



**State of Maine - In Lieu Fee Program
INSTRUMENT**

Maine Department of Environmental Protection
17 State House Station
Augusta, Maine 04333

Many thanks to the following for their many beautiful photographs:

- | | |
|------------------------------|---|
| 1. Background wetland | © Dan Grenier |
| 2. Wetland (top left) | © David McClain |
| 3. Peat Bog (top center) | © The Nature Conservancy |
| 4. Autumn Beauty (top right) | © Harold Malde |
| 5. Blandings Turtle (center) | © Susan Woodward |
| 6. Shorebird (upper center) | © Maine Dept. of Environmental Protection |
| 7. Vernal Pool (lower right) | © Mark McCullough |
| 8. Waterfowl (lower left) | USFWS (public domain) |

All the above images are copyrighted and may not be used without permission from their respective sources.

| <i>Table of Contents</i> | | <i>Page</i> |
|---------------------------------|---|--------------------|
| 1. | Introduction | 1 |
| 2. | Statement of Program Need | 1 |
| 3. | Goals and Objectives | 2 |
| 4. | Qualifications of Program Sponsor | 2 |
| 5. | Qualifications of Program Administrator | 4 |
| 6. | Provision of Legal Responsibility | 5 |
| 7. | Maine Natural Resource Conservation Program | 5 |
| 7.1 | Establishment & Operation | 5 |
| 7.2 | Maine Natural Resource Conservation Fund (MNRCF) | 6 |
| 7.3 | Geographic Service Area | 6 |
| 7.4 | Determination of Fees and Credits | 6 |
| 7.4.1 | Advance Credits | 6 |
| 7.4.2 | Fees | 7 |
| 7.4.3 | Credit Accounting | 7 |
| 7.5 | Grant Application Review Committee | 9 |
| 7.6 | Interagency Review Team | 9 |
| 7.7 | Program Operations and Procedures | 10 |
| 7.7.1 | Financial Controls & Accounting Procedures | 10 |
| 7.7.2 | Administrative Costs | 10 |
| 7.7.3 | MNRCF Grant Funding Procedures | 10 |
| 7.7.4 | MNRCF Disbursal Procedures | 11 |
| 7.8 | Reports and Reporting Protocols | 11 |
| 8. | Compensation Planning Framework | 11 |
| 8.1 | Geographic Service Area | 12 |
| 8.2 | Description of Threats to Aquatic Resources | 12 |
| 8.3 | Analysis of Historic Loss & Current Conditions | 14 |
| 8.4 | Statement of Aquatic Resource Goals and Objectives | 17 |
| 8.5 | Prioritization Strategy for Selecting and Implementing Projects | 18 |
| 8.6 | Explanation of How Preservation Satisfies Criteria for Use of Preservation | 20 |
| 8.7 | Description of Public & Private Stakeholder Involvement in Plan Development | 20 |
| 8.8 | Description of Long Term Protection and Management Strategies | 21 |
| 8.9 | Strategy for Periodic Evaluation and Reporting on Program Progress | 21 |
| 9. | Default and closure provisions | 22 |
| 10. | Signatures | 22 |

| <i>Table of Contents (continued)</i> | | <i>Page</i> |
|---|--|--------------------|
| Appendix A | MNRCP Biophysical Region Map | 23 |
| Appendix B | Sample - MDEP ILF Program Fact Sheet | 24 |
| Appendix C | Sample – MDEP MNRCP Fact Sheet | 27 |
| Appendix D | Compensation Planning Framework Detail for Biophysical Regions | 44 |
| Appendix E | Aquatic Resources Base Layer Documentation | 78 |
| Appendix F | Other Aquatic Resources on Permanently Conserved Land | 79 |
| Appendix G | Public and Private Stakeholder Engagement in Compensation Planning Framework | 80 |
| References | | 81 |

1. Introduction

The following In Lieu Fee (ILF) instrument (Instrument) amends the guidelines, responsibilities, and standards for the administration of the Maine Natural Resource Conservation Program (MNRCP), the ILF Program for the State of Maine. The MNRCP was established on October 3, 2007 and provides a compensatory mitigation option to permit applicants under permit programs administered by the Maine Department of Environmental Protection (MDEP) and the U. S. Army Corps of Engineers, New England District (Corps).

This Instrument supersedes the “Rider A Specifications of work to be performed” (Rider) contained within the Contract for Special Services entered into by the MDEP and The Nature Conservancy (TNC) on October 3, 2007 and the Memorandum of Agreement (MOA) among the U.S. Army Corps of Engineers, New England District; Maine Department of Environmental Protection; and The Nature Conservancy dated January 31, 2008 and all successive amendments.

Upon execution of this Instrument, the Rider and MOA, as referenced above, become null and void and any requirements contained therein are no longer applicable. The signatories to this Instrument recognize that cooperation between the MDEP and the Corps is critical to the continued development of advanced, high-quality mitigation, and are committed to continue efforts that have been on-going since the establishment of the MNRCP.

This Instrument establishes the MDEP as the qualified ILF Program Sponsor and TNC as the current Program Administrator for the MNRCP. A separate amendment to the Contract for Special Services between MDEP and TNC will update TNC’s responsibilities as Program Administrator and articulate their work with the MDEP and the Corps to assure the requirement for resource compensation is being met.

2. Statement of Program Need

Mitigating adverse environmental impacts is an integral part of Maine’s Natural Resources Protection Act (NRPA), 38 M.R.S.A. § 480 A – BB, a regulatory program administered by the MDEP, the federal Clean Water Act (CWA), Section 404 for discharge of dredged or fill materials within “waters of the U.S.,” and the federal Rivers and Harbors Act Section 10 for structures or work in or affecting navigable water in the U.S. as administered by the Corps. In general, mitigation is a sequential process of avoiding adverse impacts, minimizing impacts that cannot be practicably avoided, and then compensating for those impacts that cannot be further minimized. Both state and federal agencies administering resource protection regulations may require appropriate and practicable compensatory mitigation as a condition of their permit approvals and authorizations.

Compensation is required to off-set an adversely affected resource function with a function of equal or greater value. The goal of compensation is to achieve no net loss of resource functions and values. The MDEP or the Corps may require that the compensation include the design, implementation and maintenance of a permittee-responsible compensation project or, in lieu of such a project, may allow the applicant to purchase credits from a mitigation bank or to pay a compensation fee (ILF). State rules and federal regulations recognize that ILF programs may be an environmentally preferable mitigation option based on several factors. ILF projects target larger, more ecologically valuable, parcels that have been prioritized on a landscape or watershed scale. ILF programs consistently include thorough scientific analysis, planning, implementation, and monitoring for each project and the structure of an ILF program generally facilitates improved site selection, mitigation plan development, and provides scientific expertise and financial assurances that translate into a reduction in uncertainty for project success (33 CFR Part 332).

3. Goals and Objectives

The goals and objectives of the MNRCP are as follows:

- a) Provide an alternative to permittee-responsible and mitigation bank compensatory mitigation that will effectively replace functions and values lost through permitted impacts;
- b) Substantially increase the extent and quality of restoration, enhancement, creation, and protection of protected natural resources over that typically achieved by permittee-responsible mitigation for activities that impact wetlands, significant wildlife habitats, and other waters of the State of Maine, which include waters of the U.S.;
- c) Reduce the extent of cumulative adverse impacts to aquatic resources that are considered protected natural resources under the NRPA and CWA;
- d) Provide MDEP and Corps permit applicants greater flexibility in compensating for adverse impacts to protected natural resources; and
- e) Achieve ecological success on a biophysical region basis by directing ILF funds to protected natural resource types and functions that are appropriate to the geographic service area, and by integrating ILF projects with other conservation activities whenever possible.

4. Qualifications of the Program Sponsor

The MDEP is an agency of Maine state government with the charge to prevent, abate, and control pollution of the air, land, and water. MDEP is responsible for protecting and restoring Maine's natural resources and enforcing the state's environmental laws. The MDEP administers programs, educates the public and makes regulatory decisions that contribute to the achievement of its mission.

Title 38 M.R.S.A. § 480-Z authorizes MDEP to establish a program providing for compensation of unavoidable losses to protected natural resources from proposed development activities. Compensation may include the restoration, enhancement, creation or preservation of an area or areas that have functions or values similar to the area(s) impacted by the activity, unless otherwise approved by the MDEP. The MDEP may require that compensation include the design, implementation and maintenance of a permittee-responsible compensation project or, in lieu of such a project, may allow the applicant to purchase credits from a mitigation bank or to pay a compensation fee. The MDEP is responsible for approving an appropriate compensation project, or for determining the amount of credits or compensation fee, based upon the compensation that would be necessary to restore, enhance, create or preserve areas with functions or values similar to the areas impacted by the activity.

Title 38 M.R.S.A., § 480-Z further grants MDEP the option of establishing a compensation fund for the purpose of receiving compensation fees, grants and other related income or entering into an enforceable, written agreement with a public, quasi-public or municipal organization or a private, nonprofit organization for the administration of an ILF program. Such an organization must demonstrate the ability to receive compensation fees, administer a compensation fund and ensure that compensation projects are implemented consistent with local, regional or state management priorities. If compensation fees are provided to an authorized organization, the organization shall maintain records of expenditures and provide an annual summary report as requested by MDEP. If the organization does not perform in accordance with the NRPA or with the requirements of the written agreement, the MDEP may revoke the organization's authority to administer the ILF program.

The MDEP established the MNRCP ILF program in 2007. The MNRCP was established in cooperation with the Corps and state and federal resource agencies, including the State Planning Office (SPO), Maine Department of Inland Fisheries and Wildlife (MDIFW), Maine Department of Marine Resources (DMR), U. S. Fish and Wildlife Service (USFWS) and the U. S. Environmental Protection Agency (EPA).

The MNRCP includes provisions for the following:

- a) Identification of resource management priorities on a watershed or biophysical region basis;
- b) Identification of management priorities for protected natural resources;
- c) Identification of the types of losses eligible for compensation;
- d) Standards for compensation fee projects;
- e) Calculation of compensation fees based on the functions and values of the affected areas and the cost of compensation, taking into account the potential higher cost of compensation when a project is implemented at a later date; and
- f) Methods to evaluate the long-term effectiveness of compensation fee projects.

MDEP has been overseeing the MNRCP since 2007 and, as of June 17, 2011, has collected more than \$5.5 million in ILF contributions which have been deposited in the MNRCF. The contributions received into the MNRCF were received to compensate for the statewide loss of the following acreages:

| | |
|-------|---|
| 0.16 | estuarine intertidal habitat, |
| 0.02 | estuarine subtidal habitat, |
| 5.61 | freshwater wetland emergent habitat, |
| 18.09 | freshwater wetland forested habitat, |
| 9.90 | freshwater wetland scrub-shrub habitat, |
| 5.56 | inland waterfowl habitat, |
| 0.15 | lake, limnetic habitat, |
| 0.01 | lake, littoral habitat, |
| 0.13 | marine intertidal habitat, |
| 0.19 | marine subtidal habitat, |
| 0.31 | river/stream habitat, |
| 0.10 | vernal pool habitat, and |
| 9.19 | vernal pool critical terrestrial habitat. |

In 2009 and 2010 the MDEP, with the assistance of the Program Administrator, posted requests for proposals and successfully identified and approved 27 natural resource mitigation projects involving restoration, enhancement, and/or preservation of the following:

| | |
|--------|---|
| 29.04 | estuarine intertidal habitat, |
| 0.03 | estuarine subtidal habitat, |
| 57.70 | freshwater wetland emergent habitat, |
| 647.83 | freshwater wetland forested habitat, |
| 0.30 | freshwater wetland open water habitat, |
| 177.30 | freshwater wetland scrub-shrub habitat, |
| 7.083 | freshwater wetland unconsolidated bottom habitat, |
| 0.10 | freshwater wetland unconsolidated shore habitat, |
| 59.90 | marine intertidal habitat, |

| | |
|---------|---|
| 90.99 | river/stream habitat, |
| 2132.77 | upland buffer habitat, |
| 1.82 | vernal pool habitat, and |
| 12.00 | vernal pool critical terrestrial habitat. |

5. Qualifications of the Program Administrator

In 2006, the MDEP announced a public Request for Proposals to identify a qualified Program Administrator for MNRCP. The Nature Conservancy was selected and entered into a ten-year contract with MDEP to serve as Program Administrator. The Nature Conservancy is a tax-exempt 501(c)(3) organization managed from its worldwide office in Arlington, Virginia. Founded in 1951, The Nature Conservancy now works in all 50 United States and in more than 30 countries. The organization has protected more than 119 million acres of land and 5,000 miles of rivers around the world — and operates more than 100 marine conservation projects globally. The Nature Conservancy is supported by more than 1 million members and employs 3,200 staff worldwide, 720 of whom are scientists. The Nature Conservancy has been named a "Top-Rated Charity" by the American Institute of Philanthropy and the organization's strong performance is recognized by Charity Navigator as exceeding or meeting industry standards.

The mission of The Nature Conservancy is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. The Nature Conservancy protects specific places where plant and animal species can survive for generations to come. At global, national, regional and state scales, the organization employs a scientific, systematic analysis to identify places large enough and rich enough in plant and animal species to ensure meaningful conservation results. At each place, the Conservancy employs a range of strategies tailored to local circumstances and communities, including: buying land and interests in land; helping landowners, private and public, manage their properties; facilitating public-private partnerships; and collaborating with like-minded partners to seek pragmatic, cost-effective solutions to the most pressing conservation threats at the largest scale.

To achieve the Conservancy's place-based mission, the worldwide Board of Directors has established chapters of The Nature Conservancy at the state and country level. Each state and country program is run by a director who manages the program's annual plan and budget in support of the Conservancy's mission and goals. The Maine Chapter is The Nature Conservancy's fourth oldest chapter, founded in 1956 by Rachel Carson and other leading Maine citizens concerned about the loss of wildlife habitat, particularly, at that time, with the loss of wetlands. The Maine chapter of The Nature Conservancy has helped protect over 1 million acres of Maine's most important habitat. The Conservancy owns and manages some 280,000 acres in Maine, including the largest system of nature preserves in the state. The Maine Chapter is advised and assisted by a volunteer Board of Trustees which provides guidance on strategic issues, assists in setting goals and, most importantly, subjects the chapter's work to additional critical thinking. The Maine Chapter consists of 35 paid staff (27 full-time and 8 part-time staff).

The Nature Conservancy has developed a robust database to track all aspects of the compensatory mitigation process in Maine—from tracking of permitted impacts, through the competitive proposal process to the award and monitoring of compensation projects. The Conservancy manages all regional funds for the collection of impact fees and award of grants for compensation projects. The organization also facilitates the entire competitive grant process, including program marketing and outreach, support for prospective applicants, management of proposal review, development of Project Agreements for all fund awards, and transactional due diligence on all projects.

6. Provision of Legal Responsibility

Acceptance of a payment into the MNRCP is an acknowledgement by MDEP that MDEP, and not the applicant, is responsible for satisfying the compensatory mitigation requirements of an NRPA, Section 404, Section 401, or Section 10 permit. Payment must occur prior to the start of any construction of the proposed project. MDEP will affirmatively acknowledge this transfer of obligation to the applicant in writing upon the receipt of any funds. In satisfaction of the compensatory mitigation requirements, MDEP shall provide compensatory mitigation of the type and in the amount and biophysical location specified in the issued permit, or as otherwise authorized on a case-by-case basis by the Interagency Review Team (IRT) described in paragraph 7.6 below.

Conditions contained within permits using the MNRCP to satisfy compensation requirements shall stipulate the dollar amount to be paid. Additionally, the permit conditions shall state that no impacts authorized by the permit may be conducted until the Permittee is in possession of the acceptance documentation from MDEP stating that the MDEP accepts full responsibility for the required mitigation. A summary of the projects and payments made into the MNRCP will be maintained by MDEP as well as being posted by the Program Administrator or the Corps on the Regulatory In-lieu fee and Banking Information Tracking System (RIBITS) managed by the Corps of Engineers. This site is currently found at <https://rsgis.crrel.usace.army.mil/ribits/f?p=107:2:928610102122180> and can be viewed by the public.

7. Maine Natural Resources Conservation Program

7.1 Establishment and Operations

The MNRCP outlined herein includes a description of the program structure and program operating procedures. The provisions outlined serve as the framework within which MNRCP mitigation projects in Maine will be proposed, implemented and maintained. This instrument is a living document that will be reviewed on an annual basis and updated as necessary through amendments to comply with the most current ILF guidance, rules and regulations.

An MDEP or Corps permit applicant may elect to pay a compensation fee into the MNRCP in lieu of other forms of compensatory mitigation for the applicant's proposed project (a ~~development~~ project") during the review of a permit application. In order to receive mitigation credit from the MDEP and/or the Corps for paying a compensation fee, the applicant must receive approval from the MDEP and/or the Corps and comply with all applicable laws, regulations, and policies concerning avoidance, minimization, and compensation of adverse project impacts to protected natural resources. It is understood that the applicant may also elect to conduct other appropriate and practicable mitigation if it complies with all MDEP and/or Corps laws, rules, regulations, and policies.

The MDEP and/or the Corps shall, at their sole discretion, determine whether payment of an ILF is appropriate compensation for likely adverse development project impacts to protected natural resources. For development projects requiring coordination with other State or Federal agencies such as MDIFW, DMR, USFWS, EPA, or National Marine Fisheries Service (NMFS), the MDEP and/or Corps shall consider each agency's comments regarding the use of the ILF in making its determination.

If the MDEP and/or Corps determine that payment of an ILF constitutes appropriate compensatory mitigation, in whole or in part, for the adverse impacts of a development project, the MDEP and/or Corps shall be responsible for ensuring that the appropriate compensation fee has been paid by the licensee prior to the start of construction of the development project. Unless other arrangements are made with the Program Administrator, all compensation fees shall be made payable to the Treasurer, State of Maine and shall be remitted to the MDEP, 17 State House Station Augusta, Maine 04333 on a schedule

approved by MDEP and/or the Corps. The MDEP shall transfer all ILF contributions collected, less any approved overhead costs, to the Program Administrator for deposit into the MNRCP. Subject to the terms of a separate Contract for Special Services, the Program Administrator shall act as the passive recipient from the MDEP of all contributions into the MNRCP, and shall play no role in any MDEP and/or Corps regulatory decision, determining the nature and extent of any required compensatory mitigation, or determining the appropriateness of any specific ILF payment.

7.2 Maine Natural Resource Conservation Fund (MNRCF)

Subject to the terms of a separate Contract for Special Services, the Program Administrator shall continue management of the fund referred to as the Maine Natural Resource Conservation Fund (MNRCF). The MNRCF was originally established in 2007 to finance mitigation projects to compensate for adverse impacts to protected natural resources of the State of Maine resulting from activities authorized under the NRPA, CWA, and Rivers and Harbors Act. It is understood that, although the funds to be held pursuant to this instrument may be referred to herein as the MNRCF, the Program Administrator is not expected to set up a fund that would qualify as a trust under state or federal law.

7.3 Geographic Service Area

The area to be served by MNRCF shall be subdivided into seven biophysical regions based on the Bailey's Ecoregions as depicted in Appendix A. The MNRCP regions shall include: Aroostook Hills & Lowlands; Central & Eastern Lowlands; & Western Mountains; Central Interior & Midcoast; Downeast Maine; Northwest Maine; and Southern Maine.

For purposes of this section, "biophysical region" means a region with shared characteristics of climate, geology, soils and natural vegetation. The seven biophysical regions are congruent with MDEP's natural resource planning efforts and are at a scale that is appropriate to ensure that compensation projects selected for funding will effectively compensate for proximal environmental impacts across the entire geographic service area.

7.4 Determination of Fees and Credits

7.4.1 Advance Credits

The number of advanced credits available for each MNRCP biophysical region (Table 1) shall be determined by the number of estimated credits needed to compensate for impacts permitted over the last 5 years. Acres are used as a surrogate for credits. MDEP and the Corps shall determine the credits required for authorized projects on a case-by-case basis using guidance and/or rules developed by each agency. For regions where little impact has occurred over the past five years, a minimum of 30 advanced credits per service area will be the base to finance the program and ensure a large project would be able to use the program.

As the milestones in the schedule are reached (i.e., restoration, creation, enhancement and/or preservation is implemented), advance credits convert to released credits. Normally credits will not be released until the site has been protected by a conservation easement or other long-term protection mechanisms. As advanced credits are converted to released credits, an equivalent number of advanced credits will be made available for use in the Service area.

Because the program has been in place for several years, credits have been released in several service areas. Where there are excess credits, they may be used in addition to the advance credits.

Table 1. Advanced Credits by Service Area

| Biophysical Region | Advanced Credit |
|-----------------------------|------------------------|
| Aroostook Hills & Lowlands | 30 |
| Central & Eastern Lowlands | 30 |
| Central & Western Mountains | 50 |
| Central Interior & Midcoast | 150 |
| Downeast Maine | 50 |
| Northwest Maine | 30 |
| Southern Maine | 150 |

7.4.2 Fees

The MDEP shall establish the MNRCP fee schedule and compensation rate calculation formulas for restoring, enhancing, creating, and preserving protected natural resources in the State of Maine. The fee schedule will be established on a county-by-county basis and will be adjusted at the beginning of each biennial state budget cycle or as otherwise necessary to facilitate the reasonable implementation of the MNRCP. The fee schedule will generally be comprised of two components: the average county assessed land valuation, as calculated from the most recent data available from the Maine Revenue Services, and the projected costs associated with natural resource mitigation project planning, design and construction, long-term monitoring, operations, stewardship, and maintenance.

Compensation rate calculation formulas may include a resource multiplier for certain natural resource types as determined by MDEP and the Corps to adjust the compensation fee total to an amount commensurate with the replacement value of lost natural resource functions and values. The Corps may deem it appropriate to require additional fees to adequately compensate for direct and secondary impacts of a development project.

MDEP shall maintain a “DE Fact Sheet” (Appendix B-Sample), for distribution to the general public, explaining the in-lieu fee program and specifically outlining the cost structure to participate in the program.

7.4.3 Credits

Credits shall be calculated by the Corps using the New England District Mitigation Guidance document in effect as of January 1 of the year the grants are approved. The ratios as of January 1, 2011 are shown in Table 2 below.

Table 2. Recommended Compensatory Mitigation Ratios for Direct Permanent Impacts

| Resource | Restoration 1 (re-establishmnt) | Creation (establishmnt) | Enhancement (rehabilitation) | Preservation (protection/management) |
|---------------------------------------|--|------------------------------------|---|---|
| Emergent Wetlands (ac) | 2:1 | 2:1 to 3:1 | 3:1 to 10:1 | 15:1 |
| Scrub-shrub Wetlands (ac) | 2:1 | 2:1 to 3:1 | 3:1 to 10:1 | 15:1 |
| Forested Wetlands (ac) | 2:1 to 3:1 | 3:1 to 4:1 | 5:1 to 10:1 | 15:1 |
| Open Water (ac) | 1:1 | 1:1 | project specific | project specific |
| Submerged Aquatic Veg.(ac) | 5:1 | project specific | project specific | N/A |
| Streams6(lf) | 2:1 | N/A | 3:1 to 5:1 | 10:1 to 15:1 |
| Mudflat (ac) | 2:1 to 3:1 | 2:1 to 3:1 | project specific | project specific |
| Upland10 (ac) | 10:1 | N/A | project specific | 15:1 |

Where there are ranges, the Corps will determine the appropriate ratio for a specific project based on the functional benefits of the project.

Credits will be released (this may not be the same as the release of funds) in accordance with the following schedule, which may be modified with approval from the IRT:

Preservation;

100% Upon receipt of the signed and recorded preservation document, evidence that the non-wasting endowment has been established or of a letter from the long-term steward stating that an endowment is not required to provide the long-term management as outlined in the long-term management agreement, and a long-term management agreement agreed to by MDEP and the Corps and signed by the long-term steward, fee owner, and Program Administrator.

Restoration/Creation/Enhancement (Rehabilitation) with associated preservation:

10% Upon receipt of the signed and recorded preservation document

90% Upon completion of construction and approval of the work by MDEP and the Corps, receipt of all required monitoring reports, and MDEP and the Corps determine the site is successful in meeting the goals and performance measures and concur with the release.

Restoration/Creation/Enhancement (Rehabilitation) without associated preservation:

100% Upon completion of construction and approval of the work by MDEP and the Corps, receipt of all required monitoring reports, and MDEP and the Corps determine the site is successful in meeting the goals and performance measures and concur with the release

7.5 Grant Application Review Committee

The MDEP shall establish and maintain an MNRCF —“Compensation Project Review Committee” (Review Committee) comprised of representatives from the MDEP, Corps, MDIFW, Maine Department of Conservation (DOC), SPO or other planning organization, Maine Department of Transportation (DOT), DMR, and the Program Administrator. In addition, two seats will be made available on staggered three-year terms to representatives from other quasi-government or non-governmental organizations. The Program Administrator’s seat on the review committee shall be ex-officio, nonvoting. The Review Committee shall be chaired by the MDEP representative.

The Review Committee shall meet twice a year, or as otherwise necessary, to review requests for grant funding in all biophysical regions in which funding is available in the MNRCF and formulate a funding recommendation to be submitted to the IRT for final approval. The Review Committee shall determine its own rules and order of business and shall provide for keeping a journal of its proceedings. This journal of the Review Committee meetings shall be a public record maintained at the offices of the Program Administrator open for inspection at the request of MDEP and/or the Corps. No recommendation of the Review Committee shall be binding or valid unless adopted by the affirmative vote of a majority of the members of the Review Committee. Review Committee members must disclose any interest in a proposed MNRCF project or any adjacent properties affected by a MNRCF project and recuse themselves from voting on those matters if they have a conflict of interest as defined pursuant to 5 M.R.S.A. § 18. This provision does not prevent a department or agency from officially supporting any specific request.

All requests for funding from the MNRCF shall come through the Program Administrator for consideration by the Review Committee. If a request is submitted to a department or agency, it shall be forwarded to the Program Administrator for consideration by the Review Committee at the next scheduled meeting(s). After all requests for MNRCF funding have been received in a given funding period, the Corps will publish a Public Notice listing all funding requests received, the project sponsors, and a short summary of the proposed project. Any comments received in response to this Public Notice will be considered by the Review Committee prior to any recommendations. Project sponsors, in coordination with the Program Administrator, shall be invited to each meeting of the Review Committee to provide detailed technical information regarding their project proposal and to answer questions with regard to project need, design and environmental benefit.

The Review Committee will evaluate proposals based on site suitability, likelihood of mitigation project success, maximizing the environmental benefit of ILF funds expended, relative value of the natural resource type(s) involved, and, in the case of preservation, the relative threat of development of the proposed site. These evaluation criteria are described in more detail in Section 8.5 below. Proposals recommended for funding shall be forwarded to the IRT for final approval.

7.6 Interagency Review Team (IRT)

The IRT will be comprised of representatives of the MDEP, Corps, DMR, DOC, MDIFW, USFWS, NMFS and EPA. The co-chairs for the IRT shall be the Commissioner of the MDEP and the District Engineer for the Corps New England District or their designees. The Program Administrator shall provide administrative support for the IRT and shall be responsible for all record retention of IRT proceedings. The primary role of the IRT is to assist the MDEP and Corps in the final approval of mitigation project recommendations as submitted by the Review Committee and the approval of modifications to this ILF instrument.

The IRT shall meet as necessary at such times and places as determined by MDEP and the Corps. The IRT shall determine its own rules and order of business and shall provide for keeping a journal of its proceedings. This journal of the IRT meetings shall be maintained at the offices of the Program Administrator and shall be a public record open to inspection at the request of MDEP and/or the Corps. The IRT shall work to reach consensus on its actions; however, no action of the IRT shall be binding or valid unless voted by the IRT and then adopted by the affirmative vote of both co-chairs except actions taken to allocate funds derived solely from natural resource types of State jurisdiction only in which case only MDEP needs to provide an affirmative vote.

IRT members must disclose any interest in a proposed MNRCF project or any adjacent properties affected by a MNRCF project and recuse themselves from voting on those matters if they have a conflict of interest as defined pursuant to 5 M.R.S.A. § 18. This provision does not prevent a department or agency from officially supporting any specific request.

All decisions by the IRT to grant approval to a proposed mitigation project shall be documented in writing and signed by the co-chairs presiding at the meeting approving the project. The written decision to accept a MNRCF project proposal constitutes approval for the expenditure of MNRCF assets on that mitigation project by the Program Administrator.

7.7 Program Operations and Procedures

7.7.1 Financial Controls and Accounting Procedures

Subject to the terms of a separate Contract for Special Services, the Program Administrator shall hold and invest MNRCF contributions received from the MDEP pursuant to this Instrument in a manner consistent with the Program Administrator's policies and procedures for the investment of its own funds. The Program Administrator will establish a separate internal subaccount for each biophysical region identified pursuant to this Instrument and will credit each subaccount with its share of the net investment income earned. Funds received from other than permittees will be kept in separate accounts. The program account will be established at a financial institution that is a member of the Federal Deposit Insurance Corporation. These funds will be invested so as to maximize the safety of the principal amount held by the Program Administrator. The Program Administrator shall account for the funds so held in accordance with generally accepted accounting principles and provide the MDEP and the Corps with an itemized annual statement that includes a list of the account(s) in operation, and, for each account, the beginning and ending annual balances, investment income earned, and authorized expenditures. The annual statement shall be made available to the public.

7.7.2 Administrative Costs

MDEP shall be entitled to deduct administrative overhead costs in the amount of 8% of all fees entering the MNRCF, at the time the funds are received, for the contractual responsibilities of the Program Administrator, as defined in a separate Contract for Special Services.

7.7.3 MNRCF Grant Funding Procedures

The MDEP, Corps and the Program Administrator shall, annually or as otherwise necessary to reasonably administer each biophysical region sub-account of the MNRCF, post a notice requesting that compensation project applicants submit a Letter of Intent to apply for grant funding. The Letter of Intent shall include, at a minimum, a map of the project location and a summary of the proposed project outlining how it meets MNRCF's core requirements. Letters of Intent will be evaluated based on the MNRCF Review Criteria (see Compensation Planning Framework). All Letters of Intent shall be

screened by MDEP, Corps and the Program Administrator and those applicants whose proposed projects are determined to meet the core program requirements will be invited to submit a full proposal. Full proposals will require more detailed information including engineering designs, where applicable.

All full proposals submitted in each grant funding round will be initially scored by the Review Committee which will formulate a consensus recommendation for funding to the IRT for final approval.

MDEP shall maintain an ~~“MNRCP Fact Sheet”~~ (Appendix C-Sample), for distribution to the general public, providing an overview of the program and explaining the process and format for applying for funding from the MNRCF.

7.7.4 MNRCF Disbursal Procedures

MNRCF assets may not be expended by the Program Administrator without prior written approval from the IRT except that the Program Administrator may be reimbursed for reasonable expenses it incurs in administrating and developing the regional natural resource mitigation funds, as described in paragraph 7.2.2 of this section. Each biophysical region subaccount may be charged for reasonable and appropriate expenses associated with the fee acquisition of land and/or conservation easements, design and implementation of mitigation projects, including monitoring and remediation, and long-term stewardship of projects. These expenses shall be included in the overall cost of each mitigation project. Project-specific expenses such as implementing a mitigation project including the purchase price of the land, payment for a conservation easement, construction activities, appraisals, closing costs, and establishment of vegetation as well as the cost of long-term stewardship of a mitigation project may be debited from the biophysical region subaccount and paid to the entity responsible for the long-term management of the mitigation project and monitoring of a permanent easement. For projects involving construction or other work that would occur after site acquisition, financial assurances need to be provided by the project proponent or a percentage of the MNRCF allocation for the project will be held in abeyance until the IRT determines the project is successful following monitoring and any needed remediation.

7.8 Reports and Reporting Protocols

Subject to the terms of a separate Contract for Special Services, the Program Administrator will provide annual reports, based on calendar years, to MDEP and the Corps with updates on the progress of each biophysical region and project implementation. The reports will be submitted not later than June 30 of the year following the reporting year. This report will provide an overview of what aquatic resources were lost and what projects were funded. It will also summarize the successes and the challenges, and ways to improve the program for next year. For restoration, creation and enhancement projects that may take several years to complete, the Program Administrator will summarize monitoring reports and the results of the work. For preservation projects, evidence of the easement or other protection details needs to be documented.

