

Preliminary Standard for Nature-Related Financial Disclosures

An output of the Benchmark for Nature project

March 2020

Summary

The Preliminary Standard for Nature-Related Financial Disclosures is a science-based framework enabling consistent nature-related financial risk disclosure by companies to enable investors, lenders, insurers, financial institutions, and other stakeholders to identify and analyse business activities' specific impact on nature and biodiversity. The standard as proposed is analogous to those issued by the Taskforce for Climate-related Financial Disclosures (TCFD). The Standard will allow investment decisions to be made on the basis of comparable data around the impact of company and sovereign actors on nature with subsequent capital allocation consequences. The Standard is an output of the Benchmark for Nature project, a collaboration of the University of Oxford with the Royal Foundation of the Duke & Duchess of Cambridge's United for Wildlife Financial Taskforce and the FNZ Group (a member of the Taskforce).

Introduction

An opportunity has arisen to solve one of society and policy makers' most pressing questions – how to measure and mitigate the impact on nature and biodiversity of corporate and sovereign activity by harnessing the collective power of private sector investment – an industry with around \$1trn assets under management on behalf of institutions, pension funds and individuals.

2020 will see a re-evaluation of frameworks towards a Global Deal for Nature and People alongside the 1.5-degree target for climate change and the SDG goals on human development. There is a global recognition that systemic shift is needed to support the restoration of nature, which is reflected in policy: the SDGs, CBD, IPCC. Currently, a plethora of biodiversity metrics exist, but no unifying framework that enables biodiversity gains and losses to be accounted for across temporal and spatial scales. Why? Because biodiversity is challenging to quantify, localised and non-fungible. The Proposed Preliminary Standard for Nature-Related Financial Disclosures addresses this gap.

Currently without an agreed reporting convention, metrics used by investors for ranking companies' and government-issued securities (in the case of bonds) are disproportionately skewed to measuring limited and unrepresentative metrics – for example numbers of environmental policies issued by a firm vs any real impact on nature, biodiversity, wildlife, or ecosystems. In addition, firms are not mandated to disclose specific information. Investment decisions are therefore made on the basis on non-comparable data with subsequent capital allocation consequences.

Initiatives such as The Task Force on Climate-related Financial Disclosures (TCFD), which develops voluntary climate-related financial risk disclosures consistent across sectors for use by companies in providing information to investors, lenders, insurers, and other stakeholders, provide a precedent and a model for application to nature-related disclosures. As a result of the TCFD, climate related impacts can be better quantified and managed, with companies managing climate-related risks.

The purpose of the proposed Preliminary Standard for Nature-Related Financial Disclosures is to catalyse the process for the adoption of a standard for a similar standard in relation to nature-related disclosures and to provide a draft for discussion.

This Preliminary Standard intends to complement and add value to the ongoing formal processes to launch a Task Force on Nature-Related Financial Disclosures (TNFD), and related initiatives such as the Working Group on Nature Related Financial Risks (NFR), OECD and UNDP initiatives relating to the 4th Global Conference on Biodiversity, and public-private partnership efforts in France, Germany, and the Netherlands.

Summary of Approach

The primary output of the proposed Preliminary Standard (see Annex) will be a robust set of structured data with which investors can understand the relative biodiversity implications of investments into specific companies and/or sectors and which can be applied across all industries and securities. The aim of the proposed Preliminary Standard is to power the development of structured, rigorous, and practically useful metrics for assessing investor impacts on biodiversity.

The Preliminary Standard is based on scientific consensus regarding both key drivers of biodiversity loss as well as what is necessary to solve and reverse the destruction of nature. In particular, the Preliminary Standard is presented in two parts. The first is a framework for company disclosures of their *positive contributions* to nature, adapted from the Aichi Biodiversity Targets and currently being updated in accordance with the 'Zero Draft' recommendations of the upcoming UN Conference on Biological Diversity (CBD). The second part of the Standard is a framework for company disclosure of *risks to nature*, based on the consensus scientific conclusions published in the IUCN-CMP Unified Classification of Direct Threats. Both parts are presented together to form a set of 35 clear disclosure requirements, in a format modelled after the TCFD framework.

