



European  
Commission

Nature and Biodiversity Newsletter

Number 48 | July 2020



# NATURA 2000

ISSN 2443-7727

## EU biodiversity strategy for 2030

Environment



Natura 2000  
nature and biodiversity  
newsletter  
July 2020

## CONTENTS

### 3–5

EU Biodiversity Strategy for  
2030

### 6–7

Restoring ecosystems across  
land and sea

### 8–9

Natura2000 barometer –  
update June 2020

### 10–13

The new Farm to Fork  
Strategy

### 14–16

Natura News



© Jennifer Jacquemart / EC – Audiovisual Service

# Editorial

Over the past few months, COVID-19 has caused major disruption to our society, economy and taken a heavy toll on lives and livelihoods. We are now beginning to come to terms with the true scale of its impact, and finding ways to kick-start recovery in Europe and around the globe.

We will draw many lessons from the pandemic. But one thing has become abundantly clear – the intimate connection that exists between our health, our economy, and the natural environment. Our new Strategies for Biodiversity and Farm to Fork, launched in May as part of our wider European Green Deal, acknowledge these connections, and will help rebuild society with a new drive to protect and strengthen the natural world we depend on.

The Recovery Package proposed by the Commission one week after the adoption of the new strategies follows the same logic, and enjoys the same level of ambition. It marks a new determination to build back better, basing the strength and competitiveness of our economy on its sustainability, and opening the way to a future that is circular, climate-neutral, digital and socially just.

I am truly proud of the two new Strategies. They are comprehensive, ambitious, and achievable. And they reinforce each other, bringing together nature, farmers, business and consumers in a common effort to deliver greater sustainability.

Implementation of the Strategies needs to be inclusive, and I will strive to create a common sense of ownership, for the young and the old, those living in cities and those in the countryside, NGOs and industry, environmentalists, as well as farmers, fishers and foresters. We will all benefit, collectively, when we bring nature back into our lives.

There is plenty of work ahead, and I am counting on you and your support, your ideas and input as we travel this path together. By striking the right balance, we will deliver a greener, healthier, more resilient society.

Virginijus Sinkevičius  
European Commissioner for Environment, Oceans and Fisheries



© Suzi Feinstein/naturepic.com



© Jap. Kruiver



© Istaitia



© Klein & Hubert/naturepic.com

Cover: Field of poppy flowers,  
Málaga province, Andalusia,  
Spain.

© Alamy





The slopes of the Vrsic pass in the Julian Alps, Gorenjska, Slovenia. The Biodiversity Strategy calls for the strict protection of all the EU's remaining primary and old-growth forests.

# EU Biodiversity Strategy for 2030

## Bringing nature back into our lives

***“The EU Biodiversity Strategy will also help kick start Europe’s economic recovery after COVID-19.”***

Last December, the European Commission launched its ambitious European Green Deal. (see previous issue). The Deal maps out a new, sustainable and inclusive growth strategy to boost Europe’s economy, improve people’s health and quality of life, and turn Europe into the world’s first climate neutral continent by 2050.

Five months later in May, the Commission published its new EU Biodiversity Strategy to 2030. It forms an integral part of the Green Deal and, together with the Farm to Fork Strategy announced the same day, aims to bring nature back into our lives.

The two new strategies set out a comprehensive package of EU-wide actions and commitments to put Europe’s biodiversity back on the path to recovery by 2030, and transition towards a more sustainable food system.

The timing couldn’t be more appropriate. The recent COVID-19

pandemic has illustrated just how intricate the link is between our own health and that of our natural environment. It has become increasingly clear that protecting and restoring Europe’s biodiversity is essential for re-enforcing our own resilience to future pandemics.

The EU Biodiversity Strategy will also help kick start Europe’s economic recovery after COVID-19. Investing significantly in nature restoration and nature based solutions will create new jobs and provide fresh business opportunities for many sectors of the economy.

The economic case for restoring biodiversity is truly compelling. The World Economic Forum recently stated that biodiversity loss and ecosystems collapse are among the biggest threats facing humanity in the next decade, threatening the very foundations of our economy. According to their estimates, the

world has already lost €3.5 – 18.5 trillion per year in ecosystem services from 1997 to 2011 due to land cover change alone.

Restoring and protecting nature will also be a vital ally in the fight against climate change. Many of the problems facing climate and biodiversity are intrinsically linked. But just as the crises are linked, so are the solutions.

To address all these issues, the new Biodiversity Strategy sets as a headline target to ensure that ‘by 2050 all of the world’s ecosystems are restored, resilient and adequately protected’, in line with the 2030 Agenda for Sustainable Development and the Paris Agreement on Climate change.

The four main pillars of the new EU Biodiversity Strategy are to protect nature, to restore nature, to enable transformative change and to set an ambitious Global Agenda.

## 1. Nature protection: Key commitments to 2030

- Legally protect at least 30% of the EU's land area and 30% of its seas
- Strictly protect at least a third of the EU's protected areas, including all remaining primary and old-growth forests
- Create ecological corridors as part of a true Trans European Nature Network
- Effectively manage all protected areas

## 2. Restoring nature: Key commitments to 2030

- Legally binding targets to be proposed in 2021
- Ensure no deterioration in any protected habitats and species by 2030, and a favourable status or strong positive trend for at least 30%
- At least 25% of agricultural land to be Organically farmed
- At least 10% of agricultural land to be transformed into biodiverse landscape features
- Reduce use of pesticides and fertilisers by 20%
- Plant 3 billion additional trees respecting ecological principles
- Reverse decline in pollinators
- Remediate contaminated soil sites
- Restore 25,000km free flowing rivers;
- New Urban Greening Platform: the Green City Accord;
- Halve the number of 'red list' species threatened by Invasive Alien Species
- Reduce damage to seabed and through bycatch

### Protecting Nature in the EU

The EU already has a robust legal framework in place to protect its most valuable, rare and threatened species and habitats under the Habitats and Birds Directives. Thanks to this, the EU has succeeded in building an extensive EU-wide Natura 2000 network that covers around 18% of its land and 8% of its surrounding seas.

Whilst this is a remarkable achievement in its own right, it is clear that further efforts are needed to ensure the effective conservation and management of the Natura 2000 sites within the network, and to bring the species and habitats they protect up to a favourable conservation status across their natural range in the EU. The new Biodiversity Strategy will give an important

new impetus to this work by improving implementation and increasing resources.

The Biodiversity Strategy also goes one step further in calling for an increase in protected area coverage so that more areas of high biodiversity value or potential can be safeguarded. The target is to protect at least 30% of the land and 30% of the surrounding seas.

Additionally, the new Strategy calls for at least one third of these protected areas – representing 10% of EU land and 10% of EU seas – to be *strictly* protected. In particular, all the of EU's remaining primary and old-growth forests should be mapped, monitored and strictly protected, along with significant areas of other carbon-rich ecosystems, such as peatlands, grasslands, wetlands and seagrass meadows.

It will be up to the Member States to designate the additional protected and strictly protected areas. Designations should either help to complete the Natura 2000 network or be under national protection schemes. All areas will also need to have clearly defined conservation objectives..

To assist in this process, the Commission will put forward criteria and guidance for identifying and designating additional sites later in the year. This will include a definition of strict protection, as well as guidance for appropriate management planning.

