



natural forest standard  
registry

# Natural Forest Standard Registry Overview



**Version 1.0**

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## About the Natural Forest Standard

Natural Forest Standard (NFS) is an independent, voluntary carbon market crediting program for REDD+ carbon projects. Ecosystem Certification Organisation is the governing body of the Natural Forest Standard (NFS) providing the overall responsibility, oversight and management of the program, in operation since 2011.

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## 1. Introduction

The Natural Forest Standard Registry (NFS Registry) is an electronic registry system developed and designed for the secure tracking of Natural Capital Credits (NCCs) for the entire lifecycle, from credit issuance through to transfer and retirement.

## 2. About the NFS Registry

The NFS Registry is the secure and powerful tracking platform that ensures transparency, traceability and integrity for all Natural Capital Credits (NCCs) issued to projects verified under the Natural Forest Standard. The NFS Registry enables registered users to receive, transfer and retire NCCs using unique serial number tracking that provides traceability for the lifespan of the credits. The Registry also ensures singularity of issued NCCs through a consistent and fully auditable transaction process.

The NFS Registry provides links to source project information, to give registry users transparency as to the origin and provenance of all NCCs.

The NFS Registry function is to provide a secure platform which allows complete traceability of all NCCs issued on the NFS Registry. The NFS Registry provides a secure and instantaneous transaction between transacting parties, in addition to keeping full tracking and auditable records of all transactions for the account holder.

The registry platform was developed in 2016 by an Australian team that has considerable expertise and experience in the development, implementation and management of mission-critical e-commerce and banking applications. The system was designed and constructed in line with industry standard best-practice, and is hosted across secure, globally redundant data centres. Strong encryption and multiple layers of security are used throughout the system.

## 3. Registry Purpose

The NFS Registry is the tracking platform that ensures transparency, traceability and integrity for all credits issued to projects verified under the Natural Forest Standard (NFS). The registry enables registered users to receive, transfer and retire Natural Capital Credits. NCCs are the carbon credits issued to NFS certified projects.

## 4. Natural Capital Credit Unit Definition

NCCs each denote 1 metric tonne of CO<sub>2</sub>e avoided emissions or removals achieved by NFS REDD projects (i.e., projects around reducing emissions from deforestation and forest degradation in developing countries) that also include biodiversity and social benefits. The NFS Registry provides traceability for the lifespan of the credits and ensures singularity of issued NCCs through a consistent and fully auditable transaction process.



## 5. NFS Registry Terms of Use

The NFS Registry Terms of Use (NFSR TOU) is publicly available on the NFS website, and via this URL: [https://www.naturalforeststandard.com/wp-content/uploads/2024/01/NFS-Registry-Terms-of-Use-V1.1\\_November-2021.pdf](https://www.naturalforeststandard.com/wp-content/uploads/2024/01/NFS-Registry-Terms-of-Use-V1.1_November-2021.pdf)

The NFSR TOU also includes operational information and procedures for the NFS Registry. Below are additional defined terms and operational details not covered in the Terms of Use:

### 5.1 Additional Defined Terms, Functions and Operational Details

#### 5.1.1 Credit Status

**Active:** signifies that the credits are held within an NFS Registry account, and have not yet been retired, and therefore remain available for further transfer, or retirement.

**Retired:** signifies that the NCC has come to the end of its lifespan, and cannot be further transferred or retired. The NFS Registry ensures that the retirement of credits cannot be reversed. This prevents the further transfer or retirement (double use) of Natural Capital Credits once they have been retired.

Retirement is a “final” outcome action and cannot be reversed once actioned. The Account Holder is made aware that the retirement action is irreversible at the time of them actioning the retirement transaction on the Registry, as per Clause 11 of the NFSR TOU: a) Any retirement transaction executed by the Account Holder in accordance with this section 11 is irrevocable, and the Account Holder acknowledges that any such instruction will not be reversed.

