

J

Copyright Reserved

UNIVERSITY OF WISCONSIN SYSTEM

RESEARCH REPORT

UNIVERSITY OF WISCONSIN SYSTEM  
RESEARCH REPORT

UNIVERSITY OF WISCONSIN SYSTEM

RESEARCH REPORT

UNIVERSITY OF WISCONSIN SYSTEM

# UNIVERSITY OF WISCONSIN SYSTEM

## 2000 RESEARCH REPORT

UNIVERSITY OF WISCONSIN SYSTEM

UNIVERSITY OF WISCONSIN SYSTEM

UNIVERSITY OF WISCONSIN SYSTEM

UNIVERSITY OF WISCONSIN SYSTEM

UNIVERSITY OF WISCONSIN SYSTEM

UNIVERSITY OF WISCONSIN SYSTEM

UNIVERSITY OF WISCONSIN SYSTEM 2000 RESEARCH REPORT

I. OVERVIEW

As shown in Table 1, the University of Wisconsin System's 1999-00 GPR research budget was \$63 million. The majority of the research funding (84.2%) was in the UW-Madison budget.

TABLE 1  
RESEARCH FUNDING BY INSTITUTION  
1999-00 FISCAL YEAR

<u>INSTITUTION</u>	<u>FUNDING</u>	<u>PERCENT</u>
Madison	\$ 53,211,294	84.2%
Milwaukee	8,006,332	12.7%
Comprehensives and Colleges	1,072,478	1.7%
Systemwide	921,141	1.5%
Extension	-	-
Totals	\$ 63,211,245	100.0%

II. UW-MADISON RESEARCH

A. Background

UW-Madison's 1999-00 GPR research budget was \$53.2 million. Some of the key facts about the research budget include:

- \$39.0 million was allocated to salaries and wages, and \$13.5 million was allocated to fringe benefits.
- The salary and wage budget provided funding for 409.71 unclassified and 329.44 classified FTE research positions.
- The budget was divided among three funds: general program operations, industrial and economic development, and distinguished professorships.
- The general program operations fund accounted for 98% of the total GPR research budget.
- Five schools and colleges accounted for approximately 85% of the general program operations GPR research budget: the Colleges of Agricultural and Life Sciences, Engineering, and Letters and Science, and the Graduate and Medical Schools. The budget for the College of Agricultural and Life Sciences alone was almost 50% of the general program operations research budget.

## B. Use of Funds

The GPR research funding functions as an investment in UW-Madison's research enterprise. *It provides the core support and basic infrastructure that are required for the continued operation of sponsored research programs.* In a typical department, GPR research funds support the salaries of classified clerical and fiscal staff responsible for payroll processing and purchasing related to external grants, typing grant applications and correspondence related to grant activities, etc. Typical biological and physical science departments and campus-wide research support centers also budget GPR research funds for classified and unclassified technical support personnel, such as laboratory technicians, lab animal care staff, and instrumentation technicians. These positions form a human resource infrastructure that provided general support to sponsored research programs. Responsibilities of the positions are not limited to, or associated with, particular research grants or projects. Instead, they provide broad support to the total sponsored research program. Continuity of funding for these positions is a fundamental requirement. A department cannot, for example, hire and terminate a payroll benefits specialist whenever it begins and concludes a sponsored research project. The GPR research budget ensures continuity of funding.

The budget was also invested in partial salary support for faculty members. GPR research funds are budgeted for faculty salaries for a variety of purposes, including:

- match money for federal grants that require institutional contributions,
- supplements to existing sponsored research activities,
- support for a faculty member to compete for extramural funds, or
- "bridge" funds which support a faculty member's research efforts for an interim period when extramural funding has expired.

In 1999-00, the return on this investment in support staff and faculty salaries was \$445.2 million in extramural grants and contract awards.

## C. Relationship of Research Funding and Research Projects

With the exception of legislated research projects and projects funded through the Faculty Research Committee, the GPR research budget is not allocated on a project basis or for narrowly defined research purposes. The support staff discussed above are rarely associated with specific research efforts or projects. Therefore, they are not budgeted in that manner. At any time, the research components of a particular faculty member's salary might be associated with multiple research projects (some federally and some privately funded) with different time frames and purposes. In these multiple projects, the salary serves different functions (e.g. as a required match in some, as a supplement in others, etc.). Alternatively, the research component of a faculty member's salary might

not be associated with any specific research projects; the faculty member might be writing one or multiple grant proposals. Given these complexities, GPR research funds for faculty salaries, like support staff salaries, are not budgeted for specific projects or narrowly defined research purposes.

#### D. Reductions and Reallocations

UW-Madison has absorbed significant reductions and made significant reallocations of its GPR research budget over the past 27 years. Since 1972-73, \$10.8 million of GPR funds has been cut by the state or reallocated to other programs (e.g. instruction, academic support). The reallocation resulted from three categories of funding shifts:

- institutional reallocations to meet institutional priorities,
- internal school and college reallocations to meet school and college priorities, and
- program and activity reclassifications.

In addition, there have been significant reallocations that did not affect the total GPR research budget. Existing GPR research funds have been shifted between school and colleges, and departments. Although there have been large individual reallocations, most reallocations are relatively small, take the form of vacant position transfers or redefinitions, and are conducted at the school or college level. *The position approval process is the primary tool available to school and college administrators for reallocating the GPR research budget.*

Appendix 1 provides historical analysis of the UW-Madison research budget. Appendix 2 describes the research budget review process of the largest UW-Madison schools and colleges. Appendix 4 describes legislated UW-Madison research projects.

### III. UW-MILWAUKEE RESEARCH

UW-Milwaukee's total 1999-00 GPR funded research budget was \$8.0 million. The specific use of more than 75% of this funding is reviewed on an annual basis. These funds are prioritized and assigned in several different ways.

- The Graduate School Research Committee awards modest amounts of funding, primarily earmarked for junior faculty, to develop new research programs.
- The Graduate School Office of Research Services and Administration provides matching funds on research grants to satisfy funding agency expectations, primarily in the form of required cost sharing on major equipment grants.
- The Graduate School research centers, laboratories, institutes, and offices fund continuing research projects and review the research of faculty and staff scientists.

- The College of Engineering and Applied Science awards matching funding on grants to senior faculty as well as seed money and release time from teaching to junior faculty to initiate research programs and projects.
- The College of Letters and Science assigns research funding based upon the research activity and extramural funding generated by faculty; this often serves as a match on grants.

The remaining 25% of the GPR research funding is committed on a permanent basis. These commitments are primarily used to support the research infrastructure. This total amount includes funding assigned to the Graduate School Office of Research Services and Administration and funding assigned to the various research support offices of the schools/colleges.

Table 3 in Appendix 1 provides a breakdown by school/college of GPR funded research expenditures for 1979-80, 1989-90, and 1999-00.

#### IV. UW COMPREHENSIVE INSTITUTIONS AND UW COLLEGES RESEARCH

Although nearly 97% of the UW System's GPR research funding is budgeted at UW-Madison and UW-Milwaukee, faculty at the comprehensive institutions also need to engage in research in order to remain current in their fields. The comprehensive institutions have established internally funded programs designed to encourage and support faculty and academic staff members to engage in research and other scholarly and creative activities. Funds are available for researchers, writers, artists, and performers who need project support for gathering data, accessing primary materials, equipment, services, supplies, student research collaboration, and clerical assistance. Funding awards are relatively small (\$100 to \$5,000)

The UW Colleges have established department-based funding for supporting professional development activities for all faculty and instructional academic staff. Funds are available for individual research, department-wide research, and attending professional conferences.

Funding awards range from \$100 to \$800.

#### V. SYSTEMWIDE RESEARCH

Funding for three UW System research programs is held in systemwide accounts. These programs include:

- **APPLIED RESEARCH**, which provides funding for UW System institutions for research addressing specific problems faced by Wisconsin industries. Details regarding this program are provided in a separate annual report to the State.

- **DISTINGUISHED PROFESSORS**, which provides partial support for 20 Distinguished Professor positions in the University of Wisconsin System. The GPR funding is matched by an equal or greater match from businesses and/or other non-GPR sources. At the end of the 1999-00 fiscal year, this funding supported ten professors at UW-Madison, three at UW-Milwaukee, Two at UW-Stevens Point, and one at La Crosse. An annual fiscal report is provided for this program.
- **SOLID WASTE EXPERIMENT CENTERS, NONCOMPOSTIBLE LANDFILL AND SLUDGE**, which provides funding to UW system institutions for research into the alternative methods for the disposal of solid waste. Details regarding these programs are provided in a separate annual report to the State.

## APPENDIX 1

### HISTORICAL ANALYSIS OF RESEARCH BUDGETS AT UW-MADISON AND UW-MILWAUKEE

#### I. UW-MADISON

##### A. Background

UW-Madison's GPR research budget, excluding fringe benefits, increased by \$28.0 million between 1972-73 and 1999-00. The 1972-73 GPR budget reflects the State's "general purpose" base investment in UW-Madison's research enterprise at the time of merger. This base served the same purposes as the GPR research base does today: it provided a stable human resource infrastructure, opportunities for faculty to compete for extramural funds, and matching funds for gifts, grants and contracts. The \$28.0 million increase is a function of changes in the following four general categories of funding. (All amounts exclude fringe benefits.)

##### 1. Compensation Increases.

This category includes all salary and wage related allocations, such as faculty, academic, and classified pay plans; catch-up; student wage increases; length of service pay; performance awards; quality reinvestment; pay equity, etc. Cumulative compensation increases over the period were approximately \$32.2 million.

##### 2. Specific Research Allocations.

This category includes all legislated appropriations for specific research purposes, such as the Sea Grant Institute, Biotechnology Center, and Family Farm Institute. A list of these allocations is shown in Appendix 3. Total UW-Madison specific research allocations were approximately \$6.6 million. This amount reflects the sum of the initial allocations for these projects; subsequent pay plan increases related to the projects are included in the category above.

##### 3. General Reductions and Allocations.

This category includes all general allocations that were not restricted to the research program, excluding compensation increases, such as productivity and base budget reductions, inflation offsets, and turnover savings. General reductions and allocations reduced the research budget by \$3.9 million over the period. The negative impact of this category is due primarily to mandated base budget reductions in 1980-81, 1981-82, 1985-86, 1995-96, and 1996-97.

#### 4. Institutional Reallocations.

This category includes all GPR reallocations made by UW-Madison that resulted in a shift of funds to or from the research program. Net reallocations over the period reduced the GPR research budget by \$6.9 million.

Thus, since 1972-73, UW-Madison's "general purpose" GPR research budget has changed as a result of standard pay plan increases, specific research allocations, required budget cuts, and funds reallocated to other activities. The total GPR research budget increased by \$6.6 million due to legislated appropriations for specific research purposes. Assuming standard pay plans represent the cost-to-continue for the 1972-73 base budget, UW-Madison's current "general purpose" GPR research budget is approximately \$10.8 million lower than the budget that would have developed from the 1972-73 base. This is a minimum estimate because the impact of the reductions and reallocations on subsequent compensation increases has not been taken into consideration.

The extent of UW-Madison's internal reallocations is confirmed by two facts. First, as a percentage of total GPR, GPR budgeted for research was approximately the same in 1999-00 (18.6%) as it was at merger in 1972-73. (Figures represent research GPR taken as a percent of total GPR excluding special purpose appropriations, such as debt service, utilities, etc.) However, approximately \$9 million of the current budget consists of those legislated, specific research projects that did not exist in 1972-73. If the \$9 million is excluded from current budget amounts, the current research portion becomes 15.3%, or a 3.3 percentage point decline.

Second, the change in research FTE positions funded by GPR also reflects substantial reallocation. In 1973-74 (1972-73 FTE data are not available), 738.01 FTE GPR funded positions were budgeted on research. In 1999-00, 739.15 FTE GPR funded positions are budgeted on research—almost identical to 1973-74. However, over that period UW-Madison received additional 146.63 FTE positions for legislated, specific research projects. If these positions are removed from the current budget, there has been a net reduction of 146.63 FTE. This reduction represents a minimum because it does not include reallocations of positions required for some legislated projects for which FTE's were not provided.

#### B. Reallocations

The net reduction of \$6.9 million of GPR funded research represents the effects of several types of funding shifts: institutional level reallocations to meet new institutional priorities, internal school and college reallocations to meet new institutional priorities, internal school and college reallocations to meet new school college priorities, and reclassification of existing activities. In the first two cases, funds are removed from an existing function, which is usually terminated, and applied to an alternate function. In the latter case, a particular function continues to be funded, but it is redefined as another

activity such as instruction, academic support, etc. These reclassifications occur because program definitions evolve through time.

In aggregate, internal school and college reallocations account for most of the institution's total reallocations. School and college deans and faculty members have the greatest knowledge concerning their respective disciplinary areas and are in the best position to recognize and act upon changing needs and priorities in their various programs. Typically, such reallocations are relatively small in magnitude (i.e. less than \$100,000), so that the \$6.9 million total is the result of many individual decisions to reallocate funds over the past twenty-four years. Some examples of UW-Madison's GPR research reallocations are listed below.

