FSC US Controlled Wood Regional Meeting Report
SOUTHEAST & MISSISSIPPI ALLUVIAL VALLEY REGIONS:
Atlanta, GA – July 31, 2018

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Executive Summary

In Summer 2018, FSC US invited diverse stakeholders to participate in a new and innovative process to collaboratively identify practical actions that companies can take to effectively reduce the risk of procuring wood from forests where important ecological values are threatened. This process included participation through webinars, an online discussion forum and in-person Controlled Wood Regional Meetings. Organizations and individuals who engaged in this process collaboratively developed mitigation options through informed consultation that will be used by FSC certificate holders that wish to mix FSC certified materials and non-certified materials from areas of specified risk (identified in the FSC US Controlled Wood National Risk Assessment) and then make an FSC claim on the resulting products. This document provides further details about: 1) the process, 2) about outputs from the process that are specific to the FSC US Southeast and Mississippi Alluvial Regions, including from the associated Controlled Wood Regional Meeting held in Atlanta, Georgia on July 31, 2018, and 3) about how to use these outputs (including mitigation options) to implement the Control Measures in the FSC US Controlled Wood National Risk Assessment. The mitigation options provided herein were endorsed by the FSC US Board of Directors on November 29, 2018.

Background

Function of the Controlled Wood Regional Meetings

When a company wishes to mix FSC certified and non-certified materials and be able to make an FSC claim about the resulting product, they must 'control' the non-certified materials to reduce the risk of sourcing from places with objectionable forestry practices (such as illegal practices, harvesting that violates workers' or indigenous peoples' rights, or harvesting that threatens high conservation values), from places where the harvest results in the conversion of forests to non-forest uses, or from places where genetically modified trees occur. FSC Chain of Custody certificate holders that have 'Controlled Wood' within the scope of their certificate do this by conforming with the FSC Controlled Wood Standard (FSC-STD-40-005).

The Controlled Wood Standard (V3-1) requires that a certificate holder implement actions to avoid or mitigate risk, prior to using materials from any area with an identified risk level that is greater than 'low.' The FSC US Controlled Wood National Risk Assessment (NRA) will be the primary source of information on risk for certificate holders sourcing non-certified materials from the conterminous US (i.e., 'Lower 48' states; not including Hawaii, Alaska or US territories) and provides specified risk designations for areas where the risk has been identified as being greater than 'low.' The US NRA identifies specified risk areas that are associated with places where harvesting threatens high conservation values (HCVs) and places where materials could come from harvests that result in forest conversion. The actions a certificate holder implements to avoid or mitigate these identified risks are termed Control Measures. The NRA defines the Control Measures that are mandatory when sourcing Controlled Wood from areas of specified risk in the conterminous US.

Generally, the NRA provides one choice for a Control Measure that address risk associated with HCVs – it requires implementation of one or more mitigation options (commensurate with the scale and intensity of the Organization's potential impact on the forests in the region). The NRA provides two choices for Control Measures that address risk associated with Forest conversion, one of which is similar to that for HCVs, but a second one is added by which a certified manufacturer acknowledges the use of materials from limited and legal forest conversions AND implements one or more mitigation options.

During development of the NRA, the FSC US Board of Directors recognized that in the context of the United States, most certificate holders do not have information about the specific sites of origin for all of the non-certified materials that they are using, nor complete details about the supply chains from which they source the materials. This is due to typical procurement practices, extremely complex supply chains, and concerns regarding Antitrust issues, which together make this knowledge almost impossible to acquire for most certificate holders in the US. Therefore, the Board directed the NRA working group to develop an alternative approach for control measures and mitigation in the US. The resulting approach explores options for how a certificate holder can reduce the risk of sourcing from objectionable places by implementing mitigation actions within the landscape of the specified risk area that will either, as needed: a) reduce threats to HCVs from forest management activities; and/or b) reduce the rates of forest conversion across the landscape – thereby reducing the risk of sourcing from places where these objectionable activities are occurring.

However, the Board also recognized that it would be necessary to bring as many perspectives as possible into the development of these mitigation actions to help ensure that they would be as practical and as effective as possible. To address this need, the Board developed the concept of Controlled Wood Regional Meetings that would periodically bring together diverse stakeholders to collaboratively develop a set of mitigation options for each of the specified risk issues identified in the NRA, and then adapt them as needed over time.

Mitigation Option Development Process

During Summer 2018, the Forest Stewardship Council (FSC) US hosted two webinars, three regional meetings and an online discussion forum as part of an informed consultative process to help identify the mitigation options that companies need to implement the Control Measures detailed in the FSC US National Risk Assessment. Participants included companies that are FSC certified and source Controlled Wood, their suppliers, Certification Bodies (auditors) and other stakeholders actively working to advance responsible forest management and enhance local economic development.

The three in-person regional meetings – held in Asheville, North Carolina; Atlanta, Georgia; and Portland, Oregon – focused on regionally specific sets of specified risk topics, and were professionally facilitated to ensure efficiency, fairness, and clarity of stakeholder input.

At the regional meetings and through an online discussion forum, participants provided input on: a) proposed mitigation options for each of the risk topics; and b) shared criteria to be used as a lens for evaluating the mitigation options. With each regional meeting, the attendee input was used to further refine the shared criteria, and the criteria were finalized following the third and final meeting. The input provided on mitigation options was comprehensive enough to allow the development of a final draft set of mitigation options that were shared with the Controlled Wood consultative forum for an additional two-week consultation in October 2018. The resulting mitigation options were endorsed by the FSC US Board of Directors on November 29, 2018. Those mitigation options associated with specified risk in the FSC US Southeast and Mississippi Alluvial Regions are detailed below and are now available for use by certificate holders.

Regional Meeting & Final Consultation Outputs

Mitigation Option Shared Criteria

Regional meeting participants together developed the following criteria as a shared lens for building alignment on mitigation options. The criteria were refined across the course of the three Controlled Wood Regional Meetings and were finalized following the third and final meeting. They were used by the participants as they provided input during the regional meetings and through the online discussion forum, by FSC US staff as they developed the final draft mitigation options, and by the FSC US Board of Directors as they reviewed and endorsed the final set of mitigation options. These criteria are NOT intended to be used to evaluate the implementation of mitigation options.

Moving forward, these criteria may also be used by certification bodies to help them assess the adequacy of control measures in situations (as allowed by the Controlled Wood Standard) where a company finds that the control measures in the NRA are not adequate to mitigate the identified risk and propose an alternative.

(No priority intended by numbers, just for reference)

1. For each mitigation option, at least one of the following applies:
    a. Results in decreased negative impact(s) and/or increased positive impacts from forest management activities within the specified risk area
    b. Improves knowledge about how, and places where, the conservation value is being threatened within the specified risk area so that those places are avoided or mitigated; limited to situations where there is an explicit need for this specific information to improve conservation of and mitigation associated with the value
    c. Promotes, expands or improves an ongoing initiative/program that is already producing verifiable positive outcomes within the specified risk area
    d. Implements a new/innovative initiative/program that will fill a gap or address a weakness in the existing network of initiatives/programs associated with forest management impacts on the value in within the specified risk area.
    e. Promotes, expands or improves implementation of actions within the specified risk area identified through diverse-stakeholder planning processes (e.g., State Wildlife Action Plans, regional conservation plans, Federal recovery plans)
2. For each mitigation option, all of the following apply:
    a. Proven or a reasonable expectation of effectiveness in maintaining or enhancing the conservation value within the specified risk area
    b. Passes through topline filters of efficacy, clarity, efficiency, practicality, measurability and auditability
    c. Doesn't require companies to make extensive investments to infrastructure/resources, but will require engagement across chambers
3. For the set of mitigation options, all of the following apply:
    a. Provides a workable option for all enterprises, regardless of size or location in the supply chain
    b. Doesn't require certificate holders to have knowledge of specific sites from which their forest materials originate, in situations where the procurement processes and/or antitrust concerns make this information inaccessible.

c. Differentiates requirements between companies that buy directly from the forest, and those that don't

Mitigation Options

As FSC US staff worked through the large amount of feedback that was provided on mitigation options through the Controlled Wood Regional Meetings and online discussion forum, they found that comments and support were typically focused on a relatively small number of themes for each specified risk topic. Additionally, they found that many of these themes were repeated for a number of different specified risk topics. Therefore, with recognition that some certificate holders might wish to create efficiencies by applying the same mitigation option for different specified risk topics and to help maintain consistency throughout the system, FSC US used a standard template for each Central Theme, which was then customized for the specified risk topic at hand, based upon the feedback received from stakeholders. The following table details which Central Themes were identified for each Specified Risk Topic. The resulting mitigation options are detailed in a later section of this document.

Table 1. Central Themes for mitigation options as identified by stakeholders for each specified risk topic.

CW REGIONAL MEETING	SPECIFIED RISK TOPIC	CENTRAL THEME	Education & Outreach	Procurement Policy	Research & Mapping	Conservation Initiatives	Planning	Implement Mgmt Activities	Staff/Forester Training	Landowner Incentives	Direct Influence	BMP Monitoring	Cape Fear Arch Cons. Collab.
Asheville	Central Appalachian CBA		X		X	X					X	X	
	Cheoah Bald Salamander		X	X	X	X	X				X		
	Mesophytic Cove Sites		X		X				X				
Atlanta	Cape Fear Arch CBA		X	X		X							X
	Central Florida CBA		X	X		X		X					
	Conversion (Atlanta & Portland)		X	X	X	X	X						
	Dusky Gopher Frog		X	X	X			X					
	Florida Panhandle CBA		X		X	X							
	Houston Toad		X	X	X			X					
	Late-Successional Bot. Hardwoods		X	X	X			X		X			
	Native Longleaf Pine Systems		X	X	X		X	X		X			

	Patch-Nosed Salamander	X	X	X	X	X						
	Southern Appalachian CBA	X		X	X					X		
Portland	Central California CBA	X	X	X		X		X				
	Klamath-Siskiyou CBA	X	X	X		X	X					
	Lesser Slender Salamander	X	X	X			X					
	Old Growth Forests	X	X	X		X		X	X			
	Conversion (Atlanta & Portland)	X	X	X	X	X						

Mitigation Option Final Consultation Topline Feedback

During October 2018, FSC US invited Controlled Wood Regional Meeting participants and other stakeholders to provide feedback during a final two-week consultation on the final draft mitigation options for each of the specified risk topics. Commenters focused primarily on over-arching concerns, particularly related to auditability and consistency in auditing. A summary of the comments provided is captured below.

Support for the Mitigation Options

- A number of commenters indicated that they believe that the mitigation options take the Controlled Wood system in the US in the right direction
- One expressed the opinion that "overall the mitigation options looked effective and implementable"
- There was a distinct lack of over-arching concern expressed about the mitigation options as a whole – i.e., FSC US did not receive a flurry of comments from aggravated stakeholders.

Limited Concern Regarding the Mitigation Options

- One commenter expressed significant concern, describing the mitigation options as "…very similar, vague, and not at all what I was expecting. I expected this process to result in a simple list of actionable choices that a certificate holder could choose between." This sentiment was not duplicated by any other commenter – in fact, much more feedback received during this process has focused on the need for some flexibility to allow certificate holders to adapt to their unique contexts, while still providing a structure and consistency for mitigation implemented.
- One commenter expressed concern related to the development timeline (too fast) and lack of testing or piloting of the mitigation options.
- A small number of commenters expressed concerns regarding FSC US's ability to develop metrics by which to reliably monitor the effectiveness of the mitigation implemented.
- One commenter noted concern about certificate holder accountability as part of this approach

General Controlled Wood Concerns

- Potential workload and resource commitment is daunting, particularly for companies that source from many states or regions
- Certificate holders are already fatigued by the continuous change and requirements related to controlled wood over the last few years. Any continuation in the FSC Controlled Wood program will need to require the same or less effort and resources from certificate holders, or these companies will leave the FSC ecosystem altogether.

- Concern regarding increased complexity of audits and therefore cost.

Auditability and Calibration

- Feedback included many concerns about auditability of mitigation option implementation by certification bodies. The effectiveness of this approach will require coordination between FSC and CBs and clear communication with Certificate holders regarding the expectations for being considered in conformance with the overall goal of mitigating risk.
- Comments clearly indicated the need for both additional guidance on how to determine the level of mitigation necessary, and the need for intent statements associated with each mitigation option. The intent statements are now completed, and the guidance is in development (the chamber-balanced NRA Working Group is assisting with this process).
- One commenter indicated that FSC US should not proceed until more detail on auditable criteria are available.

Collaborative Implementation

- A number of commenters indicated that the ability to work as a group, or link up with organizations is essential and needs to be an option for certificate holders going forward.
- And that FSC US should coordinate these efforts

Next Steps

Guidance for Certificate Holders & Certification Bodies

FSC US staff are working with the NRA Working Group and Certification Bodies to develop guidance for a baseline of what would be considered adequate when a low level of mitigation is required. Certificate holders that need to implement a higher level of mitigation will be expected to scale up from that baseline. This guidance will be available to certificate holders and other stakeholders before the end of April 2019.

Metrics for Effectiveness Verification

FSC US has taken on the responsibility for completing effectiveness verification, recognizing that since the mitigation will be implemented at a landscape scale, the effectiveness needs to be assessed at a similar scale, not at the scale of individual sourcing areas (i.e., certificate holder by certificate holder). FSC US will be looking for opportunities to build on research, monitoring and evaluation being completed by partners, government agencies and other entities (there are numerous active programs and projects already ongoing related to most of the specified risk topics). We will be requesting information from certificate holders about the actions being implemented. And we will be working to develop methodologies for assessing stakeholder perceptions associated with reduction of threats to HCVs from forest management activities, and rates of forest conversion in specified risk areas. During the coming year, we will be developing a more formal framework for the effectiveness verification – developing metrics to assess some or all of the following: changes in the threats to HCVs from forest management activities; changes in the rates of forest conversion in areas of specified risk; changes in the kinds of on-the-ground forest management activities implemented and the frequency at which the more desirable practices are implemented; over all status of HCVs; and any other metrics identified that could be used to assess the risk of sourcing from places where HCVs are threatened by forest management activities and/or forest is being converted to non-forest.

Calibration & Communications with Certification Bodies

FSC US has already initiated and is committing to continuing to maintain open communications with certification bodies, working together to ensure consistency in auditing, between certificate holders and between certification bodies, with a focus on the effectiveness of mitigation, not just whether a process has been implemented. We will be working to closely monitor potential impacts to the FSC system as certificate holders begin to update their due diligence systems to incorporate the NRA and mitigation options. We are asking certification bodies to alert FSC US quickly in situations where there is a very negative outcome from an audit that is considering mitigation options.

Adaptive Management

The FSC US Board has also committed to closely monitoring the impact of this new and innovative approach. The Board is looking at implementation within an adaptive management framework, where the mitigation options, guidance and even NRA, if needed, will be revised to ensure the effectiveness of the system in the US. However, the Board has also explicitly recognized the need for stability in the system, particularly given the numerous changes over the last several years. The Board will be working with FSC US staff on system-wide monitoring of both certificate holder loss and effectiveness of mitigation, and development of a plan that includes both thresholds for action, and definition of actions if those thresholds are breached.

Implementing Control Measures & Mitigation Options

Decision Tree for Considering Risk Associated with the Origin of Material

1. The certificate holder gathers information about the geographic area(s) from which they source non-certified forest materials ('supply area') and information about risk. The NRA will likely be the primary source for information about risk within the supply area (i.e. overlap with specified risk areas). Maps (PDFs) and a spatial data layer of the specified risk areas are available on the FSC US website (https://us.fsc.org/en-us/certification/controlled-wood/fsc-us-controlled-wood-national-risk-assessment-us-nra). The certificate holder must document the rationale and information used to for the following decision and provide it to their auditor during their audit(s).

   DECISION 1: Does the information gathered indicate that the certificate holder is sourcing from an area of specified risk? ***If yes, continue to #2. If no (and none of the following notes apply), no further action is needed.***

   NOTE: If the information gathered by the certificate holder identifies risk in a place that is not defined as a specified risk area in the NRA, they still must implement a control measure to mitigate that risk. They may use one of those in the NRA if appropriate, but they may also develop their own.

   NOTE: The certificate holder must also consider the risk of unexpected materials getting mixed in to the materials received within their supply chains. If this assessment identifies a risk greater than 'low' the certificate holder is responsible for implementing control measures to mitigate that risk. They may use one of those in the NRA if appropriate, but they may also develop their own.

2. The certificate holder must identify a control measure for each area of specified risk from which they are sourcing.

   DECISION 2: Which Control Measure will the certificate holder implement? ***If CM 4.1, go to #3. If CM 3.1 or CM 4.2, go to #4.***

NOTE: The certificate holder must go through the remainder of this decision tree for EACH specified risk area from which they source non-certified forest materials.

NOTE: The certificate holder may replace the control measures provided in the NRA with more effective control measures, as long as all of the conditions laid out in Clause 4.13 of the Controlled Wood Standard (FSC-STD-40-005 V3-1) apply. In which case, the remainder of this decision tree does not apply.

3. CM 4.1 may be applied when the certificate holder has information about the forest conversion(s) occurring within the specified risk area. If the certificate holder does not have this kind of information, CM 4.1 may not be used and CM 4.2 should be used instead. The certificate holder must document their rationale and evidence for why the forest conversion in question meets the criteria of and follows the guidance provided for this control measure. They will need to provide this documentation to their auditor during their audit(s) as part of their compliance verification.

   DECISION 3: Does the forest conversion in question meet the criteria of and follow the guidance for CM 4.1? ***If yes, continue to #4. If no, the materials must be avoided. If there is not enough information to make a decision, CM 4.1 is not applicable.***

4. The certificate holder must use the Mitigation Matrix in Table 2 (below) to determine what level of mitigation is required. To do this, the certificate holder must first estimate from what proportion of the specified risk area they are sourcing (the columns of the matrix) – Only a very small part of it? (<25%) A little less than half of the specified risk area? (25-50%) All or almost all of the specified risk area? (>75%). This estimate could be made using GIS or by considering a static map of the specified risk area and asking approximately how much of it is overlapped by the supply area. Then, considering their FSC Annual Administration Fee (AAF), and finding where that row intersects the column identified, the certificate holder can determine their level of mitigation required for that specified risk area. The certificate holder must document their rationale and information used to make this determination as part of their compliance verification.

   DECISION 4: What level of mitigation is required? ***Continue to #5.***

   NOTE: If the sourcing in question is being completed by a Chain of Custody group member, the level of mitigation required will always be the 'low' category, due to the limit on the size of companies that are allowed to participate in CoC groups.

   NOTE: If the certificate holder is able to calculate actual volumes being sourced from the specified risk area this may be used instead of AAF Class for the Mitigation Matrix below. The certificate holder will need to document their calculation and rationale for the level of mitigation required as part of their compliance verification.

5. Finally, the certificate holder must decide which mitigation option(s) they will implement, and how they will implement that option to achieve the level of mitigation required. The considerations following this decision tree should help with this decision, as will the guidance on baseline expectations being developed by FSC US. The certificate holder must document their rationale and any information that supports their decision as part of their compliance verification.

   DECISION 5: Which mitigation option will the certificate holder implement and (if applicable) how will they scale it to the desired level of mitigation? ***Continue to #6.***

6. Implement the mitigation option in the manner determined in #5. The certificate holder must document implementation for their compliance verification. ***If the certificate holder must consider another specified risk area, return to #2. If not, no further action is needed.***

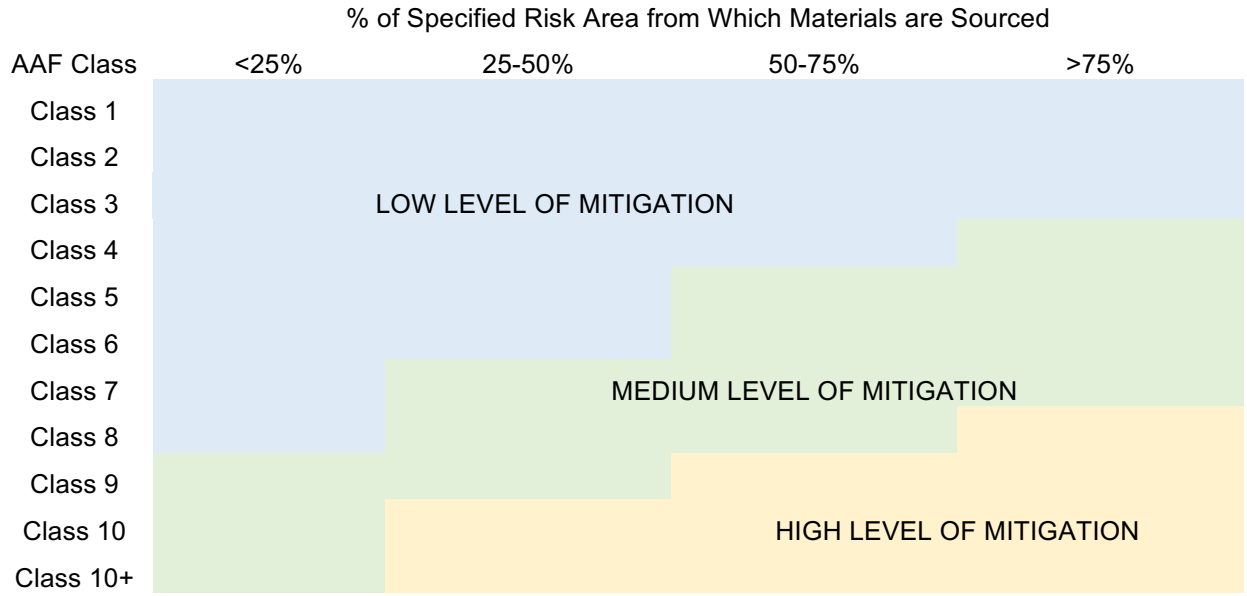
Considerations for Selecting a Mitigation Option

- FSC US will provide guidance on what the 'baseline' is for implementation of any of these mitigation options. That is, what is the minimum level of effort (effectiveness) that would be considered adequate for that mitigation option at a low level of mitigation required.
- Some mitigation options are listed as 'scalable for any level of mitigation' – this means it could be used by a certificate holder that falls into any level of mitigation required. A certificate holder with a low level of mitigation required could implement at the baseline level (to be provided in the forthcoming guidance), but others would need to scale up to reach a medium or high level of mitigation, as needed.
- Some mitigation options specify that they are appropriate for situations where a high level of mitigation is required. In these situations, the baseline will be for the high level of mitigation. A certificate holder in any of the categories of mitigation required could implement one of these options, but they would need to achieve at least the baseline. The intention of recognizing these options in this way is to recognize that they will likely require greater investment and result in greater mitigation than the baseline of implementation for other mitigation options.
- For certificate holders that are in the low category of mitigation required, they should be able to select one option and implement it at the baseline level or greater.
- For certificate holders that are in the medium or high categories, they will have to decide whether they are going to use a scalable option, but do more than the baseline to achieve greater mitigation, or if they are going to implement one of the options identified for 'high' levels of mitigation, or if they are going to implement more than one mitigation option, but stick to the baseline level for each, or some combination of these.
- Some mitigation options are listed as being for situations where the certificate holder purchases materials directly from the source forest. Certificate holders in these situations are not required to use these options, but the options are provided in the hopes that they might be easier, but still effective, in these situations. Certificate holders that are not purchasing materials directly from the source forest may use these options, if their circumstances allow.

