

NATURAL FOREST AND NATURAL CAPITAL VALUATION PRINCIPLES AND METHODS

ISSUES PAPER

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OCTOBER 2020



BACKGROUND

Over the last 20 years the Australian plantation sector has seen a major recapitalisation, with a shift to institutional ownership which has reinforced a trend towards regular and formal reporting of tree crop and land valuations.

The Australian Forest Valuation Standard (AFVS - A Standard for Valuing Commercial Forests in Australia 2012) and associated Handbook (2012) were developed to provide professional and sectoral interpretation to the formal standards applied to forest valuations in Australia¹. The AFVS is an important guideline and plays a role in providing sectoral confidence in addressing issues associated with forest valuations.

As noted in the AFVS, standards and guidelines continue to change and improve, partly because of public demands and partly because of the increase in knowledge (AFVS section 8.1 pg. 53). The process of updating and maintaining relevance can provide a useful forum of engagement for stakeholders, including the valuers who apply the standard and the forest managers who report the results.

AFVS section 8.2 *Review and Maintenance of the Standard* (pg. 53) lays down the process for reviewing and updating the standard. A sub-committee of Association of Consulting Foresters of Australia (ACFA), which is a division of the Institute of Foresters of Australia (IFA), is charged with maintaining the standard. At a meeting of the Institute of Foresters on 26th August 2016 at Park Royal Hotel Melbourne airport, a proposal was endorsed to refresh the process for managing and maintaining the AFVS. A formal IFA Sub-committee was convened in September 2016, with Terms of Reference including a standing IFA Forest Valuation Sub-committee be created with the purpose of promoting and managing updates to the AFVS.

Australia-New Zealand Alignment

In late 2017 an invitation was received from Bruce Manley, on behalf of the NZ Forest Valuation Working Party to align on a joint ANZ standard. The invitation came at a time when the NZ Forest Valuation Working Party was about to release an Exposure Draft of its revised Standard, due mid-2018. Given the timing, it was decided by the IFA Sub-committee to await the exposure draft before making a commitment. The Exposure Draft of the Revised NZ Forest Valuation Standard "NZFVS" (April 2019) has been released. The IFA Forest Valuation Sub-committee has been invited to comment.

Post receipt of the NZFVS standard, the IFA Forest Valuation Sub-committee received funding support from Forest and Wood Products Australia (FWPA) for a project titled 'Alignment of Australian and New Zealand Forest Valuation Standard Methodologies' (the Project). The Project considers the development of a joint Australian-New Zealand valuation standard, including consideration of the applicability of the NZFVS revised standard to Australian valuation requirements.

¹ Both documents were co-funded by FWPA.



Ecosystems Services and Natural Forests

One aspect that needs further consideration in respect to alignment of the Australian and New Zealand valuation standards is the handling of natural forests in a combined Standard, particularly in Australia. The AFVS presents a large body of knowledge relevant to natural forests. The NZ Valuation Standard is designed for planted forests only. It does not formally consider application for natural forest, although components may be applied to natural forests.

At the ANZIF conference in Christchurch (27-28th Aug 2019) the idea arose that as Australia has a larger stake in commercial natural forestry, it would be appropriate for the IFA to take the lead in representing current thinking on the valuation of natural forests. As discussed at the IFA's Hobart Forest Valuation Seminar (23-24th May 2019), new concepts around Natural Capital Accounting, Environmental Economic Accounting, as well as carbon sequestration have a natural fit with a consideration of natural forest values, which can in turn, contribute to thinking about non-timber values arising from planted forests.

The FWPA Project therefore comprises two sub-projects:

Sub-project 1

- Prepare an Exposure Draft of an ANZ Forest Valuation Standard for application to Australian planted forests.

Sub-project 2

- Develop amendments to the ANZ Forest Valuation Standard to incorporate the valuing of commercial harvests and management of natural forests.
- Develop an issues paper, position paper and recommendations which incorporates the valuing of ecosystem services and other natural forest values.

This paper deals with the second part of Sub-project 2.

