grassland in the absence of human intervention and that is species-rich and not degraded and has been identified as being highly biodiverse by the relevant competent authority, unless evidence is provided that the harvesting of the raw material is necessary to preserve its status as highly biodiverse grassland (EU,2018).

Context

The conversion of forest, agriculture, and grasslands to development can change hydrology at local and regional scales, alter wildlife habitat, and affect local weather patterns. This indicator is particularly pertinent to a large country like the US which contains all four land types listed: forests, wetlands, peatlands, and highly biodiverse grasslands.

Regulations & Enforcement

Federal forestlands in the supply base are owned and managed mostly by the US Forest Service and Bureau of Land Management (BLM). Both entities manage their lands under 'multiple-use' management concepts; the Forest Service commits to 'Advocating a conservation ethic in promoting the health, productivity, diversity, and beauty of forests and associated lands,' while the BLM has 'Conservation' and 'Restoration' as two of their five key priorities. In addition, federal land management agencies develop area specific management plans, such as the 1994 Northwest Forest Plan, and management plans for individual National Forest or BLM units. Collectively, these policies mean that converting federal lands out of forest use is a low probability action. Conversely, conversion of private forestlands to non-forest use is permitted in all states in the supply base. However, in California , Idaho, Oregon, and Washington, permits must be filed with the state prior to a conversion.

Any discharge of dredged or fill material into a wetland or peatland is regulated under Section 404 of the Clean Water Act (CWA). This includes fill for development, water resource projects, infrastructure development, and mining projects. To successfully be permitted under the CWA, the applicant must demonstrate that all potential impacts to water quality have been minimized, and that any unavoidable impacts will be compensated.

Laws in the US do not prohibit the conversion of grasslands, however incentive programs do exist to encourage the protection of grasslands from agricultural expansion via programs like Grassland Easements through the US Fish and Wildlife Service.

Mechanisms & Supporting Evidence

Actions on federal land, including conversions of forestland, are subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

The US Department of Agriculture publishes factsheets on each state which quantify forest gain and loss. Of the states in the supply base, California, Oregon, and Washington show a small net loss of forested acreage on an average year, while Idaho and Montana show small net increases. All states in the supply base convert some private acres out of forest use each year.

Violations of the CWA are investigated by the US Environmental Protection Agency (EPA) and can carry hefty fines. Additionally, if the violation resulted in negative impacts to endangered wildlife, additional penalties and mitigation may be required by FWS and state wildlife management agencies, such as the California Department of Fish and Wildlife.

Grasslands in the US are often converted to agricultural use, however no publicly available information exists suggesting that they are often (or ever) intentionally converted to forestland, which would be necessary in order for feedstock to be harvested from them.

Conclusion

Federal lands are well protected against conversion of all types, both by overarching policies and by specific management plans for each forest unit and region. On private lands, conversion of wetlands and peatlands is strongly limited by the Clean Water Act, and conversion of grasslands to forestland is not a common occurrence. However, conversion of private forestland to other uses is relatively common. The following risk levels are assigned:

Federal Lands: Low

State & Private Lands: Specified risk pertaining to the possibility of harvesting feedstock from lands that have been converted out of forest use.

Sources

https://www.usgs.gov/news/featured-story/tracking-causes-and-consequences-land-change

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https://www.blm.gov/about/our-mission

https://bof.fire.ca.gov/regulations/bills-statutes-rules-and-annual-california-forest-practice-rules/

https://law.justia.com/codes/idaho/2022/title-38/chapter-13/section-38-1312/

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https://www.nature.com/articles/s41467-020-18045-z

Mitigation measure:

Context - Forest Feedstock Deliveries

Prior to receival of fiber from any Forest Feedstock (logs or bush grind) source, the Fiber Team will submit an approval request to the Sustainability Team via MS Forms. Each sub-scope will have an associated "Forest Feedstock Questionnaire" tailored to specified risk identified in each sub-scope of the Supply Base Evaluation. All versions of the questionnaire will collect spatial information for the origin of the fiber at a harvest unit level.

All potential Forest Feedstock sources are to be verified through this process by the Sustainability Team for certification compliance by reviewing the answers provided in the approval request & spatially identifying the applicable management unit in which fiber will be received (Tract, Cutblock, Parcel, etc.).

Spatial identification of the harvest unit will be completed by using GIS software. This will include other data & spatial layers from various sources that will confirm the location of the harvest unit (Tract, Cutblock, Parcel, etc.) & it's proximity to any specified risk areas identified by the BP.

- If the BP deems that the specified risks outlined in the RRA are being satisfactorily addressed, the feedstock will be considered SBP compliant & purchase of the fiber will proceed.

- If the BP deems that the specified risks outlined in the RRA are not being satisfactorily addressed, the feedstock will be considered SBP controlled & purchase of the fiber will not proceed.

Context - Residual Fiber Deliveries

Prior to receival of fiber from any Residual Fiber (processing residues & tertiary feedstock) source, the Fiber Team will submit an approval request to the Sustainability Team via MS Forms. Every supplier will be required to complete a "Residual Fiber Questionnaire" tailored to specified risk identified in each sub-scope of the Supply Base Evaluation. All versions of the questionnaire will collect spatial information for the supplier's supply base at a county level. This questionnaire will be required by the BP to be filled out on an annual basis to ensure data is accurate & up to date.

Spatial identification of the supplier's supply base will be completed by using GIS software. This will include other data & spatial layers from various sources that will confirm the location of the supply base & it's proximity to any specified risk areas identified by the BP.

Mitigation Measure 1: Promotion of Forest Certification

The intent of this mitigation measure is to promote forest level certification and chain of custody certification amongst the BP's feedstock suppliers. There are several feedstock suppliers (current and potential) that are unaware of forest certification or have never been asked to provide certification claims. The BP's understanding and expertise with forest certification can help increase the total amount of certified claims. If suppliers can obtain certification, their feedstock will no longer have associated risks. This not only helps the BP's proportion of certified feedstock but directly impacts on the ground activities affiliated with forest managers and feedstock suppliers. The mitigation can be applied to all sub-scopes of the SBE.

Forest Feedstock Deliveries

Within the Forest Feedstock Questionnaire, the Sustainability Team will include questions prompting the supplier to confirm if the origin of fiber to be received is certified to any Forest Management Certification schemes. These include certifications such as the Forest Stewardship Council (FSC), the Programme for the Endorsement of Forest Certification (PEFC) or endorsed PEFC schemes such as the Sustainable Forestry Initiative (SFI) & American Tree Farm System (ATFS).

If the harvest unit is not certified, the BP will prompt the supplier with questions relating to their interest in obtaining certification for their operations. In addition, the BP will implement the requirements of the SFI Fiber Sourcing standard to ensure that the receipt of any Forest Feedstock is considered sustainable.

Processing Residues & Tertiary Feedstock Deliveries

Within the Residual Fiber Questionnaire, the Sustainability Team will include questions prompting the supplier to confirm if their facility is certified to any Chain of Custody Certification schemes. If certified, the BP will request Chain of Custody claims on the fiber that is to be purchased. Uncertified suppliers will be asked about their interest in getting Chain of Custody certification for their site(s). This mitigation measure for Residual Fiber targets:

- Suppliers that hold valid certification but provide proportional certification, and
- Uncertified suppliers

If the BP can verify that fiber originates from certified lands, or receives claims for certified content of fiber purchased, the BP will consider specified risk for the following indicators to be mitigated, as these are frameworks that are recognized by SBP through their benchmarking exercise as meeting low risk:

- · 2.2.1 (Conversion)
- · 2.2.3 (Soil Quality)
- · 2.2.4 (Harvest Residues)
- · 2.2.5 (Water Quality)
- 2.2.7 (Pesticides)

2.2.10 (Regeneration)

- 4.1.8 (Training)
- 4.2.7 (Cultural Heritage Sites)

A full assessment of the benchmarking process can be found in the following link.

https://sbpcert.wpenginepowered.com/wp-

content/uploads/2023/12/SBP_Framework_for_Benchmarking_and_Recognition_of_Other_Schemes_v1.0_fina l.pdf

Mitigation Measure 2: Monitoring Forest Feedstock

The BP will implement a monitoring program for all primary feedstock sub-scopes procured directly at the pellet mill sites. Monitoring is a method to ensure on the ground activities align with measures that mitigate specified risks within the supply base area. Monitoring exercise will be carried out on a sample of fields sites throughout the reporting period.

The focus of field site monitoring will be to ensure information received by the supplier (via the Forest Feedstock Questionnaires) in relation to management of specified risk indicators can be observed or corroborated on the ground. The BP will categorize Forest Feedstock sites by risk rating as it relates to specified risk management in the questionnaire. For example, a site that has features that require management (i.e. water courses, sensitive soils, presence of wildlife features) will be prioritized for inspection over a site without those features.

Where possible, photos will be taken to ensure monitoring activity records can be visually documented. All monitoring activities will be documented and recorded for future reference by the BP and for internal and external auditing purposes.

- If the inspection results corroborate the questionnaire, the BP will consider the specified risks mitigated for that feedstock source.

- If the inspection results do not corroborate the questionnaire, the supplier will be subject to the Procurement Policy Mitigation Measure

Mitigation Measure 3: Education & Outreach

The intent of this mitigation option is to implement education and outreach-related actions that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of the HCV, and thereby mitigate the risk of sourcing materials from sites where the HCV in the specified risk area is threatened by forest management activities. The mitigation measure is part of the FSC's guidance including "Education & Outreach" central theme. All suppliers have potential to purchase their raw material from the sub-scopes, thus mitigation efforts are required on all feedstock to ensure the risk is negligible.

All feedstock data in the supply base will be collected via the Forest Feedstock (harvest locations) & Residual Fiber (operating counties) Questionnaires, where regional level maps can be created to show where the BP's suppliers sources interact with the specified risk indicators (if applicable in the region). All feedstock suppliers will be required to provide this information prior to receipt of fiber.

The final output for this mitigation measure is a "Supplier Mapping Package", which contains detailed information on the interaction between supplier's inferred supply base the specified risk indicators. The supplier

mapping package forms the basis of the education and outreach material that will be communicated to the supplier on an annual basis.

Note: Overlap with a specified risk polygon does not indicate feedstock must remain as specified risk. Suppliers, and subsequently the BP, can mitigate specified risk overlap by demonstrating how harvesting practices effectively manage for specified risks.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Forest Feedstock Deliveries

All potential Forest Feedstock sources are vetted through the Sustainability Team's questionnaire process prior to purchase of the feedstock. Harvest units that are put through the questionnaire process that are deemed to not meet the requirements of the Sustainability Team's review will be considered "High Risk" feedstock sources & will not be procured by the BP.

Feedstock sources that are removed from consideration via the Procurement Policy Mitigation Measure will also be considered "High Risk" feedstock sources & will not be procured by the BP unless documentation can be provided to suggest that the source meets the BP's sustainability requirements.

Processing Residues & Tertiary Feedstock Deliveries

All Residual Fiber suppliers are vetted through the Sustainability Team's questionnaire process both prior to purchase of the feedstock & then annually after the initial purchase. Any Residual Fiber suppliers that are removed from consideration via the Procurement Policy Mitigation Measure will be considered "High Risk" feedstock sources & avoided unless documentation can be provided to suggest that they are meeting the BP's sustainability requirements.

Mitigation Measure 5: Procurement Policy

The BP will implement a procurement policy mitigation measure for all sub-scopes. The BP expects that all suppliers contribute to the attainment of information required to carry out mitigation measures. The procurement policy is in place to address suppliers who do not provide the necessary information for the BP to carry out effective mitigation or to address consecutive identifications of non-conformities.

Any feedstock from a supplier who either does not provide enough information or is found to have purposefully mislead the BP in questionnaires will be considered SBP controlled feedstock until the proper information can be collected. SBP Compliant or SBP Controlled determinations are made monthly therefore either status will apply for a minimum of one month or until the required information is collected. In cases where information cannot be obtained, or the supplier has demonstrated multiple nonconformities that are unreasonable the BP will:

- Determine the root cause of the supplier's unwillingness to cooperate
- Determine if there is a way to obtain information that protects the suppliers' sensitivities but still achieves the BP's information requirements
- If the supplier and the BP cannot come to a mutual agreement on required information the BP may:
- o Determine the feedstock is non-eligible input for SBP products

- o Withhold the supplier's deliveries to the BP's facilities
- o Non-renewal of purchase agreements upon expiry
- o Termination of the purchase agreement
- o Removal from consideration on future purchases

The information provided by the secondary suppliers are reviewed annually and verified by third party auditors to ensure they are complete and correct. The annual information collection and verification exercise reviews the mitigations effectiveness. Any deficiencies are uncovered, and new methodologies are developed to close any uncovered gaps.

Monitoring and outcomes:

Mitigation Measure 1: Promotion of Forest Certification

The BP will annually review suppliers according to certification status on the FSC, PEFC, and SFI certificate registrars. Higher proportion of certified suppliers will result in effective mitigation. The BP will annually review the percentage of PEFC (SFI and CSA) certified claims received. Higher percentages of certified claims will result in effective mitigation.

Mitigation Measure 2: Monitoring Forest Feedstock

The biomass producer will maintain records of questionnaires, field site inspection forms, and correspondence with the supplier for each applicable site.

- All non-conformities will be documented by the BP in the onsite inspection form and communicated with the supplier

- Records of non-conformities will be recorded and documented

- If a supplier is found to have non-conformities two years in a row, they will be subject to the Procurement Policy Mitigation Measure

Effectiveness will be met by monitoring how suppliers change over time and whether identification of nonconformities lead to changes on the ground.

Mitigation Measure 3: Education & Outreach

The biomass producer will annually prepare supplier mapping packages for education and outreach activities. The BP will maintain a registrar of all documented conversations with suppliers and follow the below process to measure how the mitigation measure performs over time. The effectiveness monitoring will be included in the BP's Verification & Monitoring process for Supplier Audits.

- The biomass producer will select a sample of suppliers annually in the Supplier Verification & Monitoring process and review the data contained within the map package during the audit.

The desired outcome of these communications is engaging with the supplier, educating suppliers about the importance of the communication package to the BP's procurement systems, investigating how the supplier

used the supplier mapping package, and whether it encourages on the ground changes in the supplier's management approach.

Effectiveness of this process will be reviewed annually and adjusted to ensure the process remains effective for all feedstock supplies originating in the risk assessed area. Once the effectiveness monitoring process has been implemented, the biomass producer can begin to formulate a reasonable assessment as to whether the mitigation measures are effective and if any modifications are required.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Mitigation effectiveness for this is measured monthly by the BP confirming that there were no "High Risk" feedstock sources that were delivered to the pellet plant.

Mitigation Measure 5: Procurement Policy

Mitigation effectiveness for this is measured by the BP confirming that any supplier that has been subjected to the policy has not been able to continue delivering fiber unless sufficient documentation has been obtained.

Country: United States		
Area/sub-scope: Private lands - Wyoming		
Risk Assessment used:		
 British Columbia, Canada Denmark Estonia Latvia Lithuania Quebec, Canada Biomass Producer's own risk assessment 		
Indicator with specified risk: 2.2.3 – Soil Quality		

Description of the specific risk: Soil quality in the supply base shall be maintained or enhanced.

Context

According to Grigal (2000), "It is axiomatic that forest management activities alter soil physical, chemical, and biological properties." Implementing Best Management Practices (BMPs) is a critical part of managing these impacts and ensuring soil quality is maintained.

Regulations & Enforcement

There are both federal and state level regulations related to BMPs for forest management in the United States. Federal laws affecting forest management include but are not limited to the National Environmental Policy Act of 1969, the Clean Water Act of 1972, the Endangered Species Act of 1973, the National Forest Management Act of 1976, the Forest Land Policy and Management Act of 1976, amended in 1996. In addition, federal land



State laws in the supply base include:

- · California: California Forest Practice Act
- Idaho: Idaho Forest Practices Act
- Montana: Montana Forestry Best Management Practices Notification Law
- Oregon: Oregon Forest Practices Act
- Washington: Washington Forest Practices Act

Wyoming does not have a forest practices act, but does publish BMPs for forestland operations. All of these BMP-related state rules have provisions for soil erosion and compaction mitigation.

Figure 1. Public land ownership in Wyoming. Source: Wyoming Fish and Game Department.



Figure. Public land ownership in Wyoming. Source Wyoming Fish & Game Department

Mechanisms & Supporting Evidence

Federal and state law pertaining to BMPs are enforced by agencies including the US Environmental Protection Agency, US Army Corps of Engineers and state forestry agencies. Failure to comply with state and federal law can result in litigation and penalties.

Actions on federal land are also subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

The California, Oregon, and Washington forest practice acts require the creation of harvest plans which incorporate BMPs for all state and private timberland operations. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field. Idaho and Montana do not require the creation of harvest plans but do conduct field audits on operations. Violations of state BMPs carry harsh penalties in Idaho, while compliance is voluntary in Montana. Regardless, recent audits in both found compliance exceeding 98%. In Wyoming, use of BMPs on state lands is required, with audits showing BMPs successfully mitigated impacts to soil. Use of BMPs on Wyoming private lands is voluntary, and limited data exists on levels of compliance. However, non-industrial private forestland comprises less than 15% of forests. All six states are actively engaged in updating and revising their BMPs to keep up with changing attitudes and scientific research.

Conclusion

Soil quality is maintained or protected by federal and state regulations which are enforced by multiple regulatory agencies. Forest activities on federal lands are assessed under NEPA and follow various management plans. State and private activities follow state-level forest practices regulations or recommended BMPs. Operations on private lands on Wyoming, however, are not legally required to comply with BMPs, and limited data exists on the extent of active compliance. As a result, we characterize the risk associated with this indicator as follows:

Federal Lands: Low

State & Private Lands: Specified risk pertaining to the procurement of feedstock from private lands in Wyoming. For all other state and private lands, risk is Low.

Sources

https://www.sciencedirect.com/science/article/abs/pii/S0378112700003959

https://bof.fire.ca.gov/regulations/bills-statutes-rules-and-annual-california-forest-practice-rules/

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https://wsfd.wyo.gov/forest-management/bmp-s

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https://drive.google.com/file/d/14gKwFYAW9EM5cI5ASDGtjb5oazwpnLFt/view?usp=sharing

https://apps.fs.usda.gov/nicportal/temppdf/sfs/naweb/WY_std.pdf

Mitigation measure:

Context - Forest Feedstock Deliveries

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- Uncertified suppliers

If the BP can verify that fiber originates from certified lands, or receives claims for certified content of fiber purchased, the BP will consider specified risk for the following indicators to be mitigated, as these are frameworks that are recognized by SBP through their benchmarking exercise as meeting low risk:

- · 2.2.1 (Conversion)
- · 2.2.3 (Soil Quality)
- · 2.2.4 (Harvest Residues)
- · 2.2.5 (Water Quality)
- · 2.2.7 (Pesticides)
- · 2.2.10 (Regeneration)
- · 4.1.8 (Training)
- 4.2.7 (Cultural Heritage Sites)

A full assessment of the benchmarking process can be found in the following link.

https://sbpcert.wpenginepowered.com/wp-

content/uploads/2023/12/SBP_Framework_for_Benchmarking_and_Recognition_of_Other_Schemes_v1.0_fina I.pdf

Mitigation Measure 2: Monitoring Forest Feedstock

The BP will implement a monitoring program for all primary feedstock sub-scopes procured directly at the pellet mill sites. Monitoring is a method to ensure on the ground activities align with measures that mitigate specified risks within the supply base area. Monitoring exercise will be carried out on a sample of fields sites throughout the reporting period.

The focus of field site monitoring will be to ensure information received by the supplier (via the Forest Feedstock Questionnaires) in relation to management of specified risk indicators can be observed or corroborated on the ground. The BP will categorize Forest Feedstock sites by risk rating as it relates to specified risk management in the questionnaire. For example, a site that has features that require management (i.e. water courses, sensitive soils, presence of wildlife features) will be prioritized for inspection over a site without those features.

Where possible, photos will be taken to ensure monitoring activity records can be visually documented. All monitoring activities will be documented and recorded for future reference by the BP and for internal and external auditing purposes.

- If the inspection results corroborate the questionnaire, the BP will consider the specified risks mitigated for that feedstock source.

- If the inspection results do not corroborate the questionnaire, the supplier will be subject to the Procurement Policy Mitigation Measure

Mitigation Measure 3: Education & Outreach

The intent of this mitigation option is to implement education and outreach-related actions that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of the HCV, and thereby mitigate the risk of sourcing materials from sites where the HCV in the specified risk area is threatened by forest management activities. The mitigation measure is part of the FSC's guidance including "Education & Outreach" central theme. All suppliers have potential to purchase their raw material from the sub-scopes, thus mitigation efforts are required on all feedstock to ensure the risk is negligible.

All feedstock data in the supply base will be collected via the Forest Feedstock (harvest locations) & Residual Fiber (operating counties) Questionnaires, where regional level maps can be created to show where the BP's suppliers sources interact with the specified risk indicators (if applicable in the region). All feedstock suppliers will be required to provide this information prior to receipt of fiber.

The final output for this mitigation measure is a "Supplier Mapping Package", which contains detailed information on the interaction between supplier's inferred supply base the specified risk indicators. The supplier mapping package forms the basis of the education and outreach material that will be communicated to the supplier on an annual basis.

Note: Overlap with a specified risk polygon does not indicate feedstock must remain as specified risk. Suppliers, and subsequently the BP, can mitigate specified risk overlap by demonstrating how harvesting practices effectively manage for specified risks.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Forest Feedstock Deliveries

All potential Forest Feedstock sources are vetted through the Sustainability Team's questionnaire process prior to purchase of the feedstock. Harvest units that are put through the questionnaire process that are deemed to not meet the requirements of the Sustainability Team's review will be considered "High Risk" feedstock sources & will not be procured by the BP.

Feedstock sources that are removed from consideration via the Procurement Policy Mitigation Measure will also be considered "High Risk" feedstock sources & will not be procured by the BP unless documentation can be provided to suggest that the source meets the BP's sustainability requirements.

Processing Residues & Tertiary Feedstock Deliveries

All Residual Fiber suppliers are vetted through the Sustainability Team's questionnaire process both prior to purchase of the feedstock & then annually after the initial purchase. Any Residual Fiber suppliers that are removed from consideration via the Procurement Policy Mitigation Measure will be considered "High Risk" feedstock sources & avoided unless documentation can be provided to suggest that they are meeting the BP's sustainability requirements.

Mitigation Measure 5: Procurement Policy

The BP will implement a procurement policy mitigation measure for all sub-scopes. The BP expects that all suppliers contribute to the attainment of information required to carry out mitigation measures. The procurement policy is in place to address suppliers who do not provide the necessary information for the BP to carry out effective mitigation or to address consecutive identifications of non-conformities.

Any feedstock from a supplier who either does not provide enough information or is found to have purposefully mislead the BP in questionnaires will be considered SBP controlled feedstock until the proper information can be collected. SBP Compliant or SBP Controlled determinations are made monthly therefore either status will apply for a minimum of one month or until the required information is collected. In cases where information cannot be obtained, or the supplier has demonstrated multiple nonconformities that are unreasonable the BP will:

- Determine the root cause of the supplier's unwillingness to cooperate

- Determine if there is a way to obtain information that protects the suppliers' sensitivities but still achieves the BP's information requirements

- If the supplier and the BP cannot come to a mutual agreement on required information the BP may:
- o Determine the feedstock is non-eligible input for SBP products
- o Withhold the supplier's deliveries to the BP's facilities
- o Non-renewal of purchase agreements upon expiry
- o Termination of the purchase agreement
- o Removal from consideration on future purchases

The information provided by the secondary suppliers are reviewed annually and verified by third party auditors to ensure they are complete and correct. The annual information collection and verification exercise reviews the

mitigations effectiveness. Any deficiencies are uncovered, and new methodologies are developed to close any uncovered gaps.

Monitoring and outcomes:

Mitigation Measure 1: Promotion of Forest Certification

The BP will annually review suppliers according to certification status on the FSC, PEFC, and SFI certificate registrars. Higher proportion of certified suppliers will result in effective mitigation. The BP will annually review the percentage of PEFC (SFI and CSA) certified claims received. Higher percentages of certified claims will result in effective mitigation.

Mitigation Measure 2: Monitoring Forest Feedstock

The biomass producer will maintain records of questionnaires, field site inspection forms, and correspondence with the supplier for each applicable site.

- All non-conformities will be documented by the BP in the onsite inspection form and communicated with the supplier

- Records of non-conformities will be recorded and documented

- If a supplier is found to have non-conformities two years in a row, they will be subject to the Procurement Policy Mitigation Measure

Effectiveness will be met by monitoring how suppliers change over time and whether identification of nonconformities lead to changes on the ground.

Mitigation Measure 3: Education & Outreach

The biomass producer will annually prepare supplier mapping packages for education and outreach activities. The BP will maintain a registrar of all documented conversations with suppliers and follow the below process to measure how the mitigation measure performs over time. The effectiveness monitoring will be included in the BP's Verification & Monitoring process for Supplier Audits.

- The biomass producer will select a sample of suppliers annually in the Supplier Verification & Monitoring process and review the data contained within the map package during the audit.

The desired outcome of these communications is engaging with the supplier, educating suppliers about the importance of the communication package to the BP's procurement systems, investigating how the supplier used the supplier mapping package, and whether it encourages on the ground changes in the supplier's management approach.

Effectiveness of this process will be reviewed annually and adjusted to ensure the process remains effective for all feedstock supplies originating in the risk assessed area. Once the effectiveness monitoring process has been implemented, the biomass producer can begin to formulate a reasonable assessment as to whether the mitigation measures are effective and if any modifications are required.

Mitigation Measure 4: Avoidance of High-Risk Feedstock



Mitigation Measure 5: Procurement Policy

Mitigation effectiveness for this is measured by the BP confirming that any supplier that has been subjected to the policy has not been able to continue delivering fiber unless sufficient documentation has been obtained.

Country: United States		
Area/sub-scope: Private lands - Wyoming		
Risk Assessment used:		
	□ British Columbia, Canada	
	□ Denmark	
	🗆 Estonia	
	🗆 Latvia	
	🗆 Lithuania	
	🗆 Quebec, Canada	
	⊠ Biomass Producer's own risk assessment	
Indicate	with specified risk: 2.2.4 – Harvest Residues	

Description of the specific risk: The removal of harvest residues and stumps shall not lead to irreversible negative impacts to the ecosystem.

Context

Logging residues, or "slash," can be a serious fire hazard in certain ecosystems. Wildfires can cause irreversible negative impacts to ecosystems, and feedstock harvesting should not contribute to them.

Regulations & Enforcement

On federal lands, actions are subject to the National Environmental Policy Act (NEPA), which requires that agencies assess the environmental effects of their actions. Under this act, federal land management agencies have developed area specific management plans such as the 1994 Sierra Nevada Forest Plan in California and the Northwest Forest Plan in Washington and Oregon. These plans contain slash management provisions which serve to mitigate wildfire risk in fire-prone ecosystems.

On the state level, the following laws require slash management during forest activities:

- California Forest Practice Act
- Idaho Forest Practices Act
- Montana Timber Slash and Debris Law

Oregon Forest Practices Act

Washington Forest Practices Act

Wyoming does not have laws relating to slash management on state and private lands but does publish best management practices (BMPs) which include slash treatment recommendations.

Mechanisms & Supporting Evidence

Federal and state law pertaining to BMPs are enforced by agencies including the US Environmental Protection Agency, US Army Corps of Engineers, and state forestry agencies. Failure to comply with state and federal law can result in litigation and penalties.

