

STORAGE NAME: h1829.wrm
DATE: March 23, 1999

**HOUSE OF REPRESENTATIVES
COMMITTEE ON
WATER AND RESOURCE MANAGEMENT
ANALYSIS**

BILL #: HB 1829
RELATING TO: Red Tide Research and Mitigation
SPONSOR(S): Rep. Bradley
COMPANION BILL(S): SB 2038 (s)

ORIGINATING COMMITTEE(S)/COMMITTEE(S) OF REFERENCE:

- (1) WATER AND RESOURCE MANAGEMENT
 - (2) GOVERNMENTAL OPERATIONS
 - (3) GENERAL GOVERNMENTAL APPROPRIATIONS
 - (4)
 - (5)
-

I. SUMMARY:

HB 1829 establishes the Task Force on Harmful Algal Blooms whose purpose is to determine research, monitoring, control, and mitigation strategies for harmful algal blooms in the state. Task force members are appointed by the Secretary of the Department of Environmental Protection and are charged with determining research and monitoring priorities, control and mitigation strategies, and making recommendations to the DEP by October 1, 1999 for using funds as provided in this bill. After completion of these duties, the task force may be continued at the pleasure of the Secretary.

HB 1829 directs the Florida Marine Research Institute (FMRI) to implement a program designed to increase the knowledge of factors controlling HABs, including early detection, accurate prediction, control, and mitigation. This program is intended to enhance and address areas not adequately covered by the ECOHAB program in Florida. A financial disbursement program is created within the FMRI to implement this act and may be funded by state, federal, and private contributions.

HB 1829 appropriates the sum of \$3 million from the General Revenue Fund to the FMRI for the fiscal year 1999-2000 to carry out this act. From those funds, \$1 million will be used to continue contracts already in place for the study of HABs, \$1 million will go to Mote Marine Laboratory, and \$1 million will go to the FMRI. Mote and the FMRI will use their monies for a cooperative study of HABs to address areas of critical need.

The effective date of the act will be July 1, 1999.

II. SUBSTANTIVE ANALYSIS:

A. PRESENT SITUATION:

In Florida, red tides and other harmful algal blooms (HABs) cause massive fish kills, shellfish contamination, and severe respiratory irritation and other health related problems to residents and visitors of Florida's Gulf coast. In 1996, a red tide bloom resulted in approximately 150 manatee deaths. Because of the severe economic and public health effects of red tide, much consideration has been given to predicting, controlling, and mitigating the blooms. Red tides occur worldwide and are caused by several species of marine phytoplankton, a microscopic plant producing potent chemical toxins. The origin of Florida's red tide is blooms of a single-celled algae called *Gymnodinium breve* ("*G. breve*"). While coastal pollution may enhance the frequency and severity of red tide blooms in some areas, Florida's red tide blooms are part of the natural ecology of Florida's gulf coast regions.

Between 40-80 miles offshore in the Gulf of Mexico, red tide blooms result from a massive multiplication of *G. breve*. These blooms are driven by winds and ocean currents towards nutrient-rich, shallow waters where the blooms multiply to harmful levels. At high concentrations, *G. breve* creates a brownish-red sheen on the water's surface. At lower concentrations, the water's surface may appear yellow-green. Some red tide blooms have covered as much as several hundred square miles of water. These blooms enter the bloodstream of fish through their gills and cause fish to die quickly. Filter-feeding shellfish, such as oysters, clams, and mussels consume *G. breve* and concentrate the toxins in several organs, making these shellfish unsafe to harvest and eat. The Department of Environmental Protection must determine that waters and shellfish in an area are free of red tide toxins before shellfish may be harvested. In addition, red tide can cause a variety of symptoms in humans including irritations of the eyes, nose, and throat.

Another organism found in Florida resulting in HABs is *Cryptoperiniopsis brodyi* (*C. brodyi*). This micro-algae was found two years ago in the St. Johns River in Jacksonville where fish developed sores. Since that time, *C. brodyi* has been found in the St. Lucie River also in connection with fish lesions. *C. brodyi* is similar to *Pfiesteria*, sometimes referred to as the "cell from hell," the organism responsible for large fish kills and sickness in crabbers and anglers in North Carolina and Maryland.

Because focused research into the ecological and oceanographic mechanisms that influence red tide and other HABs is urgently needed, the National Science Foundation and the National Oceanic and Atmospheric Administration developed a national research agenda to guide research efforts. The goal of the program, Ecology and Oceanography of Harmful Algal Blooms (ECOHAB), is to "develop an understanding of the population dynamics and trophic impacts of harmful algal species which can be used as a basis for minimizing their adverse effects on the economy, public health, and marine ecosystems." ECOHAB relies largely on a comparative approach utilizing data from large-scale, regional field programs and theoretical studies using new or existing models to simulate the dynamics of red tide blooms in different oceanographic systems, rather than limiting its research to a specific study site. While ECOHAB centers its research on the ecology and oceanography of red tide, many other aspects of this phenomenon fall outside this scope and still require research.

