The Lot 11 & Area Watershed Management Plan

Prepared by:
The Lot 11 & Area Watershed Planning Committee

Note: The Lot 11 & Area Watershed Management Group's publication, *Technical Information for Lot 11 and Area Watershed Managers,* is incorporated with this document by reference. It provides technical detail for the content of this plan.

Prince Edward Island Environment, Energy and Forestry

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Contents

Executive Summary

The community-based planning model for watershed management is accepted as the best available avenue for responsible watershed resource management on PEI. Isolated stream-enhancement work has been the traditional scope of watershed group efforts, but that role has expanded, relatively recently, to encompass direction for community-based planning initiatives. Why?

First, watershed resources extend beyond the trout and salmon habitat that traditional group roles sought to improve and protect. Wider issues of drinking water quality, community setting, and general economic/natural resource conservation and management were not always adequately addressed by traditional activities.

Second, in their stream improvement role, groups were perpetually and reactively correcting recurring problems that followed from ongoing land uses. The premise of community-based planning is to create local awareness of watershed resources and problems – creating a sense of communal ownership and involvement, which effectively promotes responsible land-use practices.

Our group formed during this role-envisioning for provincial watershed groups, and we are fortunate to have begun our work with the establishment of our plan. Our group has a substantial commitment to stream improvement work, but we are convinced that community involvement through community-based planning must occur simultaneously with – and not precede – stream enhancement efforts. Informed and aware landowners are the most important vector for watershed improvement and protection.

The content of this plan was deliberatively developed and adopted by a community planning committee made up of representatives from our community's primary sectors, including residents, community leaders, agriculture, fishing and aquaculture, tourism, recreational sportspersons, and watershed group volunteers. During their work, the planning committee identified primary watershed assets and concerns. Using this preliminary research, the committee developed goals for watershed management and strategies for achieving those goals. This final document presents the committee's expression of community watershed management interests and details a program of action for protecting them. It also provides background information and details a mechanism for measuring success and appropriate plan revision.

Acknowledgements

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- The Lot 11 and Area Watershed Planning Committee
- Our municipal community councils and our leaders within the legislative assembly
- The PEI Department of Environment, Energy and Forestry
- The Evangeline Credit Union
- Service Canada

We further wish to thank the entire watershed management community on PEI for their substantial technical and logistical support for our effort. Specifically, we thank the following organizations/persons (in arbitrary order):

- Professor Darryl Guignion, Community Environmental Liaison, University of Prince Edward Island.
- Todd Dupuis, Director of Regional Programs & Regional Director for Prince Edward Island, Atlantic Salmon Federation.
- The combined staff of the PEI Department of Environment, Energy and Forestry – Environment Division and, in particular, the staff of the Watershed Management Division.
- The individual group coordinators of the Prince Edward Island Western Region Watershed Management Groups and Ross Bernard, our regional coordinator for the PEI Department of Environment, Energy and Forestry.
- The combined membership of the Prince Edward Island Watershed Management Group Alliance and, in particular, the members of the Alliance's steering committee.

We also thank Darren Bardati, PhD, Director of Environment Studies, University of Prince Edward Island, for his effort in reviewing our group documents and the research he is conducting on community-based planning as applied to environmental management.

Finally, we thank the Prince Edward Island Wildlife Conservation Fund, the Provincial Greening Spaces Program, and the Provincial Employment Development Agency for supporting our efforts to realize the vision of our plan.

Introduction

Our watershed area is a unique and special place. Relative to many parts of the Island, our watershed is not as severely stressed by population pressure, land uses, and deforestation. Although there are many watershed enhancement opportunities, a fair portion of our mission centers on preservation. Public information and a sense of individual resource ownership are the keys to appropriate community choices, for both enhancement and protection of our home.

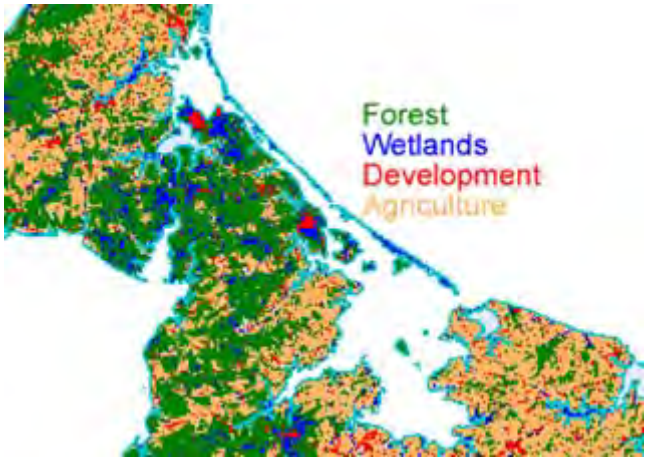
Several factors contribute to a well-functioning community, including gainful employment of residents, landowner freedom to enjoy and derive a living from their land, public health, property values, etc. Of no minor importance is the landscape itself. It is the setting for the community. It is what we call home.

People are the focus of community-based watershed planning and watershed management. Any watershed mission or initiative that fails to consider human factors will fail. Within our community we have a balance of interests, including agriculture, forestry, tourism, residents, fishermen, sportsmen, seasonal visitors, etc. Members of these individual interest groups are called stakeholders. Most stakeholder groups share common interests in the landscape and common watershed values, but sometimes there are conflicts. The same can be said of wildlife and human populations.

In watershed planning we try to establish the common interests of all stakeholders and find a consensus on practices to protect those interests. We also seek to discover where conflicts exist and work to resolve our differences. This cannot be done by a watershed group, and it cannot be done by government. Neither has the authority nor the qualifications to dictate to the community the nature of its best interests.

