# Geological conservation areas

**Norwegian Mapping Authority**
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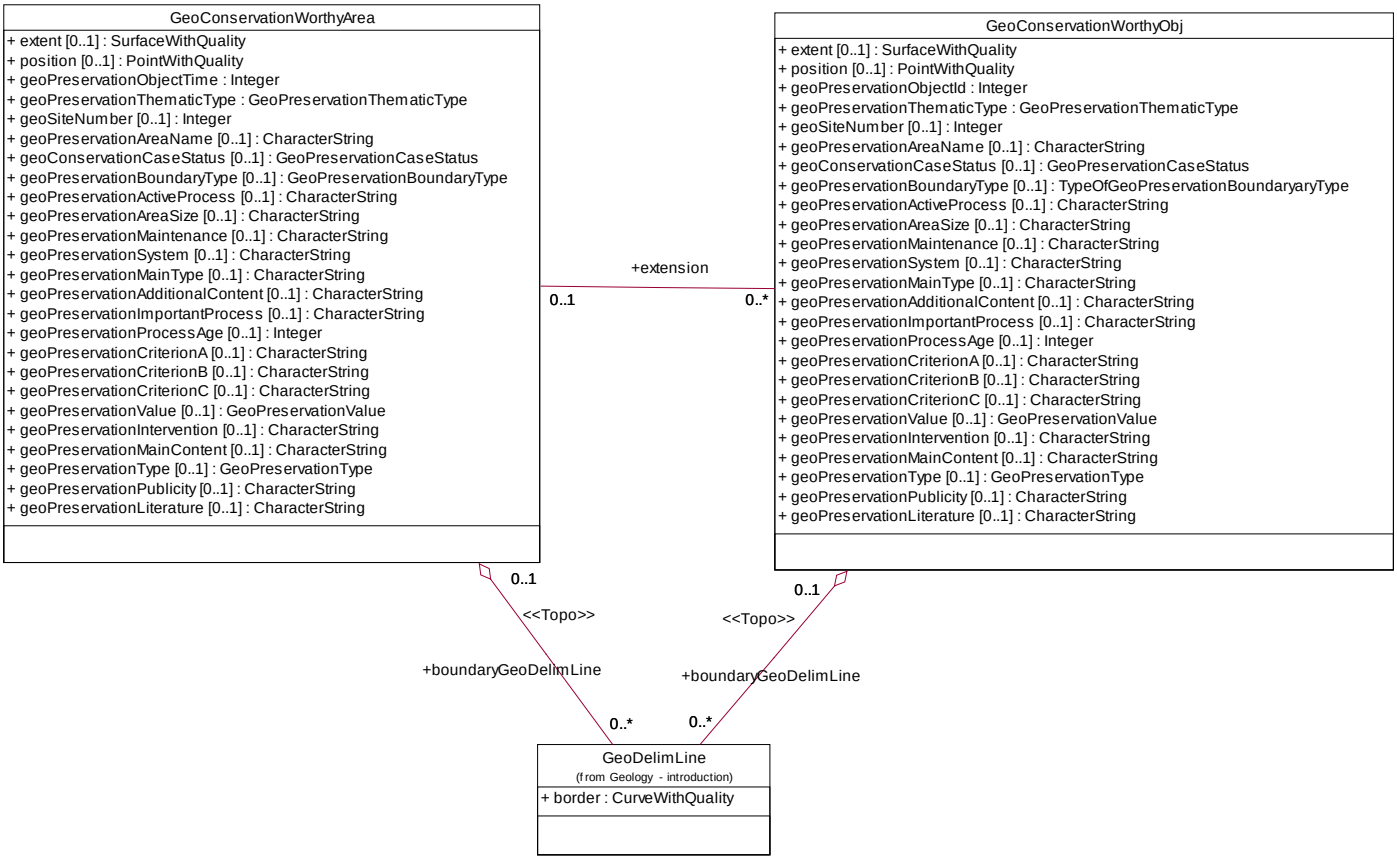
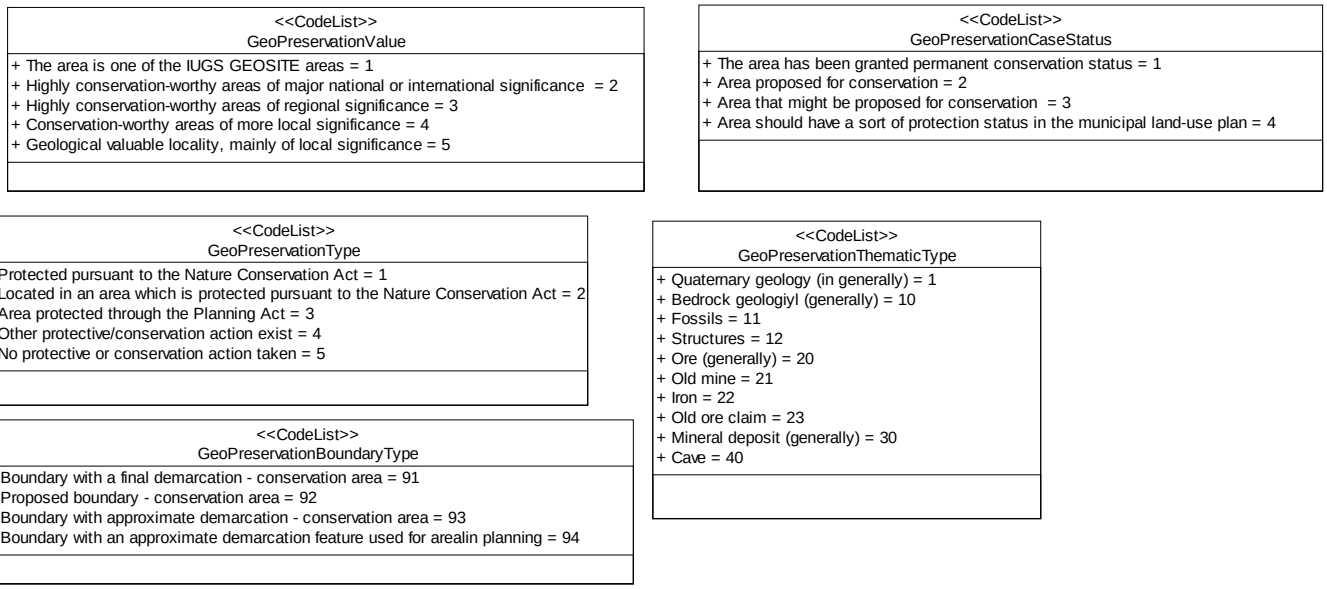
## 1.1 Application schema