Every five years, the Program Administrator, with assistance from MDEP and the Corps, will produce a status and trends report summarizing the previous five years. The document will examine the goals for each biophysical region and discuss how well the projects assisted with promoting those goals. Every ten years or as funds allow, the Program Administrator and others will reexamine and update the Compensation Planning Framework, including working with a broad range of stakeholders.

8. Compensation Planning Framework

In order to prepare this Compensation Planning Framework, MDEP drew heavily on TNC’s extensive experience in conservation planning. TNC uses a collaborative, science-based conservation approach

and a common set of analytical methods to identify the biodiversity that needs to be conserved, to decide where and how to conserve it and to measure organizational effectiveness. TNC utilizes a process called ecoregional assessment to set goals and priorities. An ecoregion is a large area of land or water that contains a geographically distinct assemblage of ecosystems and natural communities, and is differentiated by climate, subsurface geology, physiography, hydrology, soils, and vegetation. Through assessments of these ecoregions, TNC works with partners to develop data on the distribution and status of biodiversity, habitat condition, current and future threats and the socio-political conditions that influence conservation success within those ecoregions. These data enable the establishment of long-term conservation goals for ecosystems, natural communities and imperiled or declining species representative of an ecoregion.

Over the last ten years, TNC has worked with a broad range of stakeholders to complete ecoregional assessments for all three terrestrial ecoregions in Maine—the Lower New England-Northern Piedmont Ecoregion (Barbour et al., 2000), the North Atlantic Coast Ecoregion (Anderson et al., 2006), and the Northern Appalachian / Acadian Ecoregion (Anderson et al., 2006)—as well as for the Northern Appalachian Freshwater Stream Ecosystems (Olivero et al., 2006). Together, these ecoregional assessments provide an analytical underpinning, and essential context, for this Compensation Planning Framework. These assessments are supplemented by extensive expert interviews, literature review and spatial analyses conducted by the Maine Natural Areas Program (MNAP).

8.1 Geographic Service Area(s) (Element 1)

As described in section 7.3 above, the area served by the MNRCP is subdivided into seven biophysical regions based on the ecoregional sections defined by Bailey (Bailey, 2009), as depicted in Appendix A. The MNRCP regions are: Aroostook Hills & Lowlands; Central & Eastern Lowlands; Central & Western Mountains; Central Interior & Midcoast; Downeast Maine; Northwest Maine; and Southern Maine. The seven biophysical regions are congruent with MDEP's natural resource planning efforts and other statewide efforts to prioritize natural resource conservation in Maine. For a more detailed analysis of each biophysical region, refer to Appendix D.

8.2 Description of Threats to Aquatic Resources (Element 2)

The Program Administrator defines threats as proximate activities or processes that directly have caused, are causing, or may cause “stresses” to priority ecosystems, natural communities, and species, and thus their destruction, degradation and/or impairment. Stresses are defined as impaired aspects of these priority natural resources that result directly or indirectly from human activities (threats). Through the Program Administrator's conservation approach, each stress can be rated in terms of its likely scope and severity of impact on the priority natural resources. Each threat can then be rated in terms of its contribution and irreversibility and these ratings can be combined to determine overall threat rankings. Scope, severity, contribution and irreversibility for each stress/threat combination are given qualitative rankings—very high, high, medium and low—based on available data, GIS analysis and the best judgment of staff, partners and experts. Drawing on TNC's ecoregional assessments, an overall threats assessment was completed for aquatic resources in Maine. The highest ranked threats are described below.

Habitat Loss and Fragmentation. Incompatible residential, commercial and road development are the most significant causes of habitat loss and fragmentation. Urbanization and coastal development has resulted in shoreline degradation including the destruction of wetlands and the hardening and erosion of shorelines. Although freshwater wetland loss has been primarily from conversion to agriculture, coastal wetland loss has been primarily from building development and road construction. One calculation estimated that 19% of the total area of the U.S. is affected ecologically by roads (Forman 2000) and this

estimate is probably low for more developed areas with greater road densities. Among the many effects of roads, one of the main impacts is the loss of landscape connectivity. When habitats are no longer connected, this impacts the movement of wildlife and potential loss of access to key habitats for survival as well as direct mortality from roadkill (Forman et al. 2003). Roads also may impact areas over 100 meters beyond the actual road surface by causing changes in hydrology (altered streams and wetland drainage, acceleration of water flow and sediment transport), increases in pollution, changes in salinity in nearby water bodies from road salt, and providing opportunities for invasion by invasive species (Forman & Deblinger 2000; Forman & Alexander 1998). Road crossings also restrict tidal flows causing a variety of problems including erosion, loss of native vegetation and shellfish, water quality degradation and creating favorable habitats for the invasion of *Phragmites australis* (Forman et al. 2003; Bertness 1999). Greater access to sensitive areas has also resulted in an increase in recreational impacts. Coastal areas have become increasingly popular locations for recreational uses, especially the use of all-terrain vehicles (ATVs). Extensive use of ATVs for recreation can disturb wildlife and severely damages wetland and coastal habitats.

Altered Hydrologic Regimes (water withdrawal, dams). Many land-based activities and attendant water consumption have fragmented and degraded aquatic habitats by altering natural hydrologic patterns. Deforestation, dams, water withdrawal, tidal restrictions (culverts associated with transportation) are examples of common activities that have caused increased sedimentation, modification of the stream channel habitat, flow and temperature regime alteration, eutrophication, and other chemical contamination. Degradation of stream ecosystems occurs early in the process of watershed urbanization. Many studies show that when 10% of surface cover in a watershed becomes impervious (roads, parking areas, etc), degradation of aquatic communities occurs (Beach 2002). Dams, and even less significant structures like culverts, create barriers to upstream and downstream migration, a critical movement between natal/spawning areas and later life history stages. These restrictions lead to both upstream and downstream changes in flow, temperature, and water clarity. Additionally they sever terrestrial-aquatic linkages critical for maintaining the flooding regime of riparian and floodplain communities and trap sediment important to maintaining coastal barrier systems.

Nutrient Enrichment and Pollution. Elevated nutrients in streams can result in excessive algal growth, decreased light penetration, low concentrations of dissolved oxygen, and loss of desirable flora and fauna either through displacement or mortality (fish kills are among the most apparent losses). Harmful algal blooms, such as red tide, have been increasing in area and extent in recent years, with a severe outbreak of red tide in 2005 in the Gulf of Maine that caused significant closures of shellfish beds. It is hypothesized that these increases are caused by increased nutrient loading (Hallegraeff 1993 and Anderson 1995 in Driscoll et al. 2003). Nitrogen is the limiting element in coastal systems whereas in freshwaters systems, phosphorus is the most limited nutrient. Riverine discharges of nitrogen to coastal waters are reported to have increased 5-20 times since pre-industrial times due primarily to increased human population and atmospheric deposition (Carpenter et al. 1997). Major sources of nitrogen and other non-point source pollution in agricultural watersheds include animal wastes, human wastes (commonly from failing septic systems or inadequate wastewater treatment), fertilizers, pesticides, and herbicides. Municipal wastes and fertilizers are also significant nutrient sources from urban areas. Atmospheric deposition of sulfur dioxide and nitrogen oxide is also a critical threat to aquatic ecosystems due to the effect these chemicals have on lowering the pH in aquatic systems. As the pH in a lake or stream decreases, aluminum levels increase and becomes directly toxic to aquatic species. Streams flowing over soil with low buffering capacity are more susceptible to damage from additional acidic inputs from atmospheric deposition because they lack any natural capacity to buffer these chemicals.

Invasive Species/Pests and Pathogens. Introduced species compete with indigenous species for food and habitat, reduce native populations through predation, transmit diseases or parasites, dilute the native gene pool by hybridizing, and alter habitat. Introductions and expansions of nonindigenous species pose an

increasing threat to aquatic systems and are usually extremely difficult if not impossible to undo. Terrestrial and aquatic systems have been invaded by diverse taxa including plants, fish, amphibians, reptiles, mammals, mollusks, crustaceans, and sponges. Although not all introductions result in established populations, some of the most problematic and invasive species have flourished. Exotic plant pathogens and pests can be introduced through international trade routes or carried by the nursery industry, such as the fungus that causes sudden oak death, and have the potential to heavily impact our oak woodlands and forests (USDA 2002). The common reed *Phragmites australis* is a ubiquitous invader of disturbed coastal wetlands throughout the central Atlantic and New England. Tidal flow restrictions and eutrophication of coastal wetlands both encourage the invasion of this species which can out compete and displace many native marsh plants and ultimately, as biomass accumulates and marsh plants disappear, convert salt marsh habitats into upland environments (Bertness 1999).

Climate Change and Sea Level Rise. Recent models indicate that global warming will change the state's climate and interrupt coastal processes. Increasing water temperatures are likely to exacerbate and compound pollution stresses in our coastal systems (Barron 2000). Temperature increases will also be exacerbated by low stream flows that currently exist and are predicted from high water withdrawals for human consumption as the coastal population increases. The smaller volumes of water remaining in streams will be more vulnerable to temperature fluctuations. Local extirpation of cold-adapted species is projected as summer temperatures rise in streams already near the thermal tolerances of their inhabitants. Changes in freshwater delivery rates due to altered precipitation patterns along with temperature could affect coastal salinity having significant effects on estuarine systems and the species they support. Increasing salinity from sea level rise could alter the distribution of freshwater, brackish, and estuarine habitats in coastal rivers and lead to corresponding species shifts in distribution and abundance. As the rate of sea level rise increases, salt marshes that depend on the gradual accretion of sediments, organic biomass and nutrient pools may not be able to accrete fast enough to avoid conversion to sparsely vegetated mudflats or open water. A transition to a more open estuary would increase the amount of water entering and leaving the estuaries during a tidal cycle leading eventually to tidal inlets that expand and sequester more sand. Sand sources from adjacent barrier beaches will diminish resulting in dramatic erosion and shoreline retreat (Fitzgerald 2006). The amount, timing, and variability of stream flow will also likely change as already many coastal streams are more affected by extreme winter rain events than historically dominant spring snow melt patterns. Heavy precipitation events also overtax water treatment plants and increase run-off, leading to increased pollution (Barron 2000).

8.3 Analysis of Historic Aquatic Resource Loss & Current Aquatic Resource Conditions (Elements 3 and 4)

Half a millennium ago, before European settlement, Maine was covered by a nearly continuous forest, with patch-forming communities—including wetlands, grasslands, heathlands and pine barrens—embedded in the matrix forest. Tidal river systems drained the land and provided important nutrients to estuarine systems. Major ecological processes sustaining these systems included fire, tides, erosion and deposition, and hydrologic processes including groundwater recharge and flowing water systems. Early settlement, intensifying human use, and increasing population led to significant changes in the landscape and a loss of aquatic resources in the state.

In order to assess the current condition of aquatic resources in Maine, and to approximate historic loss, a GIS-based Aquatic Resources Base Layer (ARBL) was developed by MNAP. The ARBL expands on the wetlands identified in the USFWS' National Wetland Inventory (NWI) maps and identifies other areas likely to support wetland habitats, functions, and values. In addition to NWI, the ARBL incorporates waterbody data from the National Hydrography Dataset (NHD), 'wet flat' areas from The Nature Conservancy's Active River Area (ARA) model, and hydric soils data from the Natural Resources Conservation Service (NRCS). Data from these four sources were combined to create a base layer

designed to capture open water features and the full range of vegetated wetland types, as well as low-relief bottom land areas and mapped hydric soils. Note that this approach is assumed to overestimate the actual coverage of aquatic resources in the state and as such is most useful for relative comparisons between different regions. For a more detailed description of the process used to create the ARBL, refer to Appendix E.

The resulting base layer identifies the areas in the state that are most likely to be capable of supporting aquatic resource habitats, functions and values. It also enables an approximation of the amount of potential aquatic resource area that has been converted to other land uses. Table 4 below shows how the ARBL can be used to calculate the percent area of each biophysical region capable of supporting aquatic resources (noting that the three coastal regions include all adjoining intertidal wetlands in their area calculation). Using current land cover data, it is possible to then calculate how much of this potential aquatic resource area is currently in a developed or agricultural land use (suggesting the likelihood of historic conversion), and how much remains as current aquatic resources. Tables 5 and 6 below show projections of total shoreline buffer and riparian zone (respectively) for each region, and the amount of each of these areas that has been converted to developed or agricultural land uses. Detailed maps of the ARBL for each biophysical region, including the areas currently in developed and agricultural land use, can be found in Appendix D.

Table 4. Aquatic Resource Base Layer (ARBL) for each biophysical region, area of ARBL in developed or agriculture land use, and estimate of current aquatic resources for each region.

| Biophysical Region | Total Acres | ARBL in Region (ac) | ARBL in Dev. Land Cover (ac) | ARBL in Agr. Land Cover (ac) | Current Aquatic Res. (ac) | % Region in Current Aqua. Res. |
|-----------------------------|--------------------|----------------------------|-------------------------------------|-------------------------------------|----------------------------------|---------------------------------------|
| Aroostook Hills & Lowlands | 2,454,808 | 1,042,394 | 18,003 | 51,104 | 973,287 | 39.6% |
| Central & Eastern Lowlands | 3,267,931 | 1,451,661 | 20,896 | 10,570 | 1,420,195 | 43.5% |
| Central & Western Mountains | 4,485,014 | 1,084,289 | 12,476 | 12,014 | 1,059,800 | 23.6% |
| Central Interior & Midcoast | 3,882,102 | 1,545,981 | 69,127 | 83,295 | 1,393,558 | 35.9% |
| Downeast Maine | 1,594,389 | 621,786 | 9,317 | 3,631 | 608,838 | 38.2% |
| Northwest Maine | 3,709,535 | 1,632,760 | 4,627 | 1,737 | 1,626,397 | 43.8% |
| Southern Maine | 1,469,181 | 595,456 | 48,599 | 36,324 | 510,534 | 34.7% |
| State Total | 20,862,961 | 7,974,328 | 183,044 | 198,675 | 7,592,609 | 36.4% |

Table 5. Total area of lake and pond shoreline buffer (100m around all lakes and ponds) in each biophysical region and the area of shoreline buffer in developed or agricultural land use.

| Biophysical Region | Total Shoreline Buffer (ac) | Development in Shoreline Buffer (ac) | Agriculture in Shoreline Buffer (ac) | % Dev & Ag in Shoreline Buffer |
|-------------------------------|------------------------------------|---|---|---|
| Aroostook Hills and Lowlands | 70,495 | 2,692 | 7,808 | 14.9% |
| Central and Eastern Lowlands | 134,772 | 3,656 | 2,464 | 4.5% |
| Central and Western Mountains | 177,654 | 4,131 | 2,377 | 3.7% |
| Central Interior and Midcoast | 168,439 | 16,286 | 17,993 | 20.4% |
| Downeast Maine | 71,072 | 2,088 | 648 | 3.8% |
| Northwest Maine | 107,063 | 776 | 189 | 0.9% |
| Southern Maine | 87,224 | 9,985 | 6,965 | 19.4% |
| State Total | 816,720 | 39,613 | 38,443 | 9.6% |

Table 6. Total area of riparian zone (based on Active River Area model, plus 100m buffer on all small streams not in the model) in each biophysical region and the area of riparian zone in developed or agricultural land use.

| Biophysical Region | Total Riparian Zone (ac) | Development in Riparian Zone (ac) | Agriculture in Riparian Zone (ac) | % Dev & Ag in Riparian Zone |
|-----------------------------|---------------------------------|--|--|--|
| Aroostook Hills & Lowlands | 762,258 | 14,995 | 51,589 | 8.74% |
| Central & Eastern Lowlands | 1,218,840 | 20,132 | 12,090 | 2.64% |
| Central & Western Mountains | 1,287,625 | 19,668 | 17,744 | 2.91% |
| Central Interior & Midcoast | 1,572,525 | 81,526 | 108,871 | 12.11% |
| Downeast Maine | 601,031 | 11,970 | 4,442 | 2.73% |
| Northwest Maine | 989,924 | 3,020 | 1,941 | 0.50% |
| Southern Maine | 669,026 | 57,112 | 42,667 | 14.91% |
| State Total | 7,101,228 | 208,424 | 239,344 | 6.3% |

Another way to gage historic loss of aquatic resources in the state is to look at permitted impacts to those resources. DEP maintains a database called the Wetland Loss Tracking System (WLTS), which was created to track data on all permitted wetland impacts in organized towns—both those associated with implementation of NRPA and those issued as a Permit by Rule (PBR). The Land Use Regulation Commission (LURC) maintains a similar database (GOAT) for the unorganized towns. While data differences limit the ability to compare area of loss for each wetland type across the state, it is possible to compare the number of permitted impacts for each biophysical region, as shown in Table 5. (Note that permitted impacts in towns that cross regional boundaries were counted within each region containing a portion of that town.)

Table 7. Number of permitted impacts in each biophysical region from 2006-2010.

| Biophysical Region | NRPA Impacts (Organized Towns) | PBR Impacts (Organized Towns) | Impacts for Unorganized Towns | Total |
|-----------------------------|---------------------------------------|--------------------------------------|--------------------------------------|--------------|
| Aroostook Hills & Lowlands | 31 | 1 | 142 | 174 |
| Central & Eastern Lowlands | 58 | 128 | 85 | 271 |
| Central & Western Mountains | 168 | 142 | 191 | 501 |
| Central Interior & Midcoast | 1,342 | 596 | 9 | 1,947 |
| Downeast Maine | 231 | 98 | 35 | 364 |
| Northwest Maine | 2 | 1 | 160 | 163 |
| Southern Maine | 609 | 442 | 6 | 1,057 |
| State Total | 2,441 | 1,408 | 628 | 4,477 |

A final reflection of the current condition of aquatic resources is provided by looking at the extent to which the ARBL occurs on lands considered to be permanently conserved by the State of Maine. TNC maintains a dataset of permanently conserved lands that is based largely on the “Conserved Lands” dataset published by DOC and MDIFW and available for download from the Maine Office of GIS. In addition, TNC’s dataset also contains information provided to TNC by private conservation organizations that do not widely publish data. Conserved lands are categorized into Gap Status Codes based on the level of protection provided (Crist et al 1998). Gap Status 1 is the highest level of protection and describes an area having permanent protection from conversion of natural land cover and a mandated

management plan in operation to maintain a natural state within which disturbance events (of natural type, frequency, intensity, and legacy) are allowed to proceed without interference or are mimicked through management. Gap Status 2 describes an area that also has permanent protection from conversion and a mandated management plan, but which may be subject to uses or management practices that degrade the quality of existing natural communities, including suppression of natural disturbance. Gap Status 3 lands have permanent protection from conversion for the majority of the area, but are subject to extractive uses of either a broad, low-intensity type (e.g., logging) or localized intense type (e.g., mining). Table 8 below shows the extent of the ARBL within each region considered by TNC to be permanently conserved, including Gap Status 1 and 2 and DOC's Ecological Reserves—while these reserves lack the permanent legal status required for official consideration as Gap Status 1 or 2, their function is for biodiversity conservation so TNC includes them. For a more detailed analysis of the different aquatic resource types found on permanently conserved land, refer to Appendix D and Appendix F.

Table 8. Extent of Aquatic Resource Base Layer (ARBL) within each biophysical region found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3).

| Biophysical Region | Total Aquatic Resources/ ARBL (acres) | Permanently Conserved ARBL | % ARBL Permanently Conserved | Other Conserved ARBL (Gap 3) | % ARBL Other Conserved |
|-----------------------------|--|-----------------------------------|-------------------------------------|-------------------------------------|-------------------------------|
| Aroostook Hills & Lowlands | 1,042,394 | 8,450 | 0.8% | 79,549 | 7.6% |
| Central & Eastern Lowlands | 1,451,661 | 18,611 | 1.3% | 174,924 | 12.0% |
| Central & Western Mountains | 1,084,289 | 65,970 | 6.1% | 135,072 | 12.5% |
| Central Interior & Midcoast | 1,545,981 | 27,360 | 1.8% | 33,663 | 2.2% |
| Downeast Maine | 621,786 | 43,860 | 7.1% | 39,809 | 6.4% |
| Northwest Maine | 1,632,760 | 55,423 | 3.4% | 502,262 | 30.8% |
| Southern Maine | 595,456 | 11,949 | 2.0% | 24,863 | 4.2% |
| State Total | 7,974,328 | 231,623 | 2.9% | 990,142 | 12.4% |

8.4 Statement of Aquatic Resource Goals and Objectives (Element 5)

The overall goal of the Compensation Planning Framework is to advance the conservation goals and objectives of MNRCP as outlined in Section 3 above, specifically:

- a) Substantially increase the extent and quality of restoration, enhancement, creation, and protection of protected natural resources over that typically achieved by other forms of compensatory mitigation for activities that impact wetlands, significant wildlife habitats, and other waters of the State of Maine, which includes waters of the U.S.;
- b) Reduce the extent of cumulative adverse impacts to aquatic resources that are considered protected natural resources under the NRPA and CWA; and
- c) Achieve ecological success on a biophysical region basis by directing ILF funds to protected natural resource types and functions that are appropriate to the geographic service area, and by integrating ILF projects with other conservation activities whenever possible.

The Compensation Planning Framework is also designed to support goals of the Maine Wetland Program Plan (DiFranco et al., 2011), specifically:

- d) Identify and protect wetland systems of statewide significance through fee acquisition, conservation easements, or other tools for permanent conservation;

- e) Provide effective and responsible levels of protection and restoration of Maine's wetlands systems through an efficient regulatory program;
- f) Promote the appreciation, stewardship and voluntary protection of wetland resources by private landowners, towns, and non-governmental entities; and
- g) Improve coordination between agencies with respect to wetland policies and regulatory programs to ensure efficiency in effort, consensus in outcome, and consideration of wetlands at the landscape scale.

In addition, specific conservation objectives were developed for each biophysical region, as described in more detail in Appendix D.

8.5 Prioritization Strategy for Selecting and Implementing Projects (Element 6)

MNRCP compensatory mitigation projects are selected using a competitive award approach. Each year, public agencies, non-profit conservation organizations and private individuals are invited to submit a letter of intent for eligible restoration and preservation projects in Maine. Letters of intent are summary in nature and designed to provide sufficient information to determine whether a proposed project meets MNRCP's core eligibility requirements. Letters of intent are evaluated by MDEP, the Corps and the Program Administrator. Applicants whose proposed projects are determined to meet or exceed MNRCP's core requirements are invited to submit full proposals. Full proposals are evaluated and ranked by the Review Committee (described in section 7.5 above) using the prioritization criteria outlined below, which can be modified upon approval by MDEP and the Corps.

Potential to Meet MNRCP Goals (30%). Assesses the extent to which the proposal meets the core program requirements that a compensatory mitigation project must restore, enhance, preserve, or create aquatic resources that have been prioritized by MNRCP, and that all project sites must be conserved in perpetuity. Considerations include:

- a) The sustainability of the proposed conservation action (restoration, enhancement, preservation, creation) and the acreage affected. To fully meet this criterion, projects must include a restoration or enhancement component in addition to permanent preservation.
- b) The resource types to be restored, enhanced, preserved or created and the degree to which the proposed project replaces the functional benefits of impacted resources in the biophysical region based on a functional assessment of the project.
- c) Proximity of proposed project to impacted resources in the biophysical region. To fully meet this criterion, projects must occur within the same ecoregional sub-section as a permitted impact.
- d) For preservation projects, the threat of degradation to the site in the next 20 years.
- e) Inclusion of upland areas sufficient to protect, buffer, or support identified resource functions and ecological connectivity to other conservation areas or undeveloped large blocks of habitat.
- f) Current and proposed condition of the property, and "functional lift" provided by project (e.g., proposed change in habitat quality, contribution to functioning biological systems, water quality, level of degradation, etc.).
- g) Other specific conservation objectives developed for each biophysical region, as described in Appendix D.

Landscape Context (20%). Assesses the extent to which the proposal meets the core program requirement to consider the location of a potential project relative to statewide focus areas for land

conservation or habitat preservation identified by a state agency, or other regional or municipal plans. Considerations include:

- a) Presence within or adjacent to habitat areas of statewide conservation significance (Beginning with Habitat Focus Area) or other natural resource priority areas.
- b) Presence within or adjacent to public or private conservation lands to maintain and preserve habitat connectivity.
- c) Presence of natural resources of significant value and/or rarity within the project site boundaries.

Project Readiness/Feasibility (20%). Assesses the extent to which the proposal meets the core program requirement to demonstrate project readiness and likelihood of success, where success is defined by the ability of the project to meet MNRCP goals as stated in the proposal. Considerations include:

- a) Documentation of landowner willingness to participate in proposed project, including conveying a conservation easement or fee title, with conservation covenants, to the property (for projects not on public or private conservation lands).
- b) Level of project urgency (e.g., area of rapid development or on-going site degradation, other available funding with limited timing, option to purchase set to expire, etc.)
- c) Degree to which proposal demonstrates understanding of resource conservation issues and needs.
- d) Soundness of the technical approach of the conceptual plan presented in the application.
- e) Initial progress (e.g., planning, fundraising, contracting, site design, etc.).
- f) Likelihood that the project will meet proposed schedule and/or required deadlines.
- g) Likelihood that the proposed actions will achieve the anticipated ecological benefits and results.
- h) Completeness and feasibility of long-term stewardship and monitoring plan, including endowment.
- i) Potential for adverse impacts (such as flooding or habitat loss) associated with the project.
- j) Conformance with any applicable Army Corps of Engineers and state mitigation policy, guidance and permitting requirements, including appropriate financial assurances for any construction activity.

Project Sponsor Capacity (15%). Assesses the extent to which the proposal meets the core program requirement to provide for long-term management and/or stewardship by a responsible state or federal resource agency, or conservation organization. Considerations include:

- a) Presence of qualified, capable conservation entity willing to sponsor and/or maintain the project.
- b) Level of support and involvement of other relevant agencies, organizations, and local community.
- c) Degree to which project sponsor, and any associated partners, demonstrate the financial, administrative, and technical capacity to undertake and successfully complete the project.
- d) Adequacy of long-term stewardship to ensure the project is sustainable over time and funding mechanism for the associated costs (e.g., endowment or trust).
- e) Legal and financial standing of the project sponsor.
- f) Quality and completeness of proposal materials.

Cost Effectiveness (10%). Assesses the extent to which the proposal meets the program requirement that a project represent an efficient use of funds expended given the condition, location and relative appraised values of properties. Considerations include:

- a) Clarity and detail of budget submitted.
- b) Sufficiency of funds available in the applicable biophysical region.
- c) Availability and source of matching funds necessary to complete the project.

Other Benefits (5%). Assesses the potential for this project to support recreational access, scenic enhancements, economic activity, job creation, or other contributions to —Quality of Place” in the town or region where the project is located.

Proposal ranks are calculated out of potential total of 100 points, based on the percentages listed for each criterion. Final MNRCF allocation decisions are made by the IRT, as described in section 7.6 above.

8.6 Explanation of How Preservation Satisfies Criteria for Use of Preservation (Element 7)

The federal Mitigation Rule (33 CFR 332) requires that goal setting for, and prioritization of, aquatic resources as required by Elements 5 and 6 above also satisfy the criteria for use of preservation. In the rule, preservation may be used to provide compensatory mitigation for activities when the following criteria, among others, are met:

- a) The resources to be preserved provide important physical, chemical, or biological functions for the watershed; and
- b) The resources to be preserved contribute significantly to the ecological sustainability of the watershed.

TNC’s approach to setting ecoregional goals and the evaluation criteria described above for selecting and prioritizing aquatic resource compensation projects were designed with the explicit purpose of capturing critical environmental gradients, ecological processes, and genetic diversity to ensure the persistence and sustainability of viable aquatic resources over time. The specific conservation objectives described in Appendix D compare the relative importance of preservation in each biophysical region to abate threats and maintain the viability, function and sustainability of prioritized aquatic resources. These design principles are wholly consistent with the criteria articulated in the Mitigation Rule.

8.7 Description of Public & Private Stakeholder Involvement in Plan Development (Element 8)

The MDEP worked closely with a broad range of partners and experts from state, federal and provincial agencies, NGOs, industry, and academic institutions throughout the ecoregional assessment process. Relying on the expertise of agency and academic scientists is crucial to the scientific credibility of the assessment process. The MDEP, Program Administrator, and MNAP convened a group of public and private natural resource conservation, management, and planning experts in an initial stakeholder group meeting to launch development of this Compensation Planning Framework. The purpose of this initial meeting was to craft the key questions to be used to inform Elements 2-4 of the CPF and solicit information on data sources and other resources that are currently available to answer those questions. Participants included representatives from the University of Maine-Orono, MDEP, the Corps, MDIFW, LURC, MDOT, USFWS, NRCS and TNC. Following this initial meeting, MNAP conducted extensive outreach (by phone and email) to individual stakeholders in order to refine the questions, gather relevant data, and request technical assistance and expert input. After the Aquatic Resources Base Layer (ARBL) was completed, and the final list of indicators and questions for Elements 2-4 was completed, MNAP held an interim review meeting with a subset of the larger stakeholder group. The purpose of this meeting was to gather experts in conservation planning, GIS, and aquatic resources, to review the results of the ARBL and collect final feedback on the approach being used to address Elements 2-4. For a detailed list of the individuals and organizations consulted in the development of this Compensation Planning Framework, refer to Appendix G.

8.8 Description of Long Term Protection and Management Strategies (Element 9)

Each applicant that receives funds from the MNRCP shall be responsible for ensuring long-term protection of each project through an appropriate protection mechanism. The IRT will be responsible for making sure that each applicant receiving funds will have the needed legal status, experience and stewardship funds to ensure the long term protection and management of the site. Permanent legal property protection instruments, such as conservation easements, will be held by entities such as Federal, Tribal, other State or local resource agencies, or non-profit conservation organizations. The protection mechanism shall assign long-term stewardship roles and responsibility for the project and will, to the extent practicable, prohibit incompatible uses that might otherwise jeopardize the objectives. Copies of such recorded instruments shall be maintained by the Program Administrator and shall become part of the official project record. Each protection instrument shall contain a provision requiring notification to MDEP and the Corps if any action is taken to void or modify it. Such protection mechanisms should in place prior to site closure or final credit release, as stipulated in each mitigation plan.

The MDEP shall be granted "Third Party" enforcement rights on all conservation easements entered into as part of an approved natural resource mitigation plan funded by the MNRCP. All conservation easements executed under this program shall be in conformance with the standard MDEP template unless otherwise authorized by the MDEP.

8.9 Strategy for Periodic Evaluation and Reporting on Program Progress (Element 10)

As described in section 7.8 above, the Program Administrator will provide annual reports, based on calendar years, to MDEP and the Corps with updates on the progress of each biophysical region and project implementation. The reports will be submitted not later than June 30 of the year following the reporting year. This report will provide an overview of what aquatic resources were lost and what projects were funded. It will also summarize the successes and the challenges, and ways to improve the program for next year. For restoration, creation and enhancement projects that may take several years to complete, the Program Administrator will summarize monitoring reports and the results of the work. For preservation projects, evidence of the easement or other protection details need to be documented.

Every five years, the Program Administrator, with assistance from MDEP and the Corps, will produce a status and trends report summarizing the previous five years. The document will examine the goals for each biophysical region and discuss how well the projects assisted with promoting those goals. Every ten years or as funds allow, the Program Administrator and others will reexamine and update the Compensation Planning Framework, including working with a broad range of stakeholders.

9. Default and Closure Provisions

The delay or failure of MDEP to comply with the terms of this agreement shall not constitute a default hereunder if and to the extent that such delay or failure is primarily caused by a force majeure or other conditions beyond the MDEP's reasonable control and that significantly adversely affects its ability to perform its obligations hereunder such as a flood, drought, lightning, earthquake, fire, landslide, or interference by third parties such as condemnation or other taking by any governmental body, a change in applicable law, regulation, rule, ordinance or permit condition, or the interpretation or enforcement thereof, any order, judgment, action or determination of any federal, state or local court, administrative agency or government body, or the suspension or interruption of any permit, license, consent, authorization or approval. If the performance of the MDEP is affected by any such event, the MDEP shall give written notice thereof to the Interagency Review Team (IRT) as soon as is reasonably practicable.

