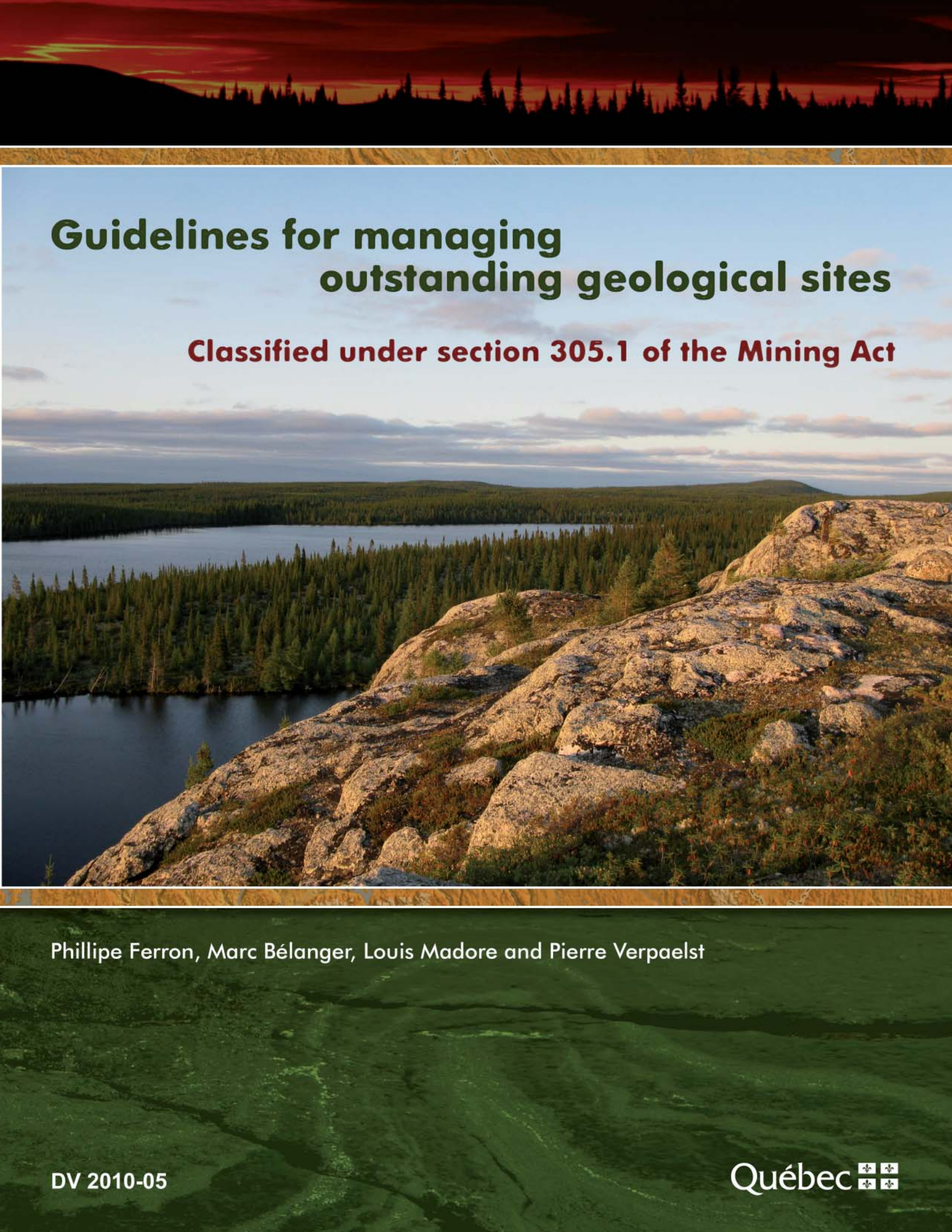




Guidelines for managing outstanding geological sites

Classified under section 305.1 of the Mining Act

Phillipe Ferron, Marc Bélanger, Louis Madore and Pierre Verpaelst

Collaborators:**Faune Québec**

Bernard Bergeron, Bureau de la sous-ministre associée à Faune Québec

Forêt Québec

Claude Poulin, Direction de l'environnement et de la protection des forêts

Secteur du Plan Nord et du Territoire

Claude Leblanc, Direction de l'environnement et de la coordination

Secteur de l'énergie

Louise Lévesque, Direction générale des hydrocarbures et des biocarburants

Secteur des mines

Hélène Giroux, Direction générale de la gestion du milieu minier

Secteur des opérations régionales

Myriam Gosselin, Direction des affaires régionales et du soutien aux opérations énergie, mines et territoire

Ministère du Développement durable, de l'Environnement et des Parcs (MDDEP)

Jacques Perron, Direction du patrimoine écologique et des parcs

Vee Geoservices (traduction)

Venetia Bobbycomb

► For more information:

Direction de l'information géologique du Québec
Direction générale de Géologie Québec
Ministère des Ressources naturelles et de la Faune
880, Chemin Sainte-Foy, 3^e étage
Québec (Québec) G1S 4X4
Téléphone : 418 627-6269
Facsimile: 418 643-2816
Website: www.mrnf.gouv.qc.ca

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TABLE OF CONTENTS

▶ Introduction	3
▶ Legal context	5
▶ Basic procedure.....	7
Step 1 - Documentation and delimitation of a potential OGS	7
Step 2 - Ministerial consultation	7
Step 3 - Targeted consultations	7
Step 4 - Preparation and ministerial decisions	7
▶ Geological site characterization	8
▶ Threats to geodiversity.....	9
▶ Management directions	11
▶ Types of activities.....	12
▶ List of allowed and prohibited activities	12
Activities relating to hydrocarbons.....	12
Activities relating to logging	12
Activities relating to wildlife	13
Activities relating to road restoration and maintenance	13
Activities relating to energy production and transport	13
Disputes with rights holders and recourse	13
▶ Activity authorization procedure.....	16
▶ Bibliography.....	19
▶ Appendix A - Sections of the Natural Heritage Conservation Act.....	21
▶ Appendix B - Sections of the Act that relate to outstanding geological sites – definitions and context	27
▶ Appendix C - Sections of the Act that relate to outstanding geological sites – prohibitions and infractions	33
▶ Appendix D - Basic Procedure	37
▶ Appendix E - OGS proposal form.....	45





INTRODUCTION

In June 2000, the Québec government adopted principles and policies that served as a guide in formulating the Québec Protected Area Strategy (QPAS) and in publishing its first action plan in July 2002. The government notably committed to increasing the protected area network to 8% of the province's surface area, and integrating protected areas into all processes relating to land use, resource allocation and public resource rights.

This initiative followed up on the United Nations Conference on Environment and Development held in Rio de Janeiro in June 1992, where more than 150 countries signed the Convention on Biological Diversity (CBD). The Québec government adheres to the principles and objectives of the CBD and is bound to it by Order of Council 1668-92. It was during the implementation of this convention that Québec established the QPAS. The strategy mainly involves the Ministère du Développement durable, de l'Environnement et des Parcs (MDDEP) and the Ministère des Ressources naturelles et de la Faune (MRNF).

In 2005, Québec added provisions to the Mining Act to protect outstanding geological sites which, by definition, display geological, geomorphic, landscape or biological characteristics that are of educational interest, or of interest for scientific research or conservation purposes, and that deserve to be protected in particular because they are threatened, rare or vulnerable.

In retrospect, these amendments were founded on elements of the Québec Protected Area Strategy, the goal of which is mainly to preserve wild spaces of exceptional quality. But the challenge of conservation also applies to the mining sector, and this is why a working group made up of representatives from the industry, universities, professional organizations and the government suggested a process for classifying outstanding geological sites to protect and conserve Québec's geological diversity. The working group put together an orientation document on the subject of Québec's geological heritage and submitted it for consultation.

The entire province of Québec, with some exceptions, is open to mineral exploration and mining. It was thus necessary to amend Québec's Mining Act in order to exclude mining activities¹ from some areas, protect the province's geological heritage, and allow some outstanding geological sites to obtain protected area status². This change, which was brought about through Bill 121, provided a scheme for classifying outstanding geological sites on which mining activities are prohibited under section 30.1 of the Act.