#### 5.1.2 Credit Cancellation

In relation to cancelled credits, this is an irreversible action in the Registry, with no way of being reversed. Once credits are cancelled, they are no longer active and can no longer be transferred or retired.

#### 5.1.3 Retirement Certificate

An Account Holder may request a Retirement Certificate following the completion of a retirement action within the NFS Registry. Request is submitted via email to the NFS Registry administration team, or via the Feedback facility within the NFS Registry platform.

### 5.2 Double Use

The NFS Registry ensures that once credits are retired or cancelled, they cannot be further transacted in any way, as retirement or cancellation are end points in the registry transaction process.

### 5.3

## 6. Conflict of Interest

ECO NFS is committed to preventing conflicts of interest in the provision of registry services through robust processes and policies. The roles and permissions of the NFS Registry Administration teams are carefully defined to minimise potential conflicts. The provisions of [ECO NFS Conflict of Interest Policy](#) applies to the administration of the NFS Registry, ensuring that all operations and interactions are conducted with the utmost integrity.

## 7. NFS Registry Security

The NFS Registry utilises SSL/HTTPS security protocols. Server and database access is only available to approved personnel. As an Azure-hosted application adheres to international data exchange standards by leveraging Microsoft Azure's built-in security features and compliance certifications. Additionally, Azure complies with major international compliance frameworks, which govern data privacy, security, and cross-border data flow. This ensures that applications hosted on Azure meet the necessary legal and technical requirements for international data exchange.

## 8. NFS Registry Update

**October 2024:** ECO NFS is currently working with an international custodial bank to develop a new registry platform and for the provider to provide an enhanced Registry platform for the NFS and issued NCCs.

This is currently in development stages, and as part of the work, ECO NFS will be publishing updated registry describing the enhanced functionality and alignment with current market / ICVCM requirements, supporting the end-to-end lifecycle of the NFS Natural Capital Credits, which includes the creation of tokens representing the Natural Capital Credits and the corresponding transfer, retirement or cancellation of NCCs.

## 9. Summary of Planned New or Updated Registry Functionality

### 9.1 Underlying Attributes of a Unit (NCC)

All relevant project documentation will be added at time of issuance (recordation) that demonstrates the evidence of issuance eligibility (verification) in relation to the specific issuance, i.e. following a successful and completed verification event. The registry will define and ensure the underlying attributes of a unit (carbon credit) including, but not limited to the following registry, project and carbon credit details - registry name, registry website, project developer name, project name, project type, credit type, vintage, recorded date, verifier name, verification date, accreditation body, approval standard, quantity, account name.

In addition the following relevant project details are held - project stage, project start date, project duration/crediting period, total project area, as well as a full set of project documentation (including PIN, PDD, Validation Report, Verification Report, Project Implementation Report and any other relevant documents). It will also



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provide the URL to the NFS Map Registry, which demonstrates the exact and full geographic location of the project.

## **9.2 Property Aspects of a Unit (NCC)**

Credits will only be issued (recorded) into the registry platform following presentation of all necessary documentation that proves eligibility and ownership of the NCCs to be issued (recorded) to a Project Developer's or Buyer's account. Current holdings (ownership) of all NCCs in the registry will be fully traceable and searchable within the registry platform.

## **9.3 Erroneous Issuance Procedures**

The registry platform will have the processes and functions to correct erroneous issuance (recording) of credits based on the following use cases: 1/ Over-issuance and 2/ Reversal. There is a comprehensive operational workflow for the removal process for addressing erroneous issuances. The registry platform providers operational team will follow the prescribed workflow, with strict controls in place, when facilitating any erroneous issuance occurrences.

## **9.4 Retirement**

9.4.1 Retirements will include the mandatory option to allocate the retirement to either the account holder themselves, or a third-party beneficial owner in relation to the retirement event.

9.4.2 Retirement events will include the mandatory requirement to include the retirement reason(s) and description of the retirement purpose as part of the retirement process.

