Protecting Habitat

A Guide for Municipalities on Prince Edward Island

FEDERATION of PRINCE EDWARD ISLAND MUNICIPALITIES

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INTRODUCTION

Rural land includes wetlands, forests, and farmland. Rural land means many things to many people. To farmers, it may mean a place to grow food and raise livestock. To developers, it may mean a place to create subdivisions. To residents, it may simply mean a home with a large yard and pastoral views. To wildlife — including birds, mammals, plants, and lichens — it is life-supporting habitat. Nature provides ecosystem services, such as water purification and erosion control, that contribute to human health and well-being.

Habitat conservation for wildlife can be addressed at the provincial and municipal levels. The PEI Forested Landscape Priority Place for Species at Risk Initiative (PEIFLPP) seeks to restore and conserve forest habitat and the species, such as species at risk and a wide range of biodiversity, that depend on it. The initiative aims to reduce direct and indirect pressures on the forested landscape by implementing strategies identified by a core advisory team. Forest clearing due to residential development has been identified as a high pressure on PEI forests and biodiversity.

Species at risk are thriving in diverse and connected forest ecosystems that are cared for and conserved by Islanders.
— Vision statement, PEIFLPP

Municipalities can work to identify habitats for vulnerable species, including species at risk (SAR). Municipalities can also work to actively enhance or protect habitats, thus addressing the stated goals of the PEI Forested Landscape Priority Place for Species at Risk Initiative.

Municipal officials may work together with other municipalities, other levels of government, and interested agencies such as watershed groups to address common goals. In addition, municipalities can work directly with public or private landowners. Land owned by the municipality may be used to demonstrate best practices in habitat protection or vegetated buffers. Private landowners can incorporate best practices to protect wildlife habitat.

Municipalities administer land use within their boundaries. Municipalities are responsible to develop official plans and zoning bylaws to address land use changes, and must address the potential for conflicting uses. Municipal officials review and may approve subdivisions and development applications.

This document will outline approaches or tools that municipalities, primarily rural municipalities on Prince Edward Island, can use to support wildlife habitat within municipal borders. It is intended that municipalities take steps to identify habitat areas, and then address transitional areas with buffers and edges. Minimum forest cover targets could be used to enhance potential for habitat. Subdivision design, including conservation subdivision design and setbacks, can direct development and protect habitat areas. Buffers can be enhanced with vegetation to promote habitat and protect habitat from adjacent farming activities.

This document serves as an introduction and is not intended to be comprehensive. A more detailed approach could be developed to provide additional guidance and address the process of developing an official plan and supporting municipal documents. Refer to the documents and practices from British Columbia used in the preparation of this document.

Official plans are the primary policy tool for municipalities. Secondary plans, such as watershed management plans, may serve to address specific areas or issues. Zoning and land use bylaws implement official plan policies, and outline requirements for zoning and development.

1. Identifying and designating habitat areas

In the official plan, municipalities can create designated areas for parkland and conservation or environmentally protected areas. Similarly, municipalities can identify and designate habitat areas for specific species on future land use maps, which are linked to official plans. Designating habitat areas serves to clearly delineate these areas on a map. Identification and designation can follow established standards, and there are resources available to help identify important areas for conservation. These resources include the PEI Habitat Conservation Strategy, protected area plans, Important Bird Areas (IBAs), and Key Biodiversity Areas (KBAs).

Important Bird Areas are discrete sites that support specific groups of birds, including threatened birds, large groups of birds, and birds restricted by range or habitat. IBAs range in size from very tiny patches of habitat to large tracts of land or water. They may encompass private or public land, and they may or may not overlap partially or entirely with legally protected sites (www.ibacanada.org).

Process: In the development or review of the municipal official plan, engage with other levels of government (such as PEI Forests, Fish and Wildlife and Environment and Climate Change Canada — Canadian Wildlife Service) and stakeholders such as conservation groups (Island Nature Trust, Ducks Unlimited, the Nature Conservancy of Canada) and watershed groups to identify legally protected sites, other important habitat such as Important Bird Areas, habitat for specific species at risk (SAR), and other habitat areas. These groups have data and mapping to help identify high-value habitat for conservation. Designate habitat areas on the future land use map.

