ENVIRONMENTAL SCAN REPORT

Presented to the NMCC Strategic Planning Committee

December, 2006

PART A

Environmental scanning is a process by which an institution can identify changing factors internally and externally which have the potential to impact institutional structures and behaviors. This scan was undertaken in late 2006, as part of the "Envision Our Future" initiative at Northern Maine Community College in Presque Isle, Maine.

The scan illustrates the rapidity with which the educational landscape is changing, but also the multiplicity of avenues through which the College can enhance its services to the community.

Factors considered within the scan fell into six broad categories: demographics, economics, education, legal/political, competitors, and technology and occupations.

DEMOGRAPHICS

Current population is expected to decline 3.5% by 2010 compared to 2000, based on recent census data. Despite the expected decline in population, a larger percentage of the population is working and is older. However, the skilled labor pool for employers is decreasing with the aging workforce providing more opportunities for "younger" workers, as well as necessitating the need of employers to upgrade the skills of their current workforce.

The college will need to consider how to address these challenges through strategies such as aggressive recruitment, attention to meeting the learning style differences of adult populations, and better serving both the academic and support needs of non-traditional learners.

ECONOMICS

The Aroostook County unemployment rate of 7% is almost twice the state's average of 3.9%. However, the establishment of a wind energy park in Mars Hill, expansion of two companies in Houlton, and the ramp-up of employees at DFAS-Loring provide employment opportunities for local workers as potential migration of workers to the community. These new employees may require additional training and skills in their new positions.

A recent GAP analysis for trained workers provided to the Governor's Community College Advisory Council identified job classifications with a lack of trained workers in the state. The college offers programs in four of the top five areas - business, health professions, construction trades, and mechanic and repair technologies - identified in the study.

State and federal financial support has not kept pace with inflation and may remain flat or even decline from current levels. Student financial aid resources have also declined in relative terms and remain limited to the end of the decade given current federal legislative proposals. Therefore, students are bearing more costs as demonstrated with tuition and fee increases in both AY 06 and AY 07. Continued efforts to minimize student attrition to assure balance in program delivery will be critical.

Exploration of alternative funding sources and constant attention to operating costs will be required to achieve the community objectives for educating and training citizens for the changing work environment.

EDUCATION

National and state trends in education are driving many of the local trends. An on-going emphasis on accountability continues to factor into many local decisions. The college must position itself to be more readily responsive to state and federal mandates which are forcing greater reporting, even as the supporting funding diminish. Dialogue continues on whether the accountability mechanisms identified are, in fact, the best measures of quality and service to students.

Greater focus on strategies for classroom and program assessment (including the requirements established by external credentialing bodies) should lead to more clearly defined outcomes and goals. One factor affecting goal attainment is professional development, particularly pursuit of additional certifications and degrees. As our understanding of pedagogy evolves and the population in our classrooms changes, our faculty needs to be given appropriate tools to adapt.

Broad characteristics, such as active listening and attention to detail, are changing in the student population in mirror to generational qualities. Lack of student preparedness for the college experience will further challenge the educational process. It appears that remedial services will be in increasing demand in order to achieve desired course and program outcomes. Additional challenges will likely include budget shortfalls in this area, leading to staffing and equipment deficiencies. Effective student engagement continues to be an evolving process as new generations of students enter the College.

Greater connections between our secondary partners and the College continue to provide opportunities for articulation, concurrent enrollment, or dual credit environments. The state's commitment to a seamless K-16 system, coupled with federal guidelines regarding career and technical model programs of study, will foster these relationships and provide on-going incentives for such arrangements. One of the most beneficial outcomes could be a greater awareness among high school students and their advocates of the value of college preparedness and, subsequently, pursuit of a credential at an institution of higher learning.

Availability of courses from other post-secondary educational institutions will continue to expand. Technology will facilitate partnerships that allow courses to be offered supplementary to existing programs or as new programs. These shared courses and programs could be quickly established and may exist just to serve one or two cohorts or may be long-term.

