

MAINE STATE LEGISLATURE

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**ANNUAL REPORT ON UTILIZATION OF
STATE RESEARCH & DEVELOPMENT APPROPRIATIONS
FOR OPERATIONS
AND
STATE RESEARCH CAPITAL BONDS
FISCAL YEAR ENDING JUNE 30, 1999 (FY99)**



University of Maine System

Office of Finance and Treasurer

**December 30, 1999
Z63(27)**

UNIVERSITY OF MAINE SYSTEM

INTRODUCTION

The University of Maine System is required to submit in January of each year an annual report on the utilization of state research appropriations for operations and state research capital bonds. This report is to cover the most recently completed fiscal year. The following is the report for fiscal year 1999 (FY99) that covers the period from July 1, 1998 to June 30, 1999.

Because this report includes only activity for fiscal year 1999, excluded from this annual report is the additional appropriation of \$5,550,000 for research and development (R&D) that was made available beginning in fiscal year 2000 as well as the additional \$50,000 for FY2001. Also excluded was an appropriation of \$2,500,000 for fiscal year 2001 to be used to pay the debt service on \$25,000,000 of University bonds to be issued in the fall of 2000 for capital improvements to support research and development. Activity on these additional funds will be reported in subsequent annual reports (e.g., the FY2000 report).

EXECUTIVE SUMMARY

I. State Research Appropriations for Operations

The University of Maine System received an appropriation of \$500,000 in FY98 and an additional \$4,000,000 in FY99 bringing the total available for research in FY99 to \$4,500,000. The FY99 appropriation of \$4,500,000 was distributed between the University of Maine (UM - \$3,600,000) and the University of Southern Maine (USM - \$900,000).

Of the FY99 allocation of \$4.5 million, UM and USM (1) expended a total of \$2.1 million, (2) matched external grants & contracts with \$2.0 million, and (3) carried forward \$0.4 million in unspent funds to FY2000 for R&D use.

With these state research dollars, UMS was able to:

- 1. Attract \$18.9 million in external grant & contract funding (primarily federal), a ratio of 4.2 to 1.**
- 2. Support 303 positions.**

The State's \$4.5 million thus resulted in a total of \$23.4 million being made available for research & development.

The following is a summary of the utilization of state research appropriation funds during FY99.

Summary of Utilization of FY99 State Research Appropriations for Operations

	<u>FY99 Expenditures¹</u>	<u>Used to Match Grants & Contracts¹</u>	<u>Unused Funds Carried Forward to FY2000²</u>	<u>Total Funds Utilized</u>
<u>E&G Funds Utilized</u>				
UM	\$1,432,379	\$1,797,021	\$370,600	\$3,600,000
USM	<u>687,234</u>	<u>138,805</u>	<u>73,961</u>	<u>900,000</u>
Total E&G Funds	\$2,119,613	\$1,935,826	\$444,561	\$4,500,000
<u>Grants & Contracts Generated</u>				<u>18,858,188</u>
<u>Total Funds</u>				<u>\$23,358,188</u>

¹The research and development funding provided by the State of Maine was used to support (1) salaries of new faculty and staff, (2) start-up packages for new faculty (equipment, instrumentation, laboratory set-up, and computer purchases), (3) direct equipment purchases, and (4) matching funds for grants and/or contracts.

²The unused funds have been distributed to research units or principal investigators.

II. State Research Capital Bonds

On November 3, 1998, the voters of Maine approved a \$20.0 million bond issue to improve the Maine economy by supporting innovative research and development. The University of Maine System will receive \$13.5 million from this bond issue to be used for capital improvements and equipment purchases to support research and development. The bond proceeds will be distributed between the University of Maine (\$10,800,000) and the University of Southern Maine (\$2,700,000). Because this bond issue was approved after the beginning of fiscal year 1999 and because capital improvements and construction require a great deal of time prior to the commencement of major projects, the amount of funds from this bond issue that were spent in FY99 was relatively small. The FY2000 report will better reflect activity related to the fall 1998 bonds.

A summary of the utilization of state research capital bonds during FY99 is shown on the next page.

