Table 2: The CICES classification version 4.1 (26th September, 2012)

CICES for ecosystem service mapping and assessment		
CICES for ecosystem accounting		
Section	*Division*	*Group*
Provisioning	*Nutrition*	*Terrestrial plants and animals for food*
		Freshwater plants and animals for food
		Marine plants, algae and animals for food
	Water supply	*Water for human consumption*
		Water for agricultural use
		Water for industrial and energy uses
	[Non-food] Biotic Materials	*Plant and animal fibres and structures*
		Chemicals form plants and animals

		Genetic materials
	Energy	*Biomass based energy*
Regulation and Maintenance	*Regulation of bio-physical environment*	*Bioremediation*
		Dilution, Filtration and sequestration
	Flow regulation	*Air flow regulation*
		Water flow regulation
		Mass flow regulation
	Regulation of physico-chemical environment	*Atmospheric regulation*
		Water quality regulation
		Pedogenesis and soil quality regulation
		Noise regulation
		Lifecycle maintenance,

	Regulation of biotic environment	*habitat and gene pool protection*
		Pest and disease control (incl. invasive alien species)
Cultural	*Physical or experiential use of ecosystems [environmental setting]*	*Non-extractive recreation*
		Information and knowledge
	Intellectual representations of ecosystems [of enviornmenal settings]	*Spiritual & symbolic*
		Non-use

Class
Crops
Livestock and dairy products
Wild plants and animals and their products
Fresh water plants
Aquaculture products
Fish (wild populations)
Algae
Plants
Aquaculture products
Fish and other animals (wild populations including shellfish)
Drinking water
Domestic water use
Irrigation water(consumptive)
Water for livestock (consumptive)
Industrial water (consumptive)
Industrial water (non consumptive)
Plant and animal materials for fabrication in industrial or domestic settings
Ornamental artifacts
Substances from living organisms used for industrial manufacture or domestic production
Medicinal
Cosmetic

Genetic improvment
Genetic structures and processes
Vegetal based resources
Animal based resources
Remediation by plants and algae
Remediation by micro-organisms
Remediation by animals
Dilution, decomposition, remineralisation and recycling
Filtration
Sequestration and absorption
Rural microclimatic regulation
Urban microclimatic regulation
Attenuation of runoff and discharge rates
Water storage for flow regulation
Storm protection
Erosion protection
Avalanche and grvity flow protection
Global climate regulation (incl. C-sequestration)
Local & Regional climate regulation
Water purification and oxygenation
Maintenance of soil fertility
Maintenance of soil structure
Buffering and screening
Pollination

Seed dispersal
Maintaining nursery populations and habitats
Biological control mechanisms
Natural and cultural ecosystems and landscapes used for physical activityon on land
Natural and cultural ecosystems and landscapes and habitats for physical activity in freshwater, coastal and marine contexts
Scientific
Heritage
Educational
Sacred or culturally significant places and species
Existence
Bequest

Note this section is open in that many class types can potentially be recognised and nested in the the higher level classes, depending onf the ecosystems being considered.
Class types
e.g. by type of crop (cereals etc.)
e.g. by animal type
e.g. by type
e.g. by type or source (river, lake etc.)
e.g. by type
e.g. by fishery
e.g. by resource
e.g. by resource
e.g. by fishery
e.g. by fishery
e.g. abstracted surface water, abstracted ground water, or via desalisation
e.g. abstracted surface water, abstracted ground wate, or via desalisation
e.g. abstracted surface water, abstracted ground water, or via desalisation
e.g. surface water, abstracted ground water, or via desalisation
e.g. abstracted surface water, abstracted ground water, or via desalisation
e.g. abstracted surface water, abstracted ground water, or via desalisation
eg. by type
eg. by type
eg. by type
eg. by type
eg. by type

eg. by type
eg. by type
e.g. by type
e.g. by type
e.g. by method
e.g. by method
e.g. by method
e.g. by method
e.g. by method
e.g. by method
e.g. by process
e.g. by process
e.g. by process
e.g. by process
e.g. by process
e.g. by process
e.g. by process
e.g. by process
e.g. by process
e.g. by process
e.g. by process
e.g. by process
e.g. by process
e.g. By habitat or species
e.g. by process

e.g. by process
e.g. by process
e.g. by process
e.g. by landscape type or ecosystem type
e.g. by seascapes or ecosystem type
e.g. By ecosystem componen(s)
e.g. By ecosystem componen(s)
e.g. By ecosystem componen(s)
e.g. by location or species or feature
e.g. by ecosystem or species
e.g. by ecosystem of species

