

# Irish Natural Capital Accounting for Sustainable Environments

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IRISH  
FORUM  
ON  
NATURAL  
CAPITAL



OÉ Gaillimh  
NUI Galway



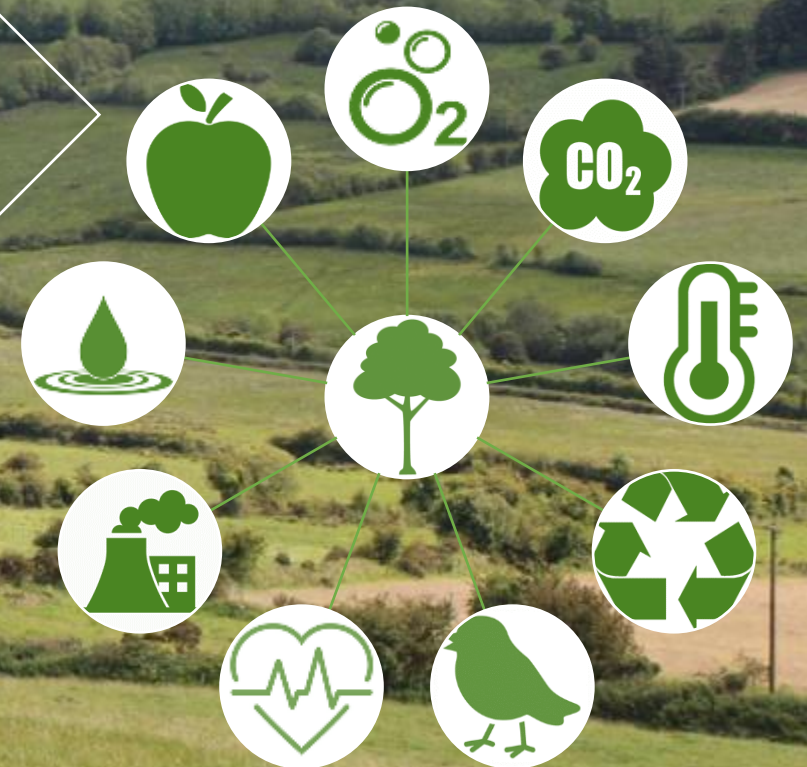
Ecosystems, geosystems,  
atmospheric systems

**STOCKS**

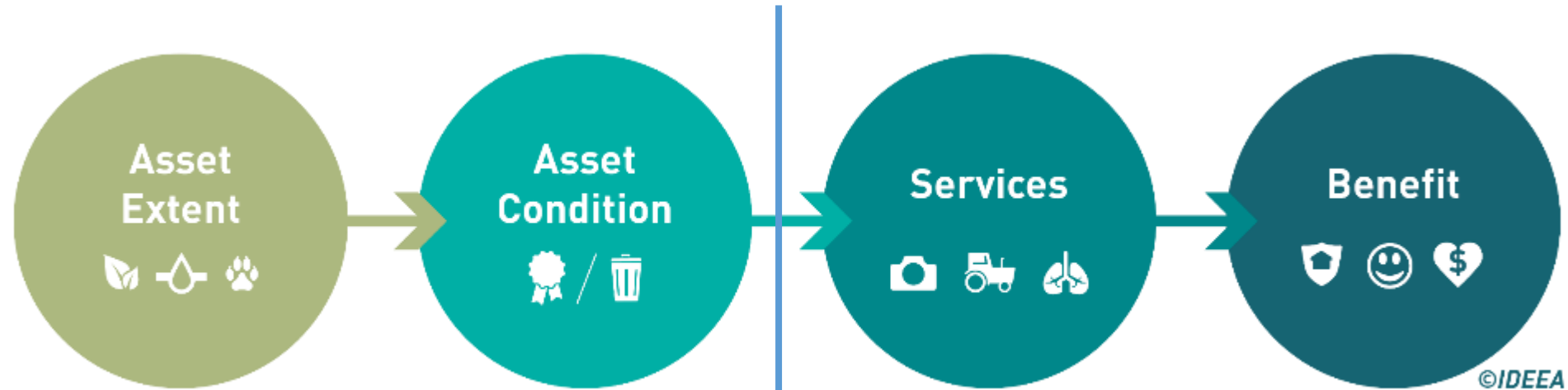
Ecosystem  
services

**FLOWS**

Benefits to people



# CORE ECOSYSTEM ACCOUNTING MODEL



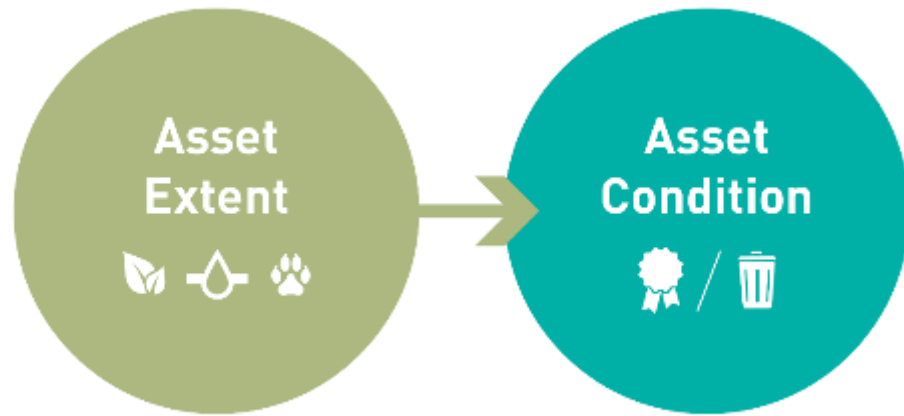
## Stocks:

forests, wetlands,  
rivers, seagrass  
beds, reefs

## Flows:

timber, fish, carbon, water,  
habitat, recreation,  
amenity

# CORE ECOSYSTEM ACCOUNTING MODEL



## Stocks:

forests, wetlands,  
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beds, reefs



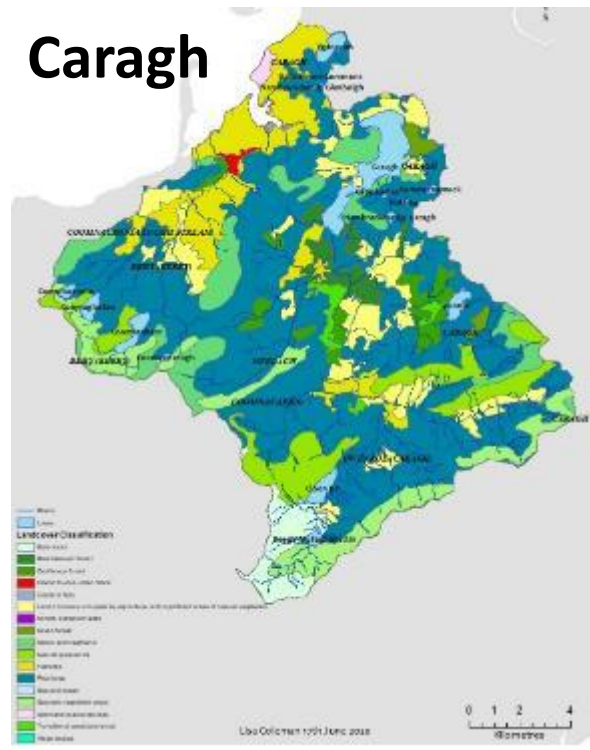
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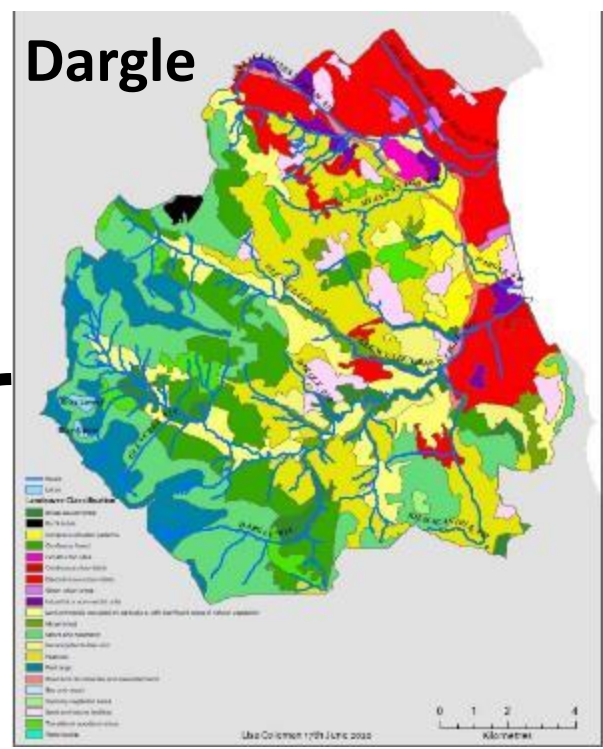
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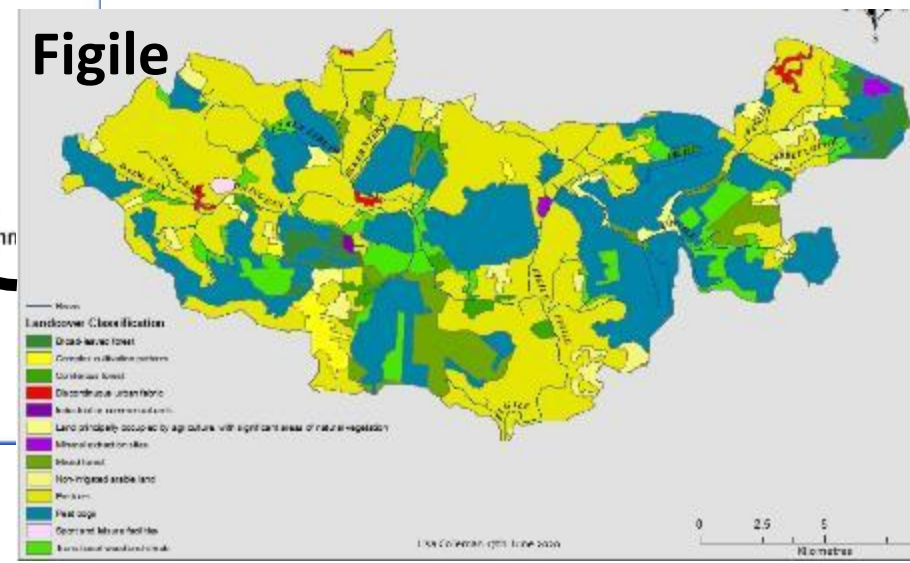
Caragh