Mitigation Matrix

The following matrix provides a framework for assisting Certificate Holders and Certification Bodies with determining what level of mitigation is required and then also for assessing the adequacy of mitigation implemented. This is intended to help address the phrase, "commensurate with the scale and intensity of the Organization's potential impact on the forests in the region" that is used in the Control Measures. It also helps to address the Mitigation Option Shared Criteria requiring options for all companies, regardless of size. It is based upon the general idea that the greater the proportion of a specified risk area from which a company sources (i.e. 'scale'), and the more material that they source (i.e. 'intensity'), the higher their risk of receiving materials from places where unacceptable materials are being sourced, and therefore the higher the level of mitigation that should be expected of them. Because volume itself is material and product specific, AAF Class is used as a proxy for volume sourced. However, companies are given the option of calculating their actual volume instead of using their AAF Class, if they wish (see the note under #4 in the decision tree above).

Table 2. Framework for determining level of mitigation required



Regional Meeting Outcomes: Specified Risk Topics & Final Mitigation Options

This section presents a summary of feedback received at the 2018 Controlled Wood Regional Meeting for the Southeast and Mississippi Alluvial Valley Regions and feedback received during consultation opportunities that followed the meeting, as well as the outcomes from that feedback (for both proposed mitigation options that were included in the final set, and those that were not). Annex 2 provides the final set of mitigation options, without the feedback and excluding initially proposed options that were not included in the final set.

NOTE 1: Almost any of the mitigation options may be done individually or in collaboration with other certificate holders, or other entities that have similar desired outcomes. Collaboration is encouraged to scale up potential mitigation impact, and FSC US will seek to assist with that collaboration when feasible.

NOTE 2: Active engagement will be evaluated to be two-way engagement such as providing support through participation in meetings.

HCV 1: Cape Fear Arch Critical Biodiversity Area

- The region is considered to have the greatest biological diversity along the Atlantic Coast north of Florida and has been identified in numerous publications as a high priority area for conservation. Important drivers of biodiversity in this region include longleaf pine forests and pocosins (coastal peatlands)

- Pocosins occur within nutrient-poor peatlands in shallow depressions on plateaus and are typically continuously saturated with water. They harbor rare species like the venus fly trap and Red-cockaded Woodpecker.
- Longleaf pine forests once covered much of the Atlantic Coastal Plain, but the extent and condition of the system has been severely depleted and it is now considered to be one of the rarest forest types globally.
- Threats to both natural communities from forest management activities include conversion to pine types that are not native to the location, changes to surface hydrology from bedding practices and specifically for longleaf pine, management techniques that inhibit native understory communities.

The US Controlled Wood National Risk Assessment identifies two drivers of biodiversity in this CBA that may be threatened by forest management activities: Longleaf Pine and Pocosins.

- Longleaf Pine: As the specified risk area associated with this CBA **does not** overlap (for the most part) with the specified risk area associated with HCV 3 Native Longleaf Pine Systems (NLPS), **any Organization that is mitigating risks associated with sourcing from within this CBA will still be required to mitigate the identified risk associated with this driver of biodiversity**. However, mitigation may be implemented by selecting one of the mitigation options provided for NLPS.
- Pocosins: Mitigation to address the identified risk associated with this driver of biodiversity is also required, and mitigation options are provided below.

Consultation Insights: Overall, stakeholder feedback on the proposed mitigation options for the Cape Fear Arch CBA was generally limited. However, this limited feedback does provide support for the following thematic approaches: support of conservation initiatives, education and outreach to foresters, landowners, etc., landowner incentives, and participation in the Cape Fear Arch Collaborative. Additionally, comments on similar themes for other risk topics have consistently suggested merging thematically similar options, adapting options to provide flexibility (e.g., don't specify certain NGOs, don't limit the management tools that may be used for conserve biodiversity), and also being more specific regarding the intent of the mitigation option and what it is expected to achieve. Finally, consistency of mitigation approaches between risk topics should provide the potential for efficiencies for Organizations that would like to take similar approaches for different risk topics, or in different regions, and therefore, the following revised options draw from options for similar themes that were developed for other risk topics.

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 1 Cape Fear Arch Critical Biodiversity Area (CBA).

CENTRAL THEME: Education & Outreach

Original Proposed Option	Topline Input
(#2) Improve logger, landowner and forester education to reduce the use of bedding practices within the Cape Fear Arch CBA	• Focus on identified threat from forest management activities: practices that alters hydrology • Bedding doesn't affect hydrology • Also consider forestry associations • Change 'reduce' to 'encourage reduction' • General support for education as an approach

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the conservation values of Cape Fear Arch biodiversity associated with pocosins, threats from incompatible forest management (as described in the FSC US National Risk Assessment), and opportunities for conservation through management that enhances biodiversity and reduces or eliminates these threats. The desired outcome of these communications is engaging landowners, foresters, and loggers in conservation of pocosins within the specified risk area and the Organization's supply area. Communications should recognize the importance of hydrology for maintenance and enhancement of pocosins.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in pocosin biodiversity conservation, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of pocosin or Cape Fear Arch biodiversity.

INTENT: 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 pocosin biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Procurement Policy

Consultation Insights: Comments associated with a number of specified risk topics recognized that companies that are closer to the beginning of the supply chain are in a unique position to have a greater influence on the forest management activities within the source forest. Several commenters observed that this kind of influence could be achieved through a procurement policy that is linked to the education and outreach information themes.

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests where pocosin biodiversity is threatened as a result of the forest management activities that produced the forest materials. This will require providing a description of pocosin systems (as they occur in the supply area), potential threats to pocosins from forest management activities (as described in the FSC US National Risk Assessment), and the kinds of activities that would maintain or enhance pocosin biodiversity in the specified risk area.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement policy that will either result in avoidance of materials from sites where pocosin biodiversity is threatened by forest management activities, or result in changes to on-the-ground forest management activities that mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Conservation Initiatives

Original Proposed Option	Topline Input
(#1) Work with land trusts and other conservation organizations to clearly identify and map those very small, very sensitive natural communities that should be managed very carefully, such as old-growth stands of cypress/gum swamps or Longleaf pine and embedded small wetland communities that can be damaged by forest management machinery	• More support than opposition • Change to 'identify and protect' • Locations may already be known • Change to 'work with other organizations'

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation partnerships, organizations or similar entities that are supporting or promoting programs/projects to develop new or augment existing programs that will identify and conserve pocosins within areas of the specified risk area and the Organization's supply area, with a particular focus on increasing and improving implementation of management practices that will conserve pocosin biodiversity. These entities may include: 1) partnerships (government and/or non-government organizations), or non-governmental organizations working alone, that have active programs/projects to conserve pocosins and their associated biodiversity; and/or 2) federal, state and/or local governmental organizations.

INTENT: The intent of this mitigation option is to implement actions through conservation programs/projects that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of pocosin biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Cape Fear Arch Conservation Collaboration

Original Proposed Option	Topline Input
(#7) Participate in Cape Fear Arch Conservation Collaboration meetings and help to promote their objective of enhancing cooperation and communication regarding regional conservation issues within the CFA landscape	• Support the proposed mitigation option

The following is offered as an option that could be scaled for any level of mitigation:

Attend Cape Fear Arch Conservation Collaboration meetings and develop and implement an action plan (either alone or cooperatively with other Collaborative participants) that will improve the maintenance or enhancement of Cape Fear Arch biodiversity within the specified risk area and the Organization's supply area.

INTENT: The intent of this mitigation option is to implement actions that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of Cape Fear

Arch biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

The following originally proposed mitigation options were not maintained in the final set of options due to the feedback received through the Controlled Wood Regional Meeting.

Influence Policy

Original Proposed Option	Topline Input
(#3) Influence forest practices regulations or policies to reduce the use of bedding practices within the Cape Fear Arch CBA	• Clarify how an Organization can influence policy • Consider forestry association membership • Consistent negative or questioning feedback

Consultation Insights: Input shared provided little to no support for this mitigation option. The feedback questions the potential effectiveness of this approach in mitigating the identified risk.

Prescribed Fire

Original Proposed Options	Topline Input
(#4) Work in partnership with Partners for Fish & Wildlife, the North Carolina Wildlife Commission and the Natural Resources Conservation Service (Farm Bill) to increase the use of fire as a management tool within the Cape Fear Arch CBA (#5) Support the establishment of a Prescribed Burn Association	• Support for fire as an important management tool • Clarify how this mitigates the identified risk • This already exists • States have burn regulations

Consultation Insights: The identified threats to pocosins from forest management activities do not include any issues related to fire. Therefore, the concern expressed regarding the potential effectiveness of this as a mitigation approach in addressing the identified risk is valid.

HCV 1: Central Florida Critical Biodiversity Area

- Native pine ecosystems are an important driver for biodiversity in this CBA. Pine flatwoods in Central Florida are associated with drier uplands/sandhills that provide a range of biodiversity values. Longleaf pine is the dominant tree species in pine flatwoods, however as with other longleaf pine systems, the native plant diversity is one of the most significant components of the overall biodiversity.
- This CBA occurs in an area that receives the highest possible scores in an assessment of Florida's biodiversity hotspots. It includes top priority areas from the Florida Critical Lands and Waters Identification Project, and also represents other spatial priorities (e.g., landscape integrity, rare species habitat conservation, strategic habitat conservation areas).
- Identified threats to Pine flatwoods include conversion to pine plantations, non-native species (including invasion by melaleuca if logged and over drained), hydrologic alteration, and substrate disturbance (Wiregrass may not withstand disturbance associated with planting pine),

The US Controlled Wood National Risk Assessment identifies Pine Flatwoods as the primary driver of biodiversity in this CBA and recognizes that it may be threatened by forest management activities. Threats from forest management activities, proposed mitigation options and feedback received for this CBA are very similar to those associated with the Native Longleaf Pine System (NLPS) risk topic. Therefore, as the specified risk area associated with this CBA overlaps with the specified risk area associated with HCV 3 Native Longleaf Pine Systems (NLPS), any Organization that is mitigating risks associated with sourcing from specified risk areas for NLPS that are within this CBA will already be mitigating the identified risk associated with this CBA, and no additional mitigation is needed. However, if the Organization is only sourcing from the portion of the CBA that is not within the specified risk area for NLPS, one of the following mitigation options is required.

Consultation Insights: Overall, stakeholder feedback on the proposed mitigation options for the Central Florida CBA was generally limited. However, this limited feedback does provide support for the following thematic approaches: education and outreach, implementation of management activities, and conservation initiatives. Additionally, comments on similar themes for other risk topics have consistently suggested merging similar mitigation options, adapting options to provide greater flexibility (e.g., avoid specifying any particular NGO for collaboration, avoid limiting the management tools that may be used for conserving biodiversity), and providing more information on the intent of the mitigation option and what it is expected to achieve. Finally, consistency of mitigation approaches between risk topics should provide the potential for efficiencies for Organizations that would like to take similar approaches for different risk topics, or in different regions, and therefore, the following revised options draw from options for similar themes that were developed for other risk topics, particularly NLPS.

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 1 Central Florida Critical Biodiversity Area (CBA).

CENTRAL THEME: Education & Outreach

Original Proposed Option	Topline Input
(#5) Develop and offer educational opportunities for loggers and foresters that increase knowledge about pine flatwoods. Look for opportunities to do this through existing programs/initiatives, instead of re-inventing the wheel.	• Support for efforts related to education and outreach • Audience of loggers, foresters, and landowners • Collaboration with forestry and landowner associations on education • Emphasis on education and outreach opportunities that may already exist

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the social benefits and values of pine flatwoods, threats from incompatible forest management activities (as described in the FSC US National Risk Assessment), and opportunities for conservation through management that enhances biodiversity and reduces or eliminates these threats. The desired outcome of these communications is engaging landowners, foresters, and loggers in conservation of the biodiversity associated with pine flatwoods within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in pine flatwoods biodiversity conservation, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of

effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.

- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of pine flatwoods biodiversity.

INTENT: 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 pine flatwoods biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Procurement Policy

Consultation Insights: Comments associated with a number of specified risk topics recognized that companies that are closer to the beginning of the supply chain are in a unique position to have a greater influence on the forest management activities within the source forest. Several commenters observed that this kind of influence could be achieved through a procurement policy that is linked to the education and outreach information themes.

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests where pine flatwoods biodiversity is threatened as a result of the forest management activities that produced the forest materials. This will require providing a description of the forest type (as it occurs in the supply area), potential threats to pine flatwoods from forest management activities (as described in the FSC US National Risk Assessment), and the kinds of activities that would maintain or enhance pine flatwoods biodiversity in the specified risk area.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement policy that will either result in avoidance of materials from sites where pine flatwoods biodiversity is threatened by forest management activities, or result in changes to on-the-ground forest management activities that mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Conservation Initiatives

Original Proposed Option	Topline Input
(#1) Support and enhance efforts to implement Florida's Cooperative Conservation Blueprint regional pilot in central Florida. The purpose of the Blueprint was to develop broad agreement on both voluntary and non-regulatory conservation incentives along with a	• Limited direct feedback or comments

comprehensive vision of wildlife habitat and connectivity priorities to which existing and new incentive ideas can be applied.	• Single text documents indicate general support for an approach along these lines

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation partnerships, organizations or similar entities that are supporting or promoting programs/projects to develop new or augment existing programs within the specified risk area and the Organization's supply area that will: a) restore, enhance, or maintain pine flatwoods, with a particular focus on increasing and improving implementation of management practices that will conserve pine flatwood biodiversity; and/or b) result in increased access to incentive programs for landowner who restore, maintain or enhance forests in a way that will conserve pine flatwood biodiversity. These entities may include: 1) partnerships (government and/or non-government organizations), or non-governmental organizations working alone, that have active programs/projects to conserve pine flatwoods and their associated biodiversity; and/or 2) federal, state and/or local governmental organizations.

INTENT: The intent of this mitigation option is to implement actions through conservation programs/projects that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of pine flatwoods biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Implement Management Activities

Original Proposed Option	Topline Input
(#4) Work with potential suppliers/landowners (particularly the larger ones) to get them to agree that they will manage for pine flatwoods. Participant Proposed Option: Work with forestry associations, landowner associations and others to promote proper management techniques for pine flatwoods	• Promote proper management techniques for pine flatwoods • Work with the forestry associations, landowner associations, etc • Change wording (i.e. encourage, support, or promote?)

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation organizations or similar entities (as described below) that are facilitating active, on-the-ground implementation of management activities (as described below) to maintain or enhance pine flatwoods, with a goal of long-term conservation of the pine flatwood biodiversity within the specified risk area and the Organization's supply area.

- Conservation Entities: These may include: non-governmental organizations that have active programs/projects to conserve pine flatwoods; federal, state and/or local governmental organizations with natural resource conservation responsibilities or goals; and/or organizations that have active programs/projects focused on habitat conservation for species dependent upon pine flatwoods.
- Management Activities: These should include efforts to: increase and improve the use of management practices that conserve the biodiversity of the pine flatwoods; increase the use of

prescribed fire as a management tool; restore and maintain native understory communities; and restore and maintain essential hydrology.

INTENT: The intent of this mitigation option is to implement on-the-ground forest management activities that improve maintenance or enhancement of pine flatwoods biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

HCV 1: Florida Panhandle Critical Biodiversity Area

- The Florida Panhandle is reported to be one of the 5 richest biodiversity hotspots in North America. This concentration of biodiversity is driven by the river systems (particularly the Apalachicola River), longleaf pine savanna habitat and unique steephead ravines.
- The Apalachicola River meanders through a swampy, forested floodplain and the river basin contains the greatest diversity of freshwater fish in Florida. Insufficient ground cover and inadequate buffers associated with forestry operations are identified as sources for sediments entering aquatic habitats.
- Historically longleaf pine savanna supported incredibly high species richness and were maintained by fire. Eglin Air Force Base within this CBA includes one of the largest remaining longleaf pine forests under single ownership. Longleaf pine values can be adversely affected by forest management activities via conversion of longleaf to other pine types, and the use of management techniques that have the potential to inhibit native understory communities.

The US Controlled Wood National Risk Assessment identifies two drivers of biodiversity in this CBA that may be threatened by forest management activities: Longleaf Pine Savanna and the Apalachicola Bay/River System.

- Longleaf Pine Savanna: As the specified risk area associated with this CBA overlaps with the specified risk area associated with HCV 3 Native Longleaf Pine Systems (NLPS), any Organization that is mitigating risks associated with sourcing from areas of NLPS that are within this CBA will already be mitigating the identified risk associated with this driver of biodiversity, and no additional mitigation is needed.
- Apalachicola Bay/River System: Mitigation to address the identified risk associated with this driver of biodiversity will still be required, and the mitigation options are provided below.

Consultation Insights: Overall, stakeholder feedback on the proposed mitigation options for the Central Florida CBA was generally limited. However, this limited feedback does provide support for the following thematic approach(es): education and outreach to foresters, landowners, etc. Additionally, comments on similar themes for other risk topics have consistently suggested merging thematically similar options, adapting options to provide flexibility (e.g., don't specify certain NGOs, don't limit the management tools that may be used for conserve biodiversity), and also being more specific regarding the intent of the mitigation option and what it is expected to achieve. Finally, consistency of mitigation approaches between risk topics should provide the potential for efficiencies for Organizations that would like to take similar approaches for different risk topics, or in different regions, and therefore, the following revised options draw from options for similar themes that were developed for other risk topics.

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 1 Florida Panhandle Critical Biodiversity Area (CBA).

CENTRAL THEME: Education & Outreach

Original Proposed Options	Topline Input
(#3) Support partnerships such as the Gulf Coast Plains Ecosystems Partnership to advance adaptive management through the exchange of forest management information and aquatic restoration techniques and technology. (#4) Increase public awareness through the development of education and outreach programs about the importance of long-term water protection investments to both humans and the environment.	• General support for both options • BMP compliance rates are very high in Florida and have been proven successful • Concern about naming specific organizations • Need to incorporate steep slope logging practices into the educational materials • Companies are not the best entities to develop educational materials • Proposed mitigation measures are difficult for smaller companies • Clarify what 'support' and 'increase' mean • Not just public awareness, also loggers, foresters and landowners

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the conservation values of aquatic biodiversity, threats from poorly implemented forest management activities (as described in the FSC US National Risk Assessment), and opportunities for conservation through management practices that reduce or eliminate these threats, including but not limited to forest management activities on steep slopes. The desired outcome of these communications is engaging landowners, foresters, and loggers in increasing and improving forest management best practice implementation that conserves aquatic biodiversity within the portion of the Apalachicola Bay/River System that is within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in aquatic biodiversity conservation, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of aquatic biodiversity.

INTENT: 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 aquatic biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Research & Mapping

Participant Proposed Option	Topline Input
Develop more robust mapping to better identify areas where the threat is occurring	• No comments were received on this proposed option specific to this CBA. However, comments received as part of feedback for other CBAs suggest that this mitigation approach is supported, along with research to evaluate the effectiveness of BMPs that are implemented for water quality objectives in conserving biodiversity.

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is currently conducting, or has the capacity to initiate, research on effectiveness of water quality Best Management Practices (BMPs) for conserving aquatic biodiversity, or on identifying landscapes within the portion of the Apalachicola River/Bay System that is within the specified risk area that include forests where there is a higher level of the identified risk; and
2. If research on effectiveness of BMPs is completed, then advocate for changes to state BMPs that reflect the results of the research. If mapping of higher risk areas is completed, then use the results of the mapping to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to improve maintenance or enhancement of aquatic biodiversity.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of aquatic biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Conservation Initiatives

Original Proposed Option	Topline Input
(#1) Support ongoing efforts to improve or conserve the water and land resources in the Apalachicola River Basin, such as: the Nature Conservancy's (TNC) Apalachicola Bluffs and Ravine Preserve and Longleaf Pine Restoration Project; the Apalachicola Riverkeeper's education, monitoring and research efforts; the Florida Department of Environmental Protection's Watershed Restoration Program; and implementation of the Northwest Florida Water Management District's (NWFWMD) Surface Water Improvement (SWIM) Plan	• Consistent support for option • Supporting efforts to protect bottomland hardwood forests is important • Concern about naming specific organizations • Proposed mitigation measures are difficult for smaller companies to implement • Clarify what 'support' means

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation partnerships, organizations or similar entities that are supporting or promoting programs/projects to develop new or augment existing programs that will enhance or conserve aquatic biodiversity in the Apalachicola Bay/River System, with a particular focus on bottomland hardwood forests and forests identified as

having higher risk within the portion of the Apalachicola Bay/River System that occurs within areas of the specified risk area and the Organization's supply area. These entities may include: 1) partnerships (government and/or non-government organizations), or non-governmental organizations working alone, that have active programs/projects to conserve aquatic biodiversity or the forests important for doing so; and/or 2) federal, state and/or local governmental organizations.

INTENT: The intent of this mitigation option is to implement actions through conservation programs/projects that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of aquatic biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

HCV 1: Southern Appalachian Critical Biodiversity Area

- The concentration of biodiversity in this area is driven by highly diverse aquatic habitats, glades, and montane longleaf pine. The Cahaba River watershed is at the core of this biodiversity hotspot, but the CBA includes other smaller water courses as well.
- Montane longleaf pine habitats occur in steep rolling topography historically maintained by fire, mostly outside of or on the edge of the Coastal Plain. Biodiversity values are driven in part by the understory plant community.
- Identified threats to the aquatic habitats from forest management activities include non-point source pollution in aquatic habitats (primarily sediments, but also fertilizers, herbicides and pesticides, when mis-managed near water bodies), and disturbance to riparian zones.
- Montane longleaf pine values can be adversely affected by forest management activities via conversion of longleaf to other pine types, and the use of management techniques that have the potential to inhibit native understory communities.

The US Controlled Wood National Risk Assessment identifies two drivers of biodiversity in this CBA that may be threatened by forest management activities: Montane Longleaf Pine and Aquatic Habitats.

- Montane Longleaf Pine: As the specified risk area associated with this CBA overlaps with the specified risk area associated with HCV 3 Native Longleaf Pine Systems (NLPS), any Organization that is mitigating risks associated with sourcing from areas of NLPS that are within this CBA will already be mitigating the identified risk associated with this driver of biodiversity, and no additional mitigation is needed.
- Aquatic Habitats: Mitigation to address the identified risk associated with this driver of biodiversity will still be required, and the mitigation options are provided below. Please note, however, that due to the very similar input provided on this topic for both the Central Appalachian CBA and the Southern Appalachian CBA, the mitigation options are the same. This will allow an Organization that sources from both areas of specified risk to use the same option to mitigate risk in both areas.

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 1 Southern Appalachian Critical Biodiversity Area (CBA).