#### 1. Institutional Reallocations.

- In 1995-96, UW-Madison reallocated \$118,000 to support and enhance the research program in the School of Pharmacy.
- From 1992-93 and 1994-95, UW-Madison reallocated over \$1.6 million of GPR research funds as part of the institution's Quality Reinvestment Plan. The plan involved examination of all of the institution's programs and a redirection of funds to meet unfunded priority needs.
- In 1988-89, \$113,000 was reallocated from research to support development and implementation of automated registration.
- In an effort to strengthen UW-Madison's public service mission, the institution established the Division of University Outreach in 1984-85. The new division was partially funded through a \$100,000 reallocation from the research budget.

#### 2. Internal School and College Reallocations.

- In 1996-97, the School of Veterinary Medicine reduced its research budget by \$90,000 to support greater faculty effort in the area of public service.
- In 1994-95, the College of Engineering reallocated approximately \$176,000 from research to instruction to support graduate education programs.
- In 1976-77, the School of Family Resources and Consumer Sciences shifted \$11,000 in faculty salaries from research to instruction after a faculty member retired.
- To meet instructional program requirements, \$78,000 for a vacant position in the Medical School was reallocated from research to instruction in 1980-81.
- To encourage retention of a faculty member in 1984-85, the College of Engineering provided a research opportunity at the Engineering Experiment Station. This effort required the college to reallocate \$10,000 to the research budget.

- In 1987-88, the College of Letters and Science conducted a \$567,000 reallocation from research to instruction to meet the expenses of operating a quality instructional program. At that time, competitive starting salaries for faculty in such areas as Computer Science had increased significantly beyond the growth rate in the college's instructional budget.

The college also faced a high priority need for microcomputers and other technical equipment to adequately meet the needs of students.

### 3. Reclassification

- In 1999-00, the College of Engineering reclassified staff and computing resources, which support research from academic support to research, resulting in a \$100,000 increase in the research budget.
- In 1995-96, approximately \$227,000 was reclassified from research to academic support as the UW Press budget was realigned to reflect appropriate activity code definitions.
- In 1993-94, approximately \$144,000 was reclassified from research to physical plant as the Biological Safety Office was transferred from the Graduate School to the Division of Facilities Planning and Management.
- In 1985-86, Earthwatch and Public Information Programs in the Institute for Environmental Studies were reclassified from research to public service, causing a \$20,000 decrease in the research budget.
- The Guidance Institute for Talented Students in the School of Education was reclassified as a public service activity in 1978-79; \$61,000 was shifted from research to public service.
- In 1982-83, \$405,000 was reclassified from research to experimental farms to appropriately reflect the magnitude of farm operations in the College of Agricultural and Life Sciences.
- In 1989-90, administration of the extramural support program in the Medical School was reclassified from academic support to research in accordance with appropriate activity definitions. The reclassification produced an \$84,000 increase in the research budget.
- In 1991-92, \$160,000 for undergraduate research fellowships was reclassified from instruction to research.

These examples illustrate the types of reallocations and funding shifts that affect the aggregate GPR research budget at the UW-Madison. There are, however, other

reallocations that do not necessarily impact UW-Madison's aggregate GPR research budget. These reallocations take the form of GPR research funding shifts within and among schools and colleges.

Table 2 shows the portion of the total GPR budget accounted for by each school, college, and administrative unit in 1979-80, 1989-90, and 1999-00. To isolate the effects of budget shifts between colleges, all legislated specific GPR research allocations have been excluded. The table indicates, for example, that in 1979-80, the Graduate School, the Medical School, and the College of Engineering accounted for approximately 20%, 8% and 5% of the GPR research budget respectively. By 1999-00, these units accounted for approximately 16%, 12%, and 3% of the GPR research budget respectively. Each percentage point increase or decrease was equivalent to approximately \$300,000 in base GPR funding. Part of these shifts is attributable to formal reallocations between divisions, and part is attributable to greater incremental funding being directed to, for example, the Medical School. Other units also show significant change.

TABLE 2  
UNIVERSITY OF WISCONSIN-MADISON  
COMPARISON OF GPR RESEARCH BUDGETS  
1977-78, 1987-88, AND 1997-98

DIVISION	1977-78		1987-88		1997-98	
	Funding	Percent	Funding	Percent	Funding	Percent
Business Services	\$211,668	1.7	\$435,588	1.9	\$0	0.0
Division of Information Technology	\$0	0.0	\$0	0.0	\$153,000	0.6
School of Business	\$8,112	0.1	\$0	0.0	\$0	0.0
College of Agricultural and Life Sciences	\$7,384,348	58.6	\$12,710,981	56.2	\$15,998,203	58.3
School of Education	\$205,840	1.6	\$259,119	1.1	\$158,799	0.6
College of Engineering	\$651,504	5.2	\$887,211	3.9	\$819,947	3.0
School of Human Ecology	\$35,005	0.3	\$36,393	0.2	\$78,803	0.3
Graduate School	\$2,607,957	20.7	\$4,363,976	19.3	\$4,977,660	18.1
Institute for Environmental Studies	\$107,611	0.9	\$148,692	0.7	\$60,480	0.2
Law School	\$108,876	0.9	\$189,385	0.8	\$256,820	0.9
College of Letters and Science	\$629,926	5.0	\$1,076,217	4.8	\$1,395,557	5.1
Medical School	\$505,620	4.0	\$2,256,776	10.0	\$2,721,515	9.9
School of Nursing	\$0	0.0	\$12,005	0.1	\$71,026	0.3
Psychiatric Institute	\$136,760	1.1	\$217,035	1.0	\$281,433	1.0
School of Pharmacy	\$14,464	0.1	\$41,070	0.2	\$255,098	0.9
Campus-wide (Undergrad Res. Fellowships)	\$0	0.0	\$0	0.0	\$200,000	0.7
Total	\$12,607,691	100.0	\$22,634,448	100.0	\$27,428,341	100.0

Note: Excludes Fringe Benefits and Legislated Research Projects.

UW-MILWAUKEE

Table 3 shows the portion of the total GPR budget accounted for by each UW-Milwaukee school, college, and administrative unit in 1977-78, 1987-88, and 1997-98. The largest research budgets are found in the Graduate School, the College of Letters and Science, the College of Engineering and Applied Science, and the School of Business Administration.

TABLE 3  
UNIVERSITY OF WISCONSIN-MILWAUKEE  
COMPARISON OF GPR RESEARCH BUDGETS  
1977-78, 1987-88, AND 1997-98

DIVISION	1977-78		1987-88		1997-98	
	Funding	Percent	Funding	Percent	Funding	Percent
Administrative Affairs	\$7,754	0.3	\$63,347	1.3	\$31,930	0.4
Academic Affairs	\$100,000	3.6	\$4,700	0.1	\$0	0.0
Allied Health Professions	\$0	0.0	\$0	0.0	\$0	0.0
Architecture and Urban Planning	\$2,103	0.1	\$29,040	0.6	\$77,366	1.0
Business Administration	\$60,572	2.2	\$259,200	5.4	\$254,477	3.3
Information and Media Technology	\$125,140	4.5	\$262,429	5.4	\$230,283	3.0
Education	\$24,767	0.9	\$33,290	0.7	\$157,957	2.0
Engineering & Applied Science	\$175,997	6.3	\$370,933	7.7	\$676,318	8.7
The Arts	\$4,154	0.1	\$0	0.0	\$0	0.0
Graduate School	\$1,547,028	55.4	\$2,875,305	59.4	\$3,293,597	42.4
Letters and Science	\$367,971	13.2	\$876,174	18.1	\$1,302,971	16.8
Nursing	\$0	0.0	\$47,899	1.0	\$156,659	2.0
Social Welfare	\$7,600	0.3	\$35,317	0.7	\$55,000	0.7
Academic Support	\$0	0.0	\$0	0.0	\$0	0.0
Unit Wide	\$368,917	13.2	(\$18,015)	-0.4	\$1,535,629	19.8
Total	\$2,792,003	100.0	\$4,839,619	100.0	\$7,772,187	100.0

## APPENDIX 2 UW-MADISON RESEARCH BUDGET REVIEW PROCESS

### I. BACKGROUND

Five UW-Madison schools and colleges accounted approximately 85% of the 1999-00 general program operations GPR research budget: Colleges of Agricultural and Life Sciences, Engineering, and Letters and Science, and the Graduate and Medical Schools. Historically, these units have effectively accounted for UW-Madison's total GPR research budget, excluding any legislated specific research allocations. Table 2, which excludes such allocations, shows that these units accounted for 90% of the research budget in 1999-00.

### II. COLLEGE OF AGRICULTURAL AND LIFE SCIENCES

#### A. Background

The College of Agricultural and Life Sciences (CALs) has the single largest school or college GPR research budget at the UW-Madison. Its 1999-00 budget was \$17.8 million, which was approximately 50% of the UW-Madison general program operations GPR research budget and over twice as large as the next largest school or college GPR research budget. CALs accounted for 310 of the 740 FTE total research positions funded by GPR.

The relative size of CALs GPR research budget illustrates its status as a "special case" among UW-Madison schools and colleges. To a great extent, the anomalous size of the research budget is the result of certain federal and state policies dating back to the 1800s. Briefly, in the nineteenth century, the Hatch-Adams Act created the federal land grant system, which established land grant educational institutions and agricultural experiment stations in each state. In Wisconsin, UW-Madison was established as the land grant institution, and the state agricultural experiment stations were administered by the institution's agricultural college. Until the 1940s, the federal government sponsored research at experiment stations through fixed allocations of funds under the Hatch program. The State of Wisconsin also funded agricultural research at the experiment stations through the agricultural college. When, in the 1940s, the modern era of accelerated research and development spending began, the Hatch program was modified to promote greater agricultural research activity. The federal government modified the program to distribute funds on a formula basis, which required and gave weight to state contributions to agricultural research. To qualify for these formula funds, states budgeted greater amounts of research funds through their land grant agricultural colleges and experiment stations. Hatch funds are still distributed on this formula basis.

As a consequence of this infusion of state research funds, state funded research budgets at most land grant agricultural colleges are relatively large when compared with other state funded research programs. Some land grant agricultural colleges separately budget their

state contribution to agricultural research, as does UW-Madison. Others separately budget a portion and fund the remainder through a fixed allocation of instructional funds to departmental research. In any case, the relative size of the CALS research budget when compared with other UW-Madison schools and colleges is similar to relative budget levels at other land grant institutions.

#### B. Use of Funds

The CALS GPR research budget is divided among 30 academic departments and research centers. It is well distributed across these departments. The budget provides funding for 217.65 unclassified and 92.09 classified FTE positions. CALS conducts several legislated research projects, including the Family Farm and Cheese Research Institutes, Nonpoint Source Pollution Control, and Sustainable Agriculture. The intent and budget of the legislation authorizing these projects are appropriately observed by the college. The budget for these projects is approximately \$1.5 million, excluding fringe benefits.

The primary purpose of the CALS GPR research budget is to provide core support and basic infrastructure for the extramurally funded research program. The budget, which is almost exclusively allocated for salaries, is essentially divided between faculty and support staff. Support staff positions, both classified and unclassified, include titles such as laboratory managers, laboratory technicians, and fiscal and clerical support staff. Most of these positions provide general research support to a department and are allocated based on program need (e.g. animal science departments require animal caretakers). Continuity of funding for such general support positions is a fundamental requirement of departmental research programs; GPR research funds guarantee this continuity. In contrast, support positions directly involved in discrete research projects are funded by gifts, grants, or contracts.

#### C. Allocation/Reallocation of Funds

The allocation of the GPR budget across departments and disciplinary areas is designed to shape and conform to the long-range research agenda established by CALS administrators and faculty. Their ability to direct research programs in the short term is, however, limited to discretionary funding authority in certain non-GPR funding categories, such as Hatch formula funding. For example, if CALS determines that agricultural systems research is of high priority, it can designate a certain portion of Hatch funds for that use and specifically invite proposals in that area. Although all research proposals made to Hatch and other federal formula funds are peer-reviewed, there are normally many more projects recommended for funding by the peer-review process than there are resources to fund. Thus, there is some flexibility to select peer-review approved projects that are of highest priority and consistent with CALS research objectives.

In the longer term, CALS is able to shape the research direction of the college by adjusting the GPR research budget. By approving or not approving open faculty and academic staff positions, CALS administrators are able to exercise their greatest control

of CALS long-range research direction. When a position opens in the college, administrators evaluate with departmental faculty and academic staff the type of position that should be defined to replace the departing staff member. Eventually, the department chair and executive committee define a position that is then forwarded to CALS administration and considered for funding along with other open positions in the college. Through these critical decisions to fill or not fill certain defined positions, the long-range direction of CALS research is focused.

Thus, the CALS GPR research budget process is primarily determined by its long-range research agenda. The agenda is implemented on an incremental basis, as unclassified positions are vacated and made available for reallocation or redefinition. Position approval is the primary tool available to CALS administration for controlling the future direction of CALS research. Because faculty positions are tenure track positions, these decisions have implications far into the future, particularly when young faculty members are being hired.

#### D. Determining the Research Agenda

There are many determinants of the CALS long-range research agenda. The most important determinant is the judgment of knowledgeable scientists about areas that constitute promising and feasible research. The evolution of scientific knowledge is the principal determinant of the research agenda. Examples of other determinants of the CALS research agenda include the following.

