The global sugarcane platform

BONSUCRO GUIDANCE FOR OPERATORS

– EXPANSION OF CULTIVATION v2.0

1. BACKGROUND

1.1 SCOPE

This document is designed to help growers implement Bonsucro's requirements related to expansion of sugar cane cultivation, as set out in Indicator 1.2.2.. It includes, as a core part, the "Bonsucro HCV Risk Assessment for expansion" procedures, structured in the form of a risk assessment questionnaire and associated risk mitigation procedures.

> 1.2.2 The operator conducts a risk assessment on compliance against the Bonsucro Production Standard.
> Prior to establishing new sugarcane-related operations, the operator shall conduct a risk assessment on the impact the new sugarcane-related operations would have on the compliance against indicators of the Bonsucro Production Standard. This is to evaluate the social and environmental risks raised by the new operations, particularly when such changes are likely to impact on the size and composition of the workforce (for example, mechanisation or field expansion), on the way in which land is used, and/or on the water quantity and quality in the watershed.
>
> Prior to any greenfield expansion or new agriculture projects, the operator shall conduct the Bonsucro HCV Risk Assessment for expansion for the planned areas and implement the HCV Risk Assessment procedures.

One of the intents of Indicator 1.2.2 is to avoid agricultural expansion into areas of natural ecosystems generally, and to avoid that expansion leads to loss or degradation of High Conservation Values. This document provides guidance for the operator on the expected outputs that will inform the expansion plan.

1.2 NATURAL ECOSYSTEMS

Over time, a large proportion of the world's potentially cultivable, natural lands have been cleared for agriculture. This is particularly the case for natural grasslands of which very little remains, and wetlands, many of which have been drained and ploughed. Forests have also been targeted, and today more than half of the original global forest cover is gone.

As agriculture and animal husbandry continue to expand, what remain of healthy, natural ecosystems becomes ever more important as habitat for myriads of animal and plant species, and as sources of key resources for local livelihoods. Many natural areas also sequester and store large amounts of carbon - large forest areas even help to regulate the regional climate.

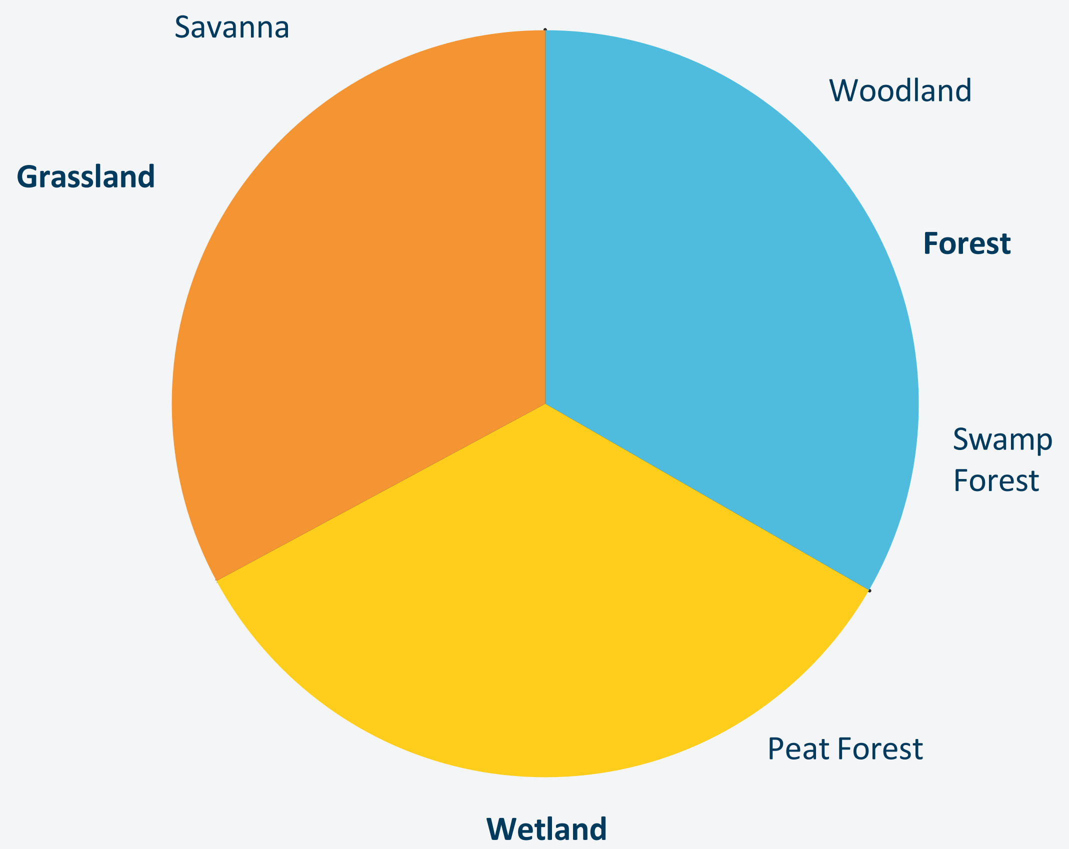
Some of these areas are (more or less effectively) maintained in natural reserves and national parks, or protected from exploitation through multi-national conventions and treaties. However, most areas of natural ecosystems lack formal protection. As consumers are becoming more aware of the need to reduce the pressure on nature from crop production, responsible certification schemes increasingly restrict or ban clearing of natural areas for expansion of cultivation.

