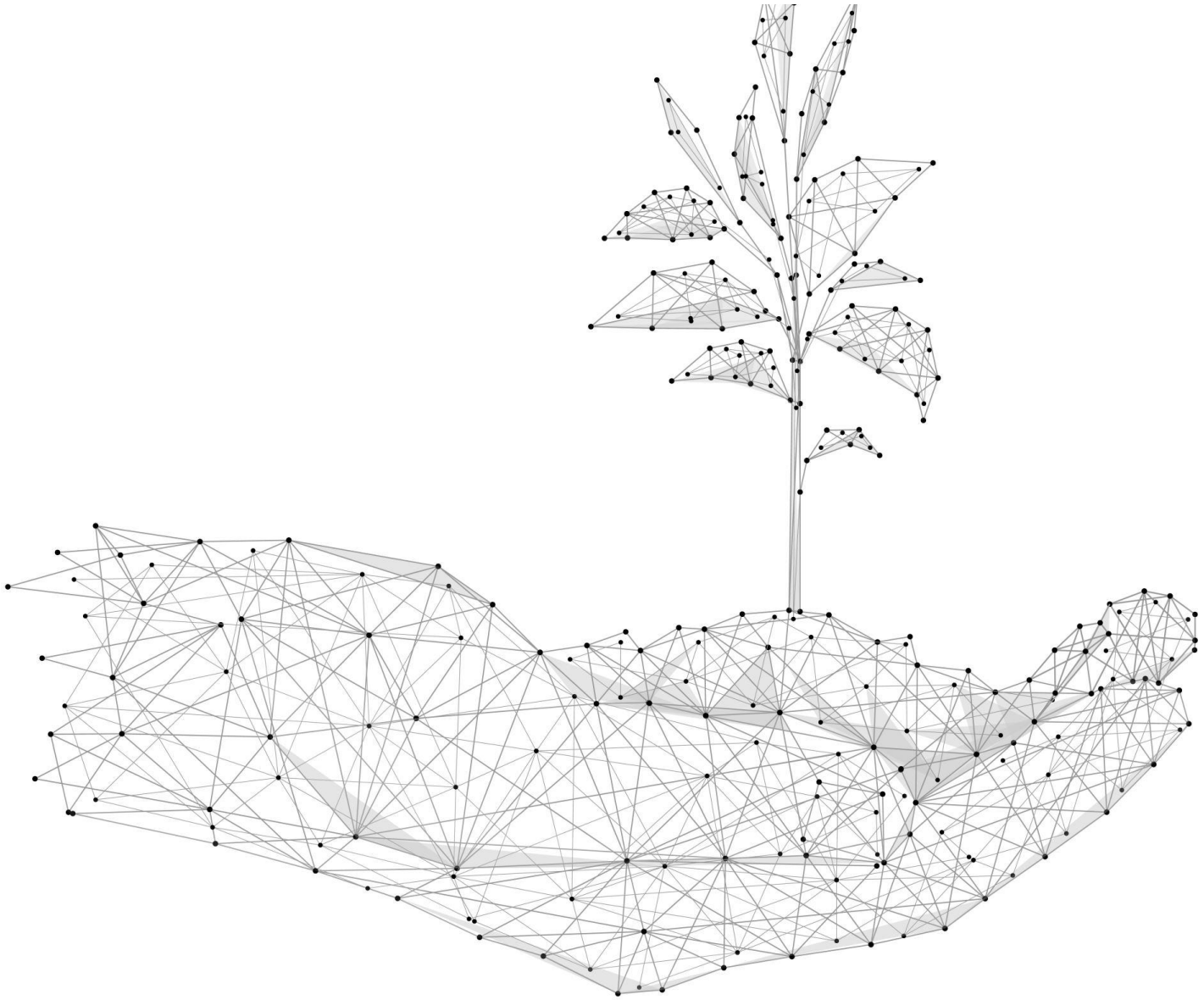


For-ES Project

AGROFORESTRY CONFERENCE

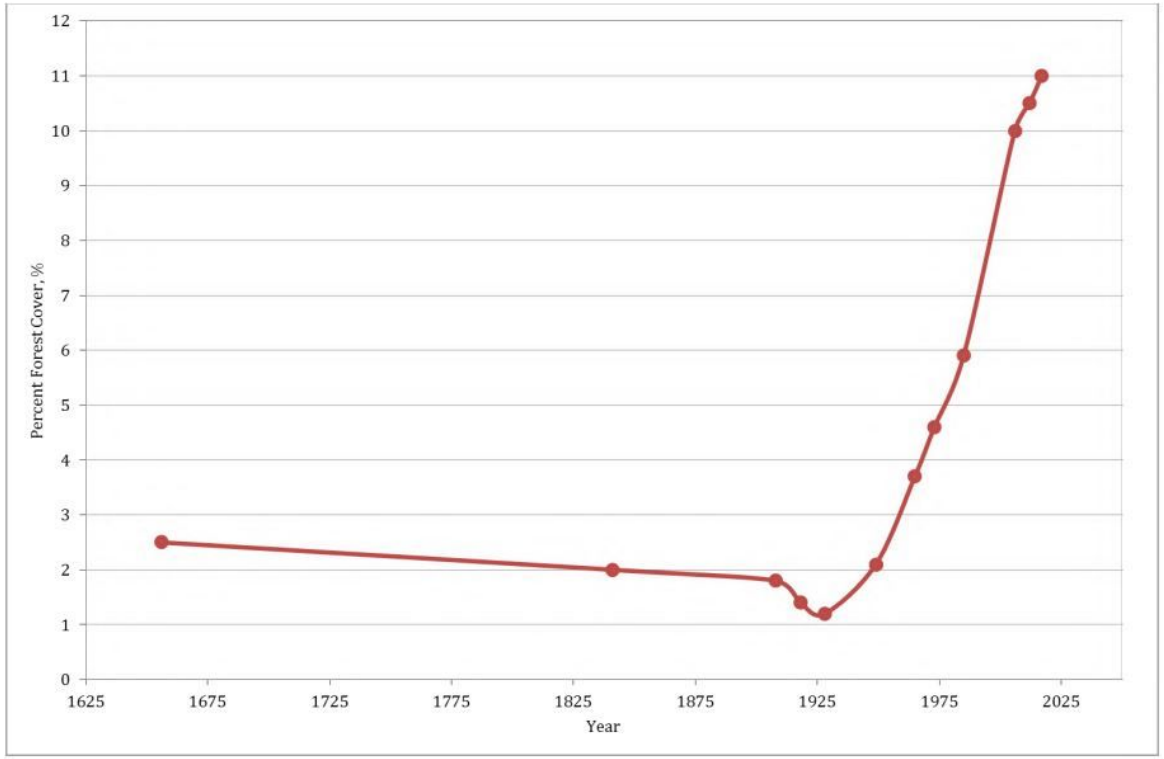
16TH NOVEMBER 2023

KATHLEEN CONROY, FRANCESCO MARTINI, YVONNE BUCKLEY, JANE STOUT AND MARY KELLY-QUINN

Overview

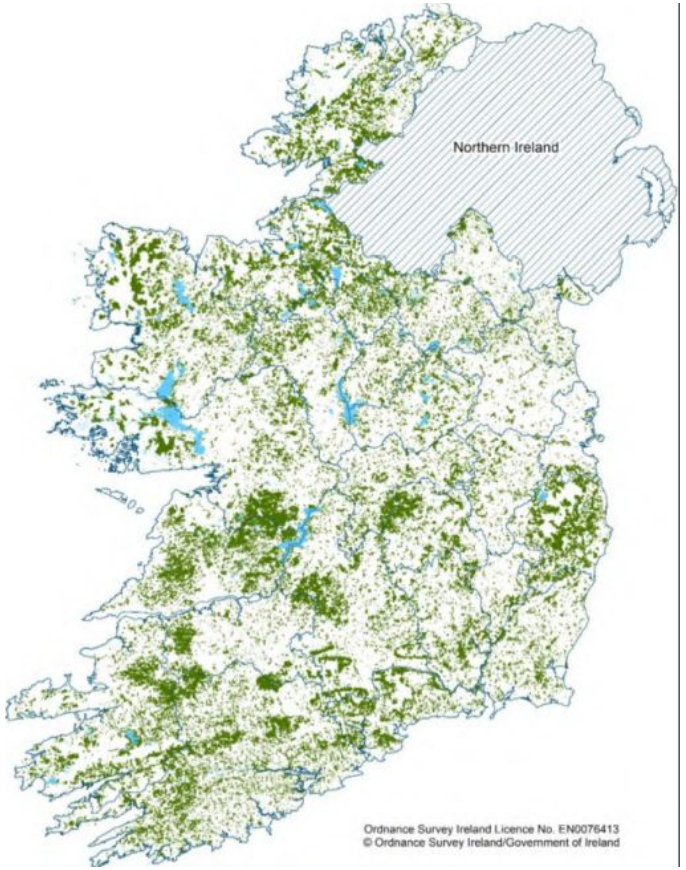
- History and future forestry in Ireland
- Ecosystem services
- Ecosystem service accounting
- For-ES project
- Project’s outputs

Irish Forestry



Department of Agriculture, Food and the Marine (2020) Forest Statistics Ireland 2020. DAFM, Johnstown Castle Estate, Co. Wexford.