1.1 Steps to identify and designate habitat areas for protection

1. Conduct an overview inventory. To identify broadly where important habitat areas exist, contact the PEI Forests, Fish and Wildlife division (Julie-Lynn Zahavich at jlzahavich@gov.pe.ca) or your local watershed group to understand what information and resources are available (maps, inventories, watershed and habitat plans). Include extensive use of maps, to identify where identified habitat areas exist.

2. Undertake a detailed land use inventory. Key features that should be noted include the following:

- *existing land uses and types of farming*
- *protected areas (e.g., natural areas, wildlife management areas)*
- *roads and right of way*
- *utility rights-of-way*
- *easements*
- *watercourses and water bodies*
- *existing vegetative cover (that may be retained as a buffer)*
- *major topographic features*

3. Identify existing use. If the land is zoned, refer to the current zoning and land use designations. Determine whether land use is expected to change in the next 10-20 years.

4. Determine parcel ownership. Is the land private versus government-owned? Possibly flag parcels being held for future development.

5. Incorporate land use information into geographic information systems (GIS). Maps can be generated, and land use dynamics and the potential effects of implementing tools can be understood. Maps can also help to provide a picture of habitat areas, and a greater appreciation may be gained by seeing the properties and land uses affected.

6. Identify existing or potential conflict areas.

7. Consult with stakeholders. Include watershed groups, land trusts, other levels of government, woodlot and forest owners, farmers, and other land users to determine what to identify as significant habitat, and if zoning designations could be applied to protect natural areas or habitat areas.

8. Consider applying appropriate land management policies. These policies could be applied through official plans and bylaws.

9. Finalize the definition of the areas to be protected. Depending on the tools that are used, incorporate the final map of identified habitat areas as a schedule in the official plan and/or zoning bylaw.

10. Clearly designate these areas as required provincial buffer areas. If identified habitat areas overlap with wetlands, streams, and provincially designated buffer areas, designate as per provincial standards (example buffer zone shown in Figure 1).

Figure 1. Buffer around waterway, Pleasant View, PEI (Author Photo)

2. Developing a buffer and edge policy

Buffers have been used successfully in Prince Edward Island for decades to help preserve integrity of wetlands and watercourses. As shown in Figure 2, a minimum 15-metre buffer is required on both sides of streams and rivers in the province. Much larger buffers, some measuring up to 60 metres, have been established in specific areas, such as along North Lake Creek in Eastern Kings, to further protect specific habitats. Buffers are physical areas to soften the boundaries between streams and adjacent lands, or between natural/forested/agricultural areas and industrial/commercial/residential edges.

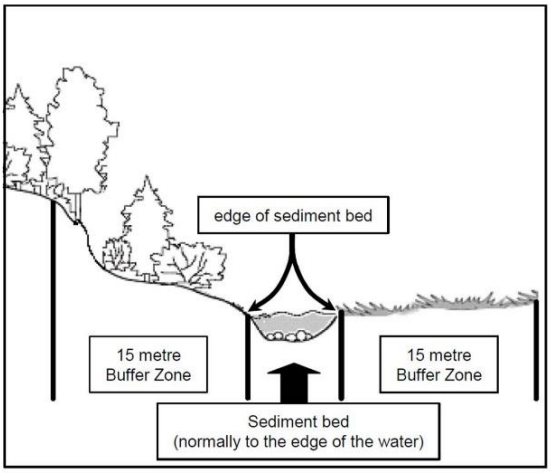

Figure 2. Buffer zones on PEI (Province of Prince Edward Island Image)

In the official plan, include a buffer and edge policy to address a transition between different land uses. Comprehensive buffer and edge policies have been used in provinces within Canada primarily to address potential for land use conflicts, yet other important benefits of buffers are evident, such as protecting wildlife habitat, creating green pathways for birds and wildlife, and mitigating the impacts of climate change.

As official plans and bylaws are developed, land can be designated and then zoned to create buffers. In addition, as land is subdivided or developed, these designated buffers and edges can be enhanced with trees, shrubs, and other vegetation to promote wildlife habitat.

This document proposes an approach, primarily for use in rural municipalities, to be used as land is subdivided or developed. If this approach is adopted Islandwide, it could provide a consistent strategy to address potential for conflicting land uses, and create space for wildlife habitat, natural areas, or forest cover that could contribute to natural asset management or watershed management. Buffers and edges can be used in various types of subdivisions, including single-lot subdivisions or rural conservation subdivisions. (See Figure 3 for an example of land-use parcels.) Buffers and edges could be used on a watershed or regional scale to enhance tree cover and vegetated cover and to promote wildlife habitat.