In addition to increasing the area under protection, the Biodiversity Strategy also calls on Member States to create ecological corridors between protected sites to prevent genetic isolation, allow for species migration, and maintain and enhance healthy ecosystems. The aim is to build a truly coherent Trans-European Nature Network.

To support this work, EU investments in green and blue infrastructure and cooperation across borders among Member States will be further promoted and supported.

Finally, as the Overseas Countries and Territories also host important biodiversity hotspots, the Commission will encourage relevant Member States to consider promoting biodiversity rules and regulations that match those already applicable in the EU.

### A new Nature Restoration Plan for Europe

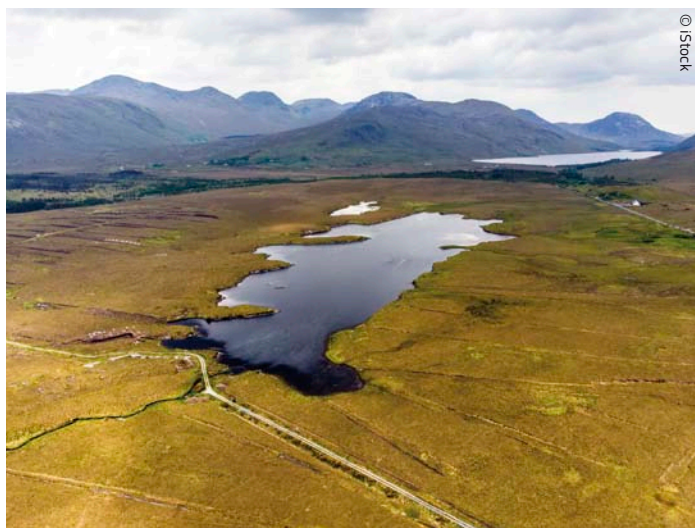
The second pillar of the new Biodiversity Strategy focuses on restoring nature across significant parts of the European territory. Recognising that restoration efforts up to now have been somewhat piecemeal and small-scale, the strategy proposes two strands of actions to strengthen the EU legal framework for nature restoration.

Firstly, and subject to an impact assessment, the Commission will put forward a proposal for legally binding EU nature restoration targets in 2021 to restore degraded ecosystems, in particular those with the most potential to capture and store carbon and to prevent and reduce the impact of natural disasters.

This will identify the conditions in which the targets must be met, as well as the most effective measures to reach them. The impact assessment will also look at the possibility of an EU-wide methodology to map, assess and achieve good condition of ecosystems so they can deliver benefits such as climate regulation, water regulation, soil health, pollination and disaster prevention and protection.

Secondly, the Commission will request Member States to improve the level of implementation of existing legislation within clear deadlines. It will in particular request Member States to ensure no deterioration in conservation trends and status of all protected habitats and species by 2030.

Member States will also have to ensure that at least 30% of species and habitats protected under the EU nature Directives -



©iStock

Connemara Bog, Ireland.



and not currently in favourable status – are in that category or show a strong positive trend by 2030. Further guidance will be provided to Member States later in the year on how to select and prioritise species and habitats.

Beyond these two general measures, the Biodiversity Strategy proposes a further nine targeted actions to restore nature within particular ecosystems and in order to address other threats to Europe's biodiversity (see pages 6-7).

### Enabling transformative change

For the actions proposed under the new EU Biodiversity Strategy to reach their full potential, it will be important to create the right conditions for their implementation. Such an enabling environment is essential if we are to change the way biodiversity is perceived and integrated into the wider EU policy framework. Several actions are therefore foreseen under the new strategy to facilitate this.

To start with, a new European biodiversity governance framework will be established to help map obligations and commitments and set out a roadmap to guide their implementation. This will ensure co-responsibility and co-ownership by all relevant actors in meeting the EU's biodiversity commitments. It will also support administrative capacity building, transparency, stakeholder dialogue, and participatory governance at different levels.

The implementation and enforcement of EU environmental legislation will also be stepped up and will be accompanied by increased finances and human resources. The Commission will aim to unlock at least €20 billion a year for Natura 2000 and green infrastructure through different EU programmes and via public private partnerships.

A significant proportion of the 25% of the EU budget dedicated to climate action will also be invested in biodiversity and nature-based solutions. In

addition, the Commission will reinforce its biodiversity-proofing framework to ensure that EU funding supports biodiversity-friendly investments.

A range of other financial and fiscal measures are also foreseen, for instance to reflect environmental costs, including biodiversity loss, and to boost nature-based investments.

A third key element of the improved governance structure will focus on promoting an integrated and whole-of-society approach to biodiversity conservation that actively engages businesses and all other economic sectors in safeguarding and applying nature-based solutions to their day to day activities.

Significant efforts will also be made to improve knowledge, education and skills through for instance the New Skills Agenda and the Horizon Europe Research programme.

In 2020, the Commission will create a new Knowledge Centre for Biodiversity working in close cooperation with the European Environment Agency to track and assess progress in the implementation of biodiversity related international instruments; foster cooperation and partnership, including between climate and biodiversity scientists; and underpin policy development.

### Raising the level of ambition and commitment worldwide

The final cornerstone of the EU Strategy deals with the EU's ambition to lead the way on biodiversity in the international arena. The EU will work with like-minded partners to agree an ambitious new global framework for post- 2020 at the upcoming 15th Conference of the Parties to the Convention on Biological Diversity and to set ambitious global 2030 targets that are in line with EU commitments.

It will also use its wide ranging external policies, trade agreements and bilateral programmes to promote



The Sunda Pangolin. The EU will aim to curb wildlife trafficking.

biodiversity outside Europe and to combat illegal wildlife trade.

For full details go to: [https://](https://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm)

[ec.europa.eu/environment/nature/biodiversity/strategy/index\\_en.htm](https://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm)

## 3. Improving governance: Key commitments to 2030

- Set up a new European biodiversity governance framework
- Ensure the full implementation and enforcement of EU environmental legislation
- Create a new sustainable corporate governance initiative
- Strengthen the EU's biodiversity proofing framework
- Unlock at least €20 billion a year for investments in Natura 2000 and green infrastructure
- Renew the Sustainable Finance Strategy
- Establish a common classification for biodiversity related activities under the Taxonomy Regulation
- Better integrate biodiversity considerations into public and business decision-making and to measure the environmental footprint of products and organisations
- Promote an international natural capital accounting initiative
- Improve education and skills
- Establish a new Knowledge Centre for Biodiversity
- Include a long-term strategic research agenda for biodiversity in the Horizon Europe programme

## 4. A Global biodiversity agenda: Key commitments to 2030

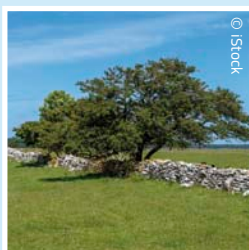
- Broker an agreement for an ambitious new global framework for post- 2020 at the 15th Conference of the Parties to the Convention on Biological Diversity.
- Broker an agreement on marine biological diversity of areas beyond national jurisdiction and on the designation of three vast Marine Protected Areas in the Southern Ocean
- Assess the impact of trade agreements on biodiversity with follow up where needed
- Introduce measures to avoid placing products associated with deforestation on the EU Market
- Revision of the EU Action Plan against Wildlife Trafficking
- Proposal for tightening the rules on EU ivory trade



Crystal clear water in the Adriatic Sea, Croatia.