The education provided by institutions such as the College must recognize the need for life-long learning and ready adaptability to new environments. To this end, the College should model this need by ensuring appropriate mechanisms are available for the professional development of all employees – staff, faculty, and administrators.

LEGAL-POLITICAL

Federal and state funding for education has stagnated despite the growing demand for trained workers in high skill, high tech fields. Proposed federal legislation would reduce or limit funding for student financial aid programs. Level funding for Perkins and TRIO programs, as proposed in Congress, will only be sufficient to keep pace with inflation, requiring an actual reduction in the resources provided to students and faculty.

With continuing state fiscal pressures to limit spending and reduce the tax burden in Maine comes more legislative focus on institutional accountability and effectiveness. Unfunded (or under funded) federal and state mandates for environmental policy changes, student result measurements and "no student left behind" initiatives increase the fiscal burdens on the college.

COMPETITION

Education has become a global market, with students able to take courses on-demand from their home. In that setting, the College must become a more sophisticated purveyor of educational services. For example, more consideration should be given to scheduling for student convenience as opposed to traditional scheduling.

The line between partner institutions and competitors has blurred substantially. Industry, secondary schools, and baccalaureate-degree granting institutions all have become more competitive for funding and students. The College must capitalize on our unique capacities to maximize niche markets, especially those in partnership with competitors.

Private, for-profit purveyors of occupational certificates have become more aggressive in attracting and serving students. The College should explore avenues to mitigate this competition.

TECHNOLOGY AND OCCUPATIONS

Industry will continue to drive the wheel of technology. The role of the College will become increasingly instrumental in bridging the gap between skills available within the workforce and employers' needs and expectations. With growing global competition for service delivery, employers will see an increasing need for a skilled workforce that is very adaptable to new and emerging technology.

Areas of particularly high demand for employment include allied health, business support, and construction workers as many regions of the state experience growth. Additionally, increasing improvements to the state infrastructure, especially in terms of safety and transportation, will provide an opportunity for increasing the number of graduates who specialize in these areas.

Expansion of technology in all areas of the college will continue to be a force for innovation. Advances in technology continue to restructure the learning environment and enhance learning. This requires enhanced levels of support for faculty and changes the training needs for users of the new learning environments. The demands of teaching with these new technologies will most certainly apply pressure to existing resources. New technologies and methods of delivery will also increase the need for student orientation and training. Ultimately, it is anticipated that equipment in classrooms and laboratories will require updating and full replacement at a rate greatly accelerated from past practice.

Technology is becoming an essential element of facilities operations, which changes the training, staffing, and funding required for managing and maintaining facilities. Integration of technology and facilities leads to greater efficiencies, safer and healthier educational environments, and better data for decision-making.

Support, replacement, and funding for technology will be an on-going need and must be an integral part of college planning and operations.

Wireless access to the Internet and to network resources has become a utility much like electricity. Access to wireless services enhances student collaboration as well as communication with faculty and other college entities. Accommodating these changes requires changes to the technology infrastructure, additional training, security adaptations, and adequate staffing for proper operation and management.

The challenges in this area will undoubtedly include identifying sources of financial support as well as accurately predicting the types of technology needed.

PART B
TRENDS AND RELATED ISSUES

Table 1.

