

Executive Summary

The Precautionary Principle emerged as the German foresight principle Vorsorgeprinzip in the 1970s and later evolved into a fundamental principle of German environmental law with the intention being to avoid environmental damage by careful forward planning (Harremoës, et al., 2002). Although there is currently no generally accepted definition of the Precautionary Principle, it is a proactive and ethical principle that can be construed to mean that if an action or policy is suspected to cause harm to the public or to the environment lack of scientific consensus shall not be used as a reason to allow the action or policy to move forward. The Precautionary Principle has been cited in several significant international conferences and decisions, and is employed in many fields of practice. However, the Precautionary Principle has never been explicitly linked to the land use planning profession.

This research is relevant to the land use planning practice because the researcher argues that there are two purposes for land use planning in Ontario. The first purpose is to develop organized and efficient municipalities that meet the needs of the residents that reside in these municipalities. The second purpose, which is explored in this report, is to work towards continual enhancement of land use planning processes to ensure the first purpose is achieved. This research suggests that the precautionary process is embodied in provincial and municipal land use planning processes that have evolved in the province and thus in much of the content of the official and provincial plans, which direct development in each municipality in Ontario.

The researcher hypothesizes that the Precautionary Principle has for a long time been embedded in the land use planning process and more specifically in provincial and municipal planning documents. The purpose of this research is to determine if the Precautionary Principle is in fact embedded in the practice of provincial and municipal land use planning.

The methods used to undertake this research include a literature review and document analysis. The purpose of the literature review was two-fold. The first purpose was to understand the history and context of the Precautionary Principle. The second purpose was to find evaluative criteria that will be employed to aid in determining if the Precautionary Principle exists in the official and provincial plans that were evaluated. The evaluative criteria that were chosen through the literature review are Gardiner's three conditions, as they are accepted criteria, and they are also minimal and simple to use as criteria. Gardiner's three conditions (2006) include:

- (1) the potential for harm from an activity;
- (2) uncertainty about the magnitude of impacts or causality; and
- (3) a precautionary response.

Document analysis was also undertaken for the purposes of this report to deconstruct, analyze and evaluate the Precautionary Principle in various land use planning documents. The following planning documents were analyzed to determine whether the Precautionary Principle exists in land use planning policy:

- (1) the Provincial Policy Statement (2014);
- (2) the City of Kingston Official Plan;
- (3) the City of Waterloo Official Plan; and
- (4) the Oak Ridges Moraine Conservation Plan.

THE APPLICATION OF THE PRECAUTIONARY PRINCIPLE IN THE LAND USE PLANNING PROCESS IN ONTARIO

The Provincial Policy Statement was selected because it provides direction on strategic policy for all actors involved in land use planning in Ontario. The three remaining case studies were selected such that at least one of them represented the following:

- (1) the diversity of the natural and built landscape of the province;
- (2) the urban, rural and agricultural character of the province; and/or
- (3) the unique physical and environmental regions of the province.

The case studies listed above were selected because, together, they include two mid size municipalities, which are peri-urban, and one provincial plan area, which is subject to a provincial plan. The areas to which these planning documents apply to are the City of Kingston, the City of Waterloo and the Oak Ridges Moraine Area. Both manifest and latent content analysis were employed to conduct the document analysis. Manifest content analysis is an approach to identifying key terms, phrases and sections of policies in order to understand the broader intersection of the Precautionary Principle and land use planning (Cope, 2010). Latent content analysis is an assessment of implicit themes within a text (Cope, 2010). As there are currently no analytic frameworks to evaluate and make inferences about the link between the Precautionary Principle and land use planning, it was the researcher's responsibility to find and prepare the evaluative criteria and to create a method for data collection and presentation. To more easily analyze the Provincial Policy Statement and the official and provincial plans, a table, as shown below, was developed, where the columns "1", "2" and "3" correspond to the evaluative criteria listed on the previous page.

It was found that all of the content in columns "1" and "3" is manifest. However, it was found that the content in column "2" is both manifest and latent. The content (phrases) presented in column "2" for all of the tables listed in the appendices developed beginning with a pilot study of the Provincial Policy Statement and then organically as the researcher reviewed the official and provincial plans. Moreover, a key phrase relating to column "2" that indicates that the content is manifest is "which may", as it explicitly illustrates uncertainty. A key phrase relating to column "2" that indicates that the content is latent is "has been evaluated and it has been demonstrated that". This content is latent, as it implies uncertainty because without or prior to evaluation and demonstration, it is unknown if the development and/or site alteration would negatively affect some specified peoples, property and/or the environment. However, uncertainty is not explicitly stated.

Evaluative Criteria Table for Analyzing Land Use Policy

Section #	Subsection #	Pg #	Policy	Link to the Precautionary Principle		
				1	2	3

Further, to more easily analyze and draw conclusions about the presence of the Precautionary Principle in the official and provincial plans, the researcher created a second set of tables. The purpose of these tables was to concisely display the frequency of the Precautionary Principle in each section of these plans. Once the tables were completed for each of the official and provincial plans, the researcher drew conclusions about where the Precautionary Principle was most referenced and/or implied in each of the official and provincial plans, and compared the policies in the plans.