The watersheds in our area have certain characteristics that distinguish us from most other watershed areas in PEI. It is a demonstrable fact that we have fewer of the problems caused by land-use practices and population density. The Provincial Commission on Nitrates in Groundwater clearly demonstrated that we have the best groundwater nitrate levels on the Island. (The Nitrate Commission report shows a clear correlation between nitrate levels and the number of acres of potatoes in production; our area is one of the few on the Island with less than 3% of our land area in potatoes.)

However, it is not just nitrate and it is not just potatoes. The nitrate levels indicate an underlying positive condition for our area, but there are other factors responsible for this. Water quality and environmental quality are directly related to forest cover. Wetlands and their distribution are very important. Other land uses like development also play a role. The following map shows that our area has a working balance of forest, wetlands, development, and agriculture.



There is a substantial band of forest and wetland between Routes 12 and 2 in our area. There are similar areas on the Gulf side of Route 12. The extent of this resource is essentially unique on PEI. These are marginal areas for agriculture and development, but they are *not* wastelands. They are responsible for the quantity and quality of our water supply. To exploit these areas for limited, short-term gains will have consequences for our community.

What we have in Lot 11 & Area is a gift. Unlike other watershed groups on the Island, we do not have to scramble and reactively correct issues caused by decades of land-use problems. Rather, our primary task is to proactively preserve what we have. We are not free from problems, but the fundamentals look good.

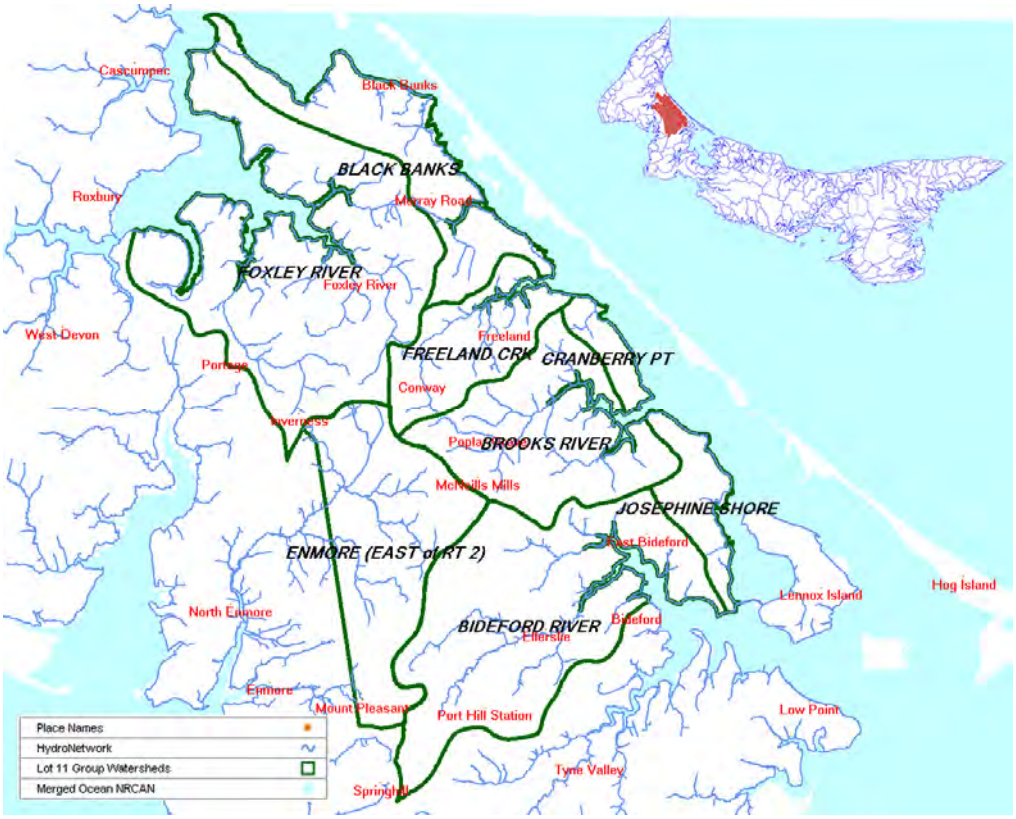
Our Area – Assets and Issues

Detailed technical information

This plan document incorporates by reference The Lot 11 & Area Watershed Management Group's publication, *Technical Information for Lot 11 and Area Watershed Managers.* It has been provided to all planning committee members and will be made available to interested community members. Additionally, assessment reports have been written for most of our area's primary streams. These reports have been reviewed by the group's board of directors and can be made available for stakeholder review.

Geographical overview

The following map provides a geographic overview of the region managed by the Lot 11 & Area Watershed Management Group. The geophysical watersheds that fall within our managed area are enclosed within the pink boundaries on the map. Management of the Enmore River watershed is shared with the Harmony Group.



The individual watersheds located in the group's managed area are tabulated below, with their areas.