In complying with these standards, companies will be expected to report, using any available and reliable data source, for each requirement that is relevant to their business activities:

- Relevant internal policies, external commitments, or other formal protocols.
- Relevant products, services, operations, or activities.
- Relevant statistics or quantifiable measurements of company impact.
- Any relevant mitigation activities.
- Any relevant public controversies or legal actions.
- Appropriate reference to scale / significance issues and any relevant baselines or contexts.
- Any other relevant evidence, including external and/or anecdotal information.
- Any relevant notes, comments, or caveats, for example methodological issues.

Background

The **Benchmark for Nature** is a collaboration of the University of Oxford with the Royal Foundation of the Duke & Duchess of Cambridge's United for Wildlife Financial Taskforce and the FNZ Group (a member of the Taskforce). The Benchmark for Nature aims to unlock the knowledge necessary to address a critical missing link in the global movement for sustainable business through two interrelated activities:

- A robust science-based reporting and assessment standard, the Benchmark for Nature, assesses the relative impacts (positive or negative) on natural systems of investments for a range of sectors – enabling companies and investors for the first time to systematically evaluate biodiversity risk exposure as well as at the same time highlight opportunities to produce returns for both nature protection and the bottom line. This builds upon existing and ever-expanding efforts to develop environmental, social, and governance (ESG) indicators for the private sector, including for biodiversity.
- A voluntary, consistent nature-related financial risk disclosure for use by companies in providing information to investors, lenders, insurers, and other stakeholders. This data provides the data required for the creation of a standard for measuring the impact on nature on investment portfolios.

Benchmark for Nature personnel		
Team Members		Advisors
E.J. Milner-Gulland, University of Oxford	Joe Bull, University of Kent	Gordon Clark, University of Oxford
Vian Sharif, FNZ Group	Richard Grenyer, University of Oxford	Anita McBain, M&G Investments
Tim Wittig, United for Wildlife	Cecilia Larrosa, University of Oxford	Alex Rhodes, Mishcon de Reya
Joss Wright, University of Oxford	Annabella Wainer, University of Oxford	

ANNEX: Proposed Preliminary Standard for Nature-Related Financial Disclosures

CONTENTS

Part I: Reporting Positive Contributions to Nature

- Incentives
- Biodiversity Values
- Direct Impacts
- Public & Civic Impact
- Science & Technology
- Resourcing

Part II: Reporting Risks to Nature

- Residential and commercial development
- Agriculture and aquaculture
- Energy production and mining
- Transportation and service corridors
- Biological resource use
- Human intrusions and disturbance
- Natural systems modifications
- Invasive and other problematic species, genes, and diseases
- Pollution
- Geological events
- Climate change and severe weather

PRELIMINARY STANDARD

PART I: REPORTING POSITIVE CONTRIBUTIONS TO NATURE

Adapted from the Aichi Biodiversity Targets (Strategic Plan for Biodiversity 2011-2020), to be updated in accordance with forthcoming Post-2020 Global Biodiversity Framework (2030/2050 CBD targets)

Has your business ...

INCENTIVES

- REQ-01: **Developed and/or implemented any tangible incentives to promote:**
- a. the conservation of biodiversity?
 - b. the sustainable use of biodiversity?
- REQ-02: **Helped eliminate incentives and/or subsidies harmful to biodiversity?**

BIODIVERSITY VALUES

- REQ-03: **Helped integrate biodiversity values into:**
- a. accounting & reporting systems?
 - b. economic development processes & programs?
 - c. poverty reduction processes & programs?
 - d. risk management and law enforcement systems?
- REQ-04: **Increased education and/or promoted awareness of biodiversity values, threats, & solutions?**