A legally recognized and classified outstanding geological site that meets the definition of a protected area is presented to the MDDEP for entry into its register. Registered protected areas can then be included in the World Database of Protected Areas (WDPA), a project jointly run by the United Nations Environment Programme (UNEP) and the International Union for Conservation of Nature (IUCN). For each protected area, the databank includes information on its location, surface area, status, IUCN management category, and the body or person responsible. Within the context of the QPAS, the present guidelines constitute the administrative framework for ensuring that outstanding geological sites are recognized as protected areas and eventually registered in the Register of Protected Areas by the MDDEP.

The main goal for classifying these sites is to ensure the protection of any land with features that meet the definition of an outstanding geological site.

Other goals can also be pursued, including:

- ▶ promoting geodiversity conservation³;
- ▶ enriching Québec's network of protected areas;
- ▶ protecting and maintaining landscapes;
- ▶ protecting sites that are key to understanding the geological and geomorphic history of the territory;

1 - The Mining Act considers activities relating to the petroleum and natural gas sectors to be mining activities.

2 - To be recognized as a protected area, a site must first meet the definition of a protected area as presented in section 2 of the Natural Heritage Conservation Act (NHCA). The overall aim is the protection of nature and in this meaning, nature includes geodiversity, natural processes, and landforms that constitute the topography, the landscape and the underground structure of the land.

3 - The concept of geodiversity is detailed in the chapter on Threats to Geodiversity.



and the following management objectives:

- ▶ raising awareness about exceptional natural sites;
- ▶ promoting the development of human activity in harmony with the geomorphic and geological environment;
- ▶ promoting and popularizing geodiversity for local and native communities;
- ▶ involving local and native communities in the development and management of outstanding geological sites;
- ▶ allowing local and native communities to benefit from potential economic spin-offs relating to outstanding geological sites.

LEGAL CONTEXT

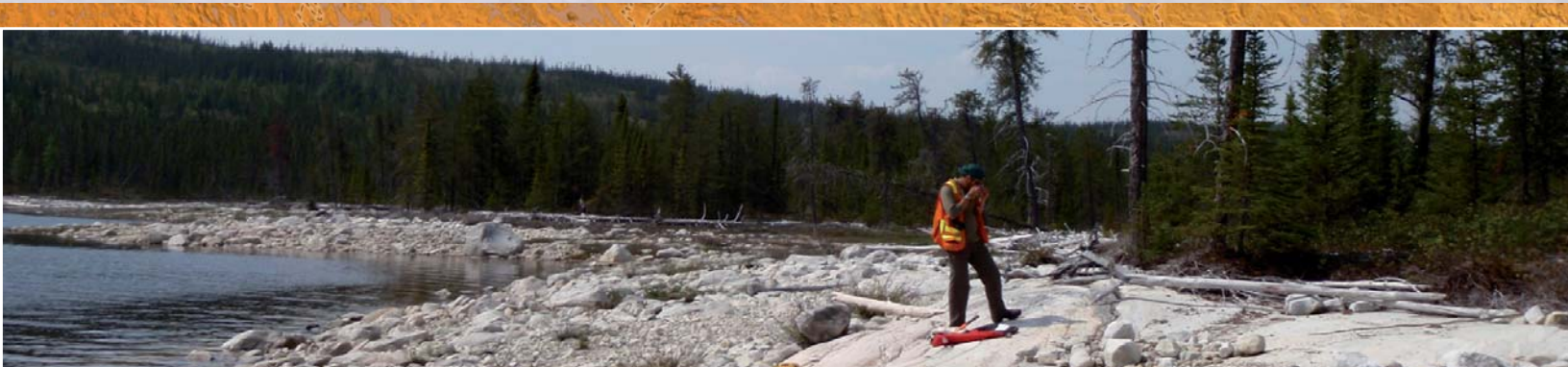
Outstanding geological sites are subject to the provisions of the Mining Act (R.S.Q. c. M-13.1). According to this Act, the Minister of Natural Resources and Wildlife can classify outstanding geological sites to protect them and maintain their geological diversity (appendices B and C).

Outstanding geological sites are the administrative responsibility of the MRNF. Although legal designation confers on these lands a role of preserving each site's integrity and that of its geological phenomena, section 305.3 of the Mining Act allows the Minister to take any measures needed to ensure the development or preservation of outstanding geological sites. Thus, this section applies to certain human activities carried out in an area classified as an outstanding geological site. A notice of classification is published in the official

The preservation of outstanding geological sites represents a major asset for science and education, and for raising public awareness about geodiversity. The geology of Québec is highly varied from one region to another, and it has influenced each area's economic development and, to a certain extent, culture in very different ways. This is why it is important to keep in mind the unique quality of each region when addressing the issue at the provincial scale.

gazette of Québec (Gazette officielle du Québec) for lands identified under section 305.1, and maps are kept at the office of the registrar for mining rights (Bureau du registraire des droits miniers). The OGS designation can apply to lands of any size (decametre- to multi-kilometre-scale).

Lands withdrawn from mining activities by reason of their classification as outstanding geological sites are identified as such in GESTIM, the Québec government's mining title management system, since they are protected under section 30.1 of the Mining Act, which forbids staking, designating on a map, or carrying out mineral exploration work or mining operations on such lands. Outstanding geological sites that meet the required criteria for a protected area can be registered with the Québec Register of Protected Areas (Registre





des aires protégées au Québec) under section 5 of the Natural Heritage Conservation Act (Appendix A; R.S.Q., c. C-61.01) and will be managed accordingly.

Some outstanding geological sites continually evolve and are disturbed by natural processes. Not all outstanding geological sites will forever remain as they were initially (ex.: La Tourelle in the Gaspésie region).

However, natural disturbances on the sites, such as landslides, erosion, blowdowns and fires, do not necessarily affect the original interest in protecting the site (in some cases, erosion could even lead to better

exposure of the OGS; ex.: the Rivière-aux-Anglais shell beds). Whenever necessary, the boundaries of a classified outstanding geological site can be adjusted to reflect the land's new geological condition.

Under section 305.2 of the Mining Act, "the Minister may extend the boundaries of an outstanding geological site classified under section 305.1 or, if the Minister considers that the grounds for classification no longer exist, declassify part or all of the site after consulting the Minister of Sustainable Development, Environment and Parks".

BASIC PROCEDURE

The procedure for legal classification consists of four steps whereby a proposed site (geosite) is evaluated, characterized, analyzed, protected and legally recognized. In summary, the procedure for recognizing an outstanding geological site can be described as follows⁴:

Step 1 - Documentation and delimitation relating to a potential OGS

- ▶ Evaluation of the proposal
- ▶ Description and characterization the site
- ▶ Analysis of the existing rights, titles, permits and restrictions
- ▶ Temporary protection

Step 2 - Ministerial consultations

Step 3 - Targeted consultations

- ▶ Consultations with government administrations and professional associations
- ▶ Community consultations
- ▶ Identifying and consulting partners for the implementation plan

Step 4 - Preparation and ministerial decisions

- ▶ Legal documents
- ▶ Minister's decision
- ▶ Publication of the notice
- ▶ Communication of the decision

4 - The details of this procedure are presented in Appendix D.



GEOLOGICAL SITE CHARACTERIZATION

A geological site is characterized by various natural features, such as rocks, fossils, minerals, landscapes, soils and unconsolidated sediments, the natural rock landforms or landscapes and the dynamic processes that shape the physical environment, and the features that are the foundation for habitats and species

(calcium-loving plants or species adapted to caves). Human activities may have exposed and added value to some of these natural features; this could be the case for an old quarry or mine for example. Table 1 presents the types of outstanding geological sites found in Québec.

TABLE 1 - Types of geological sites found in Québec.

Type	Definition
Cavern	A natural underground cavity of sufficiently large size produced through the dissolution of the calcium carbonate making up the rock by surface waters containing dissolved carbon dioxide gas.
Cave	A natural cavity of variable depth carved into bedrock, produced by geodynamic processes.
Fossiliferous	An outcrop or group of outcrops of surficial material or sedimentary rocks containing the remains, traces or imprints of geologically ancient or prehistoric preserved plants, animal or bacteria.
Mineralogical	An outcrop or group of outcrops containing one or more types of minerals of interest due to their composition or crystalline form
Lithological	An outcrop, group of outcrops or natural monument made of rock that is interesting due to its composition, geological evolution, or phenomenology.
Stratotype	An outcrop or group of outcrops representing a stratigraphic unit that constitutes a standard for defining and recognizing this unit or the boundaries of this unit.
Historical or cultural	A geological element linked to our social heritage that has historical, archaeological, folkloric, spiritual or economic value.
Landscape	A parcel of land that was shaped by geological or geomorphic processes and which provides an interest due to its intrinsic aesthetic quality or it's relation to the Earth's evolution.
Geosystem	A parcel of land with an assemblage of rocks, soils or surficial deposits that, by their nature and association, constitute a geologically distinct environment.
Ecosystem	A parcel of land where wildlife or flora depend on a specific geological environment.
Meteorite impact	An outcrop, group of outcrops or a parcel of land showing physiographic, lithological or structural features caused by the impact between a solid body from space and the Earth's surface.
Glacial structures and landforms	An outcrop, group of outcrops or a parcel of land showing physiographic features, deposits, or erosional marks associated with the passage of glaciers.