CENTRAL THEME: Education & Outreach

Original Proposed Option	Topline Input
(#2) Improve/promote/support/develop/ encourage logger/landowner education to increase and improve the implementation of forestry BMPs within the Southern Appalachian CBA, specifically those that reduce siltation and address steep slope impact	• Support for promoting and improving logger, landowner and supplier education • Public awareness important too • Opportunities for very beneficial partnerships – other organizations and public agencies • Could include improving materials/fact sheets for pertinent practices

Consultation Insights: This mitigation option received more outright support overall, and within individual perspectives, than any other option suggested for addressing aquatic biodiversity. As with other similar mitigation options, comments suggested that it could be broadened to include more potential audiences, flexibility in delivery and a breadth of messages, including both awareness of the potential impact of forest management activities on aquatic biodiversity and what can be done to address any threats. The input and comments related to education and outreach were very similar to those received for the Central Appalachian CBA, and therefore the same mitigation option language is proposed.

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the conservation values of aquatic biodiversity, threats from poorly implemented forest management activities (as described in the FSC US National Risk Assessment), and opportunities for conservation through management practices that reduce or eliminate these threats, including but not limited to forest management activities on steep slopes, and practices that will prevent siltation. The desired outcome of these communications is engaging landowners, foresters, and loggers in increasing and improving Best Management Practice (BMP) implementation that focuses on aquatic biodiversity conservation within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in aquatic biodiversity conservation, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of aquatic biodiversity.

INTENT: 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 aquatic biodiversity, and thereby mitigate the risk of sourcing materials from sites where the aquatic biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Research & Mapping

Original Proposed Options	Topline Input
(#1) Support research into the effectiveness of forestry BMPs related to steep slope logging techniques within the Southern Appalachian CBA, followed by efforts to adapt the BMPs in associated states if/as indicated by the results	• Support research, including ongoing efforts • Consider combining #1 and #2 (research and education) • Do we really need to re-address or evaluate BMPs? • This research already exists • Also include mapping areas of higher risk • Clarify why only steep slopes

Consultation Insights: Input shared during the Regional meeting was mixed and somewhat limited, but the written feedback provided on the worksheets was generally positive, or supportive with some adaptations, with limited opposition. These generalizations are consistent across perspectives. The concerns expressed had to do with whether or not this mitigation option insinuates that BMPs need to be re-evaluated, and that there is already research that concludes that BMPs are effective. There is substantial research that finds that BMPs are effective for their intended purpose associated with the adherence to the Clean Water Act, but there are still questions to be answered related to the effectiveness of BMPs in conserving biodiversity. The input and comments related to research and mapping were very similar to those received for the Central Appalachian CBA, and therefore the same mitigation option language is proposed.

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is currently conducting, or has the capacity to initiate, research on effectiveness of water quality Best Management Practices (BMPs) for conserving aquatic biodiversity, or on identifying specific landscapes within the specified risk area that include forests where there is higher level of the identified risk; and
2. If research on effectiveness of BMPs is completed, then advocate for changes to state BMPs that reflect the results of the research. If mapping of higher risk areas is completed, then use the results of the mapping to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to improve maintenance or enhancement of aquatic biodiversity.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of aquatic biodiversity, and thereby mitigate the risk of sourcing materials from sites where the aquatic biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Conservation Initiatives

Original Proposed Options	Topline Input
(#3) Meaningful engagement with land trusts active within the Southern Appalachian CBA to access sustainably managed forests that protect aquatic habitat	• Not just land trusts • Need to clarify or remove 'meaningful' • Perhaps specify working land easements • Support for this option, if adapted

Consultation Insights: There was limited input on this mitigation option, with most of it focused on clarifications needed in the language of the option. However, there was very little outright opposition from any perspective. The comments recognized that there might be other organizations beyond land trusts that might be supportive of sustainable forest management and aquatic biodiversity conservation. As the input and comments to supporting conservation initiatives that were received were very similar to those received for the Central Appalachian CBA, the same mitigation option language is proposed.

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation partnerships, organizations or similar entities that are supporting or promoting programs/projects to develop new or augment existing programs within the specified risk area and the Organization's supply area that will: a) result in increased and improved implementation of Best Management Practices (BMPs) with a focus on aquatic biodiversity conservation; and/or b) result in increased access to incentive programs for landowner who restore, maintain or enhance forests in a way that will conserve aquatic conservation, with a particular focus on forests within areas of the specified risk area identified as having higher risk. These entities may include: 1) partnerships (government and/or non-government organizations), or non-governmental organizations working alone, that have active programs/projects to conserve aquatic biodiversity or the forests important for doing so; and/or 2) federal, state and/or local governmental organizations.

INTENT: The intent of this mitigation option is to implement actions through conservation programs/projects that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of aquatic biodiversity, and thereby mitigate the risk of sourcing materials from sites where the aquatic biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Direct Influence

Consultation Insights: As with the Central Appalachian CBA comments, there were a number of suggestions for mitigation actions specific to Organizations that are near the beginning of the supply chain and have a unique opportunity to directly influence the forest management activities that are implemented at supply sites. Due to the similarities, the same mitigation options are proposed.

The following are offered as options for Organizations that purchase directly from the source forest:

A. Engage with a conservation organization or similar entities, or collaborate with FSC US, to identify landscapes of particular concern related to the risk of receiving non-certified supplies from areas where aquatic biodiversity are threatened by forest management activities, and then communicate this information to suppliers, along with: 1) recommended Best Management Practices that will conserve aquatic biodiversity; 2) contact information for organizations that may be interested in working with the landowner on conserving the forest in question in a manner that will continue to conserve the aquatic biodiversity; and 3) a requirement that the landowner/forester/logger at the source forest either will not provide materials from the landscapes identified, or will document that the forest management practices implemented in the source forest did not threaten aquatic biodiversity.

B. Document acceptable implementation of Best Management Practices that conserve aquatic biodiversity for harvests that produce non-certified materials that will be controlled by the Organization.

C. Include Best Management Practices that will conserve aquatic biodiversity in harvest plans and/or in contracts made with loggers for harvests that produce non-certified materials that will be controlled by the Organization and require in those harvest plans and/or contracts that the Best Management Practices are implemented.

INTENT: The intent of this mitigation option is to implement supplier-engagement actions that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of aquatic biodiversity, and thereby mitigate the risk of sourcing materials from sites where the aquatic biodiversity in the specified risk area is threatened by forest management activities.

HCV 1: Dusky Gopher Frog

- Historically occurred on the Coastal Plain from eastern Louisiana to the Mobile River delta in Alabama. Now only known from one site in Harrison County and a couple of sites in Jackson County, MS, although there are also active efforts to reintroduce into wetlands in Perry County, MS.
- Occurs in upland areas of sandy soils that were historically forested with longleaf pine and in temporary wetland breeding sites within the forested landscape. Most of its life cycle is spent in or near underground areas of refuge that historically were gopher tortoise burrows.
- Changes in forest type from longleaf pine to other forest types and land management practices that alter the soil horizon, forest litter, herbaceous community and the occurrence of down woody debris can have negative effects on the species. Additionally, timber site prep and other forestry practices that alter temporary wetlands can damage breeding areas.

Consultation Insights: Overall, stakeholder feedback on the proposed mitigation options for the DGF were limited. However, this limited feedback does provide support for the thematic approaches of research, education and outreach, and implementation of proper management practices to protect populations of DGF. Additionally, comments on similar themes for other risk topics have consistently suggested merging similar mitigation options, adapting options to provide greater flexibility (e.g., avoid specifying any particular NGO for collaboration, avoid limiting the management tools that may be used for conserving the species), and providing more information on the intent of the mitigation option and what it is expected to achieve. Finally, consistency of mitigation approaches between risk topics should provide the potential for efficiencies for Organizations that would like to take similar approaches for different risk topics, or in different regions, and therefore, the following revised options draw from options for similar themes that were developed for other risk topics.

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 1 Dusky Gopher Frog.

CENTRAL THEME: Education & Outreach

Participant Proposed Option	Topline Input
Provide education on identification of habitat, populations, and management tools	• Indication of support for educational efforts to landowners, foresters, loggers

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the conservation values of Dusky Gopher Frog (DGF), potential threats from forest management activities (as described in the FSC US National Risk Assessment), and opportunities for conservation through management that maintains, enhances, or restores DGF populations and reduces or eliminates potential threats. The desired outcome of these communications is engaging landowners, foresters, and loggers in conservation of DGF populations within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in DGF, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of DGF.

INTENT: 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, enhancement or restoration of DGF populations, and thereby mitigate the risk of sourcing materials from sites where DGF in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Procurement Policy

Consultation Insights: Comments associated with a number of specified risk topics recognized that companies that are closer to the beginning of the supply chain are in a unique position to have a greater influence on the forest management activities within the source forest. Several commenters observed that this kind of influence could be achieved through a procurement policy that is linked to the education and outreach information themes.

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests where Dusky Gopher Frogs (DGF) are threatened as a result of the forest management activities that produced the forest materials. This will require providing a description of the forest type in which DGF populations occur, potential threats to DGF from forest management activities (as described in the FSC US National Risk Assessment), and the kinds of activities that would maintain or enhance DGF populations in the specified risk area.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement policy that will either result in avoidance of materials from sites where DGF are threatened by forest management activities, or result in changes to on-the-ground forest management activities that mitigate the risk of sourcing materials from sites where DGF in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Research

Original Proposed Option	Topline Input
(#5) Support research on terrestrial habitat requirements of the species	• Support for researching habitat requirements as well as proper management practices to protect DGF habitat • Research on populations in other likely areas

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is currently conducting, or has the capacity to initiate, research on clarifying positive and negative impacts of forest management activities on Dusky Gopher Frog (DGF) populations and/or on management practices for DGF conservation within the specified risk area; and
2. Use the results of the research to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to improve maintenance, enhancement or restoration of DGF populations.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in changes to on-the-ground forest management activities that improve maintenance, enhancement or restoration of DGF populations, and thereby mitigate the risk of sourcing materials from sites where DGF in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Implement Management Activities

Original Proposed Option:	Topline Input
(#1) Actions that will promote Longleaf Pine forests within the species' range (#2) Actions that will promote fire as a management tool for the forests within the species' range (#3) Actions that will reduce the destruction of ephemeral ponds (temporary pools) within the species' range	• Support for implementation of known management techniques that support DGF (low density plantings, open canopies near ephemeral ponds, prescribed fire, leave stumps, etc.) • Encourage appropriate management of ephemeral ponds • Align with proposed mitigation options for Native Longleaf Pine Systems • Limiting factor = funds to conduct prescribed burning near ephemeral ponds • Work through landowner associations and professional (logger/forester) associations

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation organizations or similar entities (as described below) that are facilitating active, on-the-ground implementation of management activities (as described below) to restore, maintain or enhance Dusky Gopher Frog (DGF) populations, with a goal of long-term DGF conservation within the specified risk area and the Organization's supply area.

- Conservation Entities: These may include: non-governmental organizations that have active programs/projects to conserve DGF; federal, state and/or local governmental organizations with natural resource conservation responsibilities ro goals; and/or organizations that have active programs/projects focused on amphibian conservation.

- Management Activities: These should include efforts to: increase and improve the use of existing best management practices for Native Longleaf Pine Systems (NLPS) that support populations of DGF; increase and improve the use of existing best management practices near ephemeral ponds that support populations of DGF; increase the use of fire as a management tool; restore and maintain native understory communities; and restore and maintain essential hydrology.

  NOTE: In this situation, 'best management practices' are not intended to specifically reference State-established BMPs for water quality, but instead established practices that are effective in restoring or maintaining functional NLPS or DGF populations.

INTENT: The intent of this mitigation option is to implement on-the-ground forest management activities that improve maintenance, enhancement or restoration of DGF populations, and thereby mitigate the risk of sourcing materials from sites where DGF in the specified risk area are threatened by forest management activities.

HCV 1: Houston Toad

- Native to the central coastal region of Texas, in areas with soft sandy soils, typically with pine forest, but may also be mixed post oak-woodland savannah. Distribution now limited to a small number of populations in a few counties.
- The target forest ecosystem conditions for Houston toads include the following: (1) a mixed plant species composition, (2) canopy cover (ideally 80 percent), (3) an open understory with a diverse herbaceous component, and (4) breeding pools with shaded edges
- Some forestry practices, such as clearcutting (particularly near breeding ponds and the uplands adjacent to these ponds), are harmful to the species. Other forestry practices such as thinning and burning, may benefit the toad.

Consultation Insights: Overall, stakeholder feedback on the proposed mitigation options for the Houston Toad *were limited. However, this limited feedback does provide support for the thematic approaches of research and development of proper management practices to protect populations of DGF as well as education and outreach to landowners, loggers, and foresters. Additionally, comments on similar themes for other risk topics have consistently suggested merging similar mitigation options, adapting options to provide greater flexibility (e.g., avoid specifying any particular NGO for collaboration, avoid limiting the management tools that may be used for conserving the species), and providing more information on the intent of the mitigation option and what it is expected to achieve. Finally, consistency of mitigation approaches between risk topics should provide the potential for efficiencies for Organizations that would like to take similar approaches for different risk topics, or in different regions, and therefore, the following revised options draw from options for similar themes that were developed for other risk topics.*

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 1 Houston Toad.

CENTRAL THEME: Education & Outreach

Participant Proposed Option	Topline Input
Share information on Houston Toad with landowners	• Indication of support for educational efforts to landowners, foresters, loggers

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the conservation values of Houston Toad, potential threats from forest management activities (as described in the FSC US National Risk Assessment), and opportunities for conservation through management that maintains, enhances, or restores Houston Toad populations and reduces or eliminates potential threats. The desired outcome of these communications is engaging landowners, foresters, and loggers in conservation of Houston Toad populations within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in Houston Toad, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of Houston Toads.

INTENT: 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, enhancement or restoration of Houston Toad populations, and thereby mitigate the risk of sourcing materials from sites where Houston Toads in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Procurement Policy

Consultation Insights: Comments associated with a number of specified risk topics recognized that companies that are closer to the beginning of the supply chain are in a unique position to have a greater influence on the forest management activities within the source forest. Several commenters observed that this kind of influence could be achieved through a procurement policy that is linked to the education and outreach information themes.

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests where Houston Toads are threatened as a result of the forest management activities that produced the forest materials. This will require providing a description of the forest type in which Houston Toad populations occur, potential threats to Houston Toad from forest management activities (as described in the FSC US National Risk Assessment), and the kinds of activities that would maintain or enhance Houston Toad populations in the specified risk area.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005 V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement poicy that will either result in avoidance of materials from sites where Houston Toads are threatened by forest

management activities, or result in changes to on-the-ground forest management activities that mitigate the risk of sourcing materials from sites where Houston Toads in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Research

Original Proposed Option	Topline Input
(#5) Support research to quantitatively assess the results of management practices and research on the habitat needs for the Houston toad and its prey base (including, but not limited to canopy cover, stem density of canopy and shrub cover, and ground cover density).	• Support for efforts to determine habitat requirements and where Houston Toad may be found

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is currently conducting, or has the capacity to initiate, research on clarifying positive and negative impacts of forest management activities on Houston Toad populations and/or on management practices for Houston Toad conservation within the specified risk area; and
2. Use the results of the research to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to improve maintenance, enhancement or restoration of Houston Toad populations.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in changes to on-the-ground forest management activities that improve maintenance, enhancement or restoration of Houston Toad populations, and thereby mitigate the risk of sourcing materials from sites where Houston Toads in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Implement Management Activities

Original Proposed Option:	Topline Input
(#2) Work with Texas Parks and Wildlife Department and the conservation community to expand the landowner incentive network and enhance connectivity among Houston Toad sites. (#3) Work with Farm Bill and Partners Program to implement beneficial land management practices on suitable lands using current Houston Toad guidelines.	• Support for implementing actions to enhance habitat

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation organizations or similar entities (as described below) that are facilitating active, on-the-ground implementation of management activities (as described below) to restore, maintain or enhance Houston Toad populations, with a goal of long-term conservation of Houston Toad within the specified risk area and the Organization's supply area.

- Conservation Entities: These may include: non-governmental organizations that have active programs/projects to conserve Houston Toad; federal, state and/or local governmental

organizations with natural resource conservation responsibilities or goals; and/or organizations that have active programs/projects focused on amphibian conservation.

- Management Activities: These should include efforts to increase and improve the use of management practices that conserve Houston Toad populations such as opportunities to provide appropriate canopy shading; restore and maintain native understory communities; and restore and maintain essential hydrology.

INTENT: The intent of this mitigation option is to implement on-the-ground forest management activities that improve maintenance, enhancement or restoration of Houston Toad populations, and thereby mitigate the risk of sourcing materials from sites where Houston Toads in the specified risk area are threatened by forest management activities.

HCV 1: Patch-Nosed Salamander

- A relatively newly identified species, first described in 2009. It is the smallest known salamander in North America – typically around 5 cm in length, half of which is the tail.
- Currently known from 17 first- and second-order streams in a ~21 km2 area (i.e., ~5200 acres) in Georgia and South Carolina, but more sites likely will be found. In general, these are very small streams in narrow, steep-walled ravines. Because they're small headwaters, most of the sites probably only have an occupied stream-length of a few hundred meters, so the actual acreage occupied is relatively small.
- Some of these sites empty directly into the Tugaloo River, while others are tributaries of smaller streams in the region. 14/17 occupied sites are in the Chattahoochee National Forest; two are on private property; one is in the Brasstown Heritage Preserve in the Sumter National Forest.
- The species appears to depend on riparian habitat, so any factor that would disrupt water flow, canopy cover, or the leaf-littler layer would likely impact the species. Other threats likely include localized damage from hogs and leaf-litter loss from invasive Asian earthworms

Consultation Insights: Overall, stakeholder feedback on the proposed mitigation options for the PNS was generally limited. However, this limited feedback does provide support for the following thematic approaches: research, conservation initiatives, and education and outreach to foresters, landowners, etc. Additionally, comments on similar themes for other risk topics have consistently suggested merging thematically similar options, adapting options to provide flexibility (e.g., don't specify certain NGOs, don't limit the management tools that may be used for conserve biodiversity), and also being more specific regarding the intent of the mitigation option and what it is expected to achieve. Finally, consistency of mitigation approaches between risk topics should provide the potential for efficiencies for Organizations that would like to take similar approaches for different risk topics, or in different regions, and therefore, the following revised options draw from options for similar themes that were developed for other risk topics.

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 1 Patch-Nosed Salamander.

CENTRAL THEME: Education & Outreach

Participant Proposed Options	Topline Input
	• Support for education as a mitigation approach

Provide education on best available knowledge of practices to promote this habitat to landowners	• For landowners, loggers, foresters and others • Needs to address management practices that will promote PNS habitat

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the conservation values of Patch-Nosed Salamander (PNS), potential threats from forest management activities (as described in the FSC US National Risk Assessment), and opportunities for conservation through management that maintains, enhances, or restores PNS populations and reduces or eliminates potential threats. The desired outcome of these communications is engaging landowners, foresters, and loggers in conservation of PNS populations within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in PNS or amphibian conservation, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of PNS.

INTENT: 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, enhancement or restoration of PNS populations, and thereby mitigate the risk of sourcing materials from sites where PNS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Procurement Policy

Consultation Insights: Comments associated with a number of specified risk topics recognized that companies that are closer to the beginning of the supply chain are in a unique position to have a greater influence on the forest management activities within the source forest. Several commenters observed that this kind of influence could be achieved through a procurement policy that is linked to the education and outreach information themes.

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests where Patch-Nosed Salamanders (PNS) are threatened as a result of the forest management activities that produced the forest materials. This will require providing a description of the forest type in which PNS populations occur, potential threats to PNS from forest management activities (as described in the FSC US National Risk Assessment), and the kinds of activities that would maintain or enhance PNS populations in the specified risk area.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement policy that will either result in avoidance of materials from sites where PNS are threatened by forest management activities, or result in changes to on-the-ground forest management activities that mitigate the risk of sourcing materials from sites where PNS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Research

Original Proposed Option	Topline Input
(#2) Invest in research to improve knowledge of species distribution, other population characteristics and best management practices	• Strong support across perspectives for research • Include monitoring • Need to improve knowledge of species (including distribution) and impacts of BMPs • Yes, needed, but not sure if the certificate holder's responsibility

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is currently conducting, or has the capacity to initiate, research on effectiveness of water quality Best Management Practices for conserving Patch-Nosed Salamander (PNS) populations, or on improving knowledge of the species, including distribution, within the specified risk area; and
2. Use the results of research to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to improve maintenance, enhancement or restoration of PNS populations.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in changes to on-the-ground forest management activities that improve maintenance, enhancement or restoration of PNS populations, and thereby mitigate the risk of sourcing materials from sites where PNS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Conservation Initiatives

Original Proposed Options	Topline Input
(#1) Actions that will reduce negative impacts at known sites (#3) Develop partnerships with universities and other NGOs that can influence land management within the species range (e.g., organizations associated with recreation within the National Forests that could become champions for the species) (#5) Support working lands easements within the species range; consider contributions to FSC that are pooled and used together to maximize their impact	• #1 is not auditable • Already protected within streamside management zones • Need to implement amphibian BMPs, even if species specific information not available • Known and potential sites • Partnerships are important (universities, NGOs, USFS) • Clarify what 'influence' means • Mixed feedback on easements, with opposition to taking land out of production

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation organizations or similar entities that are supporting or promoting programs or projects to develop new or augment existing programs within the specified risk area and the Organization's supply area that will: a) result in increased and improved implementation of forest management practices for conservation of Patch-Nosed Salamander (PNS) populations; and/or b) result in increased access to incentive programs for landowner who conserve PNS populations. These entities may include: 1) partnerships (government and/or non-government organizations), or non-governmental organizations working alone, that have active programs/projects to conserve PNS or amphibians in general; and/or 2) federal, state and/or local governmental organizations

INTENT: The intent of this mitigation option is to implement actions through conservation programs/projects that will result in changes to on-the-ground forest management activities that improve maintenance, enhancement or restoration of PNS populations, and thereby mitigate the risk of sourcing materials from sites where PNS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Planning

Original Proposed Option	Topline Input
(#4) Participate in Chattahoochee and Sumter National Forest management planning discussions to influence management within the species' range	• All feedback received was supportive of participation in National Forest management planning

The following is offered as an option that could be scaled for any level of mitigation:

Engage in National Forest management planning processes, and, when possible, the implementation of National Forest plans, that include, or could potentially include, goals, objectives and/or actions that will likely have an impact on Patch-nosed Salamander (PNS) populations within the specified risk area and the Organization's supply area. The desired outcome of this engagement is to increase and improve forest management practices that conserve PNS populations.

NOTE: There are some situations where engagement/support by the Organization may not be possible for both the planning process and the plan implementation (e.g., when the relevant plan has already been developed, or when there is an opportunity to participate in a planning process where implementation of the plan will be the complete responsibility of a public agency and there is no opportunity to engage or support implementation).

INTENT: The intent of this mitigation option is to implement planning-related actions that will result in changes to on-the-ground forest management activities that improve maintenance, enhancement or restoration of PNS populations, and thereby mitigate the risk of sourcing materials from sites where PNS in the specified risk area are threatened by forest management activities.

HCV 3: Late Successional Bottomland Hardwoods

- Much of the original Bottomland Hardwoods extent in the US was cleared for agriculture, and much of the remainder mismanaged, leaving very few intact examples.