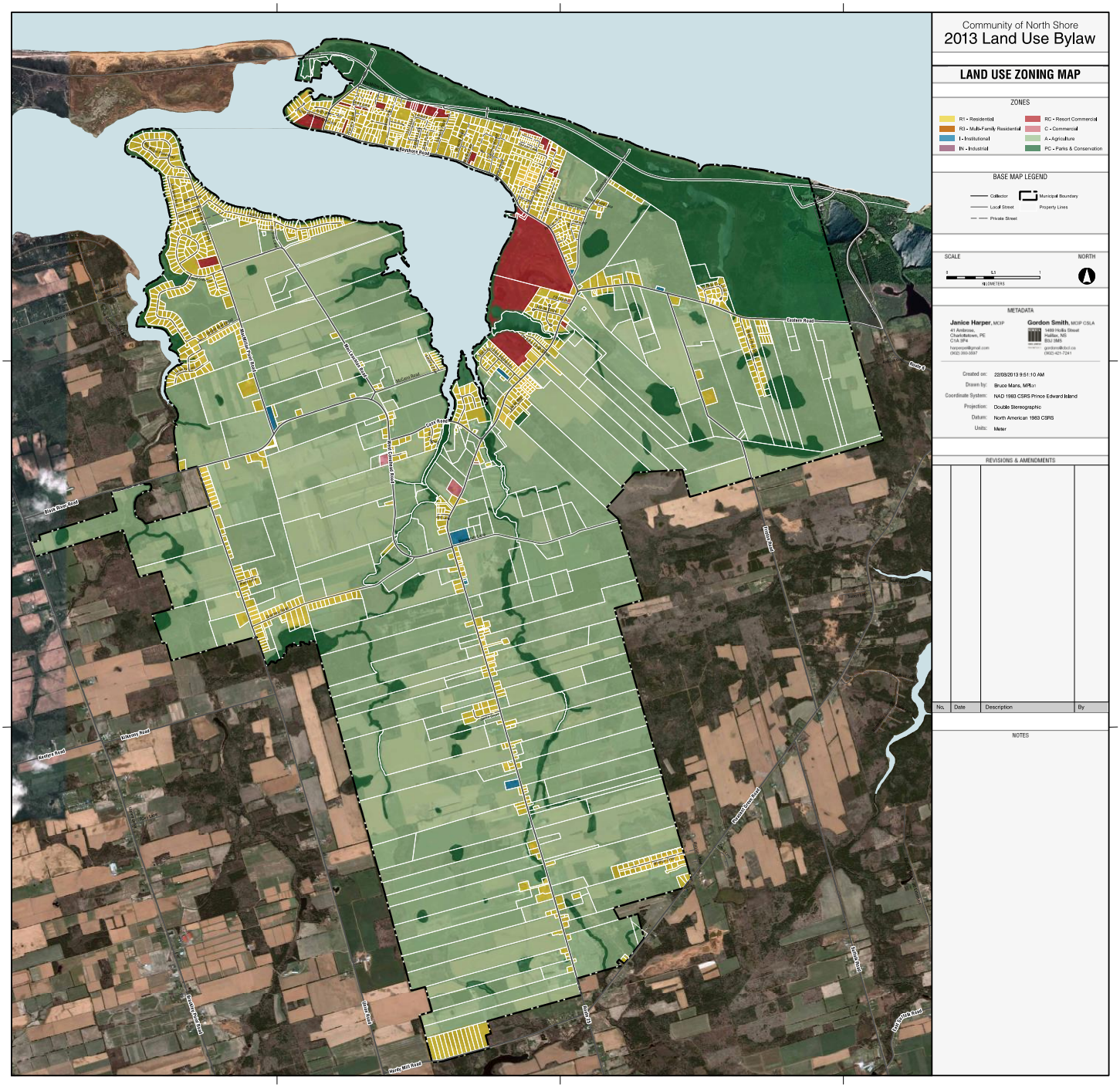

Figure 3. North Shore land use zoning map (Janice Harper, Gordon Smith, Bruce Mans, 2014)

2.1 Steps to develop a buffer and edge policy

1. *Conduct an overview inventory. Include extensive use of maps, to identify broadly where identified habitat areas exist, as well as where the critical and non-critical buffers and edges are located.*