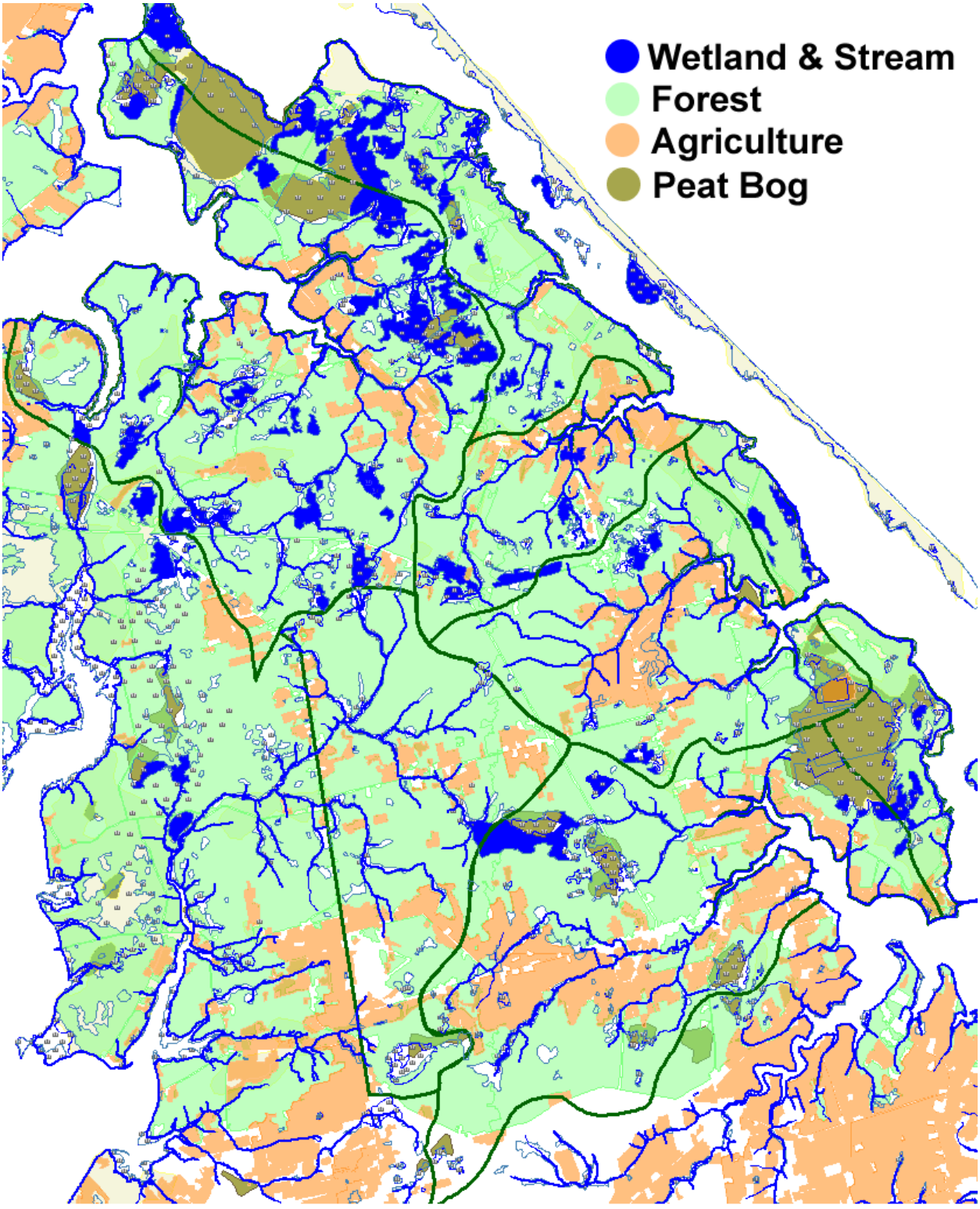
Watershed	Area, Ha
FOXLEY RIVER	4243.35
BLACK BANKS	1557.17
FREELAND CREEK	1097.45
BROOKS RIVER	2035.55
BIDEFORD RIVER	3411.16
JOSEPHINE SHORE	546.94
CRANBERRY POINT	283.23
ENMORE (EAST of Rt. 2)	2133.92
TOTAL	15309 (~153 square kilometers)

Asset: Forest and Wetlands

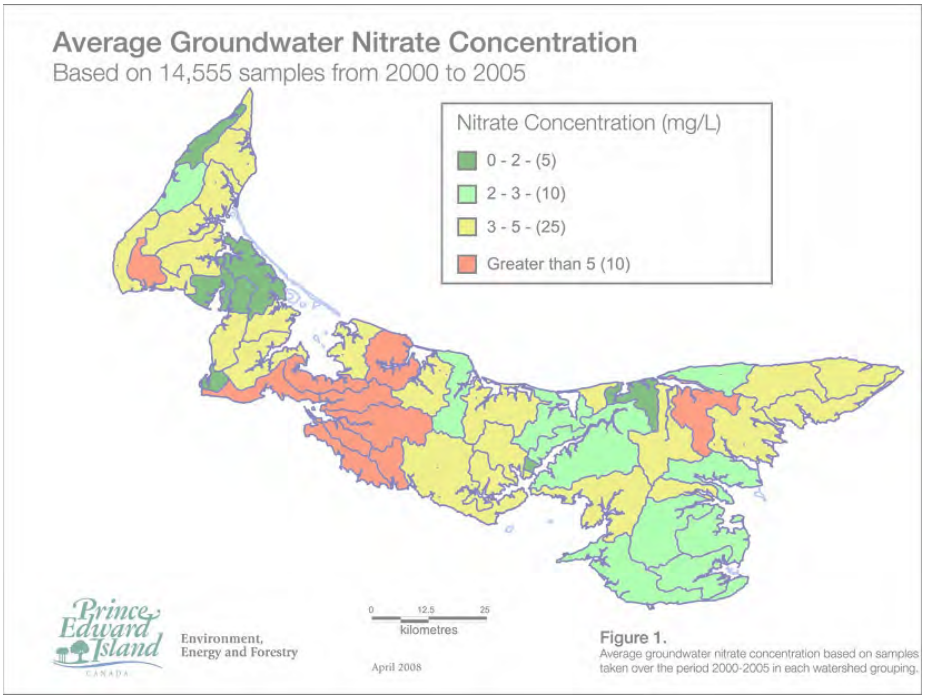
Our region has the highest forest/wetland to agriculture/development ratio on the Island. This is demonstrated in the following table and map.