The glossary to the Bonsucro standard defines a natural ecosystem as "an ecosystem that substantially resembles — in terms of species composition, structure, and ecological function — one that is or would be found in a given area in the absence of major human impacts. This includes human-managed ecosystems where much of the natural species composition, structure, and ecological function are present".

The core of this definition is that natural ecosystems should look like and function much - but not necessarily exactly – like they would if they were in their historic natural state. However, even experienced ecologists may find it difficult to assess 'naturalness', particularly in terms of species composition and ecosystem function. In practice, such assessments often rest on a combination of structural characteristics and indicators of past and/or ongoing land use, assuming that ecosystems that show few signs of major human impacts also retain much of their natural species composition and ecological function.

Natural ecosystems exist in many shapes and forms, often seamlessly shifting and grading into each other, with 'borders' changing over time. However, for practical purposes it is often sufficient to distinguish three broad categories: forests; savannas and grasslands; and wetlands. See Annex 1 for more details on these ecosystems. Larger, little impacted landscapes often consist of a mosaic or mixture of several ecosystem categories together with aquatic ecosystems like rivers and lakes.

Fig.1. Main Natural Ecosystem Categories



1.3 HIGH CONSERVATION VALUES

High Conservation Values (HCVs), form a set of values of critical importance for humans and nature. The HCV concept is widely recognised by businesses, civil society organisations and development agencies, and HCVs are referred to by a range of international standard-setters, initiatives and platforms as well as by a number of governments and government agencies.

HCVs fall into six categories, spanning environmental values of species, ecosystems and landscapes (HCV categories 1-3), through to ecosystem services, and key resources for local livelihoods and culture (HCV categories 4-6).

HCV 1, Species diversity: Concentrations of biological diversity including endemic species, and rare, threatened, or endangered species, that are significant at global, regional or national levels.

HCV 2, Landscape-level ecosystems and mosaics: Large landscape-level ecosystems, ecosystem mosaics and Intact Forst Landscapes (IFLs) that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.

HCV 3, Ecosystems and habitats: Rare, threatened, or endangered ecosystems, habitats or refugia.

HCV 4, Ecosystem services: Basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes.

HCV 5, Community needs: Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for livelihoods, health, nutrition, water, etc.), identified through engagement with these communities or indigenous peoples.