- REQ-05: **Directly engaged in, facilitated, or promoted:**
- a. sustainable management (i.e. in ways that ensure conservation of biodiversity) of:
 - 1. agriculture?
 - 2. aquaculture?
 - 3. fish and invertebrate stocks?
 - 4. forestry?
 - b. sustainable (i.e. well within safe ecological limits):
 - 1. production of any natural resources?
 - 2. utilization / consumption of any natural resources?
 - c. effective and equitable management of:
 - 1. terrestrial protected areas?
 - 2. inland water protected areas?
 - 3. coastal protected areas?
 - 4. marine protected areas?
 - 5. protected areas conserving biodiversity hotspots?
 - d. the legal and sustainable:
 - 1. harvesting of fish and invertebrate stocks?
 - 2. management of fish and invertebrate stocks?
 - 3. recovery of depleted fish and invertebrate species?
- REQ-06: **Enhanced ecosystem resilience to:**
- a. desertification?
 - b. other impacts of climate change?
- REQ-07: **Enhanced interconnection among and/or integration of protected areas?**
- REQ-08: **Helped achieve:**
- a. an improvement or stabilization of the conservation status of any specific single or set of threatened species?
 - b. prevention the extinction of any one or set of threatened species?
- REQ-09: **Helped minimize anthropogenic pressures on:**
- a. coral reefs?
 - b. other vulnerable ecosystems?
- REQ-10: **Helped increase the contribution of biodiversity to:**
- a. carbon stocks?
 - b. climate change adaptation?
- REQ-11: **Helped maintain the genetic diversity of:**
- a. cultivated plants?
 - b. farmed and domesticated animals?
 - c. other economically valuable animals?
 - d. other socio-culturally valuable animals?
 - e. wild relatives of cultivated plants?
 - f. wild relatives of farmed and domesticated animals?
- REQ-12: **Helped ensure fair and equitable sharing of:**
- a. genetic resources?
 - b. the benefits of the utilization of genetic resources?

- REQ-13: **Mitigated the threat of invasive species, through the:**
- a. control of invasive species and pathways?
 - b. eradication of invasive species and pathways?
 - c. identification and/or prioritization of invasive species and pathways?
 - d. prevention of the introduction and establishment of invasive species?
- REQ-14: **Mitigated the impact of habitat loss by helping:**
- a. reduce the rate of natural habitat loss?
 - b. restore natural habitat?
- REQ-15: **Reduced:**
- a. adverse impacts of fisheries on other species and ecosystems?
 - b. pollution to levels that are not detrimental to ecosystem function and biodiversity?

PUBLIC & CIVIC IMPACT

- REQ-16: **Helped develop and/or implement effective governmental policies and action to safeguard biodiversity?**
- REQ-17: **Protected ecosystems which provide services to:**
- a. human health?
 - b. human livelihoods?
 - c. other aspects of human well-being?
 - d. vulnerable human communities?
- REQ-18: **Helped restore ecosystems which provide services to:**
- a. human health?
 - b. human livelihoods?
 - c. other aspects of human well-being?
 - d. vulnerable human communities?
- REQ-19: **Promoted or facilitated increased participation of indigenous and local communities in the conservation / sustainable use of biodiversity?**
- REQ-20: **Protected traditional knowledge, innovations and practices of indigenous and local communities?**

SCIENCE & TECHNOLOGY

- REQ-21: **Improved the science base related to biodiversity?**
- REQ-22: **Improved the sharing of scientific and technical knowledge and applications related to biodiversity**
- REQ-23: **Offered any new or enhanced technologies relevant to biodiversity conservation?**

RESOURCING

- REQ-24: **Help mobilize finance and funding in support of biodiversity solutions?**

PART II: REPORTING RISKS TO NATURE

Adapted from IUCN-CMP Unified Classification of Direct Threats (with further ongoing refinements planned based on consensus conservation science)

Does your business have activities or impacts related to ...

REQ-25: **Residential and commercial development**, including:

- a. *Housing and urban development*, such as of urban areas, suburbs, villages, ranchettes, vacation homes, shopping areas, offices, schools, hospitals, birds flying into windows, land reclamation or expansion of human habitation that causes habitat degradation in riverine, estuary and coastal areas, etc?
- b. *Commercial and industrial area development*, such as of military bases, factories, stand-alone shopping centres, office parks, power plants, train yards, ship yards, airports, landfills, other commercial centres?
- c. *Tourism and recreation area development*, such as of ski areas, golf courses, resorts, cricket fields, county parks, afghan goat polo fields, campgrounds, coastal and estuarine tourist resorts?