Ownership	Percentage of Total Forest Area
Public	49.1
Private	50.9



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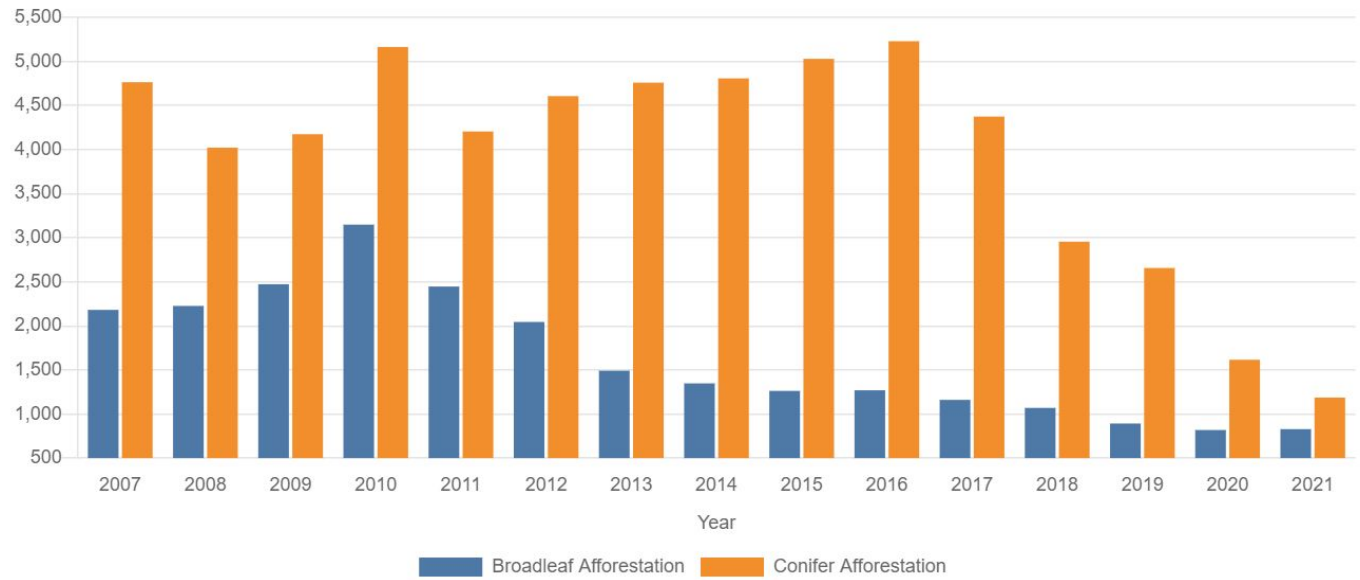

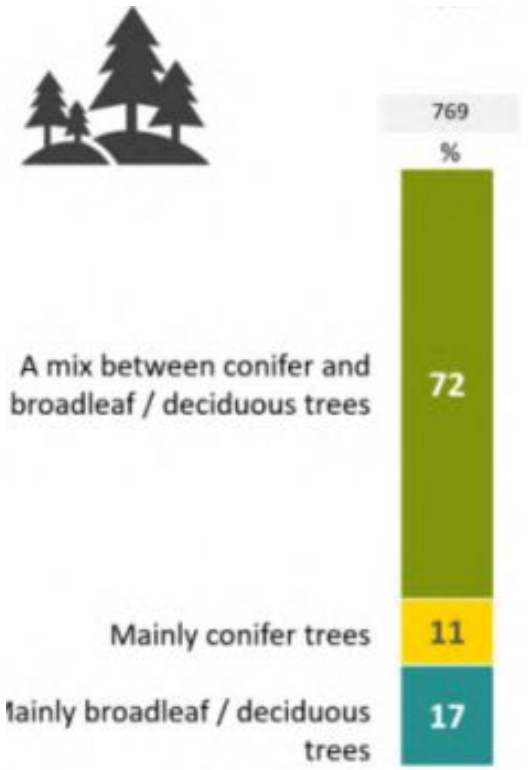

Department of Agriculture, Food and the Marine (2020) Forest Statistics Ireland 2020. DAFM, Johnstown Castle Estate, Co. Wexford.

Ecosystem Services

- Ecosystem services are anything that the natural world provides that brings about a benefit to people

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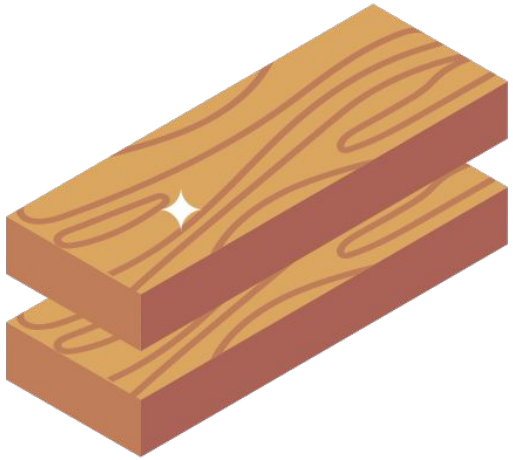

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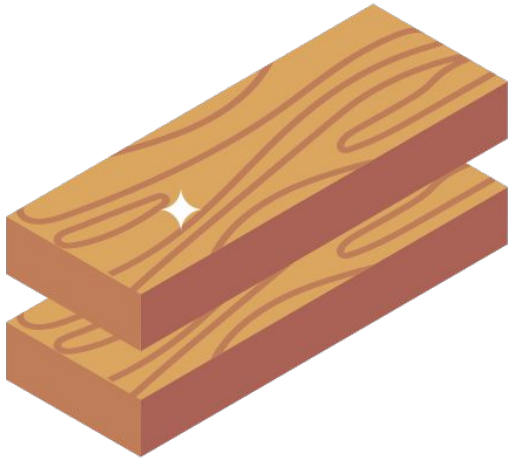