THREATS TO GEODIVERSITY

The concept of geodiversity has been adopted on an international basis for the past twenty years. Various organizations and authors have proposed different definitions in the scientific documents published since 2000. Some of these definitions are formulated in such a way as to embrace all possible geological, biological and anthropogenic processes.

Stanley (2001)

“The link between people, landscape and culture: it is the variety of geological environments, phenomena and processes that make those landscapes, rocks, minerals, fossils and soils which provide the framework for life on Earth.”

Australian Heritage Commission (2002)

“The range or diversity of geological (bedrock), geomorphological (landform) and soil features, assemblages, systems and processes.”

Gray (2004)

“The natural range (diversity) of geological rocks (rocks, minerals, fossils), geomorphological (landform, processes) and soil features. It includes their assemblages, relationships, properties, interpretations and systems.”

UICN (Dudley, 2008)

“Geodiversity is the variety of rocks, minerals, fossils, landforms, sediments and soils, together with the natural processes which form and alter them.”

The idea that the geological world is unchanging or too commonplace to be threatened is a misconception arising from ignorance about the abiotic environment. Threats to geodiversity are numerous and varied. They are the product of human development, urban sprawl, land use, climate changes, natural processes and pollution. Human impacts can be summarized as:

- ▶ complete loss of a geodiversity feature
- ▶ partial loss or physical damage
- ▶ lessening of a site's point of interest
- ▶ loss of visibility
- ▶ loss of access
- ▶ interruption of a dynamic natural process and off-site impacts
- ▶ alteration due to pollution
- ▶ negative visual impact

Table 2 presents the main threats facing geodiversity as well as the on-site and off-site damages that could ensue.



TABLE 2 - The main threats to geodiversity and the damage caused on and off the site.

Threats	On-site damage	Off-site damage
Mineral extraction (mine, quarry, gravel pit, sand pit, peat bog)	- Destruction of the geomorphic landscape - Destruction of a geological feature - Destruction of a sedimentary layer - Destruction of soil, its structure, or its biotic content - Could have a positive effect by exposing a new observational profile	- Contamination of waterways - Modification to the sediment supply in active systems - Extraction from rivers and beaches leading to erosion
Infilling or rehabilitation of quarries	- Loss of exposure - Destruction of the geomorphic landscape - Soil disturbance	- Contamination of waterways - Contamination of ground water
Land development and urban expansion	- Large-scale disturbance of the geomorphic landscape and soil - Modification to the hydrographic network	- Contamination of waterways - Modification of natural processes downstream of the affected waterways
Coastal erosion and shoreline protection	- Loss of coastal exposure zones - Modification of the coastal landscape - Disruption of natural processes	- Changes to the sediment loads and natural processes downstream from the site
River and basin development	- Loss of exposure - Modification of the landscape - Disruption of natural processes	- Modification of downstream natural processes - Changes to the sediment supply
Forestry (logging and revegetation)	- Modification of the landscape - Disruption of natural processes - Soil disturbance - Loss of exposure	- Changes to ground and surface water chemistry - Increased soil retention during revegetation - Increased sediment loss during logging
Agriculture	- Modification of the landscape - Disruption of natural processes - Soil disturbance	- Changes to the amount of sediment lost through drainage - Occasional erosion of the soil by wind and rain - Pollution of the surface and groundwater due to the excessive use of chemical fertilizers
Tourism demands	- Small-scale modification of the landscape - Localized soil disturbance - Modification of a geological feature	
Collection of geological specimens	- Impoverishment of the mineral and fossil heritage	
General lack of consideration (lack of interest)	- Loss or modification of a unique or rare geological feature	

Inspired by "Geodiversity: valuing and conserving abiotic nature" (Gray, 2004).



MANAGEMENT DIRECTIONS

The MRNF is committed to protecting the geodiversity of outstanding geological sites (OGS). It also wishes to promote such sites to increase awareness about the wealth of our geological heritage. To accomplish these goals and preserve OGS for future generations, the MRNF must control their use by targeting the permissible and non-permissible activities presented in the following section.

A number of concepts are covered in the definition of an OGS to allow a broader application. Nonetheless, it is essential to approach the task with conservation in mind to ensure that an OGS fits into the legal framework for protected areas. Maintaining this interest in conservation is therefore especially important when establishing management directions.

The following principles should be kept in mind when structuring and formulating the best way to manage outstanding geological sites that meet the definition of a protected area:

- ▶ only OGS for which the protection of geodiversity or biodiversity is the main goal can be considered as protected areas; there may be other goals for these OGS, but in the case of any conflicts, priority will be given to protecting geodiversity or biodiversity;
- ▶ protect geodiversity or biodiversity in terms of composition, structure, function and potential for change;
- ▶ prevent, or eliminate if necessary, any exploitation or management practice that would be detrimental to the original objectives;
- ▶ preserve or, ideally, improve upon the natural character of the outstanding features to be protected;
- ▶ be of a broad enough scope to guarantee the integrity and long-term maintenance of the specified conservation targets, or be able to be expanded to attain this objective.

These principles can be applied to any of the IUCN management categories; that is, the principles are not specific to particular categories.

An outstanding geological site will, once classified, receive the protection it requires to ensure its preservation and development. The key admission criteria for designating an OGS as a protected area are the site's value in terms of contributing to conservation, and the priority given to conservation in management directions. For this reason, management directions should stem directly from the type of threat facing the site. A list of threats to geodiversity is presented in Table 2. Conservation criteria should be selected so that priority is given to protecting the site from the on-site damages associated with each type of threat, or to limiting such damages as much as possible (column 2 in Table 2). The site's management directions will be defined by the Direction générale de Géologie Québec (DGGQ) together with the general regional office assigned to the site (Direction générale régionale; DGR), in addition to, if necessary, various participants and partners selected during the targeted consultations.

An existing outstanding geological site, by virtue of being classified, is assured the protection it requires for its preservation and development. The legal classification process guarantees standard basic protection for all outstanding geological sites and for any conservation and development measures specific to each site. Moreover, an OGS on land belonging to the State cannot be involved in a transfer of property nor can it be ceded.

The DGR is responsible for supervising and monitoring the site, and for issuing warnings and infraction notices if necessary.

TYPES OF ACTIVITIES

Staking, designation on a map, mining exploration work and mining operations are prohibited on outstanding geological sites. Any human activities that could endanger the integrity of a classified outstanding geological feature are also prohibited. Among the activities considered to be incompatible with the goal of preserving a protected area are industrial or commercial forest management activities, the use of the land for the transport of energy or for the commercial or industrial production of energy, and any other industrial activity.

Land rights relating to energy transport and distribution routes or to communication corridors are excluded from the area to be defined as an outstanding geological site prior to its classification. Resort leases are similarly excluded.

Any activity taking place on a classified site or on some part of its surface area must not alter the site's natural character of interest. When an individual or an organization wishes to carry out educational, scientific or recreational activities on an outstanding geological site, and it has the support of local and regional authorities, the individual or organization must submit a request that follows the proper procedure for obtaining authorization for the activities in question, and the request may be accepted by the Minister if the anticipated activities will not affect the site's characteristics of interest and will not conflict with the goal of preserving the site or its geodiversity, or if the Minister may impose conditions to this effect.

Although the MRNF is the exclusive authority for defining and managing outstanding geological sites, it acknowledges that local and regional authorities are in a position to help identify and promote new sites, and to work out conservation and development goals to ensure the best use of the site for the collective good.