Table for Determining the Presence and Frequency of the Precautionary Principle in the Official and Provincial Plans

Section #	Section & Subsection Title	# of Policies	Policy Categories

Concluding this detailed document analysis, the researcher reviewed the Provincial Policy Statement and the official and provincial plans to better understand the “Authority of Planning” and the link between it and the Precautionary Principle. The purpose of this review was to draw an overall and final conclusion about the Precautionary Principle and land use planning as a mechanism for precautionary land management. In particular, the researcher was interested in reviewing the concept of designated land and permitted uses to determine how the Precautionary Principle is implemented through the policies present in official and provincial plans.

This research finds that the Precautionary Principle is embedded in the land use planning documents that were reviewed. However, the only municipal planning document that explicitly refers to the Precautionary Principle is the City of Waterloo Official Plan, and it only refers to it once in policy 8.4 “Environmental Health and Safety”. Further, the City of Kingston Official Plan does not explicitly refer to the Precautionary Principle; however, it does use the terms “precautions” and “precautionary measures” in policy 3.18 “Site Specific Policies – Montreal Street, North of Sutherland Drive, Schedule 3-D, SSP Number 4”.

Policy 8.4 of the City of Waterloo Official Plan states:

A proactive and **precautionary approach** is fundamental to protecting health and safety. Such an approach allows for threats to be minimized, eliminated, or averted, and opportunities for improvement to be seized. The sound management of natural and human-made hazards, along with other nuisances including noise, vibration, and light emissions, is a critical component to the City’s sustainability.

Policy 3.18 of the City of Kingston Official Plan states:

An assessment of site conditions with proposed remedial measures has been prepared by qualified persons to address the following matters and any additional concerns that may arise in relation to conditions of this site: ...

- a construction management plan identifying **precautions** which will be required to safeguard on-site activities and the integrity of neighbouring sites and uses during construction;
- a financial analysis that indicates that remedial works and **precautionary measures** related to *development* are feasible within the scope of the *development* proposal; and, ...

No other variation of a term that closely resembles the Precautionary Principle is referenced in these two official plans or in the Provincial Policy Statement or the Oak Ridges Moraine Conservation Plan. As such and as stated above, the researcher used manifest and latent content analysis to determine if the Precautionary Principle is further embedded in the land use planning documents. The evaluative tables in appendices 4 through 7 capture an abundance of manifest

THE APPLICATION OF THE PRECAUTIONARY PRINCIPLE IN THE LAND USE PLANNING PROCESS IN ONTARIO

and latent content analysis. This research finds that there are numerous examples in which the Precautionary Principle appears in the land use planning documents that were reviewed. In fact, the length of each evaluative table indicates that almost every chapter or section of each official and provincial plan has some policy content that relates to the Precautionary Principle. As such, it was determined that land use planning is a very precautionary approach to land management, and it is not solely related to protecting natural heritage features or environmental management. Further, the number of times that the Precautionary Principle is referenced in each official and provincial plan is similar across the plans in that it is relative to the length of each planning document. Many of the policies that relate to potential threats in the two official plans is similar. The differences are mostly a result of varying economic, social and natural environments. Also, much of the content related to uncertainty is latent and is related to land use planning studies.

The researcher found it interesting and significant that the Precautionary Principle is heavily embedded in the site specific policy sections of the official plans that were reviewed because site specific policies are usually applied to properties through the official plan amendment process. A site specific policy usually permits a use on a specific parcel of land that is not permitted on other similar parcels of land. If a proponent wishes to add additional permitted uses to his or her parcel of land, he or she may need to apply for an official plan amendment, among other planning applications. As part of a complete application, it is likely that the proponent would be required to submit additional planning documents to ensure that no negative impacts will occur as a result of the approval of a site specific policy (i.e. the additional permitted uses). As such, it is likely that the precautionary approach to land management is triggered when an applicant applies for an amendment to receive a site specific policy.

Similarly, this research also finds that if a parcel of land is not designated for the proposed use, such that the use is not listed in the permitted uses for that site, the use is not permitted (i.e. not allowed). However, a proponent may request to amend an official plan such that if the proponent is successful in gaining approval from council the parcel of land is re-designated or a site specific policy is applied to the parcel to permit the use. This process, as visually displayed in Appendix 3, is very rigorous in that the proponent is required to submit a completed development application to the municipality or province in which the parcel is located. A completed development application may include additional planning justification reports, planning rationales and/or studies to help ensure that the development is appropriate, compatible and the likelihood of negative outcomes occurring. As such, land use planning is a mechanism for precautionary land management and it is granted through the "Authority of Planning", which is an extremely powerful delegation of authority from the provincial government to municipal governments that is authorized through the Ontario Planning Act. The primary implementation of the Precautionary Principle occurs through official and provincial plans.

This research therefore finds that there are in fact two purposes for land use planning in Ontario. The second purpose, which was confirmed in this report, is to work toward continual enhancement of land use planning processes to ensure the first purpose – developing organized and efficient municipalities – is achieved. This research finds that the Precautionary Principle is embedded in the land use planning documents that were evaluated, and by extension, the land use planning process, as planning policy language in Ontario is similar across all official and provincial plans. The researcher recognizes that this second purpose has yet to be acknowledged or studied prior to this research. As such, the researcher recognizes that more research into the link between the Precautionary Principle and land use planning may be warranted.