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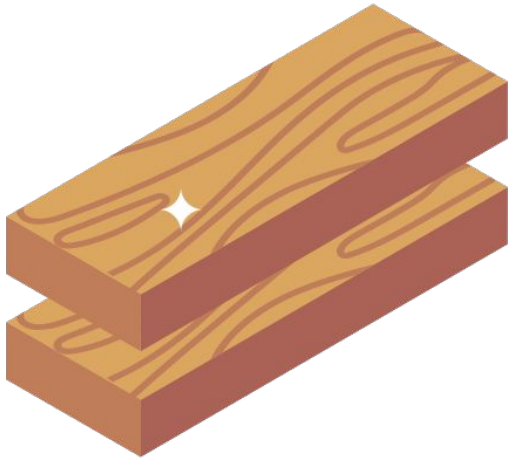

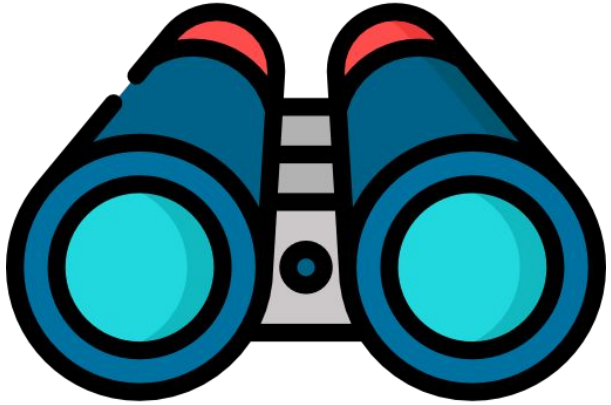

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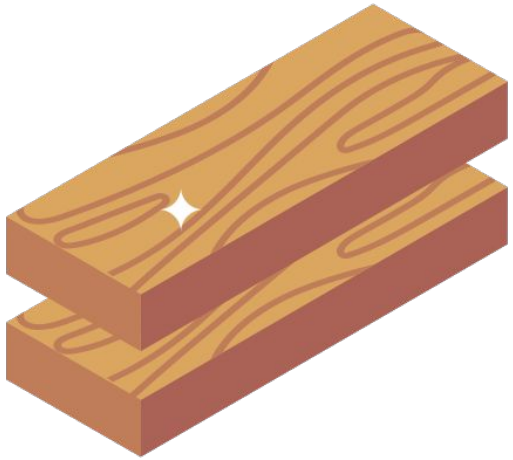
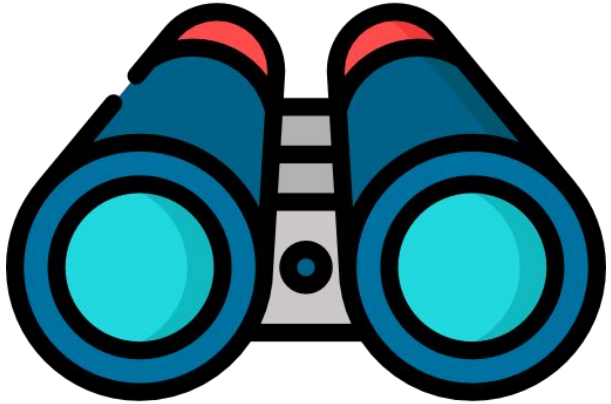
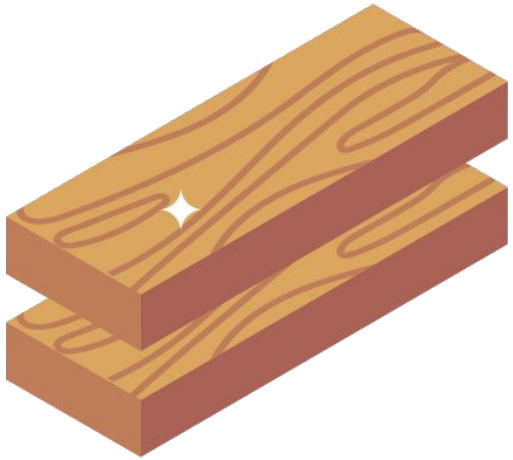
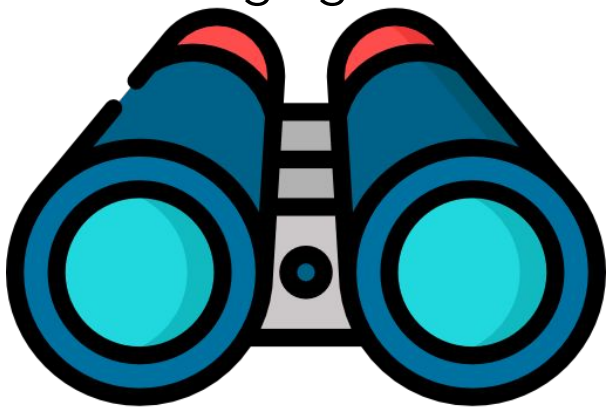