Actions on federal land are also subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land management agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

The California, Oregon, and Washington forest practice acts require the creation of harvest plans which incorporate BMPs for all state and private timberland operations. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field. Idaho and Montana do not require the creation of harvest plans but do conduct field audits on operations. Recent audits in both states found BMP compliance exceeding 98%., In Wyoming, while use of BMPs on state lands is required, it is voluntary on private lands, and limited data exists on levels of compliance. Notably, non-industrial private forestland comprises less than 15% of forests.

All six states are actively engaged in updating and revising their BMPs to keep up with changing attitudes and scientific research.

Conclusion

Unmanaged slash can contribute to catastrophic wildfires. Therefore, laws have been passed which require slash management for wildfire mitigation on state and federal lands. The same is true on private lands, except for those in Wyoming. We therefore assign the following risk levels to this indicator:

Federal Lands: Low

State & Private Lands: Specified risk pertaining to the possibility of slash mitigation not being performed on private lands in Wyoming. For all other state and private lands, risk is Low.

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Mitigation measure:

Context - Forest Feedstock Deliveries

Prior to receival of fiber from any Forest Feedstock (logs or bush grind) source, the Fiber Team will submit an approval request to the Sustainability Team via MS Forms. Each sub-scope will have an associated "Forest Feedstock Questionnaire" tailored to specified risk identified in each sub-scope of the Supply Base Evaluation. All versions of the questionnaire will collect spatial information for the origin of the fiber at a harvest unit level.

All potential Forest Feedstock sources are to be verified through this process by the Sustainability Team for certification compliance by reviewing the answers provided in the approval request & spatially identifying the applicable management unit in which fiber will be received (Tract, Cutblock, Parcel, etc.).

Spatial identification of the harvest unit will be completed by using GIS software. This will include other data & spatial layers from various sources that will confirm the location of the harvest unit (Tract, Cutblock, Parcel, etc.) & it's proximity to any specified risk areas identified by the BP.

- If the BP deems that the specified risks outlined in the RRA are being satisfactorily addressed, the feedstock will be considered SBP compliant & purchase of the fiber will proceed.

- If the BP deems that the specified risks outlined in the RRA are not being satisfactorily addressed, the feedstock will be considered SBP controlled & purchase of the fiber will not proceed.

Context - Residual Fiber Deliveries

Prior to receival of fiber from any Residual Fiber (processing residues & tertiary feedstock) source, the Fiber Team will submit an approval request to the Sustainability Team via MS Forms. Every supplier will be required to complete a "Residual Fiber Questionnaire" tailored to specified risk identified in each sub-scope of the Supply Base Evaluation. All versions of the questionnaire will collect spatial information for the supplier's supply

base at a county level. This questionnaire will be required by the BP to be filled out on an annual basis to ensure data is accurate & up to date.

Spatial identification of the supplier's supply base will be completed by using GIS software. This will include other data & spatial layers from various sources that will confirm the location of the supply base & it's proximity to any specified risk areas identified by the BP.

Mitigation Measure 1: Promotion of Forest Certification

The intent of this mitigation measure is to promote forest level certification and chain of custody certification amongst the BP's feedstock suppliers. There are several feedstock suppliers (current and potential) that are unaware of forest certification or have never been asked to provide certification claims. The BP's understanding and expertise with forest certification can help increase the total amount of certified claims. If suppliers can obtain certification, their feedstock will no longer have associated risks. This not only helps the BP's proportion of certified feedstock but directly impacts on the ground activities affiliated with forest managers and feedstock suppliers. The mitigation can be applied to all sub-scopes of the SBE.

Forest Feedstock Deliveries

Within the Forest Feedstock Questionnaire, the Sustainability Team will include questions prompting the supplier to confirm if the origin of fiber to be received is certified to any Forest Management Certification schemes. These include certifications such as the Forest Stewardship Council (FSC), the Programme for the Endorsement of Forest Certification (PEFC) or endorsed PEFC schemes such as the Sustainable Forestry Initiative (SFI) & American Tree Farm System (ATFS).

If the harvest unit is not certified, the BP will prompt the supplier with questions relating to their interest in obtaining certification for their operations. In addition, the BP will implement the requirements of the SFI Fiber Sourcing standard to ensure that the receipt of any Forest Feedstock is considered sustainable.

Processing Residues & Tertiary Feedstock Deliveries

Within the Residual Fiber Questionnaire, the Sustainability Team will include questions prompting the supplier to confirm if their facility is certified to any Chain of Custody Certification schemes. If certified, the BP will request Chain of Custody claims on the fiber that is to be purchased. Uncertified suppliers will be asked about their interest in getting Chain of Custody certification for their site(s). This mitigation measure for Residual Fiber targets:

- Suppliers that hold valid certification but provide proportional certification, and
- Uncertified suppliers

If the BP can verify that fiber originates from certified lands, or receives claims for certified content of fiber purchased, the BP will consider specified risk for the following indicators to be mitigated, as these are frameworks that are recognized by SBP through their benchmarking exercise as meeting low risk:

- · 2.2.1 (Conversion)
- · 2.2.3 (Soil Quality)
- · 2.2.4 (Harvest Residues)

- 2.2.5 (Water Quality)
- · 2.2.7 (Pesticides)
- · 2.2.10 (Regeneration)
- · 4.1.8 (Training)
- · 4.2.7 (Cultural Heritage Sites)

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Mitigation Measure 2: Monitoring Forest Feedstock

The BP will implement a monitoring program for all primary feedstock sub-scopes procured directly at the pellet mill sites. Monitoring is a method to ensure on the ground activities align with measures that mitigate specified risks within the supply base area. Monitoring exercise will be carried out on a sample of fields sites throughout the reporting period.

The focus of field site monitoring will be to ensure information received by the supplier (via the Forest Feedstock Questionnaires) in relation to management of specified risk indicators can be observed or corroborated on the ground. The BP will categorize Forest Feedstock sites by risk rating as it relates to specified risk management in the questionnaire. For example, a site that has features that require management (i.e water courses, sensitive soils, presence of wildlife features) will be prioritized for inspection over a site without those features.

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- If the inspection results corroborate the questionnaire, the BP will consider the specified risks mitigated for that feedstock source.

- If the inspection results do not corroborate the questionnaire, the supplier will be subject to the Procurement Policy Mitigation Measure

Mitigation Measure 3: Education & Outreach

The intent of this mitigation option is to implement education and outreach-related actions that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of the HCV, and thereby mitigate the risk of sourcing materials from sites where the HCV in the specified risk area is threatened by forest management activities. The mitigation measure is part of the FSC's guidance including "Education & Outreach" central theme. All suppliers have potential to purchase their raw material from the sub-scopes, thus mitigation efforts are required on all feedstock to ensure the risk is negligible.

All feedstock data in the supply base will be collected via the Forest Feedstock (harvest locations) & Residual Fiber (operating counties) Questionnaires, where regional level maps can be created to show where the BP's



suppliers sources interact with the specified risk indicators (if applicable in the region). All feedstock suppliers will be required to provide this information prior to receipt of fiber.

The final output for this mitigation measure is a "Supplier Mapping Package", which contains detailed information on the interaction between supplier's inferred supply base the specified risk indicators. The supplier mapping package forms the basis of the education and outreach material that will be communicated to the supplier on an annual basis.

Note: Overlap with a specified risk polygon does not indicate feedstock must remain as specified risk. Suppliers, and subsequently the BP, can mitigate specified risk overlap by demonstrating how harvesting practices effectively manage for specified risks.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Forest Feedstock Deliveries

All potential Forest Feedstock sources are vetted through the Sustainability Team's questionnaire process prior to purchase of the feedstock. Harvest units that are put through the questionnaire process that are deemed to not meet the requirements of the Sustainability Team's review will be considered "High Risk" feedstock sources & will not be procured by the BP.

Feedstock sources that are removed from consideration via the Procurement Policy Mitigation Measure will also be considered "High Risk" feedstock sources & will not be procured by the BP unless documentation can be provided to suggest that the source meets the BP's sustainability requirements.

Processing Residues & Tertiary Feedstock Deliveries

All Residual Fiber suppliers are vetted through the Sustainability Team's questionnaire process both prior to purchase of the feedstock & then annually after the initial purchase. Any Residual Fiber suppliers that are removed from consideration via the Procurement Policy Mitigation Measure will be considered "High Risk" feedstock sources & avoided unless documentation can be provided to suggest that they are meeting the BP's sustainability requirements.

Mitigation Measure 5: Procurement Policy

The BP will implement a procurement policy mitigation measure for all sub-scopes. The BP expects that all suppliers contribute to the attainment of information required to carry out mitigation measures. The procurement policy is in place to address suppliers who do not provide the necessary information for the BP to carry out effective mitigation or to address consecutive identifications of non-conformities.

Any feedstock from a supplier who either does not provide enough information or is found to have purposefully mislead the BP in questionnaires will be considered SBP controlled feedstock until the proper information can be collected. SBP Compliant or SBP Controlled determinations are made monthly therefore either status will apply for a minimum of one month or until the required information is collected. In cases where information cannot be obtained, or the supplier has demonstrated multiple nonconformities that are unreasonable the BP will:

- Determine the root cause of the supplier's unwillingness to cooperate

- Determine if there is a way to obtain information that protects the suppliers' sensitivities but still achieves the BP's information requirements

- If the supplier and the BP cannot come to a mutual agreement on required information the BP may:
- o Determine the feedstock is non-eligible input for SBP products
- o Withhold the supplier's deliveries to the BP's facilities
- o Non-renewal of purchase agreements upon expiry
- o Termination of the purchase agreement
- o Removal from consideration on future purchases

The information provided by the secondary suppliers are reviewed annually and verified by third party auditors to ensure they are complete and correct. The annual information collection and verification exercise reviews the mitigations effectiveness. Any deficiencies are uncovered, and new methodologies are developed to close any uncovered gaps.

Monitoring and outcomes:

Mitigation Measure 1: Promotion of Forest Certification

The BP will annually review suppliers according to certification status on the FSC, PEFC, and SFI certificate registrars. Higher proportion of certified suppliers will result in effective mitigation. The BP will annually review the percentage of PEFC (SFI and CSA) certified claims received. Higher percentages of certified claims will result in effective mitigation.

Mitigation Measure 2: Monitoring Forest Feedstock

The biomass producer will maintain records of questionnaires, field site inspection forms, and correspondence with the supplier for each applicable site.

- All non-conformities will be documented by the BP in the onsite inspection form and communicated with the supplier

- Records of non-conformities will be recorded and documented

- If a supplier is found to have non-conformities two years in a row, they will be subject to the Procurement Policy Mitigation Measure

Effectiveness will be met by monitoring how suppliers change over time and whether identification of nonconformities lead to changes on the ground.

Mitigation Measure 3: Education & Outreach

The biomass producer will annually prepare supplier mapping packages for education and outreach activities. The BP will maintain a registrar of all documented conversations with suppliers and follow the below process to measure how the mitigation measure performs over time. The effectiveness monitoring will be included in the BP's Verification & Monitoring process for Supplier Audits.

- The biomass producer will select a sample of suppliers annually in the Supplier Verification & Monitoring process and review the data contained within the map package during the audit.

The desired outcome of these communications is engaging with the supplier, educating suppliers about the importance of the communication package to the BP's procurement systems, investigating how the supplier used the supplier mapping package, and whether it encourages on the ground changes in the supplier's management approach.

Effectiveness of this process will be reviewed annually and adjusted to ensure the process remains effective for all feedstock supplies originating in the risk assessed area. Once the effectiveness monitoring process has been implemented, the biomass producer can begin to formulate a reasonable assessment as to whether the mitigation measures are effective and if any modifications are required.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Mitigation effectiveness for this is measured monthly by the BP confirming that there were no "High Risk" feedstock sources that were delivered to the pellet plant.

Mitigation Measure 5: Procurement Policy

Mitigation effectiveness for this is measured by the BP confirming that any supplier that has been subjected to the policy has not been able to continue delivering fiber unless sufficient documentation has been obtained.

Country: United States	
Area/sub-scope: Private lands - Wyoming	
Risk Assessment used:	
 British Columbia, Canada Denmark Estonia Latvia Lithuania Quebec, Canada Biomass Producer's own risk assessment 	
Indicator with specified risk: 2.2.5 - Quality & Quantity of Water	

Description of the specific risk: Quality and quantity of ground water, surface water and water downstream shall be maintained or enhanced.

Context

According to Shah et al. (2022), forest management can impact water quality in a range of ways including changes to sediment delivery, nutrient losses, carbon transport, metal and base cation releases, acidity and temperature. Implementing Best Management Practices (BMPs) is a critical part of managing these impacts.

Regulations & Enforcement

There are both federal and state level regulations related to BMPs for forest management in the United States. Federal laws affecting forest management include but are not limited to the National Environmental Policy Act of 1969, the Clean Air Act of 1970, the Clean Water Act of 1972, the Endangered Species Act of 1973, the National Forest Management Act of 1976, the Forest Land Policy and Management Act of 1976, the Federal Insecticide, Fungicide, and Rodenticide Act of 1948, amended in 1996. In addition, federal land management agencies develop area specific management plans including the 1994 Northwest Forest Plan, and management plans for individual National Forest or Bureau of Land Management units.

State laws in the supply base include:

- California: California Forest Practice Act
- Idaho: Idaho Forest Practices Act
- Montana: Montana Forestry Best Management Practices Notification Law
- Oregon: Oregon Forest Practices Act
- Washington: Washington Forest Practices Act

Wyoming does not have a forest practices act, but does publish BMPs for forestland operations.

Mechanisms & Supporting Evidence

Federal and state law pertaining to BMPs are enforced by agencies including the US Environmental Protection Agency, US Army Corps of Engineers, and state forestry agencies. Failure to comply with state and federal law can result in litigation and penalties.

Actions on federal land are also subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

The California, Oregon, and Washington forest practice acts require the creation of harvest plans which incorporate BMPs for all state and private timberland operations. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field. Idaho and Montana do not require the creation of harvest plans but do conduct field audits on operations. Violations of state BMPs carry harsh penalties in Idaho, while compliance is voluntary in Montana. Regardless, recent audits in both found compliance exceeding 98%., In Wyoming, use of BMPs on state lands is required, with audits showing BMPs successfully mitigated impacts to water quality. Use of BMPs on Wyoming private lands is voluntary, and limited data exists on levels of compliance. However, non-industrial private forestland comprises less than 15% of forests. All six states are actively engaged in updating and revising their BMPs to keep up with changing attitudes and scientific research.

Conclusion

Water quality and quantity is maintained or protected by federal and state regulations which are enforced by multiple regulatory agencies. Forest activities on federal lands are assessed under NEPA and follow various management plans. State and private activities follow state-level forest practices regulations or recommended BMPs. Operations on private lands on Wyoming, however, are not legally required to comply with BMPs, and limited data exists on the extent of active compliance. As a result, we characterize the risk associated with this indicator as follows:



Federal Lands: Low

State & Private Lands: Specified risk pertaining to the procurement of feedstock from private lands in Wyoming. For all other state and private lands, risk is Low.

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https://apps.fs.usda.gov/nicportal/temppdf/sfs/naweb/WY_std.pdf

Mitigation measure:

Context - Forest Feedstock Deliveries

Prior to receival of fiber from any Forest Feedstock (logs or bush grind) source, the Fiber Team will submit an approval request to the Sustainability Team via MS Forms. Each sub-scope will have an associated "Forest Feedstock Questionnaire" tailored to specified risk identified in each sub-scope of the Supply Base Evaluation. All versions of the questionnaire will collect spatial information for the origin of the fiber at a harvest unit level.

All potential Forest Feedstock sources are to be verified through this process by the Sustainability Team for certification compliance by reviewing the answers provided in the approval request & spatially identifying the applicable management unit in which fiber will be received (Tract, Cutblock, Parcel, etc.).

Spatial identification of the harvest unit will be completed by using GIS software. This will include other data & spatial layers from various sources that will confirm the location of the harvest unit (Tract, Cutblock, Parcel, etc.) & it's proximity to any specified risk areas identified by the BP.

- If the BP deems that the specified risks outlined in the RRA are being satisfactorily addressed, the feedstock will be considered SBP compliant & purchase of the fiber will proceed.

- If the BP deems that the specified risks outlined in the RRA are not being satisfactorily addressed, the feedstock will be considered SBP controlled & purchase of the fiber will not proceed.

Context - Residual Fiber Deliveries

Prior to receival of fiber from any Residual Fiber (processing residues & tertiary feedstock) source, the Fiber Team will submit an approval request to the Sustainability Team via MS Forms. Every supplier will be required to complete a "Residual Fiber Questionnaire" tailored to specified risk identified in each sub-scope of the Supply Base Evaluation. All versions of the questionnaire will collect spatial information for the supplier's supply base at a county level. This questionnaire will be required by the BP to be filled out on an annual basis to ensure data is accurate & up to date.

Spatial identification of the supplier's supply base will be completed by using GIS software. This will include other data & spatial layers from various sources that will confirm the location of the supply base & it's proximity to any specified risk areas identified by the BP.

Mitigation Measure 1: Promotion of Forest Certification

The intent of this mitigation measure is to promote forest level certification and chain of custody certification amongst the BP's feedstock suppliers. There are several feedstock suppliers (current and potential) that are unaware of forest certification or have never been asked to provide certification claims. The BP's understanding and expertise with forest certification can help increase the total amount of certified claims. If suppliers can obtain certification, their feedstock will no longer have associated risks. This not only helps the BP's proportion of certified feedstock but directly impacts on the ground activities affiliated with forest managers and feedstock suppliers. The mitigation can be applied to all sub-scopes of the SBE.

Forest Feedstock Deliveries

Within the Forest Feedstock Questionnaire, the Sustainability Team will include questions prompting the supplier to confirm if the origin of fiber to be received is certified to any Forest Management Certification schemes. These include certifications such as the Forest Stewardship Council (FSC), the Programme for the Endorsement of Forest Certification (PEFC) or endorsed PEFC schemes such as the Sustainable Forestry Initiative (SFI) & American Tree Farm System (ATFS).

If the harvest unit is not certified, the BP will prompt the supplier with questions relating to their interest in obtaining certification for their operations. In addition, the BP will implement the requirements of the SFI Fiber Sourcing standard to ensure that the receipt of any Forest Feedstock is considered sustainable.

Processing Residues & Tertiary Feedstock Deliveries

Within the Residual Fiber Questionnaire, the Sustainability Team will include questions prompting the supplier to confirm if their facility is certified to any Chain of Custody Certification schemes. If certified, the BP will request Chain of Custody claims on the fiber that is to be purchased. Uncertified suppliers will be asked about their interest in getting Chain of Custody certification for their site(s). This mitigation measure for Residual Fiber targets:

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- Uncertified suppliers

If the BP can verify that fiber originates from certified lands, or receives claims for certified content of fiber purchased, the BP will consider specified risk for the following indicators to be mitigated, as these are frameworks that are recognized by SBP through their benchmarking exercise as meeting low risk:

- · 2.2.1 (Conversion)
- · 2.2.3 (Soil Quality)
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- · 2.2.10 (Regeneration)
- · 4.1.8 (Training)
- 4.2.7 (Cultural Heritage Sites)

A full assessment of the benchmarking process can be found in the following link.

https://sbpcert.wpenginepowered.com/wp-

content/uploads/2023/12/SBP_Framework_for_Benchmarking_and_Recognition_of_Other_Schemes_v1.0_fina l.pdf

Mitigation Measure 2: Monitoring Forest Feedstock

The BP will implement a monitoring program for all primary feedstock sub-scopes procured directly at the pellet mill sites. Monitoring is a method to ensure on the ground activities align with measures that mitigate specified risks within the supply base area. Monitoring exercise will be carried out on a sample of fields sites throughout the reporting period.

The focus of field site monitoring will be to ensure information received by the supplier (via the Forest Feedstock Questionnaires) in relation to management of specified risk indicators can be observed or corroborated on the ground. The BP will categorize Forest Feedstock sites by risk rating as it relates to specified risk management in the questionnaire. For example, a site that has features that require management (i.e water courses, sensitive soils, presence of wildlife features) will be prioritized for inspection over a site without those features.

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- If the inspection results corroborate the questionnaire, the BP will consider the specified risks mitigated for that feedstock source.

- If the inspection results do not corroborate the questionnaire, the supplier will be subject to the Procurement Policy Mitigation Measure

Mitigation Measure 3: Education & Outreach

The intent of this mitigation option is to implement education and outreach-related actions that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of the HCV, and thereby mitigate the risk of sourcing materials from sites where the HCV in the specified risk area is threatened by forest management activities. The mitigation measure is part of the FSC's guidance including "Education & Outreach" central theme. All suppliers have potential to purchase their raw material from the sub-scopes, thus mitigation efforts are required on all feedstock to ensure the risk is negligible.

All feedstock data in the supply base will be collected via the Forest Feedstock (harvest locations) & Residual Fiber (operating counties) Questionnaires, where regional level maps can be created to show where the BP's suppliers sources interact with the specified risk indicators (if applicable in the region). All feedstock suppliers will be required to provide this information prior to receipt of fiber.

The final output for this mitigation measure is a "Supplier Mapping Package", which contains detailed information on the interaction between supplier's inferred supply base the specified risk indicators. The supplier mapping package forms the basis of the education and outreach material that will be communicated to the supplier on an annual basis.

Note: Overlap with a specified risk polygon does not indicate feedstock must remain as specified risk. Suppliers, and subsequently the BP, can mitigate specified risk overlap by demonstrating how harvesting practices effectively manage for specified risks.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Forest Feedstock Deliveries

All potential Forest Feedstock sources are vetted through the Sustainability Team's questionnaire process prior to purchase of the feedstock. Harvest units that are put through the questionnaire process that are deemed to not meet the requirements of the Sustainability Team's review will be considered "High Risk" feedstock sources & will not be procured by the BP.

Feedstock sources that are removed from consideration via the Procurement Policy Mitigation Measure will also be considered "High Risk" feedstock sources & will not be procured by the BP unless documentation can be provided to suggest that the source meets the BP's sustainability requirements.

Processing Residues & Tertiary Feedstock Deliveries

All Residual Fiber suppliers are vetted through the Sustainability Team's questionnaire process both prior to purchase of the feedstock & then annually after the initial purchase. Any Residual Fiber suppliers that are removed from consideration via the Procurement Policy Mitigation Measure will be considered "High Risk" feedstock sources & avoided unless documentation can be provided to suggest that they are meeting the BP's sustainability requirements.

Mitigation Measure 5: Procurement Policy

The BP will implement a procurement policy mitigation measure for all sub-scopes. The BP expects that all suppliers contribute to the attainment of information required to carry out mitigation measures. The procurement policy is in place to address suppliers who do not provide the necessary information for the BP to carry out effective mitigation or to address consecutive identifications of non-conformities.

Any feedstock from a supplier who either does not provide enough information or is found to have purposefully mislead the BP in questionnaires will be considered SBP controlled feedstock until the proper information can

be collected. SBP Compliant or SBP Controlled determinations are made monthly therefore either status will apply for a minimum of one month or until the required information is collected. In cases where information cannot be obtained, or the supplier has demonstrated multiple nonconformities that are unreasonable the BP will:

- Determine the root cause of the supplier's unwillingness to cooperate

- Determine if there is a way to obtain information that protects the suppliers' sensitivities but still achieves the BP's information requirements

- If the supplier and the BP cannot come to a mutual agreement on required information the BP may:
- o Determine the feedstock is non-eligible input for SBP products
- o Withhold the supplier's deliveries to the BP's facilities
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- o Termination of the purchase agreement
- o Removal from consideration on future purchases

The information provided by the secondary suppliers are reviewed annually and verified by third party auditors to ensure they are complete and correct. The annual information collection and verification exercise reviews the mitigations effectiveness. Any deficiencies are uncovered, and new methodologies are developed to close any uncovered gaps.

Monitoring and outcomes:

Mitigation Measure 1: Promotion of Forest Certification

The BP will annually review suppliers according to certification status on the FSC, PEFC, and SFI certificate registrars. Higher proportion of certified suppliers will result in effective mitigation. The BP will annually review the percentage of PEFC (SFI and CSA) certified claims received. Higher percentages of certified claims will result in effective mitigation.

Mitigation Measure 2: Monitoring Forest Feedstock

The biomass producer will maintain records of questionnaires, field site inspection forms, and correspondence with the supplier for each applicable site.

- All non-conformities will be documented by the BP in the onsite inspection form and communicated with the supplier

- Records of non-conformities will be recorded and documented

- If a supplier is found to have non-conformities two years in a row, they will be subject to the Procurement Policy Mitigation Measure

Effectiveness will be met by monitoring how suppliers change over time and whether identification of nonconformities lead to changes on the ground.
Mitigation Measure 3: Education & Outreach

The biomass producer will annually prepare supplier mapping packages for education and outreach activities. The BP will maintain a registrar of all documented conversations with suppliers and follow the below process to measure how the mitigation measure performs over time. The effectiveness monitoring will be included in the BP's Verification & Monitoring process for Supplier Audits.

- The biomass producer will select a sample of suppliers annually in the Supplier Verification & Monitoring process and review the data contained within the map package during the audit.

The desired outcome of these communications is engaging with the supplier, educating suppliers about the importance of the communication package to the BP's procurement systems, investigating how the supplier used the supplier mapping package, and whether it encourages on the ground changes in the supplier's management approach.

Effectiveness of this process will be reviewed annually and adjusted to ensure the process remains effective for all feedstock supplies originating in the risk assessed area. Once the effectiveness monitoring process has been implemented, the biomass producer can begin to formulate a reasonable assessment as to whether the mitigation measures are effective and if any modifications are required.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Mitigation effectiveness for this is measured monthly by the BP confirming that there were no "High Risk" feedstock sources that were delivered to the pellet plant.

Mitigation Measure 5: Procurement Policy

Mitigation effectiveness for this is measured by the BP confirming that any supplier that has been subjected to the policy has not been able to continue delivering fiber unless sufficient documentation has been obtained.

Country: United States Area/sub-scope: All Areas		
□ British Columbia, Canada		
□ Denmark		
□ Estonia		
□ Latvia		
□ Lithuania		
🗆 Quebec, Canada		
⊠ Biomass Producer's own risk assessment		
Indicator with specified risk: 2.2.7 – Pesticides		
escription of the specific risk: Pesticides shall only be used as part of an Integrated Pest Management (IPM) plan in		

compliance with national legislation and chemical safety data sheets. Pesticides listed as World Health Organisation (WHO)

class 1A ("Extremely hazardous") and 1B ("Highly hazardous"), Stockholm Convention on Persistent Organic Pollutants (http://www.pops.int), Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (http://www.pic.int) and the Montreal Protocol on Substances that Deplete the Ozone Layer (http://ozone.unep.org/), shall not be used.

Context

The treaties and guidelines in this indicator relate to three distinct risks:

- 1. Risks to human health (WHO, Rotterdam Convention)
- 2. Risk of pollution by environmentally persistent chemicals (Stockholm Convention)
- 3. Risk of ozone layer depletion (Montreal Protocol)

Regulations & Enforcement

Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Environmental Protection Agency (EPA) is responsible for the regulation of pesticides in the US, and they oversee the creation of pesticide labels after evaluating pesticide ingredients, target crops, frequency and timing of use, and storage and disposal practices. It is a violation of federal law to use a pesticide in a manner inconsistent with its labelling. Some states, such as CA, also have their own pesticide labelling rules. The EPA rates the hazard level of a given compound as Category I-IV. WHO 1A and 1B chemicals are equivalent to EPA Category I substances.