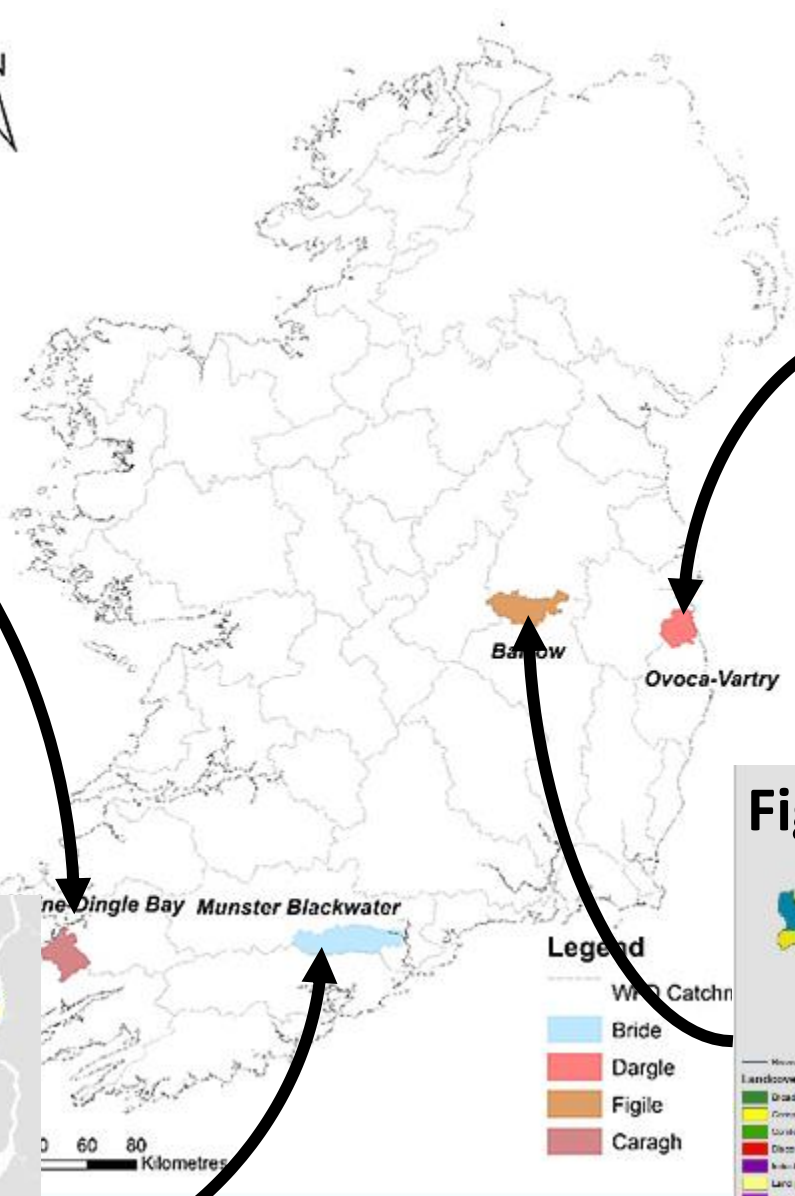
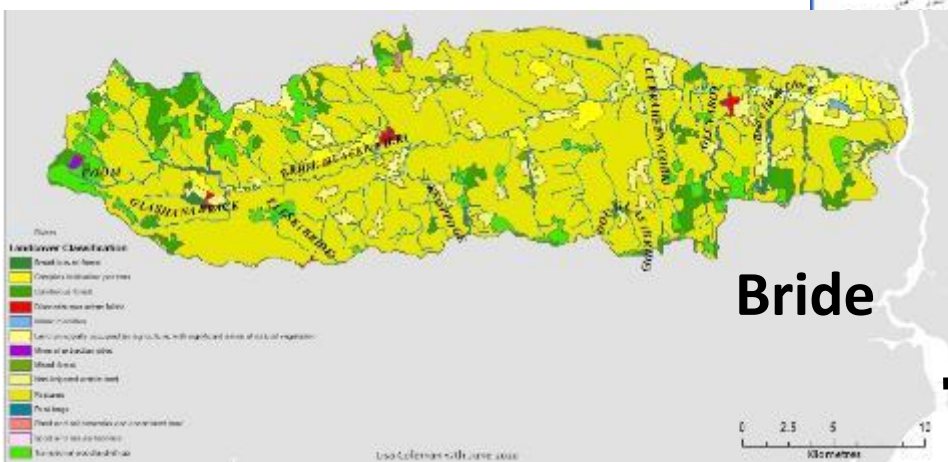
Dargle