- The U.S. Department of Agriculture's (USDA) User Advisory Board consists of agricultural, agribusiness, and state government representatives. The board helps define emphasis areas and future funding directions for USDA research programs, which in turn influences CALS research programs.
- Agricultural experiment station directors, operating through such organizations as the Experiment Station Committee on Organization and Policy and the National Association of State Universities and Land Grant Colleges, meet frequently to assess national agricultural and natural resource research needs. The research agenda developed through their deliberations influences the CALS research agenda.
- One of the considerable strengths of a land grant institution is that it fosters close relationships between research and extension/outreach faculty. Such close relationships exist in CALS programs. County extension staff members, because of their frequent contact with farmers, agribusiness, and other research users, have a well-informed sense of the research needs that exist across the state in agricultural, natural resources, and community development.
- County staff is also influenced by elected county officials who serve on agricultural and extension committees of county boards. Structures and programs exist within extension to ensure that local concerns are communicated to campus researchers.

- The Wisconsin Agricultural Experiment Station cooperates with the USDA Cooperative State Research Service in reviewing each CALS department every five years. Review committees, composed largely of professionals from other land grant institutions, offer advice on the research direction of departments.
- Approximately half of the CALS departments have one or more advisory committees, which provide advice and guidance on research efforts. Advisory board members are drawn from all of a department's user groups, including employers, former students, county extension staff, state agency representatives, farmers and business leaders.
- Many interdisciplinary, applied research programs have advisory panels of citizens and users who influence the CALS research agenda. Research programs funded through state authorized marketing orders are required to have marketing board oversight of funds used for research programs. These boards work closely with the research staff in defining important research needs and advising on research project funding. Dairy product and market development, potato, cranberry, and fertilizer and lime marketing research efforts are examples of these types of research programs and advisory committees.

### III. GRADUATE SCHOOL

#### A. Use of Funds

The 1999-00 GPR research budget for the Graduate School was \$7.3 million, which constitutes the second largest school or college research budget at the UW-Madison. The entire budget was used for salaries and wages and provided funding for 64.54 unclassified and 83.78 classified FTE research positions. All of the GPR funded unclassified research positions in the Graduate School are non-faculty positions. The school administers several technical and specialized research centers, which provide support to departments campus-wide and employ a significant number of unclassified scientific and technical support personnel, such as instrumentation technicians and specialists.

#### B. Allocation/Reallocation of Funds

The Graduate School's GPR research budget is divided among four general categories or functions: legislated research programs and projects, flexible interdepartmental funds, compliance units and units that provide broad support to departments campus-wide, and interdisciplinary research centers.

##### 1. Legislated Research Programs

Legislated research programs and projects account for approximately \$2.5 million of the Graduate School's general program operations GPR research budget. The school observes the intent and budget of the legislation authorizing these programs. These

programs include the Biotechnology Center and Transfer Office, Sea Grant Institute, and the Groundwater Research program. (The Graduate School also administers the separate Industrial and Economic Development fund, which is not included in the budget total above.) Approximately 39 FTE research positions were budgeted for these programs.

## 2. Interdepartmental Research Support

Approximately \$1.0 million of the Graduate School's GPR research budget is allocated for general interdepartmental research support. The funds are allocated on a competitive basis by the Faculty Research Committee to support specific research projects or activities. The committee, which is composed of 40 faculty members and includes members from all four divisional affiliations (i.e. Biological Sciences, Humanities, Physical Sciences, and Social Sciences), annually issues a request for proposals, and proposals are evaluated in a peer review process (e.g. humanities faculty members review humanities proposals). Although flexible in principle, the funds are essentially intended to function as an investment, which enables faculty members to remain current in their fields, or which provides start-up research opportunities for young faculty members. In the context of that intent, awards are made for a variety of specific purposes: as exclusive funding for a particular research project, as a supplement to a successful extramural award, or as leverage funds which finance a portion of a faculty member's time while the faculty member completes a research grant proposal. This fund was created in the 1950's and has not been subject to substantial reallocation over time. It has increased or decreased from year to year primarily as a result of standard pay plan increase, mandated budget cuts, etc.

## 3. Research Compliance and General Research Support

A substantial portion of the Graduate School's GPR research budget is allocated to research compliance units and general research support units. The mission of the Graduate School entails management and budget responsibilities for compliance issues associated with federally supported research programs and campus-wide research support facilities and programs. Examples of such units include the Research Animals Resources Center, the Physical Sciences Laboratory, Biotron, and the University Industry Research program. The total GPR research budget for these units is \$2.1 million. GPR budgets for compliance units (\$0.7 million) are based on total research effort at the UW-Madison and work complexities imposed by federal regulations. In general, research support units are expected to charge users for actual costs. Moderate subsidies (\$1.4 million in total) have been allocated to these units in the past and are rotated among units as business levels fluctuate. The subsidies ensure continuity of operation during periods of reduced revenues.

## 4. Interdisciplinary Research Support

Approximately \$1.7 million of the GPR research budget is allocated primarily to classified salary support for Graduate School Interdisciplinary research units. These units include the Waisman Center, Synchrotron Radiation Center, Water Resources, Enzyme

Institute, Space Science and Engineering Center, Molecular Biology, Institute for Molecular Virology, and the Institute on Aging and Adult Life. The Graduate School engages in an ongoing evaluation of the units to determine whether reallocations of GPR funds are required. The school bases unit budgets on their success in competing for extramural grants and contracts, using rolling three to five year averages of gift and contract expenditures and earned overhead to determine and reallocate GPR budgets.

#### IV. MEDICAL SCHOOL

##### A. Use of Funds

The 1999-00 GPR research budget in the Medical School was \$3.7 million and was used entirely for salaries and wages. The Medical School's budget provided funding for 37.92 unclassified and 50.39 classified FTE research positions. The GPR research budget is allocated among 20 Medical School departments.

The primary purpose of the Medical School's GPR research budget is to provide the basic infrastructure needed to conduct extramurally sponsored research. This infrastructure investment resulted in \$127 million of extramural research grants and contracts in 1999-00. The Medical School generates more extramural research funding than any other school or college at the UW-Madison.

##### B. Allocation/Reallocation of Funds

###### 1. Extramural Support Office

In allocating the GPR research budget, the Medical School's highest priority is to provide funds to its Extramural Support Office. In 1999-00, approximately \$138,000 of GPR research funds was budgeted for partial support of two academic and two classified staff members in this office. The office reviews extramural support applications before formal submission to funding agencies. Applications are reviewed for consistency with institutional and Medical School policies. Budget calculations, rate selection, personnel identification, and contract terms are also reviewed.

###### 2. Human Subjects Review Committee

The second priority for the Medical School's GPR research budget is the Human Subjects Review Committee. Federal guidelines require the establishment of such a committee to ensure that the rights and well-being of human subjects in medical research are protected. The committee is primarily funded by UW-Madison's Center for Health Sciences—Administration unit. However, to help reduce the review backlog of the committee, the Medical School annually reallocates GPR research funds to provided supplemental support.

### 3. Legislated Research Projects

The Medical School conducts three legislated research projects: the Cancer Care Program, the Arthritis Consultation Center, and Mechanical Heart Research (excludes general research support provided by the legislature in the 1973-74 "Advanced Programs in the Medical School" DIN). The school appropriately follows the intent and budget of the legislation authorizing these projects. The combined budget for the projects in 1999-00 was approximately \$0.3 million.

The vast majority of the Medical School's GPR research budget is allocated for the infrastructure support of research programs in academic departments. In a typical Medical School department, GPR research funds are allocated for the following: a small portion of the department chair's salary for administrative time dedicated to research programs; a maximum of 50% of the department administrator's salary for time dedicated to research programs; salary for 1 FTE fiscal clerk for processing payroll and purchasing related to research and reviewing budget status reports for principal investigators; salary for 1 FTE secretarial or clerical position for typing grant proposals, manuscripts, research results, and correspondence related to grant activities; and a maximum of 25% of the salaries for as many as six faculty members, either to supplement (and/or provide match) existing extramural funding or to provide "bridge" funds while a faculty member competes for sponsored research.

#### C. Reallocation Flexibility

Given the volume of sponsored research generated by the Medical School, the school's \$3.7 million GPR research budget can support only a minimal level of departmental research infrastructure requirements. Consequently, the school does not have available a significant amount of flexible funds for potential reallocation. As discussed, the school reallocates funds to the Human Subjects Committee, but in total this allocation is only 1 FTE and approximately \$30,000.

As is generally the case throughout the institution, the school's principal source of GPR research funds for reallocation consists of vacated positions. The school requires that position FTEs and funding revert to the Dean upon vacancy for retirement, resignation, or termination. Vacant positions and associated funding are reallocated after reviewing position and funding requests from all departments. This process has produced net reallocations among programs (research, instruction, etc.) and departments. However, scarcity of resources across departments, and within programs, has resulted in a reallocation pattern that heavily favors departments that initially produced a vacant position and program definitions for new positions that resemble those that have been vacated.

## V. COLLEGE OF LETTERS AND SCIENCE

### A. Use of Funds

The 1999-00 GPR research budget for the College of Letters and Science was \$1.8 million. This amount included \$0.3 million budgeted for the LaFollette Institute for Public Affairs, which was authorized by specific legislation. The budget provided funding for 62.62 classified FTE research positions in Letters and Science departments. Departmental GPR budgets for classified research salaries ranged from over \$300,000 in the Chemistry Department to \$1,500 in the Humanities Research Institute. Six departments accounted for over \$1 million of the classified salary total: Chemistry, Physics, Center for Limnology, Zoology, Psychology, and Botany.

### B. Allocation/Reallocation of Funds

The budget provides core program and administrative support for departmental research activities through partial funding of such positions as financial specialists, pay and benefits specialists, fiscal clerks, and program assistants. These positions are funded in recognition of the added administrative requirements generated by extramural gift and contract programs. GPR research budgets for departments in the biological and physical sciences tend to be larger than budgets for other departments for two reasons: (1) biological and physical science departments generate a significantly larger volume of extramural research grants and contracts and, therefore, have greater administrative support needs; and (2) these departments require specialized technical support from classified staff, whereas other departments do not. For example, research programs in the departments of Chemistry and Physics require the technical support of such positions as instrument makers, electronics technicians, and mechanics.

In general, the college maintains the core support from year to year on a relatively constant basis to ensure efficiency and continuity. However, whenever a position vacancy occurs, any research component of the position (as well as other program components) is carefully reviewed by departmental and college administrators. Reallocation of GPR research funds in the College of Letters and Science is conducted primarily through the position approval process.

## VI. COLLEGE OF ENGINEERING

### A. Use of Funds

The 1999-00 GPR research budget for the College of Engineering was \$1.2 million and was allocated entirely for salaries and wages. The budget provided funding for 12.28 unclassified and 10.35 classified FTE research positions. This budget is divided among four general categories of research activity; research proposal development and administration, interdisciplinary and multiple user research facilities support, departmental support staff, and legislated research projects.

### 1. Engineering Experiment Station

The first two categories are budgeted with the College's Engineering Experiment Station, which accounts for approximately \$0.8 million of the Engineering GPR research budget. The GPR budget for the Engineering Experiment Station provides funding for the operations of the Office of the Associate Dean for Research and Graduate Programs. This office is responsible for the liaison function between college research faculty and external funding sources, proposal development, and clerical support staff. In addition, the GPR budget for the Engineering Experiment Station supports interdisciplinary and multiple user research facilities. Approximately 7 FTE scientific and technical research staff – instrument innovators, instrumentation technicians, and assistant scientists – in five facilities are supported by GPR funds. Funding for a base level of supplies, equipment maintenance, and other facilities needs is also provided. These facilities include the Materials Science Center, Center for Applied Microelectronics, Graphics and Visualization Laboratory, Water Science and Engineering Laboratory, and the Laboratory for Parallel Computation in Engineering. These centers and laboratories provide basic infrastructure support for the research activities of faculty members from many departments within Engineering and across campus.

### 2. Support Staff

The third general use of the Engineering GPR research budget is to provide partial support of clerical, and administrative and technical support staff in the departments and research program offices throughout the college. All staff members in this capacity are classified. Six departments, excluding the Engineering Experiment Station, receive classified salary support for their research program offices and personnel. Departmental GPR budgets for this purpose range from \$5,000 to \$25,000. GPR funds are allocated for this purpose in recognition of the additional demands that research activities place on departmental support staff.

### 3. Legislated Research Projects

The College of Engineering conducts two GPR funded, legislated research projects: Materials Engineering (Ceramics) and Engineering Quality (Thin Film Deposition and Applications, and Automation and Robotics). The intent and budget of the legislation authorizing these projects are appropriately followed.