The US is a signer on the Stockholm Convention and the Rotterdam Convention but has not ratified either of them due to the inability to completely enforce their provisions., Not all substances listed under these treaties are banned in the United States. The US was one of the primary countries which helped draft the Montreal Protocol on Substances that Deplete the Ozone Layer and has ratified it.

On federal lands, pesticide use would be subject to review under the National Environmental Policy Act (NEPA). As a result of the Southern Oregon Citizens v. Clark case of 1983, the Forest Service and Bureau of Land Management are required to conduct additional environmental and human health risk assessments pertaining to pesticide use that go beyond FIFRA.

Mechanisms & Supporting Evidence

Violations of the FIFRA can result in costly fines and imprisonment. Civil litigation by the EPA under this act occurs 2-3 times per year. It is unlikely that Category I substances would be used in a forest setting, as it would be unusual for the EPA to approve the use of such a product for a forest setting where water quality considerations are paramount. Nevertheless, no legislation in the US exists that would explicitly prevent a Category I substance from being used in the production of feedstock on state and private lands.

Actions on federal land are subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, such as in Southern Oregon Citizens v. Clark. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

Conclusion

Pesticide use is regulated under EPA and some state-level regulations on state and private land. On Federal lands use of pesticides is regulated under the EPA and for certain projects subject to public review under NEPA. While it is unlikely the EPA would approve for forest use a Category I pesticide or a pesticide prohibited



by one of the treaties listed in this indicator, no legal standard exists that would explicitly prevent this from occurring. Therefore, we assign the following risk ratings to this indicator:

Federal Lands: Specified risk pertaining to the use as a forest pesticide of a Category I substance, or a substance prohibited by one of the treaties listed in this indicator.

State & Private Lands: Specified risk pertaining to the use as a forest pesticide of a Category I substance, or a substance prohibited by one of the treaties listed in this indicator.

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Mitigation measure:

Context - Forest Feedstock Deliveries

Prior to receival of fiber from any Forest Feedstock (logs or bush grind) source, the Fiber Team will submit an approval request to the Sustainability Team via MS Forms. Each sub-scope will have an associated "Forest Feedstock Questionnaire" tailored to specified risk identified in each sub-scope of the Supply Base Evaluation. All versions of the questionnaire will collect spatial information for the origin of the fiber at a harvest unit level.

All potential Forest Feedstock sources are to be verified through this process by the Sustainability Team for certification compliance by reviewing the answers provided in the approval request & spatially identifying the applicable management unit in which fiber will be received (Tract, Cutblock, Parcel, etc.).

Spatial identification of the harvest unit will be completed by using GIS software. This will include other data & spatial layers from various sources that will confirm the location of the harvest unit (Tract, Cutblock, Parcel, etc.) & it's proximity to any specified risk areas identified by the BP.

- If the BP deems that the specified risks outlined in the RRA are being satisfactorily addressed, the feedstock will be considered SBP compliant & purchase of the fiber will proceed.

- If the BP deems that the specified risks outlined in the RRA are not being satisfactorily addressed, the feedstock will be considered SBP controlled & purchase of the fiber will not proceed.

Context - Residual Fiber Deliveries

Prior to receival of fiber from any Residual Fiber (processing residues & tertiary feedstock) source, the Fiber Team will submit an approval request to the Sustainability Team via MS Forms. Every supplier will be required to complete a "Residual Fiber Questionnaire" tailored to specified risk identified in each sub-scope of the Supply Base Evaluation. All versions of the questionnaire will collect spatial information for the supplier's supply base at a county level. This questionnaire will be required by the BP to be filled out on an annual basis to ensure data is accurate & up to date.

Spatial identification of the supplier's supply base will be completed by using GIS software. This will include other data & spatial layers from various sources that will confirm the location of the supply base & it's proximity to any specified risk areas identified by the BP.

Mitigation Measure 1: Promotion of Forest Certification

The intent of this mitigation measure is to promote forest level certification and chain of custody certification amongst the BP's feedstock suppliers. There are several feedstock suppliers (current and potential) that are unaware of forest certification or have never been asked to provide certification claims. The BP's understanding and expertise with forest certification can help increase the total amount of certified claims. If suppliers can obtain certification, their feedstock will no longer have associated risks. This not only helps the BP's proportion of certified feedstock but directly impacts on the ground activities affiliated with forest managers and feedstock suppliers. The mitigation can be applied to all sub-scopes of the SBE.

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Within the Residual Fiber Questionnaire, the Sustainability Team will include questions prompting the supplier to confirm if their facility is certified to any Chain of Custody Certification schemes. If certified, the BP will request Chain of Custody claims on the fiber that is to be purchased. Uncertified suppliers will be asked about



their interest in getting Chain of Custody certification for their site(s). This mitigation measure for Residual Fiber targets:

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- 4.2.7 (Cultural Heritage Sites)

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Mitigation Measure 2: Monitoring Forest Feedstock

The BP will implement a monitoring program for all primary feedstock sub-scopes procured directly at the pellet mill sites. Monitoring is a method to ensure on the ground activities align with measures that mitigate specified risks within the supply base area. Monitoring exercise will be carried out on a sample of fields sites throughout the reporting period.

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Monitoring and outcomes:

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The biomass producer will annually prepare supplier mapping packages for education and outreach activities. The BP will maintain a registrar of all documented conversations with suppliers and follow the below process to measure how the mitigation measure performs over time. The effectiveness monitoring will be included in the BP's Verification & Monitoring process for Supplier Audits.

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Effectiveness of this process will be reviewed annually and adjusted to ensure the process remains effective for all feedstock supplies originating in the risk assessed area. Once the effectiveness monitoring process has been implemented, the biomass producer can begin to formulate a reasonable assessment as to whether the mitigation measures are effective and if any modifications are required.

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Mitigation effectiveness for this is measured monthly by the BP confirming that there were no "High Risk" feedstock sources that were delivered to the pellet plant.

Mitigation Measure 5: Procurement Policy

Mitigation effectiveness for this is measured by the BP confirming that any supplier that has been subjected to the policy has not been able to continue delivering fiber unless sufficient documentation has been obtained.

Country: United States		
Area/sub-scope: Private lands		
Risk Assessment used:		
	 British Columbia, Canada Denmark Estonia Latvia Lithuania 	

🗆 Quebec, Canada
Biomass Producer's own risk assessment

Indicator with specified risk: 2.2.10 - Regeneration

Description of the specific risk: Harvested areas shall be regenerated.

Context

Historically, harvest of forest products has contributed to decreasing forest cover and forest biomass worldwide. Harvest levels of feedstock should not contribute to deforestation.

Regulations

Federal lands are subject to regional forest plans, such as the Sierra Nevada Forest Plan in California and the Northwest Forest Plan in Washington and Oregon. These plans ensure for the proper regeneration and maintenance of forest cover during harvest operations. Additionally, in 1976, the Federal Land Policy and Management Act established the policy of retaining lands in federal ownership, meaning that these lands will not be sold to into the hand of private owners who may decline to maintain forest cover.

Laws relevant to this indicator which apply to state and private lands in the supply base include:

- California Forest Practice Act
- Idaho Forest Practices Act
- Montana Forestry Best Management Practices Notification Law
- Oregon Forest Practices Act
- Washington Forest Practices Act

Wyoming does not have forest practice laws but does publish BMPs for forestland operations. The Montana law requires that operators be informed of BMPs prior to beginning operations. BMPs for both Wyoming and Montana include reforestation recommendations. Meanwhile, California, Idaho, Oregon, and Washington laws require that land be regenerated to ecologically sound stocking levels after harvest, unless being converted to non-forest use.

Notably, none of these states have provisions prohibiting the conversion of private lands to non-forest use. Land which is converted for commercial or residential development would not be regenerated. This issue is covered separately in Indicator 2.2.1.

Mechanisms & Supporting Evidence

Actions on federal land are also subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

The California, Oregon, and Washington forest practice acts require the creation of harvest plans which require regeneration for all state and private timberland operations. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field. Idaho and Montana do not require the creation of

harvest plans but do conduct field audits on operations. Violations of state BMPs carry harsh penalties in Idaho, while compliance is voluntary in Montana. Regardless, recent audits in both found compliance exceeding 98%., While use of BMPs on Wyoming state lands is mandatory, on Wyoming private lands it is voluntary, with limited data available on levels of compliance. However, natural regeneration is a normal ecological component of Wyoming forests, meaning that a lack of BMP implementation would not necessarily prevent regeneration. All six states are actively engaged in updating and revising their BMPs to keep up with changing attitudes and scientific research.

The US Department of Agriculture publishes factsheets on each state which quantify forest gain and loss. Of the states in the supply base, California, Oregon, and Washington show a small net loss of forested acreage on an average year, while Idaho and Montana show small net increases. All states in the supply base convert some acres out of forest use each year.

Conclusion

All lands in the project area that are maintained in forest are likely to be regenerated after feedstock harvesting, whether due to federal policies, state laws, or natural processes. However, intentional conversion of stands out of forest use does occur on private lands throughout the project area. Therefore, we assign the following risk levels to this indicator:

Federal Lands: Low

State & Private Lands: Specified risk that when feedstock is harvested from private lands, those lands may not be regenerated if the landowner converts them to non-forest use.

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https://public.tableau.com/views/FIA_OneClick_V1_2/StateSelection?%3AshowVizHome=no

Mitigation measure:

Context - Forest Feedstock Deliveries

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All potential Forest Feedstock sources are to be verified through this process by the Sustainability Team for certification compliance by reviewing the answers provided in the approval request & spatially identifying the applicable management unit in which fiber will be received (Tract, Cutblock, Parcel, etc.).

Spatial identification of the harvest unit will be completed by using GIS software. This will include other data & spatial layers from various sources that will confirm the location of the harvest unit (Tract, Cutblock, Parcel, etc.) & it's proximity to any specified risk areas identified by the BP.

- If the BP deems that the specified risks outlined in the RRA are being satisfactorily addressed, the feedstock will be considered SBP compliant & purchase of the fiber will proceed.

- If the BP deems that the specified risks outlined in the RRA are not being satisfactorily addressed, the feedstock will be considered SBP controlled & purchase of the fiber will not proceed.

Context - Residual Fiber Deliveries

Prior to receival of fiber from any Residual Fiber (processing residues & tertiary feedstock) source, the Fiber Team will submit an approval request to the Sustainability Team via MS Forms. Every supplier will be required to complete a "Residual Fiber Questionnaire" tailored to specified risk identified in each sub-scope of the Supply Base Evaluation. All versions of the questionnaire will collect spatial information for the supplier's supply base at a county level. This questionnaire will be required by the BP to be filled out on an annual basis to ensure data is accurate & up to date.

Spatial identification of the supplier's supply base will be completed by using GIS software. This will include other data & spatial layers from various sources that will confirm the location of the supply base & it's proximity to any specified risk areas identified by the BP.

Mitigation Measure 1: Promotion of Forest Certification

The intent of this mitigation measure is to promote forest level certification and chain of custody certification amongst the BP's feedstock suppliers. There are several feedstock suppliers (current and potential) that are unaware of forest certification or have never been asked to provide certification claims. The BP's understanding and expertise with forest certification can help increase the total amount of certified claims. If suppliers can obtain certification, their feedstock will no longer have associated risks. This not only helps the BP's proportion of certified feedstock but directly impacts on the ground activities affiliated with forest managers and feedstock suppliers. The mitigation can be applied to all sub-scopes of the SBE.

Forest Feedstock Deliveries

Within the Forest Feedstock Questionnaire, the Sustainability Team will include questions prompting the supplier to confirm if the origin of fiber to be received is certified to any Forest Management Certification schemes. These include certifications such as the Forest Stewardship Council (FSC), the Programme for the Endorsement of Forest Certification (PEFC) or endorsed PEFC schemes such as the Sustainable Forestry Initiative (SFI) & American Tree Farm System (ATFS).

If the harvest unit is not certified, the BP will prompt the supplier with questions relating to their interest in obtaining certification for their operations. In addition, the BP will implement the requirements of the SFI Fiber Sourcing standard to ensure that the receipt of any Forest Feedstock is considered sustainable.

Processing Residues & Tertiary Feedstock Deliveries

Within the Residual Fiber Questionnaire, the Sustainability Team will include questions prompting the supplier to confirm if their facility is certified to any Chain of Custody Certification schemes. If certified, the BP will request Chain of Custody claims on the fiber that is to be purchased. Uncertified suppliers will be asked about their interest in getting Chain of Custody certification for their site(s). This mitigation measure for Residual Fiber targets:

- Suppliers that hold valid certification but provide proportional certification, and
- Uncertified suppliers

If the BP can verify that fiber originates from certified lands, or receives claims for certified content of fiber purchased, the BP will consider specified risk for the following indicators to be mitigated, as these are frameworks that are recognized by SBP through their benchmarking exercise as meeting low risk:

- · 2.2.1 (Conversion)
- · 2.2.3 (Soil Quality)
- · 2.2.4 (Harvest Residues)
- · 2.2.5 (Water Quality)
- · 2.2.7 (Pesticides)
- · 2.2.10 (Regeneration)
- · 4.1.8 (Training)
- 4.2.7 (Cultural Heritage Sites)

A full assessment of the benchmarking process can be found in the following link.

https://sbpcert.wpenginepowered.com/wp-

content/uploads/2023/12/SBP_Framework_for_Benchmarking_and_Recognition_of_Other_Schemes_v1.0_fina l.pdf

Mitigation Measure 2: Monitoring Forest Feedstock

The BP will implement a monitoring program for all primary feedstock sub-scopes procured directly at the pellet mill sites. Monitoring is a method to ensure on the ground activities align with measures that mitigate specified risks within the supply base area. Monitoring exercise will be carried out on a sample of fields sites throughout the reporting period.

The focus of field site monitoring will be to ensure information received by the supplier (via the Forest Feedstock Questionnaires) in relation to management of specified risk indicators can be observed or corroborated on the ground. The BP will categorize Forest Feedstock sites by risk rating as it relates to specified risk management in the questionnaire. For example, a site that has features that require management (i.e. water courses, sensitive soils, presence of wildlife features) will be prioritized for inspection over a site without those features.

Where possible, photos will be taken to ensure monitoring activity records can be visually documented. All monitoring activities will be documented and recorded for future reference by the BP and for internal and external auditing purposes.

- If the inspection results corroborate the questionnaire, the BP will consider the specified risks mitigated for that feedstock source.

- If the inspection results do not corroborate the questionnaire, the supplier will be subject to the Procurement Policy Mitigation Measure

Mitigation Measure 3: Education & Outreach

The intent of this mitigation option is to implement education and outreach-related actions that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of the HCV, and thereby mitigate the risk of sourcing materials from sites where the HCV in the specified risk area is threatened by forest management activities. The mitigation measure is part of the FSC's guidance including "Education & Outreach" central theme. All suppliers have potential to purchase their raw material from the sub-scopes, thus mitigation efforts are required on all feedstock to ensure the risk is negligible.

All feedstock data in the supply base will be collected via the Forest Feedstock (harvest locations) & Residual Fiber (operating counties) Questionnaires, where regional level maps can be created to show where the BP's suppliers sources interact with the specified risk indicators (if applicable in the region). All feedstock suppliers will be required to provide this information prior to receipt of fiber.

The final output for this mitigation measure is a "Supplier Mapping Package", which contains detailed information on the interaction between supplier's inferred supply base the specified risk indicators. The supplier mapping package forms the basis of the education and outreach material that will be communicated to the supplier on an annual basis.

Note: Overlap with a specified risk polygon does not indicate feedstock must remain as specified risk. Suppliers, and subsequently the BP, can mitigate specified risk overlap by demonstrating how harvesting practices effectively manage for specified risks.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Forest Feedstock Deliveries

All potential Forest Feedstock sources are vetted through the Sustainability Team's questionnaire process prior to purchase of the feedstock. Harvest units that are put through the questionnaire process that are deemed to

not meet the requirements of the Sustainability Team's review will be considered "High Risk" feedstock sources & will not be procured by the BP.

Feedstock sources that are removed from consideration via the Procurement Policy Mitigation Measure will also be considered "High Risk" feedstock sources & will not be procured by the BP unless documentation can be provided to suggest that the source meets the BP's sustainability requirements.

Processing Residues & Tertiary Feedstock Deliveries

All Residual Fiber suppliers are vetted through the Sustainability Team's questionnaire process both prior to purchase of the feedstock & then annually after the initial purchase. Any Residual Fiber suppliers that are removed from consideration via the Procurement Policy Mitigation Measure will be considered "High Risk" feedstock sources & avoided unless documentation can be provided to suggest that they are meeting the BP's sustainability requirements.

Mitigation Measure 5: Procurement Policy

The BP will implement a procurement policy mitigation measure for all sub-scopes. The BP expects that all suppliers contribute to the attainment of information required to carry out mitigation measures. The procurement policy is in place to address suppliers who do not provide the necessary information for the BP to carry out effective mitigation or to address consecutive identifications of non-conformities.

Any feedstock from a supplier who either does not provide enough information or is found to have purposefully mislead the BP in questionnaires will be considered SBP controlled feedstock until the proper information can be collected. SBP Compliant or SBP Controlled determinations are made monthly therefore either status will apply for a minimum of one month or until the required information is collected. In cases where information cannot be obtained, or the supplier has demonstrated multiple nonconformities that are unreasonable the BP will:

- Determine the root cause of the supplier's unwillingness to cooperate

- Determine if there is a way to obtain information that protects the suppliers' sensitivities but still achieves the BP's information requirements

- If the supplier and the BP cannot come to a mutual agreement on required information the BP may:
- o Determine the feedstock is non-eligible input for SBP products
- o Withhold the supplier's deliveries to the BP's facilities
- o Non-renewal of purchase agreements upon expiry
- o Termination of the purchase agreement
- o Removal from consideration on future purchases

The information provided by the secondary suppliers are reviewed annually and verified by third party auditors to ensure they are complete and correct. The annual information collection and verification exercise reviews the mitigations effectiveness. Any deficiencies are uncovered, and new methodologies are developed to close any uncovered gaps.

Monitoring and outcomes:

Mitigation Measure 1: Promotion of Forest Certification

The BP will annually review suppliers according to certification status on the FSC, PEFC, and SFI certificate registrars. Higher proportion of certified suppliers will result in effective mitigation. The BP will annually review the percentage of PEFC (SFI and CSA) certified claims received. Higher percentages of certified claims will result in effective mitigation.

Mitigation Measure 2: Monitoring Forest Feedstock

The biomass producer will maintain records of questionnaires, field site inspection forms, and correspondence with the supplier for each applicable site.

- All non-conformities will be documented by the BP in the onsite inspection form and communicated with the supplier

- Records of non-conformities will be recorded and documented

- If a supplier is found to have non-conformities two years in a row, they will be subject to the Procurement Policy Mitigation Measure

Effectiveness will be met by monitoring how suppliers change over time and whether identification of nonconformities lead to changes on the ground.

Mitigation Measure 3: Education & Outreach

The biomass producer will annually prepare supplier mapping packages for education and outreach activities. The BP will maintain a registrar of all documented conversations with suppliers and follow the below process to measure how the mitigation measure performs over time. The effectiveness monitoring will be included in the BP's Verification & Monitoring process for Supplier Audits.

- The biomass producer will select a sample of suppliers annually in the Supplier Verification & Monitoring process and review the data contained within the map package during the audit.

The desired outcome of these communications is engaging with the supplier, educating suppliers about the importance of the communication package to the BP's procurement systems, investigating how the supplier used the supplier mapping package, and whether it encourages on the ground changes in the supplier's management approach.

Effectiveness of this process will be reviewed annually and adjusted to ensure the process remains effective for all feedstock supplies originating in the risk assessed area. Once the effectiveness monitoring process has been implemented, the biomass producer can begin to formulate a reasonable assessment as to whether the mitigation measures are effective and if any modifications are required.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Mitigation effectiveness for this is measured monthly by the BP confirming that there were no "High Risk" feedstock sources that were delivered to the pellet plant.

Mitigation Measure 5: Procurement Policy

SOP

Mitigation effectiveness for this is measured by the BP confirming that any supplier that has been subjected to the policy has not been able to continue delivering fiber unless sufficient documentation has been obtained.

Country: United States		
Area/sub-scope: Private lands - Montana & Wyoming		
Risk Assessment used:		
	British Columbia, Canada	
	Denmark	
	Estonia	
	Latvia	
	Lithuania	
	Quebec, Canada	
\boxtimes	Biomass Producer's own risk assessment	
Indicator with specified risk: 3.2.2 – Harvest from Low Productivity Sites		
Description of the probability of succe Option A. Primary or region. Option B. Primary low-productive or of Justification shall b	e specific risk: Primary feedstock shall not be sourced from forests where site productivity is low, or the sessful regeneration is uncertain. This indicator may be evaluated following either of these two options: feedstock shall not be sourced from forests with site productivity in the $0 - 10$ percentiles of the supply base feedstock shall not be sourced from forest, which according to local definitions or norms, are classified as difficult to regenerate and should be excluded from feedstock sourcing.	

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Context

For the purposes of this supply base evaluation, we will meet the criteria for this indicator using Option B. Many states in the supply base have legal requirements that harvested forests be regenerated. If a forest is difficult to regenerate, harvest of that forest would implicitly violate local forest practice rules.

Regulations

Federal lands are subject to regional forest plans, such as the Sierra Nevada Forest Plan in California and the Northwest Forest Plan in Washington and Oregon. These plans ensure for the proper regeneration and maintenance of forest cover during harvest operations. The plans are written based on the most ecologically sound science available, and it is unlikely that a harvest proposed on a low-productivity site would be in compliance with these plans.

Laws relevant to this indicator which apply to state and private lands in the supply base include:

- California Forest Practice Act
- Idaho Forest Practices Act
- Montana Forestry Best Management Practices Notification Law

- Oregon Forest Practices Act
- Washington Forest Practices Act

Wyoming does not have forest practice laws but does publish BMPs for forestland operations. The Montana law requires that operators be informed of BMPs prior to beginning operations. BMPs for both Wyoming and Montana include reforestation recommendations. Meanwhile, California, Idaho, Oregon, and Washington laws require that lands be regenerated to ecologically sound stocking levels after harvest.

Notably, none of these states have provisions prohibiting the conversion of private lands to non-forest use. Conversion of land for commercial or residential development could occur on low productivity sites. However, this issue is covered separately in Indicator 2.2.1.

Mechanisms & Supporting Evidence

Actions on federal land are subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

The California, Oregon, and Washington forest practice acts mandate the creation of harvest plans which require regeneration for all state and private timberland operations. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field. Idaho and Montana do not require the creation of harvest plans but do conduct field audits on operations. Violations of state BMPs carry harsh penalties in Idaho, and recent audits found compliance exceeding 98%. While use of reforestation BMPs on Wyoming and Montana state lands is mandatory, it is voluntary on private lands in these states, with limited data available on levels of compliance. All six states are actively engaged in updating and revising their BMPs to keep up with changing attitudes and scientific research.

Conclusion

Federal agencies follow regional forest plans which are meant to ensure ecologically sound forestry and would not permit harvest from low-productive areas on federal lands. Meanwhile, California, Idaho, Oregon, and Washington have laws that require regeneration of forests after harvest, which would make harvest from areas that are difficult to regenerate a violation of state law. Montana and Wyoming do not have regulations in place which pertain to the harvest of feedstock from low productivity sites on private lands. We therefore assign the following risk levels to this indicator:

Federal Lands: Low

State & Private Lands: Specified risk that feedstock procured from private lands in Wyoming and Montana could be sourced from low productivity sites.

Sources

https://www.fs.usda.gov/detail/r5/landmanagement/planning/?cid=stelprdb5349922

https://www.fs.usda.gov/detail/r6/landmanagement/planning/?cid=fsbdev2_026990

https://bof.fire.ca.gov/regulations/bills-statutes-rules-and-annual-california-forest-practice-rules/

https://www.idl.idaho.gov/about-forestry/forest-practices-act/

https://dnrc.mt.gov/Forestry/Forest-Management/best-management-practices

https://www.oregon.gov/odf/Pages/lawsrules.aspx

https://apps.leg.wa.gov/RCW/default.aspx?cite=76.09

https://wsfd.wyo.gov/forest-management/bmp-s

https://academic.oup.com/jof/article/118/4/403/5825558

https://idahoforests.wpenginepowered.com/wp-content/uploads/2019-Forest-Practices-Year-End-Report.pdf

https://drive.google.com/file/d/14gKwFYAW9EM5cI5ASDGtjb5oazwpnLFt/view?usp=sharing

https://dnrc.mt.gov/TrustLand/about/planning-and-reports

Mitigation measure:

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Processing Residues & Tertiary Feedstock Deliveries

Within the Residual Fiber Questionnaire, the Sustainability Team will include questions prompting the supplier to confirm if their facility is certified to any Chain of Custody Certification schemes. If certified, the BP will request Chain of Custody claims on the fiber that is to be purchased. Uncertified suppliers will be asked about their interest in getting Chain of Custody certification for their site(s). This mitigation measure for Residual Fiber targets:

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A full assessment of the benchmarking process can be found in the following link.

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Mitigation Measure 2: Monitoring Forest Feedstock

The BP will implement a monitoring program for all primary feedstock sub-scopes procured directly at the pellet mill sites. Monitoring is a method to ensure on the ground activities align with measures that mitigate specified risks within the supply base area. Monitoring exercise will be carried out on a sample of fields sites throughout the reporting period.

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mapping package forms the basis of the education and outreach material that will be communicated to the supplier on an annual basis.

Note: Overlap with a specified risk polygon does not indicate feedstock must remain as specified risk. Suppliers, and subsequently the BP, can mitigate specified risk overlap by demonstrating how harvesting practices effectively manage for specified risks.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Forest Feedstock Deliveries

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Feedstock sources that are removed from consideration via the Procurement Policy Mitigation Measure will also be considered "High Risk" feedstock sources & will not be procured by the BP unless documentation can be provided to suggest that the source meets the BP's sustainability requirements.

Processing Residues & Tertiary Feedstock Deliveries

All Residual Fiber suppliers are vetted through the Sustainability Team's questionnaire process both prior to purchase of the feedstock & then annually after the initial purchase. Any Residual Fiber suppliers that are removed from consideration via the Procurement Policy Mitigation Measure will be considered "High Risk" feedstock sources & avoided unless documentation can be provided to suggest that they are meeting the BP's sustainability requirements.

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The BP will implement a procurement policy mitigation measure for all sub-scopes. The BP expects that all suppliers contribute to the attainment of information required to carry out mitigation measures. The procurement policy is in place to address suppliers who do not provide the necessary information for the BP to carry out effective mitigation or to address consecutive identifications of non-conformities.

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Monitoring and outcomes:

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- If a supplier is found to have non-conformities two years in a row, they will be subject to the Procurement Policy Mitigation Measure

Effectiveness will be met by monitoring how suppliers change over time and whether identification of nonconformities lead to changes on the ground.

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Effectiveness of this process will be reviewed annually and adjusted to ensure the process remains effective for all feedstock supplies originating in the risk assessed area. Once the effectiveness monitoring process has been implemented, the biomass producer can begin to formulate a reasonable assessment as to whether the mitigation measures are effective and if any modifications are required.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Mitigation effectiveness for this is measured monthly by the BP confirming that there were no "High Risk" feedstock sources that were delivered to the pellet plant.

Mitigation Measure 5: Procurement Policy

Mitigation effectiveness for this is measured by the BP confirming that any supplier that has been subjected to the policy has not been able to continue delivering fiber unless sufficient documentation has been obtained.