## **9.5 Avoidance of Double Use**

The new registry platform includes rule-based restrictions that include end states, which are designed to prevent any credit within the registry to be further transacted once it has been cancelled (removed) or retired. The serialization of all NCCS at 1 metric tonne level during issuance (recordation) is traceable across the entire credit lifecycle including retirement or cancellation (withdrawal).

## **9.6 CCP-Labeling**

The provision is included for clear CCP labelling to be added at credit level, both during the issuance (recordation) process and also for it to be applied retrospectively to active credits (i.e. credits not yet retired) within the Registry platform, where appropriate, and across all account types.

## **9.7 Unit (NCC) Status**

- a. The Registry platform will identify the status of all credits, including risk buffer.
- b. Units are held in blocks identified by serial numbers, each block of units will have a status assigned.
- c. Status types are: Active, Retired, Locked (while transaction in progress), Removed (includes de-recorded, cancelled, withdrawn).



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## 9.8 Serialisation

Unique serial numbers will be system generated as a data attribute associated to the Natural Capital Credit when recorded into the Registry platform. This serialization shall be attributed throughout the lifecycle of the NCC and retain traceability for all lifecycle events.

The new registry platform includes credit serialization that will include the ISO country code, project type, vintage and project start date.

Further, the project documentation will be attributed to the issuance (recordation) of the Natural Capital Credits which provides the comprehensive evidence of all underlying information pertinent to the project and issuance.

## 9.9 Tracking Ownership/Holding

The new registry platform will facilitate the tracking and transfer of NCC ownership or holding throughout the entire lifecycle of the credits, from credit issuance through to retirement or cancellation, and is intrinsically designed to track the holding and transaction of all NCCs. Current holdings (ownership) of all NCCs in the registry will be fully traceable and searchable within the registry platform.

## 9.10 Security & International Data Exchange Standards

**9.10.1** The new registry platform is being developed, operated and hosted by an international custodial bank, and as such has the highest level of security provisions in place and as such implements and maintains information security policies and programs consistent with industry guidelines and Applicable Law.

The platform is being developed, operated and provided by an international custodial bank and as such conforms international data exchange standards with all appropriate controls in place.

### 9.10.2 Audit of compliance with security provisions

The registry provider is responsible for the periodic audit of registry compliance with security provisions and implements and maintains information security policies and programs consistent with industry guidelines and Applicable Law.

Third party assessment of the technology platform is performed on an annual basis to confirm that appropriate authentication and authorisations controls are in place and additionally the data secured and encrypted when persisted.

## 9.11 Registry Account Requests & Restrictions

All requests for registry accounts will go through a stringent due diligence process, carried out by the assigned team within the registry providers organisational procedures and processes. All registry account holders will be required to sign all relevant user agreements, terms of service and other relevant and binding documents. Accounts shall only be available to businesses/organisations, and not



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individuals. Account opening will follow the processes and procedures of the platform provider.



## Appendix A: NFS Registry Disaster Recovery Plan

This Disaster Recovery Plan outlines the strategic approach for the NFS Registry to manage the event of a disaster. The plan is designed to ensure rapid recovery with minimal losses, protecting both NFS and our stakeholders.