Land Cover Characteristics

	Forest and Wetland	Agriculture and development
Lot 11 Group Area	**~83%**	~17%
Island wide	~37%	~63%



These forest and wetland areas are responsible for the area's excellent groundwater quality. The next map demonstrates that the average nitrate levels for our groundwater are the lowest on the Island.



2008 Nitrate Commission Report

Our groundwater is our single source of drinking water for our communities. These forest and wetland resources act in two primary ways to keep our groundwater clean. First, because these areas are there instead of agriculture and development, the opportunity and extent of contamination from land uses is limited. Second, the wetlands provide a natural trap for nutrients and other contaminants.

The wetland resources also stabilize groundwater levels. The swamps and marshes of the region store vast quantities of groundwater for both drinking water resources and stream flow regulation.

Finally, the forest and wetland resources provide wildlife habitat. The term *wildlife* encompasses all non-domesticated plants, animals, and microorganisms. Watershed wildlife communities are an essential component for many human stakeholders. They are part of the overall global system that supports life, and they provide aesthetic and cultural enrichment. Often they have immediate economic value too. Wildlife populations are natural resources that comprise our biological wealth. Natural systems and wildlife are important on their own, independent of human values.

Issue: We need to keep our forest and wetland assets for drinking water resources and wildlife habitat.

Asset: Groundwater

The exemplary condition of our ground water resources has been discussed in the preceding *Forest and Wetlands* section. However, these resources are substantially endangered by existing and potential land uses.

The entire area is lowland, typically within the 25' and 50' contour (elevation) intervals on the 1:50,000 topographic maps for the area (Canada Dept of Energy, Mines and Resources). Groundwater flow within flatlands is fairly slow. Rainwater/snow-melt runoff competes with groundwater recharge processes. Once contaminated, our groundwater will take considerably longer to recover than it would in other higher-

gradient sections of the Island. Also, because of the high groundwater level (and, consequently, the degree of saturation of the soil), contamination from point-sources such as leaking oil tanks, landfills, failing septic systems, waste piles, waste treatment operations, etc., will create a plume that could endanger drinking water wells over an extended area.

There is local concern about ongoing groundwater contamination that may be coming from the closed Conway dump. There are also concerns about petroleum releases from heating oil storage tanks, abandoned underground gasoline storage tanks, and deliberate improper disposal of motor oil. Finally, there is concern about improper disposal of household and septic system wastes.

Issue: We need to protect our groundwater from point-source contamination (leaking oil tanks, landfills, failing septic systems, waste piles, waste treatment operations, etc.).

Non–point-source contamination in our area is predominantly created by agricultural operations. As the preceding map shows, most of our agricultural land-uses are concentrated near the estuaries. Although these agricultural inputs will impact estuaries, their distribution makes them less of a threat to the entire aquifer of the various watersheds within our area. This would be expected to change if the interior of our region is developed.

Issue: We need to protect our groundwater from non–point-source contamination that could arise if the interior sections of our watersheds are developed.

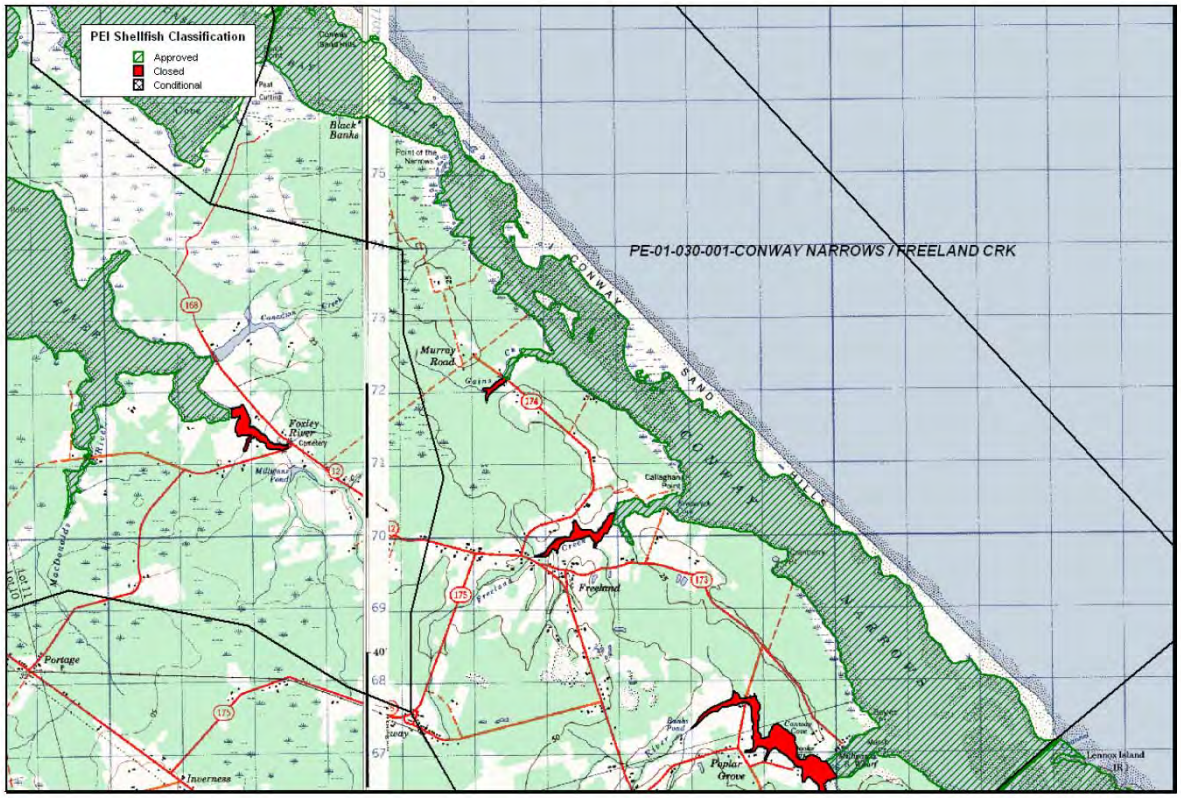
Asset: Estuaries

Estuaries are of substantial economic importance in PEI. The aquaculture sector is centered on them. They are a big part of the attraction for the tourism industry. Many fish of commercial value rely on the estuaries as nursery habitat. Many others rely on estuary-dependent species for food.

