

How biodiversity and climate change issues are integrated in national regulations innovative solutions ?

PRESIDENT JOHNSON

AT THE SIGNING OF THE WILDERNESS ACT 1964

If future generations are to remember us with gratitude rather than contempt, we must leave them something more than the miracles of technology. We must leave them a glimpse of the world as it was in the beginning, not just after we got through with it.

ROGER CANS

On July 10, 1986, on the tenth anniversary of the law for the protection of nature, *Le Monde* Natural heritage needed a law. All it needs now are people, funding and true political determination.

In the United States, the management of natural spaces was organized very early on around the principle of conservation with the great federal parks and national monuments of the 19th century. Despite significant environmental damage (urban sprawl, deforestation, etc.), California joined this trend at an early stage with the creation of the first Yosemite Valley Park and the Mariposa Grove Redwoods in 1894. It then gradually established itself as a pioneer state and a driving force in the consideration of environmental issues. California was an early player making commitments that were effective for conservation and the environment, even though its own legislation had to contend with federal laws as well as economic competitiveness and growth objectives between states. Measures adopted by the State of California often precede and inspire those of the federal government and other states, as occurred for regulations to reduce vehicle emissions.

In France, the management of natural spaces is ancient and was long influenced by the system of privileges of the aristocracy. Its initial objective was to ensure the preservation of forest resources (hunting reserves and timber). This encouraged the development of an economic and production-based management, as shown by Colbert's royal decree on the management of forests in 1669. Eventually, the influence of the artistic world, inspired by Romantic era depictions of nature, allowed the establishment of protected artistic areas and the law of 1930 on the protection of noteworthy sites. Contrary to the original notion of nature as a 'wilderness' in the English-speaking world, the French vision is more influenced by human needs (recreational, economic, artistic, etc.). In parallel with the European momentum, France then became involved in work on biodiversity issues and a driving force for network facilitation on the subject. The organization of several major events, such as the 'Grenelle de l'environnement' in 2007 and the Paris Climate Agreement in 2015, ensures that these major issues are clearly understood. However, the application of these principles remains unclear on the national scale and is closely related to the coordination with the European Commission's directives, without going beyond their requirements.

California Biodiversity hotspots

Of the estimated 5,500 plant species, 40% are endemic. This makes California one of the world's 36 Biodiversity Hotspots, as was proposed by Myers *et al.* (2000).

France endangered species

In mainland France, according to the collected data: 14% of mammals, 24% of reptiles, 23% of amphibians, 19% of freshwater fishes and 32% of breeding birds are in danger of extinction. (Commissariat général au Développement durable, 2020)

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Major laws contributing to the national commitment to climate and biodiversity

FRANCE

A state that is part of the European dynamic

1946 **Establishment of the National Council for the Protection of Nature (CNP)**, a council of scientific and technological expertise, supporting the government in the drafting of laws.

1971 **Establishment of the Ministry of the Environment but allocated a small budget.**

1976 **Law on the relative protection of nature which becomes of common interest** and leads to the obligation of impact studies, the identification of protected species and the modernization of protective measures such as reserves.

1983 **Huguette Bouchardeau Law**
Mandatory public inquiries to ensure public information and to offer the possibility of suggestions or counterproposals.

1993 **Law on the protection and enhancement of landscapes**
Gives an official status to the concept of landscape (without precise definition) and complements the urban planning code (integration and visual impact of projects on the environment).

1995 **Barnier law on the environment**
Provisions relating to the prevention of natural risks, the protection of natural areas and improvement of consultation.

2002 **National plan to fight climate change**
aimed at reducing GHG emissions over the period 2000-2010.

2003 **National strategy on sustainable development "factor 4" by 2050** (divide GHG emissions by 4).

2004 **First Climate Plan**
Inventory of actions to be taken to reach the Kyoto Protocol targets.

2005 **Charter of the Environment**
It enshrines environmental law by incorporating its principles into the Constitution (prevention principle, precautionary principle, polluter-pays principle, etc.).

2009 **Observatory of agricultural biodiversity** to engage farmers in the knowledge and monitoring of biodiversity.

2009 **Establishment of the Environmental Authority (AE)**, which issues opinions on programs by assessing their environmental impacts.

2010 **Grenelle I law**, which sets out the main guidelines, and Grenelle II law, which sets out the guidelines in practical terms (introduction of the concept of the green and blue corridors, regional ecological coherence plan, etc.).