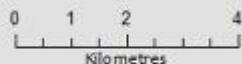
Figile



Bride



Corine 2012 & 2018



# INCASE

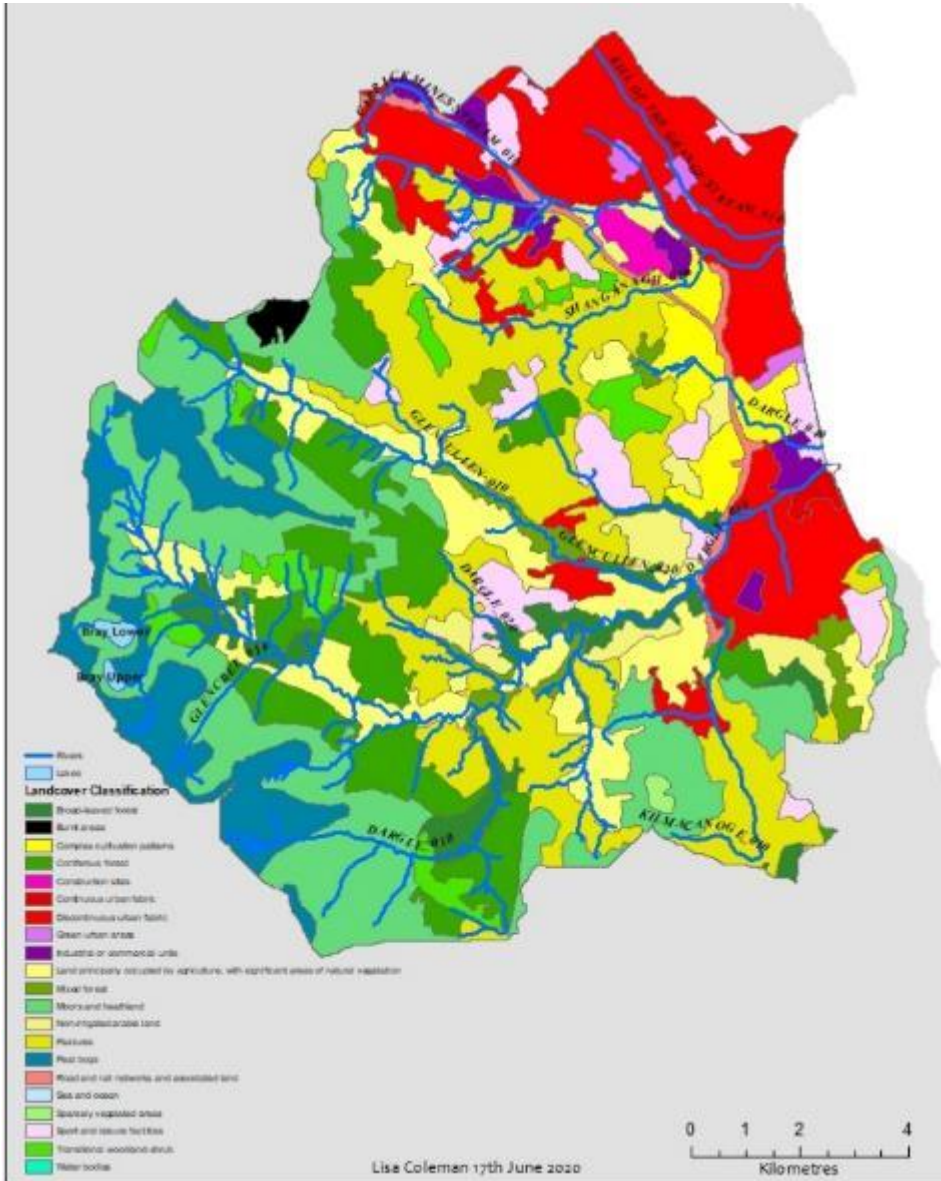
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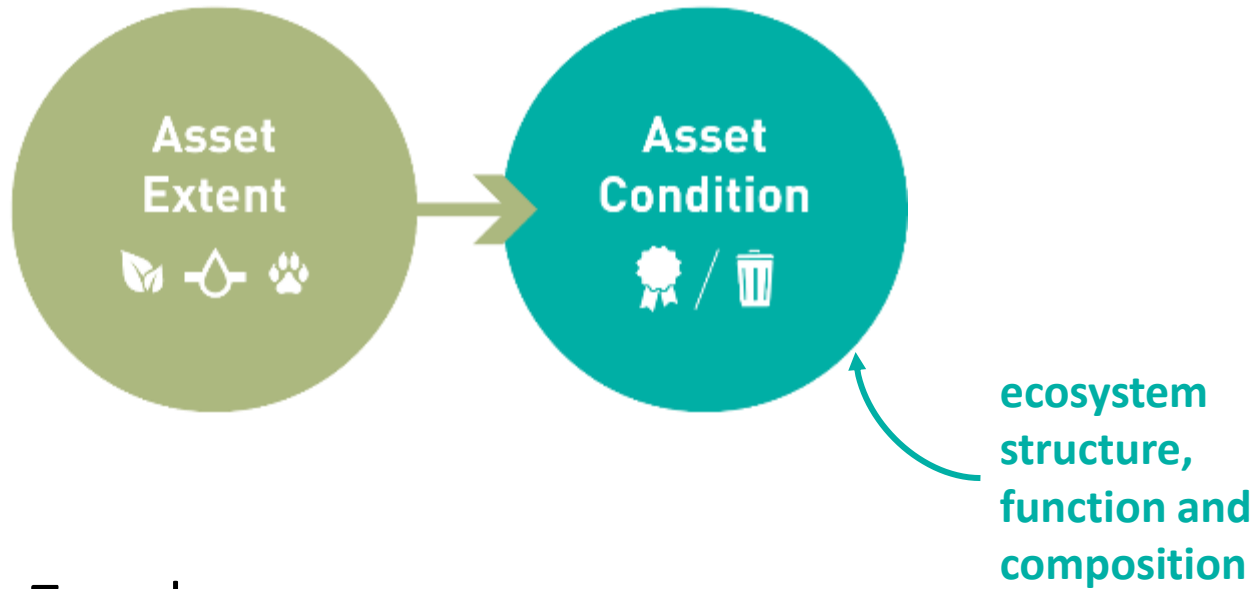
<div> <div>CORINE</div> <div>12/18</div> <div>Classifications &gt;&gt;</div> </div>																							
	Continuous urban fabric	Discontinuous urban fabric	Industrial or commercial units	Road and rail networks and associated land	Mineral extraction sites	Construction sites	Green urban areas	Sport and leisure facilities	Non-irrigated arable land	Complex cultivation patterns	Pastures	Land principally occupied by agriculture, w sig areas of natural vegetation	Coniferous forest	Mixed forest	Broad-leaved forest	Transitional woodland-shrub	Burnt areas	Moors and heathland	Peat bogs	Sparsely vegetated areas	Water bodies	Sea and ocean	TOTALS
Opening Stock	46	2,635	257	194	27	32	94	816	444	529	3,132	1,732	1,783	371	583	625		3,124	1,202	27	25	9	17,684
Additions to stock																							-
Managed expansion																							-
Natural Expansion																							-
Upward reappraisals																							-
Other additions		6	18			59		20	59	19	11	24	128			32	64	95					535
Total additions to stock		6	18			59		20	59	19	11	24	128			32	64	95					535
Reductions in stock																							-
Managed regression																							-
Natural Regression																							-
Downward reappraisals																							-
Other reductions					27			18	26	59	85		84			171		64					535
Total reductions in stock					(27)			(18)	(26)	(59)	(85)		(84)			(171)		(64)					(535)
Net change in stock		6	18		(27)	59		2	33	(41)	(75)	24	44			(139)	64	32					-
Closing stock	46	2,642	275	194		91	94	818	477	488	3,058	1,756	1,827	371	583	485	64	3,155	1,202	27	25	9	17,684
Percentage Changes																							-
Additions to stock (%)	0.0%	0.2%	7.1%	0.0%	0.0%	186.6%	0.0%	2.5%	13.2%	3.5%	0.3%	1.4%	7.2%	0.0%	0.0%	5.0%	0.0%	3.0%	0.0%	0.0%	0.0%	0.0%	2
Reductions in stock (%)	0.0%	0.0%	0.0%	0.0%	-100.0%	0.0%	0.0%	-2.2%	-5.9%	11.2%	-2.7%	0.0%	-4.7%	0.0%	0.0%	-27.3%	0.0%	-2.0%	0.0%	0.0%	0.0%	0.0%	(2)
Net change in stock (%)	0.0%	-0.2%	-7.1%	0.0%	100.0%	-186.6%	0.0%	-0.2%	-7.4%	7.7%	2.4%	-1.4%	-2.5%	0.0%	0.0%	22.3%	0.0%	-1.0%	0.0%	0.0%	0.0%	0.0%	(1)
Total landcover category								4,158				5,778				3,266			4,448	25	9		17,684
Change between 2012 and 2018								59				(59)				(95)			95	-	-		-