- Periodically inundated, floodplain forests, where the entire ecosystem is driven by hydrology. Even small changes to the hydrology can result in very significant effects on the system. Includes different species associations that vary depending upon the site characteristics.
- Late successional stands are not defined by the species, as much as by the structural composition (e.g., more vegetative structural diversity) and existence of large wood debris, including standing hollow trees. Old Bottomland Hardwood stands are not particularly rare, but those with the defining characteristics are quite rare, due to a history of selective clear-cutting and high-grading.
- Incompatible forest management can threaten remaining examples through changes to the canopy age and structure, hydrology and available large woody debris. Additional threats from forest management include spread of invasive species and economic drives that result in pressure for inappropriate harvests.

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 3 Late Successional Bottomland Hardwoods (LSBH).

CENTRAL THEME: Education & Outreach

Original Proposed Options	Topline Input
(#1) Identify areas that are more likely to have intact LSBH, assess the most effective methods for educating loggers about identification and compatible management of these forests, and implement methods identified. (#4) Develop and offer educational opportunities for foresters that increase knowledge about LSBH. Look for opportunities to do this through existing programs/initiatives, instead of re-inventing the wheel. (#5) Create and fund a fund that will provide grants to University research and/or extension programs that are: 1) already established and strong on forestry issues, particularly Bottomland Hardwoods, and 2) have experts and delivery mechanisms in place; focus on support for providing outreach on identification and compatible management opportunities for LSBH to foresters, landowners, and others who could have a positive impact on this rare forest type.	• Support for education as an option • Also for landowners, forest managers, auditors and suppliers • Topics: identification, management, values • Feasible, even for small organizations • Must be accountable: How often, how many? • Build on/improve existing, don't create new (extension programs, SAF curriculum, forestry associations, master logger, etc.) • Promote awareness, restoration and management • 'funds' a problem – not an option for small organizations, needs definition: how much, how often, how long? • Opportunities to merge: 1/4, 1/4/5

Consultation Insights: There is broad support for education as an option, across the perspectives and with very few detractors. With similar comments on numerous options related to education, it makes sense to merge with education as a central theme. There are many potential audiences, but there should be an emphasis on getting information to landowners in a way that will engage them and move them to action. The messages to be communicated are numerous, but there is a need to be very specific about the risk issue: What kinds of forests do we mean, why are they considered to be of high value and how should they be managed to restore or maintain these values? Focusing the action on funding is a problem, instead focus on the desired outcome and allow flexibility in how an Organization makes it happen.

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the social benefits and values of Late Successional Bottomland Hardwoods (LSBH), threats from forest management activities (as described in the FSC US National Risk Assessment) and related loss of values, and opportunities for conservation through management that restores or maintains LSBH and reduces or eliminates these threats. Communications should recognize the importance of natural functions (e.g., hydrologic processes) to LSBH. The desired outcome of these communications is engaging landowners, foresters and loggers in conservation of LSBH within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in LSBH conservation, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of LSBH.

INTENT: 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 restoration or maintenance of LSBH, and thereby mitigate the risk of sourcing materials from sites where LSBH in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Procurement Policy

Consultation Insights: Comments associated with a number of specified risk topics recognized that companies that are closer to the beginning of the supply chain are in a unique position to have a greater influence on the forest management activities within the source forest. Several commenters observed that this kind of influence could be achieved through a procurement policy that is linked to the education and outreach information themes.

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests where Late Successional Bottomland Hardwoods (LSBH) are threatened as a result of the forest management activities that produced the forest materials. This will require providing a description of the forest type (as it occurs in the supply area), potential threats to LSBH from forest management activities (as described in the FSC US National Risk Assessment), and the kinds of activities that would maintain or enhance LSBH forest in the specified risk area.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement policy that will either result in avoidance of materials from sites where LSBH is threatened by forest management

activities, or result in changes to on-the-ground forest management activities that mitigate the risk of sourcing materials from sites where LSBH in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Research & Mapping

Original Proposed Options	Topline Input
(#1) Identify areas that are more likely to have intact LSBH, assess the most effective methods for educating loggers about identification and compatible management of these forests, and implement methods identified. (#3) Identify and restore examples of Bottomland Hardwoods that are very close to the functional and structural characteristics of Late Successional Bottomland Hardwoods, as defined by FSC US, and would require only a little extra effort to get them there. Goal would be to reduce rarity of LSBH. (#5) Create and fund a fund that will provide grants to University research and/or extension programs that are: 1) already established and strong on forestry issues, particularly Bottomland Hardwoods, and 2) have experts and delivery mechanisms in place; focus on support for providing outreach on identification and compatible management opportunities for LSBH to foresters, landowners, and others who could have a positive impact on this rare forest type.	• Positive response to supporting research, including identification of occurrences • Negative response to specifying support through a fund • Should improve: understanding of the system and of what management is working, knowledge of occurrences, definition of the HCV • 'Suitable for promotion/ development of LSBH' instead of 'likely to have intact LSBH' • 'Identify' difficult for individual CH • Not only universities do research • 'Identify' similar for #1 and #3

Consultation Insights: There were mixed responses to the mitigation options that included some component of research, but overall support for an option focused on research. The negative responses were focused on the action being limited to creating 'a fund' and the inability of individual organizations to identify occurrences of LSBH on their own. Input indicated a particular interest in seeing the research focus on improving knowledge about the system, clarifying what management works, defining the High Conservation Value (HCV) itself (not just an 80-year cut-off), and locating places more suitable for maintenance and restoration. A number of comments indicated that the option needed to be broadened to include more than just universities, as there are many other entities completing research. Input associated with other risk issues has also suggested that research or mapping on its own will not mitigate the identified risk (the risk of sourcing materials from places where the HCV is threatened by the forest management activities) – something else is needed in addition.

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is currently conducting, or has the capacity to initiate, research on Late Successional Bottomland Hardwoods (LSBH) topics pertinent to the specified risk area that will: a) improve understanding of the system and/or how the High Conservation Value should be defined, b) identify and improve compatible management practices, and/or c) identify occurrences where restoration and maintenance are more likely to be effective; and
2. Use the results of the research to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to improve maintenance or enhancement of LSBH.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in changes to on-the-ground forest management activities that improve restoration or maintenance of LSBH, and thereby mitigate the risk of sourcing materials from sites where LSBH in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Implement Management Activities

Original Proposed Options	Topline Input
(#1) Identify areas that are more likely to have intact LSBH, assess the most effective methods for educating loggers about identification and compatible management of these forests, and implement methods identified. (#2) Create and fund a conservation fund to help projects focused on maintenance and enhancement of LSBH. (#3) Identify and restore examples of Bottomland Hardwoods that are very close to the functional and structural characteristics of Late Successional Bottomland Hardwoods, as defined by FSC US, and would require only a little extra effort to get them there. Goal would be to reduce rarity of LSBH.	• Support for restoration, maintenance and enhancement of LSBH • Some question as to why just LS not all BH • Little support for 'fund' as an action • Identification of specific sites and direct effort at sites not feasible/practical for many CH • Not a landscape scale mitigation options • Be more specific about what management is needed for restoration & maintenance • Support ongoing/existing initiatives – lots of potential partners • Clarify how to evaluate effectiveness • Clarify who is responsible for what action • Opportunities to merge options

Consultation Insights: There is a lot of support, across perspectives, for getting more/better management activities happening on the ground, including with a restoration focus. However, there is concern with 'funds' being the focus of action by an Organization, as opposed to other actions that might be more feasible and practical, particularly for small Organizations. Similarly, there is concern regarding the site-specific activities ('identify and manage') required in the original options, instead of a landscape-scale focus which would make it more feasible for Organizations that are further from the forest in the supply chain. A number of suggestions focused on broadening the options to not be as specific, focusing more on what needs to get accomplished, instead of exactly how. A number of comments asked why the focus is 'Late successional' when the threats may be similar for Bottomland Hardwoods of all ages, but for the purposes of implementing the Controlled Wood standard, the focus needs to be on mitigating the risk associated with HCVs and the late successional forests are the ones that are really rare.

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation organizations or similar entities (as described below) that are facilitating active, on-the-ground implementation of management activities (as described below) to restore or maintain existing examples of Late Successional Bottomland Hardwoods (LSBH), with a goal of long-term conservation of this forest type within the specified risk area and the Organization's supply area.

- Conservation Entities: These may include: non-governmental organizations that have active programs/projects to conserve LSBH; federal, state and/or local governmental organizations with natural resource conservation responsibilities or goals; and/or organizations that have active programs/ projects focused on habitat conservation for species dependent upon LSBH.

- Management Activities: These should include efforts to: increase and improve the use of existing best management practices for LSBH, with particular focus on the vegetative structure and hydrology of the forest, and restore near high quality examples of LSBH.

  NOTE: In this situation, 'best management practices' are not intended to specifically reference State-established BMPs for water quality, but instead established practices that are effective in restoring or maintaining functional LSBH.

INTENT: The intent of this mitigation option is to implement on-the-ground forest management activities that improve restoration or maintenance of LSBH, and thereby mitigate the risk of sourcing materials from sites where LSBH in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Landowner Incentives

Original Proposed Option	Topline Input
None	• Provide financial incentives to landowners to conserve LSBH • Support organizations that provide incentives to landowners for LSBH conservation (cost-share programs, tax credits, easements) • If easements, should be working forest easements that require a certain type of management • Build on existing systems and incentives • Provide flexibility in how the Organization engages – may be different for those closer to and further from the forest in the supply chain • Some support for protection tools when used with a working forest easement, or addresses preservation of small/fine-scale sites that are otherwise inoperable

Consultation Insights: While there has been some opposition to conservation approaches seen to 'tie up' forests permanently, there has also been support for approaches that put limits or requirements on the management activities if done on a micro-site basis, or with allowances for continued management following certain guidelines. Depending on the Organization's location in the supply chain, they may be able to work with and assist landowners directly, or may have to engage with and support through intermediaries.

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to: 1) conservation organizations or similar entities that are supporting or promoting programs or projects to develop new or augment existing incentive programs for landowner who restore, maintain or enhance existing examples of Late Successional Bottomland Hardwoods (LSBH) within the specified risk area and the Organization's supply area; or 2) organizations that work to connect landowners with incentives provided by other entities within the same area. These organizations may include: non-governmental organizations that have active programs/projects to conserve LSBH; federal, state and/or local governmental organizations; and/or organizations that have active programs/ projects to conserve habitat for species dependent upon LSBH. If the incentive involves a working forest easement, the easement language should include requirements for use of compatible forest management practices that will restore, maintain or enhance the LSBH.

INTENT The intent of this mitigation option is to implement actions to increase incentives for landowners that will result in changes to on-the-ground forest management activities that improve

restoration or maintenance of LSBH, and thereby mitigate the risk of sourcing materials from sites where LSBH in the specified risk area are threatened by forest management activities.

The following is offered as an option for Organizations that have direct contact with the landowners that supply their forest materials:

Provide an incentive(s) to landowners for conserving existing high quality or near high quality occurrences of Late Successional Bottomland Hardwoods (LSBH); or facilitate landowners' access to incentives provided by other entities that will conserve the existing high quality or near high quality occurrences of LSBH.

INTENT The intent of this mitigation option is to implement actions to increase incentives for landowners that will result in changes to on-the-ground forest management activities that improve restoration or maintenance of LSBH, and thereby mitigate the risk of sourcing materials from sites where LSBH in the specified risk area are threatened by forest management activities.

HCV 3: Native Longleaf Pine Systems

- Once one of the most widespread forest types in the US, but reduced to less than 5% of original range, becoming one of the rarest forest systems in the world. Recent restoration successes, but still extremely rare. 'Native' indicates that it is on a site that has historically been maintained as longleaf pine – may be planted or naturally regenerated.
- Fire dependent systems that include Longleaf Pine as the dominant tree, little mid-story trees and shrubs, and a well-developed, highly diverse ground layer. Associated with high animal and plant diversity, including many rare, threatened and endangered species.
- Conversion to other forest types, management techniques that inhibit native understory communities and modification of hydrology are identified threats from forest management activities.

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 3 Native Longleaf Pine Systems (NLPS).

CENTRAL THEME: Education & Outreach

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the social benefits and values of Native Longleaf Pine Systems (NLPS), threats from forest management activities (as described in the FSC US National Risk Assessment) and related loss of values, and opportunities for conservation through management that restores or maintains NLPS and reduces or eliminates these threats. Communications should recognize the importance of the forest understory and fire to NLPS. The desired outcome of these communications is engaging landowners, foresters and loggers in conservation of NLPS within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in NLPS conservation, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.

- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of NLPS.

INTENT: 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 restoration or maintenance of NLPS, and thereby mitigate the risk of sourcing materials from sites where NLPS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Procurement Policy

Consultation Insights: Comments associated with a number of specified risk topics recognized that companies that are closer to the beginning of the supply chain are in a unique position to have a greater influence on the forest management activities within the source forest. Several commenters observed that this kind of influence could be achieved through a procurement policy that is linked to the education and outreach information themes.

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests where Native Longleaf Pine Systems (NLPS) are threatened as a result of the forest management activities that produced the forest materials. This will require providing a description of the forest type (as it occurs in the supply area), potential threats to NLPS from forest management activities (as described in the FSC US National Risk Assessment), and the kinds of activities that would maintain or enhance NLPS forest in the specified risk area.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement policy that will either result in avoidance of materials from sites where NLPS is threatened by forest management activities, or result in changes to on-the-ground forest management activities that mitigate the risk of sourcing materials from sites where NLPS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Research & Mapping

Original Proposed Option	Topline Input
(#1) Develop a really good map of high-value NLPS so that they can be more easily maintained/enhanced	• Recognition that a good map is helpful for understanding conservation need and risk • Lots of questions regarding 'who' would do the work and 'how' • Significant concerns regarding unintended consequences (maps promoting harvest) • Not something that most companies can do, but could partner with organizations that can do it • Some suggestion that this already exists

	• Need better criteria for what's mapped than 'high value' • Suggest it should not be a fine-scale map

Consultation Insights: There was across the board support for mapping as an option, but recognition that the 'what' to be mapped needs to be defined differently, as 'high value' for one perspective may not be the same for another. Scale was also the focus of a number of comments, recognizing that there is a desire to have an output that improves conservation of NLPS, but that doesn't instigate harvests by landowners that don't want to have potential habitat for endangered species, or that feel compelled to harvest for other reasons. The Longleaf Alliance and others have done some mapping, but there was a sense expressed that there was additional opportunity to augment what has been done. Emphasis that this is not something that most Organizations could do on their own, but that they certainly can help to support those who can do it. Input associated with other risk issues has also suggested that research or mapping on its own will not mitigate the identified risk (the risk of sourcing materials from places where the HCV is threatened by the forest management activities) – something else is needed in addition.

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is working to augment current maps of existing and restorable Native Longleaf Pine Systems within the specified risk area, using remote sensing or other techniques that do not require landowner declarations regarding their ownerships; and
2. Use the results of the mapping work to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to improve maintenance or enhancement of NLPS.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in changes to on-the-ground forest management activities that improve restoration or maintenance of NLPS, and thereby mitigate the risk of sourcing materials from sites where NLPS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Planning

Original Proposed Options	Topline Input
None	• Multiple suggestions for a mitigation option associated with this central theme • Involvement in land planning to encourage management for NLPS • Encourage expansion and restoration

Consultation Insights: While there was not an original option proposed related to land planning, there were a number of different suggestions for an associated option. Some of the input was not specific to any particular level of government, but one specified national or state forests. Generally, the message was that there should be an option for Organizations to get involved in a way that would allow them to encourage management for and restoration and expansion of NLPS on public lands.

The following is offered as an option that could be scaled for any level of mitigation:

Engage in public land (Federal, state and/or local) conservation planning processes, and, when possible, the implementation of public land plans, that include, or could potentially include, goals, objectives and/or actions that are intended to achieve conservation of existing Native Longleaf Pine

Systems (NLPS) within the specified risk area and the Organization's supply area. This may include: general natural resource planning and plans; planning and plans for specific forests, natural areas, or other managed areas; planning and plans for NLPS-dependent species; and/or regional planning and plans directly for NLPS itself. The desired outcome of this engagement is to increase and improve forest management practices that conserve NLPS.

NOTE: There are some situations where engagement/support by the Organization may not be possible for both the planning process and the plan implementation (e.g., when the relevant plan has already been developed, or when there is an opportunity to participate in a planning process where implementation of the plan will be the complete responsibility of a public agency and there is no opportunity to engage or support implementation).

INTENT: The intent of this mitigation option is to implement planning-related actions that will result in changes to on-the-ground forest management activities that improve restoration or maintenance of NLPS, and thereby mitigate the risk of sourcing materials from sites where NLPS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Implement Management Activities

Original Proposed Options	Topline Input
(#2) Provide monetary or in-kind support to the Longleaf Alliance, The Nature Conservancy, National Wild Turkey Federation, The Conservation Fund or equivalent organizations for projects on public or private lands to maintain/enhance NLPS and/or promote working land easements (#5) Work collaboratively to secure Native Longleaf Pine habitat for Longleaf-dependent species that are candidates for federal endangered species listing, working to preclude the need for listing and ensure that the forest areas secured will not be threatened by incompatible forest management activities. Through a multi-species Candidate Conservation Agreement with Assurances? Something like the Gopher Tortoise Initiative, but with the broader NLPS as focus?	• Focus on supporting organizations that are already working to implement management • Group similar ideas/options • Must include options other than monetary • Should include restoration in addition to maintain and enhance • Needs to be auditable – link this to specific goals or types of programs/projects needed • Focus on HCVs within the supply area • Facilitating use of fire as a management tool is critical and should be incorporated • Emphasize understory condition over dominant trees, including impacts from changes to hydrology • Little support for a specific focus on rare species habitat protection

Consultation Insights: Both of these original actions are about supporting active, on the ground, conservation of NLPS through collaborative efforts, so merging them makes sense. Comments recognized that there is a greater chance for effectiveness by working with organizations that have established track-records. There was an interest in focusing on improving or increasing specific management activities across the landscape that are identified as important to restore, maintain, or enhance existing NLPS. Comments consistently emphasized the need to ensure flexibility in how an Organization can 'support' these efforts, that it shouldn't be limited to monetary donations.

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation organizations or similar entities (as described below) that are facilitating active, on-the-ground implementation of management activities (as described below) to restore or maintain existing examples of Native Longleaf Pine Systems (NLPS), with a goal of long-term conservation of this system within the specified risk area and the Organization's supply area.

- Conservation Entities: These may include: non-governmental organizations that have active programs/projects to conserve NLPS; federal, state and/or local governmental organizations with natural resource conservation responsibilities or goals; and/or organizations that have active programs/projects focused on habitat conservation for species dependent upon NLPS.
- Management Activities: These may focus on any of the sub-categories of NLPS and should include efforts to: increase and improve the use of existing best management practices for NLPS; increase the use of fire as a management tool; restore and maintain native understory communities; and restore and maintain essential hydrology.

  NOTE: In this situation, 'best management practices' are not intended to specifically reference State-established BMPs for water quality, but instead established practices that are effective in restoring or maintaining functional NLPS.

INTENT: The intent of this mitigation option is to implement on-the-ground forest management activities that improve restoration or maintenance of NLPS, and thereby mitigate the risk of sourcing materials from sites where NLPS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Landowner Incentives

Original Proposed Options	Topline Input
(#3) Work with potential suppliers/landowners (particularly the larger ones) to get them to agree that they will manage for NLPS (#6) Through the National Fish & Wildlife Foundation or the Longleaf Alliance, develop a fund that will help to fill the gap created when there are more landowners willing to plant and manage NLPS than cost share dollars available.	• Focus on incentives to restore & maintain • "Develop or augment" landowner incentives • "Support and promote" existing incentives • A number of different ways this could be done • Not just large landowners • "Get them to agree" is vague and un-auditable • Money should not be the only option; but if it is, clarify how much is enough • May not be possible for individual Organizations to do this • Support organizations already doing it • Don't focus on specific funds

Consultation Insights: Due to the higher return-on-investment for loblolly pine over longleaf pine, there's a perceived need for incentives to help get landowners engaged in managing for NLPS. One of the originally proposed options was seen as not specific enough ('get them to agree to'), while the other was considered too specific (focusing on only one incentive potential) – commenters are looking for something in the middle. But regardless, the input consistently emphasized the need to focus on the desired outcome of NLPS conservation. However, it also emphasized the need for some flexibility in how Organizations do this – that it can't be limited to monetary donations.

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to: 1) conservation organizations or similar entities that are supporting or promoting programs or projects to develop new or augment existing incentive programs for landowner who restore, maintain or enhance existing examples of Native Longleaf Pine Systems (NLPS) within the specified risk area and the Organization's supply area; or 2) organizations that work to connect landowners with incentives provided by other entities within the same area. These organizations may include: non-governmental organizations that have active programs/projects to conserve NLPS; federal, state and/or local governmental organizations; and/or organizations that have active programs/ projects to conserve habitat for species dependent

upon NLPS. If the incentive involves a working forest easement, the easement language should include requirements for use of compatible forest management practices that will restore, maintain or enhance the NLPS.

INTENT: The intent of this mitigation option is to implement actions to increase incentives for landowners that will result in changes to on-the-ground forest management activities that improve restoration or maintenance of NLPS, and thereby mitigate the risk of sourcing materials from sites where NLPS in the specified risk area are threatened by forest management activities.

The following is offered as an option for Organizations that have direct contact with the landowners that supply their forest materials:

Provide an incentive(s) to landowners for conserving existing high quality or near high quality occurrences of Native Longleaf Pine Systems (NLPS); or facilitate landowners' access to incentives provided by other entities that will conserve the existing high quality or near high quality occurrences of NLPS.

INTENT: The intent of this mitigation option is to implement actions to increase incentives for landowners that will result in changes to on-the-ground forest management activities that improve restoration or maintenance of NLPS, and thereby mitigate the risk of sourcing materials from sites where NLPS in the specified risk area are threatened by forest management activities.

The following originally proposed mitigation option was not maintained in the final set of options due to the feedback received through the Controlled Wood Regional Meeting.

Value-Added Forest Management

Original Proposed Option	Topline Input
(#4) Promote value-added supply chains for longleaf pine wood products to incentivize longer rotations and ecological forestry.	• Mixed response received during the meeting, with more negative comments in the written materials • General support for healthy markets that promote NLPS management, but questions as to how an Organization could have an impact

Consultation Insights: While strong markets for Longleaf Pine materials would be very welcome, there were many concerns expressed regarding the feasibility of an Organization being able to have an impact on the economics of the market and therefore being able to affect conservation of NLPS or address threats to NLPS through this pathway. Due to the potential for lack of effectiveness, this option is not included in the revised set of mitigation options

Category 4: Forest Conversion

- Overall in the US, the rates of forest loss are very low – with forest losses being balanced by forest gains at national and regional scales. However, at finer scales, forest conversion is occurring, primarily driven by urban development.
- Mitigation options to address forest must help to achieve one of the following outcomes (drawn from the USFS Open Space Conservation Strategy):
  A. Convene partners to identify and protect priority forest areas
  B. Promote national policies and markets to help private landowners conserve forests

C. Provide resources and tools to help communities expand and connect forests
D. Participate in community growth planning to reduce ecological impacts and wildfire risks

The input received on proposed mitigation options for Conversion in the Pacific Coast and Southeast Regions did not reveal any significant regional differences that might affect implementation of mitigation. Therefore, to provide consistency for organizations across US regions, the mitigation options that follow are for both regions where specified risk from conversion was designated.