# Restoring ecosystems across land and sea

As part of its restoration agenda, the new Biodiversity Strategy proposes nine targeted actions to restore nature within particular ecosystems to address the key threats to Europe's biodiversity.



## 1. Farmland

The first of these concerns agricultural land. Together with the Farm to Fork Strategy and the new Common Agricultural Policy, the Commission will support and incentivize the transition to fully sustainable agricultural practices across Europe. As set out in the

Farm to Fork Strategy, it will take action to reduce by 50% the overall use of – and risk from – chemical pesticides by 2030 and reduce by 50% the use of more hazardous pesticides by 2030.

To provide space for wild animals, plants, pollinators and natural pest regulators, the Biodiversity strategy also aims to transform at least 10% of agricultural area into high-diversity landscape features. These include, inter alia, buffer strips, rotational or non-rotational fallow land, hedges, non-productive trees, terrace walls, and ponds. In doing so, Member States will need to pay particular attention to creating ecological corridors and ensuring connectivity among different habitats.

In addition, the strategies call for at least 25% of the EU's agricultural land to be organically farmed by 2030. The Commission will put forward an Action Plan on organic farming in 2021, to help Member States stimulate both supply and demand of organic products.

Lastly, the strategy aims to ensure the full implementation of the EU Pollinators Initiative as well as reverse the decline of genetic diversity by facilitating the use of traditional varieties of crops and breeds.



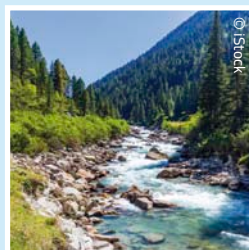
## 2. Forests

The second set of targeted actions focuses on improving the health, resilience and coverage of forest ecosystems. To facilitate this, the Commission will propose a dedicated EU Forest Strategy in 2021.

This will include a roadmap for planting at

least 3 billion additional trees across the EU by 2030, in full respect of ecological principles. Afforestation, reforestation and tree planting to support biodiversity and ecosystem restoration will also be promoted through the CAP Strategic Plans, and the Cohesion Policy funds.

The share of forest areas covered by management plans should also be increased to cover all managed public forests and an increased number of private forests, giving special attention to promoting biodiversity-friendly practices such as closer-to-nature-forestry.

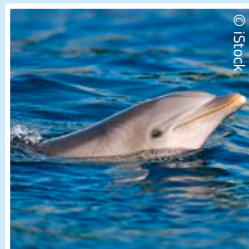


## 3. Freshwater habitats

Recognising that greater efforts are needed to restore freshwater ecosystems and the natural functions of rivers, the Strategy calls for at least 25,000 km of rivers to be restored into free-flowing rivers by 2030 primarily through the removal of obsolete

barriers and the restoration of floodplains and wetlands. Technical guidance and support to the Member States to identify sites and help mobilise funding will be provided by the Commission in 2021, in consultation with all relevant authorities.

Member State authorities will also need to step up their implementation of the Water Framework Directive. This includes reviewing water abstraction and impoundment permits to implement ecological flows..



## 4. Marine ecosystems

Achieving good environmental status of marine ecosystems, including through strictly protected areas, must involve the restoration of carbon-rich ecosystems as well as important fish spawning and nursery areas. In this regard, the full implementation

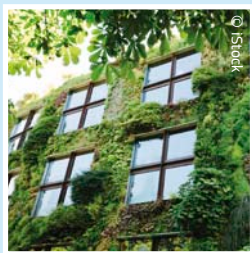
of the EU's Common Fisheries Policy, the Marine Strategy Framework Directive and the Birds and Habitats Directives is essential.

To further support this, the Commission will propose a new action plan to conserve fisheries resources and protect marine ecosystems by 2021. Where necessary, measures will be introduced to limit the use of fishing gear that is most harmful to biodiversity. It will also look at how to reconcile the use of bottom-contacting fishing gear with biodiversity goals, given it is now the most damaging activity to the seabed. The European Maritime and Fisheries Fund will also be called upon to support the transition to more selective and less damaging fishing techniques.

The by-catch of vulnerable species must also be eliminated or, where this is not possible, minimised so as not to threaten their conservation status and to allow for full recovery of species threatened with extinction. To support this, data collection on by-catch for all sensitive species will be stepped up.

In addition, the strategy calls for fisheries-management measures to be established in all marine protected areas according to clearly defined conservation objectives and on the basis of the best available scientific advice.





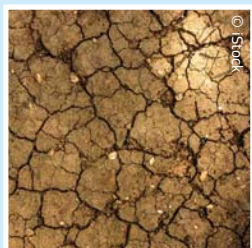
## 5. Green urban spaces

The recent lockdowns during the COVID-19 pandemic have shown the value of green urban spaces. But, while protection of some urban green spaces has increased, green spaces often lose out to grey spaces in the competition for land, as the share of the

population living in urban areas continues to rise. The strategy aims to reverse these trends and stop the loss of green urban ecosystems by promoting the systematic integration of healthy ecosystems, green infrastructure and nature-based solutions into all forms of urban planning.

To bring nature back to cities and reward community action, the Commission will also call on all European cities of 20,000 inhabitants and above to develop ambitious Urban Greening Plans by the end of 2021. These should include measures to create biodiverse and accessible urban forests, parks and gardens; urban farms; green roofs and walls; tree-lined streets; urban meadows; and urban hedges. They should also help improve connections between green spaces, eliminate the use of pesticides, limit excessive mowing of urban green spaces and other biodiversity harmful practices.

To facilitate this work, in 2021 the Commission will set up an EU Urban Greening Platform, under a new 'Green City Accord' with cities and mayors. This will be done in close coordination with the European Covenant of Mayors. The Urban Greening Plans will have a central role in choosing the European Green Capital 2023 and European Green Leaf 2022.

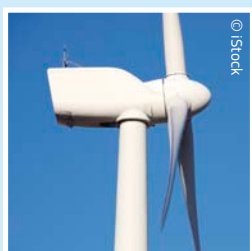


## 6. Soil ecosystems

Soil is a hugely important non-renewable resource. It is therefore essential to step up efforts to protect soil fertility, reduce soil erosion and increase soil organic matter. To address these issues in a comprehensive way and help to fulfil EU and international

commitments on land-degradation neutrality, the Commission will update the EU Soil Thematic Strategy in 2021.

The Zero Pollution Action Plan for Air, Water and Soil that the Commission intends to adopt in 2021 will also look at these issues. Soil sealing and rehabilitation of contaminated brownfields will be addressed in the upcoming Strategy for a Sustainable Built Environment. Meanwhile, a new thematic mission in the area of soil health and food will be included in the EU's research programme Horizon Europe to help develop solutions for restoring soil health and functions.



## 7. Creating win-wins for energy generation

More sustainably sourced renewable energy will be essential to fight climate change and biodiversity loss. Under the Biodiversity Strategy, the EU will prioritise solutions such as ocean energy, offshore wind, solar-panel

farms that provide biodiversity-friendly soil cover, and sustainable bioenergy. To better understand and monitor the potential climate and biodiversity

risks, the Commission is currently assessing the EU and global biomass supply and demand and related sustainability. As part of its increased ambition to protect and restore forest ecosystems, the Commission will publish the results of this work on the use of forest biomass for energy production by the end of 2020.