Country: United States		
Area/sub-scope: State & Private lands		
Risk Assessment used:		
 □ British Columbia, Canada □ Denmark □ Estonia □ Latvia □ Lithuania □ Quebec, Canada ⊠ Biomass Producer's own risk assessment 		
Indicator with specified risk: 4.1.8 – Training		

Description of the specific risk: Training shall be provided for all workers to allow them to implement the conditions set out in all elements of the SBP standards relevant to their responsibilities.

Context

The requirements in the SBP standards are applicable at a range of scales. For some indicators, compliance does not occur at the level of the worker, but rather in the administration of the organization. Examples of this would be 2.2.1 and 3.2.2.

On the other hand, compliance for many indicators comes down to each individual worker on the ground doing their part. In these cases, training of those workers is critical to ensure feedstock sourcing does not violate SBP standards.

Regulations & Enforcement

Indicators for which employees would need to be trained in order to know how to comply with SBP include: 1.1.1, 1.1.2, 1.1.4, 2.1.3, 2.2.3, 2.2.4, 2.2.5, 2.2.6, 2.2.7, 2.2.8, 4.1.4, 4.1.9, 4.1.10, 4.2.7.

Each of these indicators are backed by laws and regulations which would inherently involve some level of employee training. Not all of these laws explicitly require formalized training, but for those that do not, employees would learn the pertinent information as a matter of course in their work. For specifics, see the sections on those indicators.

On private lands, indicators 2.2.3, 2.2.4, 2.2.5, and 4.2.7 have specified risks, meaning that the SBP standard is stricter than the legal standard. In these instances, training up to the SBP standard level may not occur, as there is not a legal incentive for it.

Mechanisms & Supporting Evidence

Please see the sections of the applicable indicators for mechanisms and supporting evidence related to compliance.

Conclusion

Not all requirements in the SBP standards require employee training to ensure compliance. For those that do, feedstock suppliers are incentivized by law to conduct such training. However, if the SBP standard is stricter than the legal standard such that specified risk is present, training may not occur. We therefore assign the following risk levels to this indicator:

Federal Lands: Low

State & Private Lands: Specified risk that insufficient training may occur regarding indicators in which specified risk exists already. This includes the following indicators: 2.2.3, 2.2.4, 2.2.5, and 4.2.7.

Mitigation measure:

Context - Forest Feedstock Deliveries

Prior to receival of fiber from any Forest Feedstock (logs or bush grind) source, the Fiber Team will submit an approval request to the Sustainability Team via MS Forms. Each sub-scope will have an associated "Forest Feedstock Questionnaire" tailored to specified risk identified in each sub-scope of the Supply Base Evaluation. All versions of the questionnaire will collect spatial information for the origin of the fiber at a harvest unit level.

All potential Forest Feedstock sources are to be verified through this process by the Sustainability Team for certification compliance by reviewing the answers provided in the approval request & spatially identifying the applicable management unit in which fiber will be received (Tract, Cutblock, Parcel, etc.).

Spatial identification of the harvest unit will be completed by using GIS software. This will include other data & spatial layers from various sources that will confirm the location of the harvest unit (Tract, Cutblock, Parcel, etc.) & it's proximity to any specified risk areas identified by the BP.

- If the BP deems that the specified risks outlined in the RRA are being satisfactorily addressed, the feedstock will be considered SBP compliant & purchase of the fiber will proceed.

- If the BP deems that the specified risks outlined in the RRA are not being satisfactorily addressed, the feedstock will be considered SBP controlled & purchase of the fiber will not proceed.

Context - Residual Fiber Deliveries

Prior to receival of fiber from any Residual Fiber (processing residues & tertiary feedstock) source, the Fiber Team will submit an approval request to the Sustainability Team via MS Forms. Every supplier will be required to complete a "Residual Fiber Questionnaire" tailored to specified risk identified in each sub-scope of the Supply Base Evaluation. All versions of the questionnaire will collect spatial information for the supplier's supply base at a county level. This questionnaire will be required by the BP to be filled out on an annual basis to ensure data is accurate & up to date.

Spatial identification of the supplier's supply base will be completed by using GIS software. This will include other data & spatial layers from various sources that will confirm the location of the supply base & it's proximity to any specified risk areas identified by the BP.

Mitigation Measure 1: Promotion of Forest Certification

The intent of this mitigation measure is to promote forest level certification and chain of custody certification amongst the BP's feedstock suppliers. There are several feedstock suppliers (current and potential) that are unaware of forest certification or have never been asked to provide certification claims. The BP's understanding and expertise with forest certification can help increase the total amount of certified claims. If suppliers can obtain certification, their feedstock will no longer have associated risks. This not only helps the BP's proportion of certified feedstock but directly impacts on the ground activities affiliated with forest managers and feedstock suppliers. The mitigation can be applied to all sub-scopes of the SBE.

Forest Feedstock Deliveries

Within the Forest Feedstock Questionnaire, the Sustainability Team will include questions prompting the supplier to confirm if the origin of fiber to be received is certified to any Forest Management Certification schemes. These include certifications such as the Forest Stewardship Council (FSC), the Programme for the Endorsement of Forest Certification (PEFC) or endorsed PEFC schemes such as the Sustainable Forestry Initiative (SFI) & American Tree Farm System (ATFS).

If the harvest unit is not certified, the BP will prompt the supplier with questions relating to their interest in obtaining certification for their operations. In addition, the BP will implement the requirements of the SFI Fiber Sourcing standard to ensure that the receipt of any Forest Feedstock is considered sustainable.

Processing Residues & Tertiary Feedstock Deliveries

Within the Residual Fiber Questionnaire, the Sustainability Team will include questions prompting the supplier to confirm if their facility is certified to any Chain of Custody Certification schemes. If certified, the BP will request Chain of Custody claims on the fiber that is to be purchased. Uncertified suppliers will be asked about their interest in getting Chain of Custody certification for their site(s). This mitigation measure for Residual Fiber targets:

- Suppliers that hold valid certification but provide proportional certification, and
- Uncertified suppliers

If the BP can verify that fiber originates from certified lands, or receives claims for certified content of fiber purchased, the BP will consider specified risk for the following indicators to be mitigated, as these are frameworks that are recognized by SBP through their benchmarking exercise as meeting low risk:

- 2.2.1 (Conversion)
- · 2.2.3 (Soil Quality)
- · 2.2.4 (Harvest Residues)
- · 2.2.5 (Water Quality)
- · 2.2.7 (Pesticides)
- · 2.2.10 (Regeneration)
- · 4.1.8 (Training)
- 4.2.7 (Cultural Heritage Sites)

A full assessment of the benchmarking process can be found in the following link.

https://sbpcert.wpenginepowered.com/wp-

content/uploads/2023/12/SBP_Framework_for_Benchmarking_and_Recognition_of_Other_Schemes_v1.0_fina I.pdf

Mitigation Measure 2: Monitoring Forest Feedstock

The BP will implement a monitoring program for all primary feedstock sub-scopes procured directly at the pellet mill sites. Monitoring is a method to ensure on the ground activities align with measures that mitigate specified risks within the supply base area. Monitoring exercise will be carried out on a sample of fields sites throughout the reporting period.

The focus of field site monitoring will be to ensure information received by the supplier (via the Forest Feedstock Questionnaires) in relation to management of specified risk indicators can be observed or corroborated on the ground. The BP will categorize Forest Feedstock sites by risk rating as it relates to specified risk management in the questionnaire. For example, a site that has features that require management (i.e. water courses, sensitive soils, presence of wildlife features) will be prioritized for inspection over a site without those features.

Where possible, photos will be taken to ensure monitoring activity records can be visually documented. All monitoring activities will be documented and recorded for future reference by the BP and for internal and external auditing purposes.

- If the inspection results corroborate the questionnaire, the BP will consider the specified risks mitigated for that feedstock source.

- If the inspection results do not corroborate the questionnaire, the supplier will be subject to the Procurement Policy Mitigation Measure

Mitigation Measure 3: Education & Outreach

The intent of this mitigation option is to implement education and outreach-related actions that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of the HCV, and thereby mitigate the risk of sourcing materials from sites where the HCV in the specified risk area is threatened by forest management activities. The mitigation measure is part of the FSC's guidance including



All feedstock data in the supply base will be collected via the Forest Feedstock (harvest locations) & Residual Fiber (operating counties) Questionnaires, where regional level maps can be created to show where the BP's suppliers sources interact with the specified risk indicators (if applicable in the region). All feedstock suppliers will be required to provide this information prior to receipt of fiber.

The final output for this mitigation measure is a "Supplier Mapping Package", which contains detailed information on the interaction between supplier's inferred supply base the specified risk indicators. The supplier mapping package forms the basis of the education and outreach material that will be communicated to the supplier on an annual basis.

Note: Overlap with a specified risk polygon does not indicate feedstock must remain as specified risk. Suppliers, and subsequently the BP, can mitigate specified risk overlap by demonstrating how harvesting practices effectively manage for specified risks.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Forest Feedstock Deliveries

All potential Forest Feedstock sources are vetted through the Sustainability Team's questionnaire process prior to purchase of the feedstock. Harvest units that are put through the questionnaire process that are deemed to not meet the requirements of the Sustainability Team's review will be considered "High Risk" feedstock sources & will not be procured by the BP.

Feedstock sources that are removed from consideration via the Procurement Policy Mitigation Measure will also be considered "High Risk" feedstock sources & will not be procured by the BP unless documentation can be provided to suggest that the source meets the BP's sustainability requirements.

Processing Residues & Tertiary Feedstock Deliveries

All Residual Fiber suppliers are vetted through the Sustainability Team's questionnaire process both prior to purchase of the feedstock & then annually after the initial purchase. Any Residual Fiber suppliers that are removed from consideration via the Procurement Policy Mitigation Measure will be considered "High Risk" feedstock sources & avoided unless documentation can be provided to suggest that they are meeting the BP's sustainability requirements.

Mitigation Measure 5: Procurement Policy

The BP will implement a procurement policy mitigation measure for all sub-scopes. The BP expects that all suppliers contribute to the attainment of information required to carry out mitigation measures. The procurement policy is in place to address suppliers who do not provide the necessary information for the BP to carry out effective mitigation or to address consecutive identifications of non-conformities.

Any feedstock from a supplier who either does not provide enough information or is found to have purposefully mislead the BP in questionnaires will be considered SBP controlled feedstock until the proper information can be collected. SBP Compliant or SBP Controlled determinations are made monthly therefore either status will apply for a minimum of one month or until the required information is collected. In cases where information



cannot be obtained, or the supplier has demonstrated multiple nonconformities that are unreasonable the BP will:

- Determine the root cause of the supplier's unwillingness to cooperate

- Determine if there is a way to obtain information that protects the suppliers' sensitivities but still achieves the BP's information requirements

- If the supplier and the BP cannot come to a mutual agreement on required information the BP may:
- o Determine the feedstock is non-eligible input for SBP products
- o Withhold the supplier's deliveries to the BP's facilities
- o Non-renewal of purchase agreements upon expiry
- o Termination of the purchase agreement
- o Removal from consideration on future purchases

The information provided by the secondary suppliers are reviewed annually and verified by third party auditors to ensure they are complete and correct. The annual information collection and verification exercise reviews the mitigations effectiveness. Any deficiencies are uncovered, and new methodologies are developed to close any uncovered gaps.

Monitoring and outcomes:

Mitigation Measure 1: Promotion of Forest Certification

The BP will annually review suppliers according to certification status on the FSC, PEFC, and SFI certificate registrars. Higher proportion of certified suppliers will result in effective mitigation. The BP will annually review the percentage of PEFC (SFI and CSA) certified claims received. Higher percentages of certified claims will result in effective mitigation.

Mitigation Measure 2: Monitoring Forest Feedstock

The biomass producer will maintain records of questionnaires, field site inspection forms, and correspondence with the supplier for each applicable site.

- All non-conformities will be documented by the BP in the onsite inspection form and communicated with the supplier

- Records of non-conformities will be recorded and documented

- If a supplier is found to have non-conformities two years in a row, they will be subject to the Procurement Policy Mitigation Measure

Effectiveness will be met by monitoring how suppliers change over time and whether identification of nonconformities lead to changes on the ground.

Mitigation Measure 3: Education & Outreach

The biomass producer will annually prepare supplier mapping packages for education and outreach activities. The BP will maintain a registrar of all documented conversations with suppliers and follow the below process to measure how the mitigation measure performs over time. The effectiveness monitoring will be included in the BP's Verification & Monitoring process for Supplier Audits.

- The biomass producer will select a sample of suppliers annually in the Supplier Verification & Monitoring process and review the data contained within the map package during the audit.

The desired outcome of these communications is engaging with the supplier, educating suppliers about the importance of the communication package to the BP's procurement systems, investigating how the supplier used the supplier mapping package, and whether it encourages on the ground changes in the supplier's management approach.

Effectiveness of this process will be reviewed annually and adjusted to ensure the process remains effective for all feedstock supplies originating in the risk assessed area. Once the effectiveness monitoring process has been implemented, the biomass producer can begin to formulate a reasonable assessment as to whether the mitigation measures are effective and if any modifications are required.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Mitigation effectiveness for this is measured monthly by the BP confirming that there were no "High Risk" feedstock sources that were delivered to the pellet plant.

Mitigation Measure 5: Procurement Policy

Mitigation effectiveness for this is measured by the BP confirming that any supplier that has been subjected to the policy has not been able to continue delivering fiber unless sufficient documentation has been obtained.

Country: United States			
Area/sub-scope: Private lands - Idaho, Montana, & Wyoming			
Risk Assess	Risk Assessment used:		
	□ British Columbia, Canada		
	Denmark		
	Estonia		
	Latvia		
	🗆 Lithuania		
	🗆 Quebec, Canada		
	⊠ Biomass Producer's own risk assessment		
Indicator with specified risk: 4.2.7 – Cultural Heritage Sites			
Description of the specific risk: Designated cultural heritage sites shall be preserved.			
Context			

Historic sites that can be found in the forests of the United States include ancient villages, rock art, travel routes and markers, military forts, and abandoned mines and mills. It is important that these sites are preserved and unaffected by feedstock harvesting to the greatest extent possible.

Regulations & Enforcement

According to section 2360 of the US Forest Service Manual, the following laws pertain the protection of cultural heritage sites on public lands: the Organic Act of 1897, the Antiquities Act of 1906, the Historic Sites Act of 1935, the Natural Historic Preservation Act of 1966, the National Environmental Policy Act of 1969, The Archaeological and Historic Preservation Act of 1974, the Federal Land Policy and Management Act of 1976, the Archaeological Resources Protection Act of 1979, The Native American Graves Protection and Repatriation Act of 1990, and the Federal Lands Recreation Enhancement Act of 2004. Collectively, these acts require that all activities on federal lands undertake the necessary steps to preserve and protect cultural resources.

State laws also exist to protect cultural resources on private and state lands during forestry operations, including the California Forest Practice Act, the Oregon Forest Practices Act, and the Washington Forest Practices Act. In Idaho, Montana, and Wyoming, state historic preservation offices (SHPOs) help educate and encourage private landowners to preserve the cultural resources on their properties. Tax incentives are sometimes available to landowners who rehabilitate these sites. If a cultural or historic site on private or state land is not listed with the state SHPO, it would not be considered "registered" per the requirements of this indicator.

Given that SHPOs are administered by state governments, they are most likely to be successful in protecting heritage sites on state-owned lands versus privately owned lands. This is especially true in Wyoming, which has a separate department dedicated to preserving cultural resources on state lands. Privately owned lands pose a greater challenge; ultimately, cultural resources in these three states are considered the property of the landowner, and no laws exist which explicitly require their preservation. The exception to this is human remains and burial sites, which are protected under federal law on both private and public lands.

Mechanisms & Supporting Evidence

According to the 2021 Preserve America Report, the US Forest Service has implemented a number of improvements to its heritage protection program in recent years. In addition to continued collaboration with tribal authorities to identify, protect, and study cultural heritage sites, modern tools have recently been implemented to locate new sites. These include the use of LIDAR and Ground-Penetrating Radar.

The California, Oregon, and Washington forest practice acts require the creation of harvest plans that identify and outline protection measures for historic sites during all state and private timberland operations. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field.

If a site on private land is registered with a SHPO, this does not confer legal protections onto it. Landowners who voluntarily register a site would be unlikely to damage it during timber operations. However, if their land is sold to a different owner who does not wish to protect the site, the site could be damaged.

Conclusion

The federal government has a long history of passing laws to protect and preserve historic sites on its own lands. Some states in the supply base have extended these protections to private lands, but others have not. We therefore assign the following risk to this indicator:

Federal Lands: Low

State & Private Lands: Specified risk pertaining to the potential disturbance or destruction of designate cultural heritage sites on private lands in Idaho, Montana, or Wyoming.

Sources

https://www.fs.usda.gov/managing-

land/heritage https://view.officeapps.live.com/op/view.aspxsrc=https%3A%2F%2Fwww.fs.usda.gov%2Fim%2F directives%2Ffsm%2F2300%2F2360_clear.doc&wdOrigin=BROWSELINK

https://bof.fire.ca.gov/regulations/bills-statutes-rules-and-annual-california-forest-practice-rules/

https://www.oregon.gov/odf/Pages/lawsrules.aspx

https://apps.leg.wa.gov/RCW/default.aspx?cite=76.09

https://history.idaho.gov/shpo/

https://mhs.mt.gov/Shpo/index4

https://wyoshpo.wyo.gov/

https://www.nps.gov/subjects/taxincentives/index.htm

https://wyospcr.wyo.gov/

https://www.saa.org/about-archaeology/archaeology-law-ethics

https://www.fs.usda.gov/sites/default/files/fs_media/fs_document/PreserveAmericaReport-web.pdf

Mitigation measure:

Context - Forest Feedstock Deliveries

Prior to receival of fiber from any Forest Feedstock (logs or bush grind) source, the Fiber Team will submit an approval request to the Sustainability Team via MS Forms. Each sub-scope will have an associated "Forest Feedstock Questionnaire" tailored to specified risk identified in each sub-scope of the Supply Base Evaluation. All versions of the questionnaire will collect spatial information for the origin of the fiber at a harvest unit level.

All potential Forest Feedstock sources are to be verified through this process by the Sustainability Team for certification compliance by reviewing the answers provided in the approval request & spatially identifying the applicable management unit in which fiber will be received (Tract, Cutblock, Parcel, etc.).

Spatial identification of the harvest unit will be completed by using GIS software. This will include other data & spatial layers from various sources that will confirm the location of the harvest unit (Tract, Cutblock, Parcel, etc.) & it's proximity to any specified risk areas identified by the BP.

- If the BP deems that the specified risks outlined in the RRA are being satisfactorily addressed, the feedstock will be considered SBP compliant & purchase of the fiber will proceed.

- If the BP deems that the specified risks outlined in the RRA are not being satisfactorily addressed, the feedstock will be considered SBP controlled & purchase of the fiber will not proceed.

Context - Residual Fiber Deliveries

Prior to receival of fiber from any Residual Fiber (processing residues & tertiary feedstock) source, the Fiber Team will submit an approval request to the Sustainability Team via MS Forms. Every supplier will be required to complete a "Residual Fiber Questionnaire" tailored to specified risk identified in each sub-scope of the Supply Base Evaluation. All versions of the questionnaire will collect spatial information for the supplier's supply base at a county level. This questionnaire will be required by the BP to be filled out on an annual basis to ensure data is accurate & up to date.

Spatial identification of the supplier's supply base will be completed by using GIS software. This will include other data & spatial layers from various sources that will confirm the location of the supply base & it's proximity to any specified risk areas identified by the BP.

Mitigation Measure 1: Promotion of Forest Certification

The intent of this mitigation measure is to promote forest level certification and chain of custody certification amongst the BP's feedstock suppliers. There are several feedstock suppliers (current and potential) that are unaware of forest certification or have never been asked to provide certification claims. The BP's understanding and expertise with forest certification can help increase the total amount of certified claims. If suppliers can obtain certification, their feedstock will no longer have associated risks. This not only helps the BP's proportion of certified feedstock but directly impacts on the ground activities affiliated with forest managers and feedstock suppliers. The mitigation can be applied to all sub-scopes of the SBE.

Forest Feedstock Deliveries

Within the Forest Feedstock Questionnaire, the Sustainability Team will include questions prompting the supplier to confirm if the origin of fiber to be received is certified to any Forest Management Certification schemes. These include certifications such as the Forest Stewardship Council (FSC), the Programme for the Endorsement of Forest Certification (PEFC) or endorsed PEFC schemes such as the Sustainable Forestry Initiative (SFI) & American Tree Farm System (ATFS).

If the harvest unit is not certified, the BP will prompt the supplier with questions relating to their interest in obtaining certification for their operations. In addition, the BP will implement the requirements of the SFI Fiber Sourcing standard to ensure that the receipt of any Forest Feedstock is considered sustainable.

Processing Residues & Tertiary Feedstock Deliveries

Within the Residual Fiber Questionnaire, the Sustainability Team will include questions prompting the supplier to confirm if their facility is certified to any Chain of Custody Certification schemes. If certified, the BP will request Chain of Custody claims on the fiber that is to be purchased. Uncertified suppliers will be asked about their interest in getting Chain of Custody certification for their site(s). This mitigation measure for Residual Fiber targets:

- Suppliers that hold valid certification but provide proportional certification, and
- Uncertified suppliers

If the BP can verify that fiber originates from certified lands, or receives claims for certified content of fiber purchased, the BP will consider specified risk for the following indicators to be mitigated, as these are frameworks that are recognized by SBP through their benchmarking exercise as meeting low risk:

- · 2.2.1 (Conversion)
- · 2.2.3 (Soil Quality)
- · 2.2.4 (Harvest Residues)
- · 2.2.5 (Water Quality)
- · 2.2.7 (Pesticides)
- · 2.2.10 (Regeneration)
- · 4.1.8 (Training)
- 4.2.7 (Cultural Heritage Sites)

A full assessment of the benchmarking process can be found in the following link.

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content/uploads/2023/12/SBP_Framework_for_Benchmarking_and_Recognition_of_Other_Schemes_v1.0_fina l.pdf

Mitigation Measure 2: Monitoring Forest Feedstock

The BP will implement a monitoring program for all primary feedstock sub-scopes procured directly at the pellet mill sites. Monitoring is a method to ensure on the ground activities align with measures that mitigate specified risks within the supply base area. Monitoring exercise will be carried out on a sample of fields sites throughout the reporting period.

The focus of field site monitoring will be to ensure information received by the supplier (via the Forest Feedstock Questionnaires) in relation to management of specified risk indicators can be observed or corroborated on the ground. The BP will categorize Forest Feedstock sites by risk rating as it relates to specified risk management in the questionnaire. For example, a site that has features that require management (i.e water courses, sensitive soils, presence of wildlife features) will be prioritized for inspection over a site without those features.

Where possible, photos will be taken to ensure monitoring activity records can be visually documented. All monitoring activities will be documented and recorded for future reference by the BP and for internal and external auditing purposes.

- If the inspection results corroborate the questionnaire, the BP will consider the specified risks mitigated for that feedstock source.

- If the inspection results do not corroborate the questionnaire, the supplier will be subject to the Procurement Policy Mitigation Measure

Mitigation Measure 3: Education & Outreach

The intent of this mitigation option is to implement education and outreach-related actions that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of the HCV, and thereby mitigate the risk of sourcing materials from sites where the HCV in the specified risk area is threatened by forest management activities. The mitigation measure is part of the FSC's guidance including "Education & Outreach" central theme. All suppliers have potential to purchase their raw material from the sub-scopes, thus mitigation efforts are required on all feedstock to ensure the risk is negligible.

All feedstock data in the supply base will be collected via the Forest Feedstock (harvest locations) & Residual Fiber (operating counties) Questionnaires, where regional level maps can be created to show where the BP's suppliers sources interact with the specified risk indicators (if applicable in the region). All feedstock suppliers will be required to provide this information prior to receipt of fiber.

The final output for this mitigation measure is a "Supplier Mapping Package", which contains detailed information on the interaction between supplier's inferred supply base the specified risk indicators. The supplier mapping package forms the basis of the education and outreach material that will be communicated to the supplier on an annual basis.

Note: Overlap with a specified risk polygon does not indicate feedstock must remain as specified risk. Suppliers, and subsequently the BP, can mitigate specified risk overlap by demonstrating how harvesting practices effectively manage for specified risks.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Forest Feedstock Deliveries

All potential Forest Feedstock sources are vetted through the Sustainability Team's questionnaire process prior to purchase of the feedstock. Harvest units that are put through the questionnaire process that are deemed to not meet the requirements of the Sustainability Team's review will be considered "High Risk" feedstock sources & will not be procured by the BP.

Feedstock sources that are removed from consideration via the Procurement Policy Mitigation Measure will also be considered "High Risk" feedstock sources & will not be procured by the BP unless documentation can be provided to suggest that the source meets the BP's sustainability requirements.

Processing Residues & Tertiary Feedstock Deliveries

All Residual Fiber suppliers are vetted through the Sustainability Team's questionnaire process both prior to purchase of the feedstock & then annually after the initial purchase. Any Residual Fiber suppliers that are removed from consideration via the Procurement Policy Mitigation Measure will be considered "High Risk" feedstock sources & avoided unless documentation can be provided to suggest that they are meeting the BP's sustainability requirements.

Mitigation Measure 5: Procurement Policy

The BP will implement a procurement policy mitigation measure for all sub-scopes. The BP expects that all suppliers contribute to the attainment of information required to carry out mitigation measures. The procurement policy is in place to address suppliers who do not provide the necessary information for the BP to carry out effective mitigation or to address consecutive identifications of non-conformities.

Any feedstock from a supplier who either does not provide enough information or is found to have purposefully mislead the BP in questionnaires will be considered SBP controlled feedstock until the proper information can

be collected. SBP Compliant or SBP Controlled determinations are made monthly therefore either status will apply for a minimum of one month or until the required information is collected. In cases where information cannot be obtained, or the supplier has demonstrated multiple nonconformities that are unreasonable the BP will:

- Determine the root cause of the supplier's unwillingness to cooperate

- Determine if there is a way to obtain information that protects the suppliers' sensitivities but still achieves the BP's information requirements

- If the supplier and the BP cannot come to a mutual agreement on required information the BP may:
- o Determine the feedstock is non-eligible input for SBP products
- o Withhold the supplier's deliveries to the BP's facilities
- o Non-renewal of purchase agreements upon expiry
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The information provided by the secondary suppliers are reviewed annually and verified by third party auditors to ensure they are complete and correct. The annual information collection and verification exercise reviews the mitigations effectiveness. Any deficiencies are uncovered, and new methodologies are developed to close any uncovered gaps.

Monitoring and outcomes:

Mitigation Measure 1: Promotion of Forest Certification

The BP will annually review suppliers according to certification status on the FSC, PEFC, and SFI certificate registrars. Higher proportion of certified suppliers will result in effective mitigation. The BP will annually review the percentage of PEFC (SFI and CSA) certified claims received. Higher percentages of certified claims will result in effective mitigation.

Mitigation Measure 2: Monitoring Forest Feedstock

The biomass producer will maintain records of questionnaires, field site inspection forms, and correspondence with the supplier for each applicable site.

- All non-conformities will be documented by the BP in the onsite inspection form and communicated with the supplier

- Records of non-conformities will be recorded and documented

- If a supplier is found to have non-conformities two years in a row, they will be subject to the Procurement Policy Mitigation Measure

Effectiveness will be met by monitoring how suppliers change over time and whether identification of nonconformities lead to changes on the ground.

Mitigation Measure 3: Education & Outreach

The biomass producer will annually prepare supplier mapping packages for education and outreach activities. The BP will maintain a registrar of all documented conversations with suppliers and follow the below process to measure how the mitigation measure performs over time. The effectiveness monitoring will be included in the BP's Verification & Monitoring process for Supplier Audits.