## B. Allocation/Reallocation of Funds

With the exception of the two legislated research projects, the College of Engineering GPR research budget is limited to providing basic infrastructure support to Engineering research programs. Administrative, program, and clerical support staff responsible for managing and meeting the various demands of the research program, either with departments or across the entire college, are partially funded with GPR. Technical support staff and basic facilities support expenses in several multiple user facilities are



APPENDIX 3

UNIVERSITY OF WISCONSIN SYSTEM  
LEGISLATED RESEARCH PROJECTS  
1973-74 THROUGH 1999-00

RESEARCH PROJECTS 1999-00 BUDGET

<b><u>UW-MADISON</u></b>	<b><u>\$9,322,298</u></b>
A. Advanced Programs in the Medical School	\$50,800
B. Agriculture Research Consortium/Cooperative Research	\$290,218
C. Arthritis Consultation Center	\$65,000
D. Biology Faculty Initiative	\$430,000
E. Biotechnology Center/Biotechnology Transfer	\$864,071
F. Cancer Care Program	\$62,100
G. Center for Integrated Ag. Systems/Sustainable Ag.	\$331,236
H. Cheese Research Institute	\$266,016
I. Family Farm Institute	\$169,584
J. Geographic Information Systems	\$118,464
K. Groundwater Research	\$270,000
L. LaFollette Institute for Public Affairs	\$255,419
M. Materials Engineering	\$147,000
N. Mechanical Heart Research	\$100,000
O. Nonpoint Source Pollution Control	\$149,499
P. Sea Grant Institute	\$1,381,417
Q. Small Scale Waste Systems	\$202,913
R. School of Veterinary Medicine	\$3,259,927
S. Wisconsin Idea - Engineering Quality	\$90,000
T. Industrial and Economic Development Research Fund	\$818,634
<b><u>UW-Milwaukee</u></b>	<b><u>\$995,356</u></b>
A. Grant Matching and Research Committee Awards	\$423,956
B. Great Lakes Water Institute	\$102,800
C. Research in Engineering and Technology	\$54,000
D. Technology Transfer	\$107,600
E. Milwaukee Research Plan	\$220,600
F. Manufacture of Metal Composites	\$86,400

Note: Item A. represents the current 101-4 budget; items B. through F. are actual legislated allocations over period of 1973-74 through 1999-00.

<b><u>SYSTEMWIDE</u></b>	<b><u>\$1,391,627</u></b>
A. Applied Research	\$449,171
B. Distinguished Professors	\$737,991
C. Solid Waste Experiment Centers, Noncompostible Landfill and Sludge	\$204,465

UNIVERSITY OF WISCONSIN SYSTEM TOTAL \$11,709,281

**APPENDIX 4**

**LEGISLATED RESEARCH PROJECTS**

**I. UW-MADISON**

**A. Advanced Programs in the Medical School**

In 1973-74, the UW-Madison Medical School received funding for research to advance the understanding of medical applications in:

- advanced clinical care of cancer patients;
- rehabilitation of the aged;
- law enforcement pathology; and
- environmental and occupational medicine

This funding was added to the Medical School's GPR research base to support research efforts in the prescribed areas. The funds remain in the Medical School's GPR research budget and provide base support for the Medical School's research program.

**B. Agriculture Research Consortium Cooperative Research**

The UW System's Agriculture and Natural Resources Consortium was established approximately 20 years ago. Its primary purpose is to foster coordination and cooperation in research and extension planning among the agriculture and natural resource programs at UW-Madison, UW-Platteville, UW-River Falls, UW-Stevens Point, and UW-Extension. The consortium promotes excellence in undergraduate and graduate training, and, through these funds, supports applied research for stronger information outreach related to agriculture and natural resources areas.

The funds are administered through the UW-Madison College of Agricultural and Life Sciences. Projects are normally established for a two-year period, subject to renewal.

To maximize the effectiveness of the research funding, consortium members are targeting selected research areas each year. Areas that are currently emphasized include rural health and youth issues, forest landscape diversity, tourism development, and alternative agriculture products and uses of products. Each of these areas has a significant impact on the economic viability of Wisconsin's rural communities. The list of targeted research areas is reviewed periodically to respond to changing and emerging needs in Wisconsin agriculture, forestry, and tourism.

**C. Arthritis Consultation Center**

This project provides base support for the research program in the Arthritis Consultation Center, which is located within the Section for Rheumatic Disease at the UW-Madison Center for Health Sciences. Research efforts focus on improving diagnostic and

therapeutic services to patients suffering from connective tissue diseases. In addition to providing clinical care services and conducting related research, the Center has developed consultative, educational outreach services for physicians, hospitals, and other institutions throughout the State of Wisconsin.

#### **D. Biology Faculty Initiative**

This initiative provided continuing base salary and fringe benefit support (and one-time start up funding) for additional 8 FTE faculty members in the biological science. The new faculty members were placed in a variety of departments, including Genetics, Chemistry, Zoology, and Animal Health and Biomedical Sciences. Research focus of the new faculty members are interdisciplinary efforts in biotechnology and genomics.

#### **E. Biotechnology Center/Biotechnology Transfer**

The mission of the Biotechnology Center is to maximize the benefits of biotechnology to UW-Madison, the UW System, the State of Wisconsin, and the nation by supporting, coordinating, advancing, and disseminating biotechnology and related activities.

The Center operates five service facilities that provide state-of-the-art shared services, equipment, and trained personnel to support campus research and the research needs of Wisconsin biotechnology businesses. The service facilities include Protein/DNA Sequence/Synthesis, Protein Purification, Transgenic Mouse, Hybridoma, and Bioinformatics.

The Biotechnology Center also conducts its own research program. Current research efforts include projects on enzyme engineering, plant biotechnology, and methods development. In addition, the Center has formed multidisciplinary applied research consortia in the areas of biopulping and bioremediation. The Center is forming new consortia in the areas of biomaterials and bioscience.

The Biotechnology Center also disseminates knowledge, information, and technology to state government agencies, businesses, and educational institutions through active technology transfer and public education efforts.

The Biotechnology Transfer Office was established to improve interactions between Wisconsin's biotechnology business community and Wisconsin universities. The office, which is part of the Biotechnology Center, initiated a three-tiered approach to improve interactions with Wisconsin Industry. This approach includes:

- Wisconsin Busses Newsletter. The monthly newsletter reports on news and information that is important to Wisconsin's biotechnology community; provides a chronicle of the issues, events, and growth of the biotechnology industry in Wisconsin; and includes regular articles on legislative activities relevant to biotechnology, company profiles, investment and partnership opportunities, research highlights and technology briefs, etc. The newsletter is intended as an informational and marketing tool both inside and outside of Wisconsin. It is sent to biotechnology

companies, state biotechnology agencies, legislators, and researchers. At present, there are approximately 3,000 recipients of the newsletter.

- **Wisconsin Biotechnology Company Database.** The newsletter and direct interactions with companies enable the Biotechnology Transfer Office to compile current and comprehensive information about biotechnology firms in Wisconsin. A database has been created that enables the office to monitor the industry, its needs, and its growth.
- **Interaction with Business and Government Agencies.** The Biotechnology Transfer Office is an important university interface with the Wisconsin biotechnology business community. The Office provides businesses with information, referral to appropriate sources of expertise, and connections and introductions. The Office regularly visits companies to gather information and inform them of available assistance. It also actively supports the efforts of the following agencies/groups: the Governor's Task Force on Science and Technology, its Biotechnology Task Force and several task force subcommittees (marketing, education, databases), the Department of Development, Forward Wisconsin, and Dane County government.

**F. Cancer Care Program**

The community cancer care program, which is part of the UW-Madison Center for Health Sciences, provides multiple services to the public and physicians and other health care professionals. Examples include the Cancer Prevention Clinic, Wisconsin Oncology Group, Cancer Nursing Newsletter, and Cancer Information Service. The program conducts cancer research studies on such topics as smoking cessation and epidemiology. Because over 80% of cancer patients are treated in their home communities, a primary goal of the program is to disseminate information statewide about cancer prevention and treatment.

**G. Center for Integrated Agricultural Systems/Sustainable Agriculture**

The Center for Integrated Agricultural Systems was established to provide research and extension programs that address issues involving agricultural profitability, environmental quality, and linkages to rural communities. These programs are conducted by the Center's faculty and staff in collaboration with Wisconsin farmers and other Wisconsin citizens, who participate on an advisory council to the Center.

In conducting research projects, the Center assembles interdisciplinary research teams from the faculty of the four UW-System agricultural colleges, and involves Wisconsin farmers. Recent projects include: comparisons of alternative dairy farming methods and cropping systems, alternatives to pesticide use in potato production, verification of using legumes and soil tests to reduce nitrogen use, and an examination of the value of groundwater to central Wisconsin residents. Current activities are focused on developing case studies for research, various research projects related to intensive rotational grazing, and dairy systems and socio-economic implications of biotechnology.

The Center published and distributed a teacher's guide to sustainable agriculture for use in high school agriculture curriculum. The Center also coordinates graduate work and research in sustainable agriculture, and is developing related capstone graduate and undergraduate seminars.

#### H. Cheese Research Institute

The research program of the Cheese Research Institute provides the Wisconsin dairy industry with current information on the economics, processes, and techniques of cheese production and distribution. Because the market for cheese products has become increasingly segmented (both in terms of cheese types and consumers), it is important that Wisconsin producers have up-to-date information on production technologies and consumer preferences. Examples of recent research efforts include:

- the development of a "user-friendly" economic engineering model designed for use by cheese plant managers to maximize the profitability of large or small dairy plants;
- a study of the factors affecting physical characteristics of cheeses;
- a study of the correlation between milk quality parameters and the economics of cheese production;
- studies on controlling and enhancing flavor and body characteristics of low-fat and low-sodium cheeses;
- an analysis of consumer preferences regarding surface color of commercially smoked cheddar and swiss cheeses; and
- twelve interrelated projects that focus on flavor control, mechanisms of flavor development, and the measurement of flavor compounds. These projects analyze the effects of selected bacteria and enzymes on control and enhancement of cheese flavor, quality, and intensity.

#### I. Family Farm Institute

The Agricultural Technology and Family Farm Institute (ATFFI) was established to conduct research and extension/outreach on the relationships between technology and family farms. The purposes of the ATFFI are to:

- evaluate the effects of new technology, state and federal policies, and other factors on family farm agriculture;
- recommend policies to take advantage of new technologies and mitigate disadvantages;
- assist farmers in meeting the challenges of new technologies; and
- ensure that farmers have access to new technologies.

Examples of current research efforts include:

- a feasibility study of a "marketing agency in common" for milk (and the benefits, costs, and consequences for family dairy farmers);

- construction of a conceptual scheme for inventorying relationships between biotechnology and sustainable agriculture;
- a case study of the legal, policy, and commercialization options associated with innovative scientific approaches to directing biotechnology research to local agro-ecological conditions; and
- a case study of organizational problems and options in small horticultural production and marketing cooperatives.

#### J. Geographic Information Systems

The State Legislature and the UW-Madison have entered into a collaborative arrangement to produce an integrated system that incorporates geographical information software programs, U.S. Census data, and State Elections Board data. The project was designed to aid the Wisconsin Legislature in the decennial redistricting process and to give researchers and members of the public access to spatial and tabular data from the 1990 census. UW-Madison's Land Information and Computer Graphics Facility are coordinating the project.

The project's long-term goal is to provide access to data from the 1990 census to researchers who need information on geographic factors. This data will include all publicly available data for Wisconsin. Other states will be included, as the geographic data becomes available.

#### K. Groundwater Research

The Groundwater Research Program was established to conduct research on groundwater problems in the State of Wisconsin. The program provides funding for individual research projects. Input into the selection of individual research projects is provided by the Groundwater Research Advisory Council, which is appointed by the UW-Madison Chancellor to advise the program, and the Groundwater Coordinating Council of the State of Wisconsin, a legislatively mandated State council having broad responsibility for coordinating groundwater-related problems in Wisconsin. Projects recently selected for funding were divided into five general categories of groundwater research:

1. Mathematical modeling of groundwater contaminant transport.
2. Sorption reactions which retard contaminant movement to groundwater.
3. Movement of water and contaminants to and through groundwater.
4. Remediation of contaminated soils and waters.
5. Economic effects of groundwater contamination.

### L. LaFollette Institute

The budget amount shown above includes only the portion of the LaFollette Institute's GPR funds that are budgeted for research activities. The LaFollette Institute also has GPR funding for public service and instruction.

In 1991-92, the LaFollette Institute continued policy research and public service programs and also inaugurated new programs. These programs promote the examination of public policies and public institutions, thereby affecting policy-making in the state and the nation. Programs include basic and applied research by individual scholars and teams of scholars and/or practitioners; policy development based on research already completed; and specific and immediate information and seminars, publications, and colloquia designed both to disseminate research results and to stimulate analysis and evaluation.

State GPR funds are used for staff support (faculty release time, graduate research and project assistants, professional and support staff), production and dissemination of publications, and other operating costs.

### M. Materials Engineering

The economic future of product oriented companies in consumer and capital goods industries depend heavily on the understanding and use of newly engineered materials. Materials processing in Wisconsin has traditionally emphasized heavy industrial metals. However, in order to remain viable and economically competitive, many Wisconsin industrial concerns will focus on expanding into high technology non-metal applications involving ceramic, semiconductor, and superconductor materials. Ceramics form a versatile class of materials offering an extraordinarily wide range of physical properties, flexible processing, and substitution of inexpensive abundant materials for expensive or rare ones. Wisconsin industry has long been a leader in low technology ceramic application, but advanced applications will provide opportunities for new industrial growth. Prior to receiving this funding, the College of Engineering did not have a faculty member with expertise and interest in this area. The College used the funds to hire two assistant professors that have ceramics expertise. This enabled the College to establish a communication and research link, related to advanced ceramics, with Wisconsin industry, and to obtain federal research funds that are available for ceramics research. This expansion of the materials programs in the College of Engineering will contribute to industrial competitiveness and productivity in Wisconsin.