Ecosystem Services

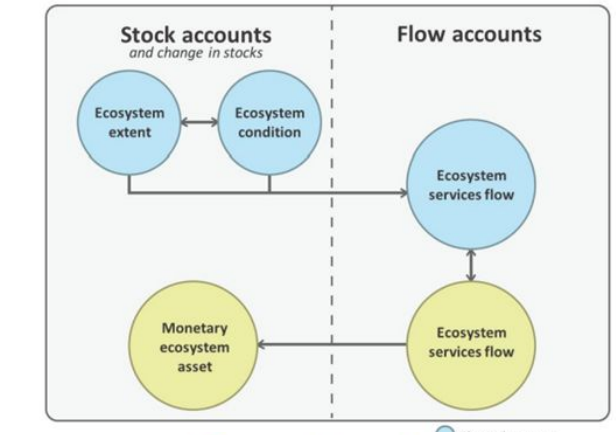
- Ecosystem services are anything that the natural world provides that brings about a benefit to people
- Ecosystem service accounting using an accounting framework to track and understand how ecosystem services are changing over time





System of Environmental Economic Accounting (SEEA)

- Concept developed in 1993
- SEEA follows similar structure as System of National Accounts (SNA)
- UN adopted SEEA central framework in 2012
- SEEA Experimental Ecosystem Accounts were developed in 2012



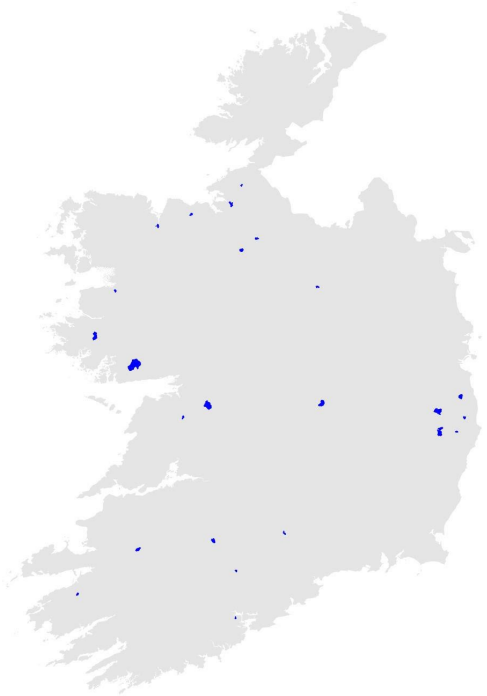
System of Environmental Economic Accounting Ecosystem Accounting (SEEA EA)

- UN ratified the physical accounts of the SEEA EEA in 2021; monetary accounts are still being discussed
- SEEA EA can create: ecosystem extent, ecosystem condition, ecosystem services and ecosystem asset accounts

United Nations et al. (2021). System of Environmental-Economic Accounting— Ecosystem Accounting (SEEA EA). White cover publication, pre-edited text subject to official editing.

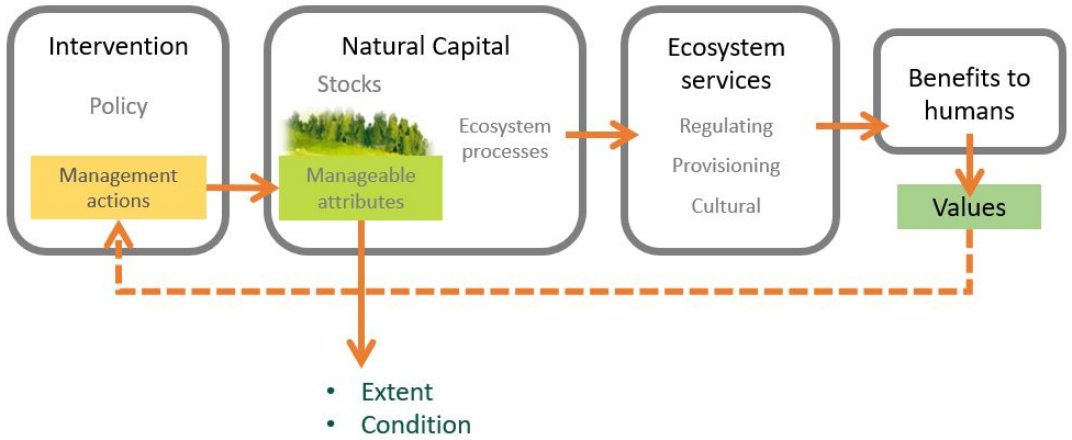
FORES

- Collaboration between Trinity College Dublin, University College Dublin and Coillte. Funded by DAFM.
- Multi-disciplinary project that will create a decision support tool based on ecosystem accounts of 25 sites from public sector stakeholders