Demographic Trends and Related Issues

Trends	Related Issues
15% population decline in Aroostook County 1990 to 2000. Current population is expected to decline to 72,000 by the year 2010, a decrease of 3.5% from 2000. Migration of Aroostook residents to Central and Southern Maine.	1. How will this affect the composition of the current student body, which consists of 83% Aroostook residents? 2. Continued recruitment outside of Aroostook within state and in Canada. 3. Recruitment of NMCC alumnae children who have migrated from Aroostook. 4. Increase in nontraditional students
1990-2000, 0-17 age group declined 25.5%. 18-44 age groups declined 31.1%. 45-64 age group increased 17%, while 65 and older age group increased 14.3%. Median age has increased by 16% to 40.7 in 2000.	1. Dwindling numbers of high school graduates in the potential applicant pool. 2. Average age of students in NMCC classroom will continue to increase with broader age range within the student body. 3. More adult learners pursuing career change requiring consideration of prior education. 4. Increased need for attention to adult learning style – needs.
Number of employees in labor force has increased during the period of 1990 to 2000. In 1990, 42.9% of the population was working compared to 46.9% in 2000. Skilled labor pool for employers is shrinking. Need for employees to upgrade skills and education while working.	1. Increased need for financial aid, on-site childcare and other support services. 2. Establish partnerships with employers to provide programs that will enhance their skills to their employees. 3. More flexibility in scheduling programs and means for delivering services.
Population by region in Aroostook County **(in thousands) 1990 2000 2005P 2010P** **Central 50 39 38 38** **Northern(Valley) 19 18 17 17** **Southern 19 18 17 17** **Total 88 75 72 72**	

Table 2.

Economic Trends and Related Issues

Trends	Related Issues
Aroostook's unemployment currently averaging 7% compared to state average of 3.9% and national average of 4.6%. 47% of population is employed but many are underemployed.	1. Need for variation in class schedule and delivery means to accommodate workers seeking additional job skills. 2. Partner with business and industry training efforts to prioritize training areas. 3. Increase in student turnover as jobs become more readily available, shifting enrollment from full-time to part-time, skill based training programs.
GAP Analysis- Statewide Skilled Worker Demand v. Supply for Post-secondary Graduates- top 5 positions where demand exceeds supply 1. Business Management, Marketing, and Support Services. 2. Health Professions and Clinical Services 3. Construction Trades 4. Personal and Culinary Services 5. Mechanic and Repair Technologies	1. Potential expansion of programs to meet not only the area's need but also statewide need. 2. Ongoing external environmental review to maintain program relevance and new program development. 3. Maintain strong advisory committees, including statewide representation. 4. Summit with area business executives and human resource managers to prepare GAP analysis and identify training and educational priorities.
New Activities Expansion of Defense Finance and Accounting Service Center at former Loring AFB after BRAC decision. Expansions at La. Pacific and Smith & Wesson in Houlton area. Establishment of wind energy park in Mars Hill. Increased focus on Tourism with resort development exploration and success of Maine Winter Sport Centers.	1. Expanded need by businesses for technical training and business courses offered by NMCC. 2. Potential employers of business graduates. 3. Potential employers of technical graduates. 4. Incentive for graduates to return for retraining and skill upgrading in order to apply for positions. 5. Attraction for new students seeking new skills in order to apply for the positions.
Financial Constraints Since start of Community College system on July 1, 2003, state support has not kept up with inflation averaging 2.2% per year. Fuel and utility expenses have increased by almost 50% over the same period, with energy expenses affecting the cost of supplies and other services. With diminishing state support and inflationary pressures, students are bearing more of the costs- tuition increases of 8.8% in AY 06 and 5.4% in AY 07 with residential life fees increasing on average 6.3% over the two year period. Student financial aid resources remain limited to end of decade. Without state support from bond issues, needed equipment replacements and building upgrades are not getting completed or delayed indefinitely.	1. Explore alternative funding sources for equipment replacement and building upgrades. 2. Repurposing of buildings and upgrades to capture energy efficiencies require investments from state, outside agencies, or benefactors. 3. If state bond funds are not available, system may need to issue debt to make needed improvements to buildings to meet program needs or gain energy efficiencies. 4. With increasing costs and limited financial aid, students' abilities to finance education is reaching a crisis point. 5. Lack of trained personnel will not only hinder the economic development of the area but impact existing employers seeking trained workers or providing work skills to existing employees. 6. With increasing costs and limited funding, infrastructure, facilities, and equipment maintenance and replacement will continue to be deferred until breakdowns and system failures occur.

Table 3.