Factors that impact red tide and need further research according to Solutions To Avoid Red Tide (S.T.A.R.T.) include: the precise location of initiation zones for blooms, the cause of the bloom initiation, what causes the bloom to die off, what amounts of toxins are produced, how the toxins are released, and at what stage of the life-cycle are toxins produced. This program is intended to address those research areas not adequately covered by the ECOHAB program in Florida. The proposed project will focus on the Florida red tide problem and will result in an integrated detection and prediction network for monitoring and responding to the development and movement of red tide blooms on the west Florida shelf and coastal regions. Resource managers, using the applications of this interactive system, will be able to assess the potential public health and economic damage from a bloom and take appropriate control or mitigation steps.

Last year, \$1 million was appropriated from the Coastal Protection Trust Fund to the Department of Environmental Protection for harmful algal bloom research. This funding was distributed for the study of the economic impacts of red tide, investigating red tide control methods, studying the removal and use of dead fish from HABs, developing rapid detection methods for HAB toxins in shellfish, developing portable sensors for HAB toxins, conducting an epidemiological study of health impacts,

identifying *Pfiesteria-like* organisms, and investigating the toxicity of *Pfiesteria-like* organisms. Contracts for these studies are currently held by Manatee Community College, the University of Florida, the University of Miami, the National Oceanic and Atmospheric Administration, the United States Food and Drug Administration, the St. Johns River Water Management District, the Florida Department of Health, the Mote Marine Laboratory, the Woods Hole Oceanographic Institution, and the citizens group Solutions to Avoid Red Tide.

B. EFFECT OF PROPOSED CHANGES:

HB 1829 establishes the Task Force on Harmful Algal Blooms whose purpose is to determine research, monitoring, control, and mitigation strategies for harmful algal blooms in the state. Task force members are to be appointed by the Secretary of the Department of Environmental Protection and will be charged with determining research and monitoring priorities, control and mitigation strategies, and making recommendations to the DEP by October 1, 1999 for using funds as provided in this bill. After completion of these duties, the task force would be continued at the pleasure of the Secretary.

HB 1829 directs the FMRI to implement a program designed to increase the knowledge of factors controlling HABs, including early detection, accurate prediction, control, and mitigation. This program is intended to enhance and address areas not adequately covered by the ECOHAB program in Florida. A financial disbursement program is created within the FMRI to implement this act and may be funded by state, federal, and private contributions.

The sum of \$3 million is appropriated from the General Revenue Fund to the FMRI for the fiscal year 1999-2000 to carry out this act. From those funds, \$1 million will be used to continue those contracts already in place for the study of HABs as funded by last year's appropriation from the Coastal Protection Trust Fund. No more than \$75,000 can be used by the FMRI for technical administration of those contracts. Up to \$50,000 can be used to support the travel and document-production costs of the Task Force on Harmful Algal Blooms. Of the remaining \$2 million, \$1 million will go to Mote Marine Laboratory, and \$1 million will go to the FMRI. Mote and the FMRI will use their monies for a cooperative study of HABs to address areas of critical need. The effective date of this act is July 1, 1999.

C. APPLICATION OF PRINCIPLES:

1. Less Government:

a. Does the bill create, increase or reduce, either directly or indirectly:

(1) any authority to make rules or adjudicate disputes?

No.

(2) any new responsibilities, obligations or work for other governmental or private organizations or individuals?

Yes. The sum of \$1 million will go to Mote Marine Laboratory, and \$1 million will go to the FMRI. Mote and the FMRI will use their monies for a cooperative study of HABs to address areas of critical need.

(3) any entitlement to a government service or benefit?

No.

b. If an agency or program is eliminated or reduced:

No agency or program is eliminated or reduced.

- (1) what responsibilities, costs and powers are passed on to another program, agency, level of government, or private entity?

N/A

- (2) what is the cost of such responsibility at the new level/agency?

N/A

- (3) how is the new agency accountable to the people governed?

N/A

2. Lower Taxes:

- a. Does the bill increase anyone's taxes?

No.

- b. Does the bill require or authorize an increase in any fees?

No.

- c. Does the bill reduce total taxes, both rates and revenues?

No.

- d. Does the bill reduce total fees, both rates and revenues?

No.

- e. Does the bill authorize any fee or tax increase by any local government?

No.

3. Personal Responsibility:

- a. Does the bill reduce or eliminate an entitlement to government services or subsidy?

No.

- b. Do the beneficiaries of the legislation directly pay any portion of the cost of implementation and operation?

No.

4. Individual Freedom:

- a. Does the bill increase the allowable options of individuals or private organizations/associations to conduct their own affairs?

No.

- b. Does the bill prohibit, or create new government interference with, any presently lawful activity?

No.

5. Family Empowerment:

- a. If the bill purports to provide services to families or children:

The bill does not purport to provide services to families or children.

- (1) Who evaluates the family's needs?

N/A

- (2) Who makes the decisions?

N/A

- (3) Are private alternatives permitted?

N/A

- (4) Are families required to participate in a program?

N/A

- (5) Are families penalized for not participating in a program?

No.

- b. Does the bill directly affect the legal rights and obligations between family members?

