



Working Discussion Document Potential Criteria for Evaluating Draft Mitigation Options

(Updated Post-Atlanta Meeting)

The following potential working criteria and mitigation concepts were offered by FSC in the July 2018 Atlanta meeting as a possible basis of discussion for stakeholder consultation and outreach. The intention was to expand and refine our collective thinking, not to limit it. Input on mitigation criteria will serve as a basis for further regional consultations. Input on mitigation options will be used as a basis for ongoing decision-making about preferred mitigation options.

GREEN highlight is used to indicate input received during plenary sessions in Atlanta.

YELLOW highlight is used to indicate input that seemed to resonate particularly well.

CH: Certificate Holder

POTENTIAL MITIGATION CRITERIA

(No priority intended by numbers, just for reference)

1. Results in decreased negative impact(s) from forest management activities
2. Improves knowledge about places where the conservation value is being threatened so that they can be avoided or mitigated
3. Proven or a reasonable expectation of effectiveness in maintaining or enhancing the conservation value
4. Doesn't require companies to make extensive investments to infrastructure
5. Provides a workable option for all enterprises, specifically including small enterprises
6. Supports an ongoing initiative/program that is already producing positive outcomes
7. Doesn't require certificate holders to have knowledge of specific sites from which their forest materials originate
8. Differentiates requirements between companies that buy directly from the forest, and those that don't
9. Must pass through topline filters of efficacy, clarity, efficiency, practicality, measurability and auditability

***** Among these criteria, please kindly mark up doc in terms of: what resonates (+) / needs clarification (-) and / or strengthening? (Δ)**

Resonates (+):

- #s 2,3,5,6,7,9 resonate
- #2 – Good for CH with shorter supply chains
- #4 – 'Extensive' is relative to size of operation; some investment should be expected, but need to clarify expectations
- #1 – The concept of 'results in decreased negative impacts from Forest Management' should be incorporated into the objective statement; this is not just about avoiding...avoid OR reduce negative impact

- #8 – Someone in chain should know the site-specific information, even if it's not the CH; this criterion should be considered together with #7 (i.e., accountability, but with recognition of antitrust concerns)

Needs Clarification / Doesn't Work (-):

- #8 – The idea of 'differentiation' needs a lot more clarification
- #4 – Why just infrastructure? Many other potential investments (people, etc.)
- #5 – Not sure whether this meant every option must have this criteria, or whether this criteria should be applied at the level of the 'set' of options; this actually applies to the set of criteria as a whole – there is a mixture – consider sub-dividing the criteria in this way

Needs Strengthening (Δ):

- Need to emphasize through language used throughout the process that forest management can be a positive influence, not always negative, and that we are looking to increase the use of compatible and positive practices
- Perhaps a criterion more focused on collaboration, instead of individual responsibilities of individual CH; focus on common effort to increase impact
- #6 – There are a lot of existing plans that have a lot of good ideas that need to be implemented; adapt to include ideas already identified, not just those already implemented
- #5 – Are there mitigation options considered that might be more feasible for large or small? So as long as there are differentiated options in the set, not all options should be required to be differentiated.
- #1 & #3 go hand in hand, but what is meant by 'decreased negative impact' or by 'enhance or improve'; need more clarity on these terms
- #3 – What is 'reasonable expectation'? Who's expectation?
- Need clarification: Should mitigation actions be applied within areas of specified risk, or within procurement area as a whole? *FSC Response: Mitigation actions should be applied in a way so that the impact of the action reduces the identified risk within the specified risk area.*

Native Longleaf Pine Systems – key dynamics to consider:

- ❖ 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.

POTENTIAL Mitigation actions suggested to date in conversations with technical experts regarding Native Longleaf Pine Systems (NLPS):

- Develop a really good map of high-value NLPS so that they can be more easily maintained/enhanced
- 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
- Work with potential suppliers/landowners (particularly the larger ones) to get them to agree that they will manage for NLPS
- Promote value-added supply chains for longleaf pine wood products to incentivize longer rotations and ecological forestry.
- 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?
- 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.