Some types of activities, other than those that relate to mining, may be permitted on outstanding geological sites as long as they do not conflict with its conservation goals. In these cases, activities may be authorized

after following the proper procedure for obtaining authorization as detailed in the next section. The main objective of site management is to reconcile, as much as possible, the conservation goals—notably intended for the purposes of designating protected areas—with any resource development goals being pursued through regional development projects.

► List of allowed and prohibited activities

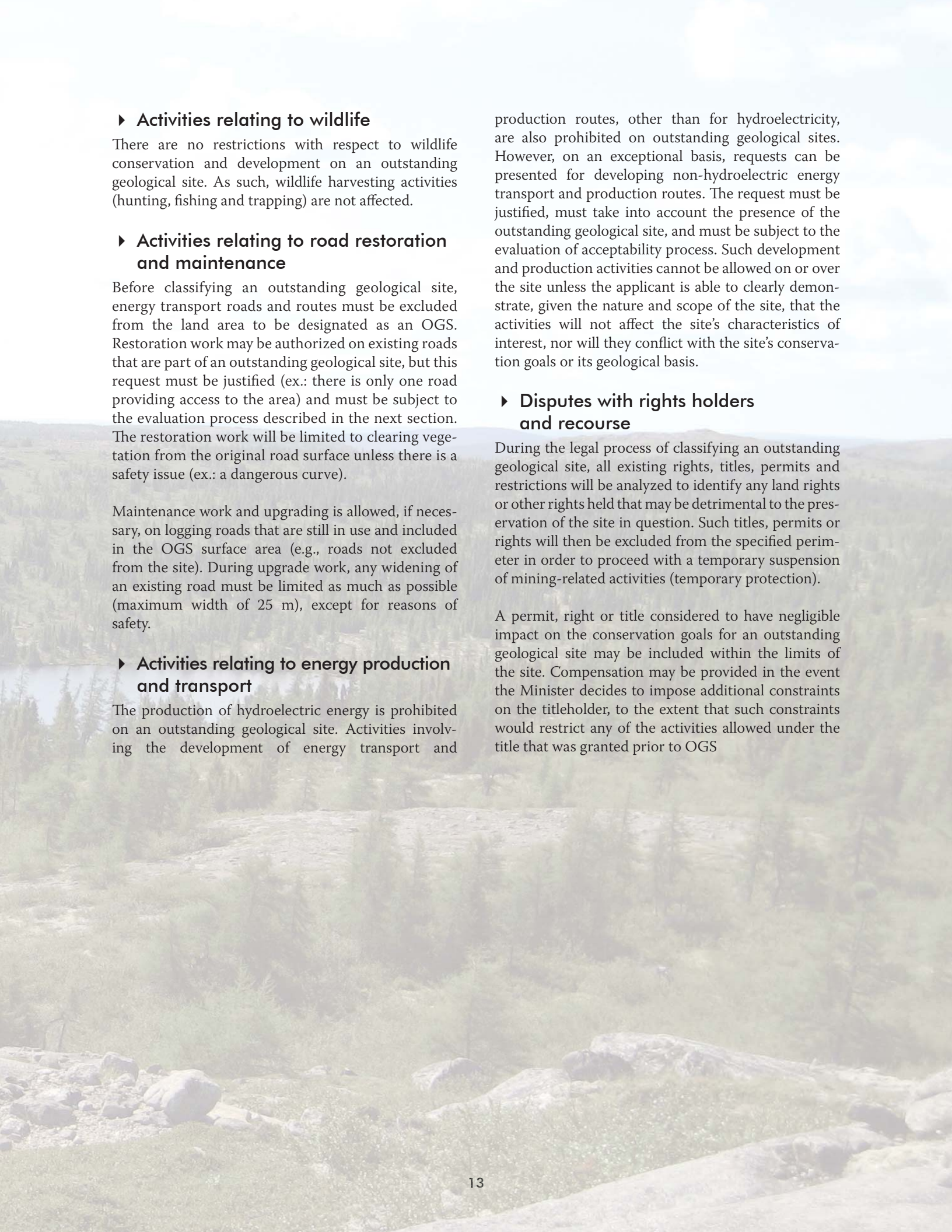
Table 3 details the variations in the levels of restriction for allowable activities on outstanding geological sites. The list is not exhaustive; activities not in the list may be the subject of a request presented to the Secteur des opérations régionales (SOR). The request will be analyzed in light of management directions and according to the procedure laid out in the following section.

► Activities relating to hydrocarbons

Hydrocarbon (natural gas and petroleum) exploration and extraction activities are not allowed on outstanding geological sites (note: a site cannot be legally classified as an OGS if a gas and petroleum exploration permit has been granted for the land because, according to the Mining Act, such exploration is prohibited on an OGS. In this case, the site may still be recognized as a geosite but would not have legal protection).

► Activities relating to logging

Forest management activities of an industrial or commercial nature are prohibited on outstanding geological sites. Requests relating to forest management activities of an industrial or commercial nature must take into account the presence of an outstanding geological site and be submitted to the evaluation process described in the following section. Reforestation will not be authorized within the perimeter of an outstanding geological site. In some exceptional cases, such as sites characterized by remarkable geological or geomorphic landscapes, a request may be made to obtain authorization for a reforestation project, followed by the usual evaluation of acceptability process.



► Activities relating to wildlife

There are no restrictions with respect to wildlife conservation and development on an outstanding geological site. As such, wildlife harvesting activities (hunting, fishing and trapping) are not affected.

► Activities relating to road restoration and maintenance

Before classifying an outstanding geological site, energy transport roads and routes must be excluded from the land area to be designated as an OGS. Restoration work may be authorized on existing roads that are part of an outstanding geological site, but this request must be justified (ex.: there is only one road providing access to the area) and must be subject to the evaluation process described in the next section. The restoration work will be limited to clearing vegetation from the original road surface unless there is a safety issue (ex.: a dangerous curve).

Maintenance work and upgrading is allowed, if necessary, on logging roads that are still in use and included in the OGS surface area (e.g., roads not excluded from the site). During upgrade work, any widening of an existing road must be limited as much as possible (maximum width of 25 m), except for reasons of safety.

► Activities relating to energy production and transport

The production of hydroelectric energy is prohibited on an outstanding geological site. Activities involving the development of energy transport and

production routes, other than for hydroelectricity, are also prohibited on outstanding geological sites. However, on an exceptional basis, requests can be presented for developing non-hydroelectric energy transport and production routes. The request must be justified, must take into account the presence of the outstanding geological site, and must be subject to the evaluation of acceptability process. Such development and production activities cannot be allowed on or over the site unless the applicant is able to clearly demonstrate, given the nature and scope of the site, that the activities will not affect the site's characteristics of interest, nor will they conflict with the site's conservation goals or its geological basis.

► Disputes with rights holders and recourse

During the legal process of classifying an outstanding geological site, all existing rights, titles, permits and restrictions will be analyzed to identify any land rights or other rights held that may be detrimental to the preservation of the site in question. Such titles, permits or rights will then be excluded from the specified perimeter in order to proceed with a temporary suspension of mining-related activities (temporary protection).

A permit, right or title considered to have negligible impact on the conservation goals for an outstanding geological site may be included within the limits of the site. Compensation may be provided in the event the Minister decides to impose additional constraints on the titleholder, to the extent that such constraints would restrict any of the activities allowed under the title that was granted prior to OGS

TABLE 3 - Activities and infrastructure allowed or prohibited on outstanding geological sites.

Activities and infrastructure	Outstanding geological site
Allowed under certain conditions¹	- educational activities; - geoscientific research activities (other than mining-related); - hunting, fishing and trapping²; - development of recreational tourism (ex.: observation sites, back country camping³); - hiking trails; - cross country ski trails; - access⁴; - activities or interventions in response to emergency situations (ex.: fires, epidemics, and activities that prevent harm or risk to the health and safety of people or that prevent damage caused by a real or anticipated catastrophe); - forest management activities associated with an existing land right, such as a rough shelter, trapper's camp, cottage, skidoo trail, all-terrain vehicle trail, dogsled trail, etc.⁵.
Prohibited	- prospecting, staking, designation by map, mineral exploration work, and mining operations; - sand pit, gravel pit, peat bog and quarry operations or excavations; - hydrocarbon (natural gas and petroleum) development activities; - reforestation; - maple sugaring permits; - construction of new roads; - harvesting Canada yew; - harvesting woody material for commercial purposes; - forest management activities associated with an existing right, such as a CAAF, CtAF or CvAF⁶; - new lease for a rough shelter, resort, or trapper's camp; - developed campground; - the production of hydroelectricity.