Estuaries are a source of recreation, education, and aesthetic value. Boating, fishing, swimming, and bird-watching are just a few of the many activities people enjoy in estuaries. They also have cultural and social value.

Our estuaries are enclosed by natural barriers created by the Conway Sand Hills, Cascumpec Bay, and Malpeque Bay. These barriers act to reduce tidal flushing from the Gulf of the St. Lawrence. This reduced flushing makes the estuaries vulnerable to contaminant accumulation – particularly in their upper reaches. The map below shows in red the estuarine areas that are in shellfish closure (primarily due to bacteria levels).

Map from DFO *Re-evaluation Report: Prince Edward Island Shellfish Growing Areas 1 To 3*



PRESENT SHELLFISH CLASSIFICATION CONWAY NARROWS / FREELAND CREEK (PE-01-030-001).

Increased nutrient levels from land uses degrade estuary water quality and create algal blooms and sea lettuce infestations. In extreme cases they create anoxic conditions that are fatal to life in the estuary.

Soil erosion from clear-cuts, unanchored agricultural fields, roads, and development operations degrade estuary bottoms making them unsuitable for shellfishing and wildlife habitat.

Issue: We need to protect and improve our estuaries.

Asset: Our Community

The entire Municipality of Lot 11 & Area, portions of Ellerslie-Bideford, and portions of Lady Slipper are within the group's boundaries. This area has an estimated population of ~1000 to 1400 persons.

Our homes are within our area's watershed, which forms the setting for our community. Our quality of life directly depends on the quality of our watersheds.

The 2006 Canada Census indicates that roughly 50% of the labour force in our immediate area is employed in resource-based industries such as agriculture, fishing, forestry, etc. This entire economy relies on a sustainable balance between land uses and environmental resources. Our tourism economy directly depends on the aesthetic quality and wildlife resources in our area.

Beavers occasionally conflict with the use and enjoyment of private property.

Issue: We need to protect our community's setting and balance land uses with environmental factors.

Issue: We need to inform our community members of watershed resources and raise community awareness of how individual land- use practices affect others in the community and the environment.

Asset: Our Streams

The general pattern for streams in our lowland region begins with a primary reach that starts at the head of tide and extends 500–1500 meters upstream. Above this primary channel our streams branch and dissipate into the wetlands that are so important for our region. The primary reaches are productive fish habitat, forming the spawning grounds for our area's sea trout and smelt fisheries. They also provide recreational opportunities for stream anglers.

The fish require gravel for productive spawning, and some of our streams' primary channels are impacted with sediment from surrounding land uses (specifically, the Brooks River, the Foxley River, and Freeland Creek). Occasionally, beavers migrate to these primary channels and create migratory blockages for the fish.

The riparian borders of the streams are of fundamental importance to the streams' health. These borders perform several critical functions, including bank stabilization and nutrient and sediment absorption/filtering. They also provide food sources for terrestrial and aquatic wildlife, controls for water temperature, fish cover, and wildlife habitat.

The headwater wetlands beyond the primary channels of our streams form critical wildlife habitat and support our drinking water supply. Short-term gains from developing these lands are substantially offset by the potential losses. Beavers play an important role in wetland ecosystems, but when beavers create local problems for existing land uses, those problems should be corrected.

Issue: We need to prevent sediment and nutrient inputs to our streams.

Issue: We need to correct existing sedimentation and migratory blockage problems in our primary channels and mitigate existing sediment/nutrient inputs.

Issue: We need to manage beaver populations in our streams' primary channels.

The Planning Process

General

In the absence of formal community planning and the sense of ownership it creates, watershed managers are doomed to a reactive, losing battle with recurring land-use problems. The planning process requires more than lip service. It should not be a secondary activity that we tinker with in winter months.

A formal planning process involves members of various interest groups (stakeholders) within the watershed management jurisdiction. These representatives seek to understand one another's priorities as well as to understand the specific, local issues associated with servicing those priorities. An overall mission, a set of goals,

strategies for realizing those goals, and a means of measuring effectiveness of the strategies are developed through ongoing stakeholder consensus.

What does all of this planning have to do with preventive measures and corrective actions?

- Individual involvement has tremendous value in improving the success of any human effort. Simply being involved stimulates awareness. Planning raises individual consciousness of watershed health factors by directly engaging the public.
- Planning is an avenue for communication of facts, ideas, values, and interests. Watershed stakeholders are rarely insensitive to the values of their neighbors or wildlife. However, they are sometimes not fully aware of the impacts their land-use practices have on the needs of others. With a planning forum, stakeholders come to understand the dynamics of watershed resource sharing. Trout populations are not a priority for everyone, but the livelihoods and health of other community members are. The watershed planning table is where these interests are explained. Direct exchange, discussion, and specific requests for action are needed.
- Planning is a forum for the resolution of conflicts. Most differences can be resolved through negotiation. Compromises can be discovered that serve both parties' interests effectively, but only if the parties are at the table together.
- Community planning imparts a sense of community ownership of objectives. It's no longer "*the things the watershed people want*," it's "*the things we want*."