This will inform the Commission's policy-making, including the review and revision, where necessary, of the level of ambition of the Renewable Energy Directive, the Emissions Trading Scheme, and the Regulation on land use, land use change and forestry (LULUCF) set for 2021.

In line with the Renewable Energy Directive, the Commission will also develop operational guidance in 2021 on the new sustainability criteria on forest biomass for energy. In addition, it will review in 2021 the data on biofuels with high indirect land-use change risk and establish a trajectory for their gradual phase-out by 2030.



## 8. Reducing pollution

Pollution is a key driver of biodiversity loss and has a harmful impact on our health and environment. As part of the Commission's Zero Pollution Ambition for a toxic-free environment, a new EU Chemicals Strategy for Sustainability will be put forward along

with a Zero Pollution Action Plan for Air, Water and Soil.

The Commission will also promote the goal of zero pollution from nitrogen and phosphorus flows from fertilisers through reducing nutrient losses by at least 50%, while ensuring that there is no deterioration in soil fertility. This will result in the reduction of use of fertilisers by at least 20%.

The Commission will work with Member States to develop an Integrated Nutrient Management Action Plan in 2022. The Farm to Fork strategy will address the reduction in the use and risk of pesticides and support wider implementation of Integrated Pest Management. As part of this, the environmental risk assessment of pesticides will also be strengthened.



## 9. Addressing invasive alien species

Under the Strategy, the implementation of the EU Invasive Alien Species Regulation and other relevant legislation and international agreements will be stepped up. The aim will be to manage established invasive alien

species and decrease the number of Red List species they threaten by 50%.

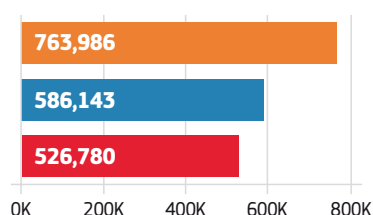
# natura2000 barometer

THIS NATURA BAROMETER is produced by DG Environment with the help of the European Environment Agency. It is based on information officially transmitted by Member States up to **December 2019**.

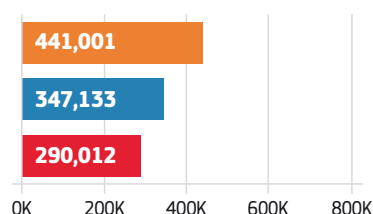
The Natura 2000 network is composed of sites under the Habitats Directive (pSCI, SCIs or SACs – labelled 'SCIs' in the barometer) and sites under the Birds Directive (SPAs). The figures relating to the total area of Natura 2000 sites (i.e. SPAs + SCIs) have been obtained through GIS analysis. This avoids any risk of double counting if areas have been designated under both directives.

## Natura 2000 in EU-27

### Terrestrial area (km<sup>2</sup>)



### Marine area (km<sup>2</sup>)



■ Natura 2000  
■ SCI  
■ SPA

Member States	Natura 2000 network (terrestrial and marine)		TERRESTRIAL			
	Total N° Natura 2000 Sites	Total area Natura 2000 km <sup>2</sup>	SCI	SPA	Natura 2000 network	
			SCI area (km <sup>2</sup> )	SPA area (km <sup>2</sup> )	Natura area (km <sup>2</sup> )	% land area covered
AUSTRIA	352	12895	9378	10334	12895	15%
BELGIUM	310	5163	3282	3186	3891	13%
BULGARIA	341	41554	33629	25609	38728	35%
CYPRUS	62	10133	959	1493	1669	30%
CZECH REPUBLIC	1153	11148	7951	7035	11148	14%
GERMANY	5200	80831	33550	40263	55228	15%
DENMARK	350	22647	3178	2605	3594	8%
ESTONIA	567	14861	7806	6203	8106	18%
SPAIN	1872	222515	117584	101619	138111	27%
FINLAND	1866	50636	42197	24550	42495	13%
FRANCE	1776	203564	48755	44016	70875	13%
GREECE	446	58778	21912	27761	35982	27%
CROATIA	783	25954	16036	17050	20716	37%
HUNGARY	525	19949	14442	13747	19949	21%
IRELAND	604	19481	7163	4311	9226	13%
ITALY	2621	69302	42902	40295	57258	19%
LITHUANIA	556	9699	6344	5530	8136	13%
LUXEMBOURG	66	702	416	418	702	27%
LATVIA	333	11834	7421	6607	7447	12%
MALTA	55	4184	41	16	42	13%
NETHERLANDS	197	20605	3139	4771	5522	15%
POLAND	985	68405	34196	48428	61168	20%
PORTUGAL	167	61403	15661	9196	18968	21%
ROMANIA	606	60577	40310	37118	54214	23%
SWEDEN	4087	75854	55106	26448	55611	12%
SLOVENIA	355	7682	6634	5066	7672	38%
SLOVAKIA	683	14633	6151	13105	14633	30%
EU – 27	26918	1204987	586143	526780	763986	18%

The United Kingdom withdrew from the European Union as of 1 February 2020.



# update June 2020

	MARINE			
	SCI	SPA	Natura 2000 network	
	SCI area (km <sup>2</sup> )	SPA area (km <sup>2</sup> )	Natura area (km <sup>2</sup> )	
	n.a.	n.a.	n.a.	AT
	1128	318	1271	BE
	2482	550	2827	BG
	8457	110	8464	CY
	n.a.	n.a.	n.a.	CZ
	20938	19738	25603	DE
	16492	12184	19053	DK
	3883	6480	6754	EE
	54895	52071	84405	ES
	7676	7402	8141	FI
	106306	119646	132689	FR
	17528	10764	22796	GR
	4919	1112	5238	HR
	n.a.	n.a.	n.a.	HU
	9781	1584	10255	IE
	6587	8809	12044	IT
	958	1056	1563	LT
	n.a.	n.a.	n.a.	LU
	2664	4280	4387	LV
	2283	3221	4142	MT
	12074	8627	15083	NL
	4339	7224	7237	PL
	37377	8749	42434	PT
	6188	1630	6362	RO
	20174	14448	20243	SE
	4	9	10	SI
	n.a.	n.a.	n.a.	SK
	<b>347133</b>	<b>290012</b>	<b>441001</b>	<b>EU</b>

## Zoom on Europe's peatlands



The large raised bog of Lille Vildmose, Denmark, is being restored with LIFE funds.

Natural peatlands are home to many highly adapted, rare and threatened species. They are also vitally important for regulating our climate since they store vast quantities of carbon. Peatlands have for centuries been converted into agricultural land or forest through drainage and fertilisation, causing a dramatic change in the ecosystem. Despite their environmental importance however, more than half of the pristine peatlands in Europe have been lost or degraded, and what remains is generally in a poor condition.

Thanks to the Habitats Directive, over 8700 Natura 2000 sites have been designated to date to protect twelve different types of peatland habitats listed in Annex I of the Directive. Together, they cover almost a quarter of all remaining natural peatlands in the EU (over 33,000 km<sup>2</sup>).