2. Undertake a detailed land use inventory. Include verifying detail (via a drive-by survey) along both sides of the critical edges. Key features that should be noted include the following:

- existing land uses and types of farming
- roads and right of way
- utility rights-of-way
- easements
- watercourses and water bodies
- existing vegetative cover (that may be retained as a buffer)
- major topographic features

3. Identify existing use. If the land is zoned, refer to current zoning and land use designations. Determine whether land use is expected to change in the next 10-20 years. Identify opportunities (including buffering) for the protection of farming. Buffering features that are planned well in advance will be far easier to achieve than attempting to retrofit a situation after a conflict has occurred.

4. Determine parcel ownership. Is the land private versus government-owned? Possibly flag parcels being held for future development.

5. Incorporate land use and farming information into GIS. Maps can be generated, and land use dynamics and the potential effects of implementing the compatibility tools can be understood. Maps can also help to provide a picture of edge planning areas, and a greater appreciation may be gained by seeing the properties and land uses affected.

6. Identify existing or potential conflict areas.

7. Consult with stakeholders. Include watershed groups, land trusts, other levels of government, woodlot and forest owners, farmers, and other land users to determine appropriate buffers to be used in each portion of the buffer or edge planning area.

8. Consider appropriate land management policies. Consideration can then be given to applying appropriate land management policies and effective mitigation measures through plans and bylaws.

Sample Municipal Bylaw Wording

Following is some sample wording for a municipal bylaw buffer zone:

No building or part thereof and no land subject to a buffer zone shall be used for purposes other than the following:

- *conservation activities*
- *open space*
- *public works associated with flood control*
- *entrance and exits in keeping with commercial aquaculture*
- *passive recreation uses*

9. Finalize the definition of the buffer area. Depending on the tools that are used, incorporate the final map as a schedule in the official plan and/or zoning bylaw.

10. Clearly designate these areas as required provincial buffer areas. If identified areas overlap with wetlands, streams, and provincially designated buffer areas, clearly designate these areas as required provincial buffer areas.

Sample Municipal Bylaw Wording

Following is sample wording for watercourse buffers. (Similar wording is used in the Eastern Kings PEI 2013 Land Use and Development Bylaw.)

Setbacks from Watercourses, Embankments, and Lakes

1. Notwithstanding anything contained in this Bylaw, no person shall erect any building or structure in the Community:

a) within 15 metres (50 feet) of the mean high watermark of any river, stream, or watercourse located within or bordering on the legal boundaries of the Community;

b) within 30 metres (100 feet) of the mean high watermark of . . .;

c) within 60 metres (200 feet) of the watercourse in . . .;

d) within 23 metres (75 feet) of any embankment, excluding highway embankments, the slope of which is greater than 30 degrees from horizontal.

2. This Section does not apply to buildings or structures used for fishing or bait sheds, aquaculture operations, boat launches, structures or buildings on a wharf, or wharf structures, but Council, in issuing a development permit, may stipulate that the building or structure be located some fixed distance from the watercourse or wetland.

3. Minimum forest cover: habitat and climate change mitigation

In official plan documents, municipalities may choose to include a minimum forest cover objective over and above an existing baseline. These targets may help to address habitat for specific species, in addition to addressing greenhouse gas (GHG) reduction targets.

Minimum forest cover targets could link to provincial forestry targets or regional/local watershed policy. The GHG reduction benefits from such a policy could include carbon capture from planting or growing trees, and energy efficiency from placement of vegetation around buildings. Such approaches could be an opportunity to support planting and maintenance of trees in buffer areas along forested or agricultural edges. Various programs may be available to support municipal initiatives to establish or maintain minimum forest cover targets. Figure 4 shows a forested land map of Prince Edward Island.