The Corps or MDEP may terminate this Instrument by giving ninety (90) days written notice to the other party. Prior to termination, MDEP shall provide an accounting of funds and shall complete payment on contracts for projects approved by the IRT and any expenses incurred on behalf of the account. Upon termination, after payment of all outstanding obligations, the remaining funds in the MNRCF shall be paid to not more than five different entities if required by the Corps. In the event the program is closed, the MDEP is responsible for fulfilling any remaining obligations for credits sold, unless the obligation is specifically transferred to another entity as agreed upon by the Corps and MDEP. Funds remaining in an account after these obligations are satisfied should continue to be used for restoration, enhancement, and/or preservation of aquatic resources.

10. Signatures


IN WITNESS WHEREOF, the MDEP and Corps, by their representatives duly authorized, have executed this agreement in two original copies.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

By:  21 Sept 11
Patricia W. Aho, Acting Commissioner

and

U.S. ARMY CORPS OF ENGINEERS, NEW ENGLAND DISTRICT

By:  15 SEP 11
Charles P. Samaris, District Engineer

Appendix A MNRCP Biophysical Region Map



Appendix B Sample MDEP ILF Fact Sheet



DEP FACT SHEET
In Lieu Fee Compensation Program

Revised: July, 2011

contact: See back page for nearest
 DEP address & phone number

Mitigating adverse environmental impacts is an integral part of Maine’s Natural Resources Protection Act (NRPA) (38 M.R.S.A. § 480 A – BB), a regulatory program administered by the Maine Department of Environmental Protection (DEP). In general, mitigation is a sequential process of avoiding adverse impacts, minimizing impacts that cannot be practicably avoided, and then compensating for those impacts that cannot be further minimized. Both State and Federal agencies administering resource protection regulations may require appropriate and practicable compensatory mitigation as a condition of their permit approvals and authorizations.

Compensation is required to off-set an adversely affected resource function with a function of equal or greater value. If on-site or off site ecologically appropriate permittee-responsible mitigation is not available, practicable or otherwise wholly or in part acceptable to off-set lost resource function and value, an applicant may opt to pay a fee in lieu of (ILF) a compensation project as outlined in the Natural Resources Protection Act 38 M.R.S.A. § 480 (Z).

| Table 1 Resource Compensation Rates 7/1/11 to 6/30/13 | | |
|--|--|---|
| County | Natural Resource Enhancement & Restoration Cost / Sq. Ft. | Avg. Assessed Land Value/ Sq. ft.* |
| Androscoggin | \$3.64 | \$0.17 |
| Aroostook | \$3.08 | \$0.01 |
| Cumberland | \$3.64 | \$0.71 |
| Franklin | \$3.08 | \$0.06 |
| Hancock | \$3.08 | \$0.25 |
| Kennebec | \$3.64 | \$0.15 |
| Knox | \$3.64 | \$0.33 |
| Lincoln | \$3.64 | \$0.31 |
| Oxford | \$3.64 | \$0.07 |
| Penobscot | \$3.08 | \$0.05 |
| Piscataquis | \$3.08 | \$0.03 |
| Sagadahoc | \$3.64 | \$0.28 |
| Somerset | \$3.64 | \$0.04 |
| Waldo | \$3.64 | \$0.09 |
| Washington | \$3.08 | \$0.03 |
| York | \$3.64 | \$0.50 |

* Figures based on 2009 MRS statistical Summary

The ILF compensation program was established to provide applicants with a flexible over compensation option and above traditional permittee-responsible compensation projects. The applicant may choose which method of compensation is preferred for a given project.

The methods for resource mitigation are outlined further in the DEP Fact Sheet: *Natural Resource Compensation: Methods for Restoring Lost Function and Value.*

The ILF resource compensation rates for the period July 1, 2011 thru June 30, 2013 shall be as outlined, in Table 1. All resource compensation fees shall be calculated using the resource dependent formulas outlined below based on the rates provided in Table 1 and a resource multiplier. The resource multiplier is an adjustment factor that reflects the significance of specific resources and the Department's resource compensation ratio outlined in the Wetlands and Waterbodies Protection Rules, Chapter 310 and the Significant Wildlife Habitat Rules, Chapter 355. The resource multiplier shall be 1 except as follows:

1. A resource multiplier of 2 shall be used for:
 - a. Direct impacts to wetland areas containing at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, except for artificial ponds or impoundments and areas of wetland routinely altered by anthropogenic activities such as road ditches etc;
 - b. Direct impacts to peatlands dominated by shrubs, sedges and sphagnum moss;
 - c. Direct impacts to coastal wetlands;
 - d. Direct impacts to freshwater wetland areas contained within an inland wading bird & waterfowl habitat (IWWH);
 - e. Direct & indirect impacts to a shorebird habitat and associated buffers;
 - f. Direct impacts to great ponds; and
 - g. Direct impacts to freshwater wetland areas contained within a significant vernal pool habitat.

Note: All ILF contributions received by the Department will be placed in the Maine Natural Resources Conservation Fund (MNRCF) and made available for grant awards to qualified natural resource conservation projects. The Department prefers to collect contributions into the MNRCP prior to the issuance of a Department permit; however, payment may be made a condition of a Department permit upon request by the applicant. The Department reserves the right to deny a request for conditional payment of a compensation fee based on an applicant's prior payment record.

Wetland Compensation Formula:

Wetland compensation fee = (direct wetland impact/sq. ft. x (natural resource enhancement & restoration cost/sq. ft. + avg. assessed land valuation/sq. ft.)) x (resource multiplier)

Significant Vernal Pool Compensation Formula:

Vernal pool compensation fee

(Direct wetland impacts within the SVP habitat/sq. ft. x (natural resource enhancement & restoration cost/sq. ft. + avg. assessed land valuation/sq. ft.)) x (resource multiplier)
 +
 (Direct non-wetland impacts within the SVP habitat/sq. ft. x (natural resource enhancement & restoration cost/sq. ft. + avg. assessed land valuation/sq. ft.)) x (resource multiplier)

[Note: Projects that directly impact a portion of a significant vernal pool aquatic habitat (the pool) must compensate for the entire significant vernal pool habitat area unless otherwise determined by the Department.]

Inland Wading Bird and Waterfowl (IWWH) Compensation Formula:

IWWH compensation fee

(Direct wetland impacts within the IWWH/sq. ft. x (natural resource enhancement & restoration cost/sq. ft. + avg. assessed land valuation/sq. ft.)) x (resource multiplier)
+
(Direct non-wetland impacts within the IWWH/sq. ft. x (natural resource enhancement & restoration cost/sq. ft. + avg. assessed land valuation/sq. ft.)) x (resource multiplier)

Shorebird Habitat Compensation Formula:

Shorebird habitat compensation fee = (direct shorebird habitat impacts/ sq. ft. + direct shorebird habitat buffer impacts/sq. ft. + shorebird habitat zone of influence impacts/sq. ft. x (natural resource enhancement & restoration cost/sq. ft. + avg. assessed land valuation/sq. ft.) x (resource multiplier)

[*Note: The "zone of influence" includes all mapped shorebird habitat area within 300' of the proposed new pier, wharf or float. Shorebird habitat function and value is lost or highly degraded within the "zone of influence".]

All compensation fee amounts could be directly reduced by decreasing the amount of habitat degradation associated with each project.

For further information please contact your nearest DEP regional office, and ask to speak to the "on-call" person in the Land & Water Bureau, Division of Land Resource Regulation.

Central Maine Regional Office, 17 State House Station, Augusta, ME 04333-0017; Phone: 207-287-3901 (Bureau) or toll-free 1-800-452-1942 (Department).

Eastern Maine Regional Office, 106 Hogan Road, Bangor, ME 0440; Phone: 207-941-4570
ortoll-0free 1-888-769-1137.

Northern Maine Regional Office; 1235 Central Drive, Skyway Park; Presque Isle, ME 04769;
Phone: 207-764-0477 or toll-free 1-888-769-1053.

Southern Maine Regional Office, 312 Canco Road, Portland, ME 04103; Phone: 207-822-6300
or toll-free 1-888-769-1036.

Appendix C Sample MDEP MNRCF Fact Sheet with Attachments**DEP FACT SHEET****Maine Natural Resource Conservation Fund****Revised: June 15, 2011**

Mitigating adverse environmental impacts is an integral part of Maine's Natural Resources Protection Act (NRPA) (38 M.R.S.A. §§ 480-A – 480-GG), a regulatory program administered by the Maine Department of Environmental Protection (DEP). Both State and federal agencies administering resource protection regulations may require appropriate and practicable compensatory mitigation as a condition of their permit approvals and authorizations.

If ecologically appropriate compensation is not available or otherwise practicable, a permit applicant may request to pay an in-lieu compensation fee of a value equivalent to the compensation value to be used for the purpose of restoring, enhancing, creating or preserving other resource functions or values that are environmentally equal or preferable to the functions and values of impacted resources and associated uplands, as determined by the DEP (38 M.R.S.A. § 480-Z). Upon authorization by the permitting agency the ILF will be paid directly to the DEP and will be placed into the Maine Natural Resource Conservation Fund (MNRCF). The MNRCF will be administered by The Nature Conservancy (TNC).

Natural resource mitigation project proposals may be submitted to: Alex Mas
The Nature Conservancy
14 Main Street, Suite 401
Brunswick, Maine 04011
amas@tnc.org

for consideration by the Interagency-Review-Team (IRT). All proposals to request funding from the MNRCF submitted to TNC must be formatted in accordance with the attached guidance document entitled "Request for Funding from the Maine Natural Resource Mitigation Fund".

Successful applicants will be required to enter into a Project Agreement with the DEP and TNC, to ensure that the project is implemented as agreed, and that the natural resources are permanently managed and protected. (Sample agreement form attached)

For further information please contact your nearest DEP regional office, and ask to speak to the "on-call" person in the Land & Water Bureau, Division of Land Resource Regulation.

Central Maine Regional Office, 17 State House Station, Augusta, ME 04333-0017; Phone: 207-287-3901 (Bureau) or toll-free 1-800-452-1942 (Department).

Eastern Maine Regional Office, 106 Hogan Road, Bangor, ME 0440; Phone: 207-941-4570 or toll-free 1-888-769-1137.

Northern Maine Regional Office; 1235 Central Drive, Skyway Park; Presque Isle, ME 04769; Phone: 207-764-0477 or toll-free 1-888-769-1053.

Southern Maine Regional Office, 312 Canco Road, Portland, ME 04103; Phone: 207-822-6300 or toll-free 1-888-769-1036.

[Sample] REQUEST FOR LETTERS OF INTENT

Maine Natural Resource Conservation Program

Letter of Intent Package

June 2011

The Nature Conservancy in Maine



Maine Department of Environmental Protection



US Army Corps of Engineers



**US Army Corps
of Engineers** ®

New England District

The Nature Conservancy in Maine

Fort Andross

14 Maine Street, Suite 401

Brunswick, ME 04011

Contact: Alex Mas

Email: maineresources@tnc.org

[http://www.maine.gov/dep/blwg/docstand/nrpa/ILF and NRCP/MNRCP/index.htm](http://www.maine.gov/dep/blwg/docstand/nrpa/ILF_and_NRCP/MNRCP/index.htm)

Maine Natural Resource Conservation Program

Background

The Maine Natural Resource Conservation Program (MNRCP) was created to help compensate for unavoidable impacts to protected aquatic resources in the State of Maine by funding the restoration, enhancement, preservation, and creation of similar resources to maintain ecological benefits. The program manages the allocation of funds collected through the State's In-Lieu Fee Compensation Program, a voluntary program that allows entities impacting natural resources, primarily wetlands, to make a payment directly to the Maine Department of Environmental Protection (DEP) as an alternative to the traditional mitigation process. Fees collected by DEP are deposited into funds based on the biophysical regions¹ in which the impacts occurred (see Sample). These funds are administered by The Nature Conservancy in Maine (TNC). Public agencies, non-profit conservation organizations and private individuals can then apply, through a competitive process, for funding to complete appropriate projects in these biophysical regions. Preference is given to projects that restore, enhance, preserve, or create resources that best match the natural characteristics and values that were impacted. The focus of the program is to maximize the ecological benefits of compensatory mitigation. Projects that benefit habitat areas of statewide conservation significance, or other natural resource priority areas, are generally preferred.

Application Process

To be eligible to receive MNRCP funding, a project applicant must first submit a Letter of Intent. The Letter of Intent is comprised of: 1) a **map** of the project location; and 2) a **Summary Form** (see Sample) to outline the proposed project and determine if it meets MNRCP's core requirements. **Letters of Intent must be received by 5:00 pm EST on July 15, 2011**. Letters of Intent will be evaluated based on the MNRCP Review Criteria (see Sample) and applicants will be notified of the result by July 30, 2011. Applicants whose proposed projects are determined to meet the core program requirements will be invited to submit a Full Proposal. Full Proposals will require more detailed information including engineering designs, where applicable. For the complete timeline for the upcoming grant cycle, see sample. For a listing of the funds available for award in each biophysical region, see Sample.

Review Process

¹ Beginning in 2011, MNRCP's biophysical regions will be based on the seven ecoregional sections developed by Bailey for Maine, rather than the nineteen ecoregional sub-sections that were used previously.

Letters of Intent are screened by staff from DEP and the U.S. Army Corps of Engineers. Invited Full Proposals are then evaluated by a multi-agency Review Committee, chaired by DEP, that includes representatives from the Corps, Maine Department of Inland Fisheries and Wildlife, Maine Department of Conservation, Maine Natural Areas Program, Maine State Planning Office, Maine Department of Transportation, Maine Department of Marine Resources, Maine Audubon, the Maine Association of Conservation Commissions, and The Nature Conservancy, which is a non-voting member. Full Proposals that are determined to meet or exceed the MNRCP Review Criteria may be recommended by the Review Committee to the Approval Committee, which makes final allocation decisions. The Approval Committee, co-chaired by DEP and the Corps, includes representatives from the Department of Inland Fisheries and Wildlife, Department of Conservation, Department of Marine Resources, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency and the National Oceanic and Atmospheric Administration. For more information on these committees, please visit:

http://www.maine.gov/dep/blwq/docstand/nrpa/ILF_and_NRCP/MNRCP/committee/index.htm

The Nature Conservancy administers the review process and is responsible for ensuring that approved funds are awarded and that projects are executed. The Conservancy does not vote as part of either committee on which proposals are approved for funding.

Special Considerations

While MNRCP is designed to review and approve prospective projects through a process similar to other state and federal grant programs, it remains a compensatory mitigation program that must comply with relevant state and federal regulations. As such, there are several aspects of this program that should be considered fully before a potential applicant submits a Letter of Intent:

- According to the federal Mitigation Rule [33 CFR 332.3(j)(2)], “federally-funded aquatic resource restoration or conservation projects undertaken for purposes other than compensatory mitigation, such as the Wetlands Reserve Program (NRCS), Conservation Reserve Program (NRCS), and Partners for Wildlife Program (USFWS), cannot be used for the purpose of generating compensatory mitigation credits.” Please follow up if you are uncertain about the requirements for a particular grant program.

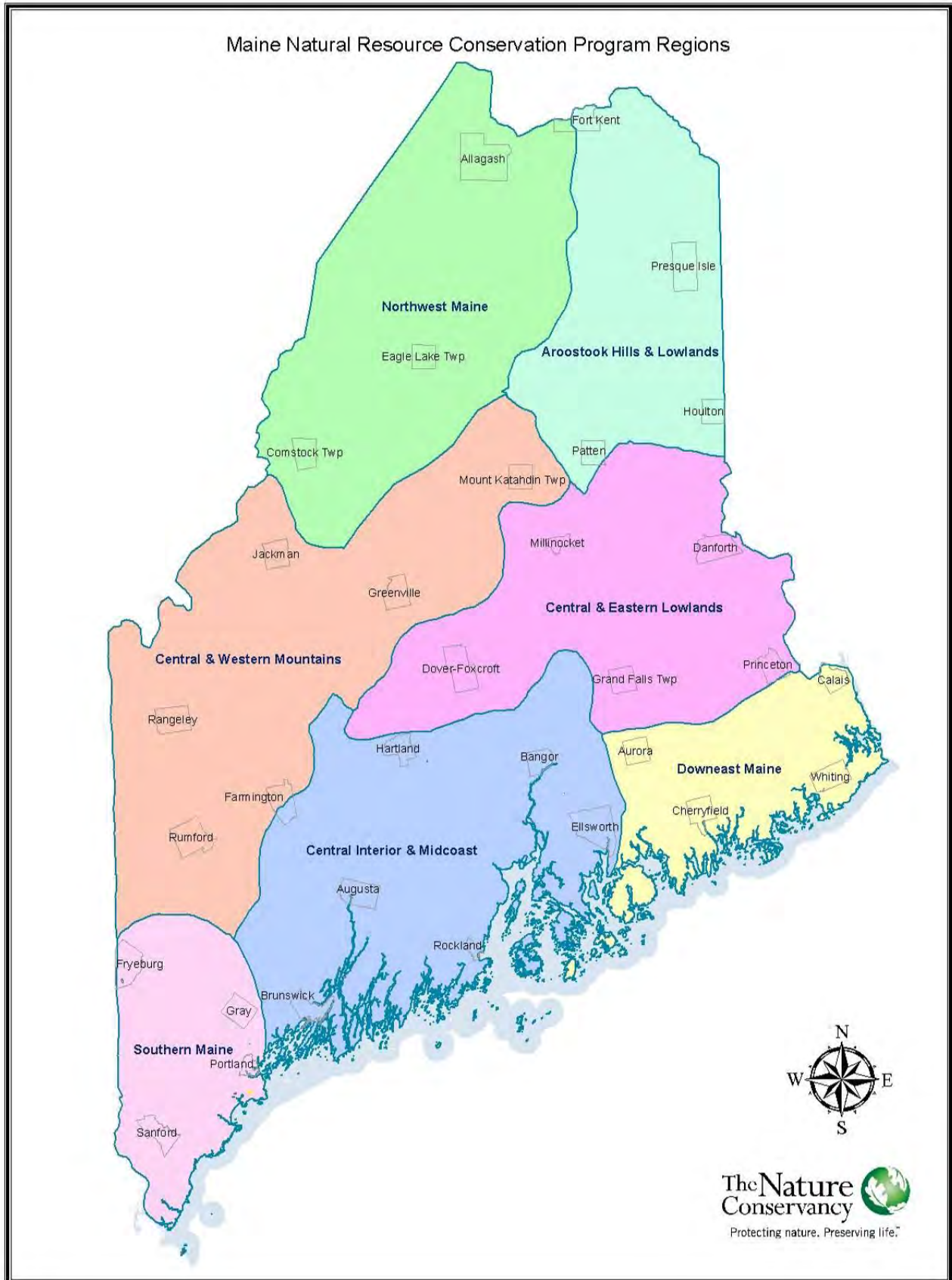
- Applicants awarded funds from MNRCP are required to sign a Project Agreement and to record a Notice of that agreement to the title of the property where the funded project takes place. For an example of these documents, see samples below.
- Conservation easements funded through MNRCP need to prohibit any activities that would adversely affect the protected natural resources, and include specific rights for the agencies regulating mitigation. These provisions are described in the samples below.
- Properties where MNRCP-funded projects take place must be conserved in perpetuity. Private individuals considering MNRCP funding are strongly encouraged to submit their application in partnership with the entity that will ensure long-term protection.
- While projects that propose only preservation can be funded through this program, those that focus on or incorporate restoration or enhancement tend to be more competitive.

To discuss how any of these program elements may affect a potential project, or any other questions related to MNRCP, please contact maineresources@tnc.org.

To Apply

Interested applicants should contact maineresources@tnc.org for a Summary Form or download the form at: http://www.maine.gov/dep/blwq/docstand/nrpa/ILF_and_NRCP/MNRCP/index.htm. Letters of Intent (including map) may exceed normal email attachment size limits, so applicants are encouraged to submit their Letters of Intent to maineresources@tnc.org using TNC's large file transfer service at <https://lfa.tnc.org/>. Applicants will be asked to register online the first time they use this service. The service is free. Alternatively, Letters of Intent may be submitted on a CD by regular mail to the Maine Natural Resource Conservation Program, care of TNC.

[Sample] Map of Biophysical Regions



[Sample]
MNRCP Letter of Intent Summary Form

Application Date:

1. **Project Title:**
2. **Project Sponsor** (*name, organization, address, phone, email*):
3. **Project Location** (*town, county, physical address, and attach map*):
4. **Project Description** (*brief overview of project context, goals and readiness*):

5. **Estimated Project Cost:**

Total Project Cost:

MNRCP Fund Request:

Other Funding Sources:

6. **Resource Priority of Project Site:**

- Within or adjacent to a Beginning with Habitat Focus Area (*focus area name*):
- Within or adjacent to existing public or private conservation lands (*site name & owner*):
- Within or adjacent to other natural resource priority areas (e.g., identified in regional or municipal plan, land trust strategic conservation plan, etc.) (*area name & brief description*):
- Contains natural resources of significant value and/or rarity (*habitats, species*):

| 7. Type of Conservation | Project Acres | Resource Type: |
|--|----------------------|-----------------------|
| <input type="checkbox"/> Restoration | _____ | _____ |
| <input type="checkbox"/> Enhancement | _____ | _____ |
| <input type="checkbox"/> Preservation (<i>in addition to preservation of restoration, enhancement, and creation areas</i>) | _____ | _____ |
| <input type="checkbox"/> Creation (establishment) | _____ | _____ |
| <input type="checkbox"/> Upland buffer (<i>describe any non-wetland habitat buffer</i>) | _____ | _____ |

Total Project Acreage

[Sample]
**Instructions for Completing the
MNRCP Letter of Intent Summary Form**

- 1. Project Title:** Create a name for the proposed project.
- 2. Project Sponsor:** List the individual coordinating the project, the sponsoring organization responsible for completing the proposed project, and all relevant contact information.
- 3. Project Location:** Provide the town, county and street address of the property. If Map and Lot number are also available, please provide. Note that **a map of the proposed project site is also required**. Please submit a USGS Topographic Map, or equivalent, showing entire boundary of proposed project, legal access, and adjacency of other public and private conservation lands.
- 4. Project Description:** Please provide a brief (400 words or less) description of the proposed project. Describe the current context on the proposed project site (e.g., degradation on site, adjacent land uses, etc.) and the changes that will result from proposed conservation activities. Give careful consideration to the MNRCP Review Criteria to ensure the project is consistent with the goals of the program. Also include a brief description of the project readiness (e.g., how soon can it begin, how long will it take to complete, etc.) and list any other active project partners (particularly if another entity will assume long-term management responsibility for the property).
- 5. Estimated Project Costs:**
 - **Total Project Cost:** Should include all projected costs for land acquisition, project design, construction, management, short-term monitoring and long-term stewardship.
 - **MNRCP Fund Request:** List requested grant from the Maine Natural Resource Conservation Program.
 - **Other Funding Sources:** List amounts and sources for any other known or likely funds that will be used to complete the project. While matching funds are not required, project cost effectiveness will be evaluated during Full Proposal review.
- 6. Resource Priority of Project Site:** Projects that provide the best outcomes in habitat areas of statewide significance, or that are within or adjacent to other public or private conservation lands, or other natural resource priority areas are preferred. Listed below are several online resources that may be useful in determining whether a project is located within or adjacent to a resource priority area, though they are not intended to be a complete listing.

Beginning with Habitat Focus Areas (BwH): BwH provides information about important habitat features including riparian habitats, large habitat blocks, and high value plant and animal habitats including rare plant locations and rare or exemplary Natural Communities; Essential Habitat (designated for some endangered animals); Significant Wildlife Habitat (for deer, waterfowl and wading birds, nesting seabirds, shorebirds, and vernal pools); and Rare Animal Locations.

For more information about Beginning with Habitat Focus Areas, contact Maine Department of Inland Fisheries and Wildlife (IFW) or go to: <http://www.maine.gov/doc/nrimc/mnap/focusarea/index.htm>

State public lands: Lands owned by the State of Maine including areas such as IFW Wildlife Management Areas, and Maine Department of Conservation (DOC) Public Reserved Lands and parks (State Historic Sites are not included in the Maine Natural Resource Conservation Program.).

For more information about IFW Wildlife Management Areas, contact IFW or go to:

<http://www.maine.gov/ifw/wildlife/management/wma/>

For more information about DOC Public Reserved Lands or Parks contact DOC or go to:

http://www.maine.gov/doc/parks/programs/db_search/index.html

Below are some sources of information on these species and habitats:

Maine Office of GIS has interactive online maps of *Significant Wildlife Habitats* (under DEP maps) and *Maine Atlantic Salmon Habitat* (under DMR maps) which can be accessed at:

<http://megis.maine.gov/maps/>

Information about Essential Wildlife Habitats for Endangered or Threatened Species can be found at:

http://www.maine.gov/ifw/wildlife/species/endangered_species/essential_habitat/

A list of *Species of Special Concern in Maine* can be found at:

http://maine.gov/ifw/wildlife/species/endangered_species/specialconcern.htm

A list of *Species of Greatest Conservation Need* can be found in Maine's Comprehensive Wildlife Conservation Strategy September 2005; Chapter 3 – Distribution and Abundance of Wildlife, section 3.3 Species of Greatest Conservation Need:

http://www.maine.gov/IFW/wildlife/groups_programs/comprehensive_strategy/pdfs/chapter3.pdf

Brook Trout information can be found on the Eastern Brook Trout Joint Venture website:

<http://128.118.47.58/EBTJV/ebtjv2.html>

The Maine Natural Areas Program can provide information on *Wetland Natural Communities* with rarity ranks of S1 – S3, and exemplary occurrences of S4 - S5 wetland community types:

<http://www.maine.gov/doc/nrimc/mnap/features/community.htm>

7. Conservation Activity, Acreage and Resource Type:

Types of conservation:

Restoration: manipulation of a site to return natural/historic functions to a former or degraded resource, that may result in increased wetland function and/or acreage.

Enhancement: manipulation of an existing resource to heighten or improve specific functions, such as water quality or flood water retention.

Preservation: removal of a threat to, or prevention of the decline of a resource through appropriate legal and physical mechanisms such as land purchase or conservation easement.

Creation (Establishment): the creation of a resource that did not previously exist.

Upland buffer: any non-wetland habitats that protect, buffer, or support identified resource functions and ecological connectivity on the property.

Resource Types:

Identify which of the following Resource Types apply to the proposed project (–NWI” refers to the National Inventory of Wetlands, which is described below):

- Freshwater wetland, forested (NWI code: PFO)

- Freshwater wetland, scrub-shrub (NWI code: PSS)
- Coastal wetland, Marine subtidal (NWI code: M1)
- Coastal wetland, Marine intertidal (NWI code: M2)
- Coastal wetland, Estuarine subtidal (NWI code: E1)
- Coastal wetland, Estuarine intertidal (NWI code: E2)
- River, stream or brook
- Great Pond
- Significant wildlife habitat, vernal pool
- Significant wildlife habitat, vernal pool critical terrestrial habitat
- Significant wildlife habitat, Inland Waterfowl and Wading Bird Habitat
- Significant wildlife habitat, Tidal Waterfowl and Wading Bird Habitat
- Significant wildlife habitat, Shorebird Feeding & Staging Areas

Below are some websites that may help you to determine the resource type for your project:

National Inventory of Wetlands (NWI) website provides locations of some federally mapped wetlands: <http://www.fws.gov/wetlands/Data/Mapper.html>. The Maine Office of GIS has NWI GIS data that can be downloaded (<http://www.maine.gov/megis/catalog/index.shtml>), and DEP's website has a Google Earth application for NWI wetlands (<http://www.maine.gov/dep/gis/datamaps/index.htm>). Please note that there are many wetlands that are not included on these maps and boundaries are frequently different in the field.

Significant Wildlife Habitat: Significant Wildlife Habitats covered under the Maine Natural Resource Conservation Program include: Significant Vernal Pools, Inland Waterfowl and Wading Bird Habitat, Tidal Waterfowl and Wading Bird Habitat, Shorebird Feeding & Staging Areas. For more information about Significant Wildlife Habitats Contact the Maine Department of Environmental Protection (DEP).

DEP provides links to locations of significant wildlife habitats via Google Earth. Google Earth must be installed on your computer to use these maps. The following link takes you to the list of bird habitats: http://www.maine.gov/dep/gis/datamaps/#NRPA_Bird

Clicking on the following links [Land & Water NRPA Bird Habitats \(all\)](#) or [Land & Water NRPA Vernal Pools](#) will launch Google Earth with the map data.

If you have questions about resource types the DEP's Natural Resources Protection Act page gives additional information and contacts. <http://www.maine.gov/dep/blwq/docstand/nrpapage.htm>

**[Sample]
MNRCP Review Criteria**

1. Potential to Meet MNRCP Goals (30%)

Assesses the extent to which the proposal meets the core program requirement that a project restore, enhance, preserve, or create wetlands or other resources determined by the Maine Natural Resource Conservation Program to be Priority Resource Types. Considerations include:

- The type(s) of conservation proposed (restoration, enhancement, preservation, creation) and the acreage affected. To fully meet this criterion, projects must include a restoration or enhancement component in addition to permanent preservation.
- The resource types restored, enhanced, preserved or created and the degree to which the proposed project replaces the functional benefits of impacted resources in the Biophysical Region based on a functional assessment of the project.
- Proximity of proposed project to impacted resources in the Biophysical Region. To fully meet this criterion, projects must occur within the same ecoregional sub-section as a permitted impact. To assess the proximity to permitted impacts, please follow the link at: http://www.maine.gov/dep/blwq/docstand/nrpa/ILF_and_NRCP/MNRCP/index.htm
- Inclusion of upland areas sufficient to protect, buffer, or support identified resource functions and ecological connectivity to other conservation areas or undeveloped large blocks of habitat.
- Current and proposed condition of the property, and “functional lift” provided by project (e.g., proposed change in habitat quality, contribution to functioning biological systems, water quality, level of degradation, etc.).

2. Landscape Context (20%)

Assesses the extent to which the proposal meets the core program requirement to consider the location of a potential project relative to statewide focus areas for land conservation or habitat preservation identified by a state agency, or other regional or municipal plans. Considerations include:

- Presence within or adjacent to habitat areas of statewide conservation significance or other natural resource priority areas.
- Presence within or adjacent to public or private conservation lands.
- Presence of natural resources of significant value and/or rarity within the project site boundaries.

3. Project Readiness/Feasibility (20%)

Assesses the extent to which the proposal meets the core program requirement to demonstrate project readiness and likelihood of success, where success is defined by the ability of the project to meet MNRCP goals as stated in the proposal. Considerations include:

- Documentation of landowner willingness to participate in proposed project, including conveying a conservation easement or fee title, with conservation covenants, to property (for projects not on public or private conservation lands).
- Level of project urgency (e.g., area of rapid development or on-going site degradation, other available funding with limited timing, option to purchase set to expire, etc.)
- Degree to which proposal demonstrates understanding of resource conservation issues and needs.
- Soundness of the technical approach of the conceptual plan presented in the application.
- Initial progress (e.g., planning, fundraising, contracting, site design, etc.).
- Likelihood that the project will meet proposed schedule and/or required deadlines.
- Likelihood that the proposed actions will achieve the anticipated ecological benefits and results.
- Completeness and feasibility of long-term stewardship and monitoring plan, including endowment.
- Potential for adverse impacts (such as flooding or habitat loss) associated with the project.
- Conformance with any applicable Army Corps of Engineers and state mitigation policy, guidance and permitting requirements, including appropriate financial assurances for any construction activity.

4. **Project Sponsor Capacity (15%)**

Assesses the extent to which the proposal meets the core program requirement to provide for long-term management and/or stewardship by a responsible state or federal resource agency, or conservation organization. Considerations include:

- Presence of qualified, capable conservation entity willing to sponsor and/or maintain the project.
- Level of support and involvement of other relevant agencies, organizations, and local community.
- Degree to which project sponsor, and any associated partners, demonstrate the financial, administrative, and technical capacity to undertake and successfully complete the project.
- Adequacy of long-term stewardship to ensure the project is sustainable over time and funding mechanism for the associated costs (e.g., endowment or trust).
- Legal and financial standing of the project sponsor.
- Quality and completeness of proposal materials.