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 4.2 when sourcing from areas of specified risk designated for Forest Conversion.

CENTRAL THEME: Education & Outreach

Original Proposed Options	Topline Input
(Atlanta #1) Help landowners with tax relief programs, succession planning, etc. to reduce the incentives for them to view the forest as a financial burden, or to view conversion of their forest as a better financial alternative than maintaining it. (Portland #1) Educate landowners about tax relief programs, succession planning, etc. to encourage keeping forests as forests. (Portland #2) Support regional efforts to educate landowners as to the value-enhancing alternatives of maintaining forestland over conversion.	• Educate landowners to encourage keeping forests as forests, such as through tax-relief programs, succession planning, etc. • Educate decision makers and regional planners • Efforts should be coordinated and collaborative • Education needs to happen at the landscape level • Clarity needed on 'support', in-kind or financial support • Clarify who is responsible for developing and conducting landowner education and who will lead a collaborative effort • Consideration of different approaches to education and variation depending on where a company is in the supply chain • Clarity needed on the auditability of education as a mitigation option and what conformance looks like for companies.

Consultation Insights: Stakeholders from both Regional Meetings and from all perspectives supported landowner outreach and education as an important tool to reduce conversion. At the Portland Regional Meeting, there was clear support for merging the central theme of education that was proposed in the two options and expanding educational efforts not just to landowners but to decision makers and regional planners. However, engagement with decision makers and regional planners has been addressed through a separate mitigation option under the central theme of regional planning, and the final draft mitigation option below focuses on engagement with landowners. Stakeholders also frequently highlighted the importance of a coordinated and collaborative approach to the educational efforts across the region. Lastly, there is a need for the final mitigation options to clearly articulate what is required by the Organization and to consider the auditability of the final mitigation option.

The following is offered as an option that could be scaled for any level of mitigation:

> Using materials as described below, communicate to audiences (also described below) the social benefits of keeping forests as forests, and the value-enhancing alternatives to conversion and opportunities for the maintenance of forests (e.g., tax-relief programs, succession planning). The desired outcome of these communications is engaging landowners within the specified risk area and the Organization's supply area in the maintenance of forests.

- Materials: Materials are developed by or developed in cooperation with, organizations/individuals with expertise in the maintenance of forests, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for maintenance of forests.

INTENT: The intent of this mitigation option is to implement education and outreach-related actions that will result in maintenance of forests, and thereby mitigate the risk of sourcing materials from sites in the specified risk area where the forest is being converted to non-forest use.

CENTRAL THEME: Procurement Policy

Consultation Insights: Comments associated with a number of specified risk topics recognized that companies that are closer to the beginning of the supply chain are in a unique position to have a greater influence on the forest management activities within the source forest. Several commenters observed that this kind of influence could be achieved through a procurement policy that is linked to the education and outreach information themes.

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests that are being converted to a non-forest use.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement policy that will either result in avoidance of materials from sites where forest was converted to a non-forest use, or result in maintenance of forests, and thereby mitigate the risk of sourcing materials from sites in the specified risk area where the forest is being converted to non-forest use.

CENTRAL THEME: Research & Mapping

Original Proposed Options	Topline Input
None	• Stakeholder suggestion to consider how urban growth modeling could be used to predict future growth patterns.

Consultation insights: A stakeholder at the Atlanta meeting identified the potential to research and utilize urban growth modeling to better predict future growth. This could be a tactic used to identify forests and landowners that may be at a higher risk of converting their forests to non-forests in the future. Findings of modeling and mapping efforts could assist in the improvement in implementation in the other mitigation options, such as through targeted educational outreach to identified landowners or enhanced engagement with conservation initiatives.

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is working to improve predictions of future urban growth through modeling and mapping within the specified risk area, using remote sensing or other techniques that do not require landowner declarations regarding their ownerships; and
2. Use the results of the mapping work to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to maintain forests.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in maintenance of forests, and thereby mitigate the risk of sourcing materials from sites in the specified risk area where the forest is being converted to non-forest use.

CENTRAL THEME: Conservation Initiatives

Original Proposed Options	Topline Input
(Atlanta #5) Support organizations which address conversion but who do not permanently lock up conservation easements, rather promise to maintain and manage the forest as working forests. (Portland #5) Support organizations which address conversion but who do not permanently lock up forests in conservation easements.	• Overall endorsement for a mitigation option related to supporting organizations working to maintain forests as forests • Some concerns expressed regarding land trusts and conservation easements, others supporting these endeavors to maintain forestland • Emphasis on land trusts that work on maintaining working forests as opposed to full preservation • Clarity needed on the audit parameters related to 'support' and how to define 'support' or 'address' in the context of the mitigation option • Establish flexibility in regards to which organizations are supported, but provide examples as opposed to prescription. • Proposed option #5 make conservation easements sound negative, but these are an important tool

Consultation insights: Based on stakeholder feedback, there is overall support for a mitigation option related to supporting organizations working to maintain forests as forests. However, there were varying perspectives regarding which organizations would receive support, and concern around the implied negative connotation in Option #5 with conservation easements. While there was an emphasis on supporting organizations that maintain working forestland, others also stressed that there should be a space in the mitigation option to work with organizations utilizing conservation easements. Stakeholders also expressed the need for the mitigation option to include clear the action required of certificate holders to ensure auditability, and more guidance on what types organizations would be acceptable.

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation partnerships, organizations or similar entities that are supporting or promoting programs/projects to develop new or augment existing programs within the specified risk area and the Organization's supply area that will result in the maintenance of forests. These programs/projects may include incentives, such as working forest easements and other conservation easements. These entities may include, but are not limited to: land trusts, community forest programs, landowner cooperatives, forest industry

groups, programs offering technical forest management assistance to landowners, government organizations or conservation organizations (public or private).

INTENT: The intent of this mitigation option is to implement actions through conservation programs/projects that will result in maintenance of forests, and thereby mitigate the risk of sourcing materials from sites in the specified risk area where the forest is being converted to non-forest use.

CENTRAL THEME: Planning

Original Proposed Options	Topline Input
(Atlanta #4) Actively participate in regional planning processes to support policies aimed at limiting conversion. (Portland #4) Actively participate in regional planning processes (land use and/or sustainable forestry) to support policies aimed at limiting conversion.	• Overall support across all perspectives for participation in regional planning • A key element of the conversion mitigation options developed • Specific suggestions for support and lobbying for farm bill providing incentives to landowners to keep forests as forests, and grant planning to support communities • Clarity needed on terminology for determining participation and the policies which are deemed viable to support • Clarify how 'active participation' will be audited

Consultation insights: There is broad support from stakeholders for participation in regional planning as a mitigation action to decrease the threat of conversion in areas of specified risk, and very little opposition from those providing feedback. However, while this mitigation option has received support from all perspectives, there are concerns with what will be required of certificate holders to show conformance with this mitigation option. Therefore, to ensure the mitigation option is auditable, the specific action will need to be clearly stated.

The following is offered as an option that could be scaled for any level of mitigation:

Engage in on-going regional landscape-level planning processes (land use and/or sustainable forestry) to support viable policies or regulations that are intended to promote maintenance of forests within the specified risk area and the Organization's supply area. Engagement may include, but is not limited to: direct communication with federal, state and/or local resource policy makers and planners; participation on regional planning groups/committees; and collaboration with, or support for, organizations/individuals advocating for viable policies or regulations with the goal of maintaining forests.

INTENT: The intent of this mitigation option is to implement planning-related actions that will result in maintenance of forests, and thereby mitigate the risk of sourcing materials from sites in the specified risk area where the forest is being converted to non-forest use.

The following is offered as an option for when a 'High' level of mitigation is required:

If regional landscape level planning processes are not currently occurring, collaborate and develop an engagement strategy with 1) federal, state and/or local resource policy makers and planners, and 2) organizations/individuals advocating for policies or regulations aimed at maintaining forests, with a goal to establish a regional landscape level planning process (land use and/or sustainable forestry) to support the development of viable policies or regulations that are intended to achieve maintenance of forests within the specified risk area and the Organization's supply area.

INTENT: The intent of this mitigation option is to implement planning-related actions that will result in maintenance of forests, and thereby mitigate the risk of sourcing materials from sites in the specified risk area where the forest is being converted to non-forest use.

The following originally proposed mitigation option was not maintained in the final set of options due to the feedback received through the Controlled Wood Regional Meeting.

Growing healthy markets

Original Proposed Options	Topline Input
(Atlanta #3) Grow healthy competitive markets that will motivate landowners to actively manage their forests and keep them healthy in ways that benefit the environment, wildlife, and the general public. (Portland #3) Grow healthy and competitive markets that motivate landowners to manage their forests in ways that benefit the environment and maintain forestland (e.g., support economic development, sawmill expansion, pulpwood expansion)	• Healthy wood markets important for maintaining value and keeping forests as forests • Many involved in promoting markets (FSC, members, Certificate Holders) • Developing financial incentives for landowners as healthy and competitive markets on their own do not motivate landowners • Certificate holders do not have ability to offer financial incentives • Certificate holders already work on this by virtue of being a business • Multiple suggestions that growing healthy and competitive markets should be FSC US's core function, and not the responsibility of certificate holders

Consultation insights: Feedback from stakeholders at both Regional Meetings showed support for Option #3 and the idea that by growing healthy and competitive markets for forest products, we will help ensure that forests maintain their economic value to landowners and therefore remain as forests. However, while this theme was supported, there was also concern expressed about what a company could really accomplish this in order to be effective on this as a mitigation option, and also how a mitigation option could be developed to meet the shared criteria of feasibility and auditability. There were some suggestions of creating market incentives and premiums for landowners in the regions where conversion was identified as a specified risk to help motivate landowners to maintain their forests. However, while this approach could be effective for landowners, it is not practical for a mitigation option to require organizations to offer financial incentives, and therefore, does not align with the requirements outline in the shared criteria for mitigation options. Incentives and premiums for landowners might result from a healthier market, but it's simply not feasible to expect this to happen as an outcome of the implementation of this mitigation option. Given the feedback received on this draft mitigation option, and taking the shared criteria into consideration, this will not be included in the revised set of mitigation options.

Annex 1 – Participants

Organizations Represented at the Atlanta Meeting

Americ
an Forest Foundation
American Green Consulting
Arauco
Baillie Lumber Co.
Biological Integrity, LLC
Boise Cascade Company
Boise White Paper/PCA
Bureau Veritas Certification NA
Clearwater Paper Corporation
Columbia Forest Products
Domtar Paper Co., LLC
Drax Biomass
DS Smith
Enviva
Evergreen Packaging
Forest Stewards Guild
Forestry Collab
Fram Renewable Fuels
Georgia Department of Natural Resources
Wildlife Resources Division
Georgia-Pacific LLC
Glatfelter
Graphic Packaging International
Green Bay Packaging Inc.
Highland Pellets
IKEA Purchasing Services (US) Inc
International Paper
KapStone Kraft Paper Corporation
Kimberly-Clark Corporation
Kronospan llc
Milliken Forestry Company
National Wildlife Federation
National Council for Air and Stream
Improvement, Inc.
Northland Forest Products Inc.
Packaging Corporation of America
PCA
PricewaterhouseCoopers LLC
R. S. Berg & Associates
Rainforest Alliance
Rayonier Advanced Materials
Renewable Strategies
Resolute Forest Products
The Conservation Fund
The Longleaf Alliance
The Procter & Gamble Company
The Westervelt Company
University of Georgia, Warnell School of
Forestry & Natural Resources
University of Kentucky
Western Carolina University
Westervelt Company
WestRock
Weyerhaeuser
WWF US
Zimmfor Management Services Ltd.

Organizations that Provided Comments During the Final Consultation

American Green Consulting Group, LLC
Bingaman & Son Lumber, Inc.
Boise Cascade Company
Columbia Forest Products
Conserving Carolina
Georgia-Pacific LLC
International Paper
KapStone Kraft Paper Corporation
Mendocino Redwood Company
NEPCon
Packaging Corporation of America
Rayonier Advanced Materials
Resolute Forest Products
SCS Global Services, Inc.
Sierra Club
University of Kentucky
Zimmfor Management Services Ltd.

Additional input was provided by Certification Bodies during a 10/08/18 meeting on this topic.

Annex 2 – Mitigation Options by Specified Risk Topic

This annex presents the same final set of mitigation options, as above, for specified risk topics in the Southeast and Mississippi Alluvial Valley Regions, but without the Controlled Wood Regional Meeting feedback or initially proposed options that were not included in the final set.

NOTE 1: Almost any of the mitigation options may be done individually or in collaboration with other certificate holders, or other entities that have similar desired outcomes. Collaboration is encouraged to scale up potential mitigation impact, and FSC US will seek to assist with that collaboration when feasible.

NOTE 2: Active engagement will be evaluated to be two-way engagement such as providing support through participation in meetings.

HCV 1: Cape Fear Arch Critical Biodiversity Area

The US Controlled Wood National Risk Assessment identifies two drivers of biodiversity in this CBA that may be threatened by forest management activities: Longleaf Pine and Pocosins.

- Longleaf Pine: As the specified risk area associated with this CBA **does not** overlap (for the most part) with the specified risk area associated with HCV 3 Native Longleaf Pine Systems (NLPS), **any Organization that is mitigating risks associated with sourcing from within this CBA will still be required to mitigate the identified risk associated with this driver of biodiversity**. However, mitigation may be implemented by selecting one of the mitigation options provided for NLPS.
- Pocosins: Mitigation to address the identified risk associated with this driver of biodiversity is also required, and mitigation options are provided below.

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 1 Cape Fear Arch Critical Biodiversity Area (CBA).

CENTRAL THEME: Education & Outreach

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the conservation values of Cape Fear Arch biodiversity associated with pocosins, threats from incompatible forest management (as described in the FSC US National Risk Assessment), and opportunities for conservation through management that enhances biodiversity and reduces or eliminates these threats. The desired outcome of these communications is engaging landowners, foresters, and loggers in conservation of pocosins within the specified risk area and the Organization's supply area. Communications should recognize the importance of hydrology for maintenance and enhancement of pocosins.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in pocosin biodiversity conservation, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.

- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of pocosin or Cape Fear Arch biodiversity.

INTENT: 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 pocosin biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Procurement Policy

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests where pocosin biodiversity is threatened as a result of the forest management activities that produced the forest materials. This will require providing a description of pocosin systems (as they occur in the supply area), potential threats to pocosins from forest management activities (as described in the FSC US National Risk Assessment), and the kinds of activities that would maintain or enhance pocosin biodiversity in the specified risk area.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement policy that will either result in avoidance of materials from sites where pocosin biodiversity is threatened by forest management activities, or result in changes to on-the-ground forest management activities that mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Conservation Initiatives

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation partnerships, organizations or similar entities that are supporting or promoting programs/projects to develop new or augment existing programs that will identify and conserve pocosins within areas of the specified risk area and the Organization's supply area, with a particular focus on increasing and improving implementation of management practices that will conserve pocosin biodiversity. These entities may include: 1) partnerships (government and/or non-government organizations), or non-governmental organizations working alone, that have active programs/projects to conserve pocosins and their associated biodiversity; and/or 2) federal, state and/or local governmental organizations.

INTENT: The intent of this mitigation option is to implement actions through conservation programs/projects that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of pocosin biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Cape Fear Arch Conservation Collaboration

The following is offered as an option that could be scaled for any level of mitigation:

Attend Cape Fear Arch Conservation Collaboration meetings and develop and implement an action plan (either alone or cooperatively with other Collaborative participants) that will improve the maintenance or enhancement of Cape Fear Arch biodiversity within the specified risk area and the Organization's supply area.

INTENT: The intent of this mitigation option is to implement actions that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of Cape Fear Arch biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

HCV 1: Central Florida Critical Biodiversity Area

The US Controlled Wood National Risk Assessment identifies Pine Flatwoods as the primary driver of biodiversity in this CBA and recognizes that it may be threatened by forest management activities. Threats from forest management activities, proposed mitigation options and feedback received for this CBA are very similar to those associated with the Native Longleaf Pine System (NLPS) risk topic. Therefore, as the specified risk area associated with this CBA overlaps with the specified risk area associated with HCV 3 Native Longleaf Pine Systems (NLPS), any Organization that is mitigating risks associated with sourcing from specified risk areas for NLPS that are within this CBA will already be mitigating the identified risk associated with this CBA, and no additional mitigation is needed. However, if the Organization is only sourcing from the portion of the CBA that is not within the specified risk area for NLPS, one of the following mitigation options is required.

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 1 Central Florida Critical Biodiversity Area (CBA).

CENTRAL THEME: Education & Outreach

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the social benefits and values of pine flatwoods, threats from incompatible forest management activities (as described in the FSC US National Risk Assessment), and opportunities for conservation through management that enhances biodiversity and reduces or eliminates these threats. The desired outcome of these communications is engaging landowners, foresters, and loggers in conservation of the biodiversity associated with pine flatwoods within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in pine flatwoods biodiversity conservation, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or

through collaboration with organizations/individuals already working for conservation of pine flatwoods biodiversity.

INTENT: 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 pine flatwoods biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Procurement Policy

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests where pine flatwoods biodiversity is threatened as a result of the forest management activities that produced the forest materials. This will require providing a description of the forest type (as it occurs in the supply area), potential threats to pine flatwoods from forest management activities (as described in the FSC US National Risk Assessment), and the kinds of activities that would maintain or enhance pine flatwoods biodiversity in the specified risk area.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement policy that will either result in avoidance of materials from sites where pine flatwoods biodiversity is threatened by forest management activities, or result in changes to on-the-ground forest management activities that mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Conservation Initiatives

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation partnerships, organizations or similar entities that are supporting or promoting programs/projects to develop new or augment existing programs within the specified risk area and the Organization's supply area that will: a) restore, enhance, or maintain pine flatwoods, with a particular focus on increasing and improving implementation of management practices that will conserve pine flatwood biodiversity; and/or b) result in increased access to incentive programs for landowner who restore, maintain or enhance forests in a way that will conserve pine flatwood biodiversity. These entities may include: 1) partnerships (government and/or non-government organizations), or non-governmental organizations working alone, that have active programs/projects to conserve pine flatwoods and their associated biodiversity; and/or 2) federal, state and/or local governmental organizations.

INTENT: The intent of this mitigation option is to implement actions through conservation programs/projects that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of pine flatwoods biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Implement Management Activities

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation organizations or similar entities (as described below) that are facilitating active, on-the-ground implementation of management activities (as described below) to maintain or enhance pine flatwoods, with a goal of long-term conservation of the pine flatwood biodiversity within the specified risk area and the Organization's supply area.

- Conservation Entities: These may include: non-governmental organizations that have active programs/projects to conserve pine flatwoods; federal, state and/or local governmental organizations with natural resource conservation responsibilities or goals; and/or organizations that have active programs/projects focused on habitat conservation for species dependent upon pine flatwoods.
- Management Activities: These should include efforts to: increase and improve the use of management practices that conserve the biodiversity of the pine flatwoods; increase the use of prescribed fire as a management tool; restore and maintain native understory communities; and restore and maintain essential hydrology.

INTENT: The intent of this mitigation option is to implement on-the-ground forest management activities that improve maintenance or enhancement of pine flatwoods biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

HCV 1: Florida Panhandle Critical Biodiversity Area

The US Controlled Wood National Risk Assessment identifies two drivers of biodiversity in this CBA that may be threatened by forest management activities: Longleaf Pine Savanna and the Apalachicola Bay/River System.

- Longleaf Pine Savanna: As the specified risk area associated with this CBA overlaps with the specified risk area associated with HCV 3 Native Longleaf Pine Systems (NLPS), any Organization that is mitigating risks associated with sourcing from areas of NLPS that are within this CBA will already be mitigating the identified risk associated with this driver of biodiversity, and no additional mitigation is needed.
- Apalachicola Bay/River System: Mitigation to address the identified risk associated with this driver of biodiversity will still be required, and the mitigation options are provided below.

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 1 Florida Panhandle Critical Biodiversity Area (CBA).

CENTRAL THEME: Education & Outreach

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the conservation values of aquatic biodiversity, threats from poorly implemented forest management activities (as described in the FSC US National Risk Assessment), and opportunities for conservation through management practices that reduce or eliminate these threats, including but not limited to forest management activities on steep slopes. The desired outcome of these

communications is engaging landowners, foresters, and loggers in increasing and improving forest management best practice implementation that conserves aquatic biodiversity within the portion of the Apalachicola Bay/River System that is within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in aquatic biodiversity conservation, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of aquatic biodiversity.

INTENT: 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 aquatic biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Research & Mapping

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is currently conducting, or has the capacity to initiate, research on effectiveness of water quality Best Management Practices (BMPs) for conserving aquatic biodiversity, or on identifying landscapes within the portion of the Apalachicola River/Bay System that is within the specified risk area that include forests where there is a higher level of the identified risk; and
2. If research on effectiveness of BMPs is completed, then advocate for changes to state BMPs that reflect the results of the research. If mapping of higher risk areas is completed, then use the results of the mapping to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to improve maintenance or enhancement of aquatic biodiversity.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of aquatic biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Conservation Initiatives

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation partnerships, organizations or similar entities that are supporting or promoting programs/projects to develop new

or augment existing programs that will enhance or conserve aquatic biodiversity in the Apalachicola Bay/River System, with a particular focus on bottomland hardwood forests and forests identified as having higher risk within the portion of the Apalachicola Bay/River System that occurs within areas of the specified risk area and the Organization's supply area. These entities may include: 1) partnerships (government and/or non-government organizations), or non-governmental organizations working alone, that have active programs/projects to conserve aquatic biodiversity or the forests important for doing so; and/or 2) federal, state and/or local governmental organizations.

INTENT: The intent of this mitigation option is to implement actions through conservation programs/projects that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of aquatic biodiversity, and thereby mitigate the risk of sourcing materials from sites where the concentration of biodiversity in the specified risk area is threatened by forest management activities.

HCV 1: Southern Appalachian Critical Biodiversity Area

The US Controlled Wood National Risk Assessment identifies two drivers of biodiversity in this CBA that may be threatened by forest management activities: Montane Longleaf Pine and Aquatic Habitats.

- Montane Longleaf Pine: As the specified risk area associated with this CBA overlaps with the specified risk area associated with HCV 3 Native Longleaf Pine Systems (NLPS), any Organization that is mitigating risks associated with sourcing from areas of NLPS that are within this CBA will already be mitigating the identified risk associated with this driver of biodiversity, and no additional mitigation is needed.
- Aquatic Habitats: Mitigation to address the identified risk associated with this driver of biodiversity will still be required, and the mitigation options are provided below. Please note, however, that due to the very similar input provided on this topic for both the Central Appalachian CBA and the Southern Appalachian CBA, the mitigation options are the same. This will allow an Organization that sources from both areas of specified risk to use the same option to mitigate risk in both areas.

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 1 Southern Appalachian Critical Biodiversity Area (CBA).