The EU LIFE Programme has played a central role in ensuring their conservation and restoration. Since 1992, it has funded no less than 363 projects across 24 EU countries. The main focus has been on restoring bogs and fens that have been damaged by forestry, agriculture or peat cutting, paying particular attention to restoring their delicate hydrological balance. Due to the very slow growth of peat layers, it can take several decades for the ecosystems to improve. Nevertheless, the first signs of positive trends can already be seen in raised bog habitats in Denmark, the United Kingdom, Poland, and Belgium, where a series of LIFE peatland projects have taken place.

The large scale restoration of the EU's remaining peatlands will be further advanced under the EU's forthcoming Nature Restoration Plan in view of their important climate role.

<https://ec.europa.eu/easme/en/section/life/life-programme-publications>



© SCOTLAND: The Big Picture/nature.com

The Farm to Fork Strategy aims to support farmers who have already undergone the transition towards sustainable practices and will facilitate the transition for the others.

# The new Farm to Fork Strategy

***“At the heart of the Green Deal, The Farm to Fork strategy points to a new and better balance between nature, food systems and people’s health and well-being”***

*– Frans Timmermans, Vice-President of the European Commission.*

## A need for action

Adopted on the same day as the new Biodiversity Strategy to 2030, the EU Farm to Fork Strategy aims to substantially overhaul Europe’s complex food system in order to render it healthy, equitable and sustainable. The strategy targets every step of the food chain from its initial production, manufacturing and processing to its final packaging, transportation, sale and consumption. In short, it goes all the way from the farm to the fork.

The strategy comes in response to increasing concerns amongst Europeans over their environment and health. More and more, people are looking to buy food that has been produced in an environmentally friendly and ethical manner and that is fresh, less processed and locally

sourced. They also want to see that farmers are paid a fair price for their hard labour.

There can be no doubt that the present EU food system has a major impact on Europe’s environment. The repercussions for biodiversity from unsustainable agricultural practices and land-use change have been particularly acute. More than half of our farmland birds have disappeared over the last 50 years and the majority of our valuable semi-natural grasslands (hay meadows, wet and dry grasslands, alpine pastures etc...) have been ploughed over to make way for intensive arable crops, or otherwise abandoned altogether.

The processing, retailing, packaging and transportation of food also contribute significantly to air, soil and water pollution,

greenhouse gas emissions and the loss of biodiversity.

The Farm to Fork (F2F) Strategy intends to address these concerns by supporting those farmers, fishers and other operators in the food chain who have already undergone the transition towards sustainable practices and by facilitating the transition for the others whilst, at the same time, creating additional market opportunities for their businesses.

As such, it presents an unprecedented opportunity to create a robust and resilient food system in the wake of the COVID-19 pandemic. Everyone needs to be involved and is encouraged to make sustainability their trademark, setting a world standard before their competitors outside the EU do so.



### Three key objectives

The Farm to Fork Strategy presents a new comprehensive approach to reach a fair, healthy and environmentally-friendly food system for the EU and to be at the vanguard of a global transition towards competitive sustainability.

To achieve this, the Strategy sets out three specific objectives: to ensure that the entire food chain, from food production, transport and distribution, to marketing and consumption, has a neutral or positive environmental impact; to promote food security, nutrition and public health; and finally to preserve the affordability of food, while generating fairer economic returns in the supply chain, so that ultimately the most sustainable food also becomes the most affordable.

To accelerate and facilitate this transition, the Commission has announced a package of actions and other commitments to be rolled out over the coming years. This will start with a legislative proposal for **a framework for a sustainable food system** before the end of 2023 to promote policy coherence at EU and national level, mainstream sustainability in all food-related policies and strengthen the resilience of food systems.

The framework will also address the responsibilities of all actors in the food system. Combined with certification and

labelling on the sustainability performance of food products and with targeted incentives, the framework will allow operators to benefit from sustainable practices and progressively raise sustainability standards so that this becomes the norm for all food products placed on the EU market.

These actions will require significant human and financial investments and will need to take into account different starting points and differences in improvement potential in the Member States. But, once in place, they should help improve the income of farmers and fishers, and eventually lead to higher returns by creating added value and reducing costs.

### Ensuring sustainable food production

Several actions under the F2F Strategy are targeted at reducing the impact of the food system on the natural environment and, wherever possible, creating a net positive effect through support for more environmentally friendly farming and food production practices.

This includes the following measures in particular:

- Reducing by 50% the overall use and risk of **chemical pesticides** and reducing the use of more hazardous pesticides by 50%. This will be accompanied by measures to enhance provisions on

### Farm to Fork strategy aims to:

#### Have a neutral or positive environmental impact by:

- Preserving and restoring the land and sea-based resources
- Mitigating climate change and adapt to its impact
- Protecting land, soil, water, air, plant and animal health
- Reversing the loss of biodiversity.

#### Ensure food security and public health by:

- Making sure everyone has access to sufficient, nutritious, sustainable food
- Ensuring high standards of safety and quality, plant health, and animal health and welfare.

#### Preserve the affordability of food by:

- Generating fairer economic returns in the supply chain
- Fostering the competitiveness of the EU supply sector
- Promoting fair trade
- Safeguarding occupational health and safety
- Creating new business opportunities
- Ensuring integrity of the single market

integrated pest management (IPM) that encourage the use of alternative control techniques, such as crop rotation and mechanical weeding. The Commission will also facilitate the placing on the market of pesticides containing biologically active substances and reinforce the environmental risk assessment of pesticides.

- Reducing nutrient losses by at least 50% while ensuring no deterioration in soil fertility, thereby reducing the use of **fertilisers** by at least 20 %. This will be achieved by implementing and enforcing the relevant environmental and climate legislation in full, by identifying with Member States the nutrient load reductions needed to achieve these goals, applying balanced fertilisation and sustainable nutrient management and by managing nitrogen and phosphorus better throughout their lifecycle. To assist in this process, the Commission will develop with Member States an integrated nutrient management action plan to address nutrient pollution at source and increase the sustainability of the livestock sector in particular. Reducing

the production of **greenhouse gases** through a variety of means and in line with the EU's new Climate Pact and Circular Economy Action Plan. This will include, amongst others, inciting farmers to adopt farming practices that remove CO<sub>2</sub> from the atmosphere under the so call 'new green business model' and helping other sectors in the food chain to decarbonise their practices. Farmers will also be encouraged to develop renewable energy from a variety of sources, such as investing in anaerobic digesters for biogas production from agriculture waste and residues, such as manure.

- Reducing sales of **antimicrobials** for farmed animals and in aquaculture by 50% in order to reduce antimicrobial resistance.
- Ensuring better **animal** (and plant) **welfare** by revising existing animal welfare legislation, including on animal transport and the slaughter of animals, to align it with the latest scientific evidence, broaden its scope, make it easier to enforce and ultimately ensure a higher level of animal welfare.



European ground squirrel *Spermophilus citellus*, Hungary.