1 - All new activities are subject to approval by the Minister of Ressources naturelles et de la Faune

2 - The designation of an outstanding geological site does not in any way affect the rules governing wildlife harvesting (regulations on hunting, fishing and trapping as outlined in the Act Respecting the Conservation and Development of Wildlife)

3 - Back country camping is only allowed in some types of OGS, mainly those characterized by exceptional geological landscapes and geomorphologies.

4 - Non-motorized access to an outstanding geological site that does not modify the trail or road does not require authorization, except in the cases covered by other legislation.

5 - For outstanding geological sites recorded in the Register of Protected Areas, any authorization that renews existing rights relating to forest management activities must pass an evaluation of acceptability process.

6 - An outstanding geological site cannot be established in an area that is covered by existing forestry rights, such as a CAAF, CvAF or CtAF, due to the possibility that the commercial harvest of woody material may take place; CAAF: contract for timber supply and forest management agreement ("contrat d'approvisionnement et d'aménagement forestier"); CtAF: forest management agreement ("contrat d'aménagement forestier"); CvAF: forest management contract ("convention d'aménagement forestier").





ACTIVITY AUTHORIZATION PROCEDURE

Various types of rights continue to be held and respected on many of the parcels of land classified as outstanding geological sites under section 305.1 of the Mining Act. Given this fact and the number of designated outstanding geological sites, the MRNF will, in all likelihood, respond to requests made by existing rights holders and other stakeholders in the area. Even if the MRNF's regional operations sector (Secteur des opérations régionales) is the main point of contact, administrative units from other ministerial sectors

can be called upon to have a say during the request's evaluation process.

The diagram below shows the various steps involved when requesting an authorization to carry out activities on an outstanding geological site that is classified under the Mining Act and may also be protected by other legislation as well. The details are presented in Table 4.

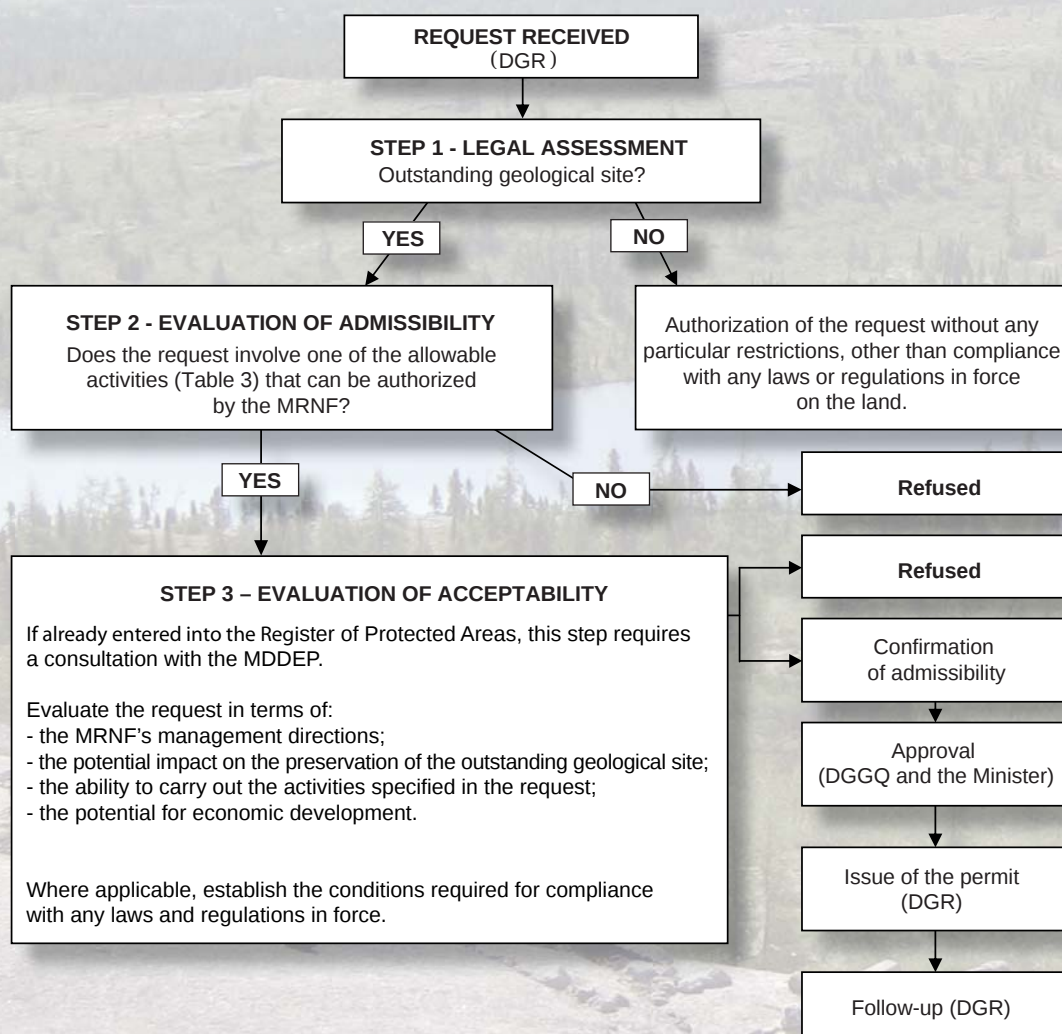


FIGURE 1 - Flow of ministerial decisions.

TABLE 4 - Detailed breakdown of a request for authorization for an activity taking place on an outstanding geological site.

Step	Goal	Involved Parties ¹	Means	Action
1 - Legal evaluation	Determine whether the request concerns a classified outstanding geological site according to section 305.1 of the Mining Act.	Principal: Personnel at MRNF service outlets ("points de service") who issue such authorizations (rights, permits, etc.) in accordance with the Mining Act, the Forestry Act, or the Act respecting the Lands in the domain of the State (MINES). Supporting: Direction générale de la gestion du milieu minier (DGGDM).	Answer the following questions: Will the applicant disturb the soil or the bedrock, or modify the area's hydrography or topography? Are there plans for revegetation or logging work?	If the answer is Yes: go to Step 2. If the answer is No: the request is granted without any particular restrictions, other than compliance with any laws or regulations in force on the land.
2 - Evaluation of admissibility	Determine whether the request is admissible.	Principal: Direction générale régionale (DGR; general regional office).	Answer the following question: Does the request concern an allowable activity that the MRNF may be able to authorize² while complying with any laws and regulations in force and keeping in mind the parameters pertaining to protected areas?	If the answer is Yes: go to Step 3. If the answer is No: the request is refused.
3 - Evaluation of acceptability	Evaluate the request according to MRNF management directions and: 1) its potential impact on the conservation of geodiversity; 2) ability to carry out the activities specified in the request. Determine which conditions to specify in the permit or authorization to be issued.	Principal: Direction générale régionale (DGR). Supporting: The DIGQ for OGS; the DIGQ and MDDEP for an OGS recorded in the Register of Protected Areas.	a) For a site recorded in the Register of Protected Areas: written consultation with the MDDEP. b) Based on any notices received during the aforementioned consultations and in accordance with management directions pertaining to the request.	If the request is refused: Notify the applicant of the reasons for refusal. If the request is accepted: Write down the conditions of the authorization (rights, permits, etc.) and send a copy of the request to the MDDEP (if it concerns a site recorded in Register of Protected Areas) for consultation, and to the Secteur des mines (DIGQ) for approval.

1 - MRNF: Ministère des Ressources naturelles et de la Faune; MDDEP: Ministère du Développement durable, de l'Environnement et des Parcs; DIGQ: Direction de l'information géologique du Québec (Géologie Québec; Secteur Mines, MRNF); DGGDM: Direction générale de la gestion du milieu minier.

2 - Allowable activities are presented in Table 3.



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APPENDIX A

**SECTIONS OF THE NATURAL HERITAGE
CONSERVATION ACT**

CHAPTER II

POWERS OF THE MINISTER

2. In this Act,

“protected area”.

“protected area” means a geographically defined expanse of land or water established under a legal and administrative framework designed specifically to ensure the protection and maintenance of biological diversity and of related natural and cultural resources.

Register of protected areas.