CENTRAL THEME: Education & Outreach

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the conservation values of aquatic biodiversity, threats from poorly implemented forest management activities (as described in the FSC US National Risk Assessment), and opportunities for conservation through management practices that reduce or eliminate these threats, including but not limited to forest management activities on steep slopes, and practices that will prevent siltation. The desired outcome of these communications is engaging landowners, foresters, and loggers in increasing and improving Best Management Practice (BMP) implementation that focuses on aquatic biodiversity conservation within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in aquatic biodiversity conservation, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of

effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.

- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of aquatic biodiversity.

INTENT: 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 aquatic biodiversity, and thereby mitigate the risk of sourcing materials from sites where the aquatic biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Research & Mapping

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is currently conducting, or has the capacity to initiate, research on effectiveness of water quality Best Management Practices (BMPs) for conserving aquatic biodiversity, or on identifying specific landscapes within the specified risk area that include forests where there is higher level of the identified risk; and
2. If research on effectiveness of BMPs is completed, then advocate for changes to state BMPs that reflect the results of the research. If mapping of higher risk areas is completed, then use the results of the mapping to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to improve maintenance or enhancement of aquatic biodiversity.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of aquatic biodiversity, and thereby mitigate the risk of sourcing materials from sites where the aquatic biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Conservation Initiatives

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation partnerships, organizations or similar entities that are supporting or promoting programs/projects to develop new or augment existing programs within the specified risk area and the Organization's supply area that will: a) result in increased and improved implementation of Best Management Practices (BMPs) with a focus on aquatic biodiversity conservation; and/or b) result in increased access to incentive programs for landowner who restore, maintain or enhance forests in a way that will conserve aquatic conservation, with a particular focus on forests within areas of the specified risk area identified as having higher risk. These entities may include: 1) partnerships (government and/or non-government organizations), or non-governmental organizations working alone, that have active

programs/projects to conserve aquatic biodiversity or the forests important for doing so; and/or 2) federal, state and/or local governmental organizations.

INTENT: The intent of this mitigation option is to implement actions through conservation programs/projects that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of aquatic biodiversity, and thereby mitigate the risk of sourcing materials from sites where the aquatic biodiversity in the specified risk area is threatened by forest management activities.

CENTRAL THEME: Direct Influence

The following are offered as options for Organizations that purchase directly from the source forest:

A. Engage with a conservation organization or similar entities, or collaborate with FSC US, to identify landscapes of particular concern related to the risk of receiving non-certified supplies from areas where aquatic biodiversity are threatened by forest management activities, and then communicate this information to suppliers, along with: 1) recommended Best Management Practices that will conserve aquatic biodiversity; 2) contact information for organizations that may be interested in working with the landowner on conserving the forest in question in a manner that will continue to conserve the aquatic biodiversity; and 3) a requirement that the landowner/forester/logger at the source forest either will not provide materials from the landscapes identified, or will document that the forest management practices implemented in the source forest did not threaten aquatic biodiversity.

B. Document acceptable implementation of Best Management Practices that conserve aquatic biodiversity for harvests that produce non-certified materials that will be controlled by the Organization.

C. Include Best Management Practices that will conserve aquatic biodiversity in harvest plans and/or in contracts made with loggers for harvests that produce non-certified materials that will be controlled by the Organization and require in those harvest plans and/or contracts that the Best Management Practices are implemented.

INTENT: The intent of this mitigation option is to implement supplier-engagement actions that will result in changes to on-the-ground forest management activities that improve maintenance or enhancement of aquatic biodiversity, and thereby mitigate the risk of sourcing materials from sites where the aquatic biodiversity in the specified risk area is threatened by forest management activities.

HCV 1: Dusky Gopher Frog

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 1 Dusky Gopher Frog.

CENTRAL THEME: Education & Outreach

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the conservation values of Dusky Gopher Frog (DGF), potential threats from forest management activities (as described in the FSC US National Risk Assessment), and opportunities for conservation through management that maintains, enhances, or restores DGF populations and

reduces or eliminates potential threats. The desired outcome of these communications is engaging landowners, foresters, and loggers in conservation of DGF populations within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in DGF, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of DGF.

INTENT: 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, enhancement or restoration of DGF populations, and thereby mitigate the risk of sourcing materials from sites where DGF in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Procurement Policy

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests where Dusky Gopher Frogs (DGF) are threatened as a result of the forest management activities that produced the forest materials. This will require providing a description of the forest type in which DGF populations occur, potential threats to DGF from forest management activities (as described in the FSC US National Risk Assessment), and the kinds of activities that would maintain or enhance DGF populations in the specified risk area.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement policy that will either result in avoidance of materials from sites where DGF are threatened by forest management activities, or result in changes to on-the-ground forest management activities that mitigate the risk of sourcing materials from sites where DGF in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Research

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is currently conducting, or has the capacity to initiate, research on clarifying positive and negative impacts of forest management activities on Dusky Gopher Frog (DGF) populations and/or on management practices for DGF conservation within the specified risk area; and
2. Use the results of the research to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to improve maintenance, enhancement or restoration of DGF populations.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in changes to on-the-ground forest management activities that improve maintenance, enhancement or restoration of DGF populations, and thereby mitigate the risk of sourcing materials from sites where DGF in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Implement Management Activities

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation organizations or similar entities (as described below) that are facilitating active, on-the-ground implementation of management activities (as described below) to restore, maintain or enhance Dusky Gopher Frog (DGF) populations, with a goal of long-term DGF conservation within the specified risk area and the Organization's supply area.

- Conservation Entities: These may include: non-governmental organizations that have active programs/projects to conserve DGF; federal, state and/or local governmental organizations with natural resource conservation responsibilities ro goals; and/or organizations that have active programs/projects focused on amphibian conservation.
- Management Activities: These should include efforts to: increase and improve the use of existing best management practices for Native Longleaf Pine Systems (NLPS) that support populations of DGF; increase and improve the use of existing best management practices near ephemeral ponds that support populations of DGF; increase the use of fire as a management tool; restore and maintain native understory communities; and restore and maintain essential hydrology.

  NOTE: In this situation, 'best management practices' are not intended to specifically reference State-established BMPs for water quality, but instead established practices that are effective in restoring or maintaining functional NLPS or DGF populations.

INTENT: The intent of this mitigation option is to implement on-the-ground forest management activities that improve maintenance, enhancement or restoration of DGF populations, and thereby mitigate the risk of sourcing materials from sites where DGF in the specified risk area are threatened by forest management activities.

HCV 1: Houston Toad

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 1 Houston Toad.

CENTRAL THEME: Education & Outreach

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the conservation values of Houston Toad, potential threats from forest management activities (as described in the FSC US National Risk Assessment), and opportunities for conservation through management that maintains, enhances, or restores Houston Toad populations and reduces or eliminates potential threats. The desired outcome of these communications is engaging landowners,

foresters, and loggers in conservation of Houston Toad populations within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in Houston Toad, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of Houston Toads.

INTENT: 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, enhancement or restoration of Houston Toad populations, and thereby mitigate the risk of sourcing materials from sites where Houston Toads in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Procurement Policy

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests where Houston Toads are threatened as a result of the forest management activities that produced the forest materials. This will require providing a description of the forest type in which Houston Toad populations occur, potential threats to Houston Toad from forest management activities (as described in the FSC US National Risk Assessment), and the kinds of activities that would maintain or enhance Houston Toad populations in the specified risk area.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005 V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement poicy that will either result in avoidance of materials from sites where Houston Toads are threatened by forest management activities, or result in changes to on-the-ground forest management activities that mitigate the risk of sourcing materials from sites where Houston Toads in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Research

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is currently conducting, or has the capacity to initiate, research on clarifying positive and negative impacts of forest management activities on Houston Toad populations and/or on management practices for Houston Toad conservation within the specified risk area; and

2. Use the results of the research to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to improve maintenance, enhancement or restoration of Houston Toad populations.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in changes to on-the-ground forest management activities that improve maintenance, enhancement or restoration of Houston Toad populations, and thereby mitigate the risk of sourcing materials from sites where Houston Toads in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Implement Management Activities

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation organizations or similar entities (as described below) that are facilitating active, on-the-ground implementation of management activities (as described below) to restore, maintain or enhance Houston Toad populations, with a goal of long-term conservation of Houston Toad within the specified risk area and the Organization's supply area.

- Conservation Entities: These may include: non-governmental organizations that have active programs/projects to conserve Houston Toad; federal, state and/or local governmental organizations with natural resource conservation responsibilities or goals; and/or organizations that have active programs/projects focused on amphibian conservation.
- Management Activities: These should include efforts to increase and improve the use of management practices that conserve Houston Toad populations such as opportunities to provide appropriate canopy shading; restore and maintain native understory communities; and restore and maintain essential hydrology.

INTENT: The intent of this mitigation option is to implement on-the-ground forest management activities that improve maintenance, enhancement or restoration of Houston Toad populations, and thereby mitigate the risk of sourcing materials from sites where Houston Toads in the specified risk area are threatened by forest management activities.

HCV 1: Patch-Nosed Salamander

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 1 Patch-Nosed Salamander.

CENTRAL THEME: Education & Outreach

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the conservation values of Patch-Nosed Salamander (PNS), potential threats from forest management activities (as described in the FSC US National Risk Assessment), and opportunities for conservation through management that maintains, enhances, or restores PNS populations and reduces or eliminates potential threats. The desired outcome of these communications is engaging landowners, foresters, and loggers in conservation of PNS populations within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in PNS or amphibian conservation, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of PNS.

INTENT: 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, enhancement or restoration of PNS populations, and thereby mitigate the risk of sourcing materials from sites where PNS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Procurement Policy

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests where Patch-Nosed Salamanders (PNS) are threatened as a result of the forest management activities that produced the forest materials. This will require providing a description of the forest type in which PNS populations occur, potential threats to PNS from forest management activities (as described in the FSC US National Risk Assessment), and the kinds of activities that would maintain or enhance PNS populations in the specified risk area.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement policy that will either result in avoidance of materials from sites where PNS are threatened by forest management activities, or result in changes to on-the-ground forest management activities that mitigate the risk of sourcing materials from sites where PNS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Research

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is currently conducting, or has the capacity to initiate, research on effectiveness of water quality Best Management Practices for conserving Patch-Nosed Salamander (PNS) populations, or on improving knowledge of the species, including distribution, within the specified risk area; and
2. Use the results of research to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to improve maintenance, enhancement or restoration of PNS populations.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in

turn, will result in changes to on-the-ground forest management activities that improve maintenance, enhancement or restoration of PNS populations, and thereby mitigate the risk of sourcing materials from sites where PNS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Conservation Initiatives

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation organizations or similar entities that are supporting or promoting programs or projects to develop new or augment existing programs within the specified risk area and the Organization's supply area that will: a) result in increased and improved implementation of forest management practices for conservation of Patch-Nosed Salamander (PNS) populations; and/or b) result in increased access to incentive programs for landowner who conserve PNS populations. These entities may include: 1) partnerships (government and/or non-government organizations), or non-governmental organizations working alone, that have active programs/projects to conserve PNS or amphibians in general; and/or 2) federal, state and/or local governmental organizations

INTENT: The intent of this mitigation option is to implement actions through conservation programs/projects that will result in changes to on-the-ground forest management activities that improve maintenance, enhancement or restoration of PNS populations, and thereby mitigate the risk of sourcing materials from sites where PNS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Planning

The following is offered as an option that could be scaled for any level of mitigation:

Engage in National Forest management planning processes, and, when possible, the implementation of National Forest plans, that include, or could potentially include, goals, objectives and/or actions that will likely have an impact on Patch-nosed Salamander (PNS) populations within the specified risk area and the Organization's supply area. The desired outcome of this engagement is to increase and improve forest management practices that conserve PNS populations.

NOTE: There are some situations where engagement/support by the Organization may not be possible for both the planning process and the plan implementation (e.g., when the relevant plan has already been developed, or when there is an opportunity to participate in a planning process where implementation of the plan will be the complete responsibility of a public agency and there is no opportunity to engage or support implementation).

INTENT: The intent of this mitigation option is to implement planning-related actions that will result in changes to on-the-ground forest management activities that improve maintenance, enhancement or restoration of PNS populations, and thereby mitigate the risk of sourcing materials from sites where PNS in the specified risk area are threatened by forest management activities.

HCV 3: Late Successional Bottomland Hardwoods

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 3 Late Successional Bottomland Hardwoods (LSBH).

CENTRAL THEME: Education & Outreach

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the social benefits and values of Late Successional Bottomland Hardwoods (LSBH), threats from forest management activities (as described in the FSC US National Risk Assessment) and related loss of values, and opportunities for conservation through management that restores or maintains LSBH and reduces or eliminates these threats. Communications should recognize the importance of natural functions (e.g., hydrologic processes) to LSBH. The desired outcome of these communications is engaging landowners, foresters and loggers in conservation of LSBH within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in LSBH conservation, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of LSBH.

INTENT: 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 restoration or maintenance of LSBH, and thereby mitigate the risk of sourcing materials from sites where LSBH in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Procurement Policy

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests where Late Successional Bottomland Hardwoods (LSBH) are threatened as a result of the forest management activities that produced the forest materials. This will require providing a description of the forest type (as it occurs in the supply area), potential threats to LSBH from forest management activities (as described in the FSC US National Risk Assessment), and the kinds of activities that would maintain or enhance LSBH forest in the specified risk area.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement policy that will either result in avoidance of materials from sites where LSBH is threatened by forest management activities, or result in changes to on-the-ground forest management activities that mitigate the risk of sourcing materials from sites where LSBH in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Research & Mapping

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is currently conducting, or has the capacity to initiate, research on Late Successional Bottomland Hardwoods (LSBH) topics pertinent to the specified risk area that will: a) improve understanding of the system and/or how the High Conservation Value should be defined, b) identify and improve compatible management practices, and/or c) identify occurrences where restoration and maintenance are more likely to be effective; and
2. Use the results of the research to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to improve maintenance or enhancement of LSBH.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in changes to on-the-ground forest management activities that improve restoration or maintenance of LSBH, and thereby mitigate the risk of sourcing materials from sites where LSBH in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Implement Management Activities

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation organizations or similar entities (as described below) that are facilitating active, on-the-ground implementation of management activities (as described below) to restore or maintain existing examples of Late Successional Bottomland Hardwoods (LSBH), with a goal of long-term conservation of this forest type within the specified risk area and the Organization's supply area.

- Conservation Entities: These may include: non-governmental organizations that have active programs/projects to conserve LSBH; federal, state and/or local governmental organizations with natural resource conservation responsibilities or goals; and/or organizations that have active programs/ projects focused on habitat conservation for species dependent upon LSBH.
- Management Activities: These should include efforts to: increase and improve the use of existing best management practices for LSBH, with particular focus on the vegetative structure and hydrology of the forest, and restore near high quality examples of LSBH.

  NOTE: In this situation, 'best management practices' are not intended to specifically reference State-established BMPs for water quality, but instead established practices that are effective in restoring or maintaining functional LSBH.

INTENT: The intent of this mitigation option is to implement on-the-ground forest management activities that improve restoration or maintenance of LSBH, and thereby mitigate the risk of sourcing materials from sites where LSBH in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Landowner Incentives

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to: 1) conservation organizations or similar entities that are supporting or promoting programs or projects to develop new or augment existing incentive programs for landowner who restore, maintain or enhance existing examples of Late Successional Bottomland Hardwoods (LSBH) within the specified risk area and the Organization's supply area; or 2) organizations that work to connect landowners with incentives provided by other entities within the same area. These organizations may include: non-governmental organizations that have active programs/projects to conserve LSBH; federal, state and/or local governmental organizations; and/or organizations that have active programs/ projects to conserve habitat for species dependent upon LSBH. If the incentive involves a working forest easement, the easement language should include requirements for use of compatible forest management practices that will restore, maintain or enhance the LSBH.

INTENT The intent of this mitigation option is to implement actions to increase incentives for landowners that will result in changes to on-the-ground forest management activities that improve restoration or maintenance of LSBH, and thereby mitigate the risk of sourcing materials from sites where LSBH in the specified risk area are threatened by forest management activities.

The following is offered as an option for Organizations that have direct contact with the landowners that supply their forest materials:

Provide an incentive(s) to landowners for conserving existing high quality or near high quality occurrences of Late Successional Bottomland Hardwoods (LSBH); or facilitate landowners' access to incentives provided by other entities that will conserve the existing high quality or near high quality occurrences of LSBH.

INTENT The intent of this mitigation option is to implement actions to increase incentives for landowners that will result in changes to on-the-ground forest management activities that improve restoration or maintenance of LSBH, and thereby mitigate the risk of sourcing materials from sites where LSBH in the specified risk area are threatened by forest management activities.

HCV 3: Native Longleaf Pine Systems

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 3.1 when sourcing from areas of specified risk designated for HCV 3 Native Longleaf Pine Systems (NLPS).

CENTRAL THEME: Education & Outreach

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the social benefits and values of Native Longleaf Pine Systems (NLPS), threats from forest management activities (as described in the FSC US National Risk Assessment) and related loss of values, and opportunities for conservation through management that restores or maintains NLPS and reduces or eliminates these threats. Communications should recognize the importance of the forest understory and fire to NLPS. The desired outcome of these communications is engaging landowners, foresters and loggers in conservation of NLPS within the specified risk area and the Organization's supply area.

- Materials: Materials are developed by or developed in cooperation with organizations/individuals with expertise in NLPS conservation, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for conservation of NLPS.

INTENT: 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 restoration or maintenance of NLPS, and thereby mitigate the risk of sourcing materials from sites where NLPS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Procurement Policy

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests where Native Longleaf Pine Systems (NLPS) are threatened as a result of the forest management activities that produced the forest materials. This will require providing a description of the forest type (as it occurs in the supply area), potential threats to NLPS from forest management activities (as described in the FSC US National Risk Assessment), and the kinds of activities that would maintain or enhance NLPS forest in the specified risk area.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement policy that will either result in avoidance of materials from sites where NLPS is threatened by forest management activities, or result in changes to on-the-ground forest management activities that mitigate the risk of sourcing materials from sites where NLPS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Research & Mapping

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is working to augment current maps of existing and restorable Native Longleaf Pine Systems within the specified risk area, using remote sensing or other techniques that do not require landowner declarations regarding their ownerships; and
2. Use the results of the mapping work to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to improve maintenance or enhancement of NLPS.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in changes to on-the-ground forest management activities that improve restoration or

maintenance of NLPS, and thereby mitigate the risk of sourcing materials from sites where NLPS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Planning

The following is offered as an option that could be scaled for any level of mitigation:

Engage in public land (Federal, state and/or local) conservation planning processes, and, when possible, the implementation of public land plans, that include, or could potentially include, goals, objectives and/or actions that are intended to achieve conservation of existing Native Longleaf Pine Systems (NLPS) within the specified risk area and the Organization's supply area. This may include: general natural resource planning and plans; planning and plans for specific forests, natural areas, or other managed areas; planning and plans for NLPS-dependent species; and/or regional planning and plans directly for NLPS itself. The desired outcome of this engagement is to increase and improve forest management practices that conserve NLPS.

NOTE: There are some situations where engagement/support by the Organization may not be possible for both the planning process and the plan implementation (e.g., when the relevant plan has already been developed, or when there is an opportunity to participate in a planning process where implementation of the plan will be the complete responsibility of a public agency and there is no opportunity to engage or support implementation).

INTENT: The intent of this mitigation option is to implement planning-related actions that will result in changes to on-the-ground forest management activities that improve restoration or maintenance of NLPS, and thereby mitigate the risk of sourcing materials from sites where NLPS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Implement Management Activities

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation organizations or similar entities (as described below) that are facilitating active, on-the-ground implementation of management activities (as described below) to restore or maintain existing examples of Native Longleaf Pine Systems (NLPS), with a goal of long-term conservation of this system within the specified risk area and the Organization's supply area.

- Conservation Entities: These may include: non-governmental organizations that have active programs/projects to conserve NLPS; federal, state and/or local governmental organizations with natural resource conservation responsibilities or goals; and/or organizations that have active programs/projects focused on habitat conservation for species dependent upon NLPS.
- Management Activities: These may focus on any of the sub-categories of NLPS and should include efforts to: increase and improve the use of existing best management practices for NLPS; increase the use of fire as a management tool; restore and maintain native understory communities; and restore and maintain essential hydrology.

  NOTE: In this situation, 'best management practices' are not intended to specifically reference State-established BMPs for water quality, but instead established practices that are effective in restoring or maintaining functional NLPS.

INTENT: The intent of this mitigation option is to implement on-the-ground forest management activities that improve restoration or maintenance of NLPS, and thereby mitigate the risk of sourcing materials from sites where NLPS in the specified risk area are threatened by forest management activities.

CENTRAL THEME: Landowner Incentives

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to: 1) conservation organizations or similar entities that are supporting or promoting programs or projects to develop new or augment existing incentive programs for landowner who restore, maintain or enhance existing examples of Native Longleaf Pine Systems (NLPS) within the specified risk area and the Organization's supply area; or 2) organizations that work to connect landowners with incentives provided by other entities within the same area. These organizations may include: non-governmental organizations that have active programs/projects to conserve NLPS; federal, state and/or local governmental organizations; and/or organizations that have active programs/ projects to conserve habitat for species dependent upon NLPS. If the incentive involves a working forest easement, the easement language should include requirements for use of compatible forest management practices that will restore, maintain or enhance the NLPS.

INTENT: The intent of this mitigation option is to implement actions to increase incentives for landowners that will result in changes to on-the-ground forest management activities that improve restoration or maintenance of NLPS, and thereby mitigate the risk of sourcing materials from sites where NLPS in the specified risk area are threatened by forest management activities.

The following is offered as an option for Organizations that have direct contact with the landowners that supply their forest materials:

Provide an incentive(s) to landowners for conserving existing high quality or near high quality occurrences of Native Longleaf Pine Systems (NLPS); or facilitate landowners' access to incentives provided by other entities that will conserve the existing high quality or near high quality occurrences of NLPS.

INTENT: The intent of this mitigation option is to implement actions to increase incentives for landowners that will result in changes to on-the-ground forest management activities that improve restoration or maintenance of NLPS, and thereby mitigate the risk of sourcing materials from sites where NLPS in the specified risk area are threatened by forest management activities.

Category 4: Forest Conversion

The input received on proposed mitigation options for Conversion in the Pacific Coast and Southeast Regions did not reveal any significant regional differences that might affect implementation of mitigation. Therefore, to provide consistency for organizations across US regions, the mitigation options that follow are for both regions where specified risk from conversion was designated.

The following mitigation options are available to certificate holders so that they may implement Control Measure CM 4.2 when sourcing from areas of specified risk designated for Forest Conversion.

CENTRAL THEME: Education & Outreach

The following is offered as an option that could be scaled for any level of mitigation:

Using materials as described below, communicate to audiences (also described below) the social benefits of keeping forests as forests, and the value-enhancing alternatives to conversion and opportunities for the maintenance of forests (e.g., tax-relief programs, succession planning). The desired outcome of these communications is engaging landowners within the specified risk area and the Organization's supply area in the maintenance of forests.