The Provincial Planning Model

How is this planning to be performed? Prince Edward Island has more than 30 watershed groups, and there is a consensus among these groups and their funding partners that community-based planning is a prerequisite for responsible watershed management. Community groups, academic communities, and regulatory authorities in Canada and the U.S. have developed various – but similar – strategies for doing this planning. Certain pioneer groups on PEI have employed these strategies with success, and the greater watershed management community on the Island has benefited from their experience. A general, Island-wide procedure for watershed planning has evolved. This general procedure, which is referred to as the *Provincial Planning Model* in this document, is diagrammed below.

This planning process is critically dependent on:

- Active participation of the planning committee members.
- Reliable information concerning watershed assets and issues.
- Effective communication of those assets and issues to the planning committee and the community.

Mission/Vision

Our mission statement:

To evaluate, preserve and enhance our watersheds so they may continue to provide for the needs of our community and our environment.

Our vision:

- *A sustainable, rural community setting where residents enjoy:*
  - *their right to clean, abundant drinking water.*
  - *freedom from intrusive or disruptive development.*
  - *their right to enjoy and derive their living from their land.*
  - *the respect of others for their shared resources.*

- *A productive, diverse wildlife community that is proactively protected by stakeholder stewardship.*
- *A policy of no net loss of forest, wildlife habitat, wetland, and watercourse resources.*
- *An informed and engaged community that is guaranteed the right of involvement in decisions that impact the community/environment – specifically including development undertakings as defined in The Provincial Environmental Protection Act.*

Guiding Principles

- To function in a manner consistent with democratic principles.
- To use direct, informed community input in determining goals and actions.
- To solicit technical input and consent for our actions from regulatory authorities and other groups.
- To respect landowner owner rights and obtain consent prior to accessing, monitoring or enhancing private lands.
- To respect each landowner's right to enjoy and derive their living from the use of their property.
- To communicate our plans and actions to the community in a timely, accurate fashion.
- To review our effectiveness and the applicability of our actions through active community performance evaluations, and to modify our objectives and methods in accordance with community needs.
- To develop specific work plans that clearly state the needs and benefits of our actions and that detail the methods and resources for accomplishing our goals.

Generalized Goals

- We want clean, abundant drinking water.
- We want our area to continue to be what it is now and preserve our community setting. Let's keep what we have, for us and for our children.
- We want to protect and improve economic values like healthy estuaries for shellfishing, recreational resources, forestry, property values, etc.
- We want a balance between land uses and environmental factors.
- We want to protect and restore fish and wildlife habit.
- We want to inform the public so that they can make informed decisions.

Strategies and Timeframes

Our goals are interrelated and their achievement strategies are interdependent. The strategies presented in this section often apply to multiple goals. To eliminate redundancy in this section, we present strategies and identify applicable goals for each one.

Strategy: Maintain a practical-action role for the group (institute immediately).

- We are a community group and we have an obligation to act prudently and pragmatically. Cooperative and mutually beneficial advocacy for community/wildlife-habitat values will have maximal benefit. Practical improvement actions and unbiased public information objectives are the most direct route towards addressing our issues and achieving our mission. We need to keep a moderate voice and avoid emotional environmental extremism. Resentments lead to closed minds and antagonism.
- We are not regulators or police. The watershed group will not effectively engage the community if it assumes a regulatory role. Avoiding enforcement, inspection, and other responsibilities of governance is essential.

Strategy: Provide Public Information – Groundwater/Drinking Water Assets (short term and ongoing).

- The public must be aware of the current state of their drinking water resources. They must also be aware of reasonable risks (beyond nitrate), how they are determined, and how they will be corrected if they occur. The watershed group will present this information in public meetings, in the schools, and through distributed literature.
- Landowners and their assigns must be aware of land-use practices that affect groundwater quality and supply. In certain cases this information can be transferred through the public information channels cited above (septic tank and fuel oil tank maintenance).
- In some cases, public information concerning land uses is best done by coordinating information sessions – by industry – that are moderated by professionals with appropriate training (e.g., nutrient management workshops moderated by PEIFA). The watershed group will promote these sessions.

Strategy: Provide Public Information – Forest, Wetland and Wildlife Assets (short term and ongoing).

Note that here we use the broad definition for *wildlife*: any non-domesticated plant or animal (includes fish, shellfish, terrestrial animals, etc.).

- The public must be aware of the current state of their overall watershed resources. What is the state of our resources (such as the condition of our streams) and what are the factors that affect that state? Why are they important? How can our land-use practices impact those resources? This information must be presented to the community in an interesting, engaging fashion – preferably using audiovisual media. Authoritative presenters/moderators with expertise in the various subjects will be sought for this effort.

Strategy: Promote Public Awareness and a Sense of Resource Ownership (short term and ongoing)

Don't it always seem to go that you don't know what you've got till it's gone.

– Canadian songwriter Joni Mitchell

Fact: The area managed by the watershed group has substantial environmental significance. It is our home and it has historical, cultural, and social importance.

- Community members must know and appreciate our community's unique assets. Compromising these assets for short-term gains may permanently modify the place we live. The same public information avenues discussed above are forums for promoting community pride and ownership.
- Resource conservation and improvement must be understood as something individuals are concerned with, rather than something the watershed group wants. This sense of ownership of the resources and problems is fostered through involvement and communication.
- Community apathy may be our biggest obstacle. Often it arises from a sense of powerlessness... "What can I do?" Involvement in decision making and prioritization, which is the focus of the planning process, is the solution. When the plan is complete, it should be open to ongoing community review and revision.

Strategy: Establish Monitoring – Drinking Water (intermediate term).