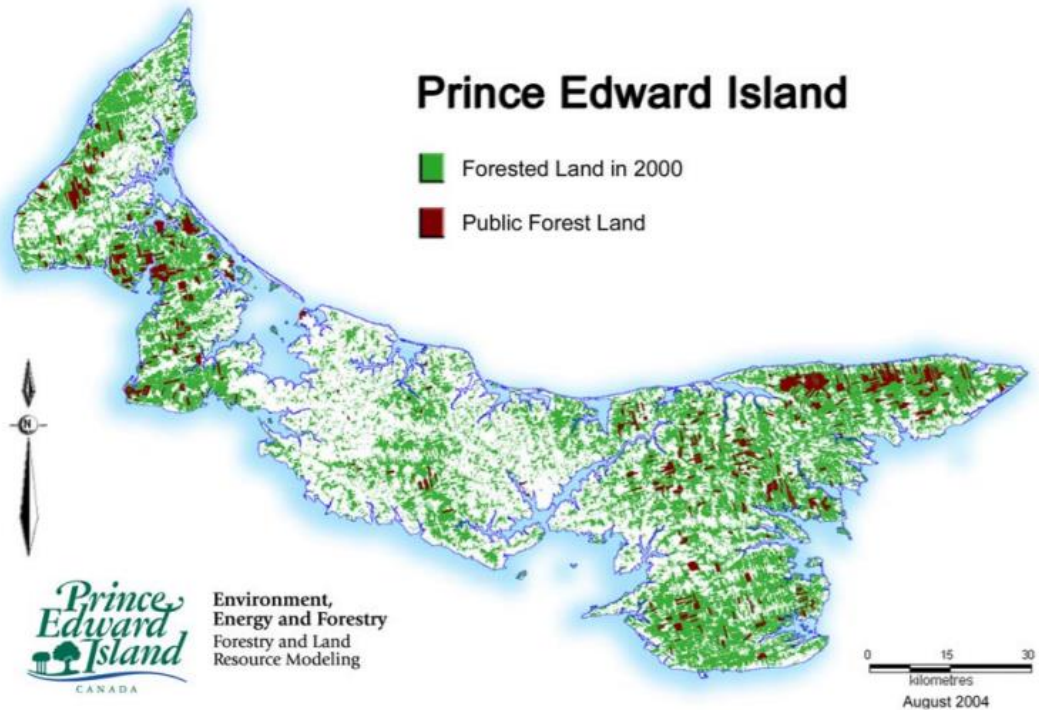

Figure 4. PEI forested land map (Government of PEI, 2004)

4. Subdivision design: general considerations

Official plans and bylaws can address design of subdivisions to promote protection of wildlife habitat and natural features. Consider areas that must be protected, such as wildlife habitat, in addition to wetlands and areas for stormwater runoff. Direct development away from areas to be protected.

To create a distinct separation, require a (vegetated) buffer between different uses, especially addressing specific wildlife habitat requirements and considering potential for noise, dust, odours, and impacts of developed uses.

The official plan can designate identified habitat areas. The zoning bylaw can designate zones or overlay zones for identified habitat areas, as well as natural areas to promote wildlife habitat. Designations and zoning in rural unserviced areas can require larger lots along the residential/developed side of the natural, forested, or agricultural edge. Density options can be explored to address specific sites and habitat features to be protected. Many design features can be incorporated to protect identified habitat areas to facilitate development of buffers and edge areas for wildlife habitat.

Roads that lead into habitat areas, buffers, and edge areas and stop at natural areas, wooded areas, or farm fields create the impression that further development is anticipated. Road design should discourage extending development into natural areas, wooded areas, or agricultural areas. Like road patterns, any extension of utilities, such as water and sanitary sewers, can fuel speculation of future residential or commercial expansion. Extending roads and utilities towards wildlife habitat or natural areas creates an expectation of developed uses to pay for them.

Figure 5 shows forested areas and expanded buffer zones within the Rural Municipality of Eastern Kings. Of note, an expanded buffer of 60 metres (200 feet) is in place along the watercourses in North Lake Creek, Priest Pond Creek west of the highway, and East Lake Creek.