NLPS Top-Line Input

- Strong support for educational outreach related to the function of native LLP systems
- Need for education on fire and prescribed/controlled burns
- Auditability – need clear measures on financial/in-kind donation, “How much is enough?”
- Generally liked ideas related to developing maps, but not with specific locations; need to work with those already generating these kinds of maps
- Revisit ‘native’ definition, focus not just on overstory but also understory
- Restorability of the understory system must remain part of the focus; there are stands that can be re-habilitated, because they have the understory (even if the overstory species are wrong)
- Define whether there is a goal for # acres (beyond which NLPS would no longer be considered ‘rare’)
- Caution – be aware that there might be unforeseen consequences in some of these options; detailed maps could lead to intentional harvest of an area that is perceived as a concern because it is related to specified risk
- Clarify not just what organizations, but also specific programs/projects that should be supported
- Identify/focus on potential partnerships – need to collaborate with different partnerships/organizations

Late Successional Bottomland Hardwoods – key dynamics to consider:

- ❖ 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.

POTENTIAL Mitigation actions suggested to date in conversations with technical experts regarding Late Successional Bottomland Hardwoods (LSBH):

- 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.
- Create and fund a conservation fund to help projects focused on maintenance and enhancement of LSBH.
- 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.
- 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.
- 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.

LSBH Top-Line Input

- Need more information about what is working (re: management in these systems)
- “Yes” to systemic educational efforts, but won’t get it right unless the effort integrates loggers, foresters, auditors, and landowners – need to link up with ongoing research and efforts by others
- Can build on existing systems and initiatives, but only with knowledge of where this rare type occurs
- Need a better definition for what we mean by Late Successional Bottomland Hardwoods

- “Create and fund a fund...” – need to define the expected sources of funds for these efforts
- “Identify and restore examples of Bottomland Hardwoods that are very close...and would require only a little extra effort...” – need clarity on what ‘a little extra effort’ means
- Overarching – the entire approach must fit more cleanly/strongly within a managed forest approach; this is a complicated system – the trees don’t live for hundreds of years like in the Pacific Northwest; we need a science-based approach and need to consider the full arc of the life-cycle for these systems
- There will be a negative impact if the requirement is to simply avoid; need a systemic and holistic silvicultural approach
- Emphasis on accountability related to donations; how much / how often / how long
- Landowners must be part of the overall approach to mitigation; need to address through education at a systemic scale
- Make space for an option that addresses preservation of small/fine scale sites that are otherwise inoperable (with present technology)

Forest Conversion - key dynamics to consider:

- ❖ 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

POTENTIAL Mitigation actions suggested to date through focus group and public consultation regarding Forest Conversion:

- 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.
- Support/expand the Working Lands Trust, a “nonprofit corporation established in 2014 in partnership with NC Forestry Association to ensure long-term protection and sustainability of our nation’s food and fiber supply.”
- 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.
- Actively participate in regional planning processes to support policies aimed at limiting conversion.
- 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

- Community forest model: Communities would benefit from pro-bono work related to harvest planning, or purchase commitments for wood when restoration or commercial harvests occur (as opposed to conversion).
- Participation in pooled advocacy programs promoting wood and fiber markets, such as the USDA check-offs, as a way to establish rewards for owning forests (instead of converting them)

Conversion Top-Line Input

- Using the USFS Open Space strategy provides a good foundation
- Is off-setting an option? *FSC Response: Mitigation actions are to be implemented to reduce the risk of sourcing material from 'unacceptable sources' such as places where forest conversion is occurring; off-setting would not reduce this risk.*
- Pay attention to unintended negative impacts (e.g., increased harvest pressure on smaller areas)
- For some CH the predominant driver for forest conversion is agriculture or natural resources (pipelines, extraction, etc)
- Education needs to happen at the landscape level, including for landowners, policy and other important influencers to reduce the incentives for conversion
- Growing healthy competitive markets for forest products is important
- #2 & #5 receive a lot of support (support existing Working Lands Trust, support landtrusts and working lands easements)
- Easements – some disagreement on whether this is an appropriate tool; there could be a barrier due to upfront costs (a fund needed?)
- Urban growth is the major driver, and there may be an ability to lessen related forest conversions initially, unless threatened forest lands are permanently protected, it will not be possible to keep them from being converted in the long run
- Need options that are auditable; need options that are equal/comparable or alternatively a way to calibrate the options

~ TOP-LINE INPUT FOR REMAINING ISSUES WAS PROVIDED VIA POST-IT ~

Houston Toad – key dynamics to consider:

- ❖ 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.

POTENTIAL Mitigation actions suggested by conservation actions for the Houston Toad in the Texas Conservation Action Plan and by the US Fish & Wildlife Service's Houston Toad Habitat Guidelines document:

- Support finalizing a Houston Toad Safe Harbor Agreement for the full range extent to promote conservation and reintroduction efforts with regulatory assurances for private landowners.
- Work with Texas Parks and Wildlife Department and the conservation community to expand the landowner incentive network and enhance connectivity among Houston Toad sites.
- Work with Farm Bill and Partners Program to implement beneficial land management practices on suitable lands using current Houston Toad guidelines.
- Promote completion and implementation of a published update of the Houston Toad Recovery Plan.
- 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).