# Codelists


<<CodeList>>
GeoPreservationValue
+ The area is one of the IUGS GEOSITE areas = 1
+ Highly conservation-worthy areas of major national or international significance = 2
+ Highly conservation-worthy areas of regional significance = 3
+ Conservation-worthy areas of more local significance = 4
+ Geological valuable locality, mainly of local significance = 5
<<CodeList>>
GeoPreservationCaseStatus
+ The area has been granted permanent conservation status = 1
+ Area proposed for conservation = 2
+ Area that might be proposed for conservation = 3
+ Area should have a sort of protection status in the municipal land-use plan = 4
<<CodeList>>
GeoPreservationType
+ Protected pursuant to the Nature Conservation Act = 1
+ Located in an area which is protected pursuant to the Nature Conservation Act = 2
+ Area protected through the Planning Act = 3
+ Other protective/conservation action exist = 4
+ No protective or conservation action taken = 5
<<CodeList>>
GeoPreservationThematicType
+ Quaternary geology (in generally) = 1
+ Bedrock geologiyl (generally) = 10
+ Fossils = 11
+ Structures = 12
+ Ore (generally) = 20
+ Old mine = 21
+ Iron = 22
+ Old ore claim = 23
+ Mineral deposit (generally) = 30
+ Cave = 40
<<CodeList>>
GeoPreservationBoundaryType
+ Boundary with a final demarcation - conservation area = 91
+ Proposed boundary - conservation area = 92
+ Boundary with approximate demarcation - conservation area = 93
+ Boundary with an approximate demarcation feature used for arealin planning = 94