REQ-26: **Agriculture and aquaculture**, including:

- a. *Annual & perennial non-timber crops*, such as wheat farms, sugar cane plantations, rice paddies, hillside rice production, household swidden plots, banana or pineapple plantations, mango or apple orchards, olive or date groves, vineyards, oil palm plantations, tea or coffee plantations, mixed agroforestry systems, coca plantations, or other crops planted for food, fodder, fibre, fuel, or other uses?
- b. *Wood & pulp plantations*, such as teak or eucalyptus plantations, loblolly pine silviculture, Christmas tree farms, or other stands of trees planted for timber or fibre outside of natural forests, often with non-native species?
- c. *Livestock farming & ranching*, such as cattle feed lots, chicken farms, dairy farms, cattle ranching, goat, camel, or yak herding, or other exploitation of domestic animals?
- d. *Marine & freshwater aquaculture*, such as shrimp or fin fish aquaculture (especially those that cause destruction of mangrove habitats), fish ponds on farms, hatchery salmon, seeded shellfish beds, artificial algal beds, etc?

REQ-27: **Energy production and mining**, including:

- a. *Oil & gas drilling*, such as oil wells, deep sea natural gas drilling, hydraulic fracking, etc?
- b. *Mining & quarrying*, such as coal strip mines, alluvial gold panning, gold mines, rock quarries, sand/salt mines, coral mining, deep sea nodules, guano harvesting, dredging outside of shipping lanes, etc?

- c. *Renewable energy*, such as geothermal power production, solar farms, wind farms / wind mills, tidal farms, and other sources, not including hydropower?

REQ-28:

Transportation and service corridors, including:

- a. *Roads & railroads*, such as highways, secondary roads, primitive roads, logging roads, freight/passenger rail, and bridges, causeways, fencing, and other infrastructure associated with roads or rail networks?
- b. *Utility & service lines*, such as electrical & phone wires, aqueducts, oil & gas pipelines, and other means by which wildlife might be electrocuted?
- c. *Shipping lanes*, such as dredging, canals, shipping lanes, and shipping vessels?
- d. *Flight paths*, such as flight paths and aircraft?

REQ-29:

Biological resource use, including:

- a. *Hunting / collecting terrestrial animals*, such as
 1. bushmeat hunting, trophy hunting, beaver trapping, butterfly collecting, honey or bird nest hunting, or other intentional hunting or collection of wildlife;
 2. wolf control, pest control, persecution of species due to superstition or cultural traditions, or other persecution or control of wildlife;
 3. accidental mortality/bycatch of wildlife resulting from intentional hunting, collection, persecution, or control of wildlife?
- b. *Gathering terrestrial plants*, such as
 1. wild mushroom collection, forage for stall fed animals, orchid collection, rattan harvesting, or other collection for commercial, recreation, subsistence, research or cultural purposes?
 2. control of host plants to combat timber diseases, or other intentional control or persecution of terrestrial plants?
 3. accidental mortality/bycatch of terrestrial plants resulting from intentional hunting, collection, persecution, or control of flora or wildlife?
- c. *Logging & wood harvesting*, such as clear cutting of hardwoods, selective commercial logging of ironwood, pulp or woodchip operations, fuel wood collection, mangrove charcoal production, or other harvesting of trees and other woody vegetation for timber, fibre, or fuel?
- d. *Fishing & harvesting aquatic resources*, such as
 1. seaweed collection, shellfish collection, collection for aquarium trade, fish traps, artisanal trawling, handline fishing, spear fishing, turtle egg collection, whaling, seal hunting, blast fishing for grouper, and other small scale intentional use?
 2. commercial trawling, commercial long-line fisheries, whaling, seal hunting, turtle egg collection, live coral collection, seaweed collection, commercial trawling, commercial long-line fisheries,

shark nets trapping non- target species, loss of a species' prey base due to over- harvesting by humans of their prey and other unintentional effects of small and large scale use?