Dusky Gopher Frog (Mississippi Gopher Frog) – key dynamics to consider:

- ❖ 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.

POTENTIAL Mitigation actions suggested to date in conversations with technical experts regarding the Dusky Gopher Frog, and by conservation actions in the Mississippi Wildlife Action Plan:

- Actions that will promote Longleaf Pine forests within the species' range
- Actions that will promote fire as a management tool for the forests within the species' range
- Actions that will reduce the destruction of ephemeral ponds (temporary pools) within the species' range
- Actions that reduce the use of bedding as a forest management technique within the species' range
- Support research on terrestrial habitat requirements of the species
- Support reintroduction efforts to reduce rarity of the species

Patch-nosed Salamander – key dynamics to consider:

- ❖ 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-litter layer would likely impact the species. Other threats likely include localized damage from hogs and leaf-litter loss from invasive Asian earthworms

POTENTIAL Mitigation actions suggested to date in communications with technical experts regarding the Patch-nosed Salamander, and ideas drawn from mitigation actions suggested for the Cheoah Bald Salamander:

- Actions that will reduce negative impacts at known sites
- Invest in research to improve knowledge of species distribution, other population characteristics and best management practices
- 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)
- Participate in Chattahoochee and Sumter National Forest management planning discussions to influence management within the species' range
- Support working lands easements within the species range; consider contributions to FSC that are pooled and used together to maximize their impact

Southern Appalachian Critical Biodiversity Area - key dynamics to consider:

- ❖ 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.

POTENTIAL Mitigation actions suggested by actions identified for the Central Appalachian CBA and for Native Longleaf Pine Systems (NLPS):

- 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
- 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
- Meaningful engagement with land trusts active within the Southern Appalachian CBA to access sustainably managed forests that protect aquatic habitat
- 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
- Promote value-added supply chains for longleaf pine wood products to incentivize longer rotations and ecological forestry.
- 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.

Cape Fear Arch Critical Biodiversity Area - key dynamics to consider:

- ❖ 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.

POTENTIAL Mitigation actions suggested to date in conversations with technical experts regarding the Cape Fear Arch CBA and associated biodiversity:

- 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

- Improve logger, landowner and forester education to reduce the use of bedding practices within the Cape Fear Arch CBA
- Influence forest practices regulations or policies to reduce the use of bedding practices within the Cape Fear Arch CBA
- 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
- Support the establishment of a Prescribed Burn Association
- Promote incentives for landowners to manage for longer rotation forestry, such as landowner recognition, workshops for landowners and market incentives.
- 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

Florida Panhandle Critical Biodiversity Area - key dynamics to consider:

- ❖ 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.

POTENTIAL Mitigation actions drawn from the Florida Wildlife Action Plan and from US Fish & Wildlife priority actions for the Panhandle region:

- 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 (NFWMD) Surface Water Improvement (SWIM) Plan
- Work within the Eglin Air Force Base/Blackwater State Park/Conecuh National Forest Significant Geographic Area identified by the Longleaf Partnership Council to restore and maintain open multi-aged, historic pine communities.

- 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.
- 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.
- Help to implement the Coastal Headwaters project, a joint effort by The Conservation Fund and Resource Management Service LLC, to restore more than 200,000 acres in Florida and Alabama to longleaf pine, thus preserving ecological functions and maintaining these acres as working forests.

Central Florida Critical Biodiversity Area - key dynamics to consider:

- ❖ 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),

POTENTIAL Mitigation actions drawn from various Florida conservation initiatives that include the Central Florida region as a priority landscape:

- 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 comprehensive vision of wildlife habitat and connectivity priorities to which existing and new incentive ideas can be applied.
- Utilize the U.S. Fish and Wildlife Service (USFWS) sponsored Peninsular Florida Landscape Conservation Cooperative (PFLCC) as a venue for enhancing pine flatwoods and addressing threats from forest management activities.
- Support establishment and implementation of conservation incentive funding through FWC Gopher Tortoise payment for ecosystem services (PES) program, and The Florida Watershed Fund.
- Work with potential suppliers/landowners (particularly the larger ones) to get them to agree that they will manage for pine flatwoods.
- 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.