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FY99 SUMMARY OF STATE RESEARCH CAPITAL BONDS BY ACCOUNT/PROJECT

<u>Project Name</u>	<u>Attachment</u>	<u>Bond Portion</u>	<u>Other Funds</u>	<u>Total Project Budget</u>	<u>FY1999 Expenditures</u>	<u>Funds Carried Forward To FY2000</u>
<u>UM</u>						
Hitchner Expansion & Renovation	I	\$5,650,000	\$0	\$5,650,000	\$129,539	\$5,520,461
Food Science Building	II	3,250,000	544,220	3,794,220	84,440	3,709,780
Aquaculture Renovation & Expansion	III	700,000	0	700,000	18,402	681,598
Software Eng & Adv Materials Labs	IV	<u>1,200,000</u>	<u>0</u>	<u>1,200,000</u>	<u>208,768</u>	<u>991,232</u>
		<u>\$10,800,000</u>	<u>\$544,220</u>	<u>\$11,344,220</u>	<u>\$441,149</u>	<u>\$10,903,071</u>
<u>USM</u>						
Science Building Information/Bioscience	V	<u>\$2,700,000</u>	<u>0</u>	<u>\$2,700,000</u>	<u>\$9,368</u>	<u>\$2,690,632</u>
<u>TOTAL</u>		<u><u>\$13,500,000</u></u>	<u><u>\$544,220</u></u>	<u><u>\$14,044,220</u></u>	<u><u>\$450,517</u></u>	<u><u>\$13,593,703</u></u>

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**FY99 NARRATIVE SUMMARY OF STATE RESEARCH CAPITAL
BONDS BY ACCOUNT/PROJECT**

UM

Account Number: 8-7-75163

Project Name: Hitchner Expansion & Renovation

Bond Fund Amount: \$5,650,000

Other Funds: \$0

Construction Start: mid 2000

Construction End: December 2001

Campus Contact: Name Dave Trefethen
 Department Facilities Management
 Phone/fax/e-mail 581-2675

Purpose of Project/Program(s) Involved:

Renovation to Hitchner Hall and construction of a new wing will address the acute need for new research space on campus. The goal of this project is to provide 8 to 10 new research laboratories and related support space. The addition to Hitchner will include the following: research laboratories of 500 to 1000 sq. ft. of usable space with adequate floor and open wall space for refrigerators, freezers, and incubators; faculty offices located adjacent to laboratory or in close proximity; adequately ventilated and cooled equipment rooms; adequate graduate student, research technician and post-doctoral space; and provision for some "long-term" storage. Needs that will be addressed in the renovation of Hitchner include the following: Addition of emergency back-up power; Adequate electrical input and line conditioning; Installation of adequate fume hoods in laboratories; Air conditioning and temperature control; Upgrade of benches in laboratories; General repair and refurbishing. The construction will improve U Maine's capability and productivity in molecular and cellular research. It will also serve to consolidate researchers using molecular and cellular biology techniques into a common modern facility.

Description of Construction Work:

Building design is in the early stages, but sketches show a 3-story brick structure.

ATTACHMENT II

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FY99 NARRATIVE SUMMARY OF STATE RESEARCH CAPITAL BONDS BY ACCOUNT/PROJECT

UM

Account Number:	8-7-75164
Project Name:	Food Science Building
Bond Fund Amount:	\$3,250,000
Other Funds:	\$544,220
Construction Start:	mid 2000
Construction End:	mid to late 2001
Campus Contact:	Name Dave Trefethan Department Facilities Management Phone/fax/e-mail 581-2675

Purpose of Project/Program(s) Involved:

The FSN facility will house: food processing pilot plant; chemical food safety laboratory; sensory evaluation facility; research/office space; food microbiology lab; physical properties of food laboratory; conference/seminar room; administrative offices; office space for graduate and post-doctoral students; commercial kitchen for food preparation classes; computer cluster; phlebotomy laboratory; classrooms; teaching laboratories; and controlled temperature and humidity storage. The construction will unite the faculty and research facilities into a single building and allocate that space on the basis of function and efficiency.

Description of Construction Work:

Building design has not started, but conceptual sketches show a 3-story brick structure.

ATTACHMENT III

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FY99 NARRATIVE SUMMARY OF STATE RESEARCH CAPITAL BONDS BY ACCOUNT/PROJECT

UM

Account Number:	8-7-75473
Project Name:	Aquaculture Renovation and Expansion
Bond Fund Amount:	\$700,000
Other Funds:	\$0
Construction Start:	April 2000
Construction End:	September 2000
Campus Contact:	Name Stewart Harvey Department Facilities Management Phone/fax/e-mail 581-2668

Purpose of Project/Program(s) Involved:

The Aquaculture Research Center is the central area on campus for research activities in Aquaculture Sciences. Applied research on a variety of marine species is currently being done and the renovation and addition will improve and expand current capabilities. The following spaces will be renovated: feed mixing lab; ocean engineering lab; lobster lab; environmental lab; bathroom; aquaculture engineering lab; furnace room; live feed production lab; chiller barrel room; wet lab; shellfish lab; dry lab; larval rearing lab; and physiology lab. The following will be added: feed mixing dry lab, walk-in freezer, walk-in cooler, agal production lab, entrance area, general storage, invertebrate dry lab, invertebrate wet lab, juvenile fish rearing lab, incubation room, experimental engineering lab, general use marine holding facility, general use experimental lab, cleaning and processing area, natural sea water holding and treatment area, general use walk-in cooler, and chemical storage and hood area.