5. The Minister shall maintain a register of the various protected areas. The register shall contain information on the surface area, location, type or types of protection status of each area, the minister, government body or person responsible for the area and its classification according to the different categories recognized by the World Conservation Union (UICN).

Nature reserve.

In addition, in the case of a nature reserve, the register shall contain the name and address of its owner, the name of the conservation organization, if any, with which an agreement has been entered into, and the term of the recognition or, where applicable, an indication of the fact that recognition is perpetual. The information is public information.

2002, c. 74, s. 5.

Prohibitions.

6. Land within a protected area that is entered in the register provided for in section 5 cannot be assigned to a new use, be sold or exchanged or be the subject of a transaction that affects its protection status, unless the Minister of Sustainable Development, Environment and Parks has been consulted.

2002, c. 74, s. 6; 2006, c. 3, s. 35.

DIVISION II

APPLICATION

Application for recognition.

55. An application for recognition, which may be made jointly with a non-profit conservation organization, shall be submitted in writing to the Minister. The application must contain

- (1) the name and address of the owner;
- (2) a description of the property that is the subject of the application and a summary site plan;
- (3) the significant features of the property that warrant preservation;
- (4) an indication that the application is for perpetual recognition, or the term of recognition applied for;
- (5) a description of the conservation measures the owner intends to implement;
- (6) a description of the activities the owner wishes to allow and of those the owner wishes to prohibit on the property;
- (7) the management arrangements for the property, including, where applicable, an indication that management will be assumed by a non-profit conservation organization;
- (8) a copy of the deed conferring ownership of the property on the owner;
- (9) where applicable, a copy of any permit or authorization required under an Act or regulation for the carrying on of an activity on the property; and
- (10) any other information or document determined by regulation by the Government.

Report.

The application may be submitted together with the report of a qualified person demonstrating why the recognition of the property as a nature reserve is warranted.

2002, c. 74, s. 55.

Information and documents.

56. The Minister may require of the owner any information or document the Minister considers necessary for the examination of the application.

2002, c. 74, s. 56.

DIVISION III**AGREEMENT AND PUBLICATION OF RECOGNITION****Agreement.**

57. Before recognizing a property as a nature reserve, the Minister shall enter into an agreement with the owner or, as the case may be, approve an agreement entered into between the owner and a non-profit conservation organization. In either case, the agreement shall contain, among other provisions,

- (1) a description of the property;
- (2) the perpetual nature of the recognition or the applicable term;
- (3) the significant features of the property that warrant preservation;
- (4) the management arrangements for the property, including, where applicable, the identity of the non-profit conservation organization that is to manage the property;
- (5) the conservation measures to be applied;
- (6) the permitted and prohibited activities; and
- (7) any other provision determined by regulation by the Government.

2002, c. 74, s. 57.

Publication of notice.

58. The Minister shall publish a notice stating that the property is recognized as a nature reserve in the Gazette officielle du Québec and in a newspaper circulated in the region concerned or, if there is no such newspaper, in the region closest to the recognized property.

Effect.

The recognition takes effect on the date of the publication of the notice in the Gazette officielle du Québec.

2002, c. 74, s. 58.

Registration of agreement.

59. The Minister shall require the registration of the agreement in the land register and shall transmit a certified statement of registration to the owner, to the conservation organization, where applicable, and to the local and regional municipal authorities having authority in whose territory the property is situated.

Subsequent acquirers bound.

The agreement, once registered, is binding on all subsequent acquirers of the property.

Copy of deed of transfer.

To enable the updating of the register maintained by the Minister under section 5, every acquirer of property recognized as a nature reserve must, within 30 days of acquiring the property, send a copy of the deed of transfer to the Minister.

2002, c. 74, s. 59.

Certificate.

60. The Minister shall issue to the owner a certificate attesting that the property has been recognized as a nature reserve.

“recognized nature reserve”.

The designation “recognized nature reserve” may only be used in respect of a property for which a valid certificate is held.

2002, c. 74, s. 60.

APPENDIX B

SECTIONS OF THE ACT THAT RELATE TO OUTSTANDING GEOLOGICAL SITES – DEFINITIONS AND CONTEXT

CHAPTER I

APPLICATION AND INTERPRETATION

Interpretation,

1. In this Act,

“outstanding geological site”;

“outstanding geological site” means land whose geological, geomorphic, landscape or biological characteristics are of educational value, or of interest for scientific research or conservation purposes, and that deserves to be protected, in particular because it is threatened, rare or vulnerable;

CHAPTER X

POWERS OF THE MINISTER

DIVISION I

SPECIAL POWERS

Powers of Minister.

304. The Minister may, by order,

(1) reserve to the State or withdraw from staking, map designation, mining exploration or mining operations any land containing mineral substances that are part of the domain of the State and necessary for any purpose that he considers to be in the public interest, particularly the performance of the following work:

- mining inventory and exploration work;
- mining, industrial, port, airport or communications facilities;
- underground conduits;
- development and utilization of waterpower, power transmission lines, storage tanks or underground reservoirs;
- creation of parks or ecological reserves;
- classification as an exceptional forest ecosystem under sections 24.4 to 24.9 of the Forest Act (chapter F-4.1) or designation of biological refuges under sections 24.10 to 24.13 of that Act;

(1.1) delimit territories for non-exclusive purposes of recreation, tourism, plant-life or wildlife conservation or the preservation of an exceptional forest ecosystem classified by the Minister;

(1.2) delimit the zones in a marine environment in which a mining right relating to petroleum, natural gas or underground reservoirs shall be subject to sections 166.1 and 213.3;

(2) order the construction and maintenance of common walls or common roads between mining properties;

(2.1) define, for lands of the domain of the State, the types of construction that may be erected or maintained by the holder of a claim of the land subject to the claim without being required to obtain authorization from the Minister;

(3) declare a drift an underground reservoir and render this Act applicable to it;

(4) designate a regional office.

Consultation.

Where the land on which mining inventory and mining exploration work is to be performed is in a reserved area or an agricultural zone within the meaning of the Act respecting the preservation of agricultural land and agricultural activities (chapter P-41.1), the Minister shall consult the Commission de protection du territoire agricole du Québec before withdrawing the land from staking, map designation, mining exploration or mining operations.

Exploration and mining.

The Minister may allow, by order, on land reserved to the State, mining exploration or mining operations in accordance with this Act for such mineral substances as are determined by the Minister.

Order.

The order comes into force on the day of its publication in the Gazette officielle du Québec or on any later date specified therein.

Biological refuge.

An order made by the Minister under subparagraph 1 of the first paragraph, concerning the designation of a biological refuge, must refer to the number assigned the biological refuge appearing in the list referred to in section 24.12 of the Forest Act, and is valid without further formality.

Publication and coming into force.

The order is published on the department's website and comes into force on the date given on that website.

1987, c. 64, s. 304; 1988, c. 9, s. 50; 1991, c. 23, s. 8; 1996, c. 26, s. 85; 1998, c. 24, s. 127; 1999, c. 40, s. 178; 1998, c. 24, s. 127; 2001, c. 6, s. 149; 2007, c. 39, s. 33.

Suspension of right to stake.

304.1. Prior to the making of an order under subparagraph 1 or 1.1 of the first paragraph of section 304 or to the publication of a notice of classification of an outstanding geological site under section 305.1, the Minister may temporarily suspend, for a period of 18 months, the right to stake and designate on a map a parcel of land whose boundaries are shown on the maps kept in the office of the registrar.

Effective date.

The suspension takes effect after the filing of a notice in the office of the registrar, on the date indicated in the notice.

2003, c. 15, s. 31; 2005, c. 45, s. 7.

Delegation.

305. The Minister may, by order, delegate generally or specially, to any person, the exercise of the powers vested in him by this Act.

Coming into force.

Such delegation comes into force on the date of publication of the order in the Gazette officielle du Québec or on any later date indicated therein.

1987, c. 64, s. 305.

DIVISION II

OUTSTANDING GEOLOGICAL SITE

Classification.

305.1. The Minister may classify an outstanding geological site and establish the boundaries of the site after consulting the Minister of Sustainable Development, Environment and Parks, associations in the Québec mining industry and, where applicable, the holders of mining rights, municipalities, urban communities or Native communities concerned.

Notice.

The notice of classification must be published in the Gazette officielle du Québec.

Boundaries.

The boundaries of a classified outstanding geological site are shown on maps kept at the office of the registrar.

2005, c. 45, s. 8.