HCV 6, Cultural values: Sites, resources, habitats, and landscapes of global or national cultural, archaeological, or historical significance, and/or of critical cultural, ecological, economic, or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples.

2. BONSUCRO HCV RISK ASSESSMENT FOR EXPANSION

This section is designed to help operators decide if a proposed expansion of cane cultivation is compatible with the explicit and implicit requirements of the Bonsucro standard (V 5.2). It assumes that risks to natural ecosystem values in general, and HCVs in particular, are higher when lands are cleared / converted for expansion of cultivation, than in on-going, established operations. It also assumes that larger expansion projects are likely to generate more severe negative impacts than smaller scale new plantings, and that consequently, large scale expansion require extra safeguards. Expansion in the vicinity of Protected Areas or other priority conservation areas is also considered to be associated with higher levels of risk. It is also recognised that levels of risk may be affected by the more general national context. Many countries have legal requirements and provisions related to locations of new cultivation, including comprehensive plans for land use or land zoning. Such instruments, where effectively implemented, may significantly reduce risks that cultivation of new areas lead to negative social impacts or to loss or degradation of values of nature. To take account of the context, while avoiding complex analyses, the risk assessment relies on a simple proxy - the Transparency International Corruption Perception Index (CPI). This index is used as a simple, umbrella indicator for various aspects of effective governance, legislation and law enforcement. The threshold is set to 50, assuming land use and expansion in countries that score 50 or above to be more effectively regulated and controlled than in countries that score below the threshold.

By completing the risk questions, you will be directed to a Risk Mitigation Procedure that you must follow. For Risk Mitigation Procedures that require an independent expert to verify the risk and provide specific mitigation procedures, **additional guidance** is available for the expert to follow.

2.1 RISK LEVEL ASSESSMENT

Q1: Does the proposed conversion comply with legal requirements including any land designation or zoning, and does the operator have all necessary permits[1]?

Yes: → Q2
No: → Adjust plans to comply with legal requirements, obtain all necessary permits, and proceed to Q2

Q2: Does the sum of the size of the proposed expansion of crop cultivation[2], and any expansions over the previous five years by the operator, add up to a total of less than 10 hectares?

Yes: → Q3
No, more than 10 hectares : → Q4

[1] Follows from and links to Indicator 1.3.1.
[2] Includes any conversion of new land for agriculture with a potential for cane cultivation, e.g. as part of crop rotation.

Q3: Is all of the new proposed expansion area either:

a) fields currently used to cultivate another crop;
b) lands used for crop cultivation within the last five years (fallows, 'deserted fields');
c) pasture land, cleared from forest or woodland more than ten years ago, with no or almost no trees, and no or almost no regenerating seedlings or saplings.

Yes: → P**roceed to risk mitigation procedure A**
No, of other character: → **Proceed to risk mitigation procedure B**

Q4: Does the sum of the size of the proposed expansion of crop cultivation, and any expansions over the previous five years, add up to a total of 10 - 100 hectares? Yes: → Q5
No, more: → Q6

Q5: Does the proposed expansion include any land less than 2 km from a priority conservation area[3]? Yes: →

Proceed to risk mitigation procedure C
No: → **Proceed to risk mitigation procedure B**

Q6: Does the sum of the size of the proposed expansion of crop cultivation, and any expansions over the previous five years, add up to a total of 100 - 1000 hectares? Yes: → Q7
No, more than 1000 hectares : → Q8

Q7: Is the Transparency International Corruption Perception Index (CPI) for the country 50 or higher? Yes: → **Proceed**

to Risk mitigation procedure C
No, lower: → **Proceed Risk mitigation procedure D**

Q8: Does the sum of the size of proposed expansion of crop cultivation, and any expansions over the previous five years, add up to 1000 hectares or more? Yes: → **Proceed to**

Risk mitigation procedure D

[3] For the list of priority conservation areas, see operational guidance for 4.1.1 The operator shall ensure that the key biodiversity and ecosystem services are mapped.