## 1.2 Description

### 1.2.1 GeoConservationWorthyArea

| No | Name/ Role name | Description | Obligation/ Condition | Maximum Occurrence | Type | Constraint |
|---|---|---|---|---|---|---|
| 1 | Class GeoConservationWorthyArea | approximately designated area containing one or more geological objects which may be protection-worthy | | | | |
| 1.1 | extent | area over which an object extends | 0 | 1 | SurfaceWithQuality | |
| 1.2 | position | location where the object exists | 0 | 1 | PointWithQuality | |
| 1.3 | geoPreservationObjectTime | identifier for conservation-worthy object Note: Identification number consisting of municipal no. + serial no. For example: 1729001 for Site 001 in Inderøy municipality (1729). The number of the area | 1 | 1 | Integer | |
| 1.4 | geoPreservationThematicType | which geological thematic type is conservation-worthy<br>Note: E.g bedrock, quaternary geol., ore geol. | 1 | 1 | GeoPreservationThematicType | |
| 1.5 | geoSiteNumber | identifier in the IUGS database for conservation-worthy geological areas | 0 | 1 | Integer | |
| 1.6 | geoPreservationAreaName | name of conservation-worthy area<br>Note: Name of the area containing conservation-worthy geological object(s) | 0 | 1 | CharacterString | |
| 1.7 | geoConservationCaseStatus | how far the Conservation case has progressed in the legal process | 0 | 1 | GeoPreservationCaseStatus | |
| 1.8 | geoPreservationBoundaryType | criterion for delimitation of a conservation-worthy feature | 0 | 1 | GeoPreservationBoundaryType | |
| 1.9 | geoPreservationActiveProcess | active geological processes illustrated, which make the feature/area conservation-worthy (mass movement, river erosion, etc.) | 0 | 1 | CharacterString | |
| 1.10 | geoPreservationAreaSize | the size of the conservation-worthy area. Note: Specification of area, rough estimate of area. (Point=less than 10 | 0 | 1 | CharacterString | |

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|---|---|---|---|---|---|---|
| | | hectares, Small=10 hectares (1 square kilometre), Medium=1-10 square kilometres, Large?10 square kilometres | | | | |
| 1.11 | geoPreservationMaintenance | type of maintenance necessary for an object to keep its value Note: Requirements related to maintenance/care to maintain the areaXzXs conservational value. For example: Clearing of mountain surfaces, preventing overgrowth, clearing of trees/forest | 0 | 1 | CharacterString | |
| 1.12 | geoPreservationSystem | whether the area contains of larger system of superficial shapes and/or deposits | 0 | 1 | CharacterString | |
| 1.13 | geoPreservationMainType | paramount type of geological phenomenon/topic which makes the feature worthy of preservation For example: Main types such as ablation shapes, glacial edge deposits, pillow lava, older ore sites, mineral deposits, etc. | 0 | 1 | CharacterString | |
| 1.14 | geoPreservationAdditionalContent | supplementary information about GeoConservation-Worthy feature or area For example: Subordinate observations such as shorelines, eskers, melt water courses, etc. | 0 | 1 | CharacterString | |
| 1.15 | geoPreservationImportantProcess | important geological processes that can be observed in the area Note: E.g (glacial processes, subsea volcanism, contact metamorphism, bog ore extraction | 0 | 1 | CharacterString | |
| 1.16 | geoPreservationProcessAge | estimated age of the creation of the conservation-worthy features Note: Probable age of the formation of main type/main content or process | 0 | 1 | Integer | |
| 1.17 | geoPreservationCriterionA | the primary criterion which makes the eature/area | 0 | 1 | CharacterString | |

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|---|---|---|---|---|---|---|
| | | conservation-worthy<br>For example: scarcity, representativeness, diversity, function, untouched nature | | | | |
| 1.18 | geoPreservationCriterionB | the secondary criterion making the feature/area conservation-worthy<br>For example: research potential, classic site, key area for geoscience, natural history documentation, instructive site, availability, untouched nature | 0 | 1 | CharacterString | |
| 1.19 | geoPreservationCriterionC | peripheral preservation criterion.<br>Note: The intrinsic value of the feature/area represents much of the conservation-worthiness | 0 | 1 | CharacterString | |
| 1.20 | geoPreservationValue | whether GeoConservation-Worthy feature or area the object is of international, national, regional or local value.<br>Note: Criteria for selection and prioritisation of conservation-worthy geological | 0 | 1 | GeoPreservationValue | |
| 1.21 | geoPreservationIntervention | interventions which diminish the conservational value and the adventure value<br>For example: Interventions such as sand and gravel deposits, existing land use, etc | 0 | 1 | CharacterString | |
| 1.22 | geoPreservationMainContent | most important geological registration or observation at the location or in the area.<br>Note: technical terms for the most important geological registrations/observations at the location or in the area.<br>For example: Moraines, (kame deltas/ice lake terraces), deltas, up/down criteria in pillow lava, loosening rock by heating | 0 | 1 | CharacterString | |
| 1.23 | geoPreservationType | the type of conservation the object is subject to | 0 | 1 | GeoPreservationType | |