- The biomass producer will select a sample of suppliers annually in the Supplier Verification & Monitoring process and review the data contained within the map package during the audit.

The desired outcome of these communications is engaging with the supplier, educating suppliers about the importance of the communication package to the BP's procurement systems, investigating how the supplier used the supplier mapping package, and whether it encourages on the ground changes in the supplier's management approach.

Effectiveness of this process will be reviewed annually and adjusted to ensure the process remains effective for all feedstock supplies originating in the risk assessed area. Once the effectiveness monitoring process has been implemented, the biomass producer can begin to formulate a reasonable assessment as to whether the mitigation measures are effective and if any modifications are required.

Mitigation Measure 4: Avoidance of High-Risk Feedstock

Mitigation effectiveness for this is measured monthly by the BP confirming that there were no "High Risk" feedstock sources that were delivered to the pellet plant.

Mitigation Measure 5: Procurement Policy

Mitigation effectiveness for this is measured by the BP confirming that any supplier that has been subjected to the policy has not been able to continue delivering fiber unless sufficient documentation has been obtained.

4 Stakeholder engagement

4.1 General description

Biomass Producer's stakeholder engagement start date: January 17th, 2024

Biomass Producer's stakeholder engagement end date: February 16th, 2024

5 Report updates and approval

This document is: New Supply Base Report (Assessments/reassessments)

Summary of changes: N/A
Annex 1: Detailed findings for Supply Base Evaluation indicators

United States	Indicator
1.1.1	Operations related to feedstock sourcing and biomass production shall comply with all existing applicable laws and regulations.
Supply Base Verifiers	Context
	To avoid promoting unlawful activity, it is critical that biomass sourcing complies with all laws and regulations of the supply base area.
	Regulations & Enforcement
	There are both federal and state level regulations related to forest management in the United States. Federal environmental laws include but are not limited to the National Environmental Policy Act of 1969, the Clean Air Act of 1970, the Clean Water Act of 1972, the Endangered Species Act of 1973, the National Forest Management Act of 1976, the Forest Land Policy and Management Act of 1976, the Federal Insecticide, Fungicide, and Rodenticide Act of 1948, amended in 1996. In addition, federal land management agencies develop area specific management plans including the 1994 Northwest Forest Plan, and management plans for individual National Forest or Bureau of Land Management units. Federal labour laws include but are not limited to the Fair Labour Standards Act of 1938, the Civil Rights act of 1964, and Chapter 77 of the US Code.
	State laws relating to forest management in the supply base include:
	California Forest Practice Act
	Idaho Forest Practices Act
	Montana Forestry Best Management Practices Notification Law
	Oregon Forest Practices Act
	Washington Forest Practices Act
	Mechanisms & Supporting Evidence
	Federal and state law pertaining to forest management are enforced by agencies including the US Environmental Protection Agency, the US Army Corps of Engineers, and state forestry agencies. Enforcement of labour laws is typically a multi-agency effort coordinated under the US Department of Labour. Failure to comply with state and federal law can result in litigation and penalties. The California, Oregon, and Washington forest practice acts require the creation of harvest plans. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field. Idaho and



	Montana do not require the creation of harvest plans but do conduct field audits on operations. Violations of state BMPs carry harsh penalties in Idaho, while compliance is voluntary in Montana. Regardless, recent audits in both found compliance exceeding 98%. , An additional mechanism enforcement exists in California via the mandatory licensing of logging professionals.
	Sources
	https://bof.fire.ca.gov/regulations/bills-statutes-rules-and-annual-california- forest-practice-rules/
	https://www.idl.idaho.gov/about-forestry/forest-practices-act/
	https://dnrc.mt.gov/Forestry/Forest-Management/best-management-practices
	https://www.oregon.gov/odf/Pages/lawsrules.aspx
	https://apps.leg.wa.gov/RCW/default.aspx?cite=76.09
	https://dnrc.mt.gov/Forestry/Forest-Management/best-management-practices
	https://idahoforests.wpenginepowered.com/wp-content/uploads/2019-Forest- Practices-Year-End-Report.pdf
	https://californialoggers.com/services/prologger-certification-and-
	operator/ https://www.internationalpropertyrightsindex.org/
Risk Rating justification	Conclusion
	A variety of enforcement mechanisms exist on the federal and state level exist to ensure compliance with forest management laws in the United States. We therefore assign the following risk to this indicator:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
1.1.2	Legal ownership of land and resource use rights shall be respected.
Supply Base Verifiers	Context 'Timber trespass' has varying legal definitions among US states, but generally refers to an individual or entity cutting down or injuring a tree belonging to someone else. Avoiding timber

trespass when sourcing biomass is critical to compliance with the SBP criterion of legal operations and operators.

Regulations & Enforcement

All states have laws relating to timber trespass:

- California: Civil Code Section 3346
- Idaho: Section 6-202
- Montana: Code 70-16-107
- Oregon: ORS 105.810
- Washington: RCW 64.12.030

• Wyoming: WS 11-34-130 applies to state-owned land and does not protect timber on private lands. General laws relating to theft of property can be found in WY 6-3-402.7

With the exception of Wyoming, all of these codes are enforced by civil lawsuits filed by the victim for the value of the trees removed. In Wyoming, code violations are addressed via fines and/or imprisonment.

Mechanisms & Supporting Evidence

On federal land, timber trespass is approached seriously. For example, during active timber sales, the Forest Service implements timber theft prevention plans that involve the use of specialized tracer paint. The Forest Service has also developed software for determining the value of stolen trees. Nevertheless, little public data exists on the frequency of timber trespass on federal lands. The same is true of private lands. Anecdotal news stories regarding timber theft, when they occur, tend to consist of theft of a small quantity of valuable trees being covertly harvested. Since pulpwood purchased by Drax is of low value compared to timber for lumber, veneer, or other products, and very large-scale illegal operations would need to occur for such an enterprise to profitable, it is unlikely the material purchased by Drax would come from timber trespass. No evidence exists of such large-scale criminal enterprises in the US.

Finally, The International Property Rights Index ranks the United States as having very strong property rights laws, assigning a ranking of 13 out of 129 countries. This index examines the robust relationship between property rights and other economic and social indicators of well-being including – gender equality, illicit trade, innovation, competition, research and development, human development, fighting corruption, and measures of internet connectedness.

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	https://www.internationalpropertyrightsindex.org/
Risk Rating	Conclusion
justificatio n	Forests in the supply base are subject to various forms of active regulation and oversight. Any large-scale timber theft would be highly conspicuous in such an environment. As such, we assign the following risk rating for this indicator:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
1.1.3	Feedstock shall be legally harvested, supplied and produced, including in compliance with CITES, EUTR and other applicable legal trade requirements.
Supply Base Verifiers	 Context CITES (The Convention on International Trade in Endangered Species and Wild Fauna and Flora) and EUTR (The European Union Timber Regulation) are international trade agreements. The aim of CITES is to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species. EUTR, meanwhile, has three key goals : a) prohibit the placement of illegally harvested timber and products derived from such timber on the EU market b) require EU operators who place timber products on the EU market to exercise due diligence to minimize the risk of placing illegally harvested timber, or timber products containing illegally harvested timber

c) require EU traders to keep records of their suppliers and customers

Feedstock products may be exported to the EU, and therefore sourcing must comply with both EUTR and CITES.

Regulations & Enforcement

Goals a) and b) of EUTR are addressed by other indicators in this document (1.1.1 and 1.1.5). Drax will be able to comply with goal c) via diligent documentation of sourcing activities.

Meanwhile, the US is a Contracting Party in CITES, and under the Endangered Species Act, the US Fish and Wildlife Service is responsible for carrying out the provisions of CITES. The rules of CITES restrict the international trade of species (or products derived from those species) listed in the convention text.

Mechanisms & Supporting Evidence

Compliance with CITES can be achieved easily if tree species listed in the convention are rare or non-existent in the supply base. To find a definitive list of common species in the supply base, one can reference the locally appropriate species lists found in the variant overviews of the Forest Vegetation Simulator (FVS). The US Forest Service developed FVS to model growth of common and ecologically important tree species in each region of the United States, and any species not included in these variant overviews would be a minor component of the local forest. Table 1 includes a consolidated list of these species. None of these species are protected by CITES.

Major Tree Species in the Supply Base			
Abies amabilis	Cercocarpus ledifolius	Pinus attenuata	Prunus emarginata
Abies concolor	Cercocarpus montanus	Pinus contorta	Prunus spp.
Abies grandis	Chamaecyparis lawsoniana	Pinus coulteri	Pseudotsuga menziesii
Abies lasiocarpa	Chrysolepis chrysophylla	Pinus edulis	Quercus agrifolia
Abies magnifica	Cornus nuttallii	Pinus flexilis	Quercus chrysolepsis
Abies procera	Crataegus spp.	Pinus jeffreyi	Quercus garryana
Abies shastensis	Fraxinus pennsylvanica	Pinus lambertiana	Quercus kelloggi
Acer glabrum	Juglans spp	Pinus longaeva	Quercus kelloggii
Acer grandidentatum	Juniperus occidentalis	Pinus monophylla	Quercus lobata
Acer macrophyllum	Juniperus osteosperma	Pinus monticola	Quercus wislizenii
Acer negundo	Juniperus scopulorum	Pinus ponderosa	Salix spp.
Aesculus californica	Larix lyallii	Pinus radiata	Sequoia sempervirens
Alnus rhombifolia	Larix occidentalis	Pinus sabiniana	Sequoiadendron giganteu
Alnus rubra	Lithocarpus densiflorus	Platanus racemosa	Taxus brevifolia
Arbutus menziesii	Picea engelmannii	Populus angustifolia	Thuja plicata
Betula papyrifera	Picea pungens	Populus balsamifera	Torreya californica
Callitropsis nootkatensis	Picea sitchensis	Populus deltoides	Tsuga heterophylla
Calocedrus decurrens	Picera breweriana	Populus fremontii	Tsuga mertensiana
Castanopsis chrysophylla	Pinus albicaulis	Populus tremuloides	Umbellularia californica

Table 1. Consolidated list of tree species in the Forest Vegetation Simulator variant overviews for the different forest types in the supply base.

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Risk Rating Conclusion justification

Compliance with EUTR is covered in other indicators (1.1.1 and 1.1.5). Additionally, there are no major tree species in the supply base which are protected under CITES. Therefore, we assign the following risk levels to this indicator.

Federal Lands: Low

	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
1.1.4	Payments for harvest rights and feedstock, including duties, relevant royalties and taxes related to timber harvesting shall be complete and up-to-date.
Supply Base Verifiers	Context
	In situations where feedstock that is being sold is not harvested from lands owned by the seller, it is important that the seller pays the landowner for relevant harvest rites. Additionally, many states and municipalities have taxes on the harvest of forest products which the seller or landowner must pay.
	Regulations & Enforcement
	If a feedstock seller fails to reimburse the landowner for the harvested material, the landowner can file a lawsuit to recover the money owed. On federal lands, revenue from timber sales is tracked carefully to ensure timely scaling of materials and proper reimbursement by the mills which purchase wood fiber. Tracking mechanisms on private land are at the discretion of the seller.
	Taxation considerations for private landowners include the harvest taxes on timber in California, Idaho, Montana, Oregon, and Washington. These landowners are also subject to federal income tax and state income taxes in California, Idaho, Oregon, and Montana. These taxes are enforced by the Internal Revenue Service (IRS) on the federal level, and by state tax agencies on the state level.
	Mechanisms & Supporting Evidence
	Tax evasion can be uncovered through audits and can result in large fines or imprisonment. Penalties are also assessed for late payment of taxes, increasing the likelihood that payments will be timely and up to date.
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Risk Rating justification	Conclusion
	For parties who are owed money relating to a feedstock transaction, multiple avenues to recoup those payments exist. As such, we assign the following risk levels to this indicator:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
1.1.5	There shall be adequate protection of the Supply Base from unauthorised and illegal activities, such as illegal logging, mining, and encroachment.
Supply Base Verifiers	Context According to the United States Agency for International Development, illegal logging is a serious problem that threatens the world's forests and generates over \$50B annually in revenue for perpetrators. Illegal mining, meanwhile, can cause contamination of soil and groundwater, chemical leakages, and the formation of sinkholes. Regulations & Enforcement 'Timber trespass' has varying legal definitions among US states, but generally refers to an individual or entity cutting down or injuring a tree belonging to someone else. All states in the supply base have laws relating to timber trespass: California: Civil Code Section 3346 Idaho: Section 6-202 Montana: Code 70-16-107 Oregon: ORS 105.810 Washington: RCW 64.12.030 Wyoming: WS 11-34-130 applies to state-owned land and does not protect timber on private
	lands. General laws relating to theft of property can be found in WY 6-3-402.7



For federal lands, both the US Forest Service and Bureau of Land Management (BLM) have law enforcement personnel on staff who are responsible for investigating vandalism, looting, and other unlawful activities.

The BLM administers 245 million acres of surface resources, and 700 million acres of subsurface resources (Figure), meaning that on one ownership, multiple entities often have a vested interest in preventing illegal mining activities.



A 1990 report by the Government Accountability Office estimated that illegal or unauthorized activities occur on less than 1% of mining claims on federal land in California, Arizona, and Nevada. Little public data exists on the frequency of timber trespass and illegal mining on federal



	or private lands. This would imply they are rare crimes, as the US regularly collects and publishes criminal data for most common offenses.
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	https://www.gao.gov/assets/rced-90-111.pdf
	https://www.fbi.gov/how-we-can-help-you/more-fbi-services-and-information/ucr
Risk Rating	Conclusion
justificatio n	Private landowners in the US have legal recourse to respond to illicit activities on their forestland. On federal lands, multiple law enforcement jurisdictions are in place to dissuade illegal mining and logging. We therefore assign the following risk levels to this indicator.
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

Stat	
es	
2.1.1	Key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base shall be identified.
Sup	Context
ply Bas e Verif	The most vulnerable and/or critical species and ecosystems in the forest landscape of the supply base must be identified to allow the creation of mitigation plans which protect those species and ecosystems.
iers	Regulations & Enforcement
	The Endangered Species Act (ESA) of 1973 outlines a process for identifying, classifying, and protecting the most vulnerable species and ecosystems in the United States on a federal level. All forest management activities must comply with ESA requirements for listed species. Additionally, several states have their own endangered species laws. They are as follows:
	California: California Endangered Species Act
	• Oregon: Oregon Wildlife Diversity Plan
	• Washington: WAC 220-610-110
	Number Retrieved Orand one Part Base zoom in Sucher in erzit In erzit Orand one Part Base zoom in Sucher In erzit Orand one Orand one Base zoom in Sucher In erzit Orand one Orand one Base zoom in Sucher In erzit Orand one Orand one Base zoom in Sucher In erzit Orand one Orand one Base zoom in Sucher In erzit Orand one Orand one Base zoom in Sucher In erzit Orand one Orand one Base zoom in Sucher In erzit In erzit Orand one Base zoom in Sucher In erzit In erzit In erzit Base zoom in Sucher In erzit In erzit In erzit Base zoom in Sucher In erzit In erzit In erzit Base zoom in Sucher In erzit In erzit In erzit Base zoom in Sucher In erzit In erzit In erzit Base zoom in Sucher In erzit In erzit In erzit Base zoom in Sucher In erzit In erzit In erzit Base zoom in Sucher In erzit In erzit In erzit Base zoom in Sucher In erzit In erzit In erzit </th

Figure. The Washington State Priority Habitats and Species Viewer

Violations of federal or state endangered species provisions carry a variety of punishments, ranging from fines to imprisonment.

The US Fish & Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) work in cooperation with federal and state agencies to ensure protection of vulnerable species and their respective habitats. Under Section 7 of the ESA, any forest management activities carried out with involvement of a federal agency must have an associated biological opinion (BO) which identifies endangered species in the ecosystem and outlines mitigation measures. Section 10 establishes an analogous process called a habitat conservation plan (HCP) for projects without federal agency involvement.

Mechanisms & Supporting Evidence

Databases which include location information for key species, habitats, ecosystems, and areas of HCV are available on a state-by-state basis.

- California: California Natural Diversity Database
- · Idaho: Idaho Species
- Montana: Montana Natural Heritage Program
- Oregon: Oregon State University Institute for Natural Resources
- Washington: Priority Habitats and Species
- Wyoming: Wyoming Natural Diversity Database

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https://wdfw.wa.gov/species-habitats/at-risk/phs/maps

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United States	Indicator
2.1.2	Threats to and impacts on the identified key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base shall be identified and evaluated.
Supply Base Verifiers	Context
	Potential impacts of feedstock harvest activities on vulnerable and/or critical species and ecosystems in the forest landscape of the supply base must be identified so that a plan can be put in place to mitigate these impacts.
	Regulations & Enforcement
	The Endangered Species Act (ESA) of 1973 outlines a process for identifying, classifying, and protecting the most vulnerable species and ecosystems in the United States on a federal level. All forest management activities must comply with ESA requirements for listed species. Additionally, several states have their own endangered species laws. They are as follows:
	California: California Endangered Species Act
	Oregon: Oregon Wildlife Diversity Plan
	• Washington: WAC 220-610-110
	Violations of federal or state endangered species provisions carry a variety of punishments, ranging from fines to imprisonment.
	The US Fish & Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) work in cooperation with federal and state agencies to ensure protection of vulnerable species and their respective habitats. Under Section 7 of the ESA, any forest management activities carried out on federal land must have an associated biological opinion (BO) which identifies endangered species in the ecosystem and outlines mitigation measures. BOs are also required on private and state land if a

	federal agency is involved in the project. If a federal agency is not involved in the project, Section 10 of the ESA still requires that a habitat conservation plan (HCP) be created to mitigate impacts to endangered species from activities on private and state lands.
	An additional legislative consideration on federal lands is the National Environmental Policy Act (NEPA) of 1969, which requires that federal agencies identify environmental impacts of activities they carry out, fund, or permit.
	Mechanisms & Supporting Evidence
	New BOs and HCPs are written regularly, with nearly 3,000 and 5,000 having been published since the year 2000, respectively. An additional layer of protection exists in environmental non-profit organizations, who can sue the government if they feel that a BO or HCP has inadequately considered impacts to one or more species of concern. Between 2005 and 2015, 141 such lawsuits were filed.
	Federal actions are subject to review under NEPA. NEPA is primarily enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.
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Risk Rating	Conclusion
Justineation	There are multiple layers of legislation that require forest managers to consider and mitigate the impacts of their activities on vulnerable species and ecosystems. Additionally, data on the efficacy of the Endangered Species Act for preserving biodiversity in the supply base are promising. We therefore characterize the following risk levels for this indicator: Federal Lands: Low

	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
2.1.3	Key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base shall be maintained or enhanced.
Supply Base Verifiers	Context
	According to the US Agency for International Development, biodiversity conservation in forests is needed to protect the 1.6 billion people worldwide who depend on forests for their livelihoods. Sourcing feedstock should not impede this goal.
	Regulations & Enforcement
	The Endangered Species Act (ESA) of 1973 outlines a process for identifying, classifying, and protecting the most vulnerable species and ecosystems in the United States on a federal level. All forest management activities must comply with ESA requirements for listed species. Additionally, several states have their own endangered species laws. They are as follows:
	California: California Endangered Species Act
	Oregon: Oregon Wildlife Diversity Plan
	• Washington: WAC 220-610-110
	Violations of federal or state endangered species provisions carry a variety of punishments, ranging from fines to imprisonment.
	The US Fish & Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) work in cooperation with federal and state agencies to ensure protection of vulnerable species and their respective habitats. These agencies create—and regularly update—Recovery Plans for all species listed under the ESA.
	In addition to the National Environmental Policy Act (NEPA), which requires that federal agencies identify environmental impacts of activities they carry out, fund, or permit, federal agencies must also comply with Section 7 of the ESA. This article stipulates that any activities carried out with involvement of a federal agency must have an associated biological opinion (BO) which identifies endangered species in the ecosystem and outlines mitigation measures. BOs are also required on private and state land if a federal agency is involved in the project. If a federal agency is not involved in the project, Section 10 of the ESA still requires that a habitat conservation plan (HCP) be created to mitigate impacts to endangered species from activities on private and state lands.

Mechanisms & Supporting Evidence
New BOs and HCPs are written regularly, with nearly 3,000 and 5,000 having been published since the year 2000, respectively. An additional layer of protection exists in environmental non-profit organizations, who can sue the government if they feel that a BO or HCP has inadequately considered impacts to one or more species of concern. Between 2005 and 2015, 141 such lawsuits were filed.
Federal actions are subject to review under NEPA. NEPA is primarily enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.
Many believe the ESA has been successful in maintaining biodiversity in the United States, with 99% of the 1,600 species listed under it still extant. The Center for Biological Diversity found in 2012 that 90% of listed species are recovering under the rate specified in their Recovery Plans. While it is difficult to precisely measure biodiversity on the national (or even regional) scale, these statistics are positive indicators for the future of biodiversity in the supply base.
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Risk Rating justification	Conclusion There are multiple layers of legislation that require forest managers to consider and mitigate the impacts of their activities on vulnerable species and ecosystems. Additionally, data on the efficacy of the Endangered Species Act for preserving biodiversity in the supply base are promising. We therefore characterize the following risk levels for this indicator: Federal Lands: Low State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
2.2.1	Feedstock shall not be sourced from land that had one of the following statuses in January 2008 and no longer has that status due to land conversion: a. Forests b. Wetlands c. Peatlands d. Highly biodiverse grasslands.
Supply Base Verifiers	grasslands. Context The conversion of forest, agriculture, and grasslands to development can change hydrology at local and regional scales, alter wildlife habitat, and affect local weather patterns. This indicator is particularly pertinent to a large country like the US which contains all four land types listed: forests, wetlands, peatlands, and highly biodiverse grasslands. Regulations & Enforcement Federal forestlands in the supply base are owned and managed mostly by the US Forest Service and Bureau of Land Management (BLM). Both entities manage their lands under 'multiple-use' management concepts; the Forest Service commits to 'Advocating a conservation ethic in promoting the health, productivity, diversity, and beauty of forests and associated lands,' while the BLM has 'Conservation' and 'Restoration' as two of their five key priorities. In addition, federal land management agencies develop area specific management plans, such as the 1994 Northwest Forest Plan, and management plans for individual National Forest or BLM units. Collectively, these policies mean that converting federal lands out of forest use is a low probability action. Conversely, conversion of private forest lands to non-forest use is permitted in all states in the supply base. However, in California , Idaho, Oregon, and Washington, permits must be
	Any discharge of dredged or fill material into a wetland or peatland is regulated under Section 404 of the Clean Water Act (CWA). This includes fill for development, water resource projects, infrastructure development, and mining projects. To successfully be permitted

under the CWA, the applicant must demonstrate that all potential impacts to water quality have been minimized, and that any unavoidable impacts will be compensated.

Laws in the US do not prohibit the conversion of grasslands, however incentive programs do exist to encourage the protection of grasslands from agricultural expansion via programs like Grassland Easements through the US Fish and Wildlife Service.

Mechanisms & Supporting Evidence

Actions on federal land, including conversions of forestland, are subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

The US Department of Agriculture publishes factsheets on each state which quantify forest gain and loss. Of the states in the supply base, California, Oregon, and Washington show a small net loss of forested acreage on an average year, while Idaho and Montana show small net increases. All states in the supply base convert some private acres out of forest use each year.

Violations of the CWA are investigated by the US Environmental Protection Agency (EPA) and can carry hefty fines. Additionally, if the violation resulted in negative impacts to endangered wildlife, additional penalties and mitigation may be required by FWS and state wildlife management agencies, such as the California Department of Fish and Wildlife.

Grasslands in the US are often converted to agricultural use, however no publicly available information exists suggesting that they are often (or ever) intentionally converted to forestland, which would be necessary in order for feedstock to be harvested from them.

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Risk Rating justification	Conclusion
	Federal lands are well protected against conversion of all types, both by overarching policies and by specific management plans for each forest unit and region. On private lands, conversion of wetlands and peatlands is strongly limited by the Clean Water Act, and conversion of grasslands to forestland is not a common occurrence. However, conversion of private forestland to other uses is relatively common. The following risk levels are assigned:
	Federal Lands: Low
	State & Private Lands: Specified risk pertaining to the possibility of harvesting feedstock from lands that have been converted out of forest use.
Risk Rating	Specified Risk

United States	Indicator
2.2.2	Ecosystems, their health, vitality, functions and services in the Supply Base shall be maintained or enhanced.
Supply Base Verifiers	Context Forests provide a variety of ecosystem services, including timber/biomass production, carbon storage, biodiversity, health and recreation, water supply and quality and flood protection. The way forests are managed on the landscape level dictates the longevity and efficacy of those services. Feedstock sourcing should be carried out in a way that maintains or enhances those services. Regulations & Enforcement
	A variety of federal and state laws exist in the supply base which promote ecologically sound forest management. Federal laws include but are not limited to the National Environmental Policy Act of 1969, the Clean Air Act of 1970, the Clean Water Act of 1972, the Endangered Species Act of 1973, the National Forest Management Act of 1976, the Forest Land Policy and Management Act of 1976, and the Federal Insecticide, Fungicide, and Rodenticide Act of 1948. In addition, federal land management agencies develop area specific management



plans such as the 1994 Northwest Forest Plan and management plans for individual National Forest or Bureau of Land Management units.

State laws in the supply base include:

- California: California Forest Practice Act
- Idaho: Idaho Forest Practices Act
- Montana: Montana Forestry Best Management Practices Notification Law
- Oregon: Oregon Forest Practices Act
- Washington: Washington Forest Practices Act

Wyoming does not have a forest practices act but does publish BMPs for forestland operations.

Mechanisms & Supporting Evidence

Federal and state law pertaining to forest management on private lands are enforced by agencies including the US Environmental Protection Agency, US Army Corps of Engineers, and state forestry agencies. Failure to comply with state and federal law can result in litigation and penalties.

Actions on federal land are subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

The California, Oregon, and Washington forest practice acts require the creation of harvest plans which demonstrate compliance with regulations for all state and private timberland operations. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field. Idaho and Montana do not require the creation of harvest plans but do conduct field audits on operations. Violations of forest practice regulations carry harsh penalties in Idaho, while compliance is voluntary in Montana. Regardless, recent audits in both found compliance exceeding 98%. , In Wyoming, use of BMPs on state lands is required, with audits showing BMPs successfully mitigated impacts to soil. Use of BMPs on Wyoming private lands is voluntary, and limited data exists on levels of compliance. All six states are actively engaged in updating their BMPs to keep up with changing attitudes and scientific research.

It is important to take a multi-faceted analysis approach to analysing the efficacy of these policies as they pertain to this indicator; not every instance of feedstock harvest will have a neutral or negative effect on every ecosystem service. The question is if, on a landscape level, feedstock sourcing on the supply base will negatively, neutrally, or positively impact overall ecosystem health. More detailed analyses of specific ecosystem services on smaller spatial scales are addressed in other indicators of this supply base evaluation.

Multiple data points are available which suggest that laws and regulations in the United States have facilitated a forest management regime which produces positive ecological



Carbon stocks and forest biomass have also been increasing: the US Department of Agriculture publishes factsheets on each state which quantify forest gain and loss. In California, Oregon, and Washington, the average annual change in standing wood volumes is positive. In Idaho and Montana, the average annual change in standing wood volumes is negative, but in these states, losses are mainly due to mortality—not harvest removals.

Harvest removals are 10% of growth gross in Idaho and 19% of gross growth in Montana. For Wyoming, a separate US Forest Service report showed that harvest in Wyoming is 9% of gross growth. Inventory volume across the state, however, is declining at 3.5% per year on average, primarily due to fire and insect mortality.