Purpose of the Project

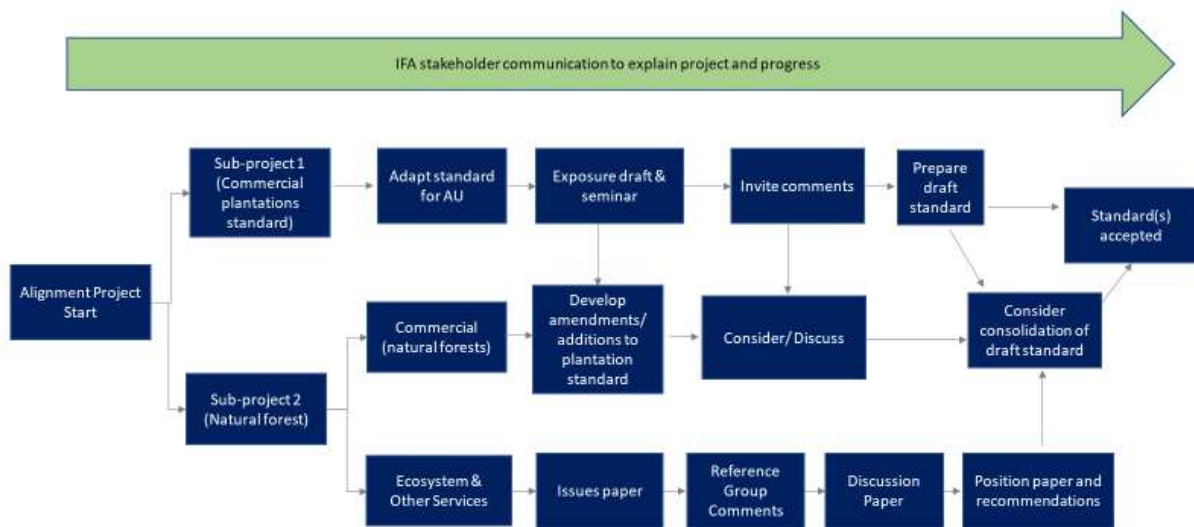
The following lays out the Project Plan for this Sub-project 2:

4. Technical review of the natural forest components of the Australian Forest Valuation Standard with respect to its potential to align with the ANZ Forest Valuation Standard for planted forests.
5. Development of an Issues Paper in relation to natural capital accounting and ecosystem services that natural forests provide.
6. The Issues Paper will be presented at the Stakeholder Workshop, followed by 6-week consultation period.
7. Based on the outcomes of (4) above, IFA Sub-committee will consider the merit of constructing a Natural Forest Standard, to either sit alongside or to be incorporated into the proposed ANZ Forest Valuation Standard for planted forests.
8. Pending the outcomes of (5) a position paper and recommendations will be developed in relation to the valuation of eco-system and other values.

Project Plan

Figure 1 below illustrates the overall project approach and logic.

Figure 1: Project Approach



DRAFT FOR DISCUSSION

ISSUES PAPER SCOPING

This issues paper proposes two main areas of consideration:

- To define methods dealing with assessing and reporting forest values beyond those arising from the growing and selling of wood products.
- To review the status of these methods and alignment issues worthy of consideration by forest valuers.

The issues paper approach involves:

- Defining the forest values under consideration.
- Current accounting frameworks for these values.
- Existing methods for quantifying these values.
- Current forest valuation guidance.
- Natural capital accounting and valuation examples.
- Summary of existing methods and potential application to forest valuations.

Defined Values

Natural capital² is a term for the stock of natural resources that might yield a flow of benefits or services to people. These flows can be ecosystem services (i.e. timber, water regulation, climate regulation, recreation) or abiotic services (i.e. supply of minerals, geothermal heat). Within the natural capital framework is recognition of the role of biodiversity being critical to the health and stability of natural capital. Biodiversity can be a benefit in of itself and contribute to other services of value to society.

Timber and fibre values are commonly considered and incorporated into forest valuation standards and form the underpinning driver of expected costs and revenues that might accrue to the forest asset owners.