- Materials: Materials are developed by or developed in cooperation with, organizations/individuals with expertise in the maintenance of forests, or developed in collaboration with FSC US. Materials are delivered in a manner that has a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Materials may already exist or may need to be created.
- Audiences: Communications are directed toward audiences where there is a proven or reasonable expectation of effectiveness in achieving the above defined desired outcome. Depending upon the Organization's location in the supply chain, communications may be directly with landowners, foresters, or loggers, or through intermediaries such as community members, forest managers, suppliers, forestry associations or landowner associations, or through collaboration with organizations/individuals already working for maintenance of forests.

INTENT: The intent of this mitigation option is to implement education and outreach-related actions that will result in maintenance of forests, and thereby mitigate the risk of sourcing materials from sites in the specified risk area where the forest is being converted to non-forest use.

CENTRAL THEME: Procurement Policy

The following is offered as an option for Organizations that purchase directly from the source forest:

Develop/adapt a procurement policy that reflects the above Education & Outreach communications themes and clearly states the requirement that the landowner/forester/logger at the source forest will not supply materials from forests that are being converted to a non-forest use.

NOTE: Actions to demonstrate policy enforcement and communicate policies on sourcing to suppliers should be audited under the Due Diligence system requirements within the 40-005V3-1 standard section 1.1

INTENT: The intent of this mitigation option is to implement a procurement policy that will either result in avoidance of materials from sites where forest was converted to a non-forest use, or result in maintenance of forests, and thereby mitigate the risk of sourcing materials from sites in the specified risk area where the forest is being converted to non-forest use.

CENTRAL THEME: Research & Mapping

The following is offered as a two-part option for when a 'High' level of mitigation is required:

1. Engage with and/or provide monetary or in-kind resources to an entity or alliance that is working to improve predictions of future urban growth through modeling and mapping within the specified risk area, using remote sensing or other techniques that do not require landowner declarations regarding their ownerships; and
2. Use the results of the mapping work to improve implementation of another mitigation option or demonstrate that the results of the research are being used in some other way to maintain forests.

INTENT: The intent of this mitigation option is to implement research-related actions and then use the research outputs to increase the effectiveness of another implemented mitigation option that, in turn, will result in maintenance of forests, and thereby mitigate the risk of sourcing materials from sites in the specified risk area where the forest is being converted to non-forest use.

CENTRAL THEME: Conservation Initiatives

The following is offered as an option that could be scaled for any level of mitigation:

Engage with and/or provide monetary or in-kind resources to conservation partnerships, organizations or similar entities that are supporting or promoting programs/projects to develop new or augment existing programs within the specified risk area and the Organization's supply area that will result in the maintenance of forests. These programs/projects may include incentives, such as working forest easements and other conservation easements. These entities may include, but are not limited to: land trusts, community forest programs, landowner cooperatives, forest industry groups, programs offering technical forest management assistance to landowners, government organizations or conservation organizations (public or private).

INTENT: The intent of this mitigation option is to implement actions through conservation programs/projects that will result in maintenance of forests, and thereby mitigate the risk of sourcing materials from sites in the specified risk area where the forest is being converted to non-forest use.

CENTRAL THEME: Planning

The following is offered as an option that could be scaled for any level of mitigation:

Engage in on-going regional landscape-level planning processes (land use and/or sustainable forestry) to support viable policies or regulations that are intended to promote maintenance of forests within the specified risk area and the Organization's supply area. Engagement may include, but is not limited to: direct communication with federal, state and/or local resource policy makers and planners; participation on regional planning groups/committees; and collaboration with, or support for, organizations/individuals advocating for viable policies or regulations with the goal of maintaining forests.

INTENT: The intent of this mitigation option is to implement planning-related actions that will result in maintenance of forests, and thereby mitigate the risk of sourcing materials from sites in the specified risk area where the forest is being converted to non-forest use.

The following is offered as an option for when a 'High' level of mitigation is required:

If regional landscape level planning processes are not currently occurring, collaborate and develop an engagement strategy with 1) federal, state and/or local resource policy makers and planners, and 2) organizations/individuals advocating for policies or regulations aimed at maintaining forests, with a goal to establish a regional landscape level planning process (land use and/or sustainable forestry) to support the development of viable policies or regulations that are intended to achieve maintenance of forests within the specified risk area and the Organization's supply area.

INTENT: The intent of this mitigation option is to implement planning-related actions that will result in maintenance of forests, and thereby mitigate the risk of sourcing materials from sites in the specified risk area where the forest is being converted to non-forest use.

Annex 3 – Specified Risk Overview Documents

The following documents were made available to interested stakeholders in advance of the Controlled Wood Regional Meeting in Atlanta. Individuals and organizations were encouraged to review the information that they provide about the specified risk designations in the Southeast and Mississippi Alluvial Regions and then propose mitigation actions to address the identified risk either through the online discussion forum (https://www.engage.us.fsc.org) or at the Regional Meeting itself.

FSC US CONTROLLED WOOD REGIONAL MEETINGS

CAPE FEAR ARCH CBA

FSC REGION Southeast

HCVS IN FSC A High Conservation Value (HCV) is a biological, ecological, social or cultural value of outstanding significance or critical importance. FSC is working to ensure that our system helps to maintain and enhance the special places that support these values. For more information on HCVs, see the Common Guidance for the Identification of High Conservation Values.[1]

WHY IS CAPE FEAR ARCH CRITICAL BIODIVERSITY AREA (CBA) CONSIDERED AN HCV? This CBA is considered an HCV because it contains a high overall species richness, diversity, or uniqueness within a defined area compared to other sites within the same biogeographic area. The CBA was identified using a species richness index originally published by NatureServe and The Nature Conservancy that identifies areas with high concentrations of rare species. This index preferences species that have limited ranges by applying additional weighting. The results identify areas with concentrations of high biological diversity and spaces with an increased conservation significance.

SUMMARY OF CAPE FEAR ARCH CBA The geologic and hydrologic history of the Cape Fear Arch region have resulted in a diversity of wet and dry habitats. The region is considered to have the greatest biological diversity along the Atlantic Coast north of Florida and has been identified in North Carolina's Wildlife Action Plan, the Nature Conservancy's Mid-Atlantic Coastal Plain Ecoregional Plan and One North Carolina Naturally as a high priority area for conservation. Important drivers of biodiversity in this region include longleaf pine forests and pocosins (coastal peatlands).

Pocosins typically occur within Carolina bays as a mosaic, along with Atlantic white cedar forests and nonriverine swamp forests. Most of the world's pocosins occur in North Carolina and the Cape Fear Arch region has some of the very best examples. Pocosins occur within nutrient-poor peatlands in shallow depressions on plateaus and are typically continuously saturated with water. They harbor rare species like the venus fly trap and Red-cockaded Woodpecker. The overstory is usually pine, often Pond pine. Higher, drier sites typically have a dense evergreen shrub layer, while the wettest may only have low shrubs, stunted pines and beds of sphagnum, pitcher plants and cranberry.

Longleaf pine forests once covered much of the Atlantic Coastal Plain, but the extent and condition of the system has been severely depleted due to habitat fragmentation, unsustainable harvest, conversion to other land uses and vegetative types, invasive species, and exclusion of natural fire regimes. There have been recent gains, but the forest type is still very rare. Upland, Flatwood and Savanna types of longleaf pine systems occur in the Cape Fear vicinity. The CBA includes a portion of the focal areas for the Cape Fear Arch Longleaf Initiative.

[1]Common Guidance for the Identification of High Conservation Values (https://ic.fsc.org/en/what-is-fsc-certification/consultations/archive/hcv-common-guidance)

IDENTIFIED THREATS TO THE CAPE FEAR ARCH CBA HABITATS

Pocosins	Longleaf Pine
When the canopy has been completely removed through timber harvest, pocosins often do not regenerate. An associated threat from forest management is the conversion of native pine to planted pine and resulting loss of biodiversity, particularly if associated with changes in hydrology due to ditching. Other threats include hydraulic alteration, conversion to agriculture, road construction, and sand quarrying, habitat fragmentation, introduction of non-native species, climate change and fire suppression.	Biodiversity values can be adversely affected by forest management activities via **conversion of longleaf to other pine types, and the use management techniques, including herbicide application that have the potential to inhibit native understory communities.** As the bulk of the biodiversity exists in the understory of a longleaf pine system, restoration or maintenance of understory species composition is an essential component of longleaf pine conservation. It is possible to harvest in and sustainably manage longleaf pine systems and therefore timber management by itself is not considered a threat. Other threats include fire-suppression, urban development, fragmentation, non-native species, intensive pine straw raking, and climate change.

WHAT ARE MITIGATION ACTIONS AND WHAT WOULD WE LIKE TO ACHIEVE?

Companies that mix FSC-certified forest materials and non-certified materials to make products with an 'FSC Mix' claim/logo are required to address certain risks before using the non-certified forest materials. One of these is the risk that their forest materials come from areas where HCVs are threatened by forest management activities. FSC has completed a US National Risk Assessment to identify where this risk is greater than 'low' and the Cape Fear Arch CBA is one of these places. Companies that wish to use non-certified materials from the identified places (like this CBA) are required to either avoid sourcing from specific sites where the threats are occurring, or to implement mitigation actions that reduce the risk of sourcing from those sites. For this CBA, any mitigation actions will need to address the threats identified above in **bold**.

The FSC US National Risk Assessment also introduces the concept of holding regional meetings to bring stakeholders together to collaboratively identify effective and practical mitigation actions. We are asking participants to consider landscape-scale mitigation actions, that will help to reduce risks across the landscape in which the companies source forest materials. An effective way to do this may be to build on existing programs and projects that are already tackling these issues. The companies implementing mitigation actions are required to select one or more from the options identified at the regional meetings.

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INFORMATION SOURCES THAT MAY HELP GENERATE MITIGATION IDEAS

- Cape Fear Arch Conservation Collaboration
- North Carolina Wildlife Action Plan
- America's Longleaf Alliance

FSC US CONTROLLED WOOD REGIONAL MEETINGS

CENTRAL FLORIDA CBA

FSC REGION Southeast

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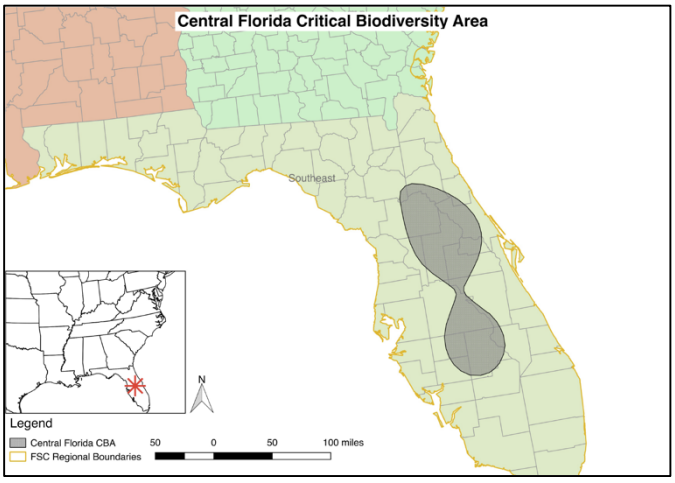
WHY IS CENTRAL FLORIDA CRITICAL BIODIVERSITY AREA (CBA) CONSIDERED AN HCV? This CBA is considered an HCV because it contains a high overall species richness, diversity, or uniqueness within a defined area compared to other sites within the same biogeographic area. The CBA was identified using a species richness index originally published by NatureServe and The Nature Conservancy that identifies areas with high concentrations of rare species. This index preferences species that have limited ranges by applying additional weighting. The results identify areas with concentrations of high biological diversity and spaces with an increased conservation significance.

SUMMARY OF CENTRAL FLORIDA CBA As in other areas of the southern US, native pine ecosystems are an important driver for biodiversity in this CBA. Pine flatwoods in Central Florida are associated with drier uplands/sandhills that provide a range of biodiversity values. Longleaf pine is the dominant tree species in pine flatwoods, however as with other longleaf pine systems, the native plant diversity is one of the most significant components of the overall biodiversity. Rare wildlife supported by this habitat include Florida black bear (Ursus americanus floridanus), Florida panther (Felix concolor coryi), Southeastern kestrel (Falco sparverius paulus), Red-cockaded Woodpecker (Picoides borealis), Florida sandhill crane (Grus canadensis pratensis), Bald eagle (Haliaeetus leucocephalus), eastern indigo snake (Drymarshon corais couperi), and Chapman's rododendron (Rhododendron chapmanii).



This CBA occurs in an area that receives the highest possible scores in an assessment of Florida's biodiversity hotspots. It includes top priority areas from the Florida Critical Lands and Waters Identification Project, and also represents other spatial priorities (e.g., landscape integrity, rare species habitat conservation, strategic habitat conservation areas).

[1]Common Guidance for the Identification of High Conservation Values (https://ic.fsc.org/en/what-is-fsc-certification/consultations/archive/hcv-common-guidance)

IDENTIFIED THREATS TO THE CENTRAL FLORIDA CBA HABITATS

Reported threats to Pine flatwoods include **conversion to** agriculture and **pine plantations, non-native species (including invasion by melaleuca if logged and over drained), hydrologic alteration, substrate disturbance (Wiregrass may not withstand disturbance associated with planting pine)**, alteration of fire regimes, and recreational damage. Forestry practices were identified as a high source of stress to the natural pineland habitat in the Florida Wildlife Action Plan, in association with the following stresses which all had high ranks for the habitat: Altered fire regime, Altered hydrologic regime, Habitat destruction or conversion, Altered community structure, Altered species composition/dominance, and Fragmentation of habitats, communities, ecosystems.

WHAT ARE MITIGATION ACTIONS AND WHAT WOULD WE LIKE TO ACHIEVE?

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INFORMATION SOURCES THAT MAY HELP GENERATE MITIGATION IDEAS

- University of Florida IFAS Extension
- Florida Fish and Wildlife Conservation Commission
- Florida Natural Areas Inventory
- Florida Wildlife Legacy Initiative

FSC US CONTROLLED WOOD REGIONAL MEETINGS

FLORIDA PANHANDLE CBA

FOREST STEWARDSHIP COUNCIL®

FSC REGION
Southeast

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WHY IS FLORIDA PANHANDLE CRITICAL BIODIVERSITY AREA (CBA) CONSIDERED AN HCV?
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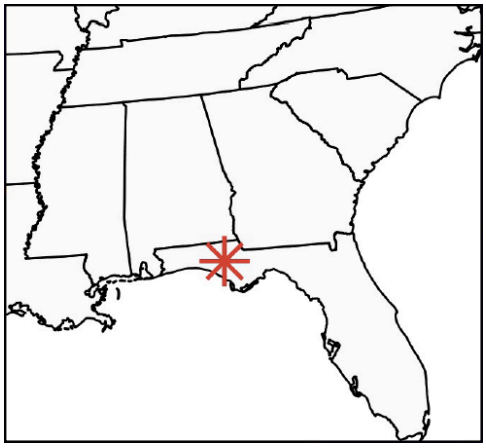
SUMMARY OF FLORIDA PANHANDLE CBA
The Florida Panhandle is reported to be one of the 5 richest biodiversity hotspots in North America. Of particular importance is the richness of frogs, snakes, turtles, and mussels. This concentration of biodiversity is driven by the river systems (particularly the Apalachicola River), longleaf pine savanna habitat and unique steephead ravines. Biodiversity richness is centered on the area where the Chattahoochee River meets the Flint River and form the Apalachicola River. Species of particular interest include the Okaloosa darter (Etheostoma okaloosae) which is endemic to the Florida Panhandle, and the Red-cockaded Woodpecker (Picoides borealis) which is associated with the longleaf pine.



Historically longleaf pine savanna supported incredibly high species richness and were historically maintained by fire. The biodiversity values are driven in part by the resulting understory plant community. Eglin Air Force Base within this CBA includes one of the largest remaining longleaf pine forests under single ownership.

Steephead Ravines along the Apalachicola River system contain a wide diversity of species including rare, threatened, and endangered species, due largely to the variety of site conditions and microclimates. They also harbor the southernmost range of many northern species.

[1]Common Guidance for the Identification of High Conservation Values (https://ic.fsc.org/en/what-is-fsc-certification/consultations/archive/hcv-common-guidance)

IDENTIFIED THREATS TO THE FLORIDA PANHANDLE CBA HABITATS

Apalachicola Bay/River System	Longleaf Pine Savanna	Steephead Ravines
Threats to this aquatic system are varied and include persistent drought resulting in reduced flow level, loss of floodplain and wetland habitat due to reduced flow levels, **point and non-point source pollution (including sediments from forestry operations due to insufficient ground cover and inadequate buffers)**, unrestrained growth and development. The Apalachicola River and Bay Surface Water Improvement and Management Plan identifies implementation of silvicultural Best Management Practices (BMPs) as a significant component of one of its priority projects.	**Biodiversity values can be adversely affected by forest management activities via conversion of longleaf to other pine types, and the use management techniques, including herbicide application that have the potential to inhibit native understory communities.** As the bulk of the biodiversity exists in the understory of a longleaf pine system, restoration or maintenance of understory species composition is an essential component of longleaf pine conservation. Other threats include fire-suppression, urban development, fragmentation, non-native species, and climate change. It is possible to harvest in and sustainably manage longleaf pine systems and therefore timber management by itself is not considered a threat. Both Sandhill and Natural pineland habitats are documented within the CBA.	Reported threats include altered hydrologic regimes, conversion to other land uses, fire suppression. Forestry practices were identified as a low source of stress to the habitat in the Florida Wildlife Action Plan.

WHAT ARE MITIGATION ACTIONS AND WHAT WOULD WE LIKE TO ACHIEVE?

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INFORMATION SOURCES THAT MAY HELP GENERATE MITIGATION IDEAS

- The Nature Conservancy
- America's Longleaf Alliance
- Florida Fish and Wildlife Conservation Commission
- Florida Natural Areas Inventory
- Florida Wildlife Legacy Initiative

FSC US CONTROLLED WOOD REGIONAL MEETINGS

SOUTHERN APPALACHIAN CBA

FOREST STEWARDSHIP COUNCIL®

FSC REGION Southeast (this Critical Biodiversity Area (CBA) is an extension of the Central Appalachian CBA, but for the purposes of this assessment, they are being separated at the regional boundary)

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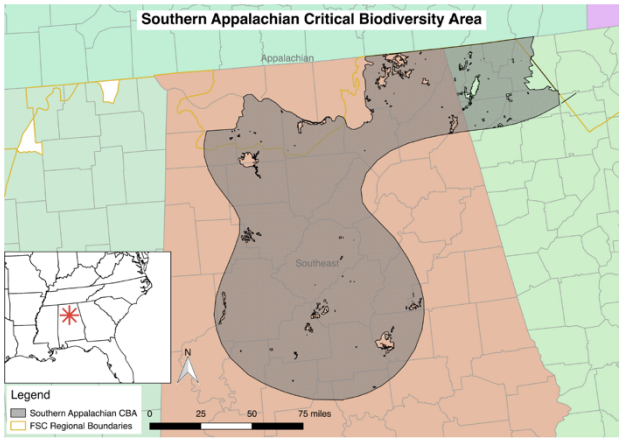
WHY IS THE SOUTHERN APPALACHIAN CBA CONSIDERED AN HCV? This CBA is considered an HCV because it contains a high overall species richness, diversity, or uniqueness within a defined area compared to other sites within the same biogeographic area. The CBA was identified using a species richness index originally published by NatureServe and The Nature Conservancy that identifies areas with high concentrations of rare species. This index preferences species that have limited ranges by applying additional weighting. The results identify areas with concentrations of high biological diversity and spaces with an increased conservation significance.

SUMMARY OF THE SOUTHERN APPALACHIAN CBA Biodiversity values in the southern Appalachians include aquatic habitats, glades, and montane longleaf pine. Alabama is recognized as having the greatest number of freshwater species of mollusks and fish in the United States, and many of these species have very restricted distributions and specialized habitat requirements that make them highly vulnerable to extinction. The Cahaba River watershed is the center of the biodiversity hotspot, but the biodiversity area includes other smaller watercourses as well. Aquatic habitats driving this concentration of biodiversity include lakes, rivers, streams, bogs, swamps, ephemeral pools, fens, seeps, swamp forests and wet meadows. Other drivers of biodiversity include glades and montane longleaf pine.



Bibb County Glades (i.e. rock outcrops), exposed limestone glades, and sandstone glades in Central Alabama have high density of rare plants. These are open habitats that are dominated by upland herbaceous plant species. There is typically an absence of a tree canopy on glades, resulting in large amounts of sunlight and heat on the surface.

Montane longleaf pine habitats occur in steep rolling topography historically maintained by fire, mostly outside of or on the edge of the Coastal Plain. Biodiversity values are driven in part by the understory plant community.

[1]Common Guidance for the Identification of High Conservation Values (https://ic.fsc.org/en/what-is-fsc-certification/consultations/archive/hcv-common-guidance)

IDENTIFIED THREATS TO THE SOUTHERN APPALACHIAN CBA HABITATS

Acquatic Habitats	Glades	Montane Longleaf Pine
Numerous sources of information identify threats from forest management activities, particularly **non-point source pollution in aquatic habitats (primarily sediments, but also fertilizers, herbicides and pesticides, when mis-managed near water bodies), and disturbance to riparian zones.**	Threats include grazing, non-native species, quarrying, root-digging, plant and animal collecting, removal of large rocks for landscaping, urban development, plowing for fire breaks, use as logging decks (resulting in soil/vegetation disturbance and soil erosion), conversion to other land uses, and ORV damage. No threats from forest management activities were identified.	**Biodiversity values can be adversely affected by forest management activities via conversion of longleaf to other pine types, and the use of management techniques, including herbicide application that have the potential to inhibit native understory communities.** As the bulk of the biodiversity exists in the understory of a longleaf pine system, restoration or maintenance of understory species composition is an essential component of longleaf pine conservation. It is possible to harvest in and sustainably manage longleaf pine systems and therefore timber management by itself is not considered a threat. Other threats include fire-suppression, urban development, forest conversion, non-native species, climate change.

WHAT ARE MITIGATION ACTIONS AND WHAT WOULD WE LIKE TO ACHIEVE?

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INFORMATION SOURCES THAT MAY HELP GENERATE MITIGATION IDEAS

- 2015 Alabama State Wildlife Action Plan
- Cahaba River Basin Management Plan
- Upper Coosa Basin Watershed Management Plan
- America's Longleaf Alliance

[2]Effective protection is demonstrated by GAP Status 1 & 2 areas in the PAD-US dataset (https://gapanalysis.usgs.gov/padus/data/download/) and USFS Inventoried Roadless Areas (https://www.fs.usda.gov/detail/roadless/2001roadlessrule/maps/?cid=stelprdb5382437).

FSC US CONTROLLED WOOD REGIONAL MEETINGS

DUSKY GOPHER FROG

FOREST STEWARDSHIP COUNCIL®

FSC REGION
Southeast

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WHY ARE DUSKY GOPHER FROGS CONSIDERED AN HCV?
The Dusky Gopher Frog is considered an HCV because it is a rare species population with very limited distribution. The species was identified through an analysis of the NatureServe dataset, considering criteria including level of imperilment (both global and state scales), taxa (e.g., vertebrate species), forest habitat dependency, and recency of confirmed occurrences.