2.2 RISK MITIGATION PROCEDURES

Risk mitigation procedure A:

- Plot the proposed expansion area on a map. Check that the expansion does not conflict with provisions in your Biodiversity Management Plan (BMP).
- Document the area with enough detail to serve as evidence for an auditor, through photos from various points and in various directions, including close-ups on ground vegetation.
- Identify any parties with legal or traditional use rights to the area and document the process to seek their informed consent to the expansion;
- Notify the mill operator providing all documentation and following approval from the mill proceed to land preparation.
- Amend your BMP as necessary to reflect the change of land use.

Risk mitigation procedure B:

- Plot the proposed expansion area on a map. Check that the expansion does not conflict with provisions in your Biodiversity Management Plan (BMP).
- Notify the mill, and commission (or ask the mill to help commission) an independent expert to document and characterise affected ecosystem(s) as either natural or non-natural;
- Adjust the expansion plans as necessary to maintain all areas characterised as natural ecosystems;
- Identify any parties with legal or traditional use rights to the area and document the process to seek their informed consent to the expansion (ref 4);
- Notify the mill operator providing all documentation (ref 5) and following approval from the mill proceed to land preparation.
- Amend your BMP as necessary to reflect the change of land use.

Risk mitigation procedure C:

- Plot the proposed expansion area on a map. Check that the expansion does not conflict with provisions in your Biodiversity Management Plan (BMP).
- Notify the mill, and commission (or ask the mill to help commission) an independent expert to document and characterise affected ecosystem(s) as either natural or non-natural, and to assess risks to environmental High Conservation values (HCV 1-3) and the extent to which these may be mitigated, as set out in the Bonsucro guidance for experts;
- Adjust the expansion plans as necessary to maintain all areas characterised as natural ecosystems and avoid or effectively mitigate potential negative environmental impacts as recommended in the expert report;
- Identify any parties with legal or traditional use rights to the area and document the process to seek their informed consent to the expansion (ref 4);
- Notify the mill operator providing all documentation (ref 5) and following approval from the mill proceed to land preparation.
- Amend your BMP as necessary to reflect the change of land use.

[4] Follows from and links to Indicator 1.2.1 The operator conducts mapping of internal, external and vulnerable stakeholders.

[5] Documentation should include evidence that the expansion is compatible with and does not conflict with BMP, photographic document of the area, engagement with affected communities or Indigenous People to seek consent and the consent if this has been provided

Risk mitigation procedure D:

- Plot the proposed expansion area on a map. Check that the expansion does not conflict with provisions in your Biodiversity Management Plan (BMP).
- Notify the mill, and commission (or ask the mill to help commission) an HCV Network ALS assessor to document and characterise affected ecosystem(s) as either natural or non-natural, and to assess potential risks to HCVs and the extent to which these may be mitigated, as set out in HCVN's guidance and manuals;
- Adjust the expansion plans as necessary to maintain all areas characterised as natural ecosystems and to avoid or effectively mitigate potential negative impacts on HCVs as recommended in the HCV report;
- Identify any parties with legal or traditional use rights to the area and document the process to seek their informed consent to the expansion (ref 4 & 7) ;
- Notify the mill operator providing all documentation (ref 5) and following approval from the mill proceed to land preparation.
- Amend your BMP as necessary to reflect the change of land use.

[6] High Conservation Value Assessors are licenced through the Assessor Licencing Scheme. ALS Assessors can be found through the HCV Network website https://hcvnetwork.org/find-assessors/. In countries where there are no ALS assessors, HCV assessments may be undertaken by other, competent and experienced assessors applying HCVN procedures and guidance materials.

[7] The HCV Assessment will contribute to identifying and engaging with communities following Free Prior and Informed Consent (FPIC) principles, however the operator has overall responsibility for the FPIC process and reaching agreements.