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✓ *Lesson learned:* **Better, higher resolution spatial data required**

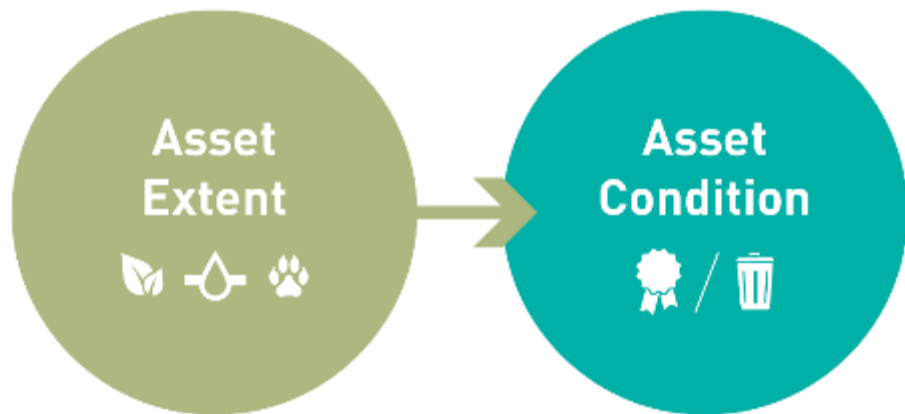


## Freshwater ecosystems:

- Surface water bodies: Ecological status available from WFD assessment (poor, moderate, good, high) & other sources (e.g. Wetland Map of Ireland <http://www.wetlandsurveysireland.com/>)
- Other freshwater wetlands: limited data on either extent or condition



