Arolwg Daearegol Prydain
British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Llywodraeth Cymru
Welsh Government

NORTH WEST WALES
GOGLEDD-OROLLEWIN CYMRU

Aggregates Safeguarding Map of Wales
Diogelu Agregau: Map o Gymru

Aggregates Safeguarding
Diogelu Agregau

Scale 1:100 000
Graddfa 1:100 000

Compiled by: C.E. Wrighton, A.J. Humpage and T.P. Bide.
Project Leaders: A.J. Humpage, J.M. Marketlow and A. Benham.
Digital Cartography: N.A. Spencer and H. Smith, British Geological Survey.
Published 2012.

Crynhowyd gan: C.E. Wrighton, A.J. Humpage a T.P. Bide.
Arweinwyr y prosiect: A.J. Humpage, J.M. Marketlow ac A. Benham.
Cartografleg ddigidol: N.A. Spencer a H. Smith, Arolwg Daearegol Prydain (ADP).
Cyhoeddwyd 2012.

This map is one of a series of six maps commissioned by the Welsh Government and co-funded by the BGS Sustainable Mineral Solutions Project and the Aggregates Levy Sustainability Fund for Wales (Contract 252/2009/09).
This map is to be used in conjunction with the accompanying report 'Aggregates Safeguarding Map of Wales' BGS Commissioned Report CR/12/039.

Maer'r map hwn yn un o gyfres o chwe map a gomisiynwyd gan Lywodraeth Cymru ac a gyd-ariannwyd gan Brosiect Sustainable Mineral Solutions ADP a Chronfa Gynaliadwyedd Ardoll Agregau ar gyfer Cymru (Cytundeb 252/2009/09).
Dylid defnyddio'r map hwn mewn cysylltiad ar adroddiad canlynol 'Diogelu Agregau: Map o Gymru', Adroddiad CR/12/039 a gomisiynwyd gan ADP.

BGS map reference:

Aggregates Safeguarding Map of North-west Wales
Wrighton, C.E., Humpage, A.J. and Bide, T.P. 2012. OR/12/028.

Cyfeirnod map ADP:

Diogelu Agregau: Map o Gogledd-orollewin Cymru
Wrighton, C.E., Humpage, A.J. and Bide, T.P. 2012. OR/12/028.

Category 1 Aggregates Safeguarding Areas
Ardaloedd Diogelu Agregau Categori 1

- Sand and Gravel / Tywod a Graean
- High Specification Aggregate - Sandstone and Igneous Rocks / Agreg Manyleb Uchel - Tywodfaen a Chreigiau Igneaidd
- High Specification Aggregate - Carboniferous Limestone (stipple denotes high purity >97% $CaCO_3$) / Agreg Manyleb Uchel - Calchfaen Carboniferaidd (y dotwaith yn dynodi purdeb uchel >97% $CaCO_3$)

Category 2 Aggregates Safeguarding Areas
Ardaloedd Diogelu Agregau Categori 2

- Sand and Gravel / Tywod a Graean
- Sandstone (stipple denotes quartzitic sandstone with potential for silica sand and silica rock) / Tywodfaen (y dotwaith yn tywodfaen cwarsitig â photensial am dywod silica a chraig silica)
- Igneous Rocks / Creigiau Igneaidd
- Slate / Llechfaen

Administrative Areas
Ardaloedd Gweinyddol

- Mineral Planning Authority: Unitary Authority / Awdurdod Cynllunio Mwynol: Awdurdod Unedol
- Mineral Planning Authority: National Park Authority / Awdurdod Cynllunio Mwynol: Parc Cenedlaethol

WARNING: Please be aware that the printed colours may differ due to the settings of the plotter used.
DALIER SYLW: Gall y lliwiau printiedig fod yn wahanol o ganlyn i osodiadau'r plotydd a ddefnyddir.

Aims and Limitations

The purpose of the maps in this series is to show the areas where aggregate mineral resources are at risk from sterilisation. The maps only cover resources suitable for use as aggregates. The maps are intended to assist with the delineation of aggregates safeguarding areas in local development plans. The maps show only areas of primary (and secondary) aggregate resources as described in the main text, and do not take into consideration secondary or recycled aggregates, the national policies for which are described in Minerals Planning Policy Wales.

The maps have been produced by the collation and interpretation of aggregate mineral resources data that were prepared for the National Minerals Map of Wales. The mineral resources data that underpin the safeguarding maps are based on the best available existing geological and other published information, but the available data are not comprehensive and their quality is variable. The areas shown are not of uniform potential; the economic potential of individual sites can only be proved by a detailed evaluation programme. Such an investigation is an essential precursor to submitting a planning application for mineral working. Extensive areas are shown as having no mineral resource potential, but some isolated mineral workings may occur in these areas. The presence of these workings does not reflect the suitability for specific situations. The presence of an aggregates safeguarding area does not carry a presumption that the mineral will be worked.