- We must have timely information on groundwater quality conditions, which requires testing. Currently, drinking water testing is limited to nitrate clinics and, occasionally, to elective bacteria testing at the onus and expense of well owners. To properly monitor groundwater quality, provincially sponsored clinics should be expanded to include testing of bacteria. Furthermore, provincial groundwater testing should be performed at any location where there is a reasonable concern for contamination from hazardous materials, e.g., leachate from the abandoned Conway dump, near existing and abandoned underground storage tanks, at locations where fuel oil has been released, etc. The watershed group will promote this monitoring through the submission of this plan and through ongoing advocacy for this critical assistance.

Strategy: Continue/Expand Resource Assessment – Forest, Wetland, and Wildlife Assets (short term and ongoing).

- Appropriate conservation and response to emerging issues require understanding through evaluation. We need to maintain and further develop reasonably detailed, technology-based knowledge of individual stream and terrestrial habitat health. So far this work has focused on stream assessments and limited evaluation of wetlands and forest. This work should be expanded to include ongoing monitoring of the health of these resources. Are new problems emerging? Are improvement efforts effective? Have issues been missed? This effort requires ongoing work by persons who are trained in conducting relevant surveys. We will benefit from the assistance of individuals with specialized knowledge and background – specifically in the areas of forest management, estuarine health, and semi-aquatic/terrestrial animal ecosystem evaluation.

Strategy: Promote Resource Conservation (short and intermediate term).

- In Prince Edward Island, the responsibility for resource preservation and sustainable land-use resides – nearly exclusively – with landowners. The Department of Transportation and Public Works has substantial land ownership in our area. They have exercised a beneficial, hands-off policy concerning the use of these lands. Similarly, there are other large landowners who have been very responsible stewards of their land. These landowners should be recognized for – and encouraged to continue – their policies.
- Sustainable land-use policies and practices must be promoted through public involvement, awareness, and information (perhaps forestry-related events).

Strategy: Maintain and Stay Current with Resource Conservation and Habitat Enhancement Methods (short term and ongoing).

- We benefit from informed input from the greater watershed management community. We can learn from their mistakes and successes. We need to stay in the communication loop with watershed managers and regulatory agencies on Prince Edward Island.
- The academic community on Prince Edward Island has considerable expertise in integrated watershed management. Watershed managers need to benefit from these resources by taking advantage of educational opportunities.
- Training in conservation and improvement practices, including safety and health, is essential and required.

Strategy: Conduct Resource Enhancement Projects (short term and ongoing).

- Stream improvement work has traditionally been a primary responsibility for watershed groups on PEI. We are committed to this objective. This improvement work should be expanded to encompass other watershed values like estuaries, forests/wetland habitat, etc.
- Improvements should focus on problem resolution and prevention. Provincially funded labour resources have played a recognized and substantial role in conducting this work and this should continue – with preference for local residents to improve resource ownership. However, work must have a clear, beneficial outcome. Wildlife resources should not be over-managed for the singular objective of creating employment opportunities.
- All improvement activities should be designed to promote and maintain a natural wildlife environment. Heavy-handed projects that over-engineer natural systems need to be avoided. We intend to do what is necessary and sufficient, using tested techniques, to reach objectives.
- Our work in the streams should focus on sediment/nutrient management as well as fish access/habitat improvement in the primary channels. This should include preventive measures through reinforcement of riparian zones and management/removal of sediment inputs and migratory blockages.

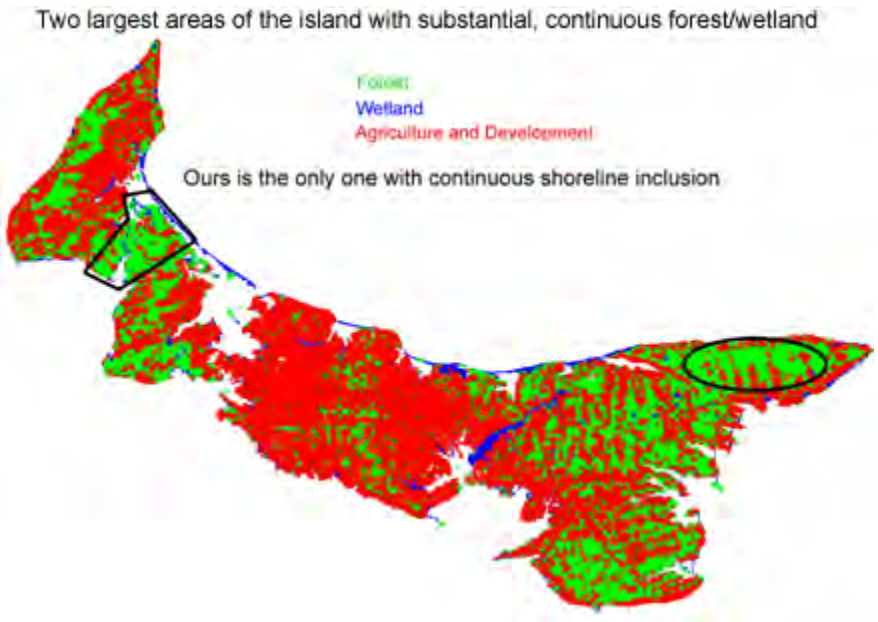
- Productive habitat is our objective. Optimizing productivity requires matching existing conditions with wildlife requirements. (For example, mixed forest habitat is profoundly more productive than monoculture plantation projects.)
- Beaver management (and management of other potential nuisance species) is needed. The Fish and Wildlife Department requires detailed beaver management plans for each watershed. We will complete and administer these plans using licensed trappers.

Strategy: Community Involvement in Decision Making (intermediate to long term).