ANNEX:

Natural forests

Forests host more animal and plant species than any other terrestrial ecosystem. Forests also capture and store vast amounts of carbon in the trees and in the ground, and so help to reduce climate change caused by carbon dioxide emissions from burning of coal and oil. Large forest areas even play a part in regulating weather systems and precipitation patterns at a global scale. However, wherever humans have settled and the climatic conditions permit, people have cleared forests to cultivate crops. Forests and other natural ecosystems may also be degraded or under threat due to excessive extraction of wood for construction and fuel, charcoaling, collection of non-timber forest products or livestock grazing.

With more than half of the original global forest area now turned into farmland - much of it quite recently - there is a growing awareness that we need to safeguard as much as possible of remaining forests and other natural ecosystems. This holds at the local scale where farmers and communities depend on functions and resources from nearby forests for their livelihoods, as well as in the global marketplace where consumers increasingly look to buy 'green' products with less negative impacts on the environment.

The Bonsucro glossary definition of natural forest, an extension of the more general natural ecosystem definition, highlights that also forests in the process of bouncing back from over-use and degradation in the past, are considered as natural. However, while there is often consensus on what constitutes 'old-growth' or 'primary' forests, there is less agreement on when forests are degraded to a point where they no longer have the capacity to revert to their historic state. As public awareness grows, and increasing amounts of consumer goods companies strive to eliminate deforestation from their supply chains, agreeing thresholds for when forests are considered to have become 'non-forests' have become increasingly important.

A key question is if the forest is likely to get significantly more natural, complex and diverse over time by itself, i.e. without other human measures than eliminating, or greatly reducing, past degradation pressures? The answer depends on a number of contextual factors, including what caused the degradation in the first place and to what extent these factors still operate, the level of fragmentation and proximity to sources of seed dispersal, the extent to which the soil and the ground vegetation is conducive to seed germination, changes in local climate due to extensive nearby local deforestation etc. Whether other forests in the area with a similar history is successfully recuperating may also be indicative.

Grasslands and savannas

As the name implies, grasslands (llanos, prairie, steppe…) are dominated by grasses. Establishment and growth of trees and bushes is counteracted by shallow soils, permanent or seasonal droughts, seasonal inundation, grazing and browsing by (wild or domestic) herbivores, or, at high latitudes and altitudes, short and cold growing seasons.
Productive and easy to convert to agriculture, most historic grasslands on deep and fertile soils have been transformed into fields or pastures – so much that rich grasslands in good conditions have become rare and endangered.

Frequent fires, induced by humans or ignited by lightning, are key dynamical factors in most grassland ecosystems. However, with habitat loss and fragmentation, remaining patches of natural grasslands may become isolated islets in agricultural landscapes where lack of grassland contiguity, and infrastructure acting as firebreaks, reduce the area affected by each fire event. This may have far-reaching implications: as an example, some north American prairie ecosystems that historically burned every year rapidly become invaded by bushes if the intervals between fires lengthen to four or five years. Once established, subterranean parts of these bushes survive even intense fires so that removing them require excavators or herbicides.

Grasslands and mammals have co-evolved over millions of years, and almost all grasslands have been moulded by seasonal grazing, often interacting with fire to promote vegetation variation and mosaics. Historically, nomadic pastoralism with livestock have come to blend with, and later overtake, the role of wild herbivores in many regions - often with surprisingly little negative impacts on biodiversity. However, as nomadic practises give way to sedentism, stationary herds may cause over-grazing and leave little room for the vegetation to recover. Intensive grazing also reduces litter production and fire loads, and so contributes to lower fire frequencies. Thus, effective restoration of grasslands may require intentional burning as well as mobile or alternating pens to shift the grazing pressure between different parts of the area.