A critical piece of the puzzle is the unnaturally high densities of smaller trees in fire-prone forests across the supply base. This ecosystem condition is a major contributing factor to the wildfire-induced mortality that has been observed in all states in the supply base. The introduction of Drax as a new feedstock consumer could help mitigate the densities of these fuels, thereby enhancing ecosystem health and helping to solve one of the biggest problems facing the forests of the United States.

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Risk Rating justification	Conclusion
	In the past half-century, a wide variety of state and federal laws have been passed with the goal of improving forest ecosystem health and services. On the landscape level, a large body of evidence suggests that these laws have had positive impacts on the nation's forests. Moreover, the introduction of Drax as a new consumer of low-grade woody material has the potential to mitigate major threats currently facing forests in the supply base. We therefore assign the following risk levels to this indicator:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
2.2.3	Soil quality in the Supply Base shall be maintained or enhanced
Supply Base Verifiers	Context According to Grigal (2000), "It is axiomatic that forest management activities alter soil physical, chemical, and biological properties." Implementing Best Management Practices (BMPs) is a critical part of managing these impacts and ensuring soil quality is maintained. Regulations & Enforcement There are both federal and state level regulations related to BMPs for forest management in the United States. Federal laws affecting forest management include but are not limited to the

National Environmental Policy Act of 1969, the Clean Water Act of 1972, the Endangered Species Act of 1973, the National Forest Management Act of 1976, the Forest Land Policy and Management Act of 1976, amended in 1996. In addition, federal land management agencies develop area specific management plans including the 1994 Northwest Forest Plan, and management plans for individual National Forest or Bureau of Land Management units.

State laws in the supply base include:

- California: California Forest Practice Act
- Idaho: Idaho Forest Practices Act
- Montana: Montana Forestry Best Management Practices Notification Law
- Oregon: Oregon Forest Practices Act
- Washington: Washington Forest Practices Act

Wyoming does not have a forest practices act but does publish BMPs for forestland operations. All of these BMP-related state rules have provisions for soil erosion and compaction mitigation.



Figure. Public land ownership in Wyoming. Source: Wyoming Fish and Game Department.

Mechanisms & Supporting Evidence



Actions on federal land are also subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

The California, Oregon, and Washington forest practice acts require the creation of harvest plans which incorporate BMPs for all state and private timberland operations. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field. Idaho and Montana do not require the creation of harvest plans but do conduct field audits on operations. Violations of state BMPs carry harsh penalties in Idaho, while compliance is voluntary in Montana. Regardless, recent audits in both found compliance exceeding 98%. , In Wyoming, use of BMPs on state lands is required, with audits showing BMPs successfully mitigated impacts to soil. Use of BMPs on Wyoming private lands is voluntary, and limited data exists on levels of compliance. However, non-industrial private forest land comprises less than 15% of forests. All six states are actively engaged in updating and revising their BMPs to keep up with changing attitudes and scientific research.

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Risk Rating justificatio	Conclusion
n	Soil quality is maintained or protected by federal and state regulations which are enforced by multiple regulatory agencies. Forest activities on federal lands are assessed under NEPA and

	follow various management plans. State and private activities follow state-level forest practices regulations or recommended BMPs. Operations on private lands on Wyoming, however, are not legally required to comply with BMPs, and limited data exists on the extent of active compliance. As a result, we characterize the risk associated with this indicator as follows: Federal Lands: Low State & Private Lands: Specified risk pertaining to the procurement of feedstock from private lands in Wyoming. For all other state and private lands, risk is Low.
Risk Rating	Specified Risk

United States	Indicator
2.2.4	Where the removal of harvest forest residues and/or stumps occurs, this shall not lead to irreversible negative impacts to the ecosystem.
Supply Base Verifiers	Context
	Logging residues, or "slash," can be a serious fire hazard in certain ecosystems. Wildfires can cause irreversible negative impacts to ecosystems, and feedstock harvesting should not contribute to them.
	Regulations & Enforcement
	On federal lands, actions are subject to the National Environmental Policy Act (NEPA), which requires that agencies assess the environmental effects of their actions. Under this act, federal land management agencies have developed area specific management plans such as the 1994 Sierra Nevada Forest Plan in California and the Northwest Forest Plan in Washington and Oregon. These plans contain slash management provisions which serve to mitigate wildfire risk in fire-prone ecosystems.
	On the state level, the following laws require slash management during forest activities:
	California Forest Practice Act
	Idaho Forest Practices Act
	Montana Timber Slash and Debris Law
	Oregon Forest Practices Act
	Washington Forest Practices Act
	Wyoming does not have laws relating to slash management on state and private lands but does publish best management practices (BMPs) which include slash treatment recommendations.

Mechanisms & Supporting Evidence

Federal and state law pertaining to BMPs are enforced by agencies including the US Environmental Protection Agency, US Army Corps of Engineers, and state forestry agencies. Failure to comply with state and federal law can result in litigation and penalties.

Actions on federal land are also subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land management agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

The California, Oregon, and Washington forest practice acts require the creation of harvest plans which incorporate BMPs for all state and private timberland operations. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field. Idaho and Montana do not require the creation of harvest plans but do conduct field audits on operations. Recent audits in both states found BMP compliance exceeding 98%. , In Wyoming, while use of BMPs on state lands is required, it is voluntary on private lands, and limited data exists on levels of compliance. Notably, non-industrial private forest land comprises less than 15% of forests.

All six states are actively engaged in updating and revising their BMPs to keep up with changing attitudes and scientific research.

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Risk Rating justification	Conclusion	
	Unmanaged slash can contribute to catastrophic wildfires. Therefore, laws have been passed which require slash management for wildfire mitigation on state and federal lands. The same is true on private lands, except for those in Wyoming. We therefore assign the following risk levels to this indicator:	
	Federal Lands: Low	
	State & Private Lands: Specified risk pertaining to the possibility of slash mitigation not being performed on private lands in Wyoming. For all other state and private lands, risk is Low.	
Risk Rating	Specified Risk	

United States	Indicator
2.2.5	Quality and quantity of ground water, surface water and water downstream shall be maintained or enhanced.
Supply Base Verifiers	Context According to Shah et al. (2022), forest management can impact water quality in a range of ways including changes to sediment delivery, nutrient losses, carbon transport, metal and base cation releases, acidity and temperature. Implementing Best Management Practices (BMPs) is a critical part of managing these impacts. Regulations & Enforcement There are both federal and state level regulations related to BMPs for forest management in the United States. Federal laws affecting forest management include but are not limited to the National Environmental Policy Act of 1969, the Clean Air Act of 1970, the Clean Water Act of 1972, the Endangered Species Act of 1973, the National Forest Management Act of 1976, the Forest Land Policy and Management Act of 1976, the Federal Insecticide, Fungicide, and Rodenticide Act of 1948, amended in 1996. In addition, federal land management agencies develop area specific management plans including the 1994



Northwest Forest Plan, and management plans for individual National Forest or Bureau of Land Management units.

State laws in the supply base include:

- California: California Forest Practice Act
- · Idaho: Idaho Forest Practices Act
- Montana: Montana Forestry Best Management Practices Notification Law
- Oregon: Oregon Forest Practices Act
- Washington: Washington Forest Practices Act

Wyoming does not have a forest practices act but does publish BMPs for forestland operations.

Mechanisms & Supporting Evidence

Federal and state law pertaining to BMPs are enforced by agencies including the US Environmental Protection Agency, US Army Corps of Engineers, and state forestry agencies. Failure to comply with state and federal law can result in litigation and penalties.

Actions on federal land are also subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

The California, Oregon, and Washington forest practice acts require the creation of harvest plans which incorporate BMPs for all state and private timberland operations. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field. Idaho and Montana do not require the creation of harvest plans but do conduct field audits on operations. Violations of state BMPs carry harsh penalties in Idaho, while compliance is voluntary in Montana. Regardless, recent audits in both found compliance exceeding 98%. , In Wyoming, use of BMPs on state lands is required, with audits showing BMPs successfully mitigated impacts to water quality. Use of BMPs on Wyoming private lands is voluntary, and limited data exists on levels of compliance. However, non-industrial private forestland comprises less than 15% of forests. All six states are actively engaged in updating and revising their BMPs to keep up with changing attitudes and scientific research.

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Risk Rating justification	Conclusion	
,	Water quality and quantity is maintained or protected by federal and state regulations which are enforced by multiple regulatory agencies. Forest activities on federal lands are assessed under NEPA and follow various management plans. State and private activities follow state-level forest practices regulations or recommended BMPs. Operations on private lands on Wyoming, however, are not legally required to comply with BMPs, and limited data exists on the extent of active compliance. As a result, we characterize the risk associated with this indicator as follows:	
	Federal Lands: Low	
	State & Private Lands: Specified risk pertaining to the procurement of feedstock from private lands in Wyoming. For all other state and private lands, risk is Low.	
Risk Rating	Specified Risk	

United States	Indicator
2.2.6	Air emissions shall comply with national legislation or in the absence of national legislation with industry best practice.
Supply Base Verifiers	Context Air emissions can be harmful to both human health and natural environment. It is important to avoid overproduction of air pollutants in feedstock sourcing. Regulations & Enforcement

Under the Clean Air Act (CAA), the US Environmental Protection Agency (EPA) established national air quality standards to limit levels of certain pollutants. All states are required to work with the EPA to develop and maintain State Implementation Plans (SIPs) to determine potential causes of air pollution and determine appropriate mitigation measures. Forest actions which would affect air quality, such as prescribed fire, are addressed in these SIPs. Under the General Conformity rule of the CAA, federal agencies must also comply with SIPs when performing activities on their own lands. Enforcement of SIPs is typically carried out via fines and/or civil litigation, with the EPA and state agencies working together to prosecute violations.

Mechanisms & Supporting Evidence

The CAA is enforced against both private and federal entities, with \$4.5 billion being assessed in fines, restitution, and court-ordered environmental projects during 2013, nearly \$1 billion of which resulted from violations by federal entities. States do not rely solely on the EPA for enforcement; they typically have their own regulatory bodies which are dedicated to enforcement of SIPs, such as Cleaner Air Oregon and the California Air Resources Board. The provisions enforced by these bodies may even be stricter than those in the CAA.

The US Forest Service has an internal team which monitors for CAA compliance on their own lands. Additionally, actions on federal land are also subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

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 Risk Rating justification
 Conclusion

 The CAA is enforced regularly through cooperation between state and federal agencies. As such, we assign the following risk to this indicator:

 Federal Lands: Low

 State & Private Lands: Low

 Low Risk

United States	Indicator
2.2.7	Pesticides shall only be used as part of an Integrated Pest Management (IPM) plan in compliance with national legislation, chemical safety data sheets and industry best practice. Banned pesticides shall not be used.
Supply Base Verifiers	Context
	The treaties and guidelines in this indicator relate to three distinct risks:
	1. Risks to human health (WHO, Rotterdam Convention)
	2. Risk of pollution by environmentally persistent chemicals (Stockholm Convention)
	3. Risk of ozone layer depletion (Montreal Protocol)
	Regulations & Enforcement
	Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Environmental Protection Agency (EPA) is responsible for the regulation of pesticides in the US, and they oversee the creation of pesticide labels after evaluating pesticide ingredients, target crops, frequency and timing of use, and storage and disposal practices. It is a violation of federal law to use a pesticide in a manner inconsistent with its labelling. Some states, such as CA, also have their own pesticide labelling rules. The EPA rates the hazard level of a given compound as Category I-IV. WHO 1A and 1B chemicals are equivalent to EPA Category I substances.
	The US is a signer on the Stockholm Convention and the Rotterdam Convention but has not ratified either of them due to the inability to completely enforce their provisions. , Not all substances listed under these treaties are banned in the United States. The US was one of the primary countries which helped draft the Montreal Protocol on Substances that Deplete the Ozone Layer and has ratified it.
	On federal lands, pesticide use would be subject to review under the National Environmental Policy Act (NEPA). As a result of the Southern Oregon Citizens

v. Clark case of 1983, the Forest Service and Bureau of Land Management are required to conduct additional environmental and human health risk assessments pertaining to pesticide use that go beyond FIFRA.

Mechanisms & Supporting Evidence

Violations of the FIFRA can result in costly fines and imprisonment. Civil litigation by the EPA under this act occurs 2-3 times per year. It is unlikely that Category I substances would be used in a forest setting, as it would be unusual for the EPA to approve the use of such a product for a forest setting where water quality considerations are paramount. Nevertheless, no legislation in the US exists that would explicitly prevent a Category I substance from being used in the production of feedstock on state and private lands.

Actions on federal land are subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, such as in Southern Oregon Citizens v. Clark. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

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Risk Rating justification	Conclusion Pesticide use is regulated under EPA and some state-level regulations on state and private land. On Federal lands use of pesticides is regulated under the EPA and for certain projects subject to public review under NEPA. While it is unlikely the EPA would approve for forest use a Category I pesticide or a pesticide prohibited by one of the treaties listed in this indicator, no legal standard exists that would explicitly prevent this from occurring. Therefore, we assign the following risk ratings to this indicator: Federal Lands: Specified risk pertaining to the use as a forest pesticide of a Category I substance, or a substance prohibited by one of the treaties listed in this indicator. State & Private Lands: Specified risk pertaining to the use as a forest pesticide of a Category I substance, or a substance prohibited by one of the treaties listed in this indicator.
	of a Category I substance, or a substance prohibited by one of the treaties listed in this indicator.
Risk Rating	Specified Risk

United States	Indicator
2.2.8	Waste shall be disposed of in an environmentally appropriate manner.
Supply Base Verifiers	Context
	'Waste' for the purpose of this indicator is 'any substance or object that the holder discards or intends to discard or is required to discard'. Wood waste and post-harvest residue from forest management activities is separately covered under the Indicator 2.2.5.
	Regulations
	The US Environmental Protection Agency (EPA) provides lists of common waste products generated by various sectors. The logging industry is not one of the sectors listed, but it shares many processes in common with the heavy construction sector and the equipment repair sector. Of the waste products produced in those sectors, the following could be reasonably expected to be present at a logging operation:
	• D001 – ignitable waste
	• D004 – arsenic
	• D006-D008 – heavy metals
	 F001-F005 – halogenated and nonhalogenated solvents

These codes are associated with the Resource Conservation and Recovery Act (RCRA). The EPA provides guidelines for disposal of these types of wastes. Enforcement of these guidelines can be carried out by the EPA or by state agencies. All states in the supply base have their own divisions or agencies dedicated to the enforcement of hazardous waste laws, and most have their own hazardous waste regulations which are stricter than federal provisions.

Mechanisms & Supporting Evidence

Violations of hazardous waste disposal laws in the United States can carry severe penalties, including fines, suspension of operations, and imprisonment. Violators are also required to clean up their spills; the RCRA is focused on prevention of the release of hazardous waste, but also contains provisions for remediating hazardous waste spills in the environment. The EPA is transparent in its rigorous enforcement of environmental laws, maintaining a publicly searchable database of violations of federal environmental laws. Finally, in the interest of continuous improvement, the EPA creates new National Enforcement and Compliance Initiatives every three years to tackle the most serious environmental violations.

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Risk Rating justification	Conclusion
	The US Environmental Protection Agency takes the matter of hazardous waste very seriously and enforces the Resource Conservation and Recovery Act through collaboration with state agencies. We therefore assign the following risk levels to this indicator:

	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
2.2.9	Harvesting levels shall be justified as to how they can be sustained with reference to inventory and growth data for the Supply Base.
Supply Base Verifiers	Context Sustainable forestry can be defined as "The practice of managing forests to meet current needs and desires of society for forest resources, i.e., products, services, and values, without compromising the availability of these for future generations." To ensure feedstock sourcing does not jeopardize the availability of forest resources to future generations, harvest levels should not exceed the ability of forests in the supply base to recuperate losses.
	 Regulations Federal lands are subject to regional forest plans, such as the Sierra Nevada Forest Plan in California and the Northwest Forest Plan in Washington and Oregon. These plans ensure for the proper regeneration and maintenance of forest cover during harvest operations. Additionally, in 1976, the Federal Land Policy and Management Act established the policy of retaining lands in federal ownership, meaning that these lands will not be sold to into the hand of private owners who may decline to maintain forest proper forest inventories. Laws relevant to this indicator which apply to state and private lands in the supply base include: California Forest Practice Act Idaho Forest Practices Act
	 Oregon Forest Practices Act Washington Forest Practices Act Each of these laws require that land be regenerated to ecologically sound stocking levels after harvest, unless being converted to non-forest use. Mechanisms & Supporting Evidence The US Department of Agriculture publishes factsheets on each state which quantify forest gain and loss. In California, Oregon, and Washington, the average annual change in standing wood volumes is positive. In Idaho and Montana, the average annual change in standing wood volumes is negative. In these states losses are mainly due to mortality not harvest removals. Harvest removals are 10% of growth gross in Idaho and 19% of gross growth in Montana. For


	States in the supply base are either increasing in standing volumes, or slightly decreasing in standing volumes. The decreases that exist are accountable to fire and insect mortality, rather than unsustainable harvest levels. We therefore assign the following risk categories for this indicator:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
2.2.10	Harvested areas shall be regenerated
Supply Base Verifiers	Context
	Historically, harvest of forest products has contributed to decreasing forest cover and forest biomass worldwide. Harvest levels of feedstock should not contribute to deforestation.
	Regulations
	Federal lands are subject to regional forest plans, such as the Sierra Nevada Forest Plan in California and the Northwest Forest Plan in Washington and Oregon. These plans ensure for the proper regeneration and maintenance of forest cover during harvest operations. Additionally, in 1976, the Federal Land Policy and Management Act established the policy of retaining lands in federal ownership, meaning that these lands will not be sold to into the hand of private owners who may decline to maintain forest cover.
	Laws relevant to this indicator which apply to state and private lands in the supply base include:
	California Forest Practice Act
	Idaho Forest Practices Act
	Montana Forestry Best Management Practices Notification Law
	Oregon Forest Practices Act
	Washington Forest Practices Act
	Wyoming does not have forest practice laws but does publish BMPs for forestland operations. The Montana law requires that operators be informed of BMPs prior to beginning operations. BMPs for both Wyoming and Montana include reforestation recommendations. Meanwhile, California, Idaho, Oregon, and Washington laws require that land be regenerated to ecologically sound stocking levels after harvest, unless being converted to non-forest use.

Notably, none of these states have provisions prohibiting the conversion of private lands to non-forest use. Land which is converted for commercial or residential development would not be regenerated. This issue is covered separately in Indicator 2.2.1.

Mechanisms & Supporting Evidence

Actions on federal land are also subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

The California, Oregon, and Washington forest practice acts require the creation of harvest plans which require regeneration for all state and private timberland operations. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field. Idaho and Montana do not require the creation of harvest plans but do conduct field audits on operations. Violations of state BMPs carry harsh penalties in Idaho, while compliance is voluntary in Montana. Regardless, recent audits in both found compliance exceeding 98%. While use of BMPs on Wyoming state lands is mandatory, on Wyoming private lands it is voluntary, with limited data available on levels of compliance. However, natural regeneration is a normal ecological component of Wyoming forests, meaning that a lack of BMP implementation would not necessarily prevent regeneration. All six states are actively engaged in updating and revising their BMPs to keep up with changing attitudes and scientific research.

The US Department of Agriculture publishes factsheets on each state which quantify forest gain and loss. Of the states in the supply base, California, Oregon, and Washington show a small net loss of forested acreage on an average year, while Idaho and Montana show small net increases. All states in the supply base convert some acres out of forest use each year.

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Risk Rating justification	Conclusion
	All lands in the project area that are maintained in forest are likely to be regenerated after feedstock harvesting, whether due to federal policies, state laws, or natural processes. However, intentional conversion of stands out of forest use does occur on private lands throughout the project area. Therefore, we assign the following risk levels to this indicator:
	Federal Lands: Low
	State & Private Lands: Specified risk that when feedstock is harvested from private lands, those lands may not be regenerated if the landowner converts them to non-forest use.
Risk Rating	Specified Risk

United States	Indicator
2.2.11	The impacts of natural processes such as fires, pests and diseases shall be managed.
Supply Base Verifiers	Context Wildfires are a major part of many ecosystems in the supply base (Figure 6). Wildfire frequency and size have been increasing steadily since reporting began in 1983. Intensity of fires has also increased. Meanwhile, bark beetles are a major cause of mortality in forests, with an estimated 25 million trees killed in California in 2015 alone. A variety of outbreak beetle species are present in the supply base including spruce beetle, mountain pine beetle, and pinyon ips beetle.



Figure. Frequency of wildfires greater than 300 acres. Figure from https://www.climatesignals.org/headlines/where-large-wildfires-are-most-common-us

Regulations & Enforcement

The federal government handles natural processes such as insects and disease through monitoring, by managing their own lands, and by providing grants. The Forest Health Monitoring program from the US Forest Service is a national program designed to determine the status, changes, and trends in indicators of forest condition on an annual basis. The Forest Service estimated that in 2012, 65-82 million acres of its lands required restoration, and the organization set a goal of increasing mechanical treatment restoration on its lands by 20% over the following three years. The agency also provides grants to private landowners who wish to manage the impacts of wildfire and insect damage through programs such as Emergency Forest Restoration Program (EFRP).

States also participate in responding to the impacts of insects and disease via monitoring, management of their own land, and disbursement of grants. Examples of monitoring include the Washington State Forest Health Monitoring Program and the Idaho Department of Lands Forest Health Program. Examples of state land management are Oregon Forest Management Plan and the Montana Forest Action Plan. Finally, grant programs available to non-state landowners from state entities include CALFIRE Forest Health Grants and Washington All Lands Forest Restoration Program.

Mechanisms & Supporting Evidence

the US Forest Service has consistently produced annual reports of forest health monitoring since 2001. From an implementation standpoint, the Biden-Harris administration has



	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
2.2.12	Genetically modified trees shall not be used.
Supply Base Verifiers	Context
	Article 1 of the Cartagena Protocol on Biosafety states the following in relation to genetically modified organisms:
	In accordance with the precautionary approach contained in Principle 15 of the Rio Declaration on Environment and Development, the objective of this Protocol is to contribute to ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements.
	In accordance with this concept, the SBP has determined that genetically modified organisms shall not be used for biomass feedstock.
	Regulations & Enforcement
	Genetically modified organisms (GMOs) are regulated by three different agencies in the US federal government: the US Food and Drug Administration (FDA), the US Environmental Protection Agency (EPA), and the USDA Animal and Plant Health Inspection Service (APHIS). GMOs are typically used for food production, rather than wood fiber production, but research into creating GMO trees for wood fiber is ongoing. One notable example includes the company Living Carbon, who, prior to recent legislative changes which tightened measures for GMO review, received approval to plant their genetically modified poplars in the Southeastern US. Another example is the research into creating a blight resistant American chestnut and restoring this species to the forests of the Northeastern US. These trees are currently pending government approval.
	Mechanisms & Supporting Evidence
	Based on our research, no projects are currently underway to produce genetically modified trees for timber production which would be used in any of the states in the supply base. If any such organism were to be produced by scientists or industry members, it would take at least 3 years for it to be

	approved by the relevant regulatory bodies, with approval more commonly taking up to 13 years.4
	Sources
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	https://www.nytimes.com/2023/02/16/science/genetically-modified-trees- living-carbon.html
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	https://www.forbes.com/sites/gmoanswers/2015/12/21/how-are-gmos- regulated/?sh=1e3b770b6255
Risk Rating justification	Conclusion
	Due to the strict regulatory framework in the US around genetically modified organisms, and the lack of active research on the production of genetically modified trees for wood fiber production, we characterize the risk for this indicator as follows:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
3.2.2	Primary feedstock shall not be sourced from forest areas where site productivity is low and, according to local definitions or norms, the areas are classified as low-productive or difficult to regenerate.
Supply Base Verifiers	Option A. Primary feedstock shall not be sourced from forests with site productivity in the 0 – 10 percentiles of the supply base or region.
	Option B. Primary feedstock shall not be sourced from forest, which according to local definitions or norms, are classified as low-productive or difficult to regenerate and should be excluded from feedstock sourcing.
	Justification shall be provided for the choice of evaluation criteria.
	Context
	For the purposes of this supply base evaluation, we will meet the criteria for this indicator using Option B. Many states in the supply base have legal requirements that harvested forests be regenerated. If a forest is difficult to regenerate, harvest of that forest would implicitly violate local forest practice rules.

Regulations

Federal lands are subject to regional forest plans, such as the Sierra Nevada Forest Plan in California and the Northwest Forest Plan in Washington and Oregon. These plans ensure for the proper regeneration and maintenance of forest cover during harvest operations. The plans are written based on the most ecologically sound science available, and it is unlikely that a harvest proposed on a low-productivity site would be in compliance with these plans.

Laws relevant to this indicator which apply to state and private lands in the supply base include:

- California Forest Practice Act
- Idaho Forest Practices Act
- Montana Forestry Best Management Practices Notification Law
- Oregon Forest Practices Act
- Washington Forest Practices Act

Wyoming does not have forest practice laws but does publish BMPs for forestland operations. The Montana law requires that operators be informed of BMPs prior to beginning operations. BMPs for both Wyoming and Montana include reforestation recommendations. Meanwhile, California, Idaho, Oregon, and Washington laws require that lands be regenerated to ecologically sound stocking levels after harvest.

Notably, none of these states have provisions prohibiting the conversion of private lands to non-forest use. Conversion of land for commercial or residential development could occur on low productivity sites. However, this issue is covered separately in Indicator 2.2.1.

Mechanisms & Supporting Evidence

Actions on federal land are subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.

The California, Oregon, and Washington forest practice acts mandate the creation of harvest plans which require regeneration for all state and private timberland operations. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field. Idaho and Montana do not require the creation of harvest plans but do conduct field audits on operations. Violations of state BMPs carry harsh penalties in Idaho, and recent audits found compliance exceeding 98%. While use of reforestation BMPs on Wyoming and Montana state lands is mandatory, it is voluntary on private lands in these states, with limited data available on levels of compliance. All six states are actively engaged in updating and revising their BMPs to keep up with changing attitudes and scientific research.

Sources

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Risk Rating iustification	Conclusion
	Federal agencies follow regional forest plans which are meant to ensure ecologically sound forestry and would not permit harvest from low-productive areas on federal lands. Meanwhile, California, Idaho, Oregon, and Washington have laws that require regeneration of forests after harvest, which would make harvest from areas that are difficult to regenerate a violation of state law. Montana and Wyoming do not have regulations in place which pertain to the harvest of feedstock from low productivity sites on private lands. We therefore assign the following risk levels to this indicator:
	Federal Lands: Low
	State & Private Lands: Specified risk that feedstock procured from private lands in Wyoming and Montana could be sourced from low productivity sites.
Risk Rating	Specified Risk

United States	Indicator
3.2.3	feedstock shall not be sourced from forest areas in the Supply Base which, according to local definitions or norms, are classified as having combined attributes of high carbon stocks and high conservation value (HCV).

