HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: HB 1187 Carbon Sequestration
SPONSOR(S): Cross and others
TIED BILLS: **IDEN./SIM. BILLS:** SB 1258

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR or BUDGET/POLICY CHIEF
1) Agriculture, Conservation & Resiliency Subcommittee	19 Y, 0 N	Mamontoff	Moore
2) Agriculture & Natural Resources Appropriations Subcommittee			
3) Infrastructure Strategies Committee			

SUMMARY ANALYSIS

Carbon is the foundation of all life on Earth. Carbon helps to regulate the Earth's temperature, makes all life possible, is a key ingredient in food, and provides a major source of energy to fuel the global economy. This element is also found in our atmosphere in the form of carbon dioxide (CO_2). The carbon cycle describes the process in which carbon atoms continually travel from the atmosphere to the Earth and then back into the atmosphere. Since Earth and its atmosphere form a closed environment, the amount of carbon in this system does not change.

Carbon sequestration is the process of capturing and storing atmospheric CO_2 to reduce the amount of CO_2 in the atmosphere. There are two types of carbon sequestration: geologic and biologic. Geologic carbon sequestration is the process of storing CO_2 in underground geologic formations. Biologic carbon sequestration particularly refers to the storage of atmospheric carbon in vegetation, soils, woody products, and aquatic environments. For example, forests and woodland ecosystems are considered to be one of the best forms of natural carbon sequestration. CO_2 binds to plants during photosynthesis, exchanging it for oxygen as a purifying emission.

The bill creates the Carbon Sequestration Task Force (Task Force) adjunct to DEP for the purpose of providing recommendations for the development of a statewide carbon sequestration program. The bill specifies that such statewide program is necessary to provide incentives for landowners and managers to continue activities and land uses that sequester carbon.

The bill requires appointments to the ten-member Task Force to be made by August 1, 2024.

The bill directs the Task Force to submit to the Secretary of Environmental Protection a report summarizing its activities and findings in its first year by October 1, 2025.

The bill directs the Task Force to submit to the Governor, the President of the Senate, and the Speaker of the House of Representatives a report that compiles the Task Force's findings and recommendations by October 1, 2026.

The bill sunsets the Task Force on April 30, 2027.

The bill appropriates a nonrecurring sum of $350,000 from the Operating Trust Fund to DEP.

FULL ANALYSIS

I. SUBSTANTIVE ANALYSIS

A. EFFECT OF PROPOSED CHANGES:

Background

Carbon

Carbon is the foundation of all life on Earth and is necessary to form complex molecules like proteins and DNA. Carbon helps to regulate the Earth's temperature, makes all life possible, is a key ingredient in food, and provides a major source of energy to fuel the global economy.[1] This element is also found in our atmosphere in the form of carbon dioxide (CO_2).

The carbon cycle describes the process in which carbon atoms continually travel from the atmosphere to the Earth and then back into the atmosphere. Since Earth and its atmosphere form a closed environment, the amount of carbon in this system does not change. Therefore, where the carbon is located, in the atmosphere or on Earth, is constantly in flux.[2]

On Earth, most carbon is stored in rocks and sediments, while the rest is located in the ocean, atmosphere, and in living organisms.[3] These are the reservoirs, or sinks, through which carbon cycles. Carbon is released back into the atmosphere when organisms die, volcanoes erupt, fires blaze, fossil fuels are burned, and through a variety of other mechanisms. In the case of the ocean, carbon is continually exchanged between the ocean's surface waters and the atmosphere, or is stored for long periods of time in the ocean depths.[4]

Humans play a major role in the carbon cycle through activities such as the burning of fossil fuels or land development. As a result, the amount of CO_2 in the atmosphere is rapidly rising; it is already considerably greater than at any time in the past 3.6 million years.[5]

Carbon Sequestration

Carbon sequestration is the process of capturing and storing atmospheric CO_2 that reduces the amount of CO_2 in the atmosphere.[6] It is estimated that approximately 45 percent of CO_2 emitted by humans remains in the atmosphere.[7]

There are two types of carbon sequestration: geologic and biologic. Geologic carbon sequestration is the process of storing carbon dioxide in underground geologic formations. The CO_2 is usually pressurized until it becomes a liquid, and then it is injected into porous rock formations in geologic basins.[8] This method of carbon storage is sometimes a part of enhanced oil recovery, otherwise known as tertiary recovery, because it is used later in the life of a producing oil well. In enhanced oil recovery, the liquid CO_2 is injected into the oil-bearing formation to reduce the viscosity of the oil and allow it to flow more easily to the oil well.[9]

Biologic carbon sequestration refers to the storage of atmospheric carbon in the natural environment[10] and is also known as an indirect or passive form of carbon sequestration. This type of carbon

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[1] National Oceanic and Atmospheric Association (NOAA), *What is the carbon cycle?*, https://oceanservice.noaa.gov/facts/carbon-cycle.html#transcript (last visited Jan. 18, 2024).
[2] *Id.*
[3] *Id.*
[4] *Id.*
[5] *Id.*
[6] United States Geological Survey (USGS), *What is carbon sequestration?*, https://www.usgs.gov/faqs/what-carbon-sequestration (last visited Jan. 18, 2024).
[7] National Grid, *What is carbon sequestration?*, https://www.nationalgrid.com/stories/energy-explained/what-carbon-sequestration (last visited Jan. 18, 2024).
[8] USGS, *What's the difference between geologic and biologic carbon sequestration?*, https://www.usgs.gov/faqs/whats-difference-between-geologic-and-biologic-carbon-sequestration (last visited Jan. 18, 2024).
[9] *Id.*
[10] *Id.*

sequestration occurs in what are known as carbon sinks,[11] such as forests, grasslands, soil, oceans, and other bodies of water. For example, by encouraging the growth of plants, particularly trees, advocates of biologic carbon sequestration hope to help reduce the amount of CO_2 in the atmosphere.[12]