### N. Mechanical Heart Research

The Cardiology Department of UW-Madison's Medical School was allocated funds for the Milwaukee heart project, which involves the building and testing of working prototypes of fully implantable mechanical hearts. The expenditure of these funds requires matching funds from private contributions.

## O. Nonpoint Source Pollution

The nonpoint source pollution project is a continuing program, which provides current best-management information and develops a database for establishing priorities in nonpoint source pollution control. The project also supports demonstration and educational activities. The objectives of the project are to evaluate:

- the effectiveness of agricultural practices in reducing the potential for water pollution from sediment, nutrients, and pesticides;
- the effects of selected soil and crop management practices on runoff and water quality in watersheds, where stream monitoring programs are administered by the U.S. Geological Survey and the Wisconsin Department of Natural Resources; and
- on a whole farm basis, the social and economic factors which govern the adoption of best management practices to reduce nonpoint source pollution.

Current research efforts include:

- the investigation of the effects of irrigation management and tillage on pesticide movement in alluvial sands and investigation of the movement of atrazine and alachlor with field installed lysimeters in alluvial sands;
- the evaluation of the effect of tillage systems for soil erosion control and water quality during establishment of alfalfa;
- the measurement of changes in soil properties as influenced by corn production tillage practices;
- the evaluation of the use of recycled paper for urban and highway soil erosion control;
- the evaluation of soybean production practices which minimize soil erosion and maintain water quality in the non-glaciated region of Wisconsin;
- the measurement of runoff, nutrient and pesticide losses from constructed soils to develop practices for urban lawn construction; and
- the determination of the importance of having grass included in a forage production system to minimize soil erosion and nutrient losses to surface waters.

## P. School of Veterinary Medicine

The School of Veterinary Medicine's GPR research funding is a portion of the School's total start-up and operating budget, which was provided by the State of Wisconsin in order to establish a veterinary medical school at UW-Madison. In the 1978 "Report of the University of Wisconsin System to State Government on Veterinary Medicine," the full costs of operating a veterinary school were identified by four major cost components, including academic programs, teaching hospitals, library, and facility operating costs. Biennial budget requests for the incremental funding of the School of Veterinary Medicine's operating budget further separated the academic program budget into instruction and research activities. The breakdown between instruction and research reflected the anticipated activity of the faculty in teaching and research and related

support costs of those activities. In 1991-92, GPR research funding at the School was apportioned as follows:

- 45% for faculty salaries (individual salaries range from 10% to 40% on research funds);
- 21% for graduate assistant/trainee stipends;
- 16% for research support personnel;
- 15% for shared support resources (animal care, histopathology, electronmicroscopy, etc.); and
- 3% for administration through the Office of Research and Graduate Training.

#### **Q. Sea Grant Institute**

The Sea Grant Institute is dedicated to the wise use and development of Great Lakes and ocean resources. Although the Sea Grant Institute is headquartered on the UW-Madison campus, the Wisconsin Sea Grant Program operates systemwide and is statewide in scope. Research projects conducted by the Institute focus on helping to:

- solve Great Lakes water quality problems,
- improve sport and commercial fisheries,
- promote aquaculture development,
- develop methods to assess potential effects of climate change on the Great Lakes,
- respond to the introduction of nuisance exotic species into the Great Lakes, and
- stimulate the economic development of coastal communities and Great Lakes related industries.

State GPR funding is used to provide the required one-third match for the federal funding the Sea Grant program receives, and to support research and public advisory activities on toxic substances in the Great Lakes and the aquatic environment.

#### **R. Small Scale Waste Systems**

The primary objective of the Small Scale Waste Systems project is to conduct research of low cost sewage systems for problem soils. In particular, the research addresses small wastewater flows that are primarily domestic and non-hazardous. Current research emphasis focuses on two major areas, including the treatment of wastewater by soil and through pretreatment (prior to soil infiltration), and the disposal of wastewaters by infiltration systems of various design. In addition to research, project members provide training and advising to professionals and Wisconsin residents.

### S. Wisconsin Idea – Engineering Quality

Funds for this project are being used to strengthen the operation and utilization of College of Engineering facilities and equipment in two areas:

- the fabrication and study of ultra-thin films of one material on the surface of another material; and
- automation and robotics.

The fabrication and study of ultra-thin films is one of the most important and fastest growing areas of materials science. Automation and robotics are becoming increasingly important in manufacturing, medicine, the nuclear industry, and work in space.

Funding for ultra-thin film research is used at the Center for Thin Film Depositions and Applications. The funds provide for the renovation, installation, maintenance, and operation of state-of-the-art research equipment, for which there is a growing demand by College of Engineering materials researchers and Wisconsin industry. Funding for robotics and automation is used for maintenance, operation, and upgrading of robotics and related computer equipment. In both cases, funds also provide for specialists who ensure proper operation of equipment and effective collaboration with industry in the State of Wisconsin.

### T. Industrial and Economic Development Research Fund

The Industrial and Economic Development Research Fund (UW-Madison Fund 118) supports faculty research projects that show potential for stimulating economic development in Wisconsin and plan for implementation or transfer of technologies which result from such research projects. Since its creation, the Fund has provided support for the following research topics:

- the transfer of biotechnologically based pest control technologies to the fiber and bioenergy industries;
- the State of Wisconsin's cultural, historical, and environmental contribution towards the successful developing, manufacturing, and marketing of good product design;
- polysaccharide gums from whey permeate for food and industrial use;
- low noise electronics for sensors;
- development of a permeable wall-closed loop humidity control system;
- analysis and evaluation of advanced bicycle frame design and manufacturing – a joint research effort of UW-Madison and Trek Bicycle Company;
- improved lifetime of die-casting molds by plasma source ion implantation;
- off-resonance spin-locking technique for high field magnetic resonance imaging; and
- development with Tracor/Northern of a real-time confocal laser-scanning microscope for three-dimensional and four-dimensional (three dimensional versus time) imaging.

## II. UW-MILWAUKEE

### A. Grant Matching and Research Committee Awards

The Graduate School provides grant-matching funds, in the form of research assistantship salary support and equipment support to foster the extramural funding of faculty research and creative activity. A portion of the present budget of \$423,956 was historically allocated as legislated funding. Using resources on a revolving basis, the Graduate School Research Committee provides limited funding to selected (and primarily junior) faculty to initiate new research.

### B. Great Lakes WATER Institute

Historically legislated funding of \$102,800 for the Great Lakes Research Facility comprises a portion of the current funding for the UWM Graduate School WATER Institute to maintain the research facilities and enhance capabilities related to environmental and aquatic research. The WATER Institute provides the infrastructure necessary for the research tenants. The Institute provides faculty and research staff members with research opportunities directly related to the UWM Strategic Plan. Tenants include the Center for Great Lakes Studies, the Aquaculture Institute, the NIEHS Marine and Freshwater Biomedical Sciences Center, a Wisconsin Sea Grant office, and two Wisconsin Department of Natural Resources units.

### C. Research in Engineering and Technology

The historical allocation in 1985-86 of \$54,000 for research in engineering and technology continues to be used to increase the ability of the College of Engineering and Applied Science to encourage collaborative research between UWM faculty and research employees in Milwaukee business and industry. The allocation is used to foster collaborative research on a wide variety of applied research projects.

### D. Technology Transfer

Since receiving an allocation of \$107,600 in 1983, the Graduate School continues to be dedicated to fostering collaborative research between UWM faculty and the Milwaukee area industrial community, transferring technology from the university into commercial processes and products, and developing the intellectual property of the faculty through licenses and patents. Funding is provided to support these activities through the Graduate School Office of Research Services and Administration.

### **E. Milwaukee Research Plan**

UWM received \$220,600 in the 1980s to support the Milwaukee Research Plan. The School of Business Administration received \$65,800 in 1985-86 and \$90,600 in 1987-88 for its applied research services to the Milwaukee business community. The initial use of the funding was to develop centers to enable faculty and staff to increase the competitive capabilities of business, primarily in southeastern Wisconsin, through teaching and research. The emphasis is on creating effective linkages between UWM and the business community. These activities continue through the SBA Bostrom Center for Business Competitiveness, Innovation and Entrepreneurship. The Center serves as an interdisciplinary applied research center to identify, evaluate, and disseminate techniques, strategies, philosophies, and policies that enhance the business competitiveness of firms, and the vitality of innovation and entrepreneurship.

In addition to the activities of the School of Business Administration, funding is being utilized by the Graduate School and the College of Engineering and Applied Science. The Graduate School funding is used to increase collaboration between UWM faculty and the Milwaukee business community. The initial allocation of \$17,500 in 1987-88 was used for a collaborative research project sponsored by the UWM Center for Great Lakes Studies and Milwaukee County. Since that time, the Graduate School Office of Research Services and Administration has utilized funds for a series of productive collaborative research projects between UWM and Milwaukee area companies.

The Graduate School created the Advanced Analysis Facility in 1992 to serve the UWM scientific community as well as regional industry by providing UWM faculty expertise combined with a unique array of scientific instrumentation, which in combination can be effectively applied to solving applied research problems. Research funding is being utilized by the AAF to assess problems and develop solutions that make industrial partners more competitive. Recent company partners include: Johnson Controls, S.C., Johnson Wax, Benz Oil, Allen Bradley, and W.H. Bradley.

The 1987-88 Milwaukee Plan research allocation included \$46,700 that is used by the College of Engineering and Applied Science to support faculty research in the areas of quality assurance and automated manufacturing.

### **F. Manufacture of Metal Composites**

Historical funding of \$86,400 has facilitated research in the College of Engineering and Applied Science in the area of design, development, and manufacturing of metal matrix composites. This research benefits the materials processing industry in Wisconsin, specifically equipment manufacturers. Research includes composites used for engines, electromechanical machinery, and high-temperature cables. Specific companies include Mercury Marine, Tecumseh, Outboard Marine, Wisconsin Electric, Eaton, Louis Electric, and ASEA.

## II. SYSTEMWIDE

### A. Applied Research

This program provides funding for UW System institutions for research addressing specific problems faced by Wisconsin industries. Details regarding this program are provided in a separate biennial report to the State.

### B. Distinguished Professors

This funding provides partial support for 20 Distinguished Professor positions in the University of Wisconsin System. The GPR funding is matched by an equal or greater match from businesses and/or other non-GPR sources. At the end of the 1999-00 fiscal year, this funding supported ten professors at UW-Madison, three at UW-Milwaukee, two at UW-Stevens Point, and one at La Crosse. An annual fiscal report is provided for this program.

### C. Solid Waste Experiment Centers, Noncompostible Landfill and Sludge.

This program provides funding to UW System institutions for research into the alternative methods for the disposal of solid waste. Details regarding these programs are provided in a separate annual report to the State.



## UNIVERSITY OF WISCONSIN SYSTEM PUBLIC SERVICE

### I. OVERVIEW

The University of Wisconsin System's 1999-2000 GPR public service budget was \$53.1 million (Table 1). The majority of the public service funding (75.8%) was in the UW-Extension budget. The University's budget for extension and public service activities in FY 1999-2000 included \$1,571,163 million for special legislated projects and \$51,491,907 million for ongoing programs.

**TABLE 1**  
**PUBLIC SERVICE GPR FUNDING BY INSTITUTION**  
**1999-2000 FISCAL YEAR**

<u>INSTITUTION</u>	<u>FUNDING</u>	<u>PERCENT</u>
Madison	\$ 9,689,296	18.3%
Milwaukee	820,516	1.5%
Comprehensives and Colleges	2,250,424	4.2%
Systemwide	96,933	0.2%
Extension	<u>40,205,901</u>	<u>75.8%</u>
Totals	\$ 53,063,070	100.0%

Extension faculty and staff, based in UW-Extension, on every campus of the UW System and in county extension offices throughout the state, develop and teach extension programs. To meet its mission, UW-Extension develops statewide plans and priorities based on the emerging needs affecting individuals, families, labor, business, agriculture, youth, the environment, the economy, communities, the professions, and senior citizens. Planning involves faculty and staff, public representatives, cooperating agencies, and clientele groups. These plans are the basis for reallocating base funds from lower to emerging higher priorities. UW-Extension also meets the needs of public service through legislated projects. Appendix 1 illustrates the 1999-2000 legislated projects.

The four UW-Extension programming units develop operating budgets including base funding and legislated or other special projects. The programming units are:

- Cooperative Extension
- Continuing Education Extension
- Extension Broadcasting and Media Innovations
- Business and Manufacturing Extension (including Small Business Development Center)

- 8. From: Continuing Education Extension  
To: UW- Milwaukee School of Education  
Amount: \$94,068 & 1.79 FTE

To support collaboration between UW-Extension and UW-Milwaukee School of Education, Milwaukee Public Schools, and the teachers' union in the Metropolitan Milwaukee Teacher Education program.

- 9. From: Continuing Education Extension  
To: UW-Eau Claire  
Amount: \$36,587 and 0.00 FTE

To support UW-Eau Claire for Debbi King providing leadership for instructional technology in PK-12 initiative.