Beyond timber values, three other broad groups of natural capital are commonly considered in respect to forest assets. These are:

- Carbon values:
 - o The standing carbon stock of a forest, and carbon sequestered and stored in the utilisation of a forest's timber yield.
- Biodiversity and existence value:
 - o The biodiversity of a forest along with the value that arises in community for the existence of such biodiversity.
- Other non-timber forest values:
 - o Water yield and quality.

² Natural Capital Coalition (2018) – Natural Capital Protocol – Forest Products Sector Guide

<https://www.wbcsd.org/Sector-Projects/Forest-Solutions-Group/Resources/Forest-Products-Sector-Guide-to-the-Natural-Capital-Protocol>

- o Common values identified include tourism, hunting, bee-keeping and non- timber forest products (NFTP).

Over many decades these values have been recognised as a core part of the functioning and services of forests, however more recently work has advanced to standardise the measurement and valuation of these values.

Environmental Economic Accounting

The System of Environmental-Economic Accounting (SEEA)³ is a United Nations developed framework that seeks to integrate economic and environmental data to provide a more comprehensive and multipurpose view of the interrelationships between the economy and the environment, and the stocks and changes in stocks of environmental assets.

Following a similar accounting structure as the System of National Accounts (SNA), SEEA contains internationally agreed standard concepts, definitions, classifications, accounting rules and tables for producing internationally comparable statistics and accounts.

The central SEEA framework covers measurement in three main areas:

1. Environmental Flows – the flows of natural inputs, products and residuals between the environment and the economy, or within the economy, in physical and monetary terms.
2. Stocks of Environmental Assets – the stocks of individual assets and how they change over an accounting periods due to economic activity and natural processes, in physical and monetary terms.
3. Economic Activity Related to the Environment – monetary flows associated with economic activities related to the environment, including spending on environmental protection and resource management.

Ecosystem accounting is based on the following:

1. Ecosystem Asset Extent Account – defines the types of ecosystem assets within the area of consideration (i.e. country).
2. Ecosystem Condition Account – measures the overall quality of an ecosystem assets, and the state or functioning of the ecosystem.
3. Ecosystems Services Accounts – measures the supply of ecosystem services.
4. Monetary Asset Account – records the monetary value of the opening and closing stocks of all ecosystem assets.
5. Thematic accounts, such as land, water, carbon or biodiversity which are standalone accounts in their own rights.

In April 2018, the Australian Government and all state and territory governments agreed on a National Strategy and Action Plan to implement Environmental Economic Accounting (EEA) across Australia, based on the SEEA framework.

³ <https://seea.un.org/> established in 2012 and adopted by the United Nations Statistical Commission

The key components of the Australian EEA reflect the SEEA and is described below⁴:

Figure 2: EEA key components

Policy and decision making			
<i>Environmental – economic accounting</i>			
Measurement		Valuation	
Asset Classify asset and measure its extent	Condition Measure health of asset	Services Measure flow of services to beneficiaries	Benefits Measure (value) the benefits people receive

The 2018 plan sought to complete a series of outcomes for the national and state governments over the following 3 to 5 years⁵. These included:

- Creation of a relevant, comprehensive and trustworthy source of information on Australia's environment.
- Coordinated effort and efficient use of resources to build integrated environmental economic accounts in Australia.
- Improve consistency of reporting on Australia's environment – tracking conditions, trends and pressures across various spatial boundaries over time.

Ecosystem Services Valuation - Value Transfer Methods (VTM)

Accounting systems consider methods to measure the value of the asset or the flow of benefits. To value ecosystem services, in the absence of developed functioning markets which disclose observable prices for a service or product, a variety of methods have evolved, notionally termed value transfer methods (VTM) for ecosystems services⁶.

VTM is the process of estimating the value of an ecosystem service by a particular policy site (i.e. an asset) by assigning an existing valuation estimate for a similar ecosystem elsewhere (i.e. a study site).

Three main types of VTM exist:

- Unit Value Transfer – deriving a value per unit at the study site and then multiplied by the number of units at the policy site.
- Value Function Transfer – estimating a value for a service function related to the characteristics of the ecosystem and the beneficiaries of the service. Derived through valuation methods such as hedonic pricing (revealed preferencing valuation), travel cost or production function.