3. beach protection with shark nets, killing of sharks and seals to protect commercial fish species, and other forms of persecution/control of aquatic wildlife?

REQ-30:

Human intrusions and disturbance, including:

- a. *Recreational activities in nature*, such as use / facilitation of off-road vehicles, motorboats, motorcycles, jet-skis, snowmobiles, ultralight planes, dive boats, whale watching, mountain bikes, hikers, cross-country skiers, hanggliders, birdwatchers, scuba divers, pets brought into recreation areas, temporary campsites, caving, rock-climbing, etc?
- b. *War, civil unrest & military exercises*, such as facilitation of or contribution to armed conflict, mine fields, tanks and other military vehicles, training exercises & ranges, defoliation, munitions testing, and other actions by formal or paramilitary forces without a permanent footprint?
- c. *Human intrusion for work and other activities*, such as facilitation or contribution to law enforcement, drug smuggling, illegal migration, species research, vandalism, and other forms of spending time in or traveling in natural environments for reasons other than recreation or military activities?

REQ-31:

Natural systems modifications, including:

- a. *Fire & fire suppression*, such as any activity that contributes to inappropriate fire management, escaped agricultural fires, arson, campfires, fires for hunting, fire suppression to protect homes, inappropriate fire management, or other activities that suppress naturally needed fire?
- b. *Dams & water management/use*, such as:
 1. abstraction of surface water, e.g. due to change in salt regime, wetland filling for mosquito control, levees and dikes, surface water diversion, channelization, ditching, artificial lakes, etc.?
 2. abstraction of ground water, e.g. due to groundwater pumping?
 3. large and small dams, including dam construction, release of too little or cold water from dam operations, sediment control, and other stressors related to dams?
 4. other human activities that lead to either not enough water or too much water in an ecosystem?
- c. *Other ecosystem modifications*, e.g. land reclamation projects, abandonment of managed lands, rip-rap along shoreline, mowing grass, tree thinning in parks, beach construction, removal of snags from streams, and other actions that convert or degrade habitat in service of "managing" natural systems to improve human welfare?

REQ-32:

Invasive and other problematic species, genes, and diseases, including:

- a. *Introduced invasive non-native/alien species/diseases*, such as activities which contribute to feral domesticated cattle, household pets, zebra mussels, Dutch elm disease or chestnut blight, Miconia tree, introduction of species for biocontrol, chytrid fungus affecting amphibians, or other activities which help introduce harmful plants, animals, pathogens and other microbes not originally found within the ecosystem(s) in question and directly or indirectly introduced and spread into it by human activities?
- b. *Introduced problematic native species/diseases*, such as activities which contribute to over-abundant native deer, over-abundant algae due to loss of native grazing fish, native plants that hybridize with other plants, plague affecting rodents, or other activities which help introduce harmful plants, animals, or pathogens and other microbes that are originally found within the ecosystem(s) in question, but have become “out-of-balance” or “released” directly or indirectly due to human activities?
- c. *Introduced genetic material*, such as activities which contribute to pesticide resistant crops, hatchery salmon, restoration projects using non-local seed stock, genetically modified insects for biocontrol, genetically modified trees, genetically modified salmon, or other other activities which contribute to human altered or transported organisms or genes?
- d. *Introduced viral/prion-induced diseases*, such as activities that contribute to COVID-2019 or other zoonotic viruses, Foot and Mouth Disease Virus, West Nile Virus, Rabies Virus, Newcastle Disease Virus, scrapie, Bovine spongiform encephalopathy (BSE) or mad cow disease, or other infectious agents?
- e. *Introduced diseases of unknown cause*, such as activities that contribute to diseases which has been described, but the pathogen responsible is not yet known, e.g. white-band disease (WBD) in Acroporid corals?