- 10. From: Continuing Education Extension  
To: UW-Stevens Point  
Amount: \$25,259 and 0.00 FTE

To realign existing GPR to programs in strategic program areas.

- 11. From: Continuing Education Extension  
To: UW Learning Innovations  
Amount: \$2,378,514 and 0.00 FTE

UW Learning Innovations will support the UW institutions, faculty, and staff as they develop technology-enabled learning products and services that directly benefit UW students and are marketed in Wisconsin and beyond to generate resources used in support of UW students.

- 12. From: Continuing Education Extension  
To: UW-Green Bay  
Amount: \$14,963 and 0.00 FTE

To support multicultural teacher education project.

- 13. From: Continuing Education Extension  
To: UW-Green Bay  
Amount: \$10,000 and 0.00 FTE

To support development of a national nursing program.

- 14. From: Continuing Education Extension  
To: UW-Parkside  
Amount: \$24,226 and 0.00 FTE

To move existing GPR to realign with program priorities at UW-Parkside in education and community-based teaching and research.

15. From: Continuing Education Extension  
To: UW-River Falls  
Amount: \$10,000 and 0.00 FTE

To assist programs in the following areas: communications, technology for K-12 schools, business, technology applications for businesses, and ITV programming for rural communities.

16. From: WHA Radio Administration UWEX Broadcasting and Media Innovations  
To: WHA Radio Program/Production  
Amount: \$33,600 and 0.0 FTE

Director of Radio savings from splitting the position with another state agency was used to help fund the Executive Producer of the program "To the Best of Our Knowledge".

17. From: WHA-TV Administration UWEX Broadcasting and Media Innovations  
To: WHA-TV Production  
Amount: \$25,442 and 1.00 FTE

Eliminate an Administrative position to hire a position devoted to developing improved digital production capabilities.

18. From: WHA-TV Programming UWEX Broadcasting and Media Innovations  
To: WHA-TV Production  
Amount: \$94,035 and 2.65 FTE's

Positions and funding were coupled with an additional 3.0 FTE's and \$86,408 reallocated within the Production Department to create a Digital Innovations unit.

Appendix 2 details the planning processes of each UW-Extension division.

## II. UW-EXTENSION MISSION

The select mission of the University of Wisconsin-Extension is to provide, jointly with the UW institutions and the Wisconsin counties, an extension program designed to apply University research, knowledge and resources to meet the educational needs of Wisconsin people, wherever they live and work. This mission includes the work of the four UW-Extension units: Cooperative Extension, Continuing Education Extension, Extension Broadcasting and Media Innovations and Business and Manufacturing Extension in:

- **Teaching.** To extend non-credit education opportunities and campus-based degree credit, through a variety of delivery methods and media. These programs develop, organize and impart knowledge and research applications needed by the public and by such special groups as business, labor, agriculture, youth, families, government and the professions.
- **Applied Research.** To identify research problems, conduct applied research and demonstrate the results of research relevant to the specific needs of individuals, organizations, businesses and communities.
- **Public Broadcasting and Media Innovations.** To provide informational, educational, cultural and public affairs programming via radio and television and to improve and encourage effective use of existing and emerging communications technologies for public information, extension education and communication among faculty, staff and clientele.
- **Statewide Program Leadership, Coordination and Accountability.** To provide access for all of Wisconsin citizens to the research, knowledge and resources of their university system through program leadership, budget administration and program/budget accountability for a coordinated statewide extension program delivered with and through the University of Wisconsin System institutions and county and area extension offices.

## III. THE RELATIONSHIP BETWEEN BASE PROGRAM FUNDS AND SPECIAL LEGISLATED PROJECT FUNDS

Investments in base program funds are constantly re-examined within UW-Extension to meet emerging priority needs defined through regular planning and priority-setting processes, as well as through special projects. In addition, program changes are made as faculty annually evaluate and refocus their program emphases and directions as described in Appendix 2. Both these means are essential for extension programs to remain relevant and responsive.

Appendix 3 offers selected examples of how base funds were reallocated in FY 2000 to meet changes in priority needs.

Sometimes, however, base reallocations are not sufficient to meet emerging priority needs associated with new legislation, societal change and critical new issues. In these cases, special project funds are requested to support emerging priorities that require funding beyond the institution's capacity to respond through base reallocation. Often ongoing programs basic to core activities must be sustained, faculty talents in a high priority field may be fully committed and unavailable for reallocation, or new faculty expertise and skills may be required.

Usually, the issues and needs requiring legislated special project funding are of such magnitude that they require long-term programming. For example, innovative programs in Water Quality, Waste Management, Sustainable Agriculture and Manufacturing Technology Transfer, which emerged as critical priority issues in the 1980s, required long-term investments in sustained educational programs that made a significant impact over time. Just as base programs are not static, programs in legislated special project areas change to address emerging issues. For example, in Dairy Profitability, priority emphases at any given time may fluctuate from milk quality to marketing orders to input cost reductions.

Legislated special project funding is only part of a long-term commitment to sustain high priority initiatives. UW-Extension reallocates base funds to augment legislated special project funding for new programs and integrates special projects with base programs to assure they are part of ongoing statewide educational effort. Uniting legislated special projects with base programs assures better identity and acceptance, access, continuity and stewardship of financial and personnel resources. Legislated special project funds remain committed to the programs for which they were allocated and retain their budget and program identity, however special projects do not stand alone. They become part of a comprehensive educational program accessible to people throughout the state and adaptable to local needs.

Appendix 4 describes and links UW-Extension's legislated and other special projects to the institutions' base program areas.

**APPENDIX 1  
UNIVERSITY OF WISCONSIN SYSTEM  
PUBLIC SERVICE LEGISLATED PROJECTS  
1999-2000 FISCAL YEAR**

<u>PROJECT TITLE</u>	<u>ALLOCATION</u>
<b>COOPERATIVE EXTENSION:</b>	<b>\$931,686</b>
Community Economic Analysis	58,369
Center for Economic Development	72,920
Rural Development Institute	78,432
Biotechnology Education (BioTrek)	66,498
Farm Financial Management	66,157
Dairy Profitability Center	227,082
Agricultural Technology & Family Farm Institute	90,343
Nutrient & Pest Management	251,885
Local Planning Grant	20,000
<b>CONTINUING EDUCATION EXTENSION:</b>	<b>\$639,477</b>
Minority Entrepreneurship	83,658
School for Workers	109,725
Manufacturing Technology Transfer	191,360
Educational Technology	94,800
Solid and Hazardous Waste Education	159,934

---

**UNIVERSITY OF WISCONSIN SYSTEM TOTAL:** **\$1,571,163**

**APPENDIX 2**  
**UW-EXTENSION PLANNING & BUDGETING PRACTICES**

To meet their mission responsibilities, UW-Extension leads the development of statewide plans that provide the policy framework for identifying program needs, assigning relative priorities, and making budget allocations and reallocations. The institution's program planning and budget guidelines link programs, budgets and changes. Each UW-Extension division follows an internal budget and program planning process within this institutional model.

**A. Cooperative Extension**

Cooperative Extension plans on a four-year cycle, with 2000-2004 being the current cycle. Planning involves faculty and staff, public officials, business, labor, cooperating governmental agencies, agriculture and agri-business and other citizen representatives. The four-year plan defines community-based priorities and special needs. These needs are correlated with personnel and fiscal resources, with reallocations made where appropriate. Some reallocations involve no budget modifications, as faculty and staff shift their programmatic direction. Other changes involve both budget and position reallocation to support the changing needs identified in the strategic plan.

**B. Continuing Education Extension**

Continuing Education reallocates resources annually in a priority framework, defined by the strategic plan it develops every five years. In 1998, CEE and the Continuing Education Extension Committee (CEEC), which is comprised of continuing education deans and directors from each UW institution, began working on the division's five-year strategic plan. The strategic plan, "Programs, Services, and Partnerships for the 21<sup>st</sup> Century," was completed and published in May 2000. The deans and directors at the institutions agreed on the shared vision and directions that will enable them to develop campus specific five-year plans. While allowing for planning to occur at the institutional level, this plan serves as the overarching direction for programs, services, and partnerships. Our division's commitment to lifelong learning is based on the belief that our clients can best meet the challenges of success today if they have opportunities for learning throughout their life spans. CEE uses an interactive process to initiate, define and discuss changes to ongoing programs or to meet emerging needs.

**C. Extension Broadcasting and Media Innovations**

Strategic Planning in Extension Broadcasting and Media Innovations differs in its approach, but not in its objectives, compared to other UW-Extension divisions. The division works closely with its partner in Wisconsin Public Broadcasting, the Wisconsin Educational Communications Board (ECB), to define strategic direction in educational areas and to define regional programming needs throughout Wisconsin. The Division continuously evaluates the effect of

programming through audience surveys and other methodology. It also responds to demands for programming support, delivery outlets and production facilities by faculty and staff of the UW System. Detailed programming is scheduled annually, as educational, instructional and cultural programs are modified to meet public and professional priorities. Resources are moved annually from lower to higher priority programs.

**D. Business and Manufacturing Extension**

Business and Manufacturing Extension activities include those of the Wisconsin Small Business Development Center (SBDC) program and those that relate to Business and Industry or Management Institutes.

The Small Business Development Center allocates resources based on its "Strategic Plan/Operating Plan 2000-2002" and the current U.S. Small Business Administration/SBDC Cooperative Agreement. The Strategic Plan outlines broad strategic direction paths the SBDC must travel to reach its vision to connect entrepreneurs and small business owners with knowledge, tools and resources. The Plan is the result of a multi-phased organizational process involving volunteers, SBDC staff and SBDC's varied stakeholders.

Formal community-based regional assessments of service delivery are held throughout the year to identify improved ways to serve customers.

The SBDC receives significant funding from the U.S. Small Business Administration (SBA). The SBA/SBDC Cooperative Agreement is negotiated with the SBA, with the SBDC Strategic Plan as the heart of the Agreement. Individual campus goals are negotiated annually in support of the SBA/SBDC Cooperative Agreement.

Business and Industry/Management Institutes long-range planning and annual reviews are conducted as part of the annual inter-institutional agreement process. General directions for the overall programs are set and relevant goals are identified. Changes during the planning period also can occur.

**APPENDIX 3**  
**PROGRAM REALLOCATIONS IN FY 2000**  
**(Selected List)**

Reprogrammed From: (Institution/Division/Program)  
 Priority Investment: (Institution/Division/Program)  
 Amount: (Funding and FTE)

1. From: Cooperative Extension  
 To: Extension Admin-Recruiter  
 Amount: \$23,000 and 1.00 FTE

To support the institution's diversity objective.

2. From: Cooperative Extension  
 To: Water Quality  
 Amount: \$120,000 and 1.94 FTE

To support Coop Extension's partnerships in northern Wisconsin.

3. From: Cooperative Extension  
 To: Web Support/Digital TV  
 Amount: \$115,000 and 2.00 FTE

To support a statewide demand for master gardening programs/expertise.

4. From: Cooperative Extension  
 To: Northern Great Lakes Visitor Ctr  
 Amount: \$106,304 and 1.10 FTE

To support statewide leadership program for rural issues.

5. From: Cooperative Extension  
 To: Master Gardener Program  
 Amount: \$63,821 and 1.00 FTE

To support statewide delivery of Internet courses.

6. From: Cooperative Extension  
 To: Rural Leadership Program  
 Amount: \$60,000 and 1.00 FTE

7. From: Continuing Education Extension  
 To: 11 UW Institutions  
 Amount: \$55,000 and 0.00 FTE

To support statewide delivery of Internet courses.

**APPENDIX 4**  
**PROGRAMS AND SPECIAL PROJECTS**  
**UW-EXTENSION PROGRAMS AND LEGISLATED PROJECTS**

**I. OVERVIEW**

Each of UW-Extension's divisions divides its activities among broadly defined program areas. Cooperative Extension and Continuing Education Extension have special legislated projects, which complement these divisions' program thrusts. This appendix briefly describes the divisions' major program areas and identifies any special legislated projects associated with each.

**II. COOPERATIVE EXTENSION**

Cooperative Extension's faculty and staff develop programs that help people understand and use knowledge and research from the University. Its county staff, supported by designated faculty and staff of UW System institutions who have collaborative appointments with UW-Extension, bring university resources to meet local needs. Institution-based faculty and staff conduct applied research and interpret knowledge in their specialties through programs and activities coordinated by UW-Extension, and teach in collaboration with county faculty and staff. Cooperative Extension has four program areas.

**A. Community, Natural Resources, and Economic Development (CNRED)**

CNRED programs help people set goals, make decisions, and develop sound local public policies; build strong communities and neighborhoods; strengthen local economies; provide good jobs and essential services and balance economic growth and environmental quality issues. Special projects in this program are:

- **Community Economic Analysis:** A joint project of UW-Madison and UW-Extension (\$58,369 GPR), provides information and analysis concerning the economic characteristics and structure of Wisconsin communities to University faculty and staff, county-based community faculty, area agents and community representatives working on economic development issues. Project funds support community development specialists who collect and analyze information, prepare graphs, overheads, and other educational materials, and work with Extension faculty in program delivery. The need for this support will continue because there is a great demand for up-to-date information from Wisconsin communities that are facing issues affected by the dynamics of the local, state, national and international economies.
- **Regional Center for Economic Development:** This effort involves three projects at UW-Superior Center for Economic Development (\$72,920 GPR), and UW-River Falls Rural Development Institute (UWEX \$78,432 Fund 104). Each project provides resources that support regional economic development

activities. These carrier programs complement those funded with ongoing resources, providing a regional network of support for community development. This combination of ongoing and special project funding supports research and program delivery capabilities beyond those supported by special project funds, demonstrating the synergistic relationship between special projects and core programs.