5. **Cost Effectiveness (10%)**

Assesses the extent to which the proposal meets the program requirement that a project represent an efficient use of funds expended given the condition, location and relative appraised values of properties. Considerations include:

- Clarity and detail of budget submitted.

- Sufficiency of funds available in the applicable biophysical region.
- Availability and source of matching funds necessary to complete the project.

6. **Other Benefits (5%)**

Assesses the potential for this project to support recreational access, scenic enhancements, economic activity, job creation, or other contributions to —Quality of Place” in the town or region where the project is located.

[Sample] 2011 MNRCP Proposal & Award Timeline

| Stage | Deadline |
|--|----------------------------|
| Request for Letters of Intent released | June 15, 2011 |
| Letter of Intent deadline | July 15, 2011 |
| LOI review | July 15-30, 2011 |
| Full Proposals requested | July 30, 2011 |
| Project site visits | August-September, 2011 |
| Full Proposal deadline | September 15, 2011 |
| Review Committee evaluates proposals | September-October, 2011 |
| Review Committee meeting (<i>public invited</i>) | mid November, 2011 |
| Review Committee finalizes recommendations | late November, 2011 |
| IRT meeting (<i>public invited</i>) | mid December, 2011 |
| Awards announced and grant process begins | early January, 2012 |

[Sample] Funds Available by Biophysical Region

The funds listed below are those available in each biophysical region at the time of this notice. Also included are the Priority Resource Type(s) in each region. Available funds may differ at the time of awards. For a current listing of the funds available, please visit:

http://www.maine.gov/dep/blwq/docstand/nrpa/ILF_and_NRCP/MNRCP/funds.htm

| <u>MNRCP Region</u> | <u>Amount</u> | <u>Priority Resource Type</u> |
|---------------------------------------|--------------------|---|
| Aroostook Hills and Lowlands | \$0 | |
| Central and Eastern Lowlands | \$215,759 | Freshwater wetland Emergent; Freshwater wetland Scrub-Shrub; Inland waterfowl; Vernal pool critical terrestrial habitat |
| Central and Western Mountains | \$262,111 | Freshwater wetland Emergent; Freshwater wetland Forested; Freshwater wetland Scrub-Shrub; River/Stream; Vernal pool critical terrestrial habitat |
| Central Interior and Midcoast | \$946,814 | Estuarine intertidal; Estuarine subtidal; Freshwater wetland Emergent; Freshwater wetland Forested; Freshwater wetland Scrub-Shrub; Marine intertidal; Marine subtidal; River/Stream; Vernal pool; Vernal pool critical terrestrial habitat |
| Downeast Maine | \$81,631 | Freshwater wetland Emergent; Freshwater wetland Forested; Freshwater wetland Scrub-Shrub; Marine intertidal; Vernal pool critical terrestrial habitat |
| Northwest Maine | \$0 | |
| Southern Maine | \$570,745 | Estuarine intertidal; Freshwater wetland Emergent; Freshwater wetland Forested; Freshwater wetland Scrub-Shrub; Lake, Limnetic; Lake, Littoral; River/Stream; Vernal pool; Vernal pool critical terrestrial habitat |
| <i>Total Amount Available:</i> | \$2,077,060 | |

This Agreement is subject to the following special project terms and conditions:

- _____

In witness whereof, the parties hereto have executed this Agreement as of the _____ day of _____, 2011 by their duly authorized representatives.

THE NATURE CONSERVANCY

By: _____

Its Maine State Director

**STATE OF MAINE
Department of Environmental Protection**

By: _____

Its Commissioner

COOPERATING ENTITY:

By: _____

Print Name:

Title:

Sample MNRCP Project Agreement
EXHIBIT A
GENERAL PROVISIONS

The Cooperating Entity specifically recognizes that the Project creates an obligation to acquire, restore, use and maintain the Premises consistent with Title 38 M.R.S. Section 480-Z, and the following requirements:

A. AUTHORITY: The Cooperating Entity warrants and represents that: it possesses the legal authority to apply for the MNRCP Contribution and to otherwise carry out the Project in accordance with the terms of this Agreement; and that a resolution or similar action has been duly adopted by the governing body of the Cooperating Entity authorizing the filing of the application and implementation of the Project, including all understandings and assurances contained herein, and directing and authorizing the person identified as the official representative of the Cooperating Entity to act in connection with the application and to provide such additional information as may be required by TNC or the DEP and to enter into this Agreement. If the Cooperating Entity is a non-governmental organization, it shall provide TNC with a current certificate of good standing and a copy of its bylaws and articles of incorporation. In addition, the Cooperating Entity shall notify TNC immediately of any change in its corporate or tax status or operations, or if any official judicial, legislative, or administrative proceeding is instituted against the Cooperating Entity that may affect the commitments and obligations agreed herein.

B. USE OF FUNDS: The Cooperating Entity shall use moneys received under this Agreement only for the purposes of accomplishing the Project.

C. CLOSING PROCEDURES FOR PROJECT FUNDING AND ACQUISITION: Prior to acquisition of fee or a conservation easement on Premises, no funds shall be disbursed under this Agreement prior to TNC receipt and approval of the following:

1. The fully executed purchase and sale agreement for the Premises or conservation easement therein;
2. A current appraisal of the Premises or conservation easement;
3. A current environmental assessment of the Premises, evidencing no environmental factors which negatively affect the conservation or fair market value of the Premises;
4. A property survey, if necessary in the judgment of TNC, to verify that a) the boundaries of the Premises are clear and b) there are no encroachments that would interfere with the use of the Premises for their intended purposes under this Agreement;
5. A current title insurance commitment;
6. For fee acquisition, the final deed draft; and for conservation easements, the final easement draft, together with a copy of the current owner's deed;
7. An executed Notice of Project Agreement, in the form attached hereto as Exhibit C;
8. A draft settlement statement indicating proposed disbursement of funds.

Closing funds for the purchase of fee or a conservation easement shall be delivered to an escrow agent approved by TNC prior to Closing to be disbursed in accordance with the settlement statement upon recording of the deed or conservation easement.

In addition, within 45 days following the recording of documents, the Cooperating Entity shall provide TNC and DEP with copies of the recorded deed or conservation easement, the recorded Notice of Project Agreement and the signed settlement statement.

D. REQUIRED CONSERVATION EASEMENT LANGUAGE: If the Project includes the purchase of a conservation easement, such easement shall contain substantially the following provision:

—The Grantors hereby grant to the State of Maine, Department of Environmental Protection (—MEDEP”) the same inspection and enforcement rights as are granted to the Holder under this conservation easement. However, the Holder acknowledges that the Holder shall be primarily responsible for the enforcement of this easement, and understands that MEDEP does not, by this provision, take on any obligation to enforce this easement. The Holder agrees that, if MEDEP shall determine that the Holder is failing in such enforcement, MEDEP may, in its discretion, give notice of such failure to the Holder and the Grantors, and if such failure to enforce is not corrected by the Holder within 30 days thereafter, MEDEP may exercise, in its own name and for its own account, all the rights of enforcement granted to the Holder under this Easement.”

E. USE AND MAINTENANCE OF PREMISES: The Cooperating Entity agrees that the Premises shall be forever used, operated and maintained in its current undeveloped and open space condition, for the long-term protection of wetlands, conservation of wildlife and other natural resources, as set forth in the Description of Project above, and in accordance with all applicable laws, including without limitation Title 38 M.R.S. § 480-Z.

F. RETENTION AND CUSTODIAL REQUIREMENTS FOR RECORDS: The Cooperating Entity agrees to maintain records, documents and other evidence pertaining to all costs and expenses incurred in sufficient detail to reflect all costs and expenses for which payment or reimbursement is claimed. These records shall be maintained for a period of three years after the end of the Monitoring Term, or if there is no Monitoring Term, for a period of three years after closing on the purchase of the Premises. The records of the Cooperating Entity pertaining to the Project shall at all times within such three year period be available for inspection, review and audit by DEP and TNC. Any expenditure of the MNRCP Contribution by the Cooperating Entity that TNC determines, in its sole reasonable discretion, are not permitted hereunder shall be promptly repaid by the Cooperating Entity (or deducted from any subsequent payments hereunder by TNC).

G. PROCUREMENT: The Cooperating Entity shall follow its own policies with regard to documentation of procurements and maintain documentation of such policies. If the Cooperating Entity does not have written procurement policies, it shall retain documentation for procurements (over US \$5,000 outside the U.S. or over \$10,000 in the U.S.). Such documentation shall include sole source justification, if appropriate, or documentation of a competitive process or comparison shopping.

H. REPORTING AND ANNUAL MONITORING REQUIREMENTS:

1. For fee acquisition, unless otherwise stated, no reports by the Cooperating Entity are required, other than the forwarding of a complete copy of the closing package within 45 days of closing.
2. For conservation easement projects, the Cooperating Entity shall submit a report detailing the status of the Premises, on or before one year from the date of the recording of the conservation easement.
3. For projects that require a Monitoring Term, the Cooperating Entity shall report to TNC, the DEP and the Corps on the status of the Project, and on the condition of the Premises, on a monitoring form approved by TNC. The form shall be sent to: (a) the Agreement Administrator of DEP, at State House Station 17 Augusta, Maine 04333; (b) the Policy Analysis and Technical Support Branch, Regulatory Division, New England District Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751; and (c) The MNRCP Manager, The Nature Conservancy, 14 Maine Street, Brunswick, ME 04011.

I. ASSIGNMENT: This Agreement may not be assigned by the Cooperating Entity in whole or in part without the prior written consent of TNC.

J. LOBBYING AND POLITICAL CAMPAIGNING: The Cooperating Entity shall not use any portion of funds transferred under this Agreement to engage in any lobbying activities unless the parties specifically agree to such lobbying activities in this Agreement. The Cooperating Entity shall not use any portion of funds transferred under this Agreement to participate or intervene in any political campaign on behalf of or in opposition to any candidate for public office, to cause any private inurement or improper private benefit to occur, or to take any other action inconsistent with Section 501(c)(3) of the US Internal Revenue Code.

K. RIGHT OF ENTRY: The DEP, the Corps and TNC, their employees, agents and representatives, shall each have the right to enter the Premises to assure compliance with the terms of this Agreement, any conservation easement purchased pursuant to this Agreement and any applicable laws.

L. PRIOR NOTICE AND APPROVAL REQUIRED PRIOR TO TRANSFER OF PREMISES: Prior to any encumbrance, assignment, disposition or transfer, in whole or in part, of the Premises or any interest therein, or, if the interest being acquired is a conservation easement, any amendment or termination thereof, the Cooperating Entity shall provide at least sixty (60) days prior written notice of the same to the DEP and to the Corps, and shall obtain their written consent to such encumbrance, assignment, disposition, transfer, amendment or termination, as the case may be. Notice under this Section shall be in addition to any legal requirements imposed upon the Cooperating Entity under state or federal law.

M. NOTICE OF PROJECT AGREEMENT: Prior to payment of any funds hereunder, the Cooperating Entity shall submit to TNC, for its approval, a notice of project agreement, substantially in the form attached hereto, and shall record such notice with the local land records office.

N. CONDEMNATION: In the event of condemnation of any or all of the Premises, the DEP, by and through its Maine Natural Resource Conservation Program or another fund designated by the DEP and TNC, shall receive a share of the proceeds of such condemnation received by the Cooperating Entity, based on the MNRCP proportion of the total cost of the Project, namely _____ percent (____%).

O. ENFORCEMENT ALTERNATIVES: In the event that the Cooperating Entity does not meet one or more of its obligations under this Agreement, or in the event of dissolution of the Cooperating Entity, the DEP may exercise, in its sole discretion, any of the following remedies following written notice and thirty (30) days opportunity for the Cooperating Entity to cure the default: (a) the right to require specific performance on the part of the Cooperating Entity; and (b) any other rights or remedies available at law or in equity including, but not limited to, the right to require that the Cooperating Entity transfer title to the Premises to the DEP or a successor designated by the DEP under such terms and conditions as the court may require. In the event that the DEP exercises any of the rights available to it upon default of the Cooperating Entity, the Cooperating Entity shall reimburse the DEP for its costs of enforcement and collection, including reasonable attorney's fees.

P. MEDIA ANNOUNCEMENTS: The DEP, TNC and the Cooperating Entity shall have the opportunity to review and comment on proposed media announcements concerning the Project prepared by any party to this Agreement.

Q. INDEMNITY: The Cooperating Entity shall indemnify TNC and DEP against any and all claims for loss, personal injury, death, property damage, or otherwise, arising out of any act or omission of the Cooperating Entity's employees or agents in connection with this Agreement or the Premises. No legal partnership or agency relationship is established by this Agreement. No party is authorized or empowered to act as an agent, employee or representative of the others.

R. TERMINATION: TNC shall have the right to terminate this Agreement for any reason upon 30 days prior written notice to the Cooperating Entity, DEP and the Corps, in which event payment for work satisfactorily completed by the Cooperating Entity will be adjusted accordingly. Without limiting the generality of the foregoing, the Cooperating Entity understands that the Conservancy may terminate this Agreement in the event that the Cooperating Entity is not making sufficient progress towards the completion of the Project, including, without limitation, entering into a binding purchase and sale agreement to purchase the Premises or raising sufficient funding to pay the Other Project Costs. In addition, it is understood that TNC shall have no obligation to provide funding under this Agreement beyond the Expiration Date.

T. CONFLICTS OF INTEREST: Prior to the commencement of any work under this Agreement, the Cooperating Entity shall have executed and delivered to TNC a Disclosure Form regarding potential conflicts of interest, in a form previously or simultaneously provided to the Cooperating Entity. If any material misrepresentation in the Disclosure Form is discovered during the term hereof, the Conservancy may elect to declare this Project Agreement null and void and any payments hereunder not yet expended shall be promptly returned to the Conservancy.

U. SUCCESSORS AND ASSIGNS: Except as otherwise provided herein, this Agreement shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto. In the event that TNC or the DEP ceases to exist, the rights and responsibilities of that party shall automatically be vested in any successor agency designated by the Legislature. Failing legislative designation, the successor agency shall be as determined by the Governor.

V. AMENDMENT: This Agreement may not be amended, in whole or in part, except with the written consent of all of the parties hereto.

Sample MNRCP Project Agreement
EXHIBIT B
PROJECT MAP

Sample MNRCP Project Agreement
EXHIBIT C
RESTORATION WORK PLAN

Sample MNRCP Project Agreement
EXHIBIT C
FORM OF NOTICE OF PROJECT AGREEMENT

MAINE NATURAL RESOURCE CONSERVATION PROGRAM
“ _____ PROJECT”

The COOPERATING ENTITY (the ~~Holder~~) is the holder of a certain Conservation Easement over certain lands located in the Town of _____, County of _____, State of Maine, which certain lands are more particularly described in the **Exhibit A** and depicted on the **Exhibit B** to which this Notice is attached (the ~~Protected Property~~).

The Holder acquired the Conservation Easement in part with funds received from The Nature Conservancy pursuant to a Maine Natural Resource Conservation Program Project Agreement between The Nature Conservancy (~~NC~~), the State of Maine, Department of Environmental Protection (~~DE~~), and the Holder, dated _____ (the ~~Project Agreement~~), a copy of which is kept at the offices of TNC, 14 Maine Street, Suite 401, Brunswick, Maine 04011 and the offices of DEP, State House Station 17, Augusta, Maine 04333.

The purpose of the Project Agreement is to provide funding to the Holder, pursuant to an In-Lieu Fee Agreement between The State of Maine, Department of Environmental Protection, The New England District U.S. Army Corps of Engineers (the ~~Corps~~), and the Conservancy, dated January 31, 2008 (the ~~In Lieu Fee Agreement~~). By acceptance of funding and acquisition of the Conservation Easement, Holder agrees that the terms and conditions of the Project Agreement shall be a covenant running with the Conservation Easement, and shall be binding upon the Holder, its successors and assigns as Holder of the Conservation Easement.

The purpose of the In Lieu Fee Agreement is to acquire, restore and/or enhance, and to permanently protect, interests in properties that will compensate for unavoidable adverse impacts to significant wildlife habitats, wetlands and other waters of the State of Maine resulting from activities authorized under the Maine Natural Resources Protection Act, the federal Clean Water Act and/or the federal Rivers and Harbors Act.

The Holder has executed and recorded this Notice as notification and confirmation of its obligations, as set forth in the Project Agreement, to: 1) ensure the long-term conservation of the Protected Property, in accordance with the terms of the Project Agreement;; 2) refrain from converting any portion of the Protected Property to uses other than conservation; and 3) obtain the written consent of DEP and the Corps prior to encumbrance, assignment or disposition of any interest in the Conservation Easement on the Protected Property.

The Conservation Easement on the Protected Property may not be conveyed, transferred, or further encumbered without including a specific reference to the terms and conditions of this Project Agreement, including the Book and Page of recording of this Notice. Notice under the Section shall be in addition to any legal requirements imposed upon the Cooperating Entity under state or federal law. In addition, the Easement Holder confirms that in the event of condemnation of any or all of the Property, it shall pay to the DEP, by and through its Maine Natural Resource Conservation Program, _____-tenths percent (____%) of the eminent domain proceeds paid to the Holder.

* * * * *

IN WITNESS WHEREOF, the Holder has caused these presents to be executed in its name and behalf by _____, its _____, hereunto duly authorized, this ____ day of _____, 2011.

COOPERATING ENTITY

By: _____

Its: _____

State of Maine
County of Cumberland

On this ____ day of _____, 2011, before me personally appeared _____, the _____ and authorized representative of the above-named Holder, _____, and acknowledged the foregoing instrument to be her/his free act in her/his said capacity, and the free act and deed of said corporation.

Printed Name: _____

Notary Public/Maine Attorney of Law

My Commission Expires: _____

Appendix D Compensation Planning Framework Detail for Regions

Aroostook Hills and Lowlands

The Aroostook Hills and Lowlands region is one of the least densely populated regions in the state, and also one of the slowest growing. As shown in Figure 1 below, projections for development expansion over the next 20 years are modest. The Aquatic Resources Base Layer suggests that this region had the potential to support extensive wetland and aquatic resources, covering approximately one million acres (see Figure 2). This represents approximately 42% of the regional area and 13% of Maine's total potential wetland and aquatic resources.

Maine Landcover data (MELCD 2004) suggests that very little (1.7%) wetland or aquatic resource area has been converted to development (see Figure 2). This region has a relatively strong agricultural history, however, and landcover data suggest that 5% (51,000 acres) of wetland and aquatic resource area has been converted for that use. Development is largely concentrated around towns and along major transportation routes, while agricultural areas are predominantly in the eastern and northern portions of the region. The MELCD 2004 data suggests that 14.9% of the shoreline buffer (100m) around lakes and ponds and 8.7% of the riparian area along streams and rivers has been converted to agriculture or development (see Section 8.3). Though these numbers are not large, they are the third highest for any of the state's regions, despite the fact that Aroostook Hills and Lowlands is one of the least populated regions. Permitted wetland impacts are predominantly associated with agricultural areas in the north, and around towns (see Figure 3). Figure 4 shows the MDEP water quality classifications for the watersheds of the region and Table 9 shows the extent of aquatic resources found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3).

Regional conservation objectives:

- Encourage preservation projects, particularly in areas of projected development expansion, to ensure that the region's extensive aquatic resources remain intact and functional into the future.
- Pursue opportunities to restore marginal or non-productive agricultural land to priority resource types.

Table 9. Extent of aquatic resources found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3) for the *Aroostook Hills and Lowlands* biophysical region.

| Aquatic Resource Type | Total Area in Region (ac) | Permanently Conserved | % Prmnntly Conserved | Other Conserved | % Other Conserved |
|-------------------------------------|----------------------------------|------------------------------|-----------------------------|------------------------|--------------------------|
| Estuarine Intertidal Emergent | 0 | 0 | n/a | 0 | n/a |
| Estuarine Intertidal Forested/Shrub | 0 | 0 | n/a | 0 | n/a |
| Estuarine Subtidal | 0 | 0 | n/a | 0 | n/a |
| Lacustrine | 60,526 | 165 | 0.3% | 113 | 0.2% |
| Marine Intertidal | 0 | 0 | n/a | 0 | n/a |
| Marine Subtidal | 0 | 0 | n/a | 0 | n/a |
| Other Estuarine Intertidal | 0 | 0 | n/a | 0 | n/a |
| Palustrine Emergent | 15,186 | 434 | 2.9% | 988 | 6.5% |
| Palustrine Forested | 191,587 | 1,895 | 1.0% | 16,911 | 8.8% |
| Palustrine Non-vegetated | 5,855 | 50 | 0.9% | 417 | 7.1% |
| Palustrine Shrub | 58,426 | 1,182 | 2.0% | 4,869 | 8.3% |
| Riverine | 10,022 | 115 | 1.1% | 554 | 5.5% |
| Regional Total | 341,602 | 3,840 | 1.1% | 23,852 | 7.0% |

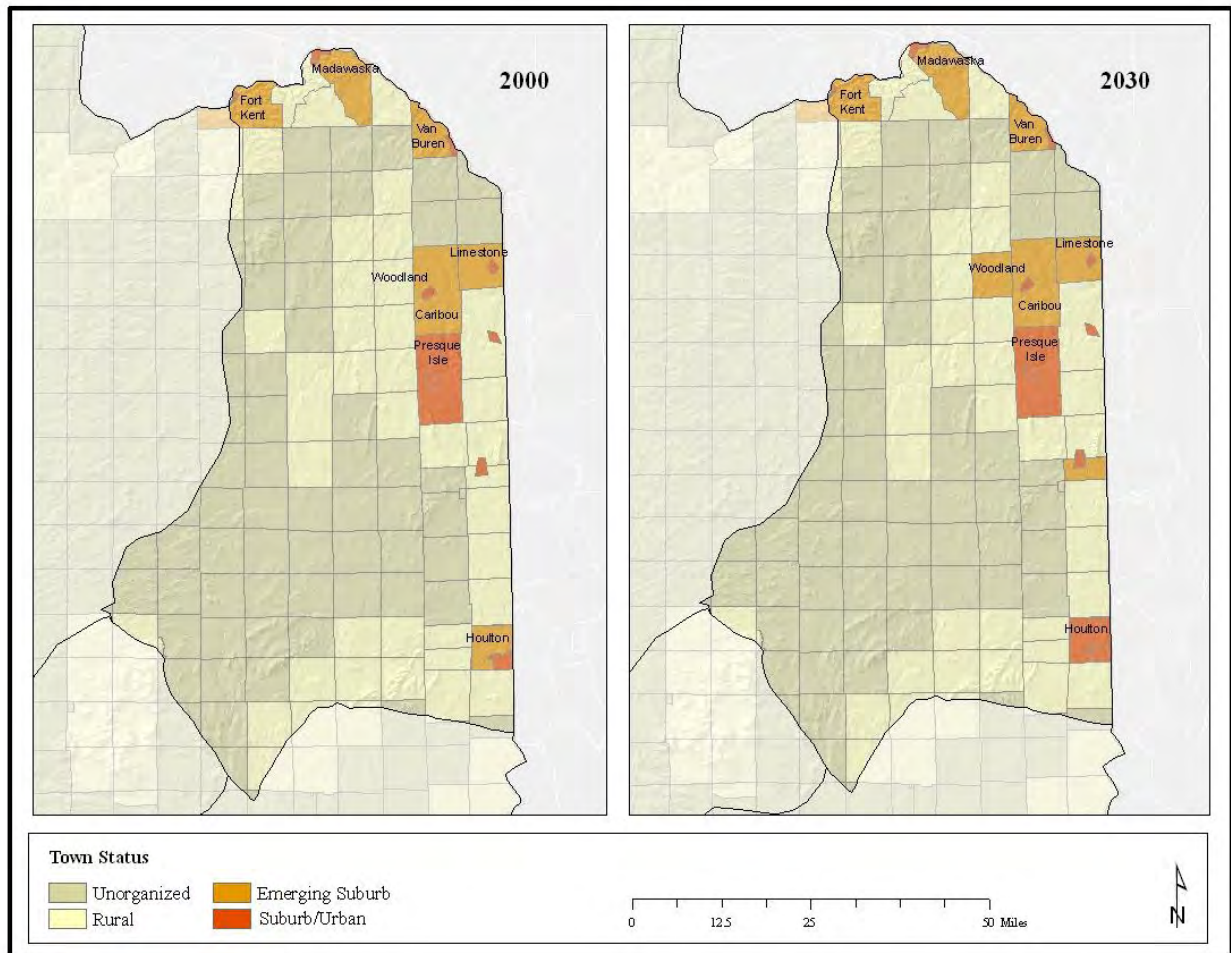


Figure 1. Projected expansion of development, by U.S. census block, for the *Aroostook Hills and Lowlands* biophysical region based on Maine State Planning Office analysis.

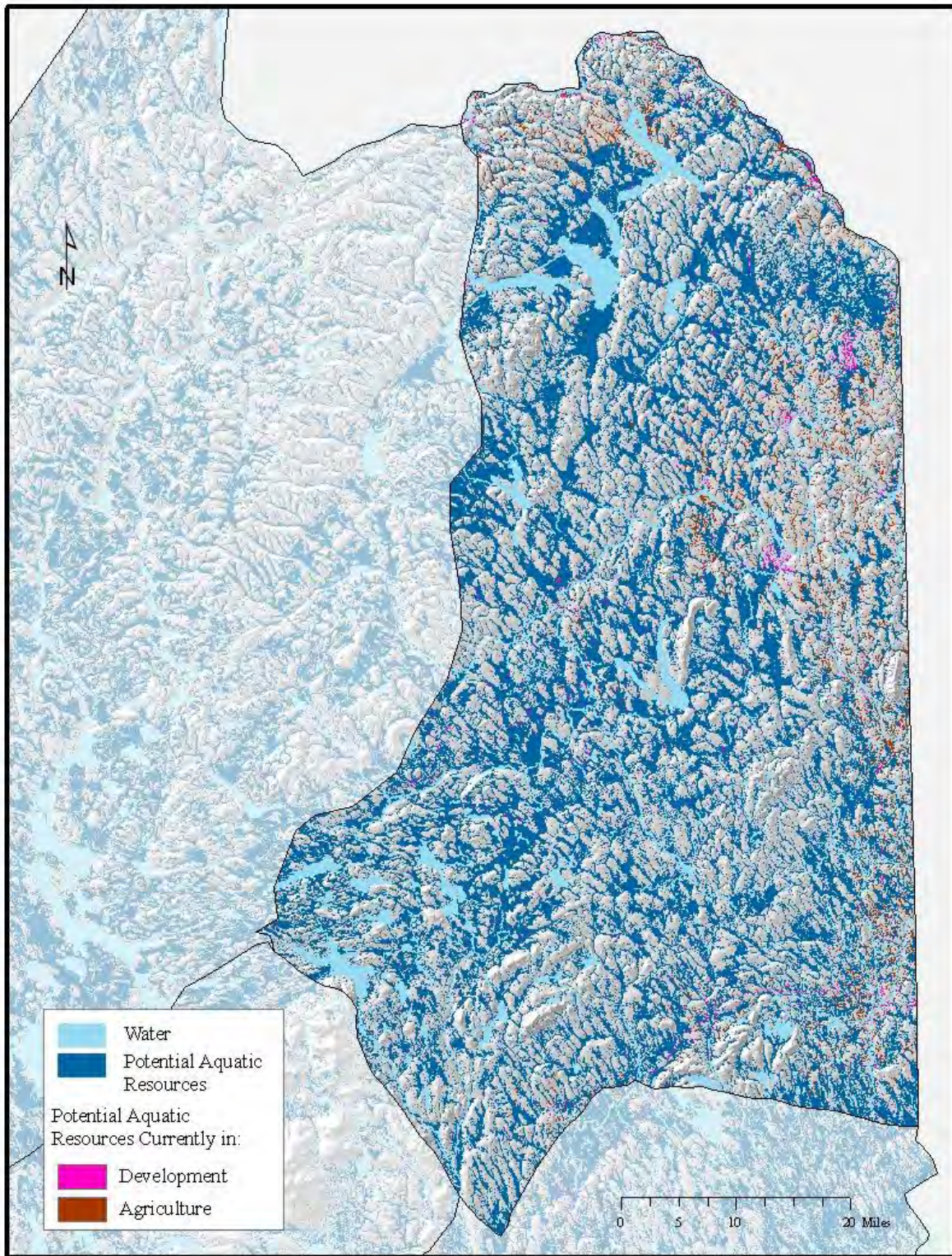


Figure 2. Aquatic Resource Base Layer (ARBL) for the Aroostook Hills and Lowlands biophysical region.

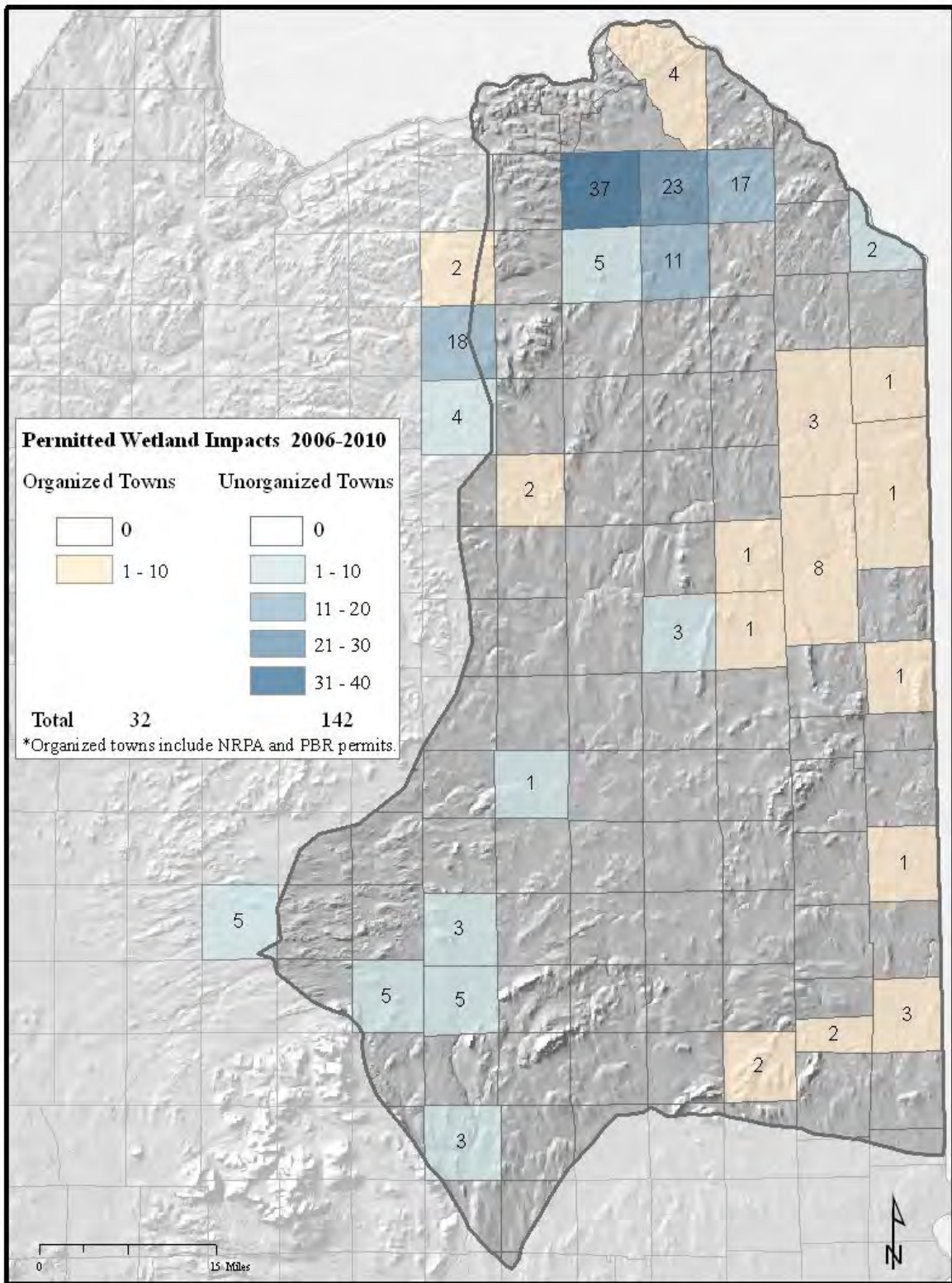


Figure 3. Permitted wetland impacts (from WLTS and GOAT) for the *Aroostook Hills and Lowlands* region.