Educational Trends

Trends	Related Issues
Using technology to create and enhance educational partnerships	1. Increased use in operations 2. Availability will be an important competitive selling point. 3. Availability of courses from locations other than NMCC. 4. NMCC delivering courses to other locations 5. Course transfer issues
Continuing emphasis on accountability	1. Must be responsive as financial sanctions have become part of the picture 2. Potential requirement for a high-stakes exit exam 3. Increasing tension between the desire to retain students and the desire to ensure that students are qualified
Dwindling resources	1. Requires reallocation of existing resources 2. Increased costs to students 3. Diminishing opportunities for employee professional development 4. Greater competition between institutions 5. Greater competition for resources *within* institutions 6. Without intervention, possibility for system overload and failure
Emphasis on increasing student enrollment in post-secondary environments (both direct from high school and non-traditional)	1. Have never clearly demonstrated that quantity is always a more critical measure than quality 2. Need for greater capacity to effectively serve students 3. Wider range of abilities, interests, and aspirations – can any college be all things to all people? 4. Need to recognize and serve students' parents as a customer
Emphasis shifting from teacher control to student-driven learning	1. Potential for a more "cafeteria-style" approach to course work from multiple institutions 2. Need for a greater flexibility in scheduling 3. Need to recognize/serve the student as a customer 4. Professional development to better prepare instructors to be facilitators, not lecturers

Employer mandate for student exposure to broad range of workplace environments	1. Need to assess training requirements of area employers 2. Must increase number of student internships available 3. Integrate employer expectations with graduate outcomes 4. Increase and enhance ties with business and industry
Federal and state legislative mandates increasing (No Child Left Behind, Higher Education Reauthorization Act, Maine Learning Results)	1. Greater regulation of student outcomes 2. Emphasis on financial sanctions for failure to perform 3. Educational reaction: "Teach to the Test" 4. Added challenges in realizing NMCC's goal of an "educated person" 5. Will the skill set of entering students change?
Increased emphasis on external evaluation of skills	1. Need to identify and implement appropriate external testing and certification 2. Increased cost to the College (and/or students) 3. Requires reallocation or investment in resources (personnel, equipment, professional development funds) 4. Provides 3rd party evaluation
Increasing demand for advanced (supplemental) certificates and training	1. Identification and management of pre- and co-requisites 2. Adequate student preparedness (need for appropriate skills) 3. Modification of existing entry-level certificates (curriculum development) 4. Greater need to accommodate flexible scheduling 5. Opportunity to provide a portion of industry-based training
Percentage of general population at or past retirement age is growing	1. Forty percent of a national sample of educators will leave the profession within five years 2. Conservatively thirty-nine percent of NMCC's instructors will qualify for retirement within five years (mirroring the national trend) 3. Competitive situation in attracting and retaining qualified faculty 4. Increasing reluctance to support post-secondary education (bond issues, state general revenue, etc.) 5. Opportunity to attract and serve a new population for personal enrichment and/or career changes

Table 4.

Legal – Political Trends

Trends	Related Issues
Impact of TABOR or TABOR-like formulae methodology limiting spending on higher education support from the state.	1. Monitor legislative or voter initiatives, ascertaining financial impact on college operations and programs. 2. Continue to foster relationships with local legislative representatives. 3. Develop greater flexibility in planning and operations. 4. Increase search for alternative funding for programs.
With continuing state fiscal pressures, more legislative focus on institutional accountability and effectiveness attainment – i.e. Performance based budgeting.	1. Demonstrate and document student skill outcomes. 2. Documentation of cost effectiveness and efficiency given student achievement and financial resources. 3. Monitor new methods of measuring student success and adopt if feasible. 4. Investigate costs to ascertain institutional accountability, i.e. new financial systems etc.
Level funding for Perkins, TRIO, and work study programs pursuant to President's budget request and congressional votes equals reduction in "real dollars"(after inflation adjustment) for same program activities.	1. Significant competition for Title IV funds. 2. Tighter control of allowed expenditures and activities. 3. Search for alternative funds and in-kind donations to leverage federal funds. 4. Reduction of services or number of students served with flat or reduced funding.
Federal funding for student financial aid programs reduced or limited- Deficit Reduction Act signed into law in early 2006 reduces student loans provisions by estimated $11.9 billion over next five years; Higher Education Reauthorization Act proposals- Pell grant funds at same level (max. per student of $4,050) as last five years (Senate version) or increased by $100 ($4,150 max) 2.5% (House version).	1. Lack of financial aid availability reduces number of students who can afford to attend the college. 2. Increase in student loan debt and/or more expensive debt is incurred to finance a college education
Unfunded federal mandates: Measurement of learning results – changing national standards for measuring academic achievement No "student left behind" legislation. Environmental policy changes requiring investment in physical plant or additional compliance costs.	1. Procurement of cost effective software to document and demonstrate student attainment. 2. Availability of funds to make necessary plant changes. 3. Availability of funds to purchase or develop compliance system and train staff.