⁴ Environmental Economic Accounting Overview https://eea.environment.gov.au/sites/default/files/2020-08/Strategy%20for%20Common%20National%20Approach%20to%20EEA_Glossy_Final.pdf

⁵ Page 20 EEA A common national approach – Strategy and Action Plan (April 2018) https://eea.environment.gov.au/sites/default/files/2019-06/Strategy%20for%20Common%20National%20Approach%20to%20EEA_20180426_final.pdf

⁶ Brander, L. (2013) Guidance Manual on Value Transfer Methods for Ecosystem Services (UNEP)

- Meta-analytic Function Transfer- estimating the value function from results of multiple primary studies across multiple study sites and parameters relevant to the policy site.

These methods are reflective of financial valuation methods, such as shown in the potential annual yield and revenue that arises from timber production.

Two key challenges exist regarding the VTM:

- Defining approaches which might account for differences or the degree of alignment of assessed values between the policy and study sites.
- Assessing, accommodating and reporting the uncertainty in the transferred values, and level of accuracy inherent in the VTM process.

To assist in clarifying the alignment and uncertainty aspects of VTM, commonly the values undergo a classification into the following groups of services:⁷

- Provisioning services – products obtained from ecosystems (i.e. food, timber).
- Regulating services – benefits obtained from the regulation of ecosystems processes (i.e. water flow, carbon, storm protection, habitat protection).
- Cultural services – non-material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation and aesthetic experiences.

In addition, frameworks have developed to assist analysts determine the potential values of ecosystem services. A common framework used is the Total Economic Value (TEV) (Figure 3), which categorises values into use values (direct, indirect, option analysis [i.e. willingness to pay] and non-use values (altruism, bequest, existence). The TEV framework notes valuation by services classification.

Figure 3: Total Economic Value framework

	Total Economic Value			
Ecosystem service	Direct use	Indirect use	Option value	Non-use
Provisioning	X		X	
Regulating		X	X	
Cultural	X		X	X

Alignment to Existing Valuation Methods

The various accounting and valuing methods seek to better quantify the contribution of environmental assets to the functioning of society and its natural environments. A critical consideration is the extent these methods might be utilised given existing forest valuation frameworks.

⁷ Brander (2013), page 19

Forest valuation standards such as prepared by the IFA or the NZIF provide guidance to valuers as to how to assess and allocate forest values in a manner that aligns with an economy's wider financial reporting framework, as noted in accounting reporting standards.

Commonly both accounting standards and the core of forest valuation standards are focused on the demonstrably monetarised aspects relating to assets and their yields (tangible value). The discussion on environmental accounts above highlights society's desire to recognise intangible values which might be based on an inferred monetary value or feature an increasing (but limited) disclosure by society to a traded monetary aspect.

The NZIF working draft valuation standard provides a form of guidance to the extent these non-timber-based values might be incorporated into a forest valuation opinion. The NZIF working draft Chapter B-12 refers to incorporating into forest values the concept of 'Other Forest Revenues' (OFR). The guidance defines OFR as:

'outputs from the forest, other than logs, that have economic value. They should be considered with the forest valuation and included where they are material and meet certain criteria. In certain circumstances, the OFR should be the subject of a separate valuation by the forest valuer or an appropriate specialist.'

Examples of OFR include carbon, non-timber forest products and water catchment services. The standard proposes the following 'tests' as to the eligibility of the incorporation of these values:

'The revenue generated by these outputs that can be directly associated with the forest can be considered in the forest valuation. OFRs often tend towards social values. To qualify for an assignment of market value three criteria need to be met:

1. *Measurability*

Measurement of market value needs to be based on the expectation of a future cashflow. The expected future cashflow stream should be based on current transactions arising from the subject forest or like forests.

2. *Certainty*

OFR may be uncertain or subject to extreme seasonal, year-to-year, or crop age dependent fluctuations, so appropriate conservatism is especially important.

3. *Beneficial interest*

The forest grower must have the right to benefit from the OFR.'

The NZIF standard provides guidance as to what may be considered as a component of a forest valuation opinion.