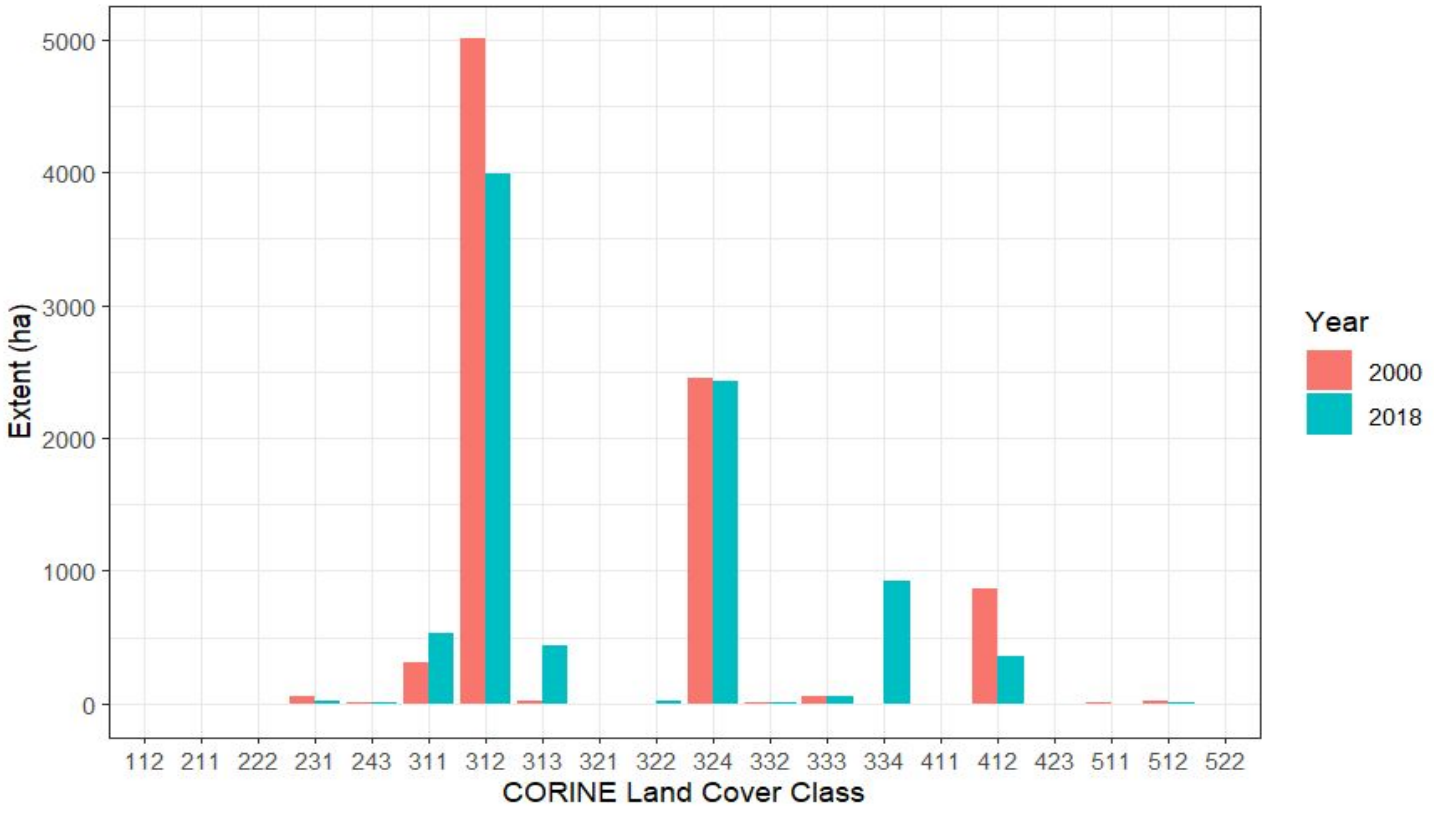


FORES

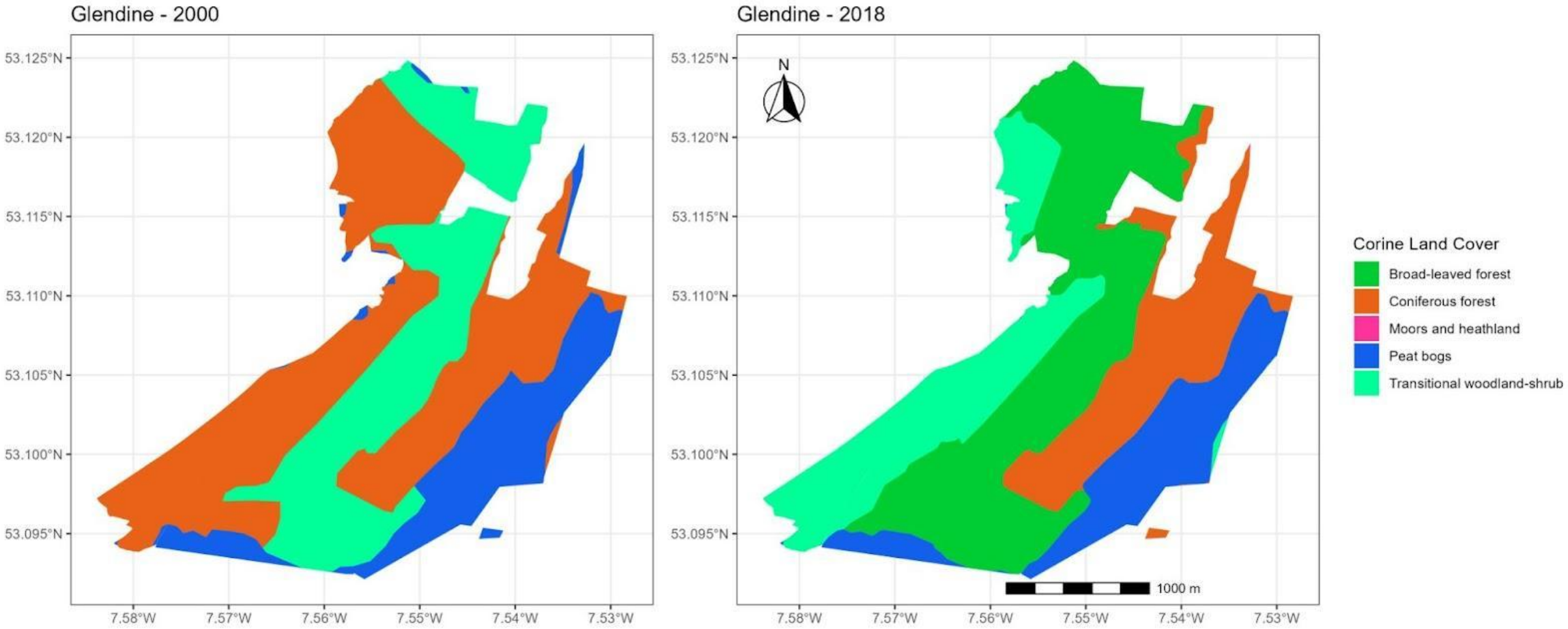
- Collaboration between Trinity College Dublin, University College Dublin and Coillte. Funded by DAFM.
- Multi-disciplinary project that will create a decision support tool based on ecosystem accounts of 25 sites from public sector stakeholders
- For-ES aims to develop decision support tools (DSTs) to enable management of the entire Coillte estate (forest and non-forested areas), as well as privately owned forests, for balanced delivery of multiple ecosystem services using a Natural Capital Accounting (NCA) framework to support modelling.



Land Cover Change: 2000-2018



Example Site



Example Site

GLENDINE							
IUCN Global Ecosytem Typology	Realm	Freshwater-Terrestrial	Terrestrial				
	Biome	TF1 Palustrine wetlands	T2 Temperate-boreal forests and woodlands biome			T3 Shrublands and shrubby woodlands biome	