Extension or declassification.

305.2. The Minister may extend the boundaries of an outstanding geological site classified under section 305.1 or, if the Minister considers that the grounds for classification no longer exist, declassify part or all of the site after consulting the Minister of Sustainable Development, Environment and Parks.

2005, c. 45, s. 8.

Development or preservation.

305.3. The Minister may take the measures needed to ensure the development or the preservation of an outstanding geological site classified under section 305.1.

2005, c. 45, s. 8.

Agreement with owner.

305.4. Before classifying an outstanding geological site located on private property, extending its boundaries or exercising the power described in section 305.3, the Minister must enter into an agreement with the owner.

2005, c. 45, s. 8.

Registration.

305.5. The Minister must request the registration in the land register of the agreement referred to in section 305.4 and forward to the owner a certified statement of registration. The agreement, once registered, is binding on all subsequent acquirers.

Filing.

The agreement must also be filed in the office of the registrar.

2005, c. 45, s. 8.

APPENDIX C

SECTIONS OF THE ACT THAT RELATE TO OUTSTANDING GEOLOGICAL SITES – PROHIBITIONS AND INFRACTIONS

CHAPTER III

MINING RIGHTS OF THE DOMAIN OF THE STATE

DIVISION II

PROSPECTING LICENCE

Prohibition.

30.1. No person may stake, designate on a map or carry on mining exploration or mining operations work on an outstanding geological site classified under section 305.1.

2005, c. 45, s. 3.

CHAPTER XII

PENAL PROVISIONS

Offence and penalty.

321.1. Every person who contravenes section 30.1, damages an outstanding geological site classified by the Minister under section 305.1, or destroys or damages property located on such a site is liable to a fine of \$500 to \$100,000 in the case of a natural person and of \$1,000 to \$200,000 in the case of a legal person.

Subsequent conviction.

In the case of a second or subsequent conviction, the fines prescribed in the first paragraph are doubled.

2005, c. 45, s. 9.

APPENDIX D

BASIC PROCEDURE

MAIN STEPS IN THE LEGAL CLASSIFICATION PROCESS

The main steps leading up to the legal classification of an outstanding geological site are as follows:

► Step 1 – Documentation and delimitation of a potential OGS

Proposal

A site must first be the subject of a proposal using a general application form available on the website of the Ministère des Ressources naturelles et de la Faune (MRNF). The form is available from the webpage on outstanding geological sites (http://sigeom.mrnf.gouv.qc.ca/sge/classes/I5101_propSites) and is also presented in Appendix E.

Evaluation of the proposal

The proposal for a geological site is evaluated by the mines sector of the MRNF (Secteur des mines; SM). A geological site is evaluated using several criteria that convey an exceptional character. Only one criterion may suffice to classify the geological site as outstanding, but a combination of criteria based on the following exceptional qualities is generally preferable:

- Scientific distinctiveness
- Historical distinctiveness
- Cultural, spiritual or social distinctiveness
- Geotourism distinctiveness
- Economic distinctiveness
- International distinctiveness
- Educational distinctiveness
- Support of an ecosystem
- Links to biodiversity
- Paleobiodiversity
- Aesthetic quality
- Rarity or uniqueness
- Vulnerability/threatened character
- Quality of exposure/state of preservation
- Size
- Significant milestone in stratigraphic history

Description and characterization of the site

A geological site of interest is described and characterized by the MRNF in terms of its geology, geomorphology, landscape and biology. This information is entered into a database and may be available for, among other things, determining the necessary level of protection and formulating a development plan for the site.

Sites of interest can (will) be posted on the MRNF website. The site descriptions will be available in the MRNF's Examine database for free consultation in the form of summary files called "fiches synthèse". A detailed form will be filled out by MRNF personnel for each of the potential outstanding geological sites to serve as a reference document. A location map showing the limits of the land will be appended to the form.

Analysis of existing rights, titles, permits and restrictions

The perimeter of the geological site must be accurately delimited to ensure that any and all landholders and holders of titles, permits and restrictions can be identified for the area covered by the site. The official map delimitation is appended to the Ministerial Decision signed by the Minister. It will also be archived in GESTIM, the MRNF's mining title management system, and appended to the proposed site's descriptive sheet ("fiche descriptive") intended for external consultations (government and community consultations).

Placing markers in the field is not required for protected areas and thus not planned for outstanding geological sites. The delimitation of the site on a map will be guided by existing topographic features and manmade structures (streams, rivers, roads, low walls, ledges or curbs, lakes, shorelines, etc.) or will follow straight lines, all of which should be easy to identify or trace when on the site.

In the case of an outstanding geological site located on private property, section 305.4 of the Mining Act stipulates that “before classifying an outstanding geological site located on private property, extending its boundaries or exercising the power described in section 305.3 [see Appendix B], the Minister must enter into an agreement with the owner”.

Temporary protection

A geological site with characteristics of interest that deserve to be protected, in particular because they are threatened, rare or vulnerable, will be the subject of a temporary suspension of mining-related activities in case the area becomes classified as an outstanding geological site.

The site will be granted a permanent protection status once classified. Although all outstanding geological sites have protected status under the Mining Act, their classification should—depending on the priority the management directions assign to conservation—result in their entry into Québec’s Register of Protected Areas. The latter registration is the exclusive task of the MDDEP.

► Step 2 –Ministerial consultations

The Direction générale de Géologie Québec (DGGQ) will hold a consultation with the senior levels of the Ministère des Ressources naturelles et de la Faune. The DGGQ will prepare the necessary supporting documents (form file, tables, descriptive sheets) and distribute them among the main sectors concerned. Consultations with the regional general administrations involved in the dossier will be the responsibility of the regional operations sector (Secteur des opérations régionales; SOR) via the office for regional affairs and operational support for the energy, mines and land sectors (Direction des affaires régionales et soutien aux opérations Énergie, Mines et Territoire; DARSOEMT). The suggested time limit for the consultation is 6 weeks starting from the date the dossier was sent. At the end of this consultation process, the DGGQ will combine the notices it receives from the various sectors and from the SOR.

Following any adjustments arising from the internal ministerial consultation, a new set of supporting documents will be prepared for the targeted consultation step.

► Step 3 –Targeted consultations

Targeted consultations are the responsibility of the regional operations sector (Secteur des opérations régionales; SOR) and the mines sector (Secteur des mines; SM), and such consultations are usually done in writing. The process begins with the SM submitting all supporting documents to the SOR using a secure file transfer site (FTP) so that the SOR can coordinate the community consultation. At the SOR’s request, an English translation of the documents will be included in the secure file directory.

At this stage, two types of consultations will be held simultaneously: governmental (DGGQ) and community (SOR).

Consultations with government administrations and professional associations

The DGGQ is required to consult all the ministries and provincial organizations involved. Although not exhaustive, the following parties will be consulted in accordance with the Mining Act (section 305.1):

- the Ministère du Développement durable, de l’Environnement et des Parcs;
- associations in the Québec mining industry (AMQ and AEMQ).

Community consultations

The SOR is responsible for consulting all stakeholders, including the main representatives from the region. Although not exhaustive, the following stakeholders will be consulted in accordance with the Mining Act (section 305.1):

- ▶ the holders of rights relating to mining, land, wildlife and forestry;
- ▶ municipalities;
- ▶ urban communities or Native communities.

The suggested response time for the consultation is 12 weeks. At the end of this step, the SOR will provide the DGGQ with a compilation of the comments it received. The DGGQ will, in turn, present the SOR with answers that respond to the questions or objections raised by the consulted parties. After the SOR receives the DGGQ's answers, it will send the DGGQ a final notice within 3 weeks incorporating the last comments from the concerned parties.

Identifying and consulting partners for the implementation plan

Although not essential, this step could prove important when implementing a development and management plan for the site, especially considering that potential local partners are generally best placed to act in this regard.

▶ Step 4 – Preparation and ministerial decisions

Legal documents

This task is the responsibility of the DGGQ and the office for legal matters (Direction des affaires juridiques; DAJ). The various procedures involved in this step (officialization of names, explanatory notes, legal documents, etc.) will allow the dossier to be finalized and sent to the Deputy Minister's office (Bureau du sous-ministre), and then to the cabinet for the Minister to sign.

Minister's decision

The Minister of Natural Resources and Wildlife makes the final decision of whether to grant or refuse the classification of an outstanding geological site.