Supply Base	Context
Verifiers	Primary forests provide a variety of unique ecosystem services, including to biodiversity and carbon storage. Feedstock sourcing should not degrade these rare ecosystems, particularly in the United States, where historic logging activities have impacted the vast majority of existing forests.
	Regulations & Enforcement
	Regional forest plans (such as the Sierra Nevada Forest Plan in California and the Northwest Forest Plan in Washington and Oregon), may decrease the likelihood that primary forests would be harvested on federal lands, though they do not outright prohibit it. Meanwhile, private and state lands in the supply base also do not contain explicit protections for primary forests. Some forests on private lands are protected by conservation easements which may permanently prohibit harvesting or other activities. These easements are voluntary agreements between landowners and federal or state governments, typically in exchange for tax benefits or cost share funds.
	Mechanisms & Supporting Evidence
	Actions on federal land are subject to review under NEPA. NEPA is enforced via litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed annually. The median Environmental Impact Statement produced by these land managing agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process. It is therefore unlikely that any primary forests would be harvested on federal lands.
	Meanwhile, if easements are violated on protected private lands, financial penalties are typically levied. However, the vast majority of primary forests on private lands are not held in conservation easements. Moreover, data on which forests are within the 90th-100th percentile of above ground carbon in the United States are not publicly available, so private landowners may not know if forests under their ownership meet these characteristics.
	Despite the apparent lack of regulation, data on harvest activities on different aged forests available from the Forest Inventory & Analysis Program (FIA) are promising for this indicator. FIA has kept a continuous coarse inventory of the country's forests since 1930. According to the FIA's data portal (EVALIDator), harvest on forests aged over 190 years old comprises less than 1% of all harvest in California, Idaho, Montana, Oregon, and Washington. Forests over 190 years old could be either primary or secondary, but forests younger than this would be entirely secondary.
	These data are not available for Wyoming; however, it is highly unlikely that forests in Wyoming would comprise the 90 – 100 percentile on the supply base; such stands would likely be in the coastal regions of Oregon, Washington, or Northern California (Figure).

Total Stored Forest CO2e/Acre 600 500 400 300 200 100 0 Eastern North Western North US South Westside A America America Figure. CO2 equivalents per acre in different US regions. The "Westside" is the region west of the Cascade Mountains in Oregon, Washington, and Northern California. Figure from https://www.forest2market.com/blog/which-region-of-the-us-stores-the-most-carbon-inits-forests

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	Forest Inventory and Analysis US Forest Service Research and Development (usda.gov)
	https://apps.fs.usda.gov/fiadb-api/evalidator
	Which Region of the US Stores the Most Carbon in its Forests? (forest2market.com)
Risk Rating justification	Conclusion

	While legal protections of primary forest are somewhat limited, harvest on forests which might meet the SBP definition of 'primary' are rare. We therefore assign the following risk levels to this indicator:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
3.1.1	LULUCF emissions shall be accounted for through one of the following routes: Route A Feedstock may be sourced from a country of origin which is party to the Paris Agreement, and which has submitted a Nationally Determined Contribution to the United Nations Framework Convention on Climate Change (UNFCCC) covering carbon emissions and removals from agriculture, forestry and land use which ensure the changes in carbon stock associated with biomass harvest are counted towards the country's commitment to reduce or limit greenhouse gas emissions, or Route B Feedstock may be sourced from a country of origin which is party to the Paris Agreement and has national or sub-national laws in place (developed in accordance with Article 5 of the Paris Agreement and applicable in the area of harvest), to conserve and enhance carbon stocks and sinks, and provided there is evidence that reported LULUCF-sector emissions do not exceed removals, or Route C Feedstock may be sourced from a Supply Base where an assessment demonstrates that both the carbon stock is stable, and the forests' capacity to act as a carbon sink is stable or increasing over the long term.
Supply Base Verifiers	Context The Intergovernmental Panel on Climate Change (IPCC) has stated that the Land Use, Land-Use Change and Forestry (LULUCF) sector "offers significant near-term mitigation potential while providing food, wood and other renewable resources as well as biodiversity conservation." Feedstock sourcing is part of the LULUCF sector, making it important to track its contributions to carbon emissions. Regulations & Enforcement
	The US accounts for its LULUCF emissions via Route A. The US re-joined the Paris Agreement in February of 2021 and its Nationally Determined Contribution (NDC) filed with the UNFCCC states that "climate smart agriculture and forestry" (CSAF) can help deliver on the goals of the NDC.
	In May of 2021, the US Department of Agriculture published the Climate- Smart Agriculture and Forestry Strategy: 90-Day Progress Report. This



	report outlined a 7-step plan to achieve the goals outlined in the NDC pertaining to CSAF:
	• Prepare the USDA to quantify, track, and report the benefits of CSAF activities
	• Develop a CSAF strategy that works for all farmers, ranchers, forest landowners, and communities
	Leverage existing USDA programs to support CSAF strategies
	• Strengthen education, training, and technical assistance for CSAF practices
	• Support new and better markets for agriculture and forestry products generated through CSAF practices
	Develop a forest and wildfire resilience strategy
	Improve research
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	https://www.usda.gov/sites/default/files/documents/climate-smart-ag- forestry-strategy-90-day-progress-report.pdf
Risk Rating justification	Conclusion
	The US fulfils all the criteria outlined in Route A of this indicator and has taken meaningful steps to fulfil its obligations outlined in its NDC. Therefore, we rate the risk associated with this indicator as follows:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Specified Risk

United Indicator States

3.2.1	All feedstock sourcing shall be consistent with either of these two options: Option A. Feedstock may be sourced from Supply Bases where an assessment of the Supply Base shows that the forest carbon stocks are stable or increasing, or Option B. Feedstock may be sourced, if the assessment shows that the forest carbon stocks are declining in the Supply Base, provided that the decline is due to natural processes (fire, pests etc.), and sourcing of feedstock has the aim to recover feedstock that would otherwise be lost or to assist regeneration.
Supply Base Verifiers	Option A. Feedstock may be sourced from supply bases where an assessment shows that the forest carbon stocks are stable or increasing.
	Option B. If the assessment shows that the forest carbon stocks are declining in the supply base, feedstock may be sourced if the decline is due to natural processes (fire, pests etc.) and sourcing of feedstock does not contribute to the carbon loss and may contribute to a faster regeneration of the forest.
	Context
	Forests provide a massive carbon sink, absorbing an estimated net 7.6 billion gigatons of CO2 equivalents annually. Utilizing Forest biomass for energy, however, can substitute for other fuel sources, while maintaining current stored carbon in forests. It is therefore critical that harvest activity on the landscape is maintained at a level that allows forests to sustain their carbon stocks.
	Regulations
	No laws exist in the supply base which pertain specifically to the maintenance of carbon stocks. There are, however, regulations which help maintain forest vitality on the landscape level. For example, federal lands are subject to regional forest plans, such as the Sierra Nevada Forest Plan in California and the Northwest Forest Plan in Washington and Oregon. These plans are designed with the intention of properly maintaining, regenerating, and enhancing federal forests through responsible, ecologically sound management strategies. Additionally, in 1976, the Federal Land Policy and Management Act established the policy of retaining lands in federal ownership, meaning that these lands will not be sold to into the hand of private owners who may decline to maintain forest cover, and therefore reduce carbon stocks.
	Generally, ecologically sound forest management will lead to maintaining or increasing carbon stocks. State laws in the supply base which encourage—and often mandate— ecologically sound forest management practices include:
	California Forest Practice Act
	Idaho Forest Practices Act
	Montana Forestry Best Management Practices Notification Law
	Oregon Forest Practices Act
	Washington Forest Practices Act
	Mechanisms & Supporting Evidence

	Increasing carbon stocks are closely associated with increased forest biomass. The US Department of Agriculture publishes factsheets on each state which quantify forest gain and loss. In California, Oregon, and Washington, the average annual change in standing wood volumes is positive. In Idaho and Montana, the average annual change in standing wood volumes is negative. In these states losses are mainly due to mortality not harvest removals. Harvest removals are 10% of growth gross in Idaho and 19% of gross growth in Montana. For Wyoming, a separate US Forest Service report showed that harvest in Wyoming is 9% of gross growth. Inventory volume across the state, however, is declining at 3.5% year on average, primarily due to fire and insect mortality.
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Risk Rating	Conclusion
Justinoution	California, Oregon, and Washington are increasing in forest carbon stocks, satisfying Option A. Idaho, Montana, and Wyoming are slightly decreasing in forest carbon stocks, but this decrease is almost entirely accountable to wildfire and insects, satisfying Option B. We therefore assign the following risk categories for this indicator:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
3.3.1	Feedstock sourcing shall not compete with wood sourcing for long-lived wood products.
Supply Base Verifiers	Context
	In addition to their economic benefits, long lived forest products such as sawtimber can be a large carbon sink. Feedstock harvest should not divert from the growth and harvest of such products.
	Regulations
	There are no laws or regulations in the supply base pertaining to this indicator.
	Mechanisms & Supporting Evidence
	Throughout the United States, sawtimber prices are consistently higher than pulpwood prices. This provides a financial incentive for landowners not to divert production away from long-lived wood products. Beyond this, the characteristics of the supply base make non-compliance with this indicator highly unlikely. Firstly, existing pulp mills in Idaho, Oregon, and Washington acquire their supply primarily from sawmill residuals. Drax would be able to source material in a similar manner. Secondly, forests of Idaho, Montana, and Wyoming are currently in crisis of overstocking which has led to mass mortality from bark beetle outbreaks. Similarly, California is overwhelmed with an overabundance of small-diameter trees which serve as fuel for wildland fires. In 2015, this led the governor to issue a State of Emergency related to tree mortality in which he emphasized the need to create markets for these highly hazardous fuels. Feedstock sourcing in these four states would likely involve removing the smaller trees in overstocked forests. If such trees were not harvested for feedstock, their eventual fate would likely be mortality from beetles and wildfire, rather than harvest into long-lived forest products.
	Sources
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Risk Rating justification	Conclusion Ample supply of low-grade material in overstocked forests exists in the supply base. In areas where this is not the case, mill residuals form the backbone of the current pulpwood supply. Finally, strong financial incentives exist for landowners to allow their trees to mature into long-lived forest products when possible. We therefore assign the following risk levels to this indicator: Federal Lands: Low State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
4.1.1	Freedom of association and the right to collective bargaining shall be respected in the workplace.
Supply Base Verifiers	Context
	The International Labour Organization (ILO) states that freedom of association (the right of workers to join organizations of their choosing) and collective bargaining (the means through which employers and their trade organizations can establish fair working conditions) are fundamental human rights. Feedstock sourcing should not violate these rights.
	Regulations & Enforcement
	The United States is a member of the ILO, which adopted the Declaration on Fundamental Principles and Rights at Work in 1998. As an ILO Member State, the United States is committed to respecting and promoting the principles and rights outlined in the 1998 Declaration, which pertain to: (1) freedom of association and the effective recognition of the right to collective bargaining; (2) the elimination of forced or compulsory labour; (3) the abolition of child labour; and (4) the elimination of discrimination in respect of employment and occupation.
	The rights of freedom of association and collective bargaining are protected in the United States. Freedom of association is enshrined in the 1st Amendment to the US Constitution. Meanwhile, the National Labour Relations Act of 1935 gives workers the right to collective bargaining, defined as "The right to bargain collectively with your employer through a representative that you and your co-workers choose." This right is protected by the National Labour Relations Board (NLRB), which is tasked with remedying unfair labour practices committed by private sector employers and unions.

	Mechanisms & Supporting Evidence
	The NLRB regularly reviews cases of alleged violations of the National Labour Relations Act and keeps an active public log of rulings. The US Department of Labour is also active in promoting workers' awareness of their own rights. Currently, approximately 10% of American workers are members of collective bargaining organizations. Often, these organizations agree to resolve disputes with their employers through private arbitration, rather than via the NLRB. The American Arbitration Association has developed a set of standards for mediating such disputes.
	Sources
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Risk Rating justification	Conclusion
	Rights to freedom of association and collective bargaining are clearly outlined in law, and employees have multiple avenues to resolve disputes with their employers. Therefore, we designate the following risk levels for this indicator:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States

Indicator

4.1.2	Forced or compulsory labour shall not be used.
Supply Base Verifiers	Context
	According to GRI 409, forced and compulsory labour are severe violations of human rights which perpetuate deleterious economic conditions worldwide. The most extreme versions of forced and compulsory labour include slavery and debt bondage, but less extreme examples include withholding identity papers or compelling workers to work extra hours under threat of employment termination.
	Regulations & Enforcement
	The United States is a member of the International Labour Organization (ILO), the United Nations organization that adopted the Declaration on Fundamental Principles and Rights at Work in 1998. As an ILO Member State, the United States is committed to respecting and promoting the principles and rights outlined in the 1998 Declaration, which pertain to: (1) freedom of association and the effective recognition of the right to collective bargaining; (2) the elimination of forced or compulsory labour; (3) the abolition of child labour; and (4) the elimination of discrimination in respect of employment and occupation.
	Specific laws in the US can be found in Chapter 77 of the US Code, which states that it is unlawful to hold a person in slavery, forced labour, or involuntary servitude. Additionally, Section 1592 specifically prohibits the seizure of documents to force others to work. The Office of Child Labour, Forced Labour, and Human Trafficking (OCFT) in the Department of Labour coordinates the enforcement of these laws across dozens of different law enforcement agencies, particularly within the Department of Defense, Department of State, and Department of Justice.
	Mechanisms & Supporting Evidence
	Reports of forced labour are investigated extensively by a variety of law enforcement agencies. For example, Federal Bureau of Investigation field offices almost invariably contain Child Exploitation and Human Trafficking Task Forces. Immigration and Customs Enforcement has more than 6,000 agents dedicated exclusively to investigating cases of forced labour. The Department of Justice regularly prosecutes human trafficking cases, with convictions secured against 309, 475, and 526 convictions secured against traffickers in 2020, 2019, and 2018, respectively.
	Sources
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Risk Rating justification	Conclusion With a robust set of laws preventing forced labour and a variety of law enforcement agencies acting in individually and in concert to investigate and prosecute cases of forced labour, we characterize the risk of this indicator as follows: Federal Lands: Low State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
4.1.3	Child labour shall not be used.
Supply Base Verifiers	Context According to the International Labour Organization (ILO), "Child labour is a violation of fundamental human rights and has been shown to hinder children's development, potentially leading to lifelong physical or psychological damage." Child labour is incompatible with SBP values. Regulations & Enforcement The United States is a member of the ILO, the United Nations organization that adopted the Declaration on Fundamental Principles and Rights at Work in 1998. As an ILO Member State, the United States is committed to respecting and promoting the principles and rights outlined in the 1998 Declaration, which pertain to: (1) freedom of association and the effective recognition of the right to collective bargaining; (2) the elimination of forced or compulsory labour; (3) the abolition of child labour; and (4) the elimination of discrimination in respect of employment and occupation.



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Risk Rating justification	Conclusion
	With a robust set of laws preventing forced labour and a variety of law enforcement agencies acting in individually and in concert to investigate and prosecute cases of forced labour, we characterize the risk of this indicator as follows:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
4.1.4	Workers shall not be discriminated in hiring, remuneration, access to training, promotion, termination or retirement.
Supply Base Verifiers	Context According to the International Labour Organization (ILO), employment discrimination has wide social and economic consequences. Fiber sourcing can be a part of the fight to prevent this violation of rights. Regulations & Enforcement The US Equal Employment Opportunity Commission (EEOC) enforces several laws pertaining to employment discrimination, including : • Title VII of the Civil Rights Act of 1964

	The Pregnancy Discrimination Act
	• The Equal Pay Act of 1963
	Title I of the Americans with Disabilities Act of 1990
	Sections 501 and 505 of the Rehabilitation Act of 1973
	The Age Discrimination in Employment Act of 1967 (ADEA)
	• Title II of The Genetic Information Non-discrimination Act of 2008 (GINA),
	Collectively, these laws prohibit discrimination by employers on the basis of race, colour, religion, sex, pregnancy, sexual orientation, gender identity, disability, age, or genetic information. Discrimination includes all types of less favourable treatment, such as employment denial, harassment, demotion, termination, retaliation, or decreased compensation.
	Mechanisms & Supporting Evidence
	Litigation against employment discrimination is active in the United States, as the EEOC is legally mandated to investigate charges of discrimination filed against a company with 15 or more employees. In 2020 alone, the EEOC resolved 70,804 charges of employment discrimination, awarding victims a collective \$439.2 million. A range of training resources exist to help employers prevent employment discrimination, including from the EEOC itself.
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	https://www.eeoc.gov/training-institute
Risk	Conclusion
justificati on	Employment discrimination is an issue the United States has consistently strengthened its attitudes towards, with multiple pieces of legislation passed between 1964 and 2008. As such, we assign the following risk levels for this indicator.
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
4.1.5	Wages paid to workers shall meet or exceed the legal minimum wage or where there are no statutory minimum wage industry norms shall be met or exceeded
Supply Base Verifiers	Context
	Minimum wages exist in 90% of International Labour Organization (ILO) member states. Globally, an estimated 327 million workers earn below the minimum wage in their municipality, either due to non-compliance or lack of applicability of laws. Often, agricultural workers are excluded from minimum wage laws, making this indicator specifically relevant to feedstock sourcing.
	Regulations & Enforcement
	The Fair Labor Standards Act (FLSA) establishes the federal minimum wage in the United States as \$7.25/hr. This applies to workers in all states is \$7.25/hr. States in the supply base with a higher minimum wage include California, Montana, Oregon, and Washington, which have minimum wages of \$15.50/hr, \$9.95/hr, \$13.50/hr, and \$15.74, respectively. Additionally, the Migrant and Seasonal Agricultural Worker Protection Act (MSPA) has specific provisions which protect workers who have temporarily immigrated to the United States to carry out reforestation efforts. These regulations protect both minimum wage and fair working hours standards.
	Mechanisms & Supporting Evidence
	Multiple layers of protection against minimum wage violations exist. These violations can be reported to both the federal Department of Labor (DOL) as well as individual departments of labour for each state. The DOL is also active in promoting workers' awareness of their own rights. Nevertheless, according to the Economic Policy Institute, 4% of non-exempt workers in the United States are victims of wage theft annually, with a \$15 billion gap between legally mandated pay levels and actual wages. This is a relatively low rate of wage theft compared to the global average for all sectors of 15%. In the agriculture, forestry, and fishing sector of the United States, of which feedstock sourcing is a part, the rate of violation is 9%.
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	https://www.epi.org/publication/employers-steal-billions-from-workers- paychecks-each-year/
Risk Rating justification	Conclusion
	There are both federal- and state-level safeguards against minimum wage violations. Additionally, independent findings from Economic Policy Institute suggest wage theft in the US is significantly lower than global averages. We therefore assign the following risk levels for this indicator:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
4.1.6	Working hours shall comply with legal requirements.
Supply Base Verifiers	Context According to the International Labour Organization (ILO), excessive hours of work can damage workers' health and increase the risk of on-the-job accidents. It is therefore important that workers employed in feedstock sourcing comply with legal requirements for fair working hours. Regulations & Enforcement
	A standard work week in the United States is 40 hours, and the Fair Labor Standards Act (FLSA) establishes that non-exempt employees receive overtime pay, consisting of not less than one-and- a-half times their normal hourly wage, for any hours worked beyond the standard 40. A specific exemption to this rule is carved out for forestry employees employed at firms with less than 9 workers, which would apply to many companies involved in harvesting feedstock. This exemption is overridden by state laws in CA, OR, and WA.
	Mechanisms & Supporting Evidence
	Multiple layers of protection against overtime pay law violations exist. These violations can be reported to both the federal Department of Labor (DOL) as well as individual departments of labour for each state. The DOL is also active in promoting workers' awareness of their own rights. Nevertheless, according to the Economic Policy Institute, 4% of non-exempt workers in the

	United States are victims of wage theft annually, with a \$15 billion gap between legally mandated pay levels and actual wages. This is a relatively low rate of wage theft compared to the global average for all sectors of 15%. In the agriculture, forestry, and fishing sector of the United States, of which feedstock sourcing is a part, the rate of violation is 9%.
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Risk Rating justification	Conclusion
,	There are both federal- and state-level safeguards against overtime violations. Additionally, independent findings from Economic Policy Institute suggest wage theft in the US is significantly lower than global averages. We therefore assign the following risk levels for this indicator:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
4.1.7	Workers shall have access to health care provisions, sickness benefits, retirement benefits, invalidity benefits, death benefits, and workers' compensation
Supply Base Verifiers	Context According to the International Labour Organization, employers have an obligation to mitigate the risk and effects of workplace injuries. Fulfilling this obligation means that workers must have access to healthcare, sickness

benefits, retirement benefits, invalidity benefits, death benefits, and workers' compensation.

Regulations & Enforcement

In the United States, employers are legally required to provide unemployment insurance and workers' compensation insurance. Additionally, all employers contribute to Social Security and Medicare, which are federal programs that provide healthcare and monetary benefits to retirees. This is known as 'employment tax' and is overseen by the Internal Revenue Service. Failure by an employer to pay into Social Security and Medicare can result in costly penalties. Approximately 56% of companies also assist their employees in setting up retirement accounts, known as '401k', accounts. California and Oregon mandate that a 401k or similar account be created for most employees.

H2-A visas are provided to agricultural migrant workers who temporarily reside in the US to complete a work contract. Employers must guarantee that the worker will be paid for at least 75% of the hours specified in the contract, even if terminated early. Employers still pay into workers' compensation insurance pools for H2-A workers.

For sickness benefits, the Family and Medical Leave Act (FMLA) requires that most employers to provide 12-weeks of unpaid, job protected leave for serious health conditions or for care of a new-born child.

Mechanisms & Supporting Evidence

In addition to the FMLA, the Bureau of Labor Statistics reports that 77% of private industry workers have a paid sick leave program through their employer, as do 92% of federal and state government workers. The report also stated that employers provide life insurance to 57% of private industry workers and 83% of state and federal workers. Disability insurance is provided to approximately 40% of workers. Life insurance and disability insurance are also readily available on the open market in the United States.

Finally, health insurance is made available through an employer to 74% of private industry employees and 93% of government employees. For those who cannot get health provisions through their employer, other options exist through the government or through private entities. Finally, those who cannot afford to pay for health provisions are typically covered under Medicaid or the Children's Health Insurance Program.

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Risk Rating justification	Conclusion
	In the United States, certain worker benefits are guaranteed by the government. Others are provided on the open market. In either case, access to such programs is wide ranging. We therefore assign the following risk levels for this indicator:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
4.1.8	Training shall be provided for all workers to allow them to implement the conditions set out in all elements of the SBP Standards relevant to their responsibilities.
Supply Base Verifiers	Context The requirements in the SBP standards are applicable at a range of scales. For some indicators, compliance does not occur at the level of the worker, but rather in the administration of the organization. Examples of this would be 2.2.1 and 3.2.2.

	On the other hand, compliance for many indicators comes down to each individual worker on the ground doing their part. In these cases, training of those workers is critical to ensure feedstock sourcing does not violate SBP standards.
	Regulations & Enforcement
	Indicators for which employees would need to be trained in order to know how to comply with SBP include: 1.1.1, 1.1.2, 1.1.4, 2.1.3, 2.2.3, 2.2.4, 2.2.5, 2.2.6, 2.2.7, 2.2.8, 4.1.4, 4.1.9, 4.1.10, 4.2.7.
	Each of these indicators are backed by laws and regulations which would inherently involve some level of employee training. Not all of these laws explicitly require formalized training, but for those that do not, employees would learn the pertinent information as a matter of course in their work. For specifics, see the sections on those indicators.
	On private lands, indicators 2.2.3, 2.2.4, 2.2.5, and 4.2.7 have specified risks, meaning that the SBP standard is stricter than the legal standard. In these instances, training up to the SBP standard level may not occur, as there is not a legal incentive for it.
	Mechanisms & Supporting Evidence
	Please see the sections of the applicable indicators for mechanisms and supporting evidence related to compliance.
Risk Rating justification	Conclusion
	Not all requirements in the SBP standards require employee training to ensure compliance. For those that do, feedstock suppliers are incentivized by law to conduct such training. However, if the SBP standard is stricter than the legal standard such that specified risk is present, training may not occur. We therefore assign the following risk levels to this indicator:
	Federal Lands: Low
	State & Private Lands: Specified risk that insufficient training may occur regarding indicators in which specified risk exists already. This includes the following indicators: 2.2.3, 2.2.4, 2.2.5, and 4.2.7.

United States	Indicator
4.1.9	Mechanisms shall be in place for resolving grievances and disputes in the workplace.

Supply Base Verifiers	Context
	Workplace grievances are real or perceived problems experienced by employees. Employers are responsible for promoting a safe workplace environment and dealing with employee complaints and grievances.
	Regulations & Enforcement
	While there is no legislation in the US that pertains to employee grievances broadly, there are a variety of federal laws which cover specific types of grievances. These include (but are not limited to) the Age Discrimination in Employment Act, the Americans with Disabilities Act, the Equal Pay Act, Title VII of the Civil Rights Act, the Family and Medical Leave Act, the Fair Labor Standards Act, and the Occupational Health and Safety Act. When employers violate these acts, legal recourse is typically available. If an employee is a member of a collective bargaining agreement, they may also have legal recourse against violations of the agreement terms, even if the violation isn't covered under any other law.
	In addition to federal laws, all states in the supply base have their own departments of labour which may protect other types of grievances.
	Mechanisms & Supporting Evidence
	Grievances that are covered under legislation can be reported to the appropriate agency, whether that is the Wage and Hour division of the Department of Labor (DOL), the Occupational Health and Safety Administration (OSHA), or a state department of labour. In addition, litigation to resolve grievances related to employment discrimination are active in the United States, as the US Equal Employment Opportunity Commission (EEOC) is legally mandated to investigate charges of discrimination filed against any company with 15 or more employees. In 2020 alone, the EEOC resolved 70,804 charges of employment discrimination, awarding victims a collective \$439.2 million.
	Finally, it is common for larger companies to have human resource departments. Among other responsibilities, human resource departments develop policies for managing employee relations and dispute resolution.
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Risk Rating justification	Conclusion
	The United States has a variety of policies which provide legal routes to resolve employee grievances and disputes. For grievances not covered under these laws, additional pathways exist in the form of collective bargaining agreements and human resource departments. We therefore assign the following risk levels to this indicator:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
4.1.10	Safeguards shall be put in place to protect the health and safety of workers by developing, communicating and implementing policies and procedures.
Supply Base Verifiers	Context
	The International Labour Organization (ILO) Constitution sets forth the principle that workers must be protected from sickness, disease and injury arising from their employment. Nearly half of all ILO instruments deal with occupational health and safety in some form.
	Regulations & Enforcement
	With the Occupational Safety and Health Act of 1970, Congress created the Occupational Safety and Health Administration (OSHA) under the US Department of Labor to ensure safe and healthful working conditions for workers by setting and enforcing standards and by providing training, outreach, education and assistance. OSHA has policies which pertain to a wide variety of workplace hazards, including (but not limited to) hazardous chemicals, indoor air quality, injuries, personal protective equipment, and temperature extremes.
	In addition to the general protections and policies of OSHA, states can voluntarily create a workplace safety and health program to be approved and monitored by OSHA. California, Oregon, Washington, and Wyoming have each created a state plan. Moreover, all states in the supply base except

Wyoming have their own separate organizations that participate in monitoring workplace safety compliance.

Mechanisms & Supporting Evidence

OSHA works to increase workplace health and safety via its training institute. The institute provides a range of courses and programs to educate employers and employees on how to identify and prevent workplace hazards, as well as comply with OSHA regulations. OSHA also performs workplace inspections, with over 24,000 inspections carried out in 2021. Employees can file complaints to OSHA in person, by mail, or on the OSHA website. OSHA violations can lead to serious consequences for employers, including fines, penalties, and even criminal charges in severe cases.