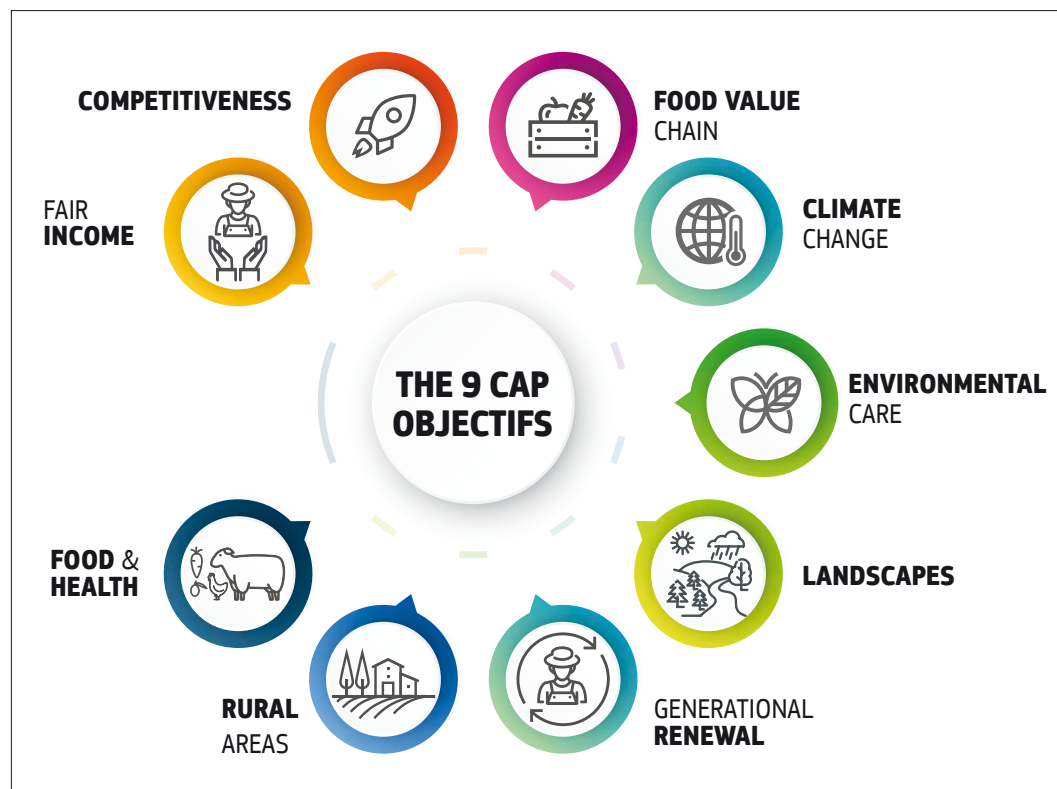
Finally, the Strategy also aims to bring at least 25% of the EU's agricultural land under **organic farming**. The present legal framework supports the shift to this type of farming, but more needs to be done to bolster this growing market, which is why the Commission will put forward an Action Plan on organic farming in 2020 to help Member States stimulate both supply and demand for organic products.

Similar shifts will need to take place in the oceans and inland waters to increase the share of the market dedicated to **organic aquaculture and sustainable seafood production**. As well as continued support under the European Maritime and Fisheries Fund, the Commission envisages adopting EU guidelines to help Member States better orientate their sustainable aquaculture development plans towards organic production methods.

In addition, it will set out well-targeted support for the algae industry, as algae should become an important source of alternative protein for a sustainable food system and global food security.

### Ensuring food security

A sustainable food system must ensure sufficient and varied supply of safe, nutritious,



The objectives of the proposed CAP Strategic Plan Regulation.

affordable and sustainable food at all times, not least in times of crisis. Events which affect the sustainability of food systems do not necessarily stem from the food supply chain itself but can be triggered by political, economic, environmental or health crises. The current COVID-19 pandemic, for instance, has no connection to food safety in the EU, but it did

nevertheless create logistical disruptions to the supply chains, as well as labour shortages and changes in consumer patterns.

Climate change and biodiversity loss also constitute imminent and lasting threats to food security. Every year, recurring droughts, floods, forest fires and new pests affect the resilience of the food system. Increasing the sustainability of food producers will ultimately increase their resilience too. The F2F strategy aims to provide a new framework for that, complemented by measures set out in the Biodiversity Strategy.

### Stimulating sustainable food processing and food consumption

Food processors, food service operators and retailers shape the market and influence consumers' dietary choices through the types and nutritional composition of the food they produce, their choice of suppliers, production methods and packaging, transport, merchandising and marketing practices. They also affect the environmental and social footprint of global trade.

Under the F2F Strategy, the Commission foresees a wide range of measures to strengthen the sustainability of Europe's food system. It will develop an EU Code of conduct for responsible business and marketing practice, and seek commitments from food companies and organisations to take concrete actions on health and sustainability. This could be for instance in relation to food packaging, by supporting the use of innovative and sustainable packaging solutions using environmentally-friendly, re-usable and recyclable materials.

The Commission will also seek opportunities to facilitate the shift to healthier diets. Moving to a more plant-based diet with less red and processed meat and with more fruit and vegetables will reduce not only risks of life-threatening diseases, but also the environmental impact of the food.

The F2F strategy also aims to empower consumers to make informed food choices, by, for instance, proposing harmonised mandatory front-of-pack nutrition labelling and mandatory origin or provenance



People want to feel closer to their food.



indications to certain products. The Commission will examine ways to harmonise voluntary green claims and to create a sustainable labelling framework that covers, in synergy with other relevant initiatives, the nutritional, climate, environmental and social aspects of food products.

Additionally, the Strategy will aim to reduce food waste. The Commission is committed to halving *per capita* food waste at retail and consumer levels by 2030. Using the new methodology for measuring food waste and the data expected from Member States in 2022, it will set a baseline and propose legally binding targets to reduce food waste across the EU.

### Enabling the transition: the Role of the new CAP

It is clear that such a major transition in Europe's food system will require significant financial support and investments. The new CAP, proposed by the Commission in June 2018 for the coming programming period 2021–2027, will play a crucial role in managing this shift towards sustainable food production systems and in strengthening the efforts of European farmers to improve their environmental and climate performance.

In total, nine specific objectives have been adopted to reflect this drive towards a sustainable food system and to orientate future funding under CAP. By the end of the year the Commission will adopt recommendations destined for each Member State on how to address these objectives in their Strategic Plans (see box).

The aim is to encourage a more results-oriented model, accompanied by improved mandatory environmental standards, new voluntary measures and an increased focus on investments into green technologies and practices.

The new 'eco-schemes' under Pillar I, for instance, will offer a new stream of funding to

boost sustainable practices, such as precision agriculture, agro-ecology (including organic farming), carbon farming and agro-forestry. Member States and the Commission will have to ensure that appropriate funding remains available for those interventions and that such measures are included in the CAP's Strategic Plans.

Additionally, the Commission has proposed to ring fence a share (eg 30%) of the budget for the environment and climate under Pillar II of the new CAP.

When scrutinizing the Member States Strategic Plans, the Commission will pay particular attention to ensuring that the Green Deal targets, and those stemming from this strategy and the Biodiversity Strategy for 2030 are properly addressed. It will ask Member States to set explicit national values for these targets and to identify the measures needed to achieve them in their Strategic Plans.

In this way, every Member State will be able to play their part in shifting towards more sustainable and environmentally friendly production measures in the coming years. This will be further supported by a strengthened farming advisory service and a major research and innovation programme totally €10 billion under Horizon 2020.