No.

- c. If the bill creates or changes a program providing services to families or children, in which of the following does the bill vest control of the program, either through direct participation or appointment authority:

The bill does not create or change a program providing services to families or children.

- (1) parents and guardians?

N/A

- (2) service providers?

N/A

- (3) government employees/agencies?

N/A

D. STATUTE(S) AFFECTED:

None.

E. SECTION-BY-SECTION ANALYSIS:

Section 1: Establishes the Task Force on Harmful Algal Blooms whose purpose is to determine research, monitoring, control, and mitigation strategies for harmful algal blooms in the state. Task force members are to be appointed by the Secretary of the Department of Environmental Protection and charged with determining research and monitoring priorities, control and mitigation strategies, and making recommendations to the DEP by October 1, 1999 for using funds as provided in this bill. After completion of these duties, the task force may be continued at the pleasure of the Secretary.

Section 2: The FMRI is directed to implement a program designed to increase the knowledge of factors controlling HABs, including early detection, accurate prediction, control, and mitigation. This program is intended to enhance and address areas not adequately covered by the ECOHAB program in Florida. A financial disbursement program is created within the FMRI to implement this act and may be funded by state, federal, and private contributions. Under this program, the FMRI is directed to provide funding and technical assistance to government agencies, research universities, local governments, and organizations with scientific and technical expertise regarding HABs.

Section 3: The sum of \$3 million is appropriated from the General Revenue Fund to the FMRI for the fiscal year 1999-2000 to carry out this act. From those funds, \$1 million will be used to continue those contracts already in place for the study of HABs as funded by last year's appropriation from the Coastal Protection Trust Fund. No more than \$75,000 can be used by the FMRI for technical administration of those contracts. Up to \$50,000 can be used to support the travel and document-production costs of the Task Force on Harmful Algal Blooms. Of the remaining \$2 million, \$1 million will go to Mote Marine Laboratory, and \$1 million will go to the FMRI. Mote and the FMRI will use their monies for a cooperative study of HABs to address areas of critical need. Contractual services procured under this section are not subject to the provisions of s. 287.057, F.S.

Section 4: No rules will be required to implement this act.

Section 5: The effective date of the act will be July 1, 1999.

III. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT:

A. FISCAL IMPACT ON STATE AGENCIES/STATE FUNDS:

1. Non-recurring Effects:

HB 1829 appropriates \$3 million from the General Revenue Fund to the FMRI for the fiscal year 1999-2000 to carry out the purposes of this act.

2. Recurring Effects:

None.

3. Long Run Effects Other Than Normal Growth:

None.

4. Total Revenues and Expenditures:

HB 1829 appropriates \$3 million from the General Revenue Fund to the FMRI for the fiscal year 1999-2000 to carry out the purposes of this act.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS AS A WHOLE:

1. Non-recurring Effects:

None.

2. Recurring Effects:

None.

3. Long Run Effects Other Than Normal Growth:

None.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

1. Direct Private Sector Costs:

None.

2. Direct Private Sector Benefits:

Local economies could benefit from research resulting in a greater understanding of and reduced effects of HAB.

3. Effects on Competition, Private Enterprise and Employment Markets:

None.

D. FISCAL COMMENTS:

Last year, \$1 million was appropriated from the Coastal Protection Trust Fund to the Department of Environmental Protection for harmful algal bloom research. This funding was distributed for the study of the economic impacts of red tide, investigating red tide control methods, studying the removal and use of dead fish from HABs, developing rapid detection methods for HAB toxins in shellfish, developing portable sensors for HAB toxins, conducting an epidemiological study of health impacts, identifying *Pfiesteria-like* organisms, and investigating the toxicity of *Pfiesteria-like* organisms. Contracts for these studies are currently held by Manatee Community College, the University of Florida, the University of Miami, the National Oceanic and Atmospheric Administration, the United States Food and Drug Administration, the St. Johns River Water Management District, the Florida Department of Health, the Mote Marine Laboratory, the Woods Hole Oceanographic Institution, and the citizens group Solutions to Avoid Red Tide.

For fiscal year 1999-2000, \$500,000 from the Coastal Protection Trust Fund was appropriated in the House of Representatives budget to continue these studies (1221R).

IV. CONSEQUENCES OF ARTICLE VII, SECTION 18 OF THE FLORIDA CONSTITUTION:

A. APPLICABILITY OF THE MANDATES PROVISION:

HB 1829 does not require counties or municipalities to expend funds or take an action requiring the expenditure of funds.

B. REDUCTION OF REVENUE RAISING AUTHORITY:

HB 1829 does not reduce the authority that municipalities or counties have to raise revenues in the aggregate.

C. REDUCTION OF STATE TAX SHARED WITH COUNTIES AND MUNICIPALITIES:

HB 1829 does not reduce the percentage of state tax shared with counties and municipalities.

V. COMMENTS:

None.

VI. AMENDMENTS OR COMMITTEE SUBSTITUTE CHANGES:

None.

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VII. SIGNATURES:

COMMITTEE ON WATER AND RESOURCE MANAGEMENT:

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