- **Local Planning Grant:** In FY 2000, the legislature allocated \$20,000 for support of the development of two model ordinances by UW-Extension, as required in the state's "Smart Growth" legislation. This undertaking was coordinated with an extension specialist in the Department of Urban and Regional Planning at UW-Madison, who is drafting the ordinances.

## B. Agriculture and Agribusiness

The Agriculture and Agribusiness Program Area provides research-based information, alternatives and decision aids to producers and agribusiness entrepreneurs to improve their profitability and competitive position in the global marketplace; to provide, produce and distribute an adequate supply of high quality food and fiber; to enhance and protect the environment including soil and water resources and to develop effective public policies for agriculture. Four special projects illustrate the dilemmas involved in prioritizing the use of limited resources among competing demands for internal funding which have required reallocation from existing educational programs that support Wisconsin's agricultural economies.

- **Farm Financial Management:** The Farm Financial Management project (\$66,157 GPR) is a joint activity of UW-Extension and UW-Madison which analyzes the many factors affecting the financial performance of Wisconsin farm businesses. This information provides farmers, educators, public policy-makers, legislators and other agricultural professionals with a better understanding of why some farm businesses compete successfully and survive, while others do not. The initial project focused on utilization of the records of the Farm Credit System of St. Paul. Data variation demonstrated a continuing need to understand how changing factors such as farm business size; short, intermediate and long term debt position; resource allocation efficiency and owner's managerial skill can affect the profitability, solvency and liquidity characteristics and performance of Wisconsin farm businesses. The project has expanded to a cooperative venture with the Center for Dairy Profitability in focusing on dairy farms in Wisconsin by including farm record association data. The project continues to gather, analyze and distribute information for use by county agents, specialists, other policy, and professional educators in their educational programs to clientele throughout the state. The dynamics of the international, national and state economies and the resulting changing conditions in Wisconsin place new challenges on farm managers and educators. As the information changes, so this special project continues to change with its

goals and objectives redefined to meet contemporary needs for public policy information.

- **Center for Dairy Profitability:** The Center for Dairy Profitability (\$227,082 GPR) is a joint project of UW-Extension, UW-Madison, UW-Platteville and UW-River Falls that provides faculty and program resources to enhance and augment ongoing programs supporting Wisconsin's dairy industry. It has developed linkages with several states and several educational programs. The Center now delivers interdisciplinary programs that emphasize integrated production, financing, marketing and management systems. These ongoing programs assist farmers and the dairy industry to maintain and enhance their national and international competitiveness. Continuing resources have supported farm electrification/milking systems/engineering (UW-Madison), dairy farm financial management (UW-River Falls), and dairy beef and veal production and marketing (UW-Platteville).

In cooperation with USDA's Cooperative State Research, Extension, and Education Service, the Center has designed and updated a comprehensive CD-ROM dairy information/publications database. Several spreadsheet-based management decision aids have been constructed, disseminated largely through the Center's heavily accessed web page. Expanded personnel resources in 1996 enabled the Center to develop the curricula for two new management training offerings: *Ag Ventures*, taught primarily by county UWEX faculty, and the Agribusiness Executive Management program, an advanced seminar series offered in cooperation with the UW-Madison School of Business. Emerging issues related to siting of concentrated animal feeding operations (CAFO's), food safety and quality, and managing price risk will require continued project activities to address related private and public concerns.

- **Program on Agricultural Technology Studies (PATS):** This program is a special project of UW-Madison and UW-Extension. Formerly the Agricultural Technology and Family Farm Institute, PATS was created in 1997 to refocus activities in light of the sharp reduction in state funding that occurred in fiscal year 1996. PATS (\$90,343 GPR) continues to identify and evaluate factors that affect the economic viability of family-sized farms in Wisconsin and to design and deliver outreach programs that help Wisconsin citizens understand the relationship between farming and rural economic development. Through its biennial survey of Wisconsin farmer attitudes with respect to farm and rural public policy issues, PATS has become a highly respected source of objective information for policy analysts and legislators. Using its reduced state funding to leverage state and federal grants, PATS has recently expanded its activities to include research and outreach on animal waste management, property tax reform, and management-intensive rotational grazing. The unit maintains extensive databases on rural trends and conditions and designs customized materials for county UW-Extension faculty and staff to use in local educational offerings. Increasing public concerns about land use will increase demand for the PATS' research and outreach.

- **The Nutrient and Pesticide Management Program:** Special projects supported by the Nutrient and Pesticide Management Program (\$251,885 GPR) provide educational programs and foster the exchange of information within the University and across the agricultural businesses and communities. The NPM links research and extension programs, as well as research and Extension faculty, with farmers, agribusinesses and rural communities in developing site-specific solutions to problems involving soil fertility, nutrient management, manure management, sludge management, insect pest control and plant disease pest control and water quality. While over 21 crops, which are grown in major acreage in Wisconsin, have enjoyed an NPM program focusing on those crops, most of the potatoes and cranberries utilize Integrated Pest Management (IPM) Programs. New IPM efforts with greenhouse production and facilities also focus on employee health. The need is ongoing as the array of nutrients, crops and pesticides continue to evolve.

### C. Family Living Programs

Family Living Programs educate families so they are capable of making informed decisions and avoid potential problems they may face. Education programs are designed based on current research and adapted to target the unique needs of families across the state and nation. The programs include areas such as health and nutrition, parenting education, family financial management, community housing and preventing youth risk behaviors.

One special initiative is BioTrek. The Biotechnology Education Outreach Program (BioTrek) is a joint project of the UW-Madison Biotechnology Center and the Family Living Program of UW-Extension. This program provides information and insight on technical and social issues of biotechnology. The biotechnology special project utilizes UW-Madison and UW-Extension special project resources of \$66,498 GPR and has accomplished the following results:

- The University of Wisconsin Biotechnology Center is housed in the Biotechnology Center/Genetics Building. The Teaching Lab and the Invention Space provide a setting for BioTrek workshops in biotechnology and life sciences. The BioTrek programs provided workshops and tours at the Biotechnology Center and across the state, directly serving over 3,500 citizens with experiences and insights into life sciences.
- Using the Invention Space, BioTrek Staffers have developed two new hands-on science curricula for informal science explorations by youth and adults. These materials emphasize the development of skills of observation, skepticism and creativity. Experimental "Fun Food Stuff" uses food to develop science savvy. "Doing DNA: DeCode of Life" uses 12 activities and experiments to introduce DNA as the genetic information molecule. Activities such as "DNA as Videotape" and "DNA Dance" tell the story of DNA structure and function. BioTrek is sharing these inexpensive biotechnology experiments with outreach

programs at the Minnesota Science Museum, a leading hands-on science center recognized for innovation in informal science education.

- BioTrek staffers are also leading the feasibility study to assess converting the UW Dairy Barn into a hands-on science center to welcome people of all ages to UW-Madison to learn about science as a way of exploring through experimentation on the campus. Individuals across the world receive information from the UW Biotechnology Center on the World Wide Web at: <http://www.biotech.wisc.edu>

#### **D. 4-H Youth Development**

4-H Youth Development Programs work with and through community volunteers, organizations, and schools, to offer educational programs that engage young people in educational projects, events, activities and clubs; identify and minimize the sources of risk facing young people; help young people make contributions to family and community life; and train volunteer leaders. There are no special legislated project funds in this area.

### **III. CONTINUING EDUCATION EXTENSION**

Continuing Education Extension is a unique partnership between UW-Extension and the 26 campuses of the University of Wisconsin System. The University of Wisconsin-Extension serves a statewide planning and coordinating function across all of the campuses. Each institution/campus with its select mission, as well as array of program and degree entitlements, offers educational programs and services to meet constituent need. We act in concert to achieve mutually identified goals and objectives that reflect the synergy generated by the diverse spectrum of resources operating at institutional, collective, and statewide levels in meeting the needs of lifelong learners.

**UW-Learning Innovations:** CEE has continued financial support of UW Learning Innovations, which serves as the systemwide utility for the development and distribution of credit and non-credit programs and degrees via the Internet and World Wide Web.

Working with UW-LI, UW-Platteville designed its Extended-Degree Program in Business Administration. This program offers adults who are unable to pursue a traditional on-campus college program the opportunity to earn a baccalaureate degree no matter where they live. Traditional curriculum is designed in an individualized study format, allowing for self-paced completion with no on-campus attendance required. In addition, the UW-Colleges is now offering a program of online courses in conjunction with UW-LI. The courses can lead to an associate's degree and/or be the foundation of a bachelor's degree. This program enables students to take courses from any computer location and allows students to complete their homework any time of day. Dean Michael J. Offerman continues to serve as Executive Director of Learning Innovations.

"Strategic Directions: Programs, Services, and Partnerships for the 21<sup>st</sup> Century", the statewide strategic plan, identifies five divisional priorities. Continuing educators will:

- advocate for lifelong learning,
- collaborate effectively and creatively,
- integrate technology and practice,
- practice entrepreneurial fiscal management,
- and assess the impact of programs, services, and partnerships.

#### A. Advocate for Lifelong Learning

- **Adult Learner Survey:** In the fall of 1999, the Continuing Education Extension funded (\$46,000) a continuing education Adult Learner Survey to establish new baseline data on the needs of adult learners, to drive external input into the Statewide Strategic Planning process, and to identify strengths that allow UW institutions to maintain and gain market share. Data acquired from this survey, which was conducted by the Wisconsin Survey Research Laboratory, will be used by the Continuing Education Extension Committee to develop new programming efforts and new marketing initiatives.
- **American Council on Education:** In December 1999, Assistant Dean Kay Taube assumed responsibility for serving as the Wisconsin state affiliate for the American Council on Education (ACE)'s College Credit Recommendation Program. The College Credit Recommendation Service is a national ACE program that evaluates workplace education and training programs and recommends appropriate college credit levels. As the Wisconsin state affiliate, Taube serves as the link between the national program and Wisconsin business and industry, labor unions, professional and volunteer associations, government agencies, and trade, technical and business schools.

#### B. Collaborate Effectively and Creatively

- **Collaborative Nursing Grant:** A grant from the U.S. Department of Health and Human Services is helping make the entire UW Collaborative Nursing Program (CNP) curriculum available to rural nurses in Wisconsin and neighboring states via the Internet. In September 1999, the U.S. Department of Health and Human Services, Division of Nursing, awarded a Rural Distance Learning Cooperative Agreement to the University of Wisconsin-Madison School of Nursing. Under the terms of the agreement, the CNP will receive nearly \$600,000 over a three-year period (fall 1999-2002). The funds will help the CNP to recruit 75 new students, provide laptop computers to new students who need Internet access, and reformat several nursing courses for Internet delivery. The grant is one of only six cooperative agreements for distance learning for rural nurses awarded nationally.

Through the collaborative efforts of the nursing programs of the Universities of Wisconsin Eau Claire, Green Bay, Madison, Milwaukee, and Oshkosh, the CNP allows nurses to complete a baccalaureate degree in nursing through distance

education technologies. About 300 Wisconsin nurses are enrolled in the program at any given time, and approximately 80 CNP students have graduated since the end of the 1999-2000 academic year.

- **IDEAS Portal Website:** Over the past two years, individuals from UW-Extension and UW System have been engaged in building a broad-based coalition of educational organizations interested in establishing a web-based resource for Wisconsin educators. IDEAS is a portal website that will link Wisconsin educators with high quality curricula, content, professional development opportunities, and other selected resources. IDEAS will help Wisconsin educators meet the Wisconsin Model Academic Standards and create a foundation for a statewide knowledge management system. Currently, a prototype of the IDEAS website may be found at [www.IDEAS.wisconsin.edu](http://www.IDEAS.wisconsin.edu). Demonstrations of the concept were presented at the Governor's Wisconsin Educational Technology Conference in October 1999 and to the Wisconsin PK-12 Technology Planning Task Force in December 1999. Both were well received.

IDEAS represents a coalition of organizations who are heavily involved in education. These organizations include: University of Wisconsin-Extension, University of Wisconsin System, University of Wisconsin-Madison School of Education Instructional Materials Center, Center for Biology Education, and Cooperative Educational Service Agencies (CESAs), the Wisconsin Department of Public Instruction, the Educational Communications Board, Madison Public Schools, Milwaukee Public Schools, Milwaukee Teacher Education Center, Wisconsin Math Science Partnership, Centers for Biology Education, WiscNET, and the Wisconsin Educational Media Association.

In FY99, CEE funded \$700 for IDEAS meeting expenses and half of a media specialist's time (\$14,798) for assistance with the IDEAS website and related projects.

- **Multicultural Teacher Education:** The Division of Continuing Education Extension continued to fund the Metropolitan Milwaukee Teacher Education Program, which continues to be a national model for bringing more people of color into teaching. The program is a collaborative effort of the University of Wisconsin-Milwaukee's School of Education, the Milwaukee Public Schools and the Milwaukee teachers' union.