- 1. Identified critical data:** The internal disaster recovery plan for the NFS Registry hosted on Microsoft Azure has identified the critical data that needs to be recovered in case of a disaster. This includes all the user and transaction data related to transactions on the NFS Registry.
- 2. Recovery Point Objective (RPO) and Recovery Time Objective (RTO):** The Azure Backup is used to protect data from deletion and ransomware by isolating backup data from original data and through accidental delete protection and multifactor authentication. This achieves low recovery-point objective (RPO) and recovery-time objective (RTO) targets for the NFS Registry. The RPO and RTO for the NFS Registry has been determined based on the criticality of the data and the impact of its unavailability.
- 3. Secondary locations:** The NFS Registry is hosted across secure, globally redundant data centres. In case of a disaster at the primary location, a secondary location has been established for recovery. The secondary location has enough resources to support the NFS Registry and is located in a different geographical location to minimize the impact of regional disasters.
- 4. Backup and replication:** Regular backups of the NFS Registry are taken and stored in a secure location, having selected the Microsoft Azure default retention backup points. In addition, the NFS Registry periodically creates manual backups of the registry database and stores them offline, ensuring that this occurs at intervals of no more than 14 days. These backups replicate the secondary location to ensure data availability in case of a disaster.
- 5. Incident Response:** Clearly defined roles and responsibilities are established for the team members involved in the disaster recovery process. This ensures that each team member knows their responsibilities and can act promptly in case of a disaster.
- 6. Communication Plan:** In case of a disaster, an effective communication plan is in place for all team members and stakeholders involved to help in efficient coordination and timely dissemination of information.
- 7. Expectations during recovery:** While this plan is designed to minimize downtime and mitigate data loss, the outcomes of our data and service recovery efforts are bound by the disclaimers and limitations stated in the NFS Registry Terms of Use. Recovery efforts will aim to restore data to the last known good state as recorded in our backups. However, the accuracy and completeness of restored data are subject to the



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disclaimers provided in the NFS Registry Terms of Use regarding the continuous supply and reliability of such information.

- 8. Alignment with NFS Registry Terms of Use:** This Disaster Recovery Plan is executed in strict alignment with the NFS Registry Terms of Use and our commitment under this plan does not extend beyond what is stipulated in the Terms of Use.
- 9. Plan Review and Maintenance:** The disaster recovery plan will be reviewed and updated annually, or after significant changes to the infrastructure or operational needs.

## Appendix B: NFS Registry NCC Restoration Policy

This policy outlines the procedures for the restoration of Natural Capital Credits (NCCs) in the event of erroneous or fraudulent transactions, cyber-attacks, ransomware incidents, or system failures. The NFS Registry is committed to maintaining the integrity and authenticity of NCCs while ensuring a reliable and efficient restoration process.

- 1. Proof of Original Certificates:** In case of NCCs subject to an erroneous or fraudulent dealing, cyber-attack, ransomware, and/or corrupted due to system failure, the NFS Registry platform will cancel and reissue NCCs upon satisfactory proof of the original certificate(s) being provided by the account holder.
- 2. Identity Verification:** The NFS Registry platform will perform identity verification of the requester to ensure that the reissuance request is genuine and authorized. This process includes verifying the requesters' identity through secure means, in accordance with our disaster recovery plan or other secure means of identity verification, the NFS Registry Terms of Use and applicable data protection regulations.
- 3. Record Keeping:** The NFS Registry platform will maintain records of all reissued certificates to track the original and replacement NCCs to ensure transparency and maintain the integrity of the NFS Registry and the authenticity of the NCCs.
- 4. Timely Resolution:** The NFS Registry platform is committed to resolving reissuance requests and completing the process of cancelling and reissuing certificates in a timely manner to minimise inconvenience to the certificate holder, subject to the receipt of all required documentation and completion of identity verification.
- 5. Notification:** Certificate holders will be promptly notified of the cancellation and reissuance of their NCCs. Notifications will be sent via the contact information provided in the account holders profile to ensure clear and timely communication.
- 6. Security Measures:** To prevent the misuse of the original certificates, the NFS Registry will implement additional security measures for reissued NCCs. These measures may include new serial number(s), unique identifier(s), and/or additional security features.
- 7. Alignment with NFS Registry Terms of Use:** This Certificate Restoration policy is executed in strict alignment with the NFS Registry Terms of Use and our commitment under this plan does not extend beyond what is stipulated in the Terms of Use.



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- 8. Policy Review and Maintenance:** The certificate restoration policy will be reviewed and updated annually, or as necessary to reflect changes in technology, infrastructure or operational procedures.



**No Warranty Disclaimer**

The NFS Registry platform and associated services are provided "as is" with no warranty express or implied. This includes, but is not limited to, warranties of accuracy, reliability, completeness, currency, or continuous supply of the information contained within the NFS Registry. The NFS Registry expressly disclaims any and all warranties to the extent permitted by applicable law.