Table 5.

Competitors – Public and Private

Trends	Related Issues
Global electronic market	1. Global competition for students 2. Use of and access to asynchronous and synchronous educational delivery systems 3. Comparison of tuition and fee structures
Partners as competitors	1. Diminishing resources lead to greater competition between sectors of the education industry 2. Capitalize on our shared interests to create partnerships that diminish competition 3. Investigate meaningful opportunities for articulation and dual enrollment 4. Impetus to share professional development opportunities, as well as other resources
National corporate competition	1. Industry developing and marketing integrated, proprietary training programs 2. Industry opting for internal apprenticeships and on-the-job training 3. Pressure from corporate bodies to offer their targeted coursework without integration of general education components and without broader industry representation 4. Conflict between models of learning 5. Opportunity to provide aspects of industry-based training
Rapidly expanding private, for-profit career/occupational schools	1. Increased competition for students (more aggressive recruitment strategies) 2. More focused occupational programs not bound by many accreditation standards (i.e., general ed requirements) 3. Disconnected model of learning – not effective for transfer or articulation of learning

Table 6.

Technological and Occupational Trends and Issues

Trends	Related Issues
Expansion of technology across all areas of the college	1. Equipment maintenance/upgrade 2. Restructured learning environment 3. Staff training 4. Equipment obsolescence 5. Increase in use of technology for facility management and energy management 6. Increased use of computerized testing in the classroom, with programs such as Examview, will allow more effective feedback to the students and accurate data collection for assessment purposes.
The expectation that wireless access to network, Internet and college resources will be provided.	1. Increased administrative efficiency and effectiveness. 2. Enhance student access and collaboration 3. Faculty and staff training. 4. Installation and maintenance of infrastructure 5. Network security 6. Faculty and staff training 7. Increase in IT services
Technology and computing resources are constantly increasing in power and capabilities	1. Maintaining up-to-date equipment 2. Lease/buy decisions based on equipment technological obsolesces
Technology is changing the nature of what needs to be learned, who will learn it, who will provide it, and how it will be paid for.	1. Including new skills training in learning environment. 2. Taught separately and measured, or integrated into the learning experience?
Occupational skills have short life span given technological advances	1. New program development 2. Ongoing program revision 3. Stronger retraining and skills up-dating effort 4. Core programming will evolve to facilitate more efficient program delivery.
Information proliferation making it impossible to know all necessary information.	1. New skill development – accessing information, applying it, using to solve problems, and for collaborative teamwork. 2. Life-long learning skills development
Rapidly changing work environment, old occupations disappearing and new ones emerging.	1. Increasing operating flexibility for quicker program change. 2. Retraining staff 3. Union contract restrictions 4. Ongoing, year round training activity
Greater emphasis on transferable skills.	1. Identifying skills and proficiency levels 2. Developing assessment means 3. Guaranteeing student proficiency

The merging of audio/visual technology and information technology is creating new classroom presentation and delivery methods. (smart-boards, controls, web delivery, displays, etc)	1. Funding support 2. Faculty training – available funds for professional development will be minimal or nonexistent, maintaining professional competence will become a matter of personal and professional responsibility. 3. Support and maintenance issues 4. Student orientation to new technologies