SUMMARY OF DUSKY GOPHER FROG
The Dusky Gopher Frog historically occurred on the Coastal Plain from eastern Louisiana to the Mobile River delta in Alabama. Now, it is only known from one site in Harrison County and a couple of sites in Jackson County, MS, although there are also active efforts to reintroduce into wetlands in Perry County, MS. It is federally endangered wherever found and is also listed as endangered by the State of Mississippi. The species occurs in upland areas of sandy soils that were historically forested with longleaf pine and in temporary wetland breeding sites within the forested landscape. Most of its life cycle is spent in or near underground areas of refuge that historically were gopher tortoise burrows. Critical habitat was designated in 2012 within four counties in Mississippi and one in Louisiana. Current populations are documented in two of the Mississippi Counties (Harrison and Jackson) and active efforts toward reintroduction are occurring in the third (Perry). The species has not been documented in Louisiana since 1967 and there is no evidence of active reintroduction efforts.

IDENTIFIED THREATS TO DUSKY GOPHER FROG
The Dusky Gopher Frog depends on woodlands, forested wetlands and riparian habitats. The major threats to the species include population isolation, urbanization, disease, and a lack of suitable habitat. **Habitat degradation is a significant factor, driven by multiple sources including, changes in forest type from longleaf pine to other forest types,** forest degradation caused by grazing and the disruption of the natural fire regime, and **land management practices that alter the soil horizon, forest litter, herbaceous community and the occurrence of down woody debris. Timber site prep and other forestry practices that alter temporary wetlands can damage breeding areas.**

[1]Common Guidance for the Identification of High Conservation Values (https://ic.fsc.org/en/what-is-fsc-certification/consultations/archive/hcv-common-guidance)

WHAT ARE MITIGATION ACTIONS AND WHAT WOULD WE LIKE TO ACHIEVE?

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INFORMATION SOURCES THAT MAY HELP GENERATE MITIGATION IDEAS

- NatureServe Explorer
- U.S. Fish & Wildlife Service – Species Profile
- MS Department of Wildlife, Fisheries, and Parks & MS Museum of Natural Science
- USDA Forest Service – Land and Resoruce Management Plan for National Forests in Mississippi
- U.S. Fish & Wildlife Service – Recovery Plan

FSC US CONTROLLED WOOD REGIONAL MEETINGS
HOUSTON TOAD

FOREST STEWARDSHIP COUNCIL®

FSC REGION
Southeast

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WHY IS HOUSTON TOAD CONSIDERED AN HCV?
The Houston toad is considered an HCV because it is a rare species with few remaining populations and very limited distribution. The species was identified through an analysis of the NatureServe dataset, considering criteria including level of imperilment (both global and state scales), taxa (e.g., vertebrate species), forest habitat dependency, and recency of confirmed occurrences.

SUMMARY OF HOUSTON TOAD
The Houston toad is native to the central coastal region of Texas. Populations have been found in nine counties, with the largest in Bastrop County. The species is restricted to areas with soft sandy soils, typically with pine forest, but may also be mixed post oak-woodland savannah. Breeding sites include shallow water of roadside ditches, temporary ponds in residential areas and pastures, and other seasonally flooded low areas. This species is federally endangered wherever found and also listed as endangered by the State of Texas.

IDENTIFIED THREATS TO HOUSTON TOAD
The Houston toad depends on forests and woodland habitats. Habitat conversion poses the most serious threat. **Some forestry practices, such as clearcutting (particularly near breeding ponds and the uplands adjacent to these ponds), are harmful to the species**. Other forestry practices such as thinning and burning, may benefit the toad. Other threats include prolonged drought and the presence of fire ants.

WHAT ARE MITIGATION ACTIONS AND WHAT WOULD WE LIKE TO ACHIEVE?
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INFORMATION SOURCES THAT MAY HELP GENERATE MITIGATION IDEAS

- NatureServe Explorer
- Texas Parks & Wildlife
- International Union for Conservation of Nature and Natural Resources
- The Organization for Amphibian Diversity (T.O.A.D.)
- U.S. Fish & Wildlife Service – Species Profile

FSC US CONTROLLED WOOD REGIONAL MEETINGS
PATCH-NOSED SALAMANDER

FOREST STEWARDSHIP COUNCIL®

FSC REGION
Southeast

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WHY ARE PATCH-NOSED SALAMANDERS CONSIDERED AN HCV?
The Patch-nosed salamander is considered an HCV because it is a rare species population with very limited distribution. The species was identified through an analysis of the NatureServe dataset, considering criteria including level of imperilment (both global and state scales), taxa (e.g., vertebrate species), forest habitat dependency, and recency of confirmed occurrences.

SUMMARY OF PATCH-NOSED SALAMANDERS
This species is the smallest known salamander in North America – typically around 5 cm in length, half of which is the tail. The known range of the Patch-nosed salamander includes a limited number of small, first order stream located at the foot of the Blue Ridge escarpment in Stephens and Habersham counties (near Lake Tugaloo) of Georgia, within the Chattahoochee National Forest. There is one additional population known in Oconee County, South Carolina.

Identified individuals of this species have all been found in leaf litter or under rocks in the above water streambeds or banks of first-order streams. It is not yet known whether adjacent hardwood forests also provide habitat. This species is not listed at either the federal or state level.

IDENTIFIED THREATS TO PATCH-NOSED SALAMANDERS
Little is known about this species and specific threats have not yet been documented. **The species depends on riparian habitat, so any factor that would disrupt water flow, canopy cover, or the leaf-littler layer would likely impact the species.** All of these can potentially be affected by forest management.

WHAT ARE MITIGATION ACTIONS AND WHAT WOULD WE LIKE TO ACHIEVE?
Companies that mix FSC-certified forest materials and non-certified materials to make products with an 'FSC Mix' claim/logo are required to address certain risks before using the non-certified forest materials. One of these is the risk that their forest materials come from areas where HCVs are threatened by forest management activities. FSC has completed a US National Risk Assessment to identify where this risk is greater than 'low' and the Patch-nosed salamander's range is one of these places - specifically, Stephens and Habersham Counties, GA and Oconee County, SC. Companies that wish to use non-certified materials from

[1]Common Guidance for the Identification of High Conservation Values (https://ic.fsc.org/en/what-is-fsc-certification/consultations/archive/hcv-common-guidance)

the identified places are required to either avoid sourcing from specific sites where the threats are occurring, or to implement mitigation actions that reduce the risk of sourcing from those sites. For this rare species, any mitigation actions will need to address the threats identified above in **bold**.

The FSC US National Risk Assessment also introduces the concept of holding regional meetings to bring stakeholders together to collaboratively identify effective and practical mitigation actions. We are asking participants to consider landscape-scale mitigation actions, that will help to reduce risks across the landscape in which the companies source forest materials. An effective way to do this may be to build on existing programs and projects that are already tackling these issues. The companies implementing mitigation actions are required to select one or more from the options identified at the regional meetings.

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INFORMATION SOURCES THAT MAY HELP GENERATE MITIGATION IDEAS

- NatureServe Explorer
- Georgia DNR Wildlife Resources Division
- International Union for Conservation of Nature and Natural Resources

FSC US CONTROLLED WOOD REGIONAL MEETINGS

LATE SUCCESSIONAL BOTTOMLAND HARDWOODS

FSC REGIONS
Southeast and Mississippi Alluvial Valley

HCVS IN FSC
A High Conservation Value (HCV) is a biological, ecological, social or cultural value of outstanding significance or critical importance. FSC is working to ensure that our system helps to maintain and enhance the special places that support these values. For more information on HCVs, see the Common Guidance for the Identification of High Conservation Values.[1]

WHY ARE LATE SUCCESIONAL BOTTOMLAND HARDWOODS CONSIDERED AN HCV?
It's rarity - much of the original bottomland hardwood in the US was cleared for agriculture, particularly in the Mississippi valley, and much of the remainder was mismanaged – leaving very few intact examples. These types of HCVs were identified using guidance associated with the FSC US Forest Management Standard, with support from other information sources and expert consultation.

SUMMARY OF LATE SUCCESSIONAL BOTTOMLAND HARDWOODS
Bottomland Hardwoods are periodically inundated, floodplain forests, where the entire ecosystem is driven by hydrology. Even small changes to the hydrology can result in very significant effects on the system. These forests include a number of different species associations that vary depending upon the extent of flooding, soil characteristics, decomposition rates, soil and water pH, nutrient availability and turnover rates, flood depth and water velocity, light intensity, and disturbance. Late successional stands are not defined by the species, as much as by the structural composition (e.g., more stratification) and existence of large wood debris, including standing hollow trees – these changes occur at about 80 years in most Bottomland Hardwood types and perhaps a little later in cypress swamps. While old Bottomland Hardwood stands are not particularly rare, the late successional stands, with characteristics as previously described, are quite rare, due to a history of selective clear-cutting and high-grading. The extremely diverse stand conditions of these forests and the biodiversity they support make them particularly important. Woody species diversity can be comparable to the most diverse upland forests in the US. They tend to have structurally complex vegetation and a deep litter layer. The dense vegetation and the landscape connectivity they provide make them important travel corridors for wildlife.

Bottomland hardwoods in the Coastal Plain and Mississippi Alluvial Valley have some similarities, but also differ in some significant ways. In the Coastal Plain areas, bottomland hardwoods tend to occur in more narrow bands that follow a river or stream, whereas in the Mississippi Alluvial Valley, they extend much greater distances from the river/stream, resulting in much larger areas of the forest type.

For the purposes of this assessment, 'late successional' refers to bottomland hardwoods that are at least 80 years old and have the complex structural characteristics associated with late successional stands, but are not necessarily Old Growth (as defined in the FSC US Forest Management Standard).

[1]Common Guidance for the Identification of High Conservation Values (https://ic.fsc.org/en/what-is-fsc-certification/consultations/archive/hcv-common-guidance)

IDENTIFIED THREATS TO LATE SUCCESSIONAL BOTTOMLAND HARDWOODS

Significant threats include development, hydrologic changes (droughts, water withdraws, ditching), **incompatible forest management (results in changes to canopy age and structure, hydrology, and available dead and down woody debris),** pollution, fragmentation, climate change, **invasive species (including spread that is exacerbated by logging activities), and economic drivers that alter forest management goals (i.e., economic drivers result in pressure for inappropriate harvests).** Changes to the vegetative cover in these systems can significantly affect hydrologic flow, and therefore the entire system.

Forest management occurring within bottomland hardwoods is not necessarily in itself a threat, but how the management is applied in the context of the local landscape is important. Size and location of openings, which species are retained, harvest method (equipment and techniques), past disturbance of hydrology and availability of red maple/sweet gum seed in the surrounding landscape may have an impact on successful development of stands with the desired species composition and habitat elements. Silviculture decisions should emphasize the geomorphic setting and hydrologic conditions of the site, while restoring or maintaining the species and structural diversity.

Threats can differ between the Coastal Plains of the Southeast Region and Mississippi Alluvial Valley Region:

Mississippi Alluvial Valley	Coastal Plains of the Southeast
The demand for forest products can promote **silviculture that does not achieve forest conditions desired for biodiversity and ecological function.**	Without dependable, seasonable dry periods, these forests are more often treated under challenging (wet) conditions, resulting in more frequent use of **clearcut silviculture and significant changes to the vegetative cover**. In this region, the systems are still not fully understood, with gaps in knowledge regarding best situation-specific silvicultural techniques and interactions between forest management threats and other threats.

WHAT ARE MITIGATION ACTIONS AND WHAT WOULD WE LIKE TO ACHIEVE?

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The FSC US National Risk Assessment also introduces the concept of holding regional meetings to bring stakeholders together to collaboratively identify effective and practical mitigation actions. We are asking participants to consider landscape-scale mitigation actions, that will help to reduce risks across the landscape in which the companies source forest materials. An effective way to do this may be to build on existing programs and projects that are already tackling these issues. The companies implementing mitigation actions are required to select one or more from the options identified at the regional meetings.

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SOME SOURCES THAT CAN HELP GENERATE MITIGATION OPTION IDEAS

- The Forest Stewards Guild
- Mississippi State University Extension
- Lower Mississippi Valley Joint Venture
- Bottomland & Swamp Forest Symposium

FSC US CONTROLLED WOOD REGIONAL MEETINGS
NATIVE LONGLEAF PINE SYSTEMS

FSC REGION Southeast

HCVS IN FSC
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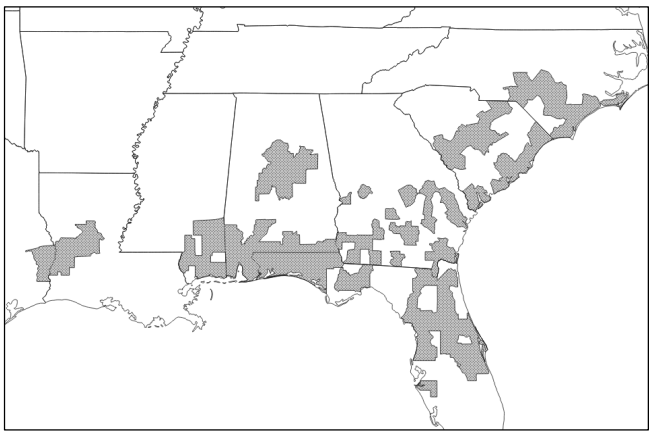
WHY ARE NATIVE LONGLEAF PINE SYSTEMS CONSIDERED AN HCV?
Their rarity - Native Longleaf Pine Systems were once one of the most widespread forest types in the US but were reduced to less than 5% of their original range, becoming one of the rarest forest systems in the world. This historical reduction was driven by suppression of fire and conversion to other forest types. These forest systems are associated with high animal and plant diversity, including many rare, threatened and endangered species. These types of HCVs were identified using guidance associated with the FSC US Forest Management Standard, with support from other information sources and expert consultation.

SUMMARY OF NATIVE LONGLEAF PINE SYSTEMS
These fire-dependent systems include longleaf pine as the dominant tree, a conspicuous lack of mid-story trees and shrubs, and a well-developed, diverse ground layer (dominated by bunch grasses and other flowering plants). At a landscape scale, naturally occurring longleaf systems typically exist as an uneven-aged mosaic of even-aged patches, which vary in size, shape, structure, composition and density depending upon the local conditions. This variability helps to drive the high biodiversity associated with them, with most of that biodiversity in the ground layer. Fire is the most important driver in the system, maintaining both the structural characteristics and the species diversity, particularly in the ground layer. Longleaf Pine systems can be subcategorized into four basic groups: Montane, Sandhill, Rolling Hill, and Flatwoods & Savanna.

These systems are associated with particularly high animal and plant diversity, including nearly 900 endemic plant species and rare wildlife such as the Red-cockaded Woodpecker, Bachman's Sparrow, Henslow's Sparrow, Eastern Harvest Mouse, Gopher Tortoise, Wolf spider, Eastern Indigo Snake, and Flatwoods Salamander.



"Native" in this instance refers to existing longleaf pine that is on a site that has historically been maintained as longleaf pine. Longleaf pine stands that have been restored in areas that have not been historically maintained in longleaf pine do not apply under this definition. "Native" does not imply a particular regeneration method; these stands may be either planted or naturally regenerated.

[1]Common Guidance for the Identification of High Conservation Values (https://ic.fsc.org/en/what-is-fsc-certification/consultations/archive/hcv-common-guidance)

IDENTIFIED THREATS TO NATIVE LONGLEAF PINE SYSTEMS

Threats include altered stand structure (due to lack of fire), **conversion to other forest types,** conversion to other land uses (development and agriculture), habitat disturbance (including **management techniques that inhibit native understory communities which may include herbicide application**), fragmentation, and **modification of hydrological features (including by both past and current silvicultural practices)**. Because native longleaf cannot compete with other species for short-term returns on investment, it is still being converted to other forest types. While these other forest types may provide an acceptable habitat for some species, their establishment is threatening existing longleaf pine areas. As the bulk of the biodiversity exists in the understory of a longleaf pine system, restoration or maintenance of species composition is an essential component of longleaf pine conservation. While herbicides can be an essential tool in restoration of longleaf pine, there is mixed evidence regarding the impact of herbicides on understory vegetation – different chemicals and application methods may have differing affects. The hydrology of a site is important for both establishment of longleaf pine systems, but also for the natural function of the wetlands (ephemeral and permanent) that typically occur within them.

Threats are different in different places, with lack of fire being the overall greatest concern, followed by conversion to other land uses (development) and incompatible forest management practices (predominantly conversion to other forest types). The interactions between these three threats compound the problems. It is possible to harvest in and sustainably manage longleaf pine systems and therefore timber management by itself is not considered a threat.

WHAT ARE MITIGATION ACTIONS AND WHAT WOULD WE LIKE TO ACHIEVE?

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The FSC US National Risk Assessment also introduces the concept of holding regional meetings to bring stakeholders together to collaboratively identify effective and practical mitigation actions. We are asking participants to consider landscape-scale mitigation actions, that will help to reduce risks across the landscape in which the companies source forest materials. An effective way to do this may be to build on existing programs and projects that are already tackling these issues. The companies implementing mitigation actions are required to select one or more from the options identified at the regional meetings.

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SOME SOURCES THAT CAN HELP GENERATE MITIGATION OPTION IDEAS

- America's Longleaf Alliance
- The Nature Conservancy – Longleaf Pine overview & state-by-state features
- USFS Southern Research Station – History & Current Condition of Longleaf Pine…
- Natural Resources Conservation Service – Longleaf Pine Initiative

[2] Range-Wide Conservation Plan for Longleaf Pine (http://www.americaslongleaf.org/media/86/conservation_plan.pdf)

FSC US CONTROLLED WOOD REGIONAL MEETINGS
CONVERSION

FOREST STEWARDSHIP COUNCIL®

FSC REGIONS
Southeast and Pacific Coast

CONVERSION IN FSC
FSC considers materials that come from places where forests are converted to non-forest use or plantation to be unacceptable, no matter the reason for the conversion. FSC is working to ensure that there is a low risk of forest materials from forest conversions being used in FSC-certified products.

SUMMARY OF CONVERSION ISSUES IN THE US
Overall in the US, the rates of forest loss are very low – with forest losses being balanced by forest gains. However, numerous sources indicate that the forest losses are most often driven by urban development. Rates of urban development are highest and most recent in the Pacific Coast and Southeast regions of the US. Therefore, the greatest risk of materials entering the supply chain from conversions will most likely be in these areas; however, the risk is not consistent across these regions.

IDENTIFIED DRIVERS OF CONVERSION
In the United States, there is no legal framework that consistently or comprehensively governs conversion of forestland to non-forestland or from forestland to plantation. Regional analyses found that the rates of forest conversion are so small as to be statistically insignificant, and demonstrate that at this scale, forest cover is relatively stable. However, there is evidence that forest conversion continues to be an issue at a sub-regional scale.

Historically, the largest forest losses in the US were due to urban and agricultural expansion. The rate of forest loss in the US has slowed and some areas are beginning to gain forestland. The U.S. Department of Agriculture has conducted a Natural Resources Inventory since 1982 that shows trends in land use on a state-by-state basis. Forestland cover changes depend on the state, and generally track other forestland change estimates. In every state, agricultural land diminished in that time frame, from a national total of 420 million acres in 1982 to 357 million acres by 2007. Concurrently, developed (urban) land increased by 40 million acres to 111 million acres. These data indicate that conversion to agricultural lands is likely no longer a driver for conversion of forested lands. Additionally, while tree plantations are expected to continue to increase in extent in the US, this will most likely occur through afforestation (from agricultural lands), not conversion of existing forests [18]. Urban expansion, however, continues to be a concern.

Population growth and associated urban development are a primary driver of conversion from forest to non-forest land uses. Rates of urban development vary throughout the United States with higher rates in the Pacific Coast region and portions of the Southeast Region. These two regions are also the regions identified as experiencing more recent forestland loss.

WHAT ARE MITIGATION ACTIONS AND WHAT WOULD WE LIKE TO ACHIEVE?
Companies that mix FSC-certified forest materials and non-certified materials to make products with an 'FSC Mix' claim/logo are required to address certain risks before using the non-certified forest materials. One of these is the risk that their forest materials come from areas where forests are being converted to non-forest use or plantation. FSC completed a US National Risk Assessment that identifies where this risk is greater than 'low.' Population growth by county between 2015 and 2016 and residential building permits issued by Core Based Statistical Areas (CBSAs) over the same time period were used together as a proxy to identify counites where there is likely a greater risk of materials from conversions entering the FSC supply chain. CBSAs consist of the county or counties associated with a core urbanized or urban area with a population of at least 10,000. These data were analyzed using a population growth threshold of 2% and a building permits issued threshold of 1500. These thresholds were selected based on analyses done by the US Census Bureau and the US Department of Housing and Urban Development. Finally, non-forested portions of

counties were removed from consideration. The Risk Assessment identifies the forested portions of 53 counties across the FSC US Southeast and Pacific Coast Regions as areas where there is a risk greater than 'low' receiving forest materials from forest conversions. Companies that wish to use non-certified materials from the identified areas are required to either avoid sourcing from specific sites where forest conversion is occurring, or to implement mitigation actions that reduce the risk of sourcing from these sites.

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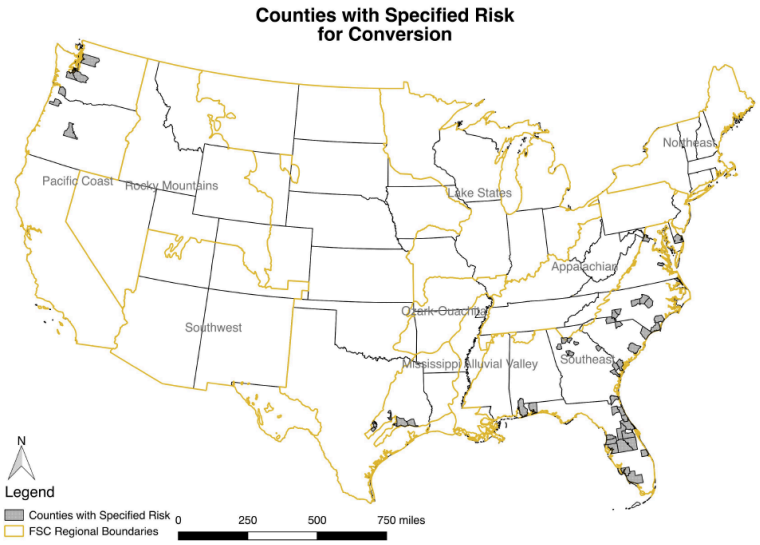

For Conversion, the identified mitigation options must align with a framework established by the US Forest Service's Open Space Conservation Strategy, and help to achieve one of the following outcomes:

A. Convene partners to identify and protect priority forest areas
B. Promote national policies and markets to help private landowners conserve forests
C. Provide resources and tools to help communities expand and connect forests
D. Participate in community growth planning to reduce ecological impacts and wildfire risks

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INFORMATION SOURCES THAT MAY HELP GENERATE MITIGATION IDEAS

- US Forest Service – Southern Research Station
- US Forest Service – Pacific Northwest Research Station
- US Forest Service – Forests on the Edge
- U.S. Forest Service – Open Space Conservation Strategy
- Southern Group of State Foresters