Working Examples of Ecosystem Services Valuations

Given the evolution of these various frameworks and understanding of quantification of the key elements, the following are various examples of methods that move towards valuing ecosystem services. Two examples are provided:

- The Queensland Government Land Restoration Fund (LRF) which looks to fund carbon offset funds coupled with a preferred suite of co-benefits.
- Management commitment and actions to sustainable management completed by Forico in Tasmania with respect to its large plantation and custodial land estate and by extension its illustrative work to monetarise Natural Capital.

Queensland Government's Land Restoration Fund

The Queensland Government's Land Restoration Fund (LRF) is a \$500million fund with primary objectives being the facilitation of a pipeline of Queensland-based carbon offset projects, as well as pursuit of environment, economic and social 'co-benefits' as defined by the Queensland Government⁸.

While focused on carbon farming projects generating carbon offsets, the LRF value for money approach doesn't focus solely on the cheapest carbon but rather also considers maximising the value arising from co-benefits. The LRF expects the projects will generate Australian Carbon Credit Units (ACCU) which can then be monetarised by the project developer. The LRF also recognises the co-benefit values in the form of annual payments to the project developer aligned to progress of attaining project design co-benefits milestones.

As part of its governance arrangements, the LRF requires investments generate data on co-benefits that can be independently certified or verified according to the LRF Co-benefits Standard, and third parties such as the Accounting for Nature Framework⁹ or the Aboriginal Carbon Foundation¹⁰.

The LRF enters into long term (5-15 years) contracts to purchase the ACCU's from project developers, along with agreeing to annual payments for the project's co-benefits.

The LRF Co-benefits Standard¹¹ sets out how current LRF priority co-benefits for projects are to be identified, measured and verified in three primary categories:

⁸ https://www.qld.gov.au/_data/assets/pdf_file/0022/116545/lrf-investment-application-guidelines.pdf

⁹ [Wentworth Group of Concerned Scientists, 2016. Accounting for Nature: A scientific method for constructing environmental asset condition accounts, Sydney, https://wentworthgroup.org/wp-content/uploads/2017/07/Wentworth-Group-2016-Accounting-for-Nature.pdf, accessed December 2019](https://wentworthgroup.org/wp-content/uploads/2017/07/Wentworth-Group-2016-Accounting-for-Nature.pdf)

¹⁰ [Aboriginal Carbon Foundation, 2019, Core benefits verification framework: for the environmental, social and cultural values of Aboriginal carbon farming, Cairns, Queensland, https://www.qld.gov.au/_data/assets/pdf_file/0018/105750/core-benefits-verification-framework.pdf, accessed December 2019](https://www.qld.gov.au/_data/assets/pdf_file/0018/105750/core-benefits-verification-framework.pdf)

¹¹ https://www.qld.gov.au/_data/assets/pdf_file/0025/116548/lrf-co-benefits-standard-exposure.pdf

- Environmental co-benefits, including the classes of benefits, assurance methods, data collection and reporting, and confidence in delivery of the co-benefits.
- Social and economic co-benefits, including the classes of benefit.
- First Nations co-benefits, including cultural, customary, social and economic co-benefits.

In addition, the LRF has a LRF Priority Investment Plan (PIP) to document the funds priority investment areas for co-benefit funding support. The 2020 PIP¹² identifies three investment priorities:

1. Land restoration to improve the health of wetlands and coastal ecosystems (including the Great Barrier Reef).
2. Land restoration for threatened species and ecosystems.
3. Land restoration for social and economic sustainability.

The investment priorities are guided by key indicators for each area.

A key condition of the co-benefits determined by the LRF is the use of the Accounting for Nature (2016) (AfN) framework developed by the Wentworth Group of Concerned Scientists as a scientific method for constructing environmental asset condition accounts.

This AfN framework seeks to achieve a number of benefits, including providing the ability to measure success of public investments in natural resource management through each scale of project (i.e. national, state, local), and a cost effective pathway for industry, farmers and land managers to demonstrate the sustainability of their practices. The AfN framework also seeks to complement SEEA approaches in respect to measuring environmental degradation.