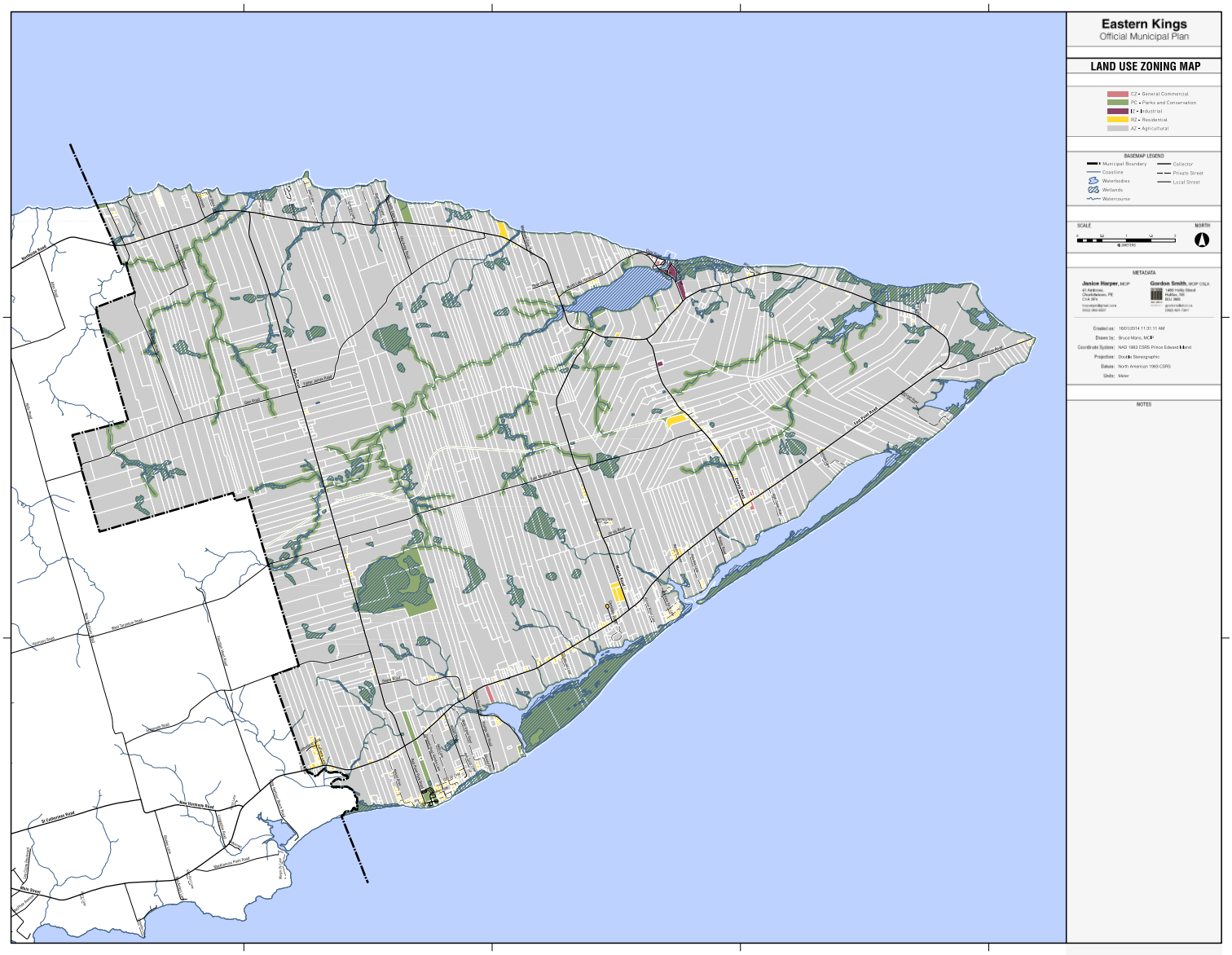

Figure 5. Eastern Kings land use zoning map (Janice Harper, Gordon Smith, Bruce Mans, 2014)

5. Conservation subdivision design

Basic differences exist between standard and conservation subdivision design. In a standard subdivision design, every acre of land is converted to suburban house lots or streets, thus eliminating any future agricultural or conservation uses. Conservation design helps to protect rural character and permanently preserves up to half the acreage.

This type of design is therefore also able to incorporate ground water recharge of local aquifers, preserve open views, preserve natural habitat, and offer opportunities for a trail network.

Conservation subdivisions are developed in areas where land has been designated (in an official plan) for rural residential development. To preserve landowner equity and property value, the same number of homes may be built on less land, allowing the balance of the property to be permanently protected. This approach provides a fair and equitable way to balance conservation and development objectives. Dwellings are placed on limited areas of the property, thus conserving other areas and allowing much more land area to be protected.

Conservation design has numerous environmental benefits. This design facilitates conservation of green infrastructure, forests, wooded wildlife habitat, travel corridors, historic structures, and aquifer recharge areas. Natural cultural features including wildlife habitat can be identified, designed around, and preserved. Conservation design provides opportunities to restore degraded landscapes and habitats, from woodlands and meadows to fisheries.