CEE has continued to provide funding to the "Connected Community of Learners" program at Milwaukee Public Schools. To help students meet their proficiency goals in the areas of science and oral presentations, each student in the summer program is equipped with an Internet-ready laptop computer. Students spend a portion of their summer working in the schools and a portion working in community educational settings such as Discovery World and the Milwaukee Public Museum.

- **Harmony Multicultural Teacher Certification Program:** In FY 99, the UW-Green Bay Office of Outreach and Extension launched the Harmony program,

which is designed to help the Green Bay School district "grow" its own teachers of color. As part of the program, spring workshops were presented as preparation for the subsequent, intensive summer school session.

- **Cross Divisional Program Innovation Fund:** Administered by the UWEX Vice Chancellor, the Cross Divisional Program Innovation Fund encourages innovative programming efforts with a common thread—collaboration among the various Extension divisions and units. In 1999, CEE collaborated in a number of projects that received grants from this fund. Samples of the programs are listed below.

The "How Can You Tell if You Are Making a Difference?" program received a \$9,000 grant. The project, with key collaborators Mary Grant, Ellen Taylor-Powell and the UWEX Institutional Impact Indicators Team, put on a 1.5 day Impact Indicators workshop. The March 9-10, 1999 conference drew 54 participants from across the four divisions. The workshop resulted in an increased understanding of impact and the techniques used in documenting Extension's work.

An approximately \$50,000 grant from UW-Extension's Cross Divisional Program Innovation Fund made basic computer training available at no cost to non-English speaking individuals, W-2 recipients, older adults and school children in two at-risk central Green Bay neighborhoods. The UW-Green Bay Office of Outreach and Extension, Brown County Extension, the Green Bay Public School District, neighborhood resource centers and Wisconsin Public Television teamed up to offer the "Empowering the Underserved Through Technology" project.

The American Indian Tribal Language Liaison project developed educational methods and curricula to enable speakers of Native American languages to pass on their language and traditions to school age children. The principal collaborators for the project were UW-Eau Claire Continuing Education Extension, the Lac Du Flambeau Tribal Extension Office, and the Cooperative Extension Community, Natural Resources and Economic Development (CNRED) Program. This project received \$40,000 in Cross Divisional Program Innovation funds.

The Planning Business Training for Hmong Adults program received funding to coordinate Extension efforts to increase Hmong entrepreneurship in Wisconsin communities with substantial Hmong populations. The principal collaborators on the project were the UW-Superior/Extension Center for Economic Development, UW-Eau Claire Continuing Education Extension and the UW-Milwaukee Small Business Development Center.

### C. **Integrate Technology and Practice**

Instructional Communications Systems (ICS), a primary provider of videoconferencing services for UW institutions and State of Wisconsin agencies, broadened its services during the past year with the addition of an enhanced videoconferencing bridge and new partnerships. The new bridge, installed in

December 1999, increases the number of sites that can participate in a single conference, or in simultaneous multi-point conferences. In addition, ICS has collaborated with WiscNet and UW-Madison to offer videoconferencing services across the WiscNet network.

Since 1993, ICS has provided a range of dial-up videoconferencing services to educational and governmental agencies, primarily using the public ISDN (H.320) networks to link locations. With the introduction of the new service, WiscNet members can now benefit by using the existing WiscNet network for videoconferencing with other members. UW Colleges and their UW System collaborators are the first beneficiaries of this expanded service. UW Colleges began using the WiscNet network and the expanded ICS bridging services in fall 2000 to offer their interactive video courses. The new videoconferencing bridge also has the capability to support video over IP connections. ICS is now conducting pilot tests of the bridge and end user equipment to provide other potential connection options.

ICS provides scheduling, site coordination, technical support and instructional design and training services for videoconferencing and other distance education delivery systems.

- **Four Lakes Distance Education Network:** In January 2000, UW-Extension dedicated the Four Lakes Distance Education Network at The Pyle Center. The network is a fiber-optic system that connects member sites, allowing for fully interactive voice, video and data transmissions. Sites can also be linked with more than 300 other compatible sites statewide. The idea is to increase teacher and student educational opportunities by allowing them to share the best resources available. UW-Extension has been a member of the Four Lakes consortium since July 1998 and has worked hard with other members to help K-12 schools share resources, not only in Dane County but statewide.
- **Technology Institute for Educators:** UW-Extension Continuing Education Extension has continued to fund a .50 FTE outreach program manager and assistant to develop the Technology Institute for Educators (TIE) program, which helps train educators statewide on how to use better technology in the classroom. The TIE program is based at UW-Eau Claire. In FY 99, UW-Eau Claire, UW-Green Bay, UW-Oshkosh, UW-Platteville and UW-Whitewater offered TIE programs.
- UWEX and UWS are increasingly involved in projects with a technology focus. The division provided funding (\$17,500) to support the senior consultant for learning technologies research and development position, a position shared with UW System. In this position, Judy Brown works on partnership development, research and assessment, planning and procurement, and coordination and communication for learning technology. She works with industry, government and educational information technology leaders to identify emerging technologies and select technologies for research development pilots and projects.

- To support the Coordinator for Learning Technology Development, the Division of Continuing Education Extension has agreed to fund a graduate student in the UW System Office for Learning and Information Technology (\$11,409).

**D. Practice Entrepreneurial Fiscal Management**

**Program Redirection and Enhancement Fund (PREF) grants:** UW-Madison funds PREF grants, which are meant to encourage programming that reflects the research nature of the UW-Madison while meeting the statewide goals of improved PK-12 education, effective government, and enhanced health care delivery and policy. The funds are used for outreach development activities in the School of Education, Engineering Professional Development, Letters and Science, Nursing and the Division of Continuing Studies.

**E. Assess the Impact of Programs, Services, and Partnerships**

**Impact Indicators:** In 1999, the Division of Continuing Education Extension hired an evaluation and diversity specialist to further develop the process for assessing the impact of programs offered. In her new role, Mary Crave is responsible for guiding the division's development of the Impact Indicator process. Initial assessment is focused on diversity programs, the new economy, and programs offered to PK-12 educators, health and social services professionals, and working adults and other professionals. The data gathered through telephone interviews and self-administered mail-in surveys will be used to determine the impact of the selected continuing education programs. Future impact assessment initiatives will contribute to program improvement, while demonstrating value to constituents and shareholders.

**IV. UW-EXTENSION BROADCASTING AND MEDIA INNOVATIONS**

In partnership with the Wisconsin Educational Communication Board (ECB), the Division of Extension Broadcasting and Media Innovations produces and delivers cultural, educational and instructional programs that meet the needs of individuals, communities, and the state, using the facilities and resources of Wisconsin Public Broadcasting. WHA-TV and WHA-Radio, licensed to the Board of Regents, serve the south central Wisconsin area, and provide educational production facilities and support for faculty in Extension and at institutions located throughout the state. There are no specially funded legislated projects in Extension Broadcasting and Media Innovations.

UW-Extension recently reorganized its technological assets, in an effort to continue to be a leader in a wide range of information technologies, to capitalize on the convergence of broadcast and computer technologies, and to expand its capacity to deliver programs and services to constituents across the state and beyond. Effective June 1, 2000, Instructional Communications Systems (ICS), the ADL Co-Lab, Extension Broadcasting and Media Innovations, and the Interactive Web Team, previously associated with the Cooperative Extension Electronic Publishing Group, were organized together under the new heading of Broadcasting and Media Innovations (BAMI). Byron Knight is the Interim Director of BAMI; CEE Associate Dean Mary Grant is the Interim Associate Director.

The three main areas of new media research and experimentation are:

**A. Broadband Technology**

UW-Extension Broadcasting and Media Innovations is using Internet 2 to experiment with and demonstrate the use of Internet 2 protocol to deliver video programming for preview and broadcast to University licensed television stations.

**B. Media Asset Management**

Wisconsin Public Television is experimenting with Virage and Mediasite software to create video indexing systems that allow the user to identify and search for video pieces by subject. This video indexing works much in the same way an Internet search engine allows the user to search for information by key word. This indexing system will be used within our election programming to allow users to look-up and stream video clips of candidates by topic.

**C. Interactive Television**

UW-Extension and Wisconsin Public Television are using Web-TV technology to create interactive programming. Web addresses (URLs) are placed in the line 21 portion of the video signal that can be read by The Web TV Plus box to create an interactive television experience. UW-Extension is using this technology to connect our public television viewers to additional university content. While watching interactive television programs, users can access additional content resources related to the subject of the program.

## V. BUSINESS AND MANUFACTURING EXTENSION

Although there are no specially funded legislated projects in Business and Manufacturing Extension, the following are some of the unit's program areas.

### A. New Small Business Development Centers

Several new Small Business Development Centers have opened around the state. Each new center was established through inclusive discussions between the community, local economic development organizations, and the SBDC.

- The UW-Green Bay SBDC recently finalized partnership agreements with the Green Bay Chamber of Commerce for collaboration at Chamber offices.
- The UW-Parkside partnership now supports two centers off campus, one in Racine and one in Kenosha.
- The UW-River Falls SBDC opened in 2000.

### B. Wisconsin Department of Commerce

Under Secretary Brenda Blanchard's dynamic leadership, extraordinary partnerships have recently developed between the Wisconsin Department of Commerce and the Wisconsin Small Business Development Center:

- The Department of Commerce and the Small Business Development Center partnered on *The Entrepreneurial Network Study 1999*, a survey of 740 organizations throughout Wisconsin that provide business assistance services. A recent Small Business Development Center certification review cited *The Entrepreneurial Network Study 1999* as one of the best statewide needs assessments the experienced review team had evaluated.
- Following the recommendations of a 1999 focus group, Commerce modified its Early Planning Grant program for entrepreneurs to include greater client participation in the business plan process. As a result, Commerce and the SBDC crafted the Entrepreneurial Training Grant Program. Through Commerce, this program offers scholarships for 75% of tuition costs to qualified students enrolled in the Small Business Development Center's Entrepreneurial Training Course. After only two months of operation, approximately 70 entrepreneurs have been awarded Commerce scholarships to fund that comprehensive SBDC business planning course.
- Currently under discussion is an innovative Commerce/Small Business Development Center/Small Business Administration/Wisconsin Banking Association collaboration. This new program is an unprecedented series of activities that positions the University of Wisconsin-Extension SBDC as a

cornerstone of operation and offers a seamless set of services that guide entrepreneurs from early-stage ideas through the lending process.

- Commerce's Division of International and Export Services and the Small Business Development Center have a Memorandum of Understanding outlining how they collaborate to help Wisconsin firms compete and succeed in global markets. Together the coordinated Commerce/SBDC continuum of programs includes assistance to companies at various levels of export maturity.
- Commerce's newly created Office of Science and Technology is partnering with the Small Business Development Center to provide support to high-growth, high-technology businesses as recommended in *The Entrepreneurial Network Study 1999*.

C. **Expansion of UW-Milwaukee SBDC**

- The Milwaukee Idea is the University of Wisconsin-Milwaukee's leading edge initiative to forge strong and vital community-university partnerships that enhance the quality of life for all. Through the Consortium for Economic Opportunity, an outgrowth of the Milwaukee Idea, the University of Wisconsin-Milwaukee is building on its partnerships with non-profit organizations and small businesses to extend the benefits of economic growth to all of metropolitan Milwaukee. The director of the UW-Milwaukee Small Business Development Center was named Associate Director of the University of Wisconsin - Milwaukee Consortium for Economic Opportunity earlier this year.
- The UW-Milwaukee SBDC is one of two core units in the Consortium for Economic Opportunity. "The Consortium's business target audience is small businesses with 100 or fewer employees..." One goal of the Consortium is to strengthen the potential of urban businesses "to create and retain jobs that support families with livable wages" by providing support services for the growth of small businesses in Greater Milwaukee. Small businesses form the backbone of neighborhood commercial life and have been an important source of overall employment growth in the Milwaukee region over the past two decades. The Consortium, through the Small Business Development Center, is providing individual counseling and training to small businesses including offering a series of workshops and programs to help guide small business owners through the various stages of the small business development process.
- An SBDC satellite office and two new counselors are now in place in the Ameritech King Center, which is located on Martin Luther King Drive, where significant redevelopment initiatives are underway. This location allows the UW-Milwaukee SBDC to readily collaborate with the other government and non-profit organizations which are also located in the Ameritech King Center.

- The recent addition of two, full-time business counselors means that the UW-Milwaukee SBDC is now providing additional technical assistance, in-depth business management programs that focus on applying what is learned, and research and service-learning opportunities.

## VI. OTHER UW SYSTEM INSTITUTIONS

UW institutions other than UW-Extension manage \$12.9 million in extension and public service funds. Most funds are at UW-Madison, where they support the State Laboratory of Hygiene and ongoing programs in the School of Veterinary Medicine, the State Cartographer's Office and the LaFollette Institute.

Other programs at UW System institutions support institution-based extension program activities, public service radio station operations and programming, community service forums and programs, and business awareness and development outreach efforts in communities.

The largest non UW-Extension program is the State Laboratory of Hygiene (\$7.5 million), which provides highly complex laboratory testing services.