	Selected Ecosystem Functional Group (EFG)	TF1.6 Boreal, temperate and montane peat bogs; TF1.7 Boreal and temperate fens	T2.2 Deciduous temperate forests			T3.3 Cool temperate heathlands	
Corine Land Cover	Corine Land Cover Class Level 1	Wetlands	Forest and Seminatural areas				
	Corine Land Cover Class Level 2	Inland wetlands	Forests		Scrub and/or herbaceous vegetation associations		
	Corine Land Cover Class Level 3	412 Peat bogs	311 Broad-leaved forest	312 Coniferous forest	324 Transitional woodland-shrub	322 Moors and heathland	**TOTAL (ha)**
Opening extent (2000, ha)		111.8	0	309.4	196.24	0	617.44
Additions to extent		0.84	257.93	17.27	136.16	0.08	412.28
Reductions in extent		-12.22	0	-203.83	-196.23	0	-412.28
Net change in extent		-11.38	257.93	-186.56	-60.07	0.08	0
Closing extent (2018, ha)		100.42	257.93	122.84	136.17	0.08	617.44
Percentage Changes							
Additions		0.751341682	0.00	5.58	69.38	0.00	66.77
Reductions		-10.93023256	0.00	-65.88	-99.99	0.00	-66.77
Net change		-10.17889088	0.00	-60.30	-30.61	0.00	0.00