The core element of the AfN framework is the derivation of an *Econd* – an environmental condition index. The *Econd* defines the condition of an environmental asset, at any scale, from 0 to 100, with 100 being the reference points of the asset being in an undegraded state. The *Econd* is prepared by combining scientifically accredited indicators. These indicators can be reported overtime to prepare a balance sheet for each asset which shows changes in the stock of the asset.

The AfN framework consists of a system of rules and processes in the preparation of certified environmental asset condition accounts. This includes the application of Technical Protocol documents¹³, methods for measurement, reporting and verification, and audit processes. Involving eight steps to attaining certification of an asset, the AfN framework also provides a confidence score for the results.

As the time of this paper, the results of the 2020 LRF 1st round of funding allocations had not been released to the public, therefore an indication as to the potential 'value' of co-benefits being funded by the LRF is not as yet available.

¹² https://www.qld.gov.au/_data/assets/pdf_file/0024/116547/lrf-priority-investment-plan.pdf

¹³ i.e. Butler, D, Thackway R, and Cosier P (2020). Technical Protocol for Constructing Native Vegetation Conditions Accounts – Version 1.0. May 2020. Accounting for Nature Limited, Sydney, Australia.

Forico

Forico has responsibility for the management of over 172,000 hectares (ha) of land in Tasmania, of which, 77,000 ha are managed for conservation and biodiversity values, and ~89,000 ha being productive plantation land¹⁴.

Forico's journey with Natural Capital Accounting started in 2014, when Forico commenced its Natural Forest Assessment Program and then engaged the IDEEA Group. Ecological specialists in conjunction with Forico's own internal teams measured and spatially mapped ecosystem services by conducting extensive field monitoring research to obtain a visual representation and proof of concept of the extent and condition of material ecosystem services on the managed Estate under the SEEA framework.

Forico has since expanded on this foundational work to adopt a more commercial approach using the framework provided by the Natural Capital Coalition's Natural Capital Protocol (NCP). The NCP framework and the specific guidance also provided in the accompanying *Natural Capital Protocol – Forest Products Sector Guide* is providing the basis for Forico to prepare an illustrative Natural Capital Report for the year ended 30 June 2020, focusing on measuring, valuing and presenting Natural Capital values in a manner consistent with existing Financial Reporting Frameworks and Standards.

Integrating natural capital into financial accounting requires the use of a common monetary language with both financial and quantitative metrics showing movements and balances for ecosystem flows and stocks respectively, as well as segmenting values between Natural Capital values to and from society and to and from the business.

NCP's principle-based approach also aims to embed all six capitals (financial, manufacturing, intellectual, human, social and natural) into business decision-making processes, strategies, and reporting.

In Forico's first illustrative Natural Capital Report, currently under development, they have focused on measuring, valuing, and presenting the following ecosystem services which were determined to be among the most material to their present-day business and broader industry:

- Provisioning - wood fibre from sustainable plantations to be converted to renewable sawlogs and wood fibre products;
- Provisioning and regulating – carbon sequestration from plantation and natural forests offset by carbon emissions produced by business operations;
- Provisioning and regulating – water usage and impact on both high and low downstream flows, and water quality impacts principally regarding natural forest riparian corridors utilised to control erosion and sediment release within the managed estate; and

¹⁴ <https://forico.com.au/volumes/documents/Forico-Sustainability-Snapshot-2019.pdf>

- Provisioning and regulating – natural forest vegetation to provide habitat and biodiversity and where identified, undertaking habitat restoration and rehabilitation programs to improve or maintain habitat condition.

Forico has also partnered with KPMG who independently peer reviewed Forico's valuation methodologies and to test their disclosures and obtain a public limited assurance opinion across their Natural Capital Report.

Further Valuation Guidance and Comparative Analysis

Forest valuers can also observe various guidance or data that might be of relevance to deriving an opinion to valuing ecosystems services.

For example, in 2018 the World Business Council for Sustainable Development (WBCSD) Forest Solutions Group¹⁵ funded the development of Natural Capital Protocol Forest Products Sector Guide¹⁶. This guide included an outline for valuing the natural capital impacts for the forest sector.