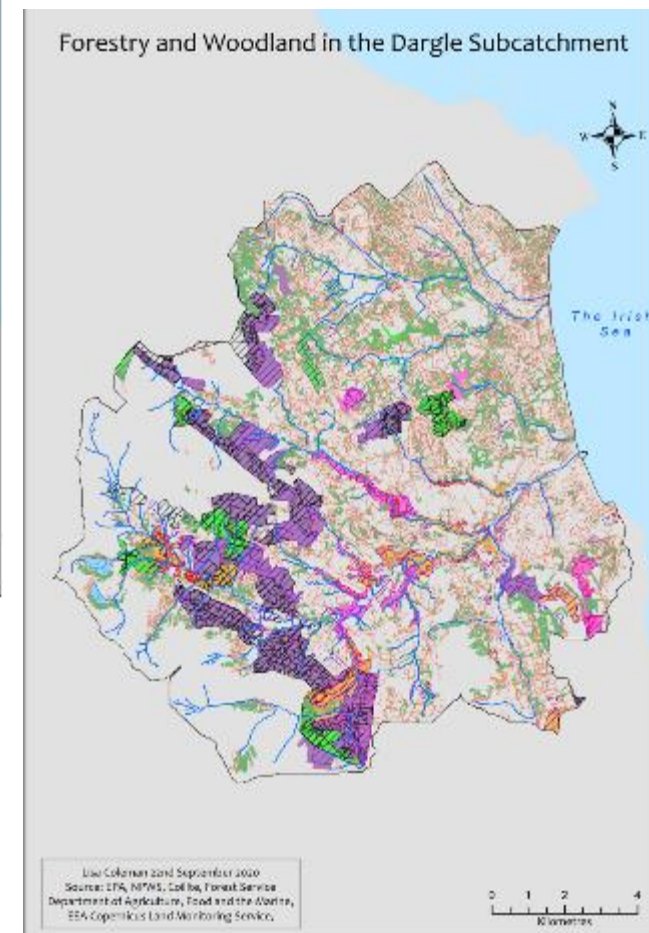
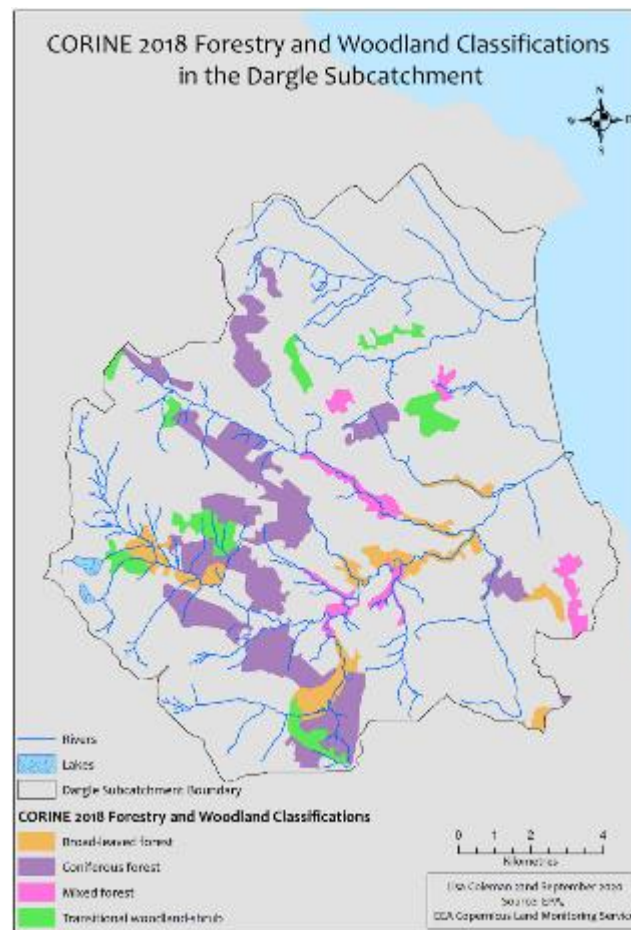