Some open and semi-open grasslands have been formed by traditional burning, livestock grazing and fodder harvesting for so long that differences between ‘natural’ and ‘cultural’ are blurred. The biodiversity of such grasslands may be very rich, with numerous species that have become rare, threatened or endangered as historic practises are increasingly abandoned and former meadows tilled, fertilised and sown-in with non-native grasses to improve quality as pasture. Usually the best conservation strategy is to keep up the traditional management regime.

Open grasslands often blends seamlessly into savanna (cerrado, chaco…) ecosystems, a sort of transitional ecosystems that incorporate and combine elements from forests and grasslands. A common denominator is a certain amount of trees. These vary from, small, often scattered, 4-5 meters high trees in drier, less fertile areas, to higher, closed-canopy gallery forests along rivers where water availability is greater and less seasonal. Savannas are often highly dynamic, and the composition and density of trees and bushes may vary over time with climate, grazing pressure and other factors.

Wetlands

Wetlands are characterised by seasonal inundation or permanent high water tables. Open wetlands are ‘relatives’ of seasonally wet grasslands, and the border is arbitrary. Similarly, forested wetlands form a continuum with swamp forests – where to draw the line is a matter of opinion (and not really that important!).

Potential threats to wetlands include activities such as channelling and irrigation that reduce the amount of inflow, and drainage that lower the water table. Wetland ecosystems may also be negatively affected by leakage and runoff of fertilisers and pesticides from adjacent farmland, and by invasive species – often plants or animals that have (intentionally or accidentally) spread from their native regions to new areas where they lack competition, predators or other limiting factors.

Many wetlands and wetland mosaic landscapes have extremely rich flora and fauna, and seasonal inundation often limits human access. However, wetlands are also important for people and their livestock, and many areas have been moulded by grazing, harvesting of reeds and grasses, and other uses for so long that they may be considered cultural rather than natural landscapes. Such wetlands may nevertheless host rich biodiversity, the survival of which may be jeopardized if traditional practises are abandoned in favour of new (often more intensive and less diverse) land use. Wetland species richness, and balances between species, may also be threatened through over-exploitation of fish, fowl or other resources, i.e. if more resources are harvested than are regenerated or renewed over time.

Peatland is a particular kind of wetland that forms where dead wood and plant material accumulates faster than it decomposes. This happens in flat tropical regions with ample rainfall where high, stagnant ground water tables effectively block the air oxygen necessary for breaking down organic matter from entering the soil. Peat also accumulates on higher latitudes where low temperatures limit the activity of decomposing microorganisms. Over thousands of years, peat wetlands may grow to form large, several meters thick ‘peat pudding landscapes’ watered only from above. As rain water contains little plant nutrition, and soil air is necessary for root growth and mineral nutrient uptake, peat soil productivity is generally low.

Compared to forests on mineral soils, the flora on peat is relatively poor. However, a number of plant and animals, including fish species adapted to the acidic, tea-coloured waters of peat pools and streams, only occur in peat areas. More intact peat forest landscapes may also serve as refugia for wide-roaming mammal species sensitive to human pressure or persecution.

Peatlands provide several functions and services: they slow down water movement and so mitigate floods, maintain base flow in rivers, trap sediments and prevent intrusion of salt water in flat coastal areas. However, arguably the main conservation value of peatlands is the enormous amount of carbon stored in thick peat domes with high water tables.

In order to cultivate peatland, it is necessary to drain the topmost half meter or so of waterlogged soil. The problem is that as peat gets drained, air enters and decomposition picks up speed, releasing vast amounts of carbon dioxide into the atmosphere that aggravate climate change. Moreover, when peat soils decompose they shrink, sink and subside, often several centimetres / year or more, soon requiring deeper drainage to allow further cultivation – a never-ending process. Drying out peat areas are also very prone to fire, burning peatlands generating even more carbon dioxide emissions and haze with negative health impacts over large areas, particularly in south-east Asia.

For guidance and practical examples on how to apply the Accountability Framework initiative’s (AFi) definitions related to deforestation and the conversion and protection of natural ecosystems see AFi’s Operational Guidance.