Example Site

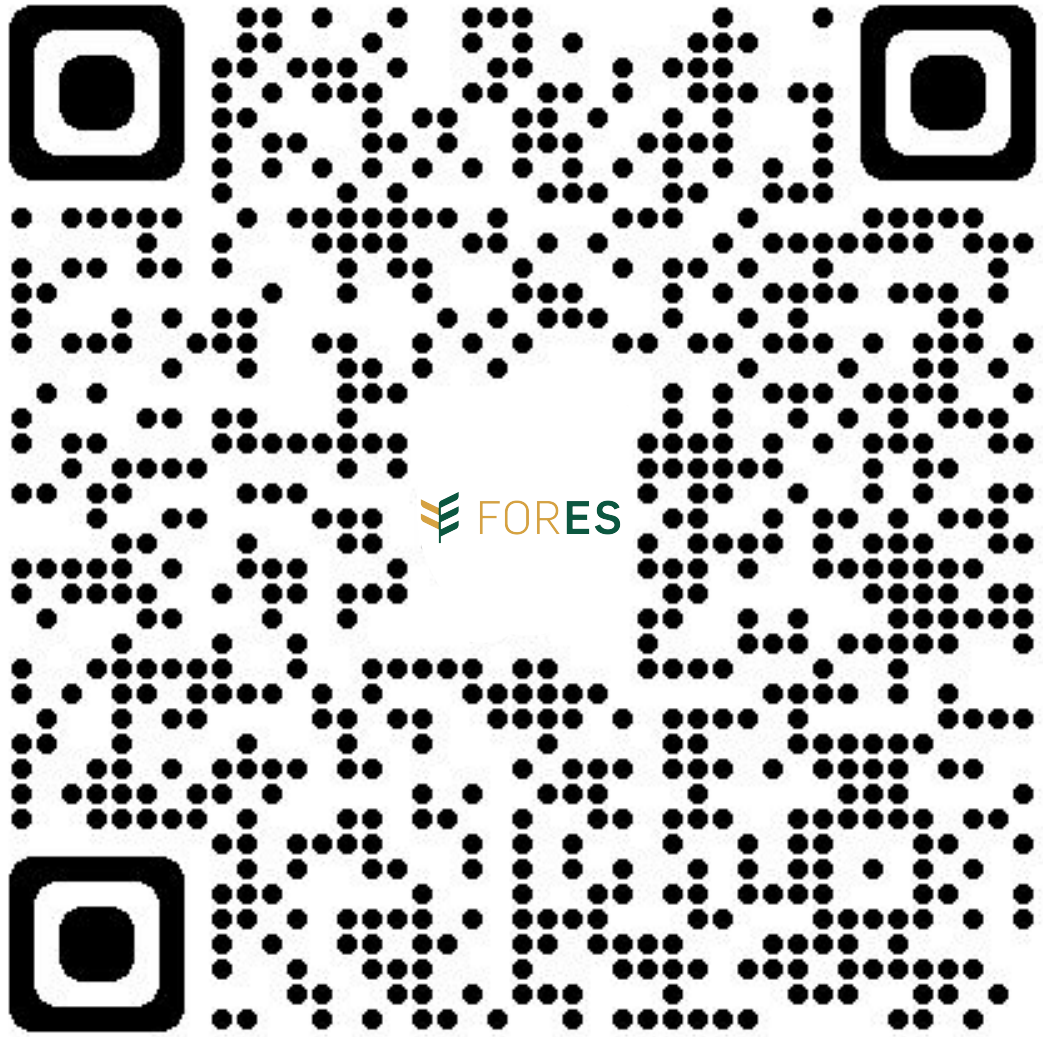
Ecosystem Type Change Matrix									
				Closing Extent					
				Wetlands	Forest and Seminatural areas				
				Inland wetlands	Forests		Scrub and/or herbaceous vegetation associations		
				412 Peat bogs	311 Broad-leaved forest	312 Coniferous forest	324 Transitional woodland-shrub	322 Moors and heathland	Openings
Opening Extent	Wetlands	Inland wetlands	412 Peat bogs	99.58	2.19	7.74	2.21	0.08	111.8
	Forest and Seminatural areas	Forests	311 Broad-leaved forest						0
			312 Coniferous forest	0.34	69.54	105.58	133.96		309.4
		Scrub and/or herbaceous vegetation associations	324 Transitional woodland-shrub	0.5	186.2	9.52			196.24
			322 Moors and heathland						0
			Closings	100.42	257.93	122.84	136.17	0.08	617.44

Decision Support Tool: Web-based

- Decision support tool that will help stakeholders make robust data driven decisions to manage their land to provide certain ecosystem services
- Bayesian belief network modelling
- Free and available to all users

Upcoming

- Ongoing work with public stakeholders
- Private Stakeholder workshop: December 5th and December 6th
- Modelling workshops


FORES

For People

- Promote forest recreation for health and well-being
- Access to our forests
- Building confidence and trust
- Learning and awareness

- [ ] Wood provisioning services
- [ ] Wild fish and other natural aquatic biomass provisioning services
- [ ] Wild animals, plants and other biomass provisioning services
- [ ] Genetic Material
- [ ] Water Supply
- [ ] Global climate regulation services
- [ ] Rainfall pattern regulation services (at subcontinental scale)
- [ ] Local (micro and meso) climate regulation service

Remarks

- Creating ecosystem accounts that rest on ecosystem extent and condition
- Forests can provide a suite of ecosystem services and depends on how they are managed
- Future: Payment for Ecosystem Services (PES) and Environmental, Social and Governance (ESG) Reporting

Thank You

- Interested in learning more: check out or website for-es.ie/ and our social media accounts
- Contact me at conroyk1@tcd.ie