- Development undertakings as defined in the PEI Environmental Protection Act may have serious consequences for drinking water quality/quantity, community setting, wildlife habitat, and certain economic factors (e.g., shellfishing, tourism). High capacity wells in our small watersheds may cause dry wells. Demolition debris dumps and septic waste treatment/storage facilities may impact water quality. Commercial, industrial, and residential development may tax our resources. Our group will not advocate strict rejection of development proposals. Rather, we will promote our community's right to appropriate, non-biased preliminary impact assessments and their right to a role in the ultimate approval for these projects.

Strategy: Preservation of Unique Cultural and Environmentally Significant Resources (intermediate to long term).

- Certain features of our area are unique assets. Perhaps the most important is our extended forest/wetland areas. These areas occur in the Foxley River Watershed, Black Banks, and the lands between Route 12 and Route 2. They continue to the Percival River. There are only two such areas left on PEI (see graphic below). The Conway Sand Hills are another unique feature. A mechanism for preserving these profoundly important features should be explored. One possibility is to investigate options for setting aside these areas to protect them from development. In such a case landowners would need to be compensated. The Island Nature Trust and certain federal and private program administrators should be approached.



Strategy: Form Productive Alliances (short and intermediate term).

- The watershed group has ambitious objectives – and limited resources. There are other groups that can help us achieve our visions. They include industry-specific federations, civil servants and government, educators, and other special-interest groups (wildlife groups, etc.). Forming alliances to work towards mutual goals like estuary health will promote effective use of resources and faster realization of objectives.

Strategy: Promote Youth Education and Involvement (short and intermediate term).

- Working with educators to bring watershed issues to their rightful forefront in local thinking is perhaps the most proactive approach for our future. Public information must have an education component. Our young people will inherit our land and our problems. We have a responsibility to prepare them for their future challenges.
- Education can accomplish only so much. Active involvement and participation in watershed management for the young is a priority. They should be actively recruited for watershed group staff.

Strategy: Maintain and Expand Financial Resources (immediate term).

- Watershed groups are a primary driving factor in responsible watershed management on PEI. Under the current management structure, if we don't do our jobs, those jobs won't get done. We are not simply another advocacy group begging for public grants. Our role is directly related to public welfare. As long as this continues to be our standard for watershed management, our community has a right to public support in the form of government funding. This includes the provincial Watershed Management Fund, the Wildlife Conservation Fund, and other federal and provincial programs. Our local taxpayers provide these funds and thus are entitled to reap the benefits – right here. There are other funding opportunities provided by various

charitable organizations whose benefactors want to do the right things – and we have some right things to do. We must pursue funding opportunities and lobby for our fair share of them.

- To realize our primary objectives and pursue and administer funding, considerable human resources are needed at our core-group level. Contract management duties – completing applications, managing finances, managing employer requirements, completing reports and plans, etc.– are among the administrative tasks that require attention and local support. These tasks should not be the duty of just two or three persons. We need the hands-on support of more volunteers.

Measuring our Success

There are five primary ways to evaluate the effectiveness of our program in achieving our mission and realizing our vision.

1. Preservation of resources

Is there no net loss of wetlands and forest? Are the forest areas well-structured and varied? Are the estuaries still open to shellfishing remaining that way, and are they free from anoxic hyper-eutrophication. Is the riverine/riparian health of our streams remaining strong? Are our groundwater nitrate levels remaining essentially at background concentrations? The degree to which we are conserving our resources is measured through ongoing assessment. Our work in our first year determined the baseline status of our area's resources. Continuing assessment will identify trends and trigger actions to correct problems as they occur.

2. Improvement in problem areas

This plan and our stream assessment documents identify certain areas within our watershed that require action to correct existing problems. Ideally, the implementation of this plan will result in improvements in these areas. Ongoing assessment will reveal the effectiveness of our enhancement activities.

3. Public knowledge and understanding of assets and problems

The level of knowledge and understanding that community members have relative to watershed issues and values can only be gauged abstractly. We have no direct testing mechanism. Fortunately, there is one primary indicator that will help us evaluate the effectiveness of our public information efforts: are community members making responsible land-use decisions? We can also evaluate public awareness through direct interface with community members. A prevailing misunderstanding of any given aspect of watershed resources can be identified by talking with community members, either at the kitchen table, by telephone, or in public meetings.

4. Public participation/engagement in watershed stewardship

Ideally, knowledge and understanding of watershed resources and problems will create concern and interest. Concern and interest result in action and participation. Are watershed meetings well attended? Is volunteer support growing? Are board members becoming increasingly involved in hands-on group management? Are community leaders and landowners incorporating stewardship considerations in policy and land-use

decisions? These factors can be assessed by reflection. Are we both staying the same, and changing, in the right ways?

5. Public trust in the watershed group and visibility of watershed improvement/conservation efforts

If this watershed plan is effective and the watershed group is adequately executing the responsibilities detailed within it, then – over time – the watershed group will gain public confidence. Although public trust can be gauged by direct surveys, it is best understood by impartially considering the tone of community interactions. When watershed group activities involve interactions with landowners, are they supportive and positive or are they skeptical and guarded?

The watershed group's success and, ultimately, the success of the plan will require support and resources from outside sources, e.g., government and private funding partners. Funding partners require positive, demonstrable results. Are our funding partners happy with our progress?

Ongoing Plan Evaluation

This plan details our current understanding of area issues and assets. Our goals and strategies were developed to protect our assets and correct our problems, as they currently express themselves. To remain current, this plan must be revised dynamically – based on our success, the evolving state of our watershed resources, and the needs and interests of our community.

This is a first-release final document. We will engage ourselves in implementing the strategies it mandates. We plan to produce a revised document reflecting a review of our first year's experience and ongoing community input.

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Visit the community website – www.lot11andarea.org – for ongoing watershed management information and to email your input.