2015 **National Low Carbon Strategy**

2016 **Law on the reconquest of biodiversity, nature and landscapes** : Integration of the ERC sequence (avoid -reduce-compensate) to avoid net losses of biodiversity and provide compensation measures. Establishment of Environmental Real Obligations (EROs), a legal tool that allows any property owner to establish a contract attaching environmental protection to their property for up to 99 years. Establishment of the National Biodiversity Committee (CNB), which supports the CNPN by giving opinions on the legislative and regulatory provisions of the National Strategy for Biodiversity (SNB).

2017 **Climate Plan**
Target of carbon neutrality by 2050, identification of priority diversity areas. Over the period 1990-2017, greenhouse gas emissions in France have decreased by 18%.

2018 **Biodiversity Plan**
Aim to reduce the net loss of biodiversity to zero and to accelerate the implementation of the national biodiversity strategy 2011-2020.

2019 **Energy and Climate Law**
The law requires the phase-out of coal-fired electricity generation by 2022. Low-carbon label certifying GHG emission reduction and carbon capture projects.

2020 **Future Protected Areas Strategy 2020-2030**
Achieving the commitment to increase the share of marine and terrestrial protected areas to 30% by 2022. The previous objective was to protect 20% of marine sites by 2020 (as of January 1, 2018, the latter objective was exceeded, since 22.3% of the maritime space was classified as marine protected areas).

2021 **«Climate and Resilience» bill intends**
to concretize part of the 146 proposals of the Citizens' Climate Convention (Group of 150 citizens chosen by lot in 2019 to define a series of measures to reduce greenhouse gas emissions by 40% by 2030).

CALIFORNIA

An innovative state that serves a pioneering role in terms of federal commitments

1963 **Local Agency Formation Commission (LAFCO)**
Ensures coordination of measures at the county level, in response to difficulties in managing urban growth (urban services, sewers, water lines, etc.). An independent entity empowered by the government to oversee the boundaries of cities and special districts, ensuring consistency of their development. Cities and districts must obtain approval from LAFCO before expanding their services outside their local boundaries.

1967 **Establishment of California Air Resources Board (CARB)**
Agency responsible for implementing all of California's policies to reduce greenhouse gas emissions and ensure air quality. It is the only agency of its kind in the United States because it was established before the EPA (the federal agency, founded in 1970).

1970 **The California Environmental Quality Act (CEQA)**
A protocol for regulating the environmental impacts of projects to promote transparency in decision-making and ensure consideration of development impacts and mitigation measures or alternatives if existent. CEQA provides a process by which public agencies, the public and project developers can evaluate a project, understand its environmental impacts, and develop measures to reduce those impacts.

1991 **California Environmental Protection Agency**
Its purpose is to restore, protect and enhance the environment, ensure public health and economic vitality.

2002 **AB 1058 Act**
Governor Gray Davis mandates CARB to cap greenhouse gas emissions for vehicles. In reaction the auto industry files a lawsuit because it is an area governed by federal rules. EPA announces that it does not have authority under the federal Clean Air Act to regulate greenhouse gas pollution and rejects California's 2007 waiver request needed to implement its law. The waiver was finally granted in 2009 by President Obama, making it possible for California to adopt specific automobile emissions regulations.

2006 **AB 32 The Global Warming Solutions Act**
Sets the objective of reducing greenhouse gas emissions to 1990 levels by 2020. This was achieved in 2016, which is equivalent to removing about 12 million cars from the road. The current target is to reduce emissions by 40% of 1990 levels by 2030.

2017 **Governor Brown issues an executive order to protect biodiversity, the "California Biodiversity Initiative":**
A Roadmap for Protecting the State's Natural Heritage" convening a team of biodiversity experts to draft a «Charter to Secure the Future of California's Native Biodiversity ».

2018 **Senate Bill 100 (SB 100)**
Goal to limit greenhouse gas emissions by producing 100% clean energy in California by 2045: At least 60% will be provided through renewable energy resources such as wind and solar. The remaining 40% will be provided through a combination of renewable and zero-carbon sources. Revised the 2018-2019 budget to allocate \$2.5 million to launch the California Biodiversity Initiative.

2020 **30 by 30 Strategy**
Governor Gavin Newsom has ordered a goal of conserving 30% of the state's land and ocean by 2030. A key concept is to enlist California's 'natural and working lands' in dealing with climate change. This term is used in many contexts to link many types of management and land use in a common goal (forests, rangelands, farms, wetlands, coasts, deserts, and urban greenspaces). The Executive Order directs the California Natural Resources Agency to form a California Biodiversity Collaborative to bring together experts, leaders, and communities to pursue a common approach to biodiversity protection and develop strategies to support the 30 by 30 goal.