Sample Municipal Bylaw Wording

Following is sample municipal bylaw and official plan wording to promote conservation subdivision design.

1.Official Plans - To promote the conservation of open space, Council may enable the development of conservation subdivisions where these subdivisions meet special requirements.

2. Bylaws - Council may grant approval of conservation subdivisions with reduced standards for minimum lot size where the following criteria have been met:

a. a site-specific amendment has been approved for the property;

b. the property to be subdivided is at least 6 hectares in size;

c. all proposed lots comply with the minimum lots size standards established in the Planning Act Province-Wide Minimum Development Standards Regulations;

d. at least 50% of the lands being subdivided is put aside in the form of an undivided permanent conservation zone to be deeded to the Municipality or a recognized land trust or conservancy, and a maintenance fund is established to protect this conservation area;

e. all undivided open space capable of further subdivision shall be restricted from further subdivision through a permanent conservation easement, in a form acceptable to the Municipality, and duly recorded with the Provincial Registry Office;

f. at least twenty-five percent (25%) of the minimum required open space shall be suitable for active recreation purposes, but no more than fifty percent (50%) shall be utilized for that purpose, in order to preserve a reasonable proportion of natural areas on the site;

g. a portion of the conservation zone shall be designated for general public access;

h. the subdivision is serviced by shared on-site water and wastewater treatment systems that meet current provincial standards and are designed and certified by a licensed professional engineer;

i. the required open space may be used, without restriction, for underground drainage fields for community septic systems, subject to approval by the provincial department responsible for the environment; and

j. Council may conduct a public meeting to consider public opinion on the design of the subdivision.

(Used with permission from Samantha Murphy, RPP, as developed in draft documents for the Rural Municipality of West River, PEI)

6. Development considerations: building setbacks

Building setbacks can be used to direct the placement of buildings within a lot and promote development away from a habitat area, farming area, buffer, or edge area. Setbacks provide distance separation and space for a wide vegetated buffer. Parcels abutting the subject boundary could be longer or deeper in design. Design criteria could be included in the zoning and/or subdivision procedure bylaw. Note that if lots are designed to contain a septic system, provincial minimum lot size standards must be applied. In most cases, it will be the rear lot line that abuts the wildlife habitat or natural area, but for some multi-unit buildings, or commercial, industrial, or institutional buildings, it may be a side lot line that abuts the subject habitat area.

Sample Municipal Bylaw Wording

Following is sample municipal bylaw wording for building setbacks in zoning bylaws.

For buildings adjacent to the habitat, farming, buffer, or edge planning area, setbacks should be as follows:

- *Residential: 30 metres*
- *Commercial or industrial: 15 metres*

Each application for new development should submit a plan addressing, in part, buffer design:

- *existing and proposed grades*
- *extent of the buffer*
- *constructed barriers*
- *location, spacing, size, and quantity of proposed and existing trees and shrubs*
- *list of the tree and shrub species to be planted*

Vegetated buffer height and width should be included in the zoning bylaw or development permit criteria.

A continuous buffer along the developed side of the forested, habitat, agriculture-developed edge will serve several functions, including a possible green corridor for habitat. Vegetated buffers also provide a visual screen from buildings and activities, and may capture some dust and spray drift. Vegetated buffers may form a portion of a larger buffer. In many lot layouts, the vegetated buffer may be included within the setback area.

7. Easements or covenants

A disclosure statement, in the form of a restrictive covenant, can be an effective tool. It can inform prospective land buyers that a subject property is close to a habitat-protected area, forested area, or agricultural area.

Establish a restrictive covenant on the land title requiring preservation of the buffer and prohibiting the construction of, or addition to, any buildings or structures within the buffer area or a yard adjacent to the buffer.

8. Communication Tools

Communication tools and educational materials can be used to clarify the intention to protect wildlife habitat and natural areas. For example, "No Mow May" campaigns have recently raised awareness to promote bee habitat. Whenever possible, communication tools should be used in conjunction with other approaches, such as public campaigns or bylaw requirements. Communication and education can increase the awareness of residents living near habitat areas (or buffers and edge areas) about impacts on natural area habitat.

9. Signs

Local governments should consider using signs along the natural habitat boundary or along the agriculture-developed boundary to inform residents and prospective purchasers of the proximity of a wildlife habitat area, natural area, or buffer area.