- *Qualitative valuation techniques are used to inform the potential scale of costs and/or benefits expressed through qualitative, non-numerical terms (e.g., significant decrease of air pollutants that cause damage to human health, significant increase in regional population of globally threatened species)*
- *Quantitative valuation techniques, in turn, focus on numerical data which are used as indicators for these costs and/or benefits (e.g., 20% decrease in regional concentration of particulate matter pollutants that cause damage to human health, increase by one third of people benefitting from recreation)*
- *Monetary valuation techniques translate quantitative estimates of costs and/or benefits into a single common currency.*

In 2019-20 FWPA funded research in respect to trialling natural capital accounting as a mechanism for new approaches to sustainably manage soil, water and other natural resources. This was completed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) for the Australian Government's Department of Agricultural and Water under the Rural Research for Development and Profit program¹⁷. This study focused on the development of natural capital accounts for the forestry industry in the Green Triangle, trialling the application of the SEEA. The study prepared experimental accounts for a range of derived metrics, including ecosystem extent, condition and services. The study built on a companion report which sought to conceptualise the Australian forest industries dependencies and impacts on natural capital¹⁸.

¹⁵ <https://www.wbcsd.org/Sector-Projects/Forest-Solutions-Group>

¹⁶ <https://www.wbcsd.org/Sector-Projects/Forest-Solutions-Group/Resources/Forest-Products-Sector-Guide-to-the-Natural-Capital-Protocol>

¹⁷ Stewart SB, O'Grady AP, Mount R, England J, Opie K, Roxburgh S, Ware C, Scheufele G, McVicar T, Van Niel T. 2020. Experimental natural capital accounts for the forestry industry in the Green Triangle. Report to Forests and Wood Products Australia and Department of Agriculture, Water and the Environment as part of the Rural Research for Development and Profit program (Project number RnD4Profit-16-03-003) – as provided by FWPA 30 Sept 2020

¹⁸ O'Grady AP, Pinkard EA, Mount RE, Schmidt RK, Cresswell ID, Stewart SB (2020) Conceptual model to

The conceptual model outlined pathways associated with specific forestry activities and focusing on those with potential for positive or negative impacts on natural capital. Recognising existing data collection and reporting processes, the study noted an approach that the forest industry might consider in the preparation of a set of environmental accounts.

The two studies resulted in the development of an experimental set of extended accounts for the Green Triangle forest industry, and propose the discipline of accounting as having the potential to provide a consistent insight to natural capital. The studies noted the form and access of data to be a critical component to the preparation of a set of accounts.

The scope of the studies related to devising an accounting framework and focused on development of natural capital metrics in a non-monetary form. This is reflective of the contemporary situation with the majority of the natural capital assets identified in this study, in that very few can be 'valued' in a monetary sense.

Similarly, McKinsey released a report in September 2020 titled 'Valuing nature conservation'¹⁹. The report noted a methodology to evaluate where natural capital protection would have the greatest impact on climate, economies and health. The values identified in this study included climate, weather, storm and flood protection, crop pollination, wild food sources, as well as recreation uses. The approach was largely a comparative framework to provide a ranking of relative values across various attributes such as carbon, conservation values or water, and the risk to these values arising from human pressures.

The valuation approach noted in the McKinsey September 2020 report included carbon offsetting, job safeguarding and creation, and revenue generation from the sustainable yield of a resource. In addition, the report considered existing conservation funding as an indication to society's current expression of value relating to maintaining natural capital, as well as the inadequacies of this allocation process. As a method to better inform the funding allocation process, the report indicates alternative funding models, including debt for nature swaps and Project Finance for Permanence (PFP)²⁰ modelling which includes clear definition of the conservation value objective and a funding commitment model to attain that goal.

This report also pointed to examples of what can be defined as 'comparative sales' transactions which relate most overtly to conservation valuations and the potential use of this approach.