Description of Construction Work:

Construction plans include lab renovations, elevator installation, ventilation and improved heating control, and telecom improvements.

ATTACHMENT IV

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**FY99 NARRATIVE SUMMARY OF STATE RESEARCH CAPITAL
BONDS BY ACCOUNT/PROJECT**

UM

Account Number: 8-7-75755

Project Name: Software Eng. and Advanced Materials Lab

Bond Fund Amount: \$1,200,000

Other Funds: \$0

Construction Start: January 1999

Construction End: July 2000

Campus Contact: Name Dave Trefethan
Department Facilities Management
Phone/fax/e-mail 581-2675

Purpose of Project/Program(s) Involved:

The money will be used for improvements in the infrastructure of Boardman Hall and Crosby laboratory. In Boardman, approximately \$400k in improvements will be made to facilitate information technology and software engineering research, especially in the area of geographic information systems. \$550k will be used to make improvements in the Crosby laboratory, while the remaining \$250k will be used in the Advanced Engineering Wood Composites building. Improvements will also be made to the Machine Tool Lab and Barrows Hall. Numerous pieces of specialized equipment will be purchased for use in research activities.

Description of Construction Work:

Lab and office renovation including telecom, lighting, ventilation and A/C, cabinets and lab furnishings.

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**FY99 NARRATIVE SUMMARY OF STATE RESEARCH CAPITAL BONDS
BY ACCOUNT/PROJECT**

USM

Account Number: 8-7-76700
Project Name: Research & Development Capital Facilities
Bond Fund Amount: \$2,700,000
Other Funds: \$0
Construction Start: May 2000
Construction End: August 2002
Campus Contact: Name: Robert J. Goettel
Department: Executive Assistant to the President
Phone/fax/e-mail: goettel@usm.maine.edu

Purpose of Project/Program(s) Involved:

The USM Southern Maine Bioscience Research Institute will draw faculty researchers and staff from academic programs such as biology, chemistry, immunology and molecular biology, environmental science and policy, nursing, sports medicine, and natural and applied sciences; and affiliated faculty and associates from the Foundation for Blood Research, the Maine Medical Center Research Institute, and biotechnology companies. The Institute would have two major purposes: (1) to serve as the focal point for attracting external funding for R & D in the biosciences by fostering small group collaborations as well as individual research, and by assembling inter-institutional teams of researchers for large scale projects, and (2) to facilitate the participation of USM and affiliated faculty in delivery of the U Maine's Ph.D. programs in the biosciences. We expect that the Bioscience Institute will require laboratories for as many as 15 senior researchers, 30-40 graduate research assistants and technicians, and other support staff. To meet the external funding goals of the targeted legislative R&D appropriation, that number of research faculty and staff would have to increase considerably. USM currently has only three bioscience laboratories that might provide a research setting consistent with the needs and expectations of faculty who will be associated with the new institute.

Planning for the Information Science Research Institute has just begun. While there are a variety of academic programs that could be involved, the specific focus has not been determined. We expect that 7-8 faculty researchers and about 15 graduate research assistants plus technicians and other support staff ultimately will be involved.

In addition to these two new research institutes that will require appropriate laboratory facilities, some renovations will be required in the microelectronics laboratory in the Mitchell Building on USM's Gorham campus.

Description of Construction Work:

The original intention of the project was to add three stories to the top of the Portland Science building built in the early 1970's. A structural engineering firm was employed to study the feasibility of such an addition which represents the major expenditure to date. The structural engineering firm's report indicated it was not possible to add three floors to the existing building and now the Building Committee involved with the project is developing a new conceptual design for the project. The conceptual plan currently being developed will be utilized by an architectural/design firm to develop a project which will integrate the research efforts in the current Portland Science building with an addition to the building for the new Maine Bioscience Research Institute research laboratories and the Information Science Research Institute efforts. The project will also involve renovation of areas in the current Science Building to bring them up-to current standards for research spaces.

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