Department of Environmental Protection

The Department of Environmental Protection (DEP) is the state's lead agency for environmental management and stewardship, protecting Florida's air, water and land. DEP is divided into three primary areas:

- Land and recreation programs that acquire and protect lands for preservation and recreation;
- Regulatory programs that safeguard natural resources by overseeing permitting and compliance activities that protect air and water quality, and manage waste cleanups; and
- Ecosystem restoration programs that protect and improve water quality and aquatic resources, including America's Everglades, Florida's iconic springs, and Florida's world-renowned coastal resources.[13]

Effect of the Bill

The bill defines the following terms:

- "Blue carbon" means carbon sequestered by marine and coastal ecosystems.
- "Carbon sequestration" means the long-term storage of carbon in plants, soils, geologic formations, and the ocean through land and aquatic habitat management.

The bill creates the Carbon Sequestration Task Force (Task Force)[14] adjunct to DEP for the purpose of providing recommendations for the development of a statewide carbon sequestration program. The bill specifies that such statewide program is necessary to provide incentives for landowners and managers to continue activities and land uses that sequester carbon.

The Task Force must be composed of the following ten members:

- The Secretary of Environmental Protection, or his or her designee;
- The Commissioner of Agriculture, or his or her designee;
- The executive director of the Fish and Wildlife Conservation Commission;
- The Chief Resilience Officer, or his or her designee;
- A representative from the National Estuary Program, appointed by the Secretary of Environmental Protection;
- A member of an environmental not-for-profit, appointed by the Secretary of Environmental Protection;
- A landowner of working agricultural lands, appointed by the Commissioner of Agriculture;
- A representative from a state university with expertise in energy or sustainability, appointed by the Secretary of Environmental Protection;
- A representative from the University of Florida Institute of Food and Agricultural Sciences, appointed by the Commissioner of Agriculture; and
- A representative from the Florida Sea Grant Program, appointed by the Commissioner of Agriculture.

The bill requires appointments to the Task Force to be made by August 1, 2024. Any vacancy must be filled in the same manner as the original appointment. The bill directs the Task Force to elect a chair

[11] A carbon sink is anything that absorbs more carbon from the atmosphere than it releases. Client Earth, *What is a carbon sink?*, https://www.clientearth.org/latest/latest-updates/stories/what-is-a-carbon-sink/ (last visited Jan. 18, 2024).
[12] USGS, *What's the difference between geologic and biologic carbon sequestration?*, https://www.usgs.gov/faqs/whats-difference-between-geologic-and-biologic-carbon-sequestration (last visited Jan. 18, 2024).
[13] Department of Environmental Protection, *About DEP*, https://floridadep.gov/about-dep (last visited Jan. 18, 2024).
[14] "Task force" means an advisory body created without specific statutory enactment for a time not to exceed one year or created by specific statutory enactment for a time not to exceed three years and appointed to study a specific problem and recommend a solution or policy alternative with respect to that problem. Its existence terminates upon the completion of its assignment. Section 20.03(5), F.S.

from among the members, to convene no later than September 1, 2024, and to meet quarterly or upon the call of the chair.

The bill directs the Task Force to do the following:

- Identify and inventory terrestrial and aquatic environments suitable for carbon sequestration in the state;
- Consider possible methods of increasing carbon sequestration within the natural environment through state land and marine resource use policies; agricultural, aquacultural, and silvicultural practices; and other practices to achieve restoration of natural resources and long-term conservation;
- Develop a standardized methodology, including appropriate technology and existing research, to establish baseline carbon levels and account for increases in carbon sequestration over time;
- Evaluate additional ecosystem services and benefits of terrestrial and aquatic environments that may promote conservation and ecosystem restoration success, including water recharge, stormwater filtration, threatened or endangered wildlife habitat, nutrient reduction, flood mitigation and protection, coastal resilience, air quality, soil health, and food security;
- Recommend short-term and long-term benchmarks for increasing carbon sequestration in terrestrial and aquatic ecosystems;
- Identify existing carbon markets and other considerations relevant to participation by the state in such markets; and
- Identify potential funding mechanisms to encourage carbon sequestration practices and activities in the state.

The bill directs the Task Force to submit to the Secretary of Environmental Protection a report summarizing its activities and findings in its first year by October 1, 2025. This report must include a nonrecurring budget request for the 2025-2026 fiscal year.

The bill directs the Task Force to submit to the Governor, the President of the Senate, and the Speaker of the House of Representatives a report that compiles the Task Force's findings and recommendations by October 1, 2026.

The bill sunsets the Task Force on April 30, 2027.

The bill appropriates the sum of $350,000 in nonrecurring funds from the Operating Trust Fund to DEP for the purpose of providing administrative and support services to the Task Force.

B. SECTION DIRECTORY:

Section 1. Creates s. 403.945, F.S., relating to the Carbon Sequestration Task Force.

Section 2. Provides an appropriation.

Section 3. Provides an effective date of July 1, 2024.

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

   None.

2. Expenditures:

   The bill provides an appropriation of $350,000 in nonrecurring funds from the Operating Trust Fund to DEP for the purpose of providing administrative and support services to the Task Force.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

   None.

2. Expenditures:

   None.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

None.

D. FISCAL COMMENTS:

None.

III. COMMENTS

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

   Not applicable. This bill does not appear to affect county or municipal governments.

2. Other:

   None.

B. RULE-MAKING AUTHORITY:

None.

C. DRAFTING ISSUES OR OTHER COMMENTS:

None.

IV. AMENDMENTS/COMMITTEE SUBSTITUTE CHANGES

None.