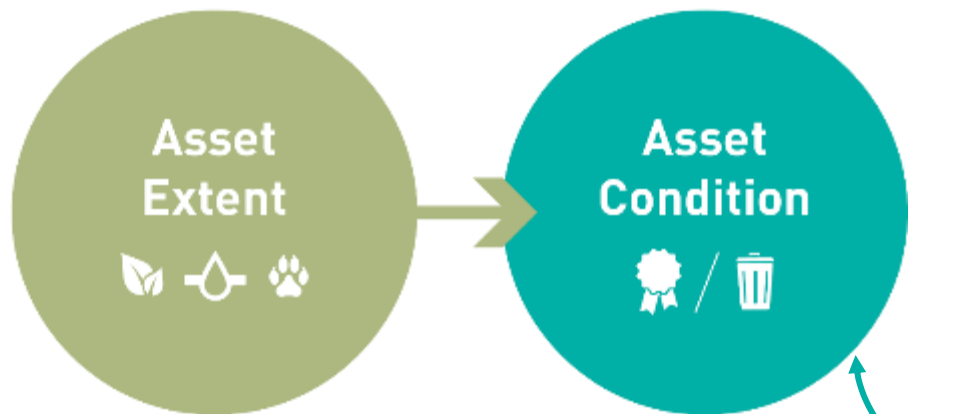


## Woodlands:

- CORINE
- Native woodlands survey (2003-2008)
- Ancient and Long-established woods
- Article 17 woodlands habitats
- EPA Copernicus Small Woody Features
- EEA Urban Atlas Street Trees
- Coillte and private forestry plots