Publication of the notice

The notice of classification is published in the official gazette of Québec (*Gazette officielle du Québec*). Following this publication, a notice will be sent to the SOR and the DGR granting them permission to send the information to the consulted parties involved.

Communication of the decision

The MRNF agrees to protect the geodiversity of an outstanding geological site by preventing human intervention. After the Minister decides to classify an outstanding geological site, a request will be made to the MDDEP to have it entered into the Register of Protected Areas.

The classification process for an outstanding geological site may take as long as fifteen months. The final decision of the Minister is made in full knowledge of the impacts associated with its classification and the opinions expressed by the various internal and external parties involved in the process. At the end of the process, the sites that are not classified under the Mining Act will continue to be recorded in SIGÉOM (Système d'information géominière du Québec) as a geological site of interest (geosite). A geosite does not benefit from any protection status, but may eventually be submitted for re-evaluation for the purposes of protection.

The boundaries of an outstanding geological site can be expanded or reduced. An outstanding geological site can also be declassified if the grounds for classification no longer exist. These changes are made after consulting the Minister of Sustainable Development, Environment and Parks (Mining Act, section 305.2).

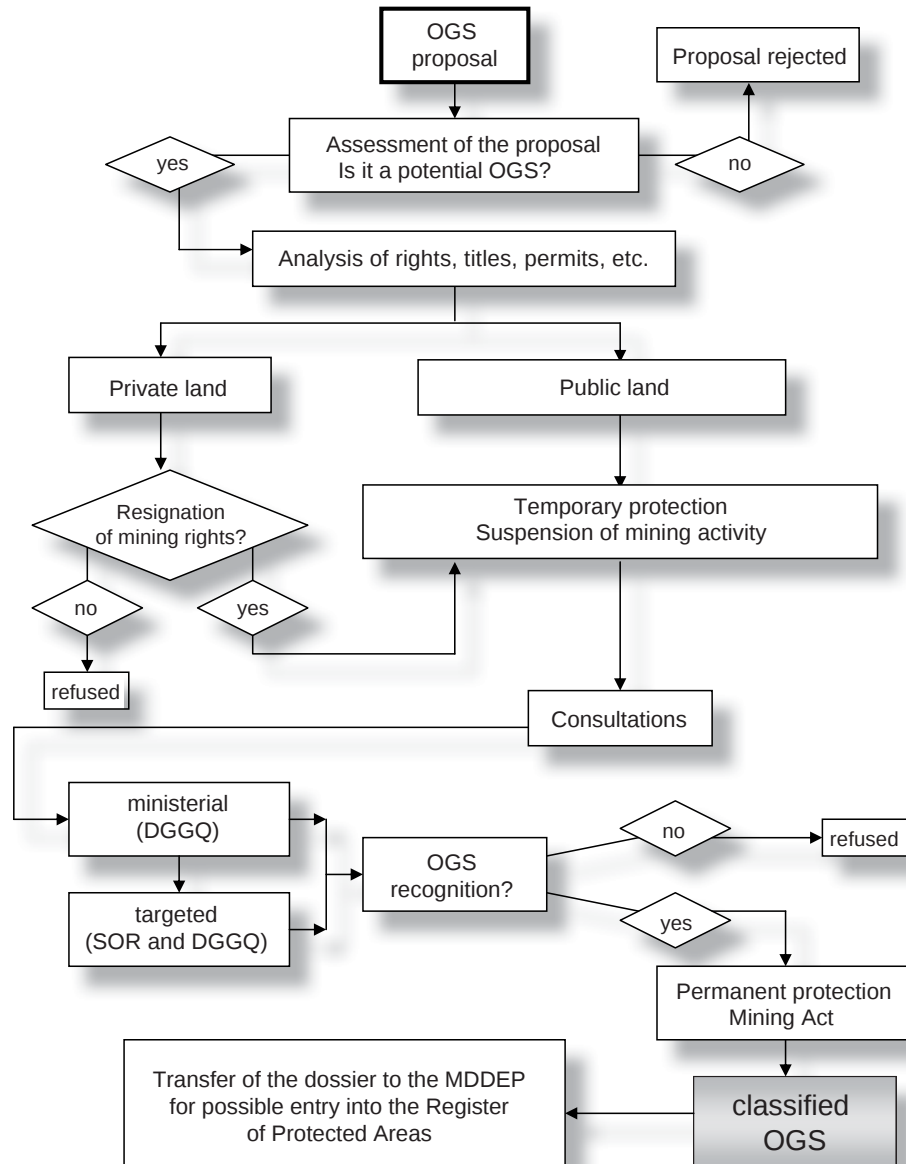


FIGURE 1 - Procedure for the classification of an outstanding geological site.

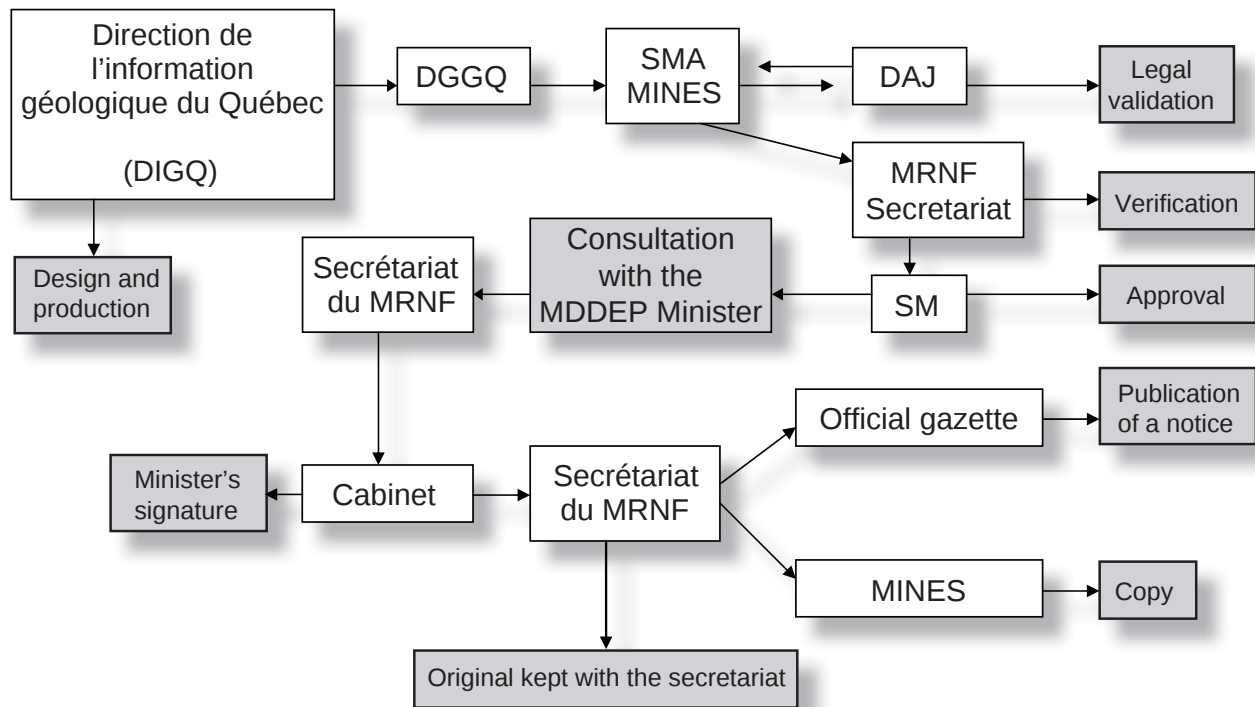


FIGURE 2 - Flow of ministerial decisions (creation of outstanding geological sites).

APPENDIX E

OGS PROPOSAL FORM

SECTION 1 : IDENTIFICATION

1.1 Proposed site name

1.2 Introducer

Last name	First name

Address (number, street or road)	App.	City, village or municipality

Province	Country	Postal code	Phone number

Fax number	E-mail

1.3 Administrative location

Municipality, city, village, parish

Township(s)	Rang(s)	Lot(s)

Other (park), reserve, protected area, etc.

1.4 Land property

☐ Public land (go to section 2) ☐ Private land (fill this section)

Last name, first name of owner (if possible)

Address (number, street ou road)

City	Province	Postal code

SECTION 2 : SITE DESCRIPTION

2.1 Nature of geological phenomenon

2.2 Location and site access