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|---|---|---|---|---|---|---|
| | | Note: Different legislation and restrictions | | | | |
| 1.24 | geoPreservationPublicity | initiative to give publicity to the GeoConservation-Worthy feature or area Note: Actions taken to make the area/attraction known to the public (for example: information centre, information board, brochure, guiding, part of nature trail) | 0 | 1 | CharacterString | |
| 1.25 | geoPreservationLiterature | reference to relevant literature | 0 | 1 | CharacterString | |
| 1.26 | Role boundaryGeoDelimLine | | 0 | N | GeoDelimLine | Aggregration |
| 1.27 | Role (unnamed) GeoConservationWorthyObj | | 0 | N | GeoConservationWorthyObj | |

### 1.2.2 GeoConservationWorthyObj

| No | Name/ Role name | Description | Obligation/ Condition | Maximum Occurrence | Type | Constraint |
|---|---|---|---|---|---|---|
| 2 | Class GeoConservationWorthyObj | name of conservation-worthy area Note: Name of the area containing conservation-worthy geological object(s) | | | | |
| 2.1 | extent | area over which an object extends | 0 | 1 | SurfaceWithQuality | |
| 2.2 | position | location where the object exists | 0 | 1 | PointWithQuality | |
| 2.3 | geoPreservationObjectId | identifier for conservation-worthy object Note: Identification number consisting of municipal no. + serial no. For example: 1729001 for Site 001 in Inderøy municipality (1729). The number of the area | 1 | 1 | Integer | |
| 2.4 | geoPreservationThematicType | which geological thematic type is conservation-worthy Note: Which conservation-worthy geological thematic types (bedrock, quaternary geol., ore geol., etc.) exist in the area | 1 | 1 | GeoPreservationThematicType | |
| 2.5 | geoSiteNumber | identifier in the IUGS database for conservation-worthy geological areas | 0 | 1 | Integer | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2.6 | geoPreservation AreaName | name of conservation-worthy area Note: Name of the area containing conservation-worthy geological object(s) | 0 | 1 | CharacterString | |
| 2.7 | geoConservation CaseStatus | how far the Conservation case has progressed in the legal process | 0 | 1 | GeoPreservationCaseStatus | |
| 2.8 | geoPreservation BoundaryType | criterion for delimitation of a conservation-worthy feature | 0 | 1 | TypeOfGeoPreservationBoundaryaryType | |
| 2.9 | geoPreservation ActiveProcess | active geological processes illustrated, which make the feature/area conservation-worthy (mass movement, river erosion, etc.) | 0 | 1 | CharacterString | |
| 2.10 | geoPreservation AreaSize | the size of the conservation-worthy area. Note: Specification of area, rough estimate of area. (Point=less than 10 hectares, Small=10 hectares (1 square kilometre), Medium=1-10 square kilometres, Large?10 square kilometres | 0 | 1 | CharacterString | |
| 2.11 | geoPreservation Maintenance | type of maintenance necessary for an object to keep its value Note: Requirements related to maintenance/care to maintain the areaXzXs conservational value. For example: Clearing of mountain surfaces, preventing overgrowth, clearing of trees/forest | 0 | 1 | CharacterString | |
| 2.12 | geoPreservation System | whether the area contains of larger system of superficial shapes and/or deposits | 0 | 1 | CharacterString | |
| 2.13 | geoPreservation MainType | paramount type of geological phenomenon/topic which makes the feature worthy of preservation For example: Main types such as ablation shapes, glacial edge deposits, pillow lava, older ore sites, mineral deposits, etc. | 0 | 1 | CharacterString | |
| 2.14 | geoPreservation AdditionalConten | supplementary information about GeoConservation- | 0 | 1 | CharacterString | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | t | Worthy feature or area<br>For example: Subordinate observations such as shorelines, eskers, melt water courses, etc. | | | | |
| 2.15 | geoPreservationImportantProcess | important geological processes that can be observed in the area<br>Note: E.g (glacial processes, subsea volcanism, contact metamorphism, bog ore extraction | 0 | 1 | CharacterString | |
| 2.16 | geoPreservationProcessAge | estimated age of the creation of the conservation-worthy features Note: Probable age of the formation of main type/main content or process | 0 | 1 | Integer | |
| 2.17 | geoPreservationCriterionA | the primary criterion which makes the eature/area conservation-worthy<br>For example: scarcity, representativeness, diversity, function, untouched nature | 0 | 1 | CharacterString | |
| 2.18 | geoPreservationCriterionB | the secondary criterion making the feature/area conservation-worthy<br>For example: research potential, classic site, key area for geoscience, natural history documentation, instructive site, availability, untouched nature | 0 | 1 | CharacterString | |
| 2.19 | geoPreservationCriterionC | more peripheral preservation criterion<br>Note: The objectXzXs intrinsic value represents much of the conservation-worthiness | 0 | 1 | CharacterString | |
| 2.20 | geoPreservationValue | whether GeoConservation-Worthy feature or area the object is of international, national, regional or local value.<br>Note: Criteria for selection and prioritisation of conservation-worthy geological | 0 | 1 | GeoPreservationValue | |
| 2.21 | geoPreservationIntervention | interventions which diminish the conservational value and | 0 | 1 | CharacterString | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | the adventure value<br>For example: Interventions such as sand and gravel deposits, existing land use, etc | | | | |
| 2.2.2 | geoPreservationMainContent | most important geological registration or observation at the location or in the area.<br>Note: technical terms for the most important geological registrations/observations at the location or in the area.<br>For example: Moraines, (kame deltas/ice lake terraces), deltas, up/down criteria in pillow lava, loosening rock by heating | 0 | 1 | CharacterString | |
| 2.2.3 | geoPreservationType | the type of conservation the object is subject to<br>Note: Different legislation and restrictions | 0 | 1 | GeoPreservationType | |
| 2.2.4 | geoPreservationPublicity | initiative to give publicity to the GeoConservation-Worthy feature or area<br>Note: Actions taken to make the area/attraction known to the public (for example: information centre, information board, brochure, guiding, part of nature trail) | 0 | 1 | CharacterString | |
| 2.2.5 | geoPreservationLiterature | reference to relevant literature | 0 | 1 | CharacterString | |
| 2.2.6 | Role boundaryGeoDelimLine | | 0 | N | GeoDelimLine | Aggregration |
| 2.2.7 | Role extension | | 0 | 1 | GeoConservationWorthyArea | |