Logging is considered one of the most hazardous jobs in the United States due to the high risk of injury and fatalities; the non-fatal injury rate for workers in the logging industry is 2,449 injuries per 100,000 workers, with 135.9 fatal injuries per 100,000 workers. Despite the inherent dangers of logging, mechanization has greatly increased the safety of the industry. For cost effectiveness reasons, feedstock harvesting can be expected to mostly consist of mechanized operations, which will reduce the number of workers exposed to hazards such as falling trees, rolling logs, and other types of accidents. In addition to mechanization, logging companies have implemented safety protocols and training programs to ensure that workers are properly trained to operate equipment and identify and mitigate potential hazards.

Sources

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Risk Rating justification	Conclusion The Occupational Health and Safety Administration collaborates with private and state entities to promote and enforce safe workplace procedures. While logging is a dangerous profession, technological advancements are making it safer, particularly for the harvest of low-grade material such as feedstock. We therefore assign the following risk levels to this indicator: Federal Lands: Low State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
4.2.1	Negative social and community impacts shall be identified and avoided.
Supply Base Verifiers	Context According to the Congressional Research Service, two negative social and community impacts commonly occur from logging activities worldwide. The first is the loss of subsistence forest resources for local communities; for example, if a community depends on the forest for food, the loss or degradation of that forest can leave the people without a critical resource. The second relates directly to illegal logging: if timber and other forest products are harvested illegally, the legal prices of those commodities become depressed by black-market competition. Worldwide, timber prices are depressed by an estimated 7-16% annually due to illegal log sales. This can have deleterious effects on forest products economies. Regulations & Enforcement Subsistence directly from forests is very uncommon in the United States, and the country's food security is extremely high, with a ranking of 13th out of 113 counties in the global food security index. Moreover, if a community were to be living off forests they owned, their timber would be protected from illegal harvest by timber trespass laws. These timber trespass laws also address the second concern, as they prevent the emergence of black-market timber which could negatively impact the forest products economy. All states in the supply base have laws relating to timber trespass: California: Civil Code Section 3346 Idaho: Section 6-202

- Montana: Code 70-16-107
- Oregon: ORS 105.810
- Washington: RCW 64.12.030

• Wyoming: WS 11-34-130 applies to state-owned land and does not protect timber on private lands. General laws relating to theft of property can be found in WY 6-3-402.7

With the exception of Wyoming, all of these codes are enforced by civil lawsuits filed by the victim for the value of the trees removed. In Wyoming, code violations are addressed via fines and/or imprisonment.

Mechanisms & Supporting Evidence

On federal land, timber trespass is approached seriously. For example, during active timber sales, the Forest Service implements timber theft prevention plans that involve the use of specialized tracer paint. The Forest Service has also developed software for determining the value of stolen trees. Nevertheless, little public data exists on the frequency of timber trespass on federal lands. The same is true of private lands. Anecdotal news stories regarding timber theft, when they occur, tend to consist of a small quantity of valuable trees being covertly harvested. Since pulpwood purchased by Drax is of low value compared to timber for lumber, veneer, or other products, and very large-scale illegal operations would need to occur for such an enterprise to profitable, it is unlikely the material purchased by Drax would come from timber trespass. No evidence exists of such large-scale criminal enterprises in the United States.

Finally, The International Property Rights Index ranks the United States as having very strong property rights laws, assigning a ranking of 13 out of 129 countries. This index examines the robust relationship between property rights and other economic and social indicators of well-being including – gender equality, illicit trade, innovation, competition, research and development, human development, fighting corruption, and measures of internet connectedness.

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Risk Rating justificatio n	Conclusion Negative community impacts from logging activities generally relate to the practice of illegal logging. A variety of laws exist in the supply base to prevent illegal logging, and evidence suggests that these laws are effective. Therefore, we assign the following risk levels to this indicator: Federal Lands: Low State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
4.2.2	Feedstock sourcing shall positively contribute to the local economy, including employment.
Supply Base Verifiers	Context
	According to the International Labour Organization, the forest sector employees 33 million workers worldwide. Introducing a new market for woody materials has the potential to increase employment and economic activity in the area from which that market sources. In the US specifically, logging employs around 48,500 workers, and this number is expected to decline in the coming decade. In addition, 43,000-owner operators run logging businesses in the US. Low grade wood markets are very important to US forest economies, and the loss of these markets can have devastating impacts on their surrounding forest workforces.
	Regulations & Enforcement
	No regulations pertaining to this indicator are present in the supply base.
	Mechanisms & Supporting Evidence
	Forest products are a significant contributor to the economies of several states within the supply base. Wood energy markets can be a large boon to forest economies and are promoted the state and federal level. For example, the US Forest Service Wood Innovation Grant program has a specific


Limited States	Indiactor
Onlied States	
4.2.3	Food, water supply or high conservation values (HCV) that are essential for the fulfilment of basic needs of communities shall be maintained or enhanced
Supply Base Verifiers	Context
	In the United States, the vast majority of the food supply is agricultural. Subsistence directly from forests is very uncommon in the United States, and the country's food security is extremely high, with a ranking of 13th out of 113 counties in the global food security index. Therefore, we will focus on maintaining or enhancing the water supply for the purposes of this indicator.
	The United Nations views access to clean drinking water as a basic human right. Feedstock harvesting should not be permitted to infringe on this right by introducing contaminants to drinking water.
	Regulations & Enforcement
	The effects of forest management activities on water sources can be mitigated via adherence to Best Management Practices (BMPs). There are both federal and state level regulations related to BMPs for forest management in the United States. Federal laws affecting forest management include but are not limited to the National Environmental Policy Act of 1969, the Clean Air Act of 1970, the Clean Water Act of 1972, the Endangered Species Act of 1973, the National Forest Management Act of 1976, the Forest Land Policy and Management Act of 1976, the Federal Insecticide, Fungicide, and Rodenticide Act of 1948, amended in 1996. In addition, federal land management agencies develop area specific management plans including the 1994 Northwest Forest Plan, and management plans for individual National Forest or Bureau of Land Management units.
	State laws in the supply base include:
	California: California Forest Practice Act
	Idaho: Idaho Forest Practices Act
	Montana: Montana Forestry Best Management Practices Notification Law
	Oregon: Oregon Forest Practices Act
	Washington: Washington Forest Practices Act
	Wyoming does not have a forest practices act but does publish BMPs for forestland operations.
	Mechanisms & Supporting Evidence
	Federal and state law pertaining to BMPs are enforced by agencies including the US Environmental Protection Agency, US Army Corps of Engineers, and state forestry agencies. Failure to comply with state and federal law can result in litigation and penalties.

litigation from environmental non-profits, with an average of 129 NEPA lawsuits filed
agencies under NEPA guidelines takes 3-4 years to complete, indicating a rigorous investigative process.
The California, Oregon, and Washington forest practice acts require the creation of harvest plans which incorporate BMPs for all state and private timberland operations. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field. Idaho and Montana do not require the creation of harvest plans but do conduct field audits on operations. Violations of state BMPs carry harsh penalties in Idaho, while compliance is voluntary in Montana. Regardless, recent audits in both found compliance exceeding 98%. , In Wyoming, use of BMPs on state lands is required, with audits showing BMPs successfully mitigated impacts to water quality. Use of BMPs on Wyoming private lands is voluntary, and limited data exists on levels of compliance.
The EPA publishes data annually on the quality of drinking water in the United States. Since 1999, over 90% of community water systems in the United States have passed EPA health standards each year. This suggests that existing legislation has been effective at protecting clean drinking water from contamination by industrial, forestland, and other activities.
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https://cfpub.epa.gov/roe/indicator.cfm?i=45
https://cfpub.epa.gov/roe/indicator.cfm?i=45 Conclusion
https://cfpub.epa.gov/roe/indicator.cfm?i=45 Conclusion Federal and state governments in the United States have implemented multiple pieces of legislation to protect drinking water and mitigate the impacts of forest management activities on waterways. Data collected by the US Environmental Protection Agency indicates these measures have been effective. We therefore assign the following risk levels to this indicator:
https://cfpub.epa.gov/roe/indicator.cfm?i=45 Conclusion Federal and state governments in the United States have implemented multiple pieces of legislation to protect drinking water and mitigate the impacts of forest management activities on waterways. Data collected by the US Environmental Protection Agency indicates these measures have been effective. We therefore assign the following risk levels to this indicator: Federal Lands: Low
https://cfpub.epa.gov/roe/indicator.cfm?i=45 Conclusion Federal and state governments in the United States have implemented multiple pieces of legislation to protect drinking water and mitigate the impacts of forest management activities on waterways. Data collected by the US Environmental Protection Agency indicates these measures have been effective. We therefore assign the following risk levels to this indicator: Federal Lands: Low State & Private Lands: Low

United States	Indicator
4.2.4	Legal, customary, and traditional tenure and use rights of Indigenous Peoples and local communities related to the Supply Base shall be identified, documented, and respected.
Supply	Context
Base Verifiers	The UN Declaration on the Rights of Indigenous Peoples recognizes the urgent need to respect and promote the rights of indigenous peoples to their lands, territories and resources. Feedstock sourcing should not contribute to historic infringements on these rights.
	Regulations & Enforcement
	Rights of federally recognized tribes in the United States are governed by 'reserved rights doctrine,' which states that any rights not specifically relinquished in a historic tribal treaty are reserved for the tribe. That is, if 1) the tribe had rights to hunt, graze, harvest firewood, fish, etc. on a given territory, and 2) there is no historic document in which that right was waived by the tribe, then that right still exists and will be protected by the American legal system. This will be true even if land on which the tribe has reserved rights is sold into private ownership. A total of 368 treaties dating all the way back to 1777 exist between the federal government and recognized tribes.
	In addition to the reserved rights doctrine, pursuant to Executive Order 13175 of November 6, 2000, all executive departments and agencies are required to regularly consult with federally recognized tribes on policies which may have tribal impacts. State agencies also engage in government-to-government relations with tribes.
	There are currently 574 federally recognized tribes. Not all tribes are federally recognized, but those which are unrecognized are able to apply for recognition status via administrative procedures under 25 CFR Part 83. Until they are recognized, these tribes are not governed under reserved rights doctrine.
	Mechanisms & Supporting Evidence
	If members of a tribe believe their reserved rights are not being respected, they can sue the offending party in federal court. Many court cases have reaffirmed and strengthened treaty rights; for example, in Worcester v. Georgia (1832), the Cherokee Nation challenged the state of Georgia's attempts to impose its laws on Cherokee lands. The Supreme Court ruled that the Cherokee Nation was a sovereign entity with the right to self-governance, and that Georgia had no authority to regulate the Cherokee lands. Another example is United States v. Washington (1974): this case involved the interpretation of a treaty between the United States and several Pacific Northwest tribes that guaranteed the tribes' right to fish in their traditional waters. The state of Washington had attempted to regulate the tribes' fishing activities, but the Supreme Court ruled that the treaty rights took precedence over state law. The decision affirmed the principle that tribal treaty rights are a form of federal law that can pre-empt state laws, and that the government has a trust responsibility to protect and enforce these rights.
	Sources

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Risk Rating	Conclusion
justificatio n	The treaty system and reserved right doctrine serve to uphold the rights of indigenous peoples in the supply base. They are backed by a century-and-a-half of jurisprudence. We therefore assign the following risk levels to this indicator:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
4.2.5	Mechanisms shall be in place for resolving grievances and disputes relating to tenure and use rights of the forest and other land management practices.
Supply Base Verifiers	Context The UN Declaration on the Rights of Indigenous Peoples recognizes the urgent need to respect and promote the rights of indigenous peoples to their lands, territories and resources. If indigenous peoples feel that feedstock sourcing has infringed on their traditional use rights, mechanisms should be in place to resolve and prevent further disputes. Regulations & Enforcement

	Rights of federally recognized tribes in the United States are governed by 'reserved rights doctrine,' which states that any rights not specifically relinquished in a historic tribal treaty are reserved for the tribe. That is, if 1) the tribe had rights to hunt, graze, harvest firewood, fish, etc. on a given territory, and 2) there is no historic document in which that right was waived by the tribe, then that right still exists and will be protected by the American legal system. If members of a tribe believe their reserved rights are not being respected, they can resolve this dispute by filing a lawsuit in federal court. Tribes themselves can also be sued by non-tribal entities, though they have 'sovereign immunity,' which allows them to dismiss any lawsuit against themselves unless the suit is explicitly authorized by Congress.
	Mechanisms & Supporting Evidence
	The National Congress of American Indians keeps an active ledger of court cases involving federally recognized tribes. Plaintiffs and Defendants have included federal and state governments, non-profit organizations, corporations, and non-tribal individuals. The most recent lawsuits occurred in 2020, though on any given year there may be a dozen such suits. Outcomes of these suits have included alteration to law, implementation of environmental mitigation measures, and financial compensation.
	Sources
	https://social.desa.un.org/sites/default/files/migrated/19/2018/11/UNDRIP_E_web.pdf
	https://law.jrank.org/pages/8748/Native-American-Rights-Reserved-Rights- Doctrine.html
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	https://www.npr.org/templates/story/story.php?storyId=121216558
Risk Rating	Conclusion
Justification	The United States has a long history of resolving tribal resource right disputes via the federal court system. As such, we assign the following risk levels to this indicator:
	Federal Lands: Low
	State & Private Lands: Low
Risk Rating	Low Risk

United States	Indicator
Officed Otales	
4.2.6	Where Indigenous Peoples' rights are identified in the Supply Base, and Free Prior and Informed Consent (FPIC) has not been achieved for the proposed and planned activities, a consultation and, if required, accommodation process shall be put in place.
Supply Base	Context
	The UN Declaration on the Rights of Indigenous Peoples recognizes the urgent need to respect and promote the rights of indigenous peoples to their lands, territories and resources. If feedstock sourcing has infringed on the traditional use rights of indigenous peoples, a mechanism should be in place to compensate them fairly for the infraction.
	Regulations & Enforcement
	Rights of federally recognized tribes in the United States are governed by 'reserved rights doctrine,' which states that any rights not specifically relinquished in a historic tribal treaty are reserved for the tribe. That is, if 1) the tribe had rights to hunt, graze, harvest firewood, fish, etc. on a given territory, and 2) there is no historic document in which that right was waived by the tribe, then that right still exists and will be protected by the American legal system. If members of a tribe believe their reserved rights are not being respected, they can resolve this dispute by filing a lawsuit in federal court. If the court finds in favour of the tribe, a variety of different compensatory measures may be implemented, depending on the desires of the tribe and the circumstances of the suit. Examples of historical compensatory measures these suits have included alteration to law, implementation of environmental mitigation measures, and financial payments.
	Mechanisms & Supporting Evidence
	The National Congress of American Indians keeps an active ledger of court cases involving federally recognized tribes. Plaintiffs and Defendants have included federal and state governments, non-profit organizations, corporations, and non-tribal individuals. The most recent lawsuits occurred in 2020, though on any given year there may be a dozen such suits.
	Sources
	https://social.desa.un.org/sites/default/files/migrated/19/2018/11/UNDRIP_E_web.pdf
	https://law.jrank.org/pages/8748/Native-American-Rights-Reserved-Rights- Doctrine.html
	https://www.britannica.com/topic/Worcester-v-Georgia
	https://www.seattletimes.com/seattle-news/environment/tied-u-s-supreme-court- decision-means-washington-must-remove-barriers-to-salmon-migration/

		https://www.npr.org/templates/story/story.php?storyId=121216558 https://ncai.org/resources/legal-filings
Risk Rating justification Conclusion The United States has a long history of resolv federal court system. As such, we assign the federal Lands: Low State & Private Lands: Low	Conclusion The United States has a long history of resolving tribal resource right disputes via the federal court system. As such, we assign the following risk levels to this indicator: Federal Lands: Low State & Private Lands: Low	
	Risk Rating	Low Risk

United States	Indicator	
4.2.7	Designated cultural heritage sites shall be preserved.	
Suppl y Base Verifie rs	Context Historic sites that can be found in the forests of the United States include ancient villages, rock art, travel routes and markers, military forts, and abandoned mines and mills. It is important that these sites are preserved and unaffected by feedstock harvesting to the greatest extent possible. Regulations & Enforcement	
	According to section 2360 of the US Forest Service Manual, the following laws pertain the protection of cultural heritage sites on public lands: the Organic Act of 1897, the Antiquities Act of 1906, the Historic Sites Act of 1935, the Natural Historic Preservation Act of 1966, the National Environmental Policy Act of 1969, The Archaeological and Historic Preservation Act of 1974, the Federal Land Policy and Management Act of 1976, the Archaeological Resources Protection Act of 1979, The Native American Graves Protection and Repatriation Act of 1990, and the Federal Lands Recreation Enhancement Act of 2004. Collectively, these acts require that all activities on federal lands undertake the necessary steps to preserve and protect cultural resources.	
	State laws also exist to protect cultural resources on private and state lands during forestry operations, including the California Forest Practice Act, the Oregon Forest Practices Act, and the Washington Forest Practices Act. In Idaho, Montana, and Wyoming, state historic preservation offices (SHPOs) help educate and encourage private landowners to preserve the cultural resources on their properties. Tax incentives are sometimes available to landowners who rehabilitate these sites. If a cultural or historic site on private or state land is not listed with the state SHPO, it would not be considered "registered" per the requirements of this indicator.	
	Given that SHPOs are administered by state governments, they are most likely to be successful in protecting heritage sites on state-owned lands versus privately owned lands. This is especially true in Wyoming, which has a separate department dedicated to preserving cultural resources on state	

lands. Privately owned lands pose a greater challenge; ultimately, cultural resources in these three states are considered the property of the landowner, and no laws exist which explicitly require their preservation. The exception to this is human remains and burial sites, which are protected under federal law on both private and public lands.

Mechanisms & Supporting Evidence

According to the 2021 Preserve America Report, the US Forest Service has implemented a number of improvements to its heritage protection program in recent years. In addition to continued collaboration with tribal authorities to identify, protect, and study cultural heritage sites, modern tools have recently been implemented to locate new sites. These include the use of LIDAR and Ground-Penetrating Radar.

The California, Oregon, and Washington forest practice acts require the creation of harvest plans that identify and outline protection measures for historic sites during all state and private timberland operations. Harvest plans and associated operations are reviewed by state agencies, both in the office and in the field.

If a site on private land is registered with a SHPO, this does not confer legal protections onto it. Landowners who voluntarily register a site would be unlikely to damage it during timber operations. However, if their land is sold to a different owner who does not wish to protect the site, the site could be damaged.

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 Risk Rating
 Conclusion



justific ation	The federal government has a long history of passing laws to protect and preserve historic sites on its own lands. Some states in the supply base have extended these protections to private lands, but others have not. We therefore assign the following risk to this indicator:
	Federal Lands: Low
	State & Private Lands: Specified risk pertaining to the potential disturbance or destruction of designate cultural heritage sites on private lands in Idaho, Montana, or Wyoming.
Risk Rating	Specified Risk

Annex 2: RED II Supply Base Evaluation

Please add all countries where RED II Supply Base Evaluation is used		
Country	United States	
Area		
Sustainable harvesting criteria 29(6)		
(i) The legality of harvesting operation	ions	
Type of Risk Assessment used	 Level A – proof at national or sub-national level Level B – management system at forest sourcing area level 	
Level A risk assessment description	N/A	
Level B management system at the level of the forest sourcing area	See Risk Indicators 1.1.1 (Compliance with Laws & Regulations), 1.1.2 (Legal Ownership of Land), 1.1.3 (CITES & EUTR), 1.1.4 (Payment for Harvest Rights), & 1.1.5 (Protection from Illegal Activities) in Annex 1 for a full assessment on legality of harvesting operations for the supply base. Each of the listed indicators in Annex 1 are used to derive a "low risk" for this REDII indicator across all sub scopes.	
(ii) Forest regeneration of harvested areas		
Type of Risk Assessment used	 Level A – proof at national or sub-national level Level B – management system at forest sourcing area level 	
Level A risk assessment description	N/A	
Level B management system at the level of the forest sourcing area	See Risk Indicators 2.2.1 (Land Conversion) & 2.2.10 (Regeneration) in Annex 1 for a full assessment (and mitigation measures) relating to forest regeneration of harvested areas for the supply base. These indicators in Annex 1 were used to derive the following risk ratings: Federal lands: Low Risk State & Private lands: Specified Risk for feedstock that is harvested from private lands	
(iii) That areas designated by international or national law or by the relevant competent authority for nature protection purposes, including in wetlands and peatlands, are protected unless evidence is provided that the harvesting of that raw material does not interfere with those nature protection purposes		
Type of Risk Assessment used	 Level A – proof at national or sub-national level Level B – management system at forest sourcing area level 	
Level A risk assessment description	N/A	

See Risk Indicators 2.1.1 (Identify HCVs), 2.1.2 (Identify Impacts to HCVs), 2.1.3 (Maintain or Enhance Biodiversity), 2.2.1 (Land Conversion), 2.2.2 (Ecosystem Health), & 2.2.5 (Water Quality & Quantity), 3.2.3 (Primary Forests) in Annex 1 for a full assessment (and associated mitigation measures) on protection of areas designated for nature protection purposes in the supply base. These indicators in Annex 1 were used to derive the following risk ratings: Federal lands: Low Risk State & Private lands: Specified Risk for feedstock that is harvested from private lands, with elevated focus on private lands in Wyoming	
(iv) That harvesting is carried out considering the maintenance of soil quality and biodiversity with the aim of minimising negative impacts	
 Level A – proof at national or sub-national level Level B – management system at forest sourcing area level 	
N/A	
See Risk Indicators 2.1.3 (Maintain or Enhance Biodiversity), 2.2.2 (Ecosystem Health), 2.2.3 (Soil Quality), 2.2.4 (Harvest Residues) & 2.2.9 (Harvest Levels) in Annex 1 for a full assessment (and associated mitigation measures) on ensuring that harvesting is carried out considering maintenance of soil quality & biodiversity in the supply base. These indicators in Annex 1 were used to derive the following risk ratings: Federal lands: Low Risk State & Private lands: Specified Risk for feedstock that is harvested from private lands, with elevated focus on private lands in Wyoming	
(v) That harvesting maintains or improves the long-term production capacity of the forest.	
 Level A – proof at national or sub-national level Level B – management system at forest sourcing area level 	
N/A	
See Risk Indicators 1.1.5 (Protection from Illegal Activities), 2.1.3 (Maintain or Enhance Biodiversity), 2.2.1 (Land Conversion), 2.2.2 (Ecosystem Health), 2.2.3 (Soil Quality), 2.2.4 (Harvest Residues), 2.2.5 (Water Quality), 2.2.9 (Harvest Levels), & 2.2.10 (Regeneration) in Annex 1 for a full assessment (and associated mitigation measures) on ensuring that harvesting is carried out to maintain or improve the long- term production capacity of the forests in the supply base. These indicators in Annex 1 were used to derive the following risk ratings: Federal lands: Low Risk	

	State & Private lands: Specified Risk for feedstock that is harvested from private lands, with elevated focus on private lands in Wyoming
LULUCF criteria 29(7)	
Type of Risk Assessment used	 ☑ Level A – proof at national or sub-national level □ Level B – management system at forest sourcing area level
Level A risk assessment description	SBP-endorsed REDII Level A risk assessment for Article 29(7) LULUCF
Level B management system at the level of the forest sourcing area	N/A

Annex 3: SBP Processing residues and/or Post-consumer feedstock requirements

□ Not Applicable (Processing Residues and/or post-consumer feedstock not used)

Verification and monitoring of suppliers

Prior to receiving fiber from a Residual Fiber (processing residues & tertiary feedstock) source, the Fiber Team will submit an approval request to the Sustainability Team via MS Forms. Included in the approval request will be a "Residual Fiber Questionnaire" that the Sustainability Team will use to collect information from the supplier, including but not limited to:

- i. Name and address of the supplier
- ii. Type of Supplier (e.g. purchaser, saw/pulp mill, broker/trader, remanufacturer)
- iii. Categories of feedstock to be supplied (including relevant SBP product groups)
- iv. Level of control required for the supplier to assure correct fiber is being sent to the BP
- v. Self-declaration that the feedstock qualifies as processing residue or waste according to the REDII b)

The BP will monitor the compliance of its suppliers with SBP definitions and purchase specifications by using the answers provided in the Residual Fiber Questionnaire & corroborate the submissions in the Supplier Audit process. Suppliers that are found to have non-conformities with the verification process or have been found to be misleading the BP in the questionnaire, the Procurement Policy Mitigation Measure will be implemented as follows:

Mitigation Measure: Procurement Policy

Any feedstock from a supplier who either does not provide enough information or is found to have purposefully mislead the BP in questionnaires will be considered SBP controlled feedstock until the proper information can be collected. SBP Compliant or SBP Controlled determinations are made monthly therefore either status will apply for a minimum of one month or until the required information is collected. In cases where information cannot be obtained, or the supplier has demonstrated multiple nonconformities that are unreasonable the BP will:

- Determine the root cause of the supplier's unwillingness to cooperate

- Determine if there is a way to obtain information that protects the suppliers' sensitivities but still achieves the BP's information requirements

- If the supplier and the BP cannot come to a mutual agreement on required information the BP may:
- o Determine the feedstock is non-eligible input for SBP products
- o Withhold the supplier's deliveries to the BP's facilities
- o Non-renewal of purchase agreements upon expiry
- o Termination of the purchase agreement
- o Removal from consideration on future purchases

The information provided by the secondary suppliers are reviewed annually and verified by third party auditors to ensure they are complete and correct. The annual information collection and verification exercise reviews the mitigations effectiveness. Any deficiencies are uncovered, and new methodologies are developed to close any uncovered gaps.

Feedstock inspection and classification upon receipt

All loads of fiber received by the BP are tracked within the company's LIMS tracking system. For a delivery to be entered into the LIMS system & accepted by the BP, the contract for fiber purchased needs to be agreed upon and set up.

Upon receipt of fiber deliveries to the BP, the supplier will be accompanied by documentation relating to the fiber that they are delivering. This fiber is visually inspected upon receipt for accuracy with the accompanied delivery documentation with a sample of loads from each supplier being selected for sample testing of the product.

Once a supplier is approved for delivery to the BP through the Residual Fiber Questionnaire process, the Sustainability Team will classify which SBP feedstock category the fiber will belong to. All Residual Fiber suppliers to the BP will be included in the sample for the Supplier Audit process to ensure that REDII compliance is ensured.

Supplier audit for processing residues and post-consumer feedstock

The BP will annually review the list of Residual Fiber suppliers to each site included in it's SBP Certification Program & a sample of these suppliers will be selected for the Supplier Audit process. The annual audit will entail the following:

- A review of the answers provided in Residual Fiber Questionnaire that was supplied to the BP by the supplier, with the supplier

- A review of the Supplier Mapping Package provided (if applicable)
- An onsite visit of the supplier's facility by the Sustainability Team, which will consist of the following verification:
- o Raw material procured by the supplier

o Preparation of feedstock for the BP from the supplier (confirmation that fiber is a processing waste or postconsumer feedstock)

o How fiber is loaded for transport to the BP

To select the sample of supplier sites to be visited the BP will consider the following classifications:

- Suppliers that are under common ownership & supply the same SBP feedstock category will be considered as one for the audit selection

o In this scenario, the BP will target an audit of different sites under the classification in subsequent audit periods

- Suppliers that are under different ownership, but are managed under the same certification certificate scope & supply the same SBP feedstock category will be considered as one for the audit selection

- o In this scenario, the BP will target an audit of different sites under the classification in subsequent audit periods
- For each SBP Certificate held by the BP, the sample will be calculated as the following:



Where X is equal to the number of suppliers classified with the above considerations.

The BP will maintain documentation in the form of pictures, spatial location, & an internal assessment form for each supplier audit. This documentation will be made available to auditors during the external audit. If any non-conformities with the procedure are found through the Supplier Audit process, they will be subjected to the Procurement Policy mitigation measure as described above.