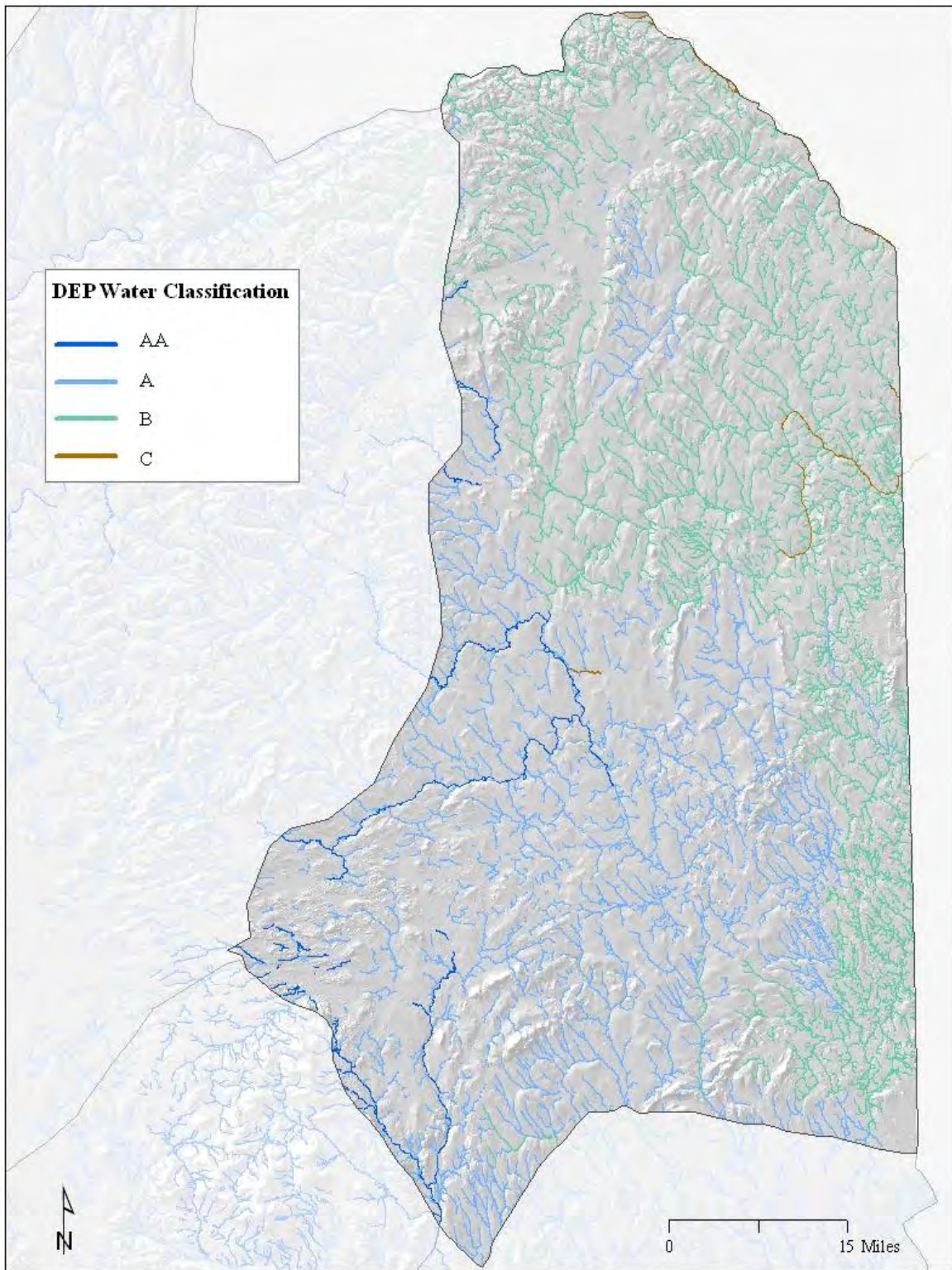


Figure 4. MDEP water quality classifications for the *Aroostook Hills and Lowlands* region.

Central and Eastern Lowlands

The Central and Eastern Lowlands region is another sparsely populated region, with low levels of projected growth. As shown in Figure 5 below, projections for development expansion over the next 20 years are modest, and generally associated with extensive expected growth from the south. The Aquatic Resources Base Layer suggests this region had the potential to support the most extensive wetland and aquatic resources in the state (tied with Northwest Maine), covering approximately 1.4 million acres (see Figure 6). This represents 44% of the regional area and 18% of Maine's total potential wetland and aquatic resources.

Maine Landcover data (MELCD 2004) suggests that very little (1.4% or 21,000 acres) wetland and aquatic resource area has been converted to development (see Figure 6). By comparison only 0.7% of wetland and aquatic resource area has been converted to agricultural use (11,000 acres). The converted acres are well scattered, but much of the developed land appears to occur along major rivers and around towns. Although these impacts may be locally dense, the overall numbers are still very low; MELCD 2004 data suggests that 4.5% of the shoreline buffer (100m) around lakes and ponds and 2.6% of the riparian area along streams and rivers has been converted to development or agriculture (see Section 8.3). Permitted wetland impacts are also scattered and associated with areas around towns (see Figure 7). Figure 8 shows the MDEP water quality classifications for the watersheds of the region and Table 10 shows the extent of aquatic resources found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3).

Regional conservation objectives:

- Encourage preservation projects, particularly in areas of projected development expansion, to ensure that the region's extensive aquatic resources remain intact and functional into the future.
- Support efforts to restore fish passage in the Penobscot River watershed.

Table 10. Extent of aquatic resources found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3) for the *Central and Eastern Lowlands* biophysical region.

| Aquatic Resource Type | Total Area in Region (ac) | Permanently Conserved | % Prmnntly Conserved | Other Conserved | % Other Conserved |
|-------------------------------------|----------------------------------|------------------------------|-----------------------------|------------------------|--------------------------|
| Estuarine Intertidal Emergent | 0 | 0 | n/a | 0 | n/a |
| Estuarine Intertidal Forested/Shrub | 0 | 0 | n/a | 0 | n/a |
| Estuarine Subtidal | 0 | 0 | n/a | 0 | n/a |
| Lacustrine | 203,115 | 172 | 0.1% | 1,638 | 0.8% |
| Marine Intertidal | 0 | 0 | n/a | 0 | n/a |
| Marine Subtidal | 0 | 0 | n/a | 0 | n/a |
| Other Estuarine Intertidal | 0 | 0 | n/a | 0 | n/a |
| Palustrine Emergent | 37,228 | 1,644 | 4.4% | 6,085 | 16.3% |
| Palustrine Forested | 272,110 | 5,716 | 2.1% | 43,633 | 16.0% |
| Palustrine Non-vegetated | 8,404 | 92 | 1.1% | 1,358 | 16.2% |
| Palustrine Shrub | 126,043 | 3,560 | 2.8% | 24,528 | 19.5% |
| Riverine | 16,440 | 137 | 0.8% | 693 | 4.2% |
| Regional Total | 663,340 | 11,322 | 1.7% | 77,934 | 11.7% |

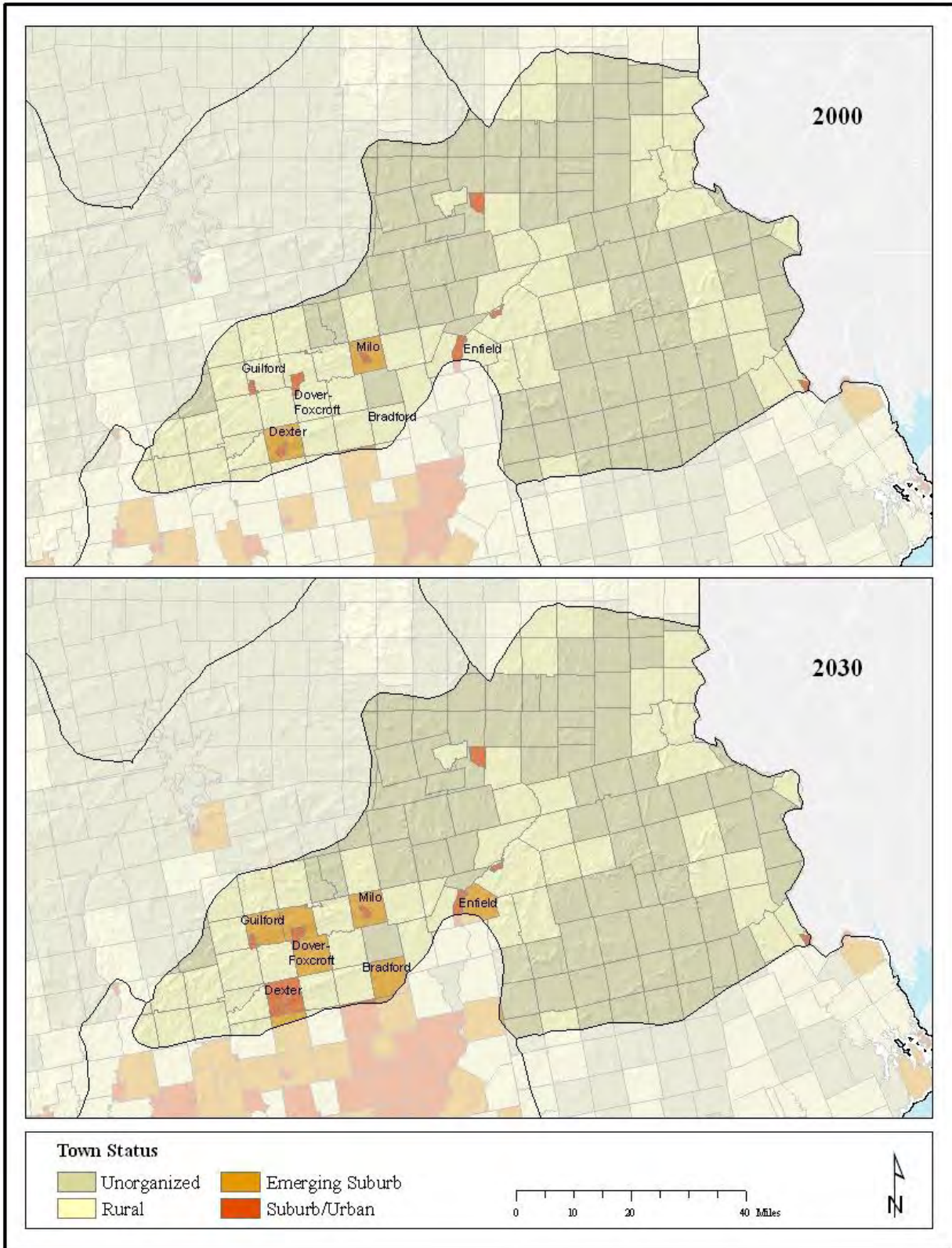


Figure 5. Projected expansion of development, by U.S. census block, for the *Central and Eastern Lowlands* biophysical region based on State Planning Office analysis.

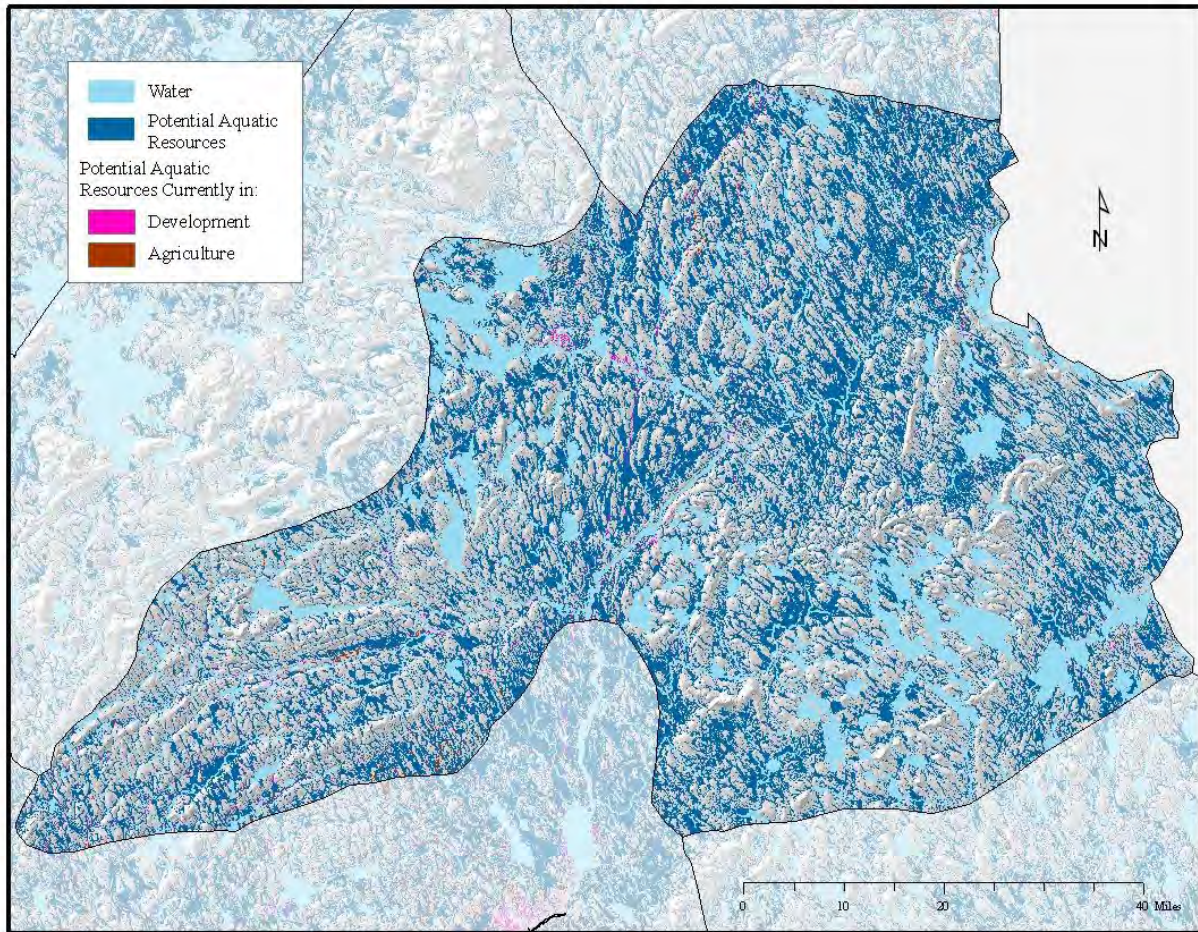


Figure 6. Aquatic Resource Base Layer (ARBL) for the *Central and Eastern Lowlands* biophysical region.

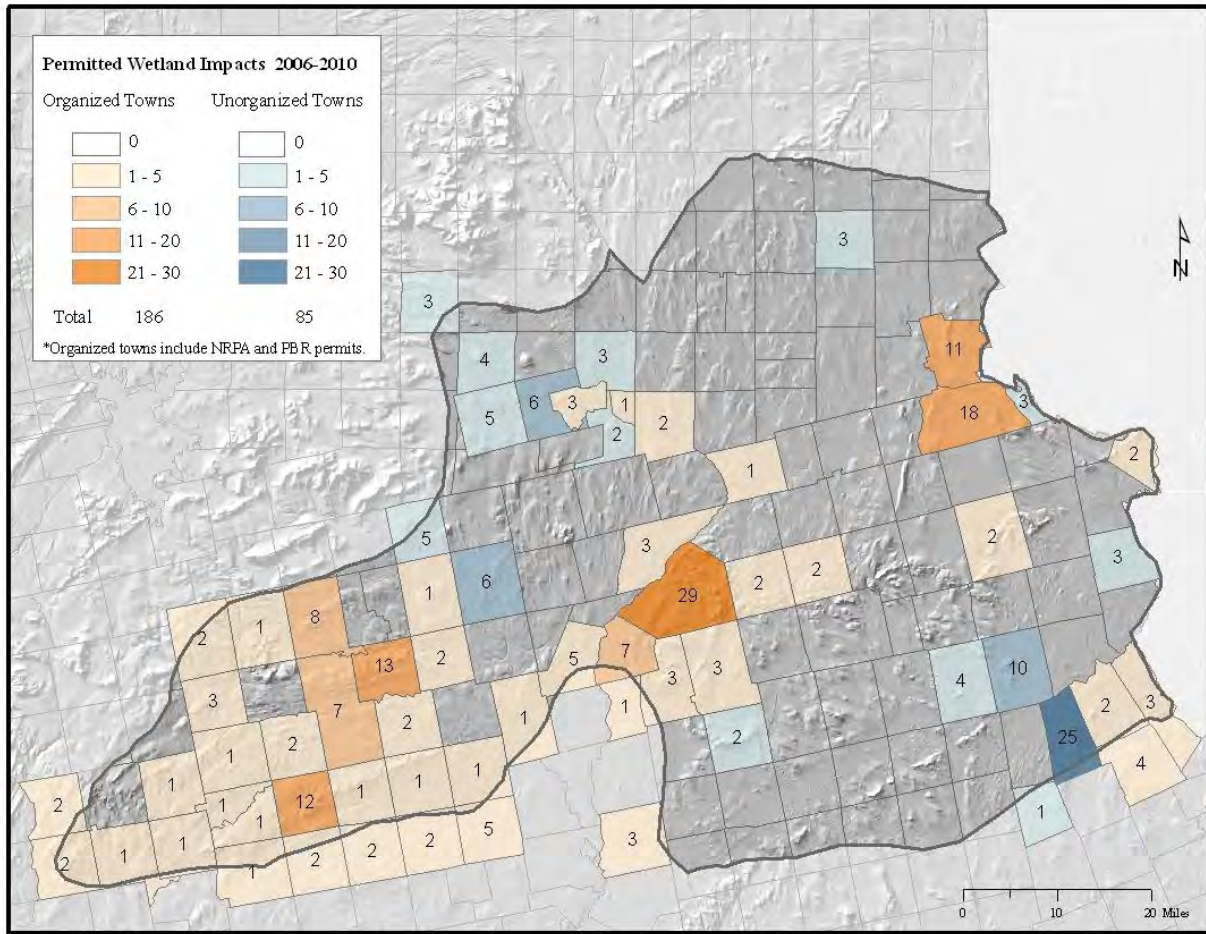


Figure 7. Permitted wetland impacts (from WLTS and GOAT) for the *Central and Eastern Lowlands* region.

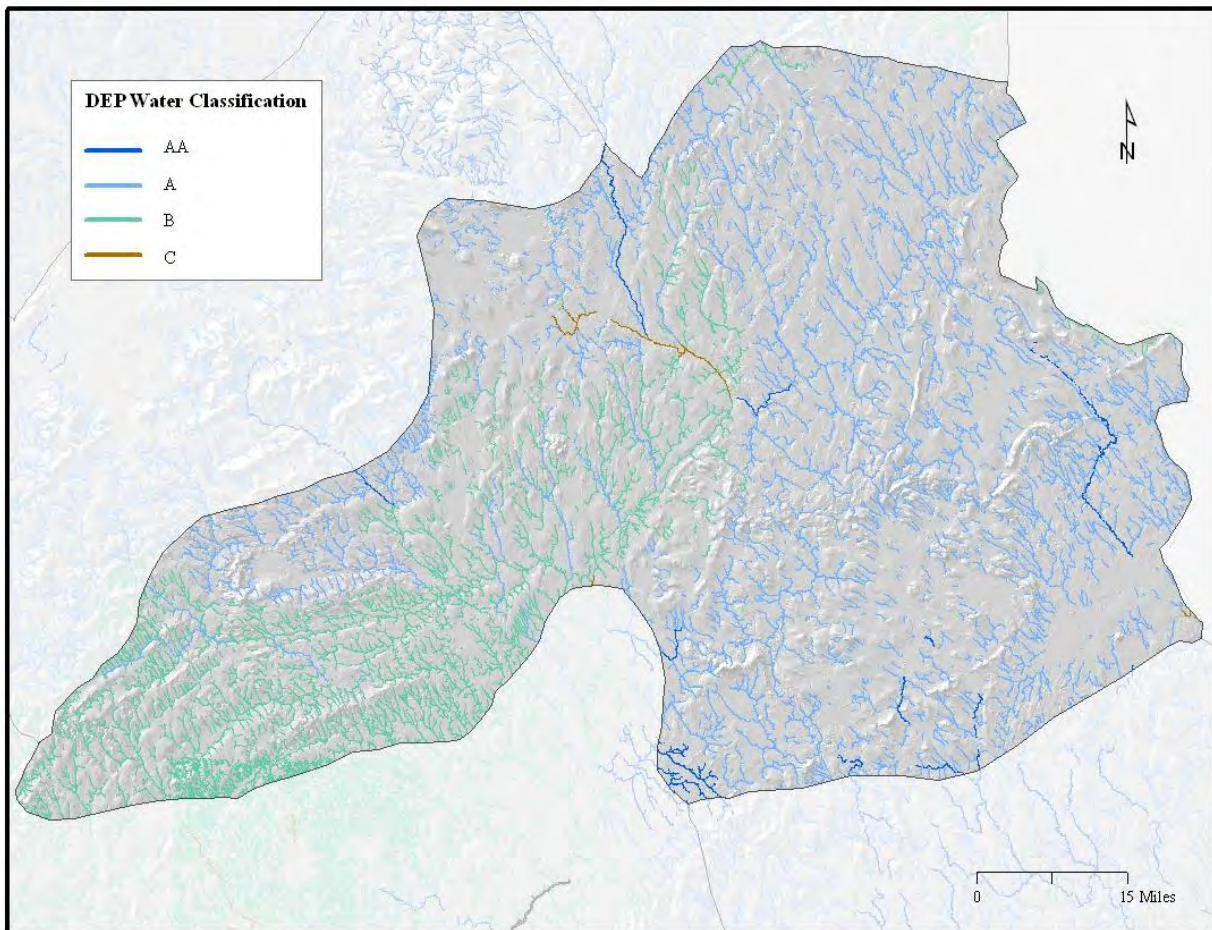


Figure 8. MDEP water quality classifications² for the *Central and Eastern Lowlands* region.

² The State has four classes for freshwater rivers, three classes for marine and estuarine waters, and one class for lakes and ponds. All attain the minimum fishable-swimmable standards established in the federal Clean Water Act. The classification system should be viewed as a hierarchy of risk of the possibility of a breakdown of the ecosystem and loss of use due to either natural or human-caused events. Ecosystems that are more natural in their structure and function can be expected to be more resilient to a new stress and to show more rapid recovery. Class AA involves little risk since activities such as waste discharge and impoundment are prohibited. The expectation to achieve natural conditions is high and degradation is unlikely. Class A waters allow impoundments and very restricted discharges, so the risk of degradation while quite small, does increase since there is some small human intervention in the maintenance of the ecosystem. Class B has fewer restrictions on activities but still maintains high water quality criteria. Finally, Class C has the least restrictions on use and the lowest (but not low) water quality criteria. Class C waters are still good quality, but the margin for error before significant degradation might occur in these waters in the event of an additional stress being introduced (such as a spill or a drought) is the least.

Central and Western Mountains

The Central and Western Mountains region is the largest region in the state and sparsely populated, with low levels of projected growth. As shown in Figure 9 below, projections for development expansion over the next twenty years are modest, and generally associated with extensive expected growth from the east. The Aquatic Resources Base Layer suggests this region had the potential to support approximately one million acres of wetland and aquatic resources (see Figure 10). This represents 24% of the regional area and 14% of Maine's total potential wetland and aquatic resources, making it the region with the lowest potential concentration of wetland and aquatic resources.

Maine Landcover data (MELCD 2004) suggests that very little (1.2% or 12,000 acres) wetland and aquatic resource area has been converted to development (see Figure 10). An additional 1.1% of wetland and aquatic resource area has been converted to agricultural use. The converted acres are well scattered, but much of the developed land appears to occur around waterbodies. Although these impacts may be locally dense, the overall numbers are still very low; MELCD 2004 data suggests that 3.7% of the shoreline buffer (100m) around lakes and ponds and 2.9% of the riparian area along streams and rivers has been converted to development or agriculture (see Section 8.3). Permitted wetland impacts are also scattered (see Figure 11). Figure 12 shows the MDEP water quality classifications for the watersheds of the region and Table 11 shows the extent of aquatic resources found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3).

Regional conservation objectives:

- Encourage preservation projects, particularly in areas of projected development expansion, to ensure that aquatic resources remain intact and functional into the future.
- Support efforts to restore fish passage in the Penobscot River watershed.
- Pursue opportunities to restore marginal or non-productive agricultural land to priority resource types.

Table 11. Extent of aquatic resources found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3) for the *Central and Western Mountains* biophysical region.

| Aquatic Resource Type | Total Area in Region (ac) | Permanently Conserved | % Prmnntly Conserved | Other Conserved | % Other Conserved |
|-------------------------------------|----------------------------------|------------------------------|-----------------------------|------------------------|--------------------------|
| Estuarine Intertidal Emergent | 0 | 0 | n/a | 0 | n/a |
| Estuarine Intertidal Forested/Shrub | 0 | 0 | n/a | 0 | n/a |
| Estuarine Subtidal | 0 | 0 | n/a | 0 | n/a |
| Lacustrine | 227,652 | 802 | 0.4% | 2,012 | 0.9% |
| Marine Intertidal | 0 | 0 | n/a | 0 | n/a |
| Marine Subtidal | 0 | 0 | n/a | 0 | n/a |
| Other Estuarine Intertidal | 0 | 0 | n/a | 0 | n/a |
| Palustrine Emergent | 25,281 | 1,896 | 7.5% | 3,799 | 15.0% |
| Palustrine Forested | 125,277 | 9,452 | 7.5% | 19,003 | 15.2% |
| Palustrine Non-vegetated | 10,919 | 717 | 6.6% | 1,066 | 9.8% |
| Palustrine Shrub | 77,092 | 7,404 | 9.6% | 11,754 | 15.2% |
| Riverine | 11,659 | 350 | 3.0% | 752 | 6.4% |
| Regional Total | 477,880 | 20,621 | 4.3% | 38,386 | 8.0% |

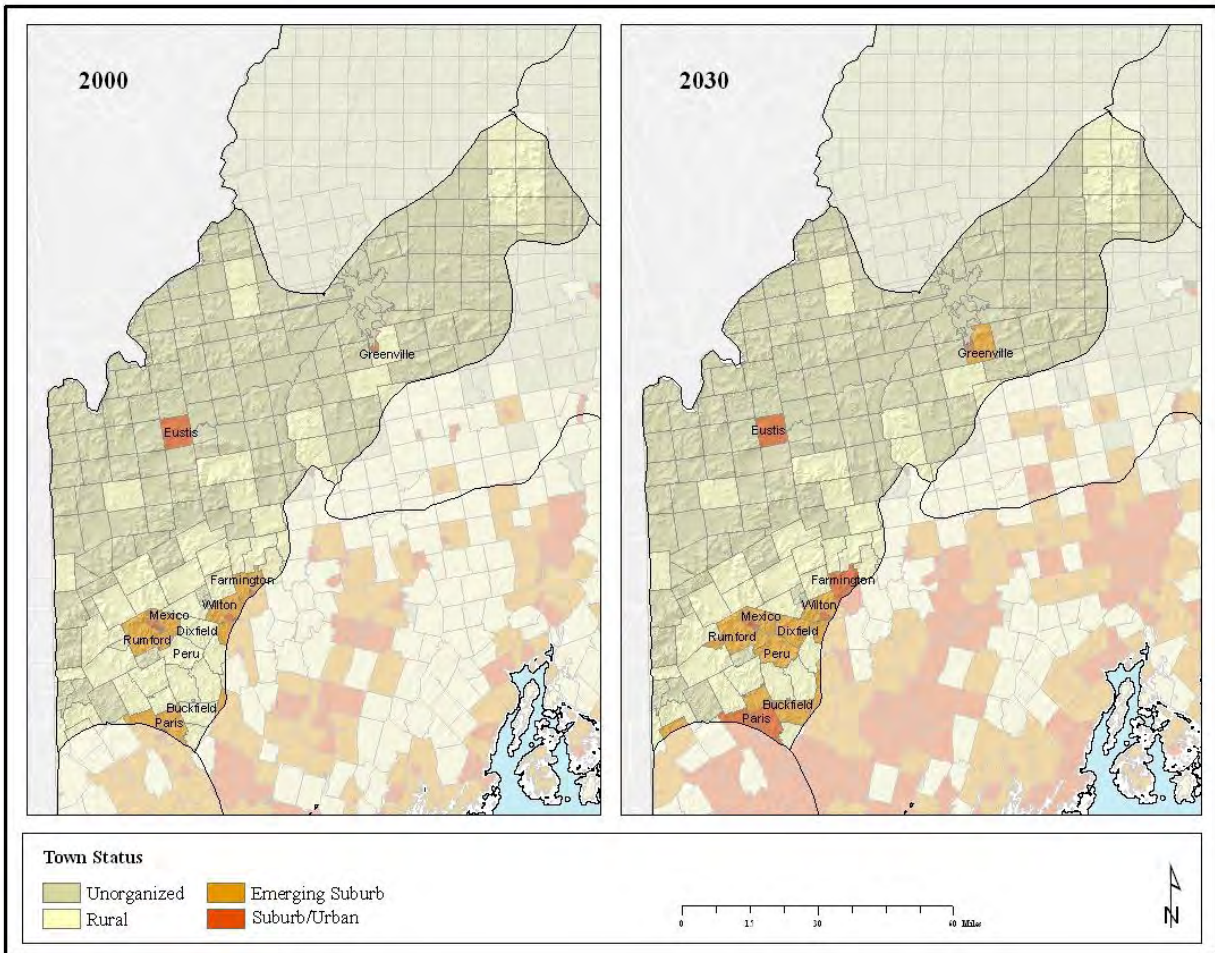


Figure 9. Projected expansion of development, by U.S. census block, for the *Central and Western Mountains* biophysical region based on State Planning Office analysis.

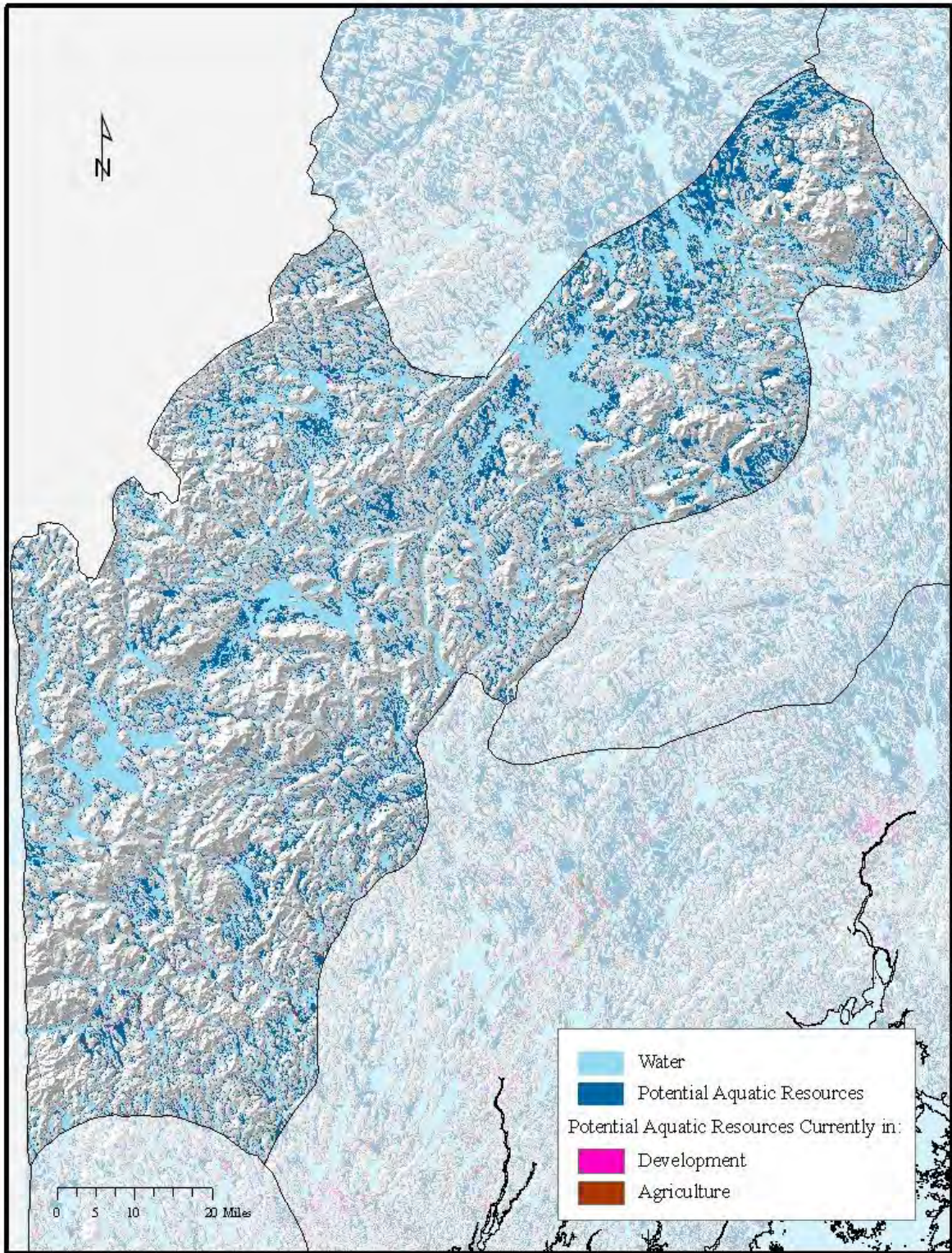


Figure 10. Aquatic Resource Base Layer (ARBL) for the *Central and Western Mountains* biophysical region.