REQ-33:

Pollution, including activities that contribute to the introduction of:

- a. *Sewage*, such as discharge from municipal waste treatment plants, leaking septic systems, untreated sewage, outhouses, and water-borne sewage from housing and urban areas that include nutrients, toxic chemicals and/or sediments?
- b. *Run-off*, such as oil or sediment from roads, fertilizers and pesticides from lawns and golf-courses, road salt, and other non-point runoff from housing and urban areas that include nutrients, toxic chemicals and/or sediments?
- c. *Other domestic & urban waste water*, including other waste water from housing and urban areas that include nutrients, toxic chemicals and/or sediments?
- d. *Oil spills*, such as leakage from fuel tanks or transport vessels, oil spills from pipelines, PCBs in river sediments?

- e. *Seepage from mining*, such as mine tailings, arsenic from gold mining, etc?
- f. *Other industrial & military effluents*, such as toxic chemicals from factories, illegal dumping of chemicals, other industrial effluent, ship waste discharge, etc?
- g. *Nutrient loads*, such as nutrient loading from fertilizer run-off, manure from feedlots, nutrients from aquaculture, and other water-borne pollutants from agricultural, silvicultural, and aquaculture systems that include nutrients, including the effects of these pollutants on the site where they are applied?
- h. *Soil erosion / sedimentation*, such as soil erosion from overgrazing, increased run-off and hence sedimentation due to conversion of forests to agricultural lands, or other water-borne pollutants from agricultural, silvicultural, and aquaculture systems that include sediments, including the effects of these pollutants on the site where they are applied?
- i. *Herbicides and pesticides*, such as herbicide run-off from orchards or other water-borne pollutants from agricultural, silvicultural, and aquaculture systems that include toxic chemicals, including the effects of these pollutants on the site where they are applied?
- j. *Other agricultural & forestry effluents*, including water-borne pollutants from agricultural, silvicultural, and aquaculture systems that include nutrients, toxic chemicals and/or sediments including the effects of these pollutants on the site where they are applied not captured above?
- k. *Garbage & solid waste*, such as municipal waste, litter from cars, flotsam & jetsam from recreational boats, waste that entangles wildlife, construction debris, or other rubbish and other solid materials including those that entangle wildlife?
- l. *Acid rain*, such as acid rain, excess nitrogen deposition, radioactive fallout, wind dispersion of pollutants or sediments, smoke from forest fires or wood stoves, etc?
- m. *Smog*, such as air pollution from vehicle emissions, coal burning, wind dispersion of pollutants or sediments, smoke from forest fires or wood stoves, etc?
- n. *Ozone*, such as vehicle emissions, factory smoke emissions, smoke from forest fires or wood stoves, wind dispersion of pollutants or sediments, etc?
- o. *Other air-borne pollutants* from point and nonpoint sources not included above?
- p. *Excess light*, such as lamps attracting insects, beach lights disorienting turtles, or other inputs of light that disturb wildlife or ecosystems?
- q. *Excess thermal energy*, such as heated water from power plants, damaging atmospheric radiation resulting from ozone holes, or other inputs of heat that disturb wildlife or ecosystems?

- r. *Excess noise*, such as noise from highways or airplanes, sonar from submarines that disturbs whales or other inputs of sound that disturb wildlife or ecosystems?

REQ-34: **Geological events**, encompassing activities that contribute to or reduce resilience of wildlife or ecosystems to the impacts of:

- a. *Volcanoes*, including eruptions, emissions of volcanic gasses, etc?
- b. *Earthquakes and associated events*, such as tsunamis, rockslides, etc?
- c. *Avalanches, landslides, mudslides*, etc?

REQ-35: **Climate change and severe weather**, including activities that contribute or reduce resilience to:

- a. *Climate change driven habitat shifting*, such as sea-level rises, desertification, tundra thawing, coral bleaching?
- b. *Droughts*, such as severe lack of rain, loss of surface water sources, etc?
- c. *Temperature extremes*, such as heat waves, cold spells, oceanic temperature changes, disappearance of glaciers/sea ice, etc?
- d. *Storms and flooding*, such as thunderstorms, tropical storms, hurricanes, cyclones, tornados, hailstorms, ice storms or blizzards, dust storms, erosion of beaches during storms, etc?
- e. *Other climate change impacts*, including other impacts of climate change or severe weather events not covered above

END