### Promoting a global transition

The EU is committed to lead by example on the transition to sustainable food systems, not only within its borders, but also outside. Through international cooperation, the EU will seek to promote more sustainable farming and fisheries practices, reduce deforestation, enhance biodiversity, and improve food security and nutrition outcomes.

The Commission will also incorporate its Farm-to-Fork priorities in the programming guidance for cooperation with third countries in the period 2021–2027 and will develop Green Alliances on sustainable

## Integrating Biodiversity into the CAP Strategic Plans

The future CAP has **nine specific objectives**. These will give an indication of how EU Agricultural funding is to be allocated over the next seven years. Three concern the environment, and one focuses on biodiversity protection in particular – ie to '*contribute to the protection of biodiversity, enhance ecosystem services and preserve habitats and landscapes*'.

In contrast to previous Rural Development Programmes, the new CAP shifts the emphasis from compliance and rules to results and performance in order to give Member States more flexibility to decide how best to meet the common objectives set at EU level, while, at the same time, responding to the specific needs of their farmers and rural communities.

Each Member State must therefore draw up a single **CAP strategic plan** in order to seek CAP funding. The plan will need to analyse the situation on its territory in terms of strengths, weaknesses, opportunities and threats (SWOT analysis), as well as its related needs, in respect of the nine CAP objectives. For the first time, the competent authorities for environment and climate will also need to be officially involved in the preparation of the environment and climate related aspects of the Strategic Plans.

The Strategic Plans will then be reviewed and approved by the Commission to ensure that they contribute fully to the nine CAP objectives and take due account of the needs and objectives of EU environmental law, including the Habitats and Birds Directives. In particular, the **Prioritised Action Frameworks (PAFs)** prepared by Member States under article 8 of the Habitats Directive must be properly reflected in the Strategic Plans. This will in turn greatly facilitate the integration of priority conservation measures into the CAP funding programme.

In addition to the enhanced conditionality, the following CAP interventions in particular can be used to support nature and biodiversity:

- Article 28 (Pillar I) – Eco schemes
- Article 65 (Pillar II) – Environmental commitments, including agri- environment schemes to cover recurring costs
- Article 67 – Natura 2000 payments
- Article 68 – Non-productive investments to cover one-off restoration schemes or the preparation of Natura 2000 management plans or monitoring programmes, or certain visitor facilities.
- Article 72 – Knowledge exchange and information.

*Commission proposal for a regulation establishing rules on support for strategic plans to be drawn up by Member States under the Common agricultural policy (CAP Strategic Plans) <https://bit.ly/3dXaSsF>*

food systems to respond to distinct challenges in different parts of the world.

Additionally, the Commission will aim to establish a legislative framework for sustainable food systems, combined with labelling or other incentives, in

order to contribute to raising sustainability standards globally and especially for all products placed on the EU market.

Go to: [https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/actions-being-taken-eu/farm-fork\\_en](https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/actions-being-taken-eu/farm-fork_en)

# natura news

● NEWS ● PUBLICATIONS ● EVENTS



27 finalists have been selected for the 2020 Natura 2000 award.

## Natura 2000 awards

The 27 finalists of the 2020 Natura 2000 award have now been announced. Once again they cover an exciting array of activities for Natura 2000 from across the EU and serve as a timely reminder of all that is being done to protect and manage Europe's rich but beleaguered nature.

Over the coming months, a high-level jury will decide on the winners for each of the five award categories – communication, socio-economic benefits, conservation, reconciling interests and perceptions, cross-border cooperation and networking. The results will be revealed at a major award ceremony in Brussels on 14 October.

The coveted Citizen's award is also up for grabs. But this time, the winner will be entirely down to you. So why not vote now for your favourite finalist. Votes can be cast until the midnight on 15th September 2020.

To vote go to:

<https://bit.ly/37JE0GY>

## Green Week

Due to the COVID-19 crisis, this year's Green Week had to be postponed and will now take place on 20–22 October in Brussels. Following the recent adoption of the EU's new Biodiversity Strategy for 2030, the event will provide an opportunity to rethink our relationship with nature, to explore ways in which we can change the activities that are driving biodiversity loss and the wider ecological crisis, and to weigh up the implications for our economy and society. The various workshops will highlight, in particular, the contribution biodiversity can make to society and the economy, and the role it can play in supporting and stimulating Europe's economic recovery in a post-pandemic world.

This year's Green Week will also act as a milestone on the path to the Conference of the Parties (COP 15) to the Convention on Biological Diversity, now planned for 2021, where world leaders will

adopt a 10-year action plan for biodiversity – a new global deal for people and nature.

<https://bit.ly/3hFvhFw>

## The State of Nature report

Every six years, Member States are asked to report back to the Commission on bird population sizes and trends (Article 12 of the Birds Directive) and on the conservation status and trends of targeted habitats and species (Article 17 of the Habitats Directive) within their territory. The Commission, with the help of the EEA's Topic Centre for Biodiversity, then pools all the data together in order to see how each of the species and habitats is faring at the biogeographical level, and across the EU as a whole.

Work is now well advanced on the preparation of the latest State of Nature report for the reporting period 2013–2018. Both the EEA's detailed technical report and the Commission's Communication summary will

be launched at Green Week in October. But much of the data is already publicly available. This includes a series of on-line dashboards presenting some of the results for each of the Member States and assessments of individual (or groups of) species and habitats at EU, biogeographical and Member State level.

State of Nature webpage:

<https://bit.ly/3dkOnzO>

Online dashboards:

<https://bit.ly/3egExxV>

<https://bit.ly/2YkDdVf>

## Latest on the Biogeographical Process

Two further Natura 2000 Seminars are foreseen in the coming year. The third Alpine seminar, hosted by the Ministry of the Environment of Sweden and the Swedish Environmental Protection Agency, will take place online on 8 to 11 September. It will focus on four key topics: 1) defining and coordinating a Natura 2000 restoration agenda in the Alpine region, 2)

## Common kestrel *Falco tinnunculus* three fledglings.





managing land use to improve the conservation of Alpine Natura 2000 habitats and species, 3) optimising co-benefits of Natura 2000 management with climate change mitigation and adaptation and 4) improving landscape connectivity for Natura 2000 Alpine habitats and species.

The third Mediterranean seminar, to be hosted by the Italian Region of Calabria and the Sila National Park, in cooperation with the University of Calabria, is scheduled to take place in the first week of May 2021. The focus will be on the following four themes: 1) defining and coordinating a Natura 2000 restoration agenda for the Mediterranean region, 2) defining conservation objectives at site level and monitoring the impact of the measures, 3) addressing land abandonment in the Mediterranean region and 4) building capacity for Natura 2000 management.

In addition, ten further Natura 2000 networking events have been selected for EU support this year.

<https://bit.ly/2VgAlqv>

## New Global Biodiversity Coalition

On the occasion of the World Wildlife Day on 3rd of March, the European Commission launched a new global coalition for biodiversity conservation. Through this communication campaign, the Commission is joining forces with the world's national parks, aquariums, botanic gardens, zoos, science and natural history museums in order to boost public awareness about the nature crisis, ahead of the crucial CoP15 of the Convention on Biological Diversity in China next year.

The Commission also encourages national, regional and local authorities, non-governmental organisations, businesses, scientists and individual citizens to play their part in raising awareness ahead of the United Nations Biodiversity Summit (CoP 15).