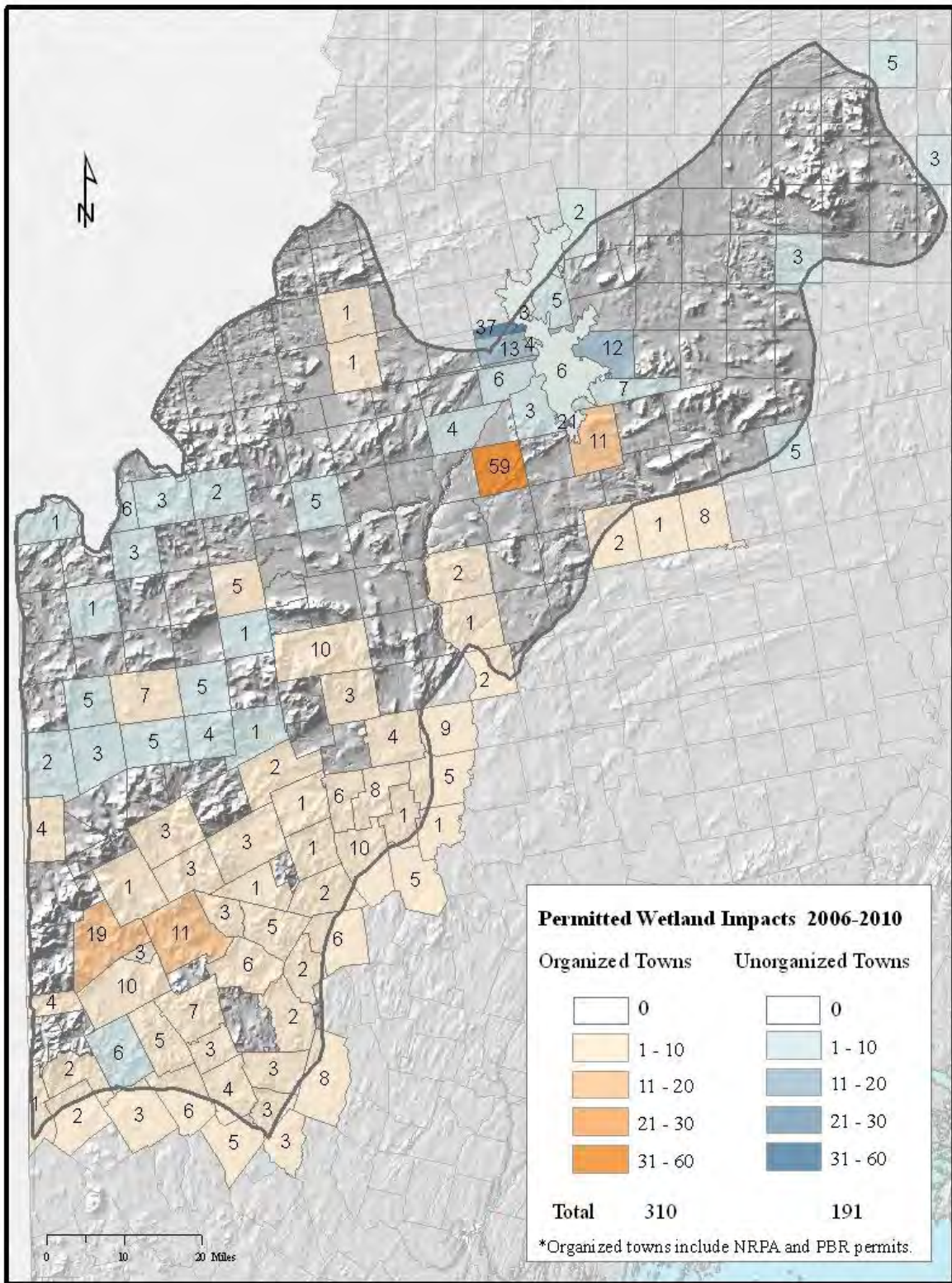


Figure 11. Permitted wetland impacts (from WLTS and GOAT) for the *Central and Western Mountains* region.

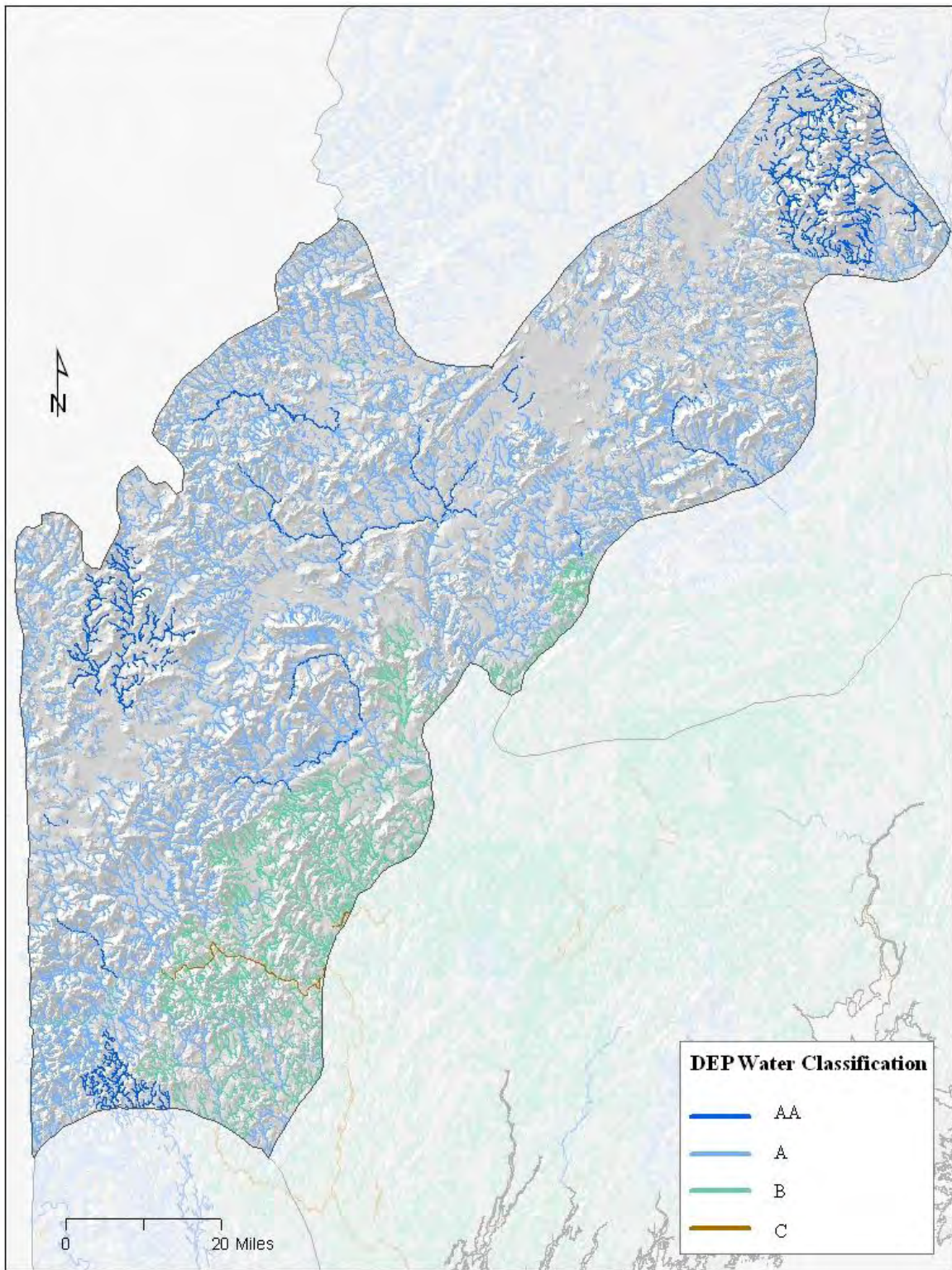


Figure 12. MDEP water quality classifications for the *Central and Western Mountains* region.

Central Interior and Midcoast

The Central Interior and Midcoast region is one of the fastest growing regions in the state, with several urban areas projected to grow considerably and large areas of agricultural cultivation. As shown in Figure 13 below, projections for development expansion over the next twenty years are considerable. The Aquatic Resources Base layer suggests this region had the potential to support extensive wetland and aquatic resources (including both saltwater and freshwater types), covering approximately 1.5 million acres, the second highest acreage of any region in Maine (see Figure 14). This represents 40% of the regional area (or 39% of the section area if intertidal offshore wetlands are excluded from the calculation) and 19% of Maine's total potential wetland and aquatic resources.

Maine Landcover data (MELCD 2004) suggests that almost 5% of the original potential aquatic resource cover has been converted to development (see Figure 14). An additional 5% has been converted to agriculture. Aside from Southern Maine, this represents the highest percent area converted of any of Maine's regions. The MELCD 2004 data suggests that 20.4% of the shoreline buffer (100m) around lakes and ponds and 12.1% of the riparian area along streams and rivers has been converted to agriculture or development, the highest levels of any region in the state (see Section 8.3). This region is also subject to higher development pressures and potential conversion of wetland acres. Between 2006 and 2011, 1,947 Natural Resource Protection Act (NRPA) and Permit-by Rule (PBR) permits were issued for development-related wetland impacts in this ecoregion, the highest number for any ecoregional section in the state (see Figure 15). Central Interior and Midcoast is one of Maine's largest ecoregional sections; however, by contrast, Northwest Maine (similar in size) only had 163 permits issued in the same time period (8% of what was issued in Central Interior). Figure 16 shows the MDEP water quality classifications for the watersheds of the region and Table 12 shows the extent of aquatic resources found on permanently conserved land (Gap 1, 2 and Ecological Reserves) and on other conserved land (Gap 3).

Regional conservation objectives:

- Actively pursue opportunities to restore priority resource types, particularly coastal resources, as well as opportunities to restore marginal or non-productive agricultural land.
- Support efforts to restore fish passage in the Penobscot River watershed.
- Encourage preservation projects, particularly for vernal pools, headwater streams (1st and 2nd order) and their associated upland buffers, and in areas of projected development expansion, to ensure that the region's extensive aquatic resources remain intact and functional into the future.
- Encourage preservation and restoration (e.g., barrier removal) projects in coastal areas that would facilitate the projected future migration of coastal wetland communities in response to climate change and sea level rise.

Table 12. Extent of aquatic resources found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3) for the region.

| Aquatic Resource Type | Total Area in Region (ac) | Permanently Conserved | % Prmnntly Conserved | Other Conserved | % Other Conserved |
|-------------------------------------|---------------------------|-----------------------|----------------------|-----------------|-------------------|
| Estuarine Intertidal Emergent | 11,689 | 822 | 7.0% | 1,400 | 12.0% |
| Estuarine Intertidal Forested/Shrub | 0 | 0 | n/a | 0 | n/a |
| Estuarine Subtidal | 7,172 | 27 | 0.4% | 124 | 1.7% |
| Lacustrine | 151,832 | 90 | 0.1% | 1,066 | 0.7% |
| Marine Intertidal | 25,802 | 451 | 1.7% | 464 | 1.8% |
| Marine Subtidal | 6,303 | 28 | 0.4% | 24 | 0.4% |
| Other Estuarine Intertidal | 21,717 | 88 | 0.4% | 194 | 0.9% |
| Palustrine Emergent | 45,401 | 1,253 | 2.8% | 2,218 | 4.9% |
| Palustrine Forested | 195,656 | 7,402 | 3.8% | 7,954 | 4.1% |
| Palustrine Non-vegetated | 11,120 | 122 | 1.1% | 184 | 1.7% |
| Palustrine Shrub | 113,514 | 5,958 | 5.2% | 3,303 | 2.9% |
| Riverine | 23,605 | 107 | 0.5% | 103 | 0.4% |
| Regional Total | 613,810 | 16,348 | 2.7% | 17,035 | 2.8% |

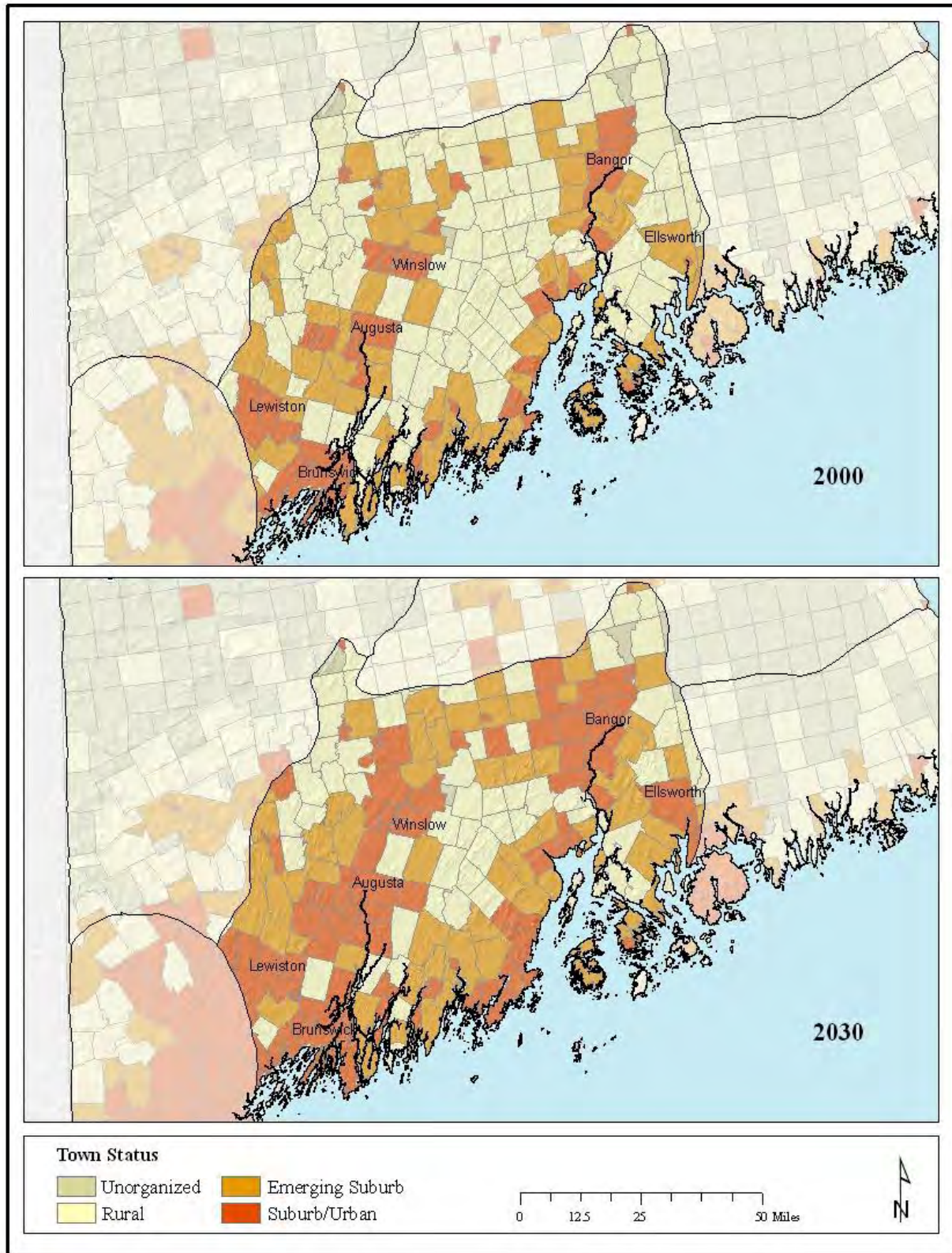


Figure 13. Projected expansion of development, by U.S. census block, for the *Central Interior and Midcoast* biophysical region based on State Planning Office analysis.

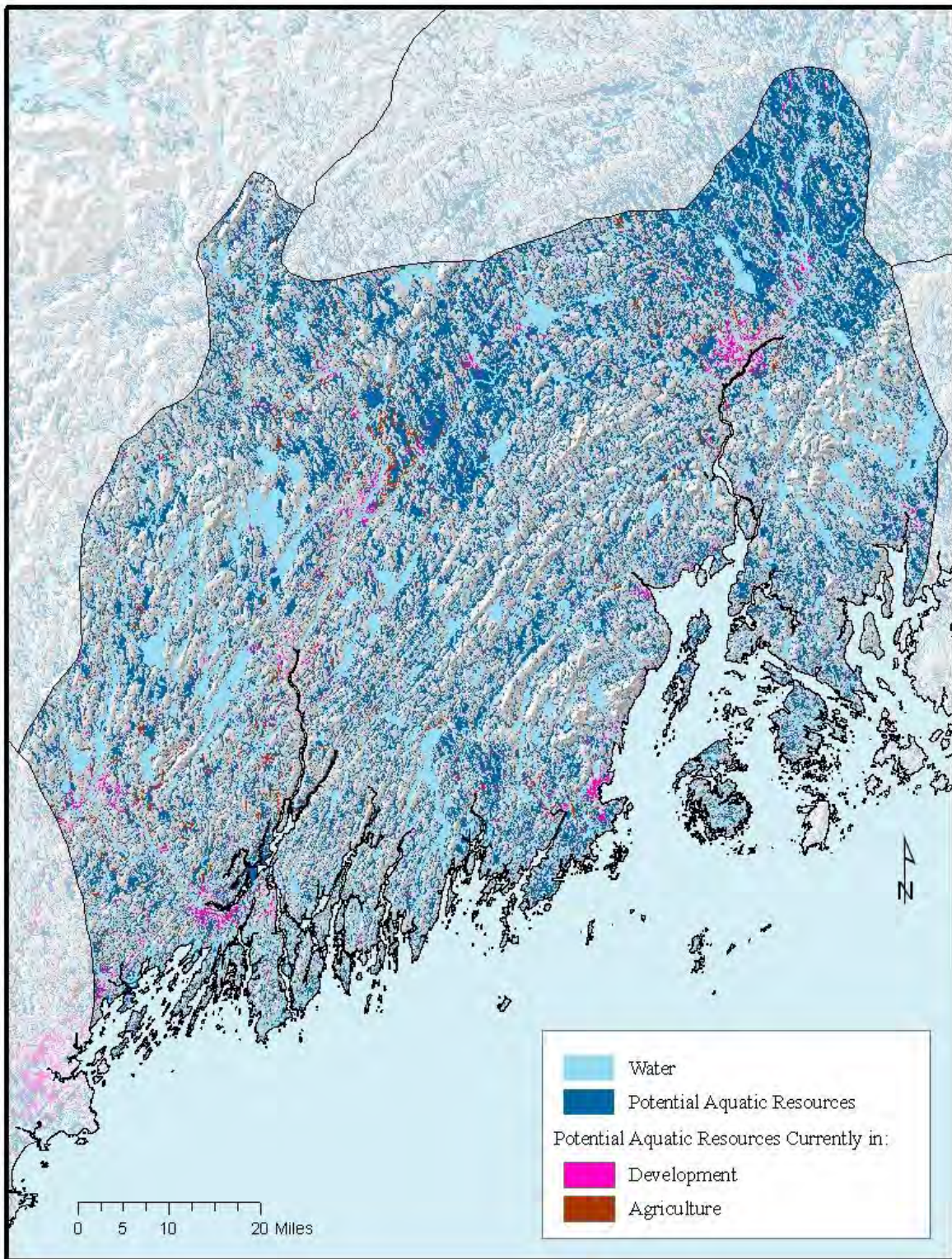


Figure 14. Aquatic Resource Base Layer (ARBL) for the *Central Interior and Midcoast* biophysical region.

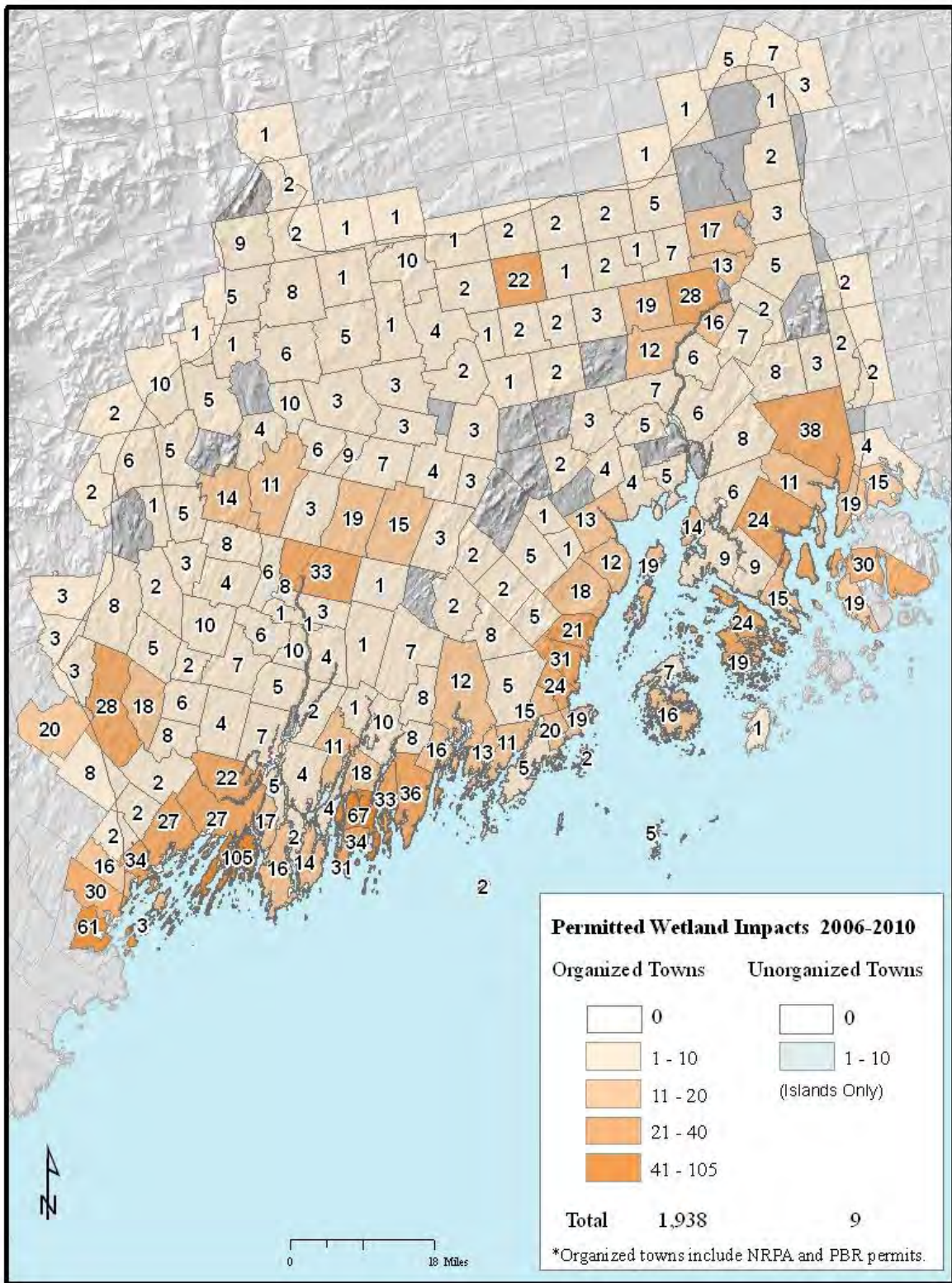


Figure 15. Permitted wetland impacts (from WLTS and GOAT) for the *Central Interior and Midcoast* region.

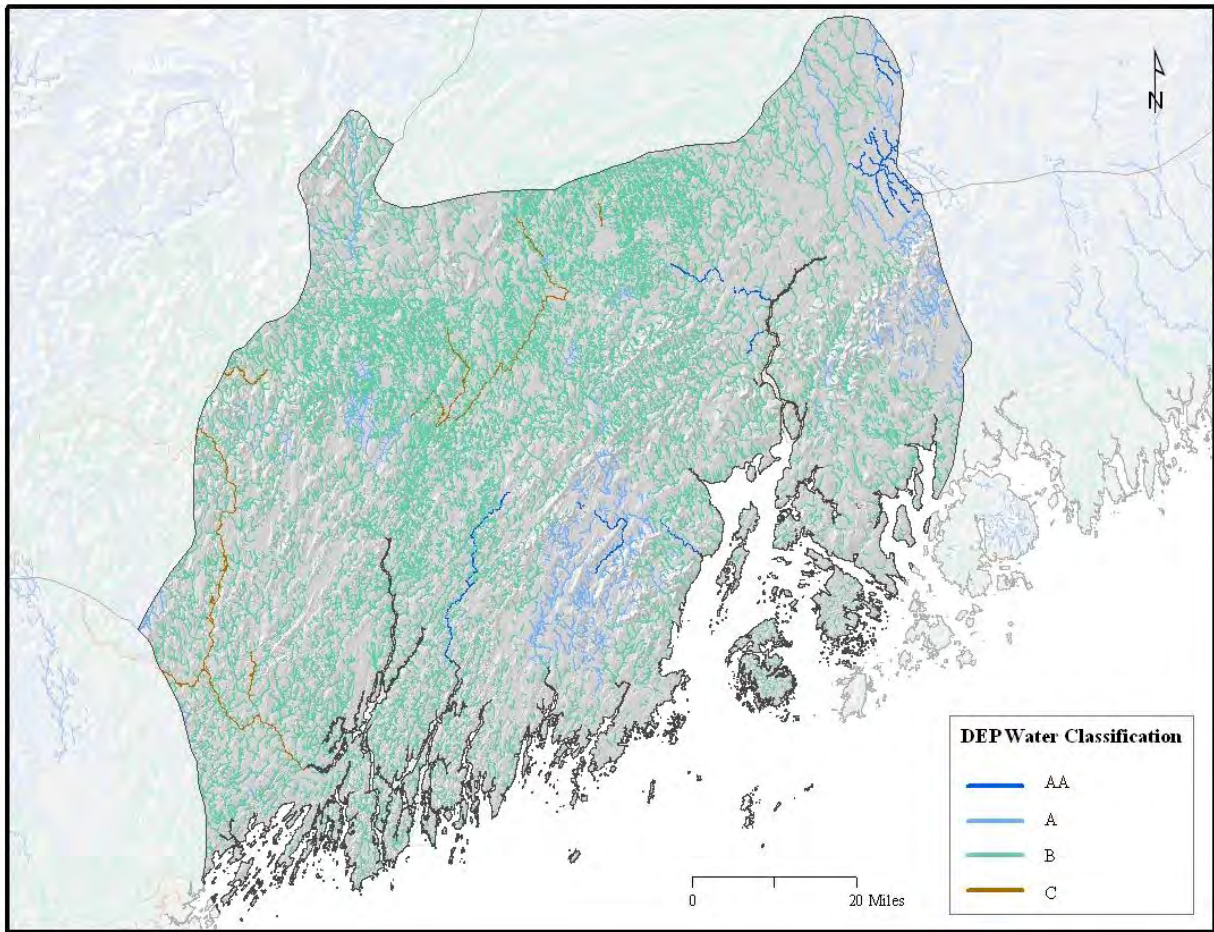


Figure 16. MDEP water quality classifications for the *Central Interior and Midcoast* region.

Downeast Maine

The Downeast Maine region is one of the least densely populated regions in the state, and also one of the slowest growing. As shown in Figure 17 below, projections for development expansion over the next 20 years are very modest, with the exception of the Mt. Desert Island area. The Aquatic Resources Base Layer suggests that this region had the potential to support 600,000 acres of wetland and aquatic resources, including both saltwater and freshwater types (see Figure 18). This represents approximately 39% of the regional area (or 37% of the section area if intertidal offshore wetlands are excluded from the calculation) and 8% of Maine's total potential wetland and aquatic resources.

Maine Landcover data (MELCD 2004) suggests that very little (1.5% or 9,300 acres) of the original potential aquatic resource cover has been converted to development (see Figure 18). An additional 0.6% (or 3,600 acres) has been converted to agriculture. Permitted wetland impacts are largely on the coast and concentrated in the Mt. Desert Island area (see Figure 19). Figure 20 shows the MDEP water quality classifications for the watersheds of the region and Table 13 shows the extent of aquatic resources found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3).

Regional conservation objectives:

- Encourage preservation projects, particularly in areas of projected development expansion, to ensure that aquatic resources remain intact and functional into the future.
- Pursue opportunities to restore priority resource types, particularly coastal resources.
- Encourage preservation and restoration (e.g., barrier removal) projects in coastal areas that would facilitate the projected future migration of coastal wetland communities in response to climate change and sea level rise.
- Support efforts to restore diadromous fish passage.