### 1.2.3 Association <<Topo>> GeoConservationWorthyArea-GeoDelimLine

| No | Name/<br>Role name | Description | Obligation/<br>Condition | Maximum Occurrence | Type | Constraint |
|---|---|---|---|---|---|---|
| 3 | Association GeoConservationWorthyArea-GeoDelimLine | | | | | |
| 3.1 | Role boundaryGeoDelimLine | | 0 | N | GeoDelimLine | Aggregation |
| 3.2 | Role (unnamed) | | 0 | 1 | GeoConservationWorthyArea | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | GeoConservation WorthyArea | | | | | |

### 1.2.4 Association <<Topo>> GeoConservationWorthyObj-GeoDelimLine

| No | Name/ Role name | Description | Obligation/ Condition | Maximum Occurrence | Type | Constraint |
|---|---|---|---|---|---|---|
| 4 | Association GeoConservation WorthyObj-GeoDelimLine | | | | | |
| 4.1 | Role boundaryGeoDelimLine | | 0 | N | GeoDelimLine | Aggregation |
| 4.2 | Role (unnamed) GeoConservation WorthyObj | | 0 | 1 | GeoConservationWorthyObj | |

### 1.2.5 Association GeoConservationWorthyObj-GeoConservationWorthyArea

| No | Name/ Role name | Description | Obligation/ Condition | Maximum Occurrence | Type | Constraint |
|---|---|---|---|---|---|---|
| 5 | Association GeoConservation WorthyObj-GeoConservation WorthyArea | | | | | |
| 5.1 | Role extension | | 0 | 1 | GeoConservationWorthyArea | |
| 5.2 | Role (unnamed) GeoConservation WorthyObj | | 0 | N | GeoConservationWorthyObj | |

### 1.2.6.1 <<CodeList>> GeoPreservationThematicType

| Nr | Code name | Definition/Description | Code |
|---|---|---|---|
| 1 | CodeList GeoPreservationThematicType | which geological thematic type is preservation-worthy<br>Note: Which preservation-worthy geological thematic types (bedrock, quaternary geol., mineral occurence., etc.) exist in the area | |
| 1.1 | Quaternary geology (in generally) | | 1 |
| 1.2 | Bedrock geologiyl (generally) | | 10 |
| 1.3 | Fossils | | 11 |
| 1.4 | Structures | | 12 |
| 1.5 | Ore (generally) | | 20 |
| 1.6 | Old mine | | 21 |
| 1.7 | Iron | | 22 |
| 1.8 | Old ore claim | | 23 |
| 1.9 | Mineral deposit (generally) | | 30 |
| 1.10 | Cave | | 40 |

### 1.2.6.2 <<CodeList>> GeoPreservationBoundaryType

| Nr | Code name | Definition/Description | Code |
|---|---|---|---|
| 2 | CodeList GeoPreservationBoundaryType | criterion for delimitation of a preservation worthy object | |
| 2.1 | Boundary with a final demarcation - conservation area | | 91 |
| 2.2 | Proposed boundary - conservation area | | 92 |
| 2.3 | Boundary with approximate demarcation - conservation area | | 93 |
| 2.4 | Boundary with an approximate demarcation feature used for arealin planning | | 94 |

### 1.2.6.3 <<CodeList>> GeoPreservationCaseStatus

| Nr | Code name | Definition/Description | Code |
|---|---|---|---|
| 3 | CodeList GeoPreservationCaseStatus | how far the preservation case has progressed in the administrative process | |

| | | | |
|---|---|---|---|
| 3.1 | The area has been granted permanent conservation status | act relating to nature conservation | 1 |
| 3.2 | Area proposed for conservation | act relating to nature conservation | 2 |
| 3.3 | Area that might be proposed for conservation | | 3 |
| 3.4 | Area should have a sort of protection status in the municipal land-use plan | | 4 |

### 1.2.6.4 <<CodeList>> GeoPreservationType

| Nr | Code name | Definition/Description | Code |
|---|---|---|---|
| 4 | CodeList GeoPreservationType | what type of preservation the object is subject to Note: Distinguishes between the relevant types of preservation falling under different legislation and restrictions. | |
| 4.1 | Protected pursuant to the Nature Conservation Act | nature reserve, natural monument or landscape protection area | 1 |
| 4.2 | Located in an area which is protected pursuant to the Nature Conservation Act | located in national park, landscape protection area or nature reserve | 2 |
| 4.3 | Area protected through the Planning Act | zoning plan or other plan | 3 |
| 4.4 | Other protective/conservation action exist | administrative or private | 4 |
| 4.5 | No protective or conservation action taken | | 5 |

### 1.2.6.5 <<CodeList>> GeoPreservationValue

| Nr | Code name | Definition/Description | Code |
|---|---|---|---|
| 5 | CodeList GeoPreservationValue | whether the object is of international, national, regional or local value.<br>Note: Criteria for selection and prioritisation of preservation-worthy geological objects (priority group | |
| 5.1 | The area is one of the IUGS GEOSITE areas | | 1 |
| 5.2 | Highly conservation-worthy areas of major national or international significance | the areas are difficult to replace by other alternatives | 2 |
| 5.3 | Highly conservation-worthy areas of | in some cases, alternative areas can be found near-by, but these are seldom of quite the | 3 |

| | | | |
|---|---|---|---|
| | regional significance | same value. | |
| 5.4 | Conservation-worthy areas of more local significance | the locations are normally selected from several of comparable geological interest. Shape, origin and endangerment are factors which are assessed in the selection process | 4 |
| 5.5 | Geological valuable locality, mainly of local significance | these should be given consideration in the municipal land-use plan | 5 |