*Lesson learned:* **Limited data on condition**

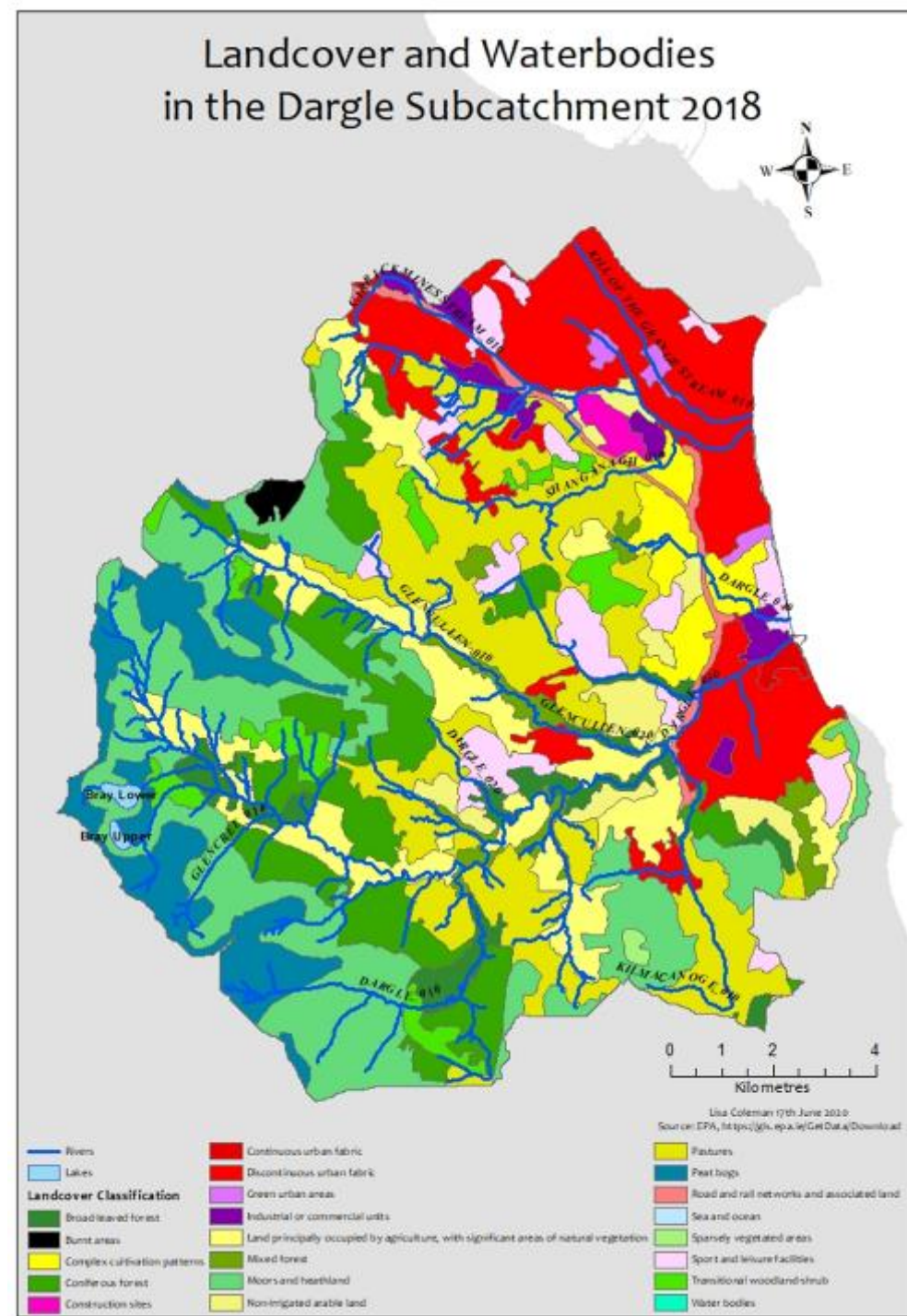


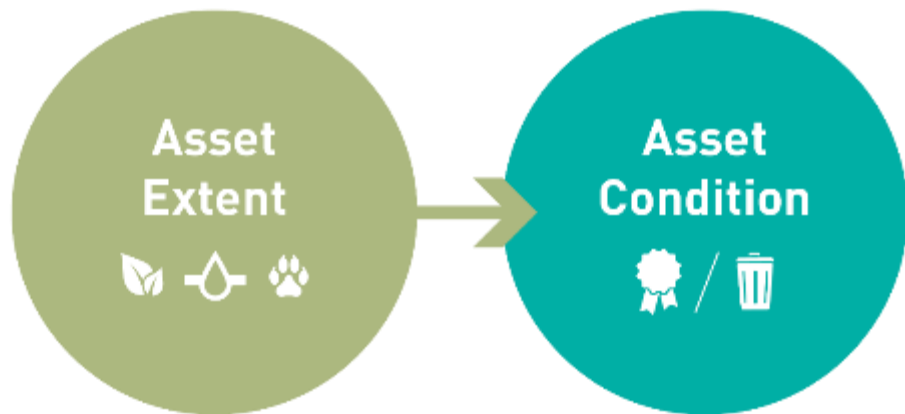


ecosystem  
structure,  
function and  
composition

## Other ecosystem types:

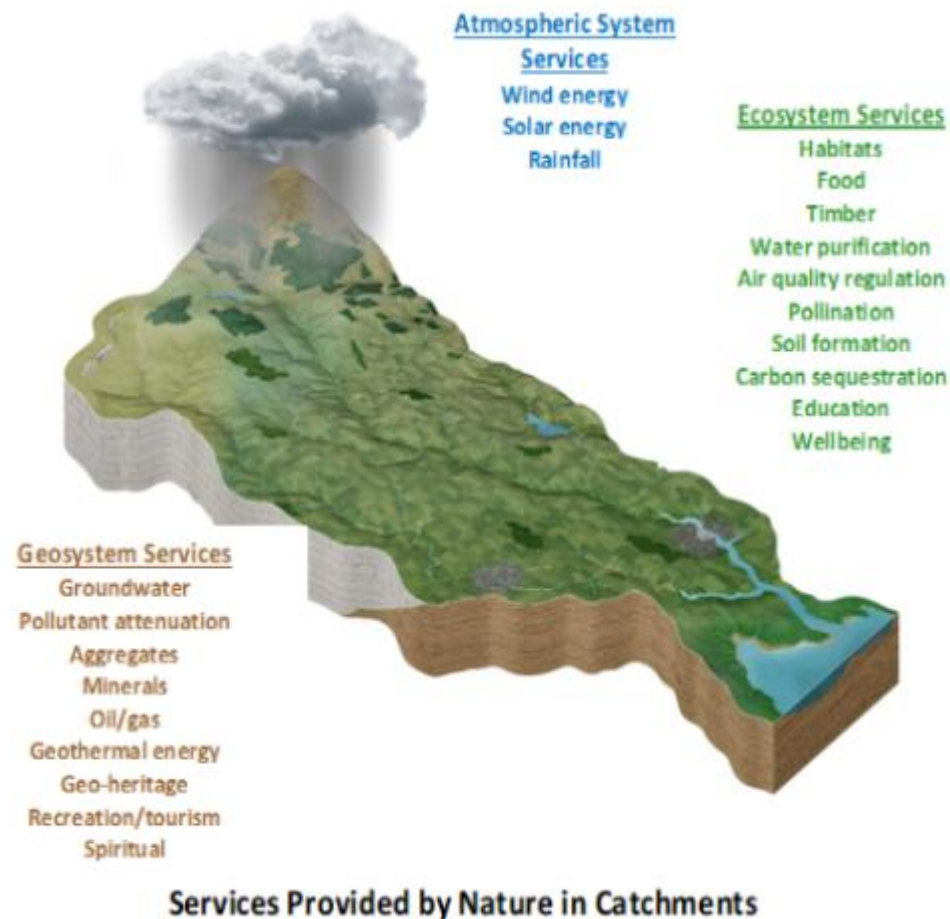
- Peatland/Heathland
- Urban/Built
- Coastal
- Grasslands
- Croplands





## What else is needed?

- OSI/EPA Landcover map (due 2021)
- Freshwater habitats: extent and condition
- Woodland / Forestry: condition
- Peatlands / Heathlands: peat depth / drainage
- Urban: blue and green areas
- Coastal: need Article 17 data
- Farmland: limited data on grassland condition; link with LPIS





# Lessons learned (so far...)

- Lots of data, but not centrally held/organised – lots of work to extract and collate data
- Data gathered for specific purpose – often not linked to other uses / applications
- Land use review could underpin National Ecosystem Assessment – a baseline for NCA



*NCA can't just be done by statisticians / accountants – need to understand these systems – need range of expertise, including ecologists!*

# Next steps

- Asset and Risk (related to benefits) registers
- Risk – makes links with policies and condition (nested systems = connected)
- Link with economists – from stocks to flows



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forests, wetlands, rivers, seagrass  
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