Table 13. Extent of aquatic resources found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3) for the *Downeast Maine* biophysical region.

| Aquatic Resource Type | Total Area in Region (ac) | Permanently Conserved | % Prmnntly Conserved | Other Conserved | % Other Conserved |
|-------------------------------------|----------------------------------|------------------------------|-----------------------------|------------------------|--------------------------|
| Estuarine Intertidal Emergent | 8,642 | 424 | 4.9% | 268 | 3.1% |
| Estuarine Intertidal Forested/Shrub | 0 | 0 | n/a | 0 | n/a |
| Estuarine Subtidal | 3,599 | 77 | 2.1% | 5 | 0.1% |
| Lacustrine | 63,804 | 754 | 1.2% | 978 | 1.5% |
| Marine Intertidal | 29,791 | 1,576 | 5.3% | 506 | 1.7% |
| Marine Subtidal | 3,009 | 35 | 1.2% | 19 | 0.6% |
| Other Estuarine Intertidal | 17,010 | 269 | 1.6% | 37 | 0.2% |
| Palustrine Emergent | 19,669 | 3,029 | 15.4% | 1,755 | 8.9% |
| Palustrine Forested | 63,622 | 5,901 | 9.3% | 5,164 | 8.1% |
| Palustrine Non-vegetated | 5,193 | 644 | 12.4% | 257 | 5.0% |
| Palustrine Shrub | 65,495 | 8,857 | 13.5% | 5,750 | 8.8% |
| Riverine | 3,483 | 172 | 4.9% | 837 | 24.0% |
| Regional Total | 283,315 | 21,736 | 7.7% | 15,576 | 5.5% |

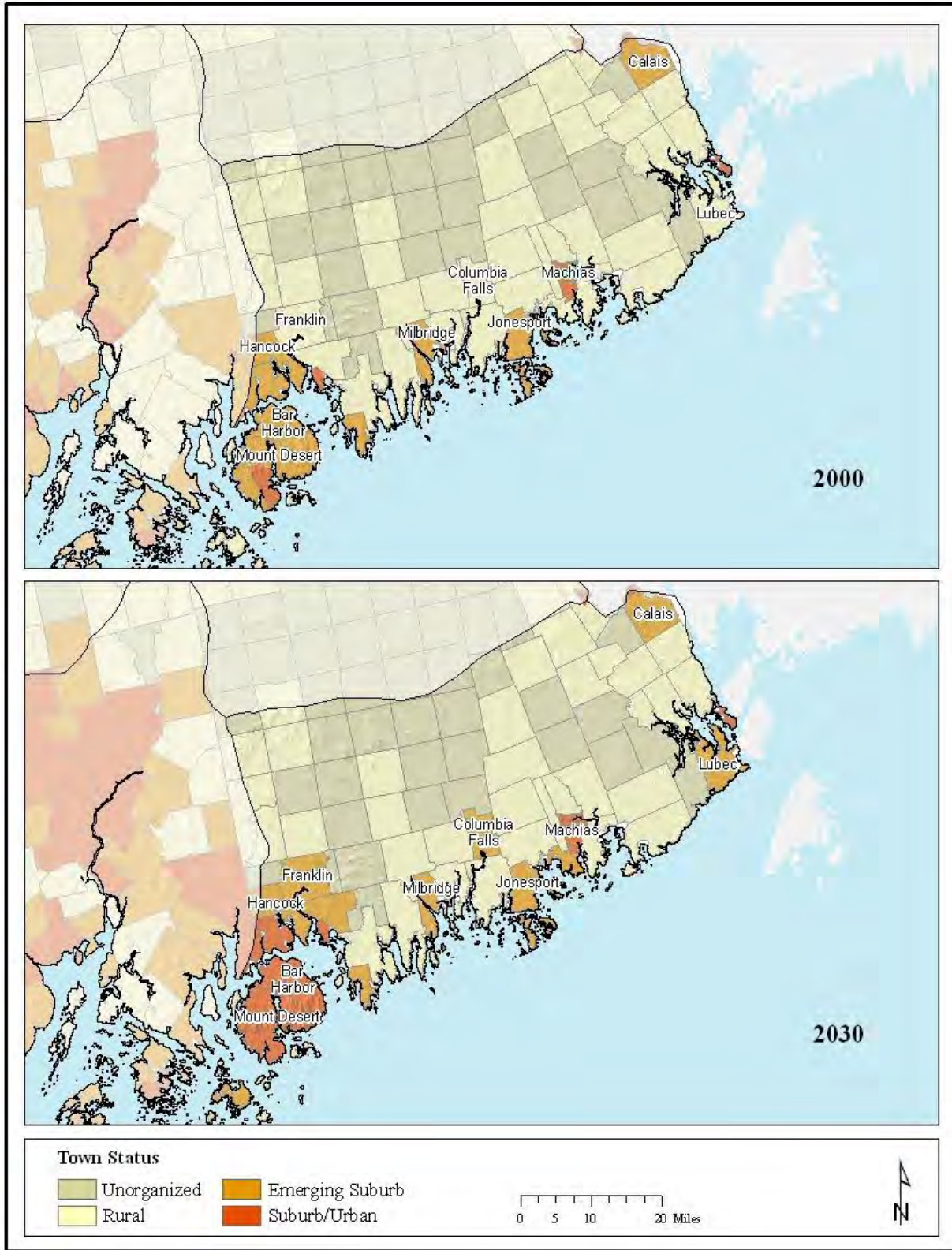


Figure 17. Projected expansion of development, by U.S. census block, for the *Downeast Maine* biophysical region based on State Planning Office analysis.

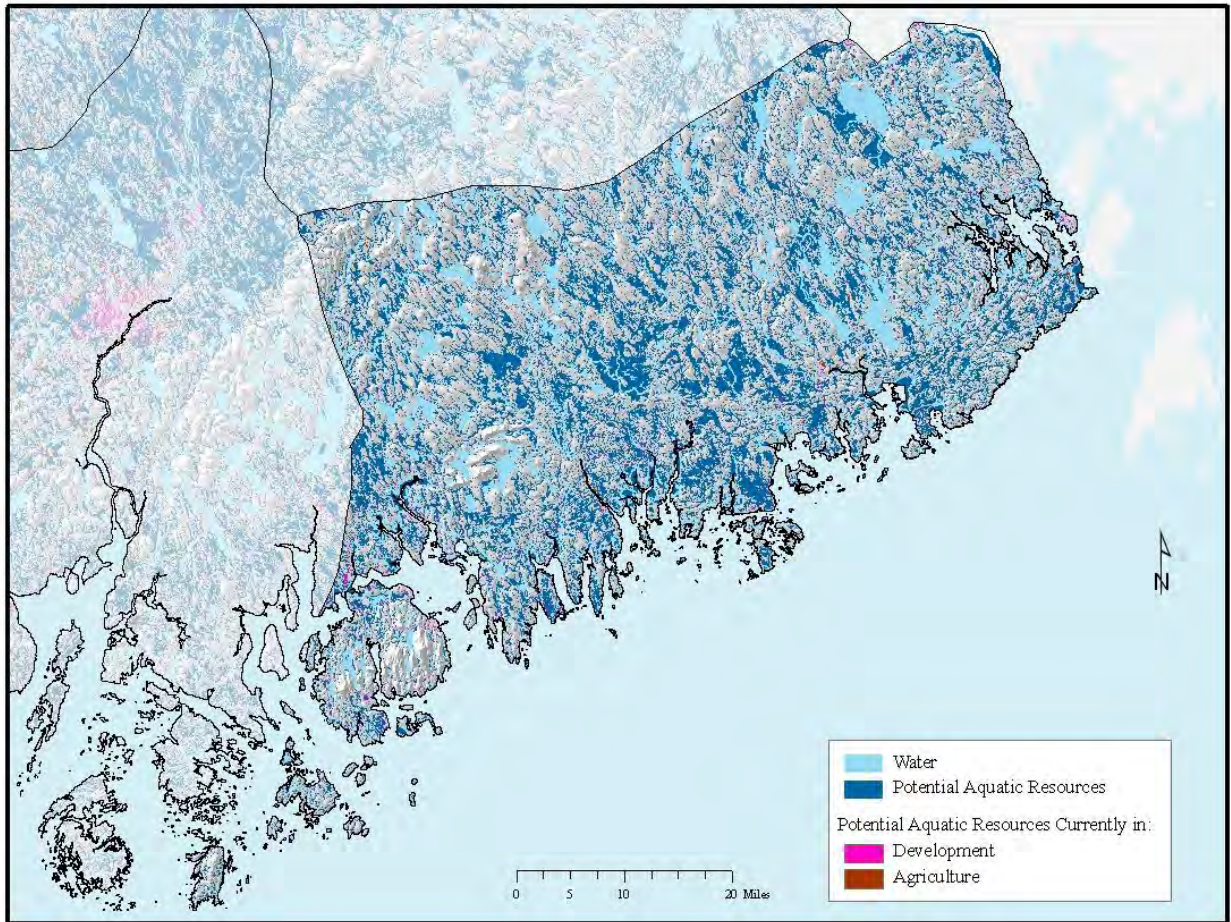


Figure 18. Aquatic Resource Base Layer (ARBL) for the *Downeast Maine* biophysical region.

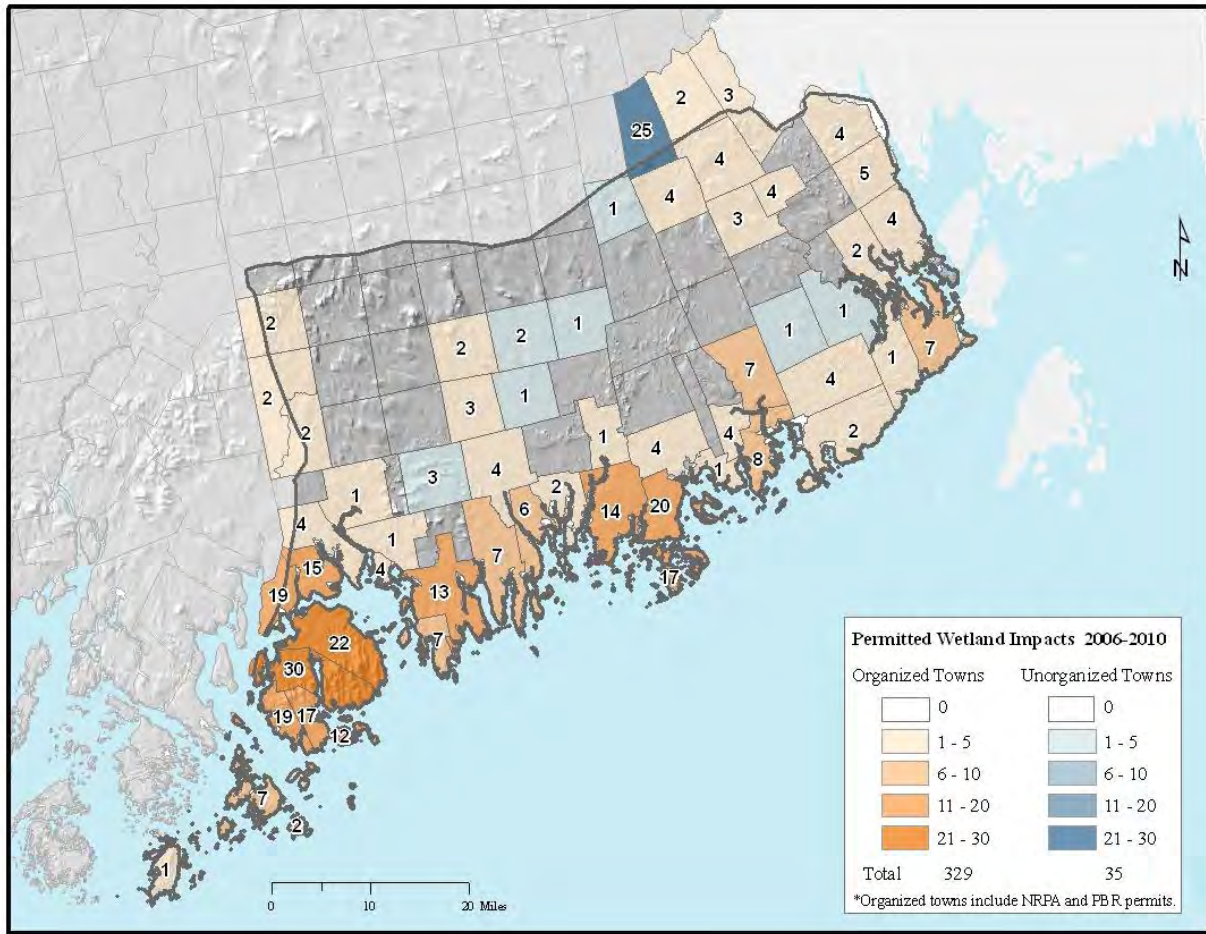


Figure 19. Permitted wetland impacts (from WLTS and GOAT) for the *Downeast Maine* region.

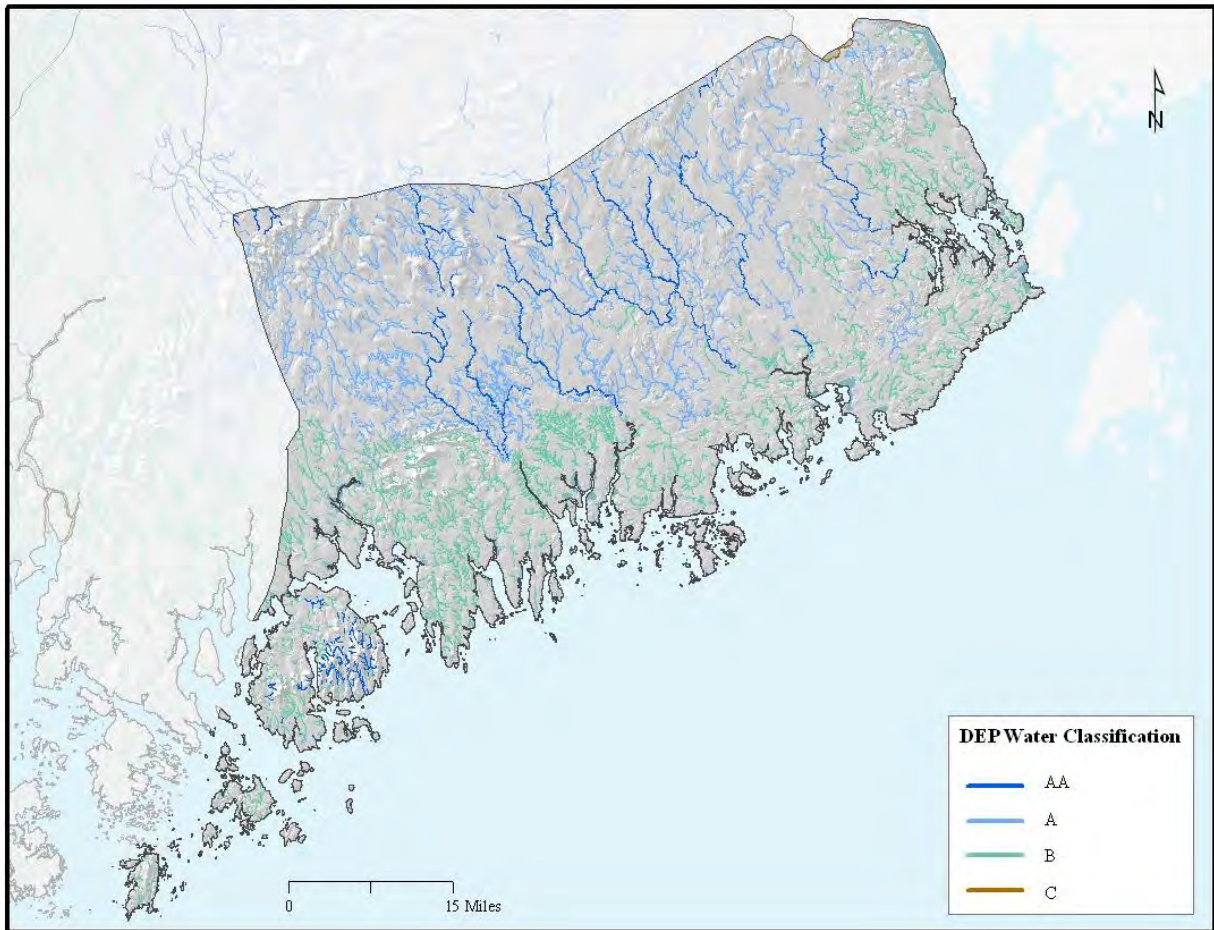


Figure 20. MDEP water quality classifications for the *Downeast Maine* region.

Northwest Maine

The Northwest Maine region is the least densely populated regions in the state, and the slowest growing. As shown in Figure 21 below, projections for development expansion over the next 20 years are negligible. The Aquatic Resources Base Layer suggests that this region had the potential to support vast wetland and aquatic resources, covering approximately 1.6 million acres (see Figure 22), the highest acreage of any of Maine's regions. This represents approximately 44% of the regional area—tied with Central and Eastern for the highest percent cover of potential original wetland and aquatic resources—and 20% of Maine's total potential wetland and aquatic resources.

Maine Landcover data (MELCD 2004) suggests that extremely little wetland or aquatic resource area has been converted to development (0.3%) or to agriculture (0.1%) (see Figure 22). Converted areas are widely scattered and most appear to have occurred along the St. John River and around the town of Fort Kent. Overall, however, the proportion of riparian or shoreline buffer areas that have been converted to development agriculture are very low (the lowest in the state, see Section 8.3). Permitted wetland impacts are scattered and relatively modest (see Figure 23). Figure 24 shows the MDEP water quality classifications for the watersheds of the region and Table 14 shows the extent of aquatic resources found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3).

Regional conservation objectives:

- Encourage preservation projects to ensure that the region's largely intact aquatic resources remain intact and functional into the future.

Table 14. Extent of aquatic resources found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3) for the Northwest Maine biophysical region.

| Aquatic Resource Type | Total Area in Region | Permanently Conserved | % Prmnntly Conserved | Other Conserved | % Other Conserved |
|-------------------------------------|-----------------------------|------------------------------|-----------------------------|------------------------|--------------------------|
| Estuarine Intertidal Emergent | 0 | 0 | n/a | 0 | n/a |
| Estuarine Intertidal Forested/Shrub | 0 | 0 | n/a | 0 | n/a |
| Estuarine Subtidal | 0 | 0 | n/a | 0 | n/a |
| Lacustrine | 146,950 | 668 | 0.5% | 3,783 | 2.6% |
| Marine Intertidal | 0 | 0 | n/a | 0 | n/a |
| Marine Subtidal | 0 | 0 | n/a | 0 | n/a |
| Other Estuarine Intertidal | 0 | 0 | n/a | 0 | n/a |
| Palustrine Emergent | 23,400 | 2,388 | 10.2% | 7,973 | 34.1% |
| Palustrine Forested | 182,845 | 9,767 | 5.3% | 60,915 | 33.3% |
| Palustrine Non-vegetated | 6,686 | 265 | 4.0% | 1,782 | 26.6% |
| Palustrine Shrub | 67,441 | 5,933 | 8.8% | 21,786 | 32.3% |
| Riverine | 14,883 | 365 | 2.5% | 1,659 | 11.1% |
| Regional Total | 442,206 | 19,386 | 4.4% | 97,896 | 22.1% |

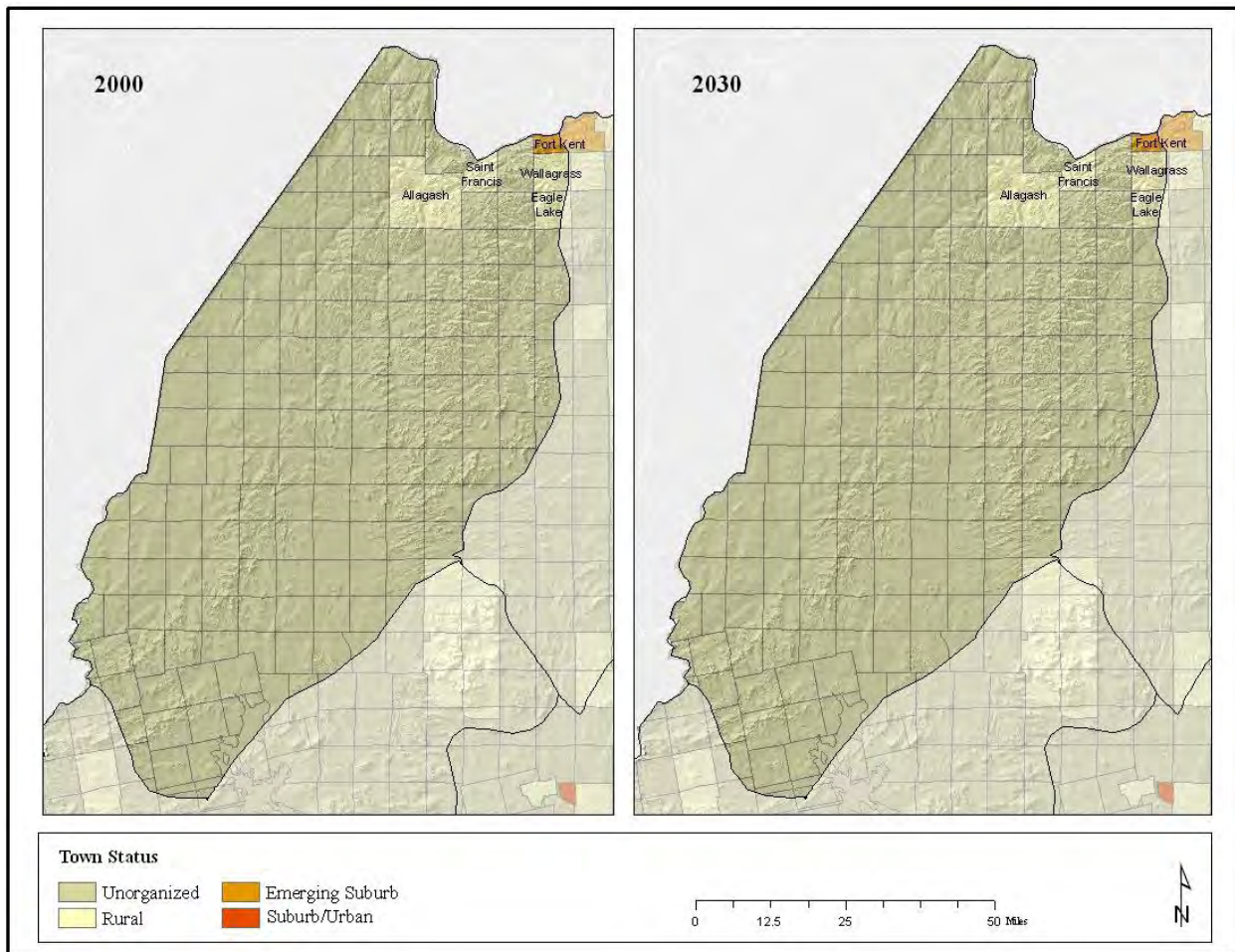


Figure 21. Projected expansion of development, by U.S. census block, for the *Northwest Maine* biophysical region based on State Planning Office analysis.

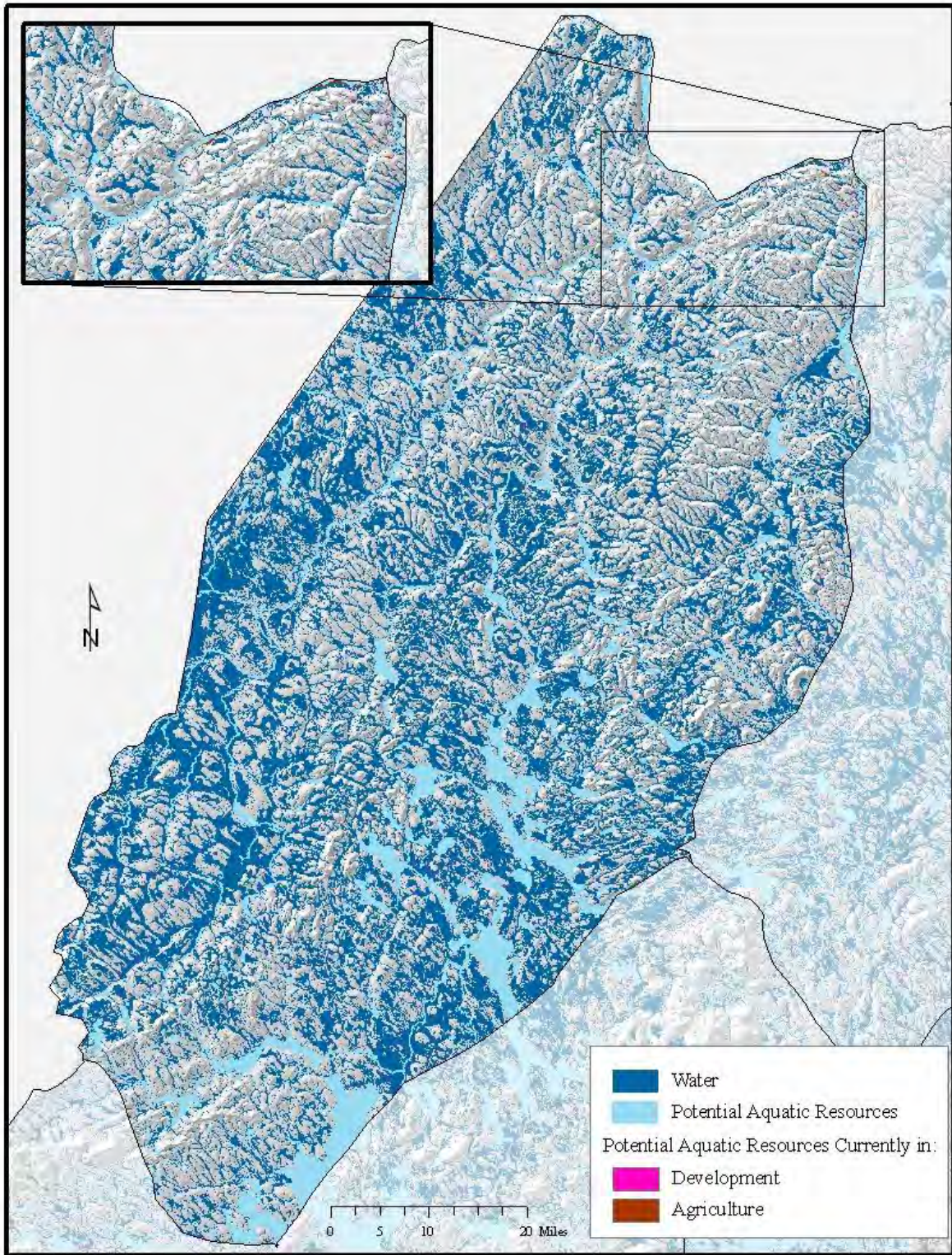


Figure 22. Aquatic Resource Base Layer (ARBL) for the *Northwest Maine* biophysical region.

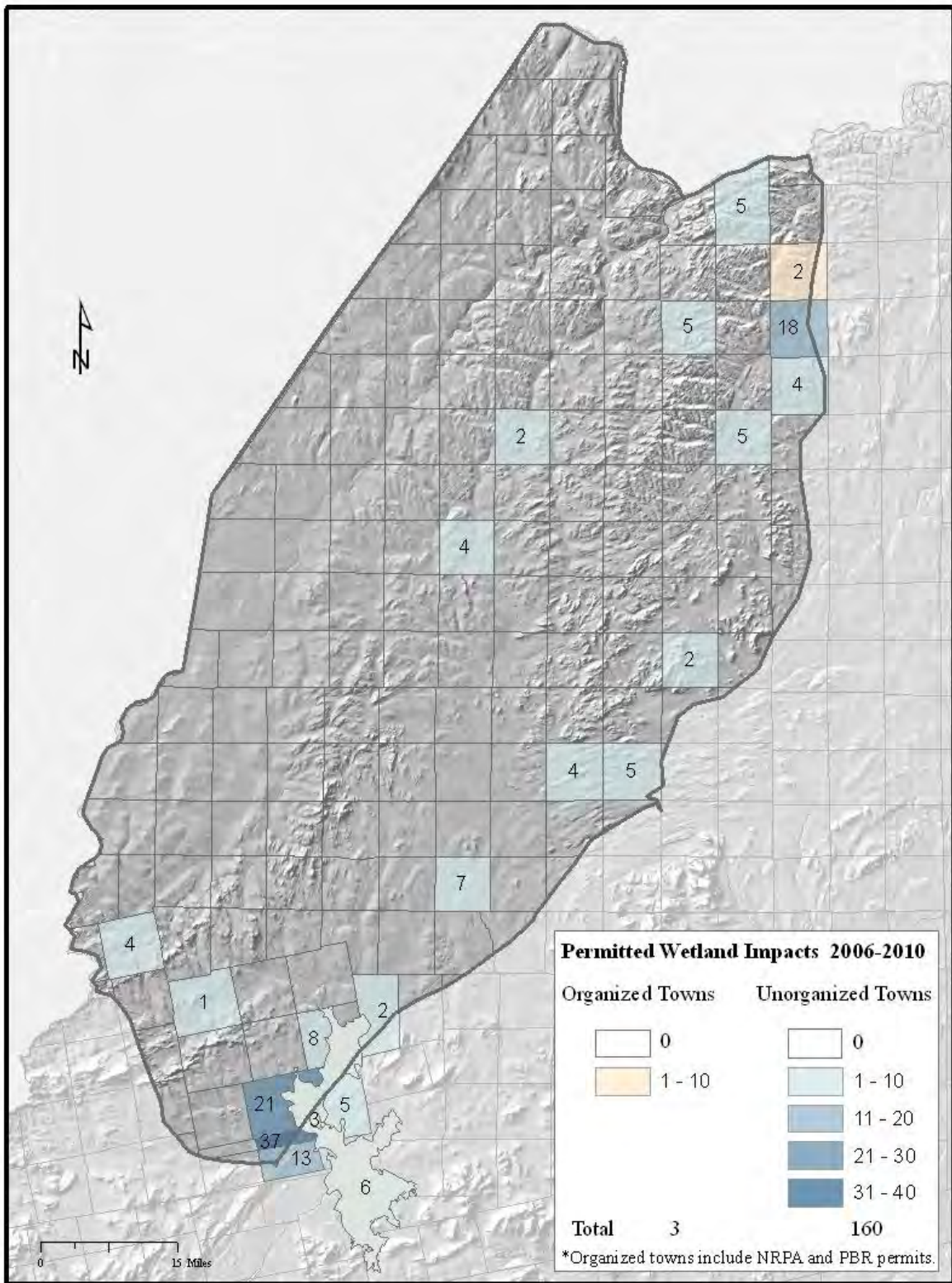


Figure 23. Permitted wetland impacts (from WLTS and GOAT) for the Northwest Maine region.

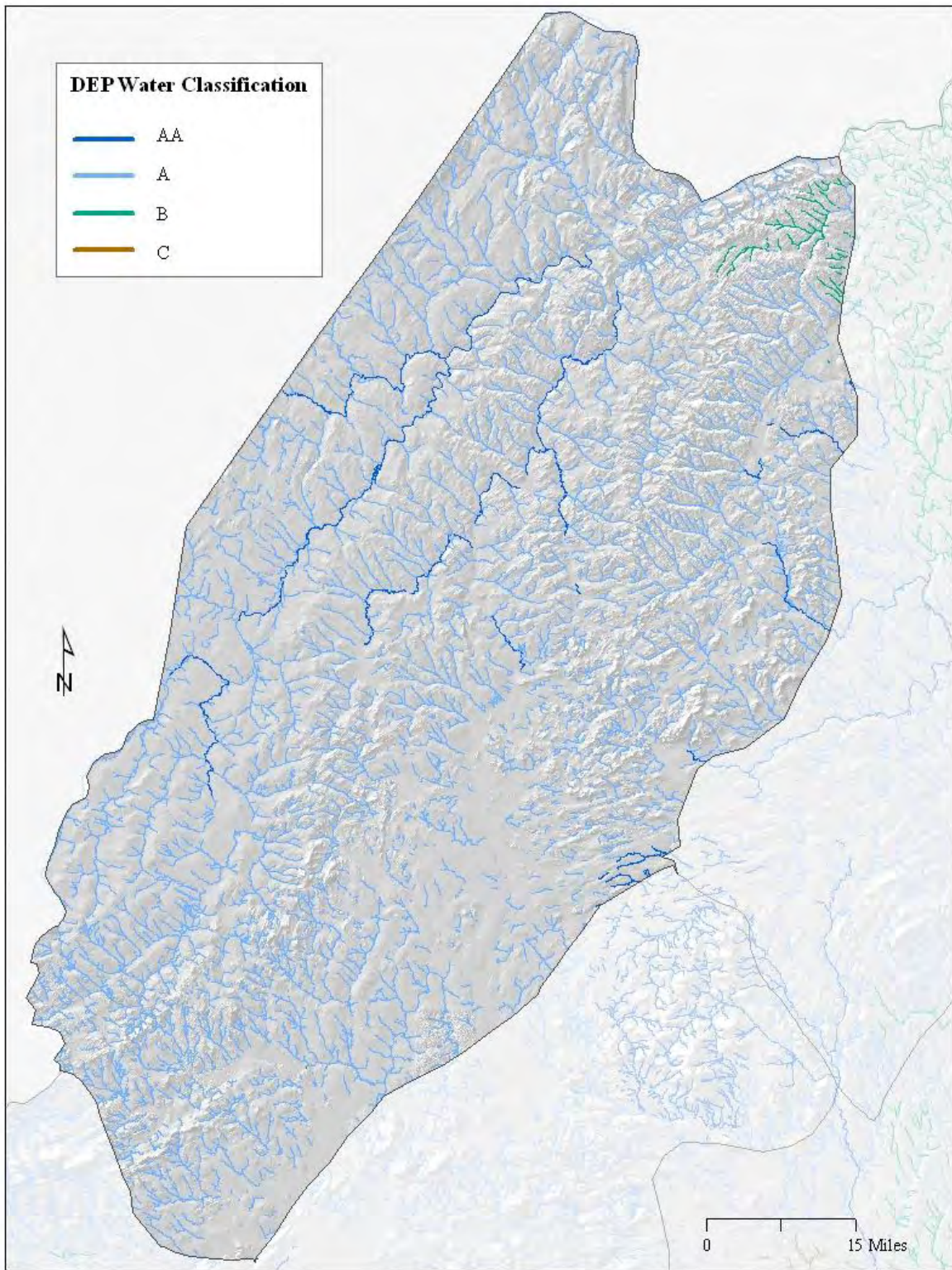


Figure 24. MDEP water quality classifications for the *Northwest Maine* region.