Note: this section is not complete and for illustrative purposes only. Key components could change by region or ecosystem.
Examples and indicative services, goods (products) and benefits
Cereals, vegetables, vines etc.
Sheep, cattle for meat and dairy products
Berries, fungi, honey, game etc.
Water cress
Salmon, trout etc.
Salmon, trout; Includes oth commercial, subsistence and recreational fisheries
Macro and microalgae
Salicornia
Includes crustaceans
Plaice, sea bass etc. Includes oth commercial, subsistence and recreational fisheries
Spring or well water, managed supplies from rivers or reservoirs, etc.
Water for personal hygiene, water for toilet systems
For crop production
Natural water sources (brooks, ponds etc.), managed water supplies in stabled livestock systems etc.
For manufacturing in a wide range of industries
For water supply
Timber, straw, flax; algae for fertiliser, packaging , fodder, compost.
Bulbs, cut flowers, wood, skin, shells, bones, pearls and feathers etc
Turpentine, rubber
Bio-prospecting activities (e.g. Algal-based chemicals); herbal remedies
Henna

Possible el
that direct
exploit
ecosyste
Water
M

Wild species used in breeding programmes
Fermentation
Wood fuel, energy crops, algae for biofuel etc.
Dung, fat, oils
Phytoaccumulation, phytodegradation, phytostabilisation, rhizodegradation, rhizofiltration, vegetation cap
In situ (Bioremediation), ex situ (composting), bioreactors, removal of organic material and nutrients from waste water by biogeochemical processes e.g. marine denitrification
Bioremediation
Dilution of municipal wastewater in rivers etc.,
Filtration of particulates and aerosols
Sequestration of nutrients and pollutants in organic sediments, removal of odours
Natural or planted vegetation that serves as shelter belts
Ventilation
Woodlands, wetlands and their impact on discharge rates
Flood plains and wetlands
Mangroves, sea grasses, macroalgae, dune systems and coastal wetlands; portection from flood surges and tsunamis.
Wetlands (including coastal), mangroves, sea grasses, macroalgae, dune systems
Stabilisation of mudflows, erosion protection [reduction]
Atmospheric composition (air quality), hydrological cycle, marine cycle
Modifying temperature, humidity etc.; maintenance of urban climate and air quality, regional precipitation patterns
Natural or planted vegetation that serves nutrient retention, translocation of nutrients, marine vertical circulation
Green mulches; N-fixing plants
Soil organism activity
Tree belts
By biota

By biota
Habitat refuges
By plants and animals, control of pathogens
Hiking, climbing, boating, bird watching
Whale watching, bird watching, diving
Subject matter for research
Historic record
Subject matter for wildlife programmes and books etc.
Sense of place, identify, heritage
Wild species
Wilderness

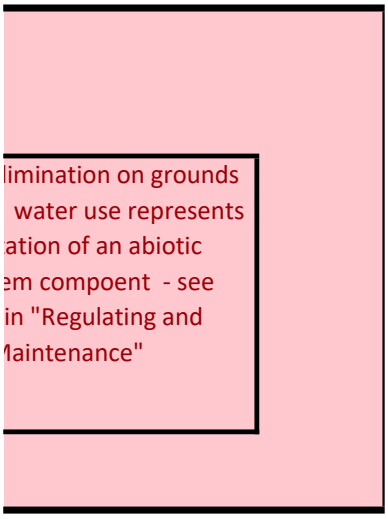
limination on grounds
water use represents
ation of an abiotic
em compoent - see
in "Regulating and
Maintenance"

Table 2: The CICES classification version 4 (2012)

CICES for ecosystem service mapping and assessment		
CICES for ecosystem accounting		
Section	*Division*	*Group*
Provisioning	***Nutrition***	***Terrestrial plants and animals for food***
		Freshwater plants and animals for food
		Marine algae, plants and animals for food
	Water supply	***Water for human consumption***
		Water for agricultural use
		Water for industrial and energy uses
	Materials	**Biotic materials**
	Energy	***Biomass based energy***
Regulation and Maintenance	***Regulation of bio-physical environment***	

		Bioremediation
		Dilution and sequestration
	Flow regulation	*Air flow regulation*
		Water flow regulation
		Mass flow regulation
	Regulation of physico-chemical environment	*Atmospheric regulation*
		Water quality regulation
		Pedogenesis and soil quality regulation
	Regulation of biotic environment	*Lifecycle maintenance, habitat and gene pool protection*
		Pest and disease control (incl. invasive alien species)
Cultural		Aesthetic, Heritage
	Symbolic	

	Symbolic	Spiritual
	Intellectual and Experiential	Recreation and community activities
		Information & knowledge