<https://bit.ly/2UZAftQ>



Alpine cattle in Pyrenees National Park, France.

## LIFE Call for proposals,

Because of the COVID-19 crisis all deadlines for call for proposals under LIFE have been postponed. The deadline for submitting concept notes for traditional nature and biodiversity projects closes on 16 July while those for preparatory projects remain open until 10 September and for integrated projects until 6 October.

<https://bit.ly/30WbXxl>

## Europe's floodplains

In March, the European Environment Agency published a new report on: "Floodplains: a natural system to preserve and restore". Floodplains are found at the interface between rivers and their catchment and cover around a third of the entire terrestrial area within the Natura 2000 network. Studies have shown that 70–90 % of floodplains have been environmentally degraded as a result of structural flood protection, river straightening, the disconnection of floodplain wetlands, agricultural land use and urbanisation over the past two centuries.

The report describes how an ecosystem-based approach to

the conservation and restoration of natural floodplains can support multiple EU policy objectives while at the same time creating win-win solutions for improved water quality, improved conditions for biodiversity conservation and improved recreational value. However, in order to succeed, ecosystem-based management and floodplain restoration requires the prioritisation of benefits, good planning and public support, as well as investment and time. The report

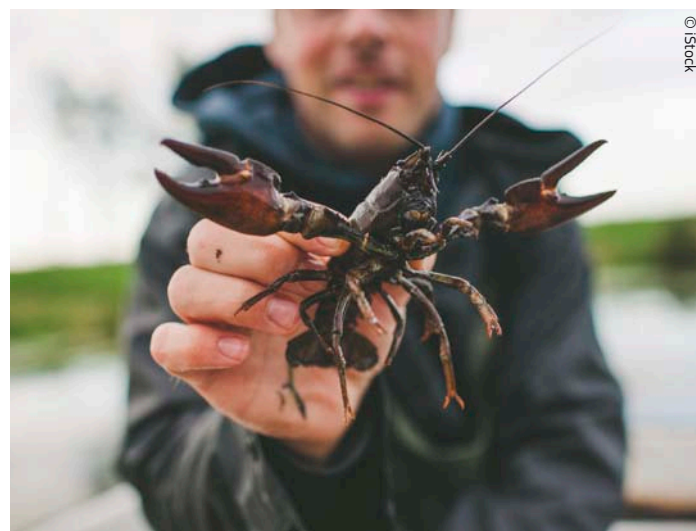
describes how these goals can be reached, amongst others, with the support of various EU funding instruments.

<https://bit.ly/3hDvBVn>

## FAQ on Natura 2000 and Invasive Alien Species

Earlier this year, the Commission published a Frequently Asked Questions (FAQs) paper on how the EU Invasive Alien Species Regulation can support the implementation of the EU Habitats and Birds Directives

**The signal crayfish outcompetes native species and alters the habitat structure.**





© iStock

The Red List assessment of hoverflies will be published this year.

and vice versa. 15 key questions, which were identified with the help of experts, are addressed in detail within the document, and are illustrated with practical examples from across the EU.

Last October, the Commission also published a similar FAQ on the links between the Nature Directives and the Nitrates Directive.

<https://bit.ly/2YUtnsd>

## European Court of Auditors report on biodiversity in Farmland

In June, the European Court of Auditors published a special report on the contribution made by the Common Agricultural Policy (CAP) to maintaining and enhancing biodiversity over the last financial period. For

the 2014 –2020 period, the Commission planned to spend €66 billion of CAP money on biodiversity, but, as the report concludes, despite this the CAP has not been effective in halting biodiversity loss on farmland.

The auditors found that there was a general lack of coordination between EU policies and strategies and that the Commission's tracking of CAP spending for biodiversity is unreliable, making it difficult to measure any progress. It also found that the effect of CAP direct payments on farmland biodiversity was very limited and, although the rural development instruments had greater potential than direct payments for maintaining and enhancing biodiversity, it noted

that Member States relatively seldom used high-impact rural development measures such as result-based and “dark green” schemes.

The recommendations of the Report will now feed into the current legislative preparations for the 2021 –2027 CAP and the implementation of the new EU biodiversity strategy post-2020.

<https://bit.ly/2Ndrwck>

See also new DG Agri Study.

<https://bit.ly/2UWUql9>

## Mapping and Assessment of Ecosystems and their Services (MAES)

This new report provides an assessment of the state and trends of ecosystems at EU level using the MAES analytical framework. It analyses in particular how ecosystems have changed over the years and how this has impacted on people and the delivery of ecosystem services. The report also provides the evidence base for the final evaluation of the EU Biodiversity Strategy to 2020 due in December 2020.

<https://bit.ly/3hJmoeg>

## EU Pollinators initiative

Launched in June 2018, the EU Pollinators Initiative sets out a programme of measures to address the decline of wild pollinators across the EU. The Commission has since created an on-line EU pollinator information hive to facilitate information sharing and collaboration between stakeholders and to map actions for pollinators across the EU. The site will enable anyone interested to find useful information and contacts.

The Commission has also continued to strengthen the knowledge base necessary for effective pollinator conservation. In addition to completing the red lists for different insect groups, it will publish an expert proposal for a common EU pollinator monitoring scheme and policy indicators by September. Once tested, the scheme will make it possible to track progress on reversing the decline of pollinators under the EU biodiversity strategy for 2030, and help to evaluate the impacts of different EU policies such as the CAP.

<https://bit.ly/2YPxTlh>

## DON'T FORGET TO RENEW YOUR SUBSCRIPTION!

Please remember we are renewing our subscriptions list for the Natura 2000 newsletter so if you would like to continue to receive your copy by post, then do re-subscribe on line. It takes less than a minute! <https://bit.ly/2YheH7q>

The Natura 2000 Newsletter is produced by DG Environment, European Commission. Author: Kerstin Sundseth Ecosystems LTD, Brussels. Commission Editor: Sofia Pachini, DG Environment. Design: [www.naturebureau.co.uk](http://www.naturebureau.co.uk)

Luxembourg: Publications Office of the European Union, 2020. © European Union, 2020

Reuse is authorised provided the source is acknowledged. The reuse policy of European Commission documents is regulated by Decision 2011/833/EU (OJ L 330, 14.12.2011, p. 39). For any use or reproduction of photos or other material that is not under the EU copyright, permission must be sought directly from the copyright holders.

The newsletter does not necessarily reflect the official view of the European Commission.

Photos: Cover © Alamy; p. 2 © Jennifer Jacquemart /EC – Audiovisual Service, © Suzi Eszterhas/naturepl.com, © Jan Skriver, © iStock, © Klein & Hubert/naturepl.com; p. 3 © robertharding/Alamy Stock Photo; p. 4 © iStock; p. 5 © Suzi Eszterhas/naturepl.com; p.6 © iStock; p.7 © iStock; p. 9 © Jan Skriver; p. 10 © SCOTLAND: The Big Picture/ naturepl.com; p. 11 © Klein & Hubert/naturepl.com; p. 12 © iStock; p. 14 © Kosta Kalaitzis, © Klein & Hubert/naturepl.com; p. 15 © Robert Thompson/Naturepl.com, © iStock; p. 16 © iStock