Sales comparison data has the potential to be a significant input into a forest valuer's approach in forming an opinion to non-timber forest values. Observations of conservation purchases arise where fund vehicles have a mandate to secure management rights to land with determined conservation values. These fund vehicles then seek to identify and purchase environmental assets with the intent to maintain or enhance their conservation values. This enhancement might

support natural capital accounting of a forestry enterprise. Report to Forests and Wood Products Australia and Department of Agriculture, Water and the Environment as part of the Rural Research for Development and Profit programme (Project number: RnD4Profit-16-03-003) – as provided by FWPA 30 Sept 2020

¹⁹ <https://www.mckinsey.com/business-functions/sustainability/our-insights/valuing-nature-conservation#>

²⁰

https://c402277.ssl.cf1.rackcdn.com/publications/815/files/original/PFP_report_on_lessons_and_outcomes.pdf?1440187420

also utilise carbon finance as part of the funding model or resource utilisation (i.e. scaled timber harvesting) where it is deemed compatible to the conservation objectives.

Examples of these funding groups include the international focus of the Rainforest Trust²¹ and the revolving fund that is managed by the Australian-based Trust for Nature²². These funds can both buy and sell land for the primary purpose of attaining conservation objectives, and therefore data from these transactions provide a guide to the value observed in these assets.

DRAFT FOR DISCUSSION PURPOSES ONLY

²¹ <https://www.rainforesttrust.org/wp-content/uploads/2018-Impact-Reportsm.pdf>

²² <https://www.trustfornature.org.au/revolving-fund>



SUMMARY OF ISSUES PAPER

A significant amount of research and analysis has been recently completed to define processes that describe and quantify environmental assets in an unambiguous and robust manner. This work has been completed in an international and domestic context, and examples are now emerging of observable behaviour regarding how society might quantify the assets and services that arise. This observable behaviour builds on the theoretical methods to deriving values which have been in place for the past decades.

Much of the work to date has focused on describing the environmental assets, while the processes of identifying and quantifying the services flowing from these assets is in a more formative state, particularly with respect to quantification in a monetary form.

The frameworks for assessing environmental values are expected to evolve markedly in the forthcoming years. This evolution is certainly going to occur at a national level in Australia, and then also be further catalysed by state government or specific asset managers' activities.

Proposed position

In respect to satisfying the concepts outlined by the NZIF consideration of OFR, the most immediately prospective environmental value would relate to carbon rights and the impact on forest valuations.

In both New Zealand and Australia, forest related carbon rights transactions have been observed for several years, arising from both regulated markets (i.e. such as the Australian carbon farming initiative/ERF or the New Zealand emissions trading scheme (ETS)) or voluntary markets. Regulated markets provide clear positions in respect to the form of the carbon rights regarding prices, and the cost and obligations of providing the right, while voluntary markets tend to function on the basis of differing rulesets, varying from as simple as a bi-lateral trade being completed in accordance to the contracting parties agreed terms and conditions, through to transactions being completed in accordance to various standards such as the Voluntary Carbon Standard (VCS) and the Gold Standard.

The IFA observes that the NZIF propose to develop valuation guidance related to the carbon value related to New Zealand forestry assets that would accord with the accounting and property rights frameworks defined by the New Zealand Government.

The IFA considers a similar guidance note be developed for carbon property rights arising from the management of Australian forests, both natural and plantation. While the two countries have high similarity to the overarching treatment and international reporting protocols regarding terrestrial carbon, the IFA would consider significant differences currently exist between the two jurisdictions with respect to the application and value impacts on forest assets from the specific domestic rulesets, monitoring and reporting, and risk allocations.

Environmental values assessments beyond the carbon values, such as the biodiversity or water values, are substantially influenced by the ability to discern observable behaviour that might be reasonably applied to a specific forest asset and its values. For example, comparable sales

transaction data for conservation values might be available and relevant in respect to particular forest assets. Similarly, an appropriate form of water pricing and property rights might be available and be applicable to a forest valuation opinion.

The elements of natural capital being part of a forest valuation introduces a range of considerations to forming the overall forest valuation opinion. These considerations include the aspects of whether the suite of values can be considered purely or partly additive, and the extent changes in one value might influence a differing value. The development of a set of guiding principles relating to natural capital valuation is likely to be useful for forest valuers in this evolving context.

Beyond the aforementioned guidance relating to carbon, the IFA would propose the Forest Valuation Sub-committee regularly revise and update this issues paper to accommodate emerging methods and market observations that would underpin rigorous and defensible valuation opinions, and provide updated guidance to valuers as appropriate.