Southern Maine

The Southern Maine region is the fastest growing region in the state, with the state's largest metropolitan area projected to grow considerably in the years ahead. As shown in Figure 25 below, projections for development expansion over the next 20 years are considerable. The Aquatic Resources Base layer suggests this region had the potential to support 595,000 acres of wetland and aquatic resources (including both saltwater and freshwater types), the smallest acreage of any of Maine's regions (see Figure 26). This represents 41% of the regional area (or 40% of the section area if intertidal offshore wetlands are excluded from the calculation) and 7% of Maine's total potential wetland and aquatic resources.

Maine Landcover data (MELCD 2004) suggests that almost 8% of the original potential aquatic resource cover has been converted to development (see Figure 26). An additional 6% has been converted to agriculture. This represents the highest percent area converted of any of Maine's regions. The MELCD 2004 data suggests that 19.4% of the shoreline buffer (100m) around lakes and ponds and 14.9% of the riparian area along streams and rivers has been converted to agriculture or development, representing the second highest levels for any region in the state (see Section 8.3). This region is also subject to higher development pressures and potential conversion of wetland acres. Between 2006 and 2011, 1,057 Natural Resource Protection Act (NRPA) and Permit-by-Rule (PBR) permits were issued for development-related wetland impacts in this ecoregion (see Figure 27). Figure 28 shows the MDEP water quality classifications for the watersheds of the region and Table 15 shows the extent of aquatic resources found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3).

Regional conservation objectives:

- Actively pursue opportunities to restore priority resource types, particularly coastal resources, as well as opportunities to restore marginal or non-productive agricultural land.
- Encourage preservation projects, particularly for vernal pools, headwater streams (1st and 2nd order) and their associated upland buffers, and in areas of projected development expansion, to ensure that the region's remaining aquatic resources remain intact and functional into the future.
- Encourage preservation and restoration (e.g., barrier removal) projects in coastal areas that would facilitate the projected future migration of coastal wetland communities in response to climate change and sea level rise.

Table 15. Extent of aquatic resources found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3) for the *Southern Maine* biophysical region.

| Aquatic Resource Type | Total Area in Region | Permanently Conserved | % Prmnntly Conserved | Other Conserved | % Other Conserved |
|-------------------------------------|-----------------------------|------------------------------|-----------------------------|------------------------|--------------------------|
| Estuarine Intertidal Emergent | 6,897 | 2,230 | 32.3% | 1,834 | 26.6% |
| Estuarine Intertidal Forested/Shrub | 8 | 7 | 96.0% | 0 | 0.0% |
| Estuarine Subtidal | 621 | 49 | 7.9% | 31 | 5.0% |
| Lacustrine | 80,441 | 52 | 0.1% | 87 | 0.1% |
| Marine Intertidal | 4,044 | 53 | 1.3% | 38 | 0.9% |
| Marine Subtidal | 475 | 1 | 0.3% | 0 | 0.0% |
| Other Estuarine Intertidal | 4,935 | 449 | 9.1% | 247 | 5.0% |
| Palustrine Emergent | 11,247 | 407 | 3.6% | 660 | 5.9% |
| Palustrine Forested | 81,604 | 2,198 | 2.7% | 5,850 | 7.2% |
| Palustrine Non-vegetated | 5,795 | 89 | 1.5% | 205 | 3.5% |
| Palustrine Shrub | 30,582 | 737 | 2.4% | 2,207 | 7.2% |
| Riverine | 5,192 | 44 | 0.9% | 75 | 1.5% |
| Regional Total | 231,839 | 6,317 | 2.7% | 11,235 | 4.8% |

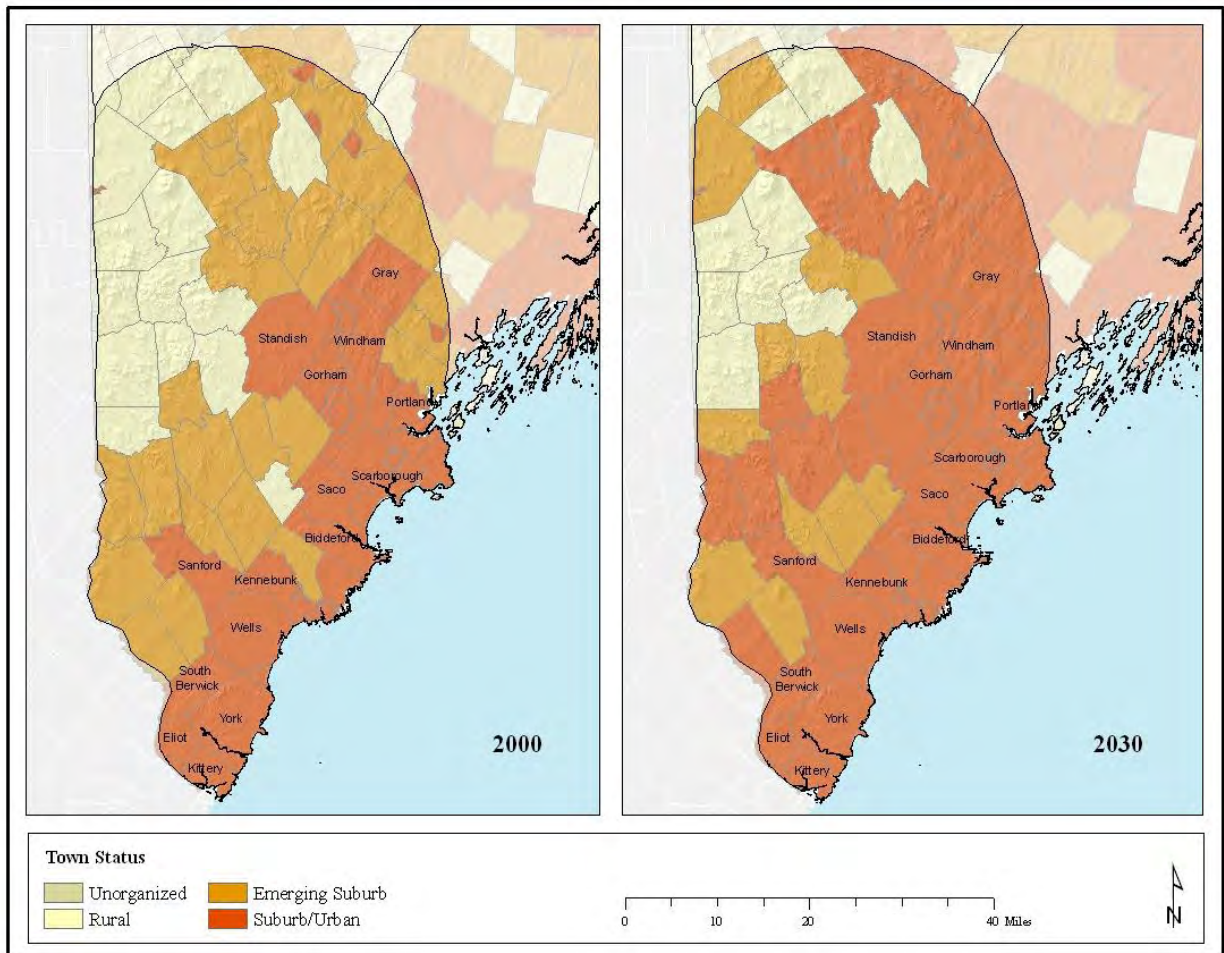


Figure 25. Projected expansion of development, by U.S. census block, for the *Southern Maine* biophysical region based on State Planning Office analysis.

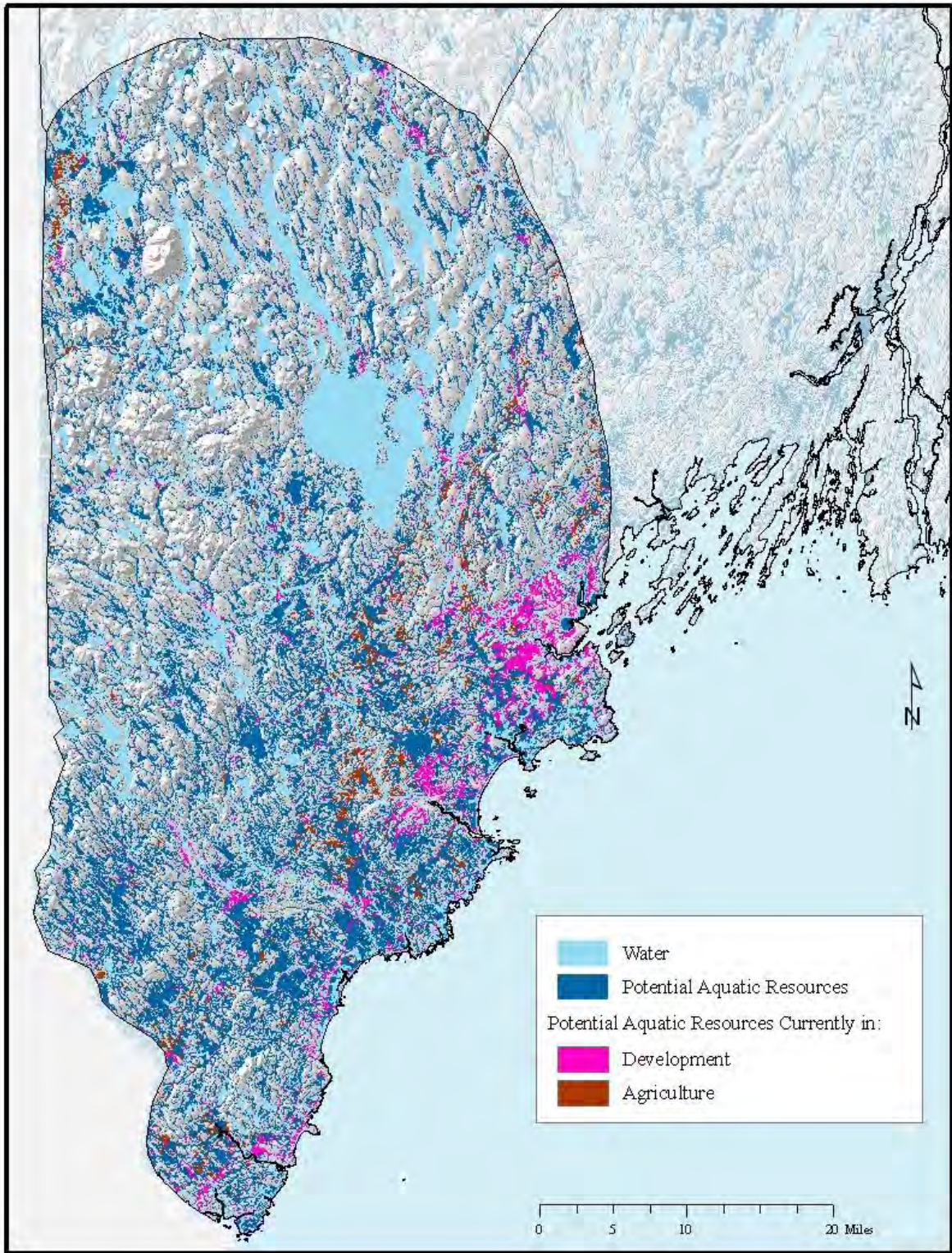


Figure 26. Aquatic Resource Base Layer (ARBL) for the *Southern Maine* biophysical region.

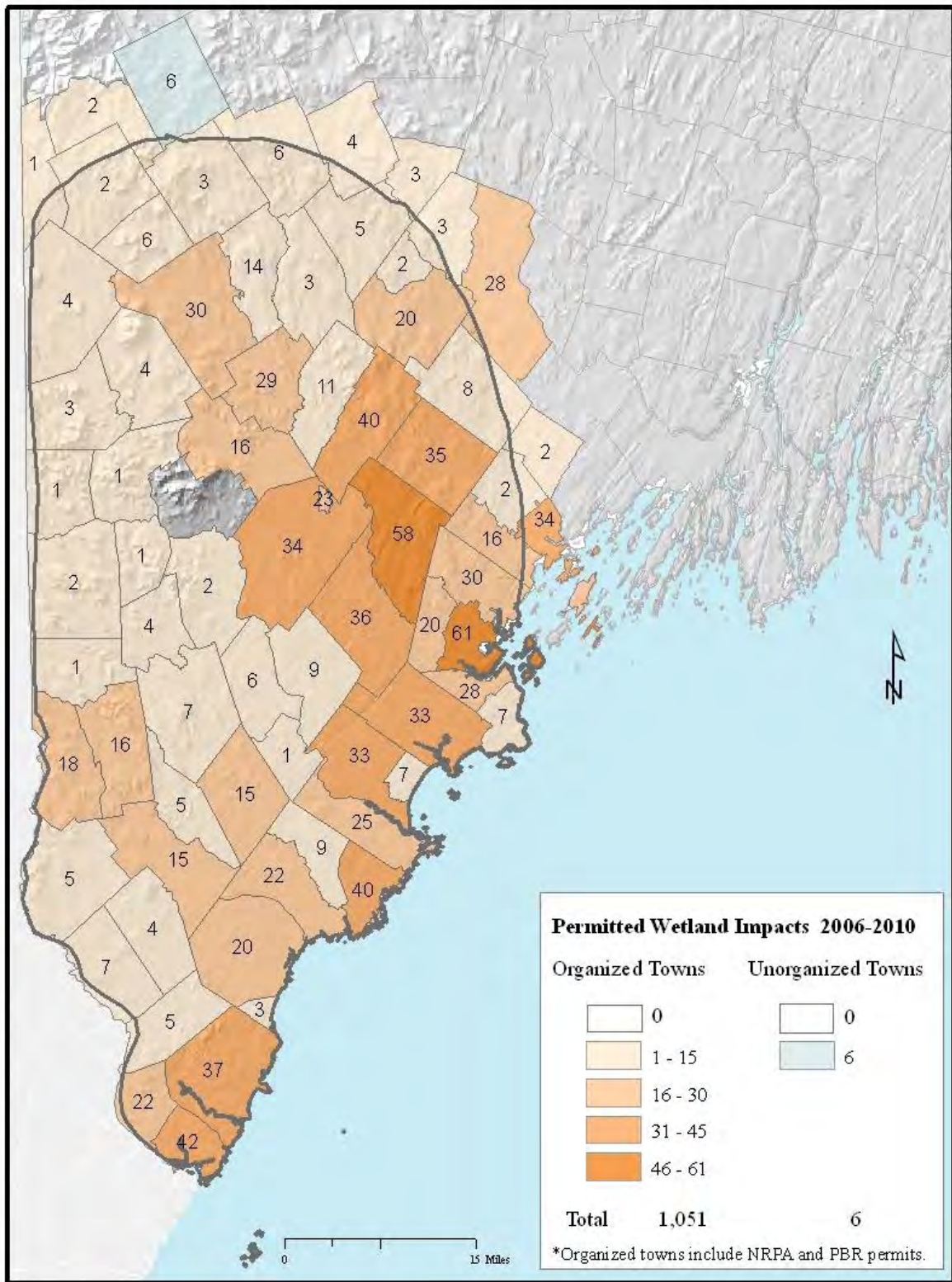


Figure 27. Permitted wetland impacts (from WLTS and GOAT) for the *Southern Maine* region.

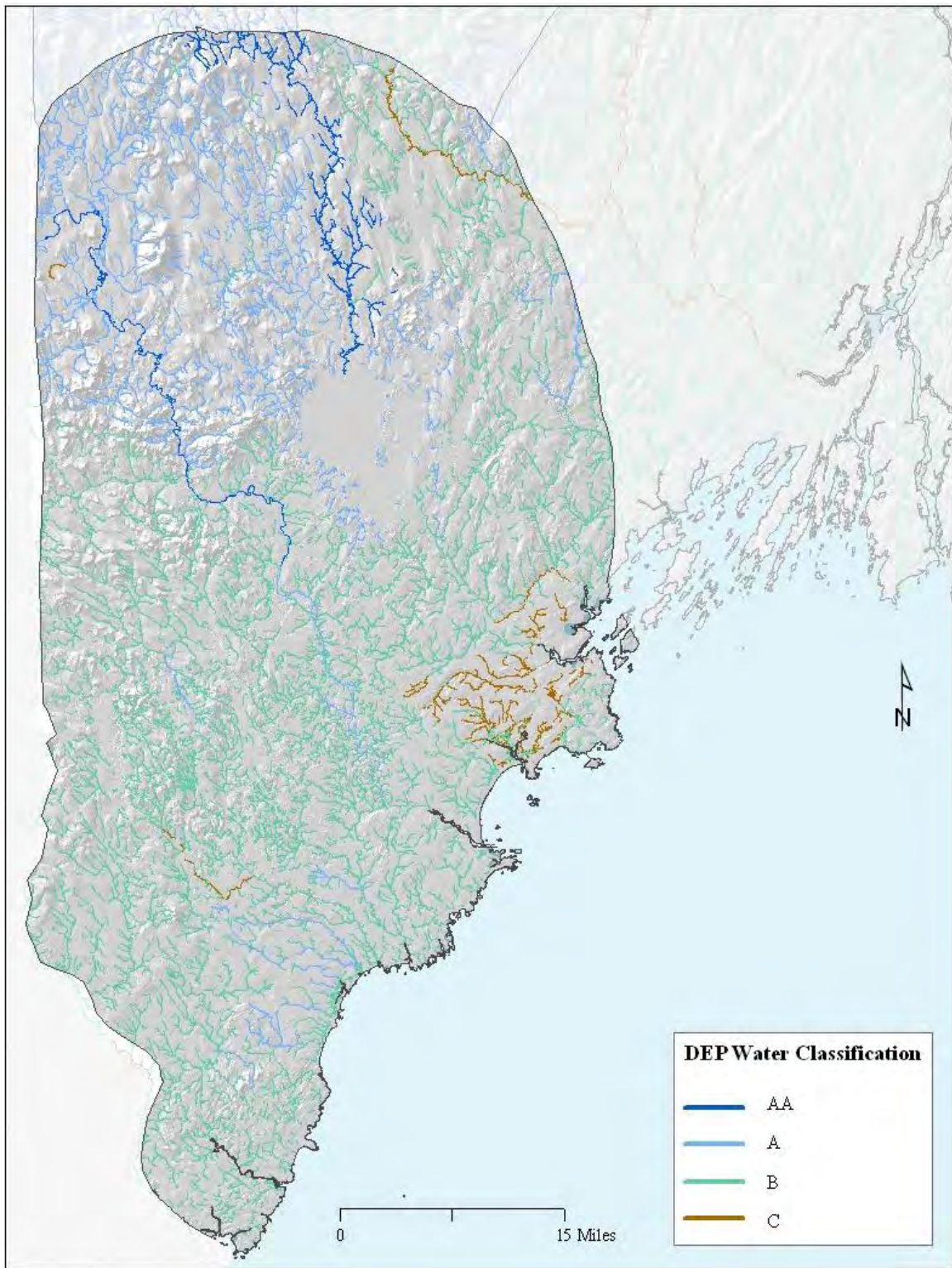


Figure 28. MDEP water quality classifications for the *Southern Maine* region.

Appendix E Aquatic Resources Base Layer Documentation

In order to assess the current condition of aquatic resources in Maine, and approximate historic loss due to land conversion, a GIS-based Aquatic Resources Base Layer (ARBL) was developed by MNAP. The ARBL expands on the wetlands identified in the USFWS' National Wetland Inventory (NWI) maps and identifies other areas likely to support wetland habitats, functions, and values. In addition to NWI, the ARBL incorporates waterbody data from the National Hydrography Dataset (NHD), 'wet flat' areas from The Nature Conservancy's Active River Area (ARA) model, and hydric soils data from the Natural Resources Conservation Service (NRCS). Data from these four sources were combined to create a base layer designed to capture open water features and the full range of vegetated wetland types, as well as low-relief bottom land areas and mapped hydric soils. The resulting base layer identifies the areas in the state that are most likely to support wetland habitats, functions and values. Note that this approach is assumed to overestimate the actual coverage of aquatic resources in the state and as such is most useful for relative comparisons between different regions. The individual components of the ARBL are described in more detail below:

1. National Wetland Inventory

NWI wetlands were mapped using aerial imagery as the primary information source. Because of the limitations of aerial photography, some wetlands may have therefore been excluded from the dataset. Additional data sources were used to supplement NWI in the creation of Maine's Aquatic Resources Base Layer.

2. National Hydrography Dataset (NHD)

NHD data represent the surface waters of the United States. Obvious surface waters are also mapped by NWI, but narrow streams or streams in heavily forested areas often are missing from the NWI dataset. The 1:24,000 scale NHD was therefore used to supplement NWI in the ARBL. A 1.5 meter buffer was placed on either side of all streams that extended outside the NWI area, in order to more realistically represent the true width of those streams on the ground.

3. Active River Area (ARA)

The Active River Area model was developed by The Nature Conservancy in order to create a more holistic framework for identifying the dynamic, interactive components of a river and surrounding land. The ARA uses watershed position and geomorphic variables to map out the "active" zone along a river, including floodplains, material contribution zones, and wet flats. Two components of the ARA were incorporated into the ARBL, wet flats and wet material contribution zones. Because the ARA was modeled based on 1:100,000 scale NHD data in Maine, and because it focused on the areas directly surrounding rivers, we also incorporated "wet" Ecological Land Units in the ARBL, to identify the low lying catchment areas away from riparian zones.

4. Hydric Soils

The Natural Resources Conservation Service recently completed an update of the soils mapping for the entire state. In order to identify areas most likely to support wetland, the ARBL incorporated mapping units where hydric soils were identified as the major component.

These four datasets were unioned in GIS to create a single Aquatic Resources Base Layer, meant to represent the "potential" wetland area across Maine's landscape. There are a few important points to note about the final ARBL. First, the acreages calculated include all open water bodies. Second, soils in the unorganized towns were mapped at a coarser scale (larger minimum delineation size), and therefore a mapping unit where hydric soils are the dominant component will be larger in unorganized towns than in organized towns. Third, coastal portions of the ARBL include a swath of intertidal wetlands off the coast of Maine (all estuarine intertidal wetlands in NWI), which increases the aquatic resource acreage for coastal ecoregions.

Appendix F Other Aquatic Resources on Permanently Conserved Land

Table 16. Extent of Inland Waterfowl & Wading Bird Habitat (IWWH) on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3).

| Biophysical Region | Total IWWH Area (acres) | Permanently Conserved IWWH | % IWWH Permanently Conserved | Other Conserved IWWH (Gap 3) | % IWWH Other Conserved |
|-----------------------------|--------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|-------------------------------|
| Aroostook Hills & Lowlands | 106,688 | 1,597 | 1.5% | 9,404 | 8.8% |
| Central & Eastern Lowlands | 254,082 | 8,569 | 3.4% | 46,376 | 18.3% |
| Central & Western Mountains | 147,633 | 9,190 | 6.2% | 23,596 | 16.0% |
| Central Interior & Midcoast | 196,337 | 8,256 | 4.2% | 7,886 | 4.0% |
| Downeast Maine | 123,231 | 17,436 | 14.1% | 11,496 | 9.3% |
| Northwest Maine | 149,616 | 16,612 | 11.1% | 45,602 | 30.5% |
| Southern Maine | 42,095 | 1,154 | 2.7% | 3,690 | 8.8% |
| State Total | 1,019,684 | 62,814 | 6.2% | 148,051 | 14.5% |

Table 17. Number of Vernal Pools (VP) found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3).

| Biophysical Region | Total # of Vernal Pools | Permanently Conserved Vernal Pools | % V.P. Permanently Conserved | Other Conserved V.P. (Gap 3) | % Vernal Pools Other Conserved |
|-----------------------------|--------------------------------|---|-------------------------------------|-------------------------------------|---------------------------------------|
| Aroostook Hills & Lowlands | 1 | 0 | n/a | 0 | n/a |
| Central & Eastern Lowlands | 31 | 0 | n/a | 0 | n/a |
| Central & Western Mountains | 141 | 0 | n/a | 4 | 2.8% |
| Central Interior & Midcoast | 489 | 18 | 3.7% | 2 | 0.4% |
| Downeast Maine | 170 | 1 | 0.6% | 6 | 3.5% |
| Northwest Maine | 1 | 0 | n/a | 0 | n/a |
| Southern Maine | 199 | 1 | 0.5% | 0 | n/a |
| State Total | 1,032 | 20 | 1.9% | 12 | 1.2% |

Table 16. Extent of rare and exemplary wetland natural communities, and number of rare wetland plant populations, found on permanently conserved land (Gap Status 1, 2 and Ecological Reserves) and on other conserved land (Gap Status 3).

| Biophysical Region | Permanently Conserved Communities (acres) | Other Conserved Communities (acres) | Permanently Conserved Populations (count) | Other Conserved Populations (count) |
|-----------------------------|--|--|--|--|
| Aroostook Hills & Lowlands | 2,365 | 4,462 | 23 | 7 |
| Central & Eastern Lowlands | 7,677 | 29,367 | 14 | 25 |
| Central & Western Mountains | 8,411 | 5,442 | 16 | 6 |
| Central Interior & Midcoast | 13,744 | 5,421 | 23 | 37 |
| Downeast Maine | 10,404 | 3,252 | 18 | 3 |
| Northwest Maine | 6,502 | 12,960 | 48 | 77 |
| Southern Maine | 5,124 | 8,086 | 25 | 25 |
| State Total | 54,228 | 68,990 | 167 | 180 |

Appendix G Public and Private Stakeholder Engagement in CPF

| Name | Agency/Organization | Contribution |
|---------------------|-----------------------------------|--------------------------|
| Josh Royte | TNC – Maine | Expert Input at Meetings |
| Barbara Vickery | TNC – Maine | Expert Input at Meetings |
| Alex Mas | TNC – Maine | Expert Input at Meetings |
| Dan Coker | TNC – Maine | Data, Expert Input |
| Kathy Jensen | TNC – Maine | Data, Expert Input |
| Arlene Olivero | TNC – Eastern Regional Office | Data |
| Colin Apse | TNC – Eastern Regional Office | Data |
| Erik Martin | TNC – Eastern Regional Office | Data |
| Thomas Gilbert | MDEP | Data |
| Dawn Hallowell | MDEP | Technical Assistance |
| John McPhedran | MDEP | Data |
| Peter Rushton | MDEP | Technical Assistance |
| Roy Bouchard | MDEP | Data |
| James Cassida | MDEP | Data, Expert Input |
| Jeanne Difrango | MDEP | Data, Expert Input |
| Susan Davies | MDEP | Data |
| Dave Courtemanch | MDEP | Data, Expert Input |
| Aram Calhoun | UMO | Data, Expert Input |
| Mike Smith | MEGIS | Data |
| Steve Walker | MDIFW | Expert Input at Meetings |
| Phillip deMaynadier | MDIFW | Data, Expert Input |
| Jonathan Mays | MDIFW | Expert Input |
| Merry Gallagher | MDIFW | Data, Expert Input |
| Nate Kane | MDOT | Data |
| Deane VanDusen | MDOT | Data, Expert Input |
| Lindsay Hodgman | NRCS | Data |
| Tony Jenkins | NRCS | Data |
| Jeff Norment | NRCS | Data, Expert Input |
| Molly Docherty | MNAP | Expert Input at Meetings |
| Shonene Scott | MNAP | Analysis |
| Kristen Puryear | MNAP | Analysis |
| Kristen Erath | MNAP | Analysis |
| Samantha Horn-Olsen | LURC | Data, Expert Input |
| Tim Beaucage | LURC | Data |
| Elizabeth Hertz | SPO | Data, Expert Input |
| Thomas Merrill | SPO | Data |
| Bob Houston | USFWS | Data |
| Joe Weber | Virginia Natural Heritage Program | Data |

References

- Anderson, M. G., K. Lombard, J. Lundgren, B. Allen, S. Antenen, D. Bechtel, A. Bowden, M. Carabetta, C. Ferree, M. Jordan, S. Khanna, D. Morse, A. Olivero, N. Sferra, M. Upmeyer. 2006. The North Atlantic Coast Ecoregional Assessment. The Nature Conservancy, Eastern Regional Office, Boston, MA.
- Anderson, M.G., B. Vickery, M. Gorman, L. Gratton, M. Morrison, J. Maillet, A. Olivero, C. Ferree, D. Morse, G. Kehm, K. Rosalsk. 2006. The Northern Appalachian / Acadian Ecoregion: Conservation Assessment - Status and Trends. The Nature Conservancy, Eastern Regional Office, Boston, MA.
- Bailey, R. G. 2009. Ecosystem Geography: From Ecoregions to Sites, 2d ed. Springer-Verlag. New York, New York, 252 pp. 113 illus. ISBN: 978-4419-0391-4
- Barbour, H., M.G. Anderson, S. Khanna, A. Olivero, B. Zaremba. 2000. Lower New England - Northern Piedmont Ecoregion Conservation Plan: First iteration. The Nature Conservancy, Boston, MA.
- Barron, E. 2000. Potential consequences of climate change for the Northeastern United States. Chapter 4 in: *Climate Change Impacts on the United States, The potential consequences of climate variability and change*. U.S. National Assessment Synthesis Team. U.S. Global Change Research Program.
- Beach, D. 2002. Coastal sprawl: the effects of urban design on aquatic ecosystems in the United States. South Carolina Coastal Conservation League. Prepared for Pew Oceans Commission.
- Bertness, M. 1999. *The Ecology of Atlantic Shorelines*. Sinauer Associates, Sunderland, MA.
- Carpenter, S.R., N. F. Caraco, D.L. Correll, R.W. Howarth, A.N. Sharpley, and V.H. Smith. 1997. Nonpoint pollution of surface watershed with phosphorus and nitrogen. *Ecological Applications* 8: 559-568.
- Crist, P.J., B. Thompson, T. C. Edwards, C. G. Homer, S. D. Bassett. 1998. Mapping and Categorizing Land Stewardship. A Handbook for Conducting Gap Analysis (<http://www.gap.uidaho.edu/>).
- DiFranco J. 2011. Maine Wetland Program Plan (2011-2016). Prepared by the Maine Wetland Interagency Team pursuant to the U.S. Environmental Protection Agency's Enhancing State and Tribal Wetland Programs (ETSP) Initiative.
- Driscoll, C.T., D. Whittall, J. Aber, E. Boyer, M. Castro, C. Cronan, C. Goodale, P. Groffman, C. Hopkinson, K.Lambert, G. Lawrence, and S. Ollinger. 2003. Nitrogen pollution in the Northeastern United States: Sources, effects, and management options. *BioScience* 53(4):357-374.
- Fitzgerald, D.M. (Professor at Boston University) 2006. Rising sea level and its effects on backbarrier marshes and tidal flats, tidal inlets, and adjacent barrier shorelines. Presentation to Massachusetts north shore salt marsh restoration team. February 8, 2006.
- Forman, R.T.T., D. Sperling, J.A. Bissonette, A.P.Clevenger, C.D.Cutshall, V.H.Dale, L. Fahrig, R. France, C.R. Goldman, K.Heanue, J.A. Jones, F.J. Swanson, T. Turrentine, and T.C. Winter. 2003. *Road Ecology: Science and Solutions*. Island Press, WA.

- Forman, R.T.T. 2000. Estimate of the area affected ecologically by the road system in the United States. *Conservation Biology* 14(1): 31-35.
- Forman, R.T.T. and R.D. Deblinger. 2000. The ecological road-effect zone of a Massachusetts (U.S.A.) suburban highway. *Conservation Biology* 14(1): 36-46.
- Forman, R.T.T. and L.E. Alexander. 1998. Roads and their major ecological effects. *Annual Review of Ecology and Systematics* 29:207-31.
- Olivero, A., M.G. Anderson, B. Vickery, J. Royte, K. Jensen, P. Vaux, D. Bechtel, B. Brown, D. Bryant, C. Cheeseman, D. Hunt. 2006. Northern Appalachian Freshwater Stream Ecosystems. The Nature Conservancy, Eastern Regional Office, Boston, MA.
- USDA. 2002. Pest Alert: sudden oak death.
http://www.na.fs.fed.us/spfo/pubs/pest_al/sodeast/sodeast.htm