Class	Class types
Crops	*e.g. by type of crop (cereals etc.)*
Livestock and dairy products	*e.g. by animal type*
Wild plants and animals and their products	*e.g. by type*
Fish (wild populations)	*e.g. by fishery*
Aquaculture products	*e.g. by type*
Fresh water plants	*e.g. by type or source (river, lake etc.)*
Fish (wild populations including shellfish)	*e.g. by fishery*
Aquaculture products	*e.g. by fishery*
Algae	*e.g. by resource*
Drinking water	*e.g. abstracted surface water, abstracted ground water*
Domestic water use	*e.g. abstracted surface water, abstracted ground water*
Irrigation water (consumptive)	*e.g. abstracted surface water, abstracted ground water*
Water for livestock (consumptive)	*e.g. surface water, abstracted ground water*
Industrial water (consumptive)	*e.g. abstracted surface water, abstracted ground water*
Cooling water (non consumptive)	*e.g. abstracted surface water, abstracted ground water*
Non-food vegetal fibres	**e.g. by type**
Non-food animal fibres	**e.g. by type**
Ornamental resources	**e.g. by type**
Genetic resources	**e.g. by type**
Medicinal and cosmetic resources	**e.g. by type**
Vegetal based resources	*e.g. by type*
Animal based resources	*e.g. by type*
Remediation by plants or algae	*e.g. by method*

Remediation by micro-organisms	*e.g. by method*
Remediation by animals	*e.g. by method*
Dilution, decomposition, remineralisation and recycling	*e.g. by method*
Filtration	*e.g. by method*
Sequestration and absorption	*e.g. by method*
Rural microclimatic regulation	*e.g. by process*
Urban microclimatic regulation	*e.g. by process*
Attenuation of runoff and discharge rates	*e.g. by process*
Water storage for flow regulation	*e.g. by process*
Coastal protection	**e.g. by process**
Erosion protection	*e.g. by process*
Avalanche and gravity flow protection	*e.g. by process*
Global climate regulation (incl. C-sequestration)	*e.g. by process*
Local & Regional climate regulation	*e.g. by process*
Water purification and oxygenation	*e.g. by process*
Maintenance of soil fertility	**e.g. by process**
Maintenance of soil structure	**e.g. by process**
Pollination	*e.g. by process*
Seed dispersal	*e.g. by process*
Maintaining nursery populations	*e.g. by process*
Biological control mechanisms	*e.g. by process*
Landscape character	**e.g. by resource**
Cultural landscapes	**e.g. by resource**

Wilderness, naturalness	e.g. by resource
Sacred places or species	e.g. by resource
Charismatic or iconic wildlife or habitats	e.g. by resource
Prey for hunting, fishing or collecting	e.g. by resource
Landscape character for recreational opportunities	e.g. by resource
Scientific	e.g. by resource
Educational	e.g. by resource

Note: this section is not complete and for illustrative purposes only. Key components could change by region or ecosystem.
Examples and indicative benefits
Cereals, vegetables, vines etc.
Sheep, cattle for meat and dairy products
Berries, fungi, honey, game etc., including recreational uses
Plaice, sea bass etc.
Salmon, trout etc.
Water cress or River x
Includes crustaceans
Includes crustaceans
Macro and microalgae
Spring or well water, managed supplies from rivers or reservoirs, etc.
Water for personal hygiene, water for toilet systems
For crop production
Natural water sources (brooks, ponds etc.), managed water supplies in stabled livestock systems etc.
For manufacturing in a wide range of industries
For power production, incl. marine waters for nuclear power plants
Timber, straw, flax; algae for fertiliser, packaging and chemicals
Skin, bone etc., guano, corals, shells
Bulbs, cut flowers, shells, bones, pearls and feathers etc.
Wild species used in breeding programmes
Bio-prospecting activities
Wood fuel, energy crops, algae for biofuel etc.
Dung, fat, oils
Phytoaccumulation, phytodegradation, phytostabilisation, rhizodegradation, rhizofiltration, vegetation cap

KEY	
Note: Cells in grey indicate edits	

In situ (Bioremediation), ex situ (composting), bioreactors
Bioremediation e.g. filtration of particles using molluscs
Dilution of municipal wastewater in rivers etc., removal of organic material and nutrients from waste water by biogeochemical processes e.g. marine denitrification
Filtration of particulates and aerosols
Sequestration of nutrients and pollutants in organic sediments, removal of odours
e.g. Natural or planted vegetation that serves as shelter belts
Ventilation
Woodlands, wetlands and their impact on discharge rates
Flood plains and wetlands
Mangroves, sea grasses, macroalgae, dune systems and coastal wetlands
Wetlands, mangroves, sea grasses, macroalgae, dune systems
Stabilisation of mudflows, erosion protection [reduction]
Atmospheric composition (air quality), hydrological cycle, marine cycle
Modifying temperature, humidity etc.; maintenance of urban climate and air quality, regional precipitation patterns
Natural or planted vegetation that serves nutrient retention, translocation of nutrients, marine vertical circulation
Green mulches; N-fixing plants
Soil organism activity
By biota
By biota
Habitat refuges
By plants and animals, control of pathogens
Areas of outstanding natural beauty
Sense of place

Tranquillity, isolation
Woodland cemeteries, sky burials
Bird or whale watching, conservation activities, volunteering
Angling, shooting, membership of environmental groups and organisations
Bathing, scuba-diving, recreational leisure boating, surfing, abseiling, hiking, mountaineering etc.
Pollen record, tree ring record, genetic patterns
Subject matter for wildlife programmes and books etc.