The maps are intended for general consideration for aggregates safeguarding purposes and not as a source of information on specific sites. The maps should not be used to determine individual planning applications for working aggregates, or in taking other decisions on the acquisition or use of a particular tract of land.

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Amcanion a Cheyfyngiadau

Pwrpas y mapiau yn y gyfres hon yw dangos y mannau lle mae adnoddau agregau mwynol yn wynebu'r risg o fod yn anweithdaw. Mae'r mapiau yn ymdrin â dim ond adnoddau addas i'w defnyddio fel agregau. Bwriad y mapiau yw i helpu i amlinellu ardaloedd diogelu agregau mewn cynlluniau datblygu lleol. Dangosir ardaloedd sylfaenol (neu eilaidd) agregau fel y disgrifir yn y testun prif ffrwd, ac nid ystyrir yn ystyriaeth agregau eilaidd neu ailgylchedig y caiff eu polisïau cenedlaethol eu disgrifio yn Polisi Cynllunio Mwynol Cymru.

Cynhyrchwyd y mapiau trwy gasglu a dehongli data yn ymwneud ag adnoddau agregau mwynol a baratowyd ar gyfer Mapiau Mwynau Cymru a'r Deddfwriaeth Trethi Agregau ar gyfer Cymru. Mae'r data adnoddau mwynol, a'n sail i'r mapiau diogelu, yn seiliedig ar yr wybodaeth ddaearegol orau sydd ar gael a gyhoeddwyd gyhoeddedig arall, ond nid yw'r data sydd ar gael yn gynhwysfawr ac mae eu hansawdd yn amrywiol. Nid yw'r ardaloedd a dangosir o botensial unffurf; gellir profi potensial economaidd safleoedd unigol drin and ar ôl ymgymryd â rhaglen werthuso llawn. Mae archwiliad o'r fath yn rhagflaenydd hanfodol wrth gyflwyno cais cynllunio ar gyfer cloddio mwynau. Dangosir ardaloedd mawr fel rhai sydd heb unrhyw botensial mwynau, ond gall fod rhai gweithleoedd mwynol i'w cael hwrd ac yna yn yr ardaloedd hyn. Nid oes dim ystyriaeth ar y gweithleoedd hyn. Nid yw presenoldeb ardal diogelu amgylchiadau llesol neu benodol iawn. Nid yw presenoldeb ardal diogelu agregau yn rhagdybiaeth y caiff yr adnodd mwynol ei gloddio.

Bwriedir y mapiau ar gyfer ystyried yn gyffredinol ddibenion diogelu agregau ac nid fel ffynhonnell gwybodaeth ar gyfer safleoedd penodol. Ni dylidd defnyddio'r mapiau with ddod i benderfyniad ynghylch ceisiadau cynllunio ar gyfer cloddio agregau, neu with ddod i benderfyniadau eraill ynghylch cael gafael ar ddarn penodol o dir neu e ddefnydd.

Hawlfraint

Mae'r cynnyrch hwn yn cynnwys data mapio wedi'u trwyddedu gan yr Arolwg Ordnans gyda chaniatâd Rheolwr Llyfrfa Ei Mawrhydi © Hawlfraint y Goron a/neu hawl cronfa ddata 2012. Ciedwi pob hawl. 100037272.

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Map production and delineation of safeguarding boundaries

The boundaries of the aggregates safeguarding areas have been defined based on the aggregate mineral resources data that were prepared for and included in the National Minerals Map of Wales. In order to account for risk of sterilisation, any imprecision of the identified boundaries of the resource areas, and any mineral that might be accessed beneath overburden, the safeguarding areas extend beyond the boundaries of the resources data by 100m for superficial, and 200m for bedrock resources. These extensions reflect the minimum separation distances between sensitive development and mineral operations that are specified in Minerals Technical Advice Note 1: Aggregates. Aggregates safeguarding areas are not shown in urban areas, which are defined by the Ordnance Survey 'VectorMap Local' dataset launched in 2009.

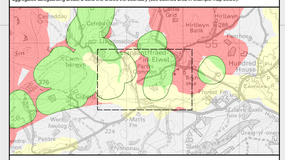
Cynhyrchiad y map ac amlinellu ffiniau diogelu

Mae ffiniau'r ardaloedd diogelu agregau wedi'u diffinio ar sail y data'n ymwneud ag adnoddau agregau mwynol a baratowyd ar gyfer Map Mwynau Cenedlaethol Cymru ac a gynhwyswyd ynddo. Er mwyn rhoi cyfri am y risg o wneud adnodd mwynol yn anweithdaw, ani unrhyw anfanylebu ynghylch ffiniau'r ardaloedd adnoddau mwynol a nodwyd, ac am unrhyw fwyn a allai cael ei dynnu o dan y pridd, ymestyna'r ardaloedd diogelu y tu hwnt i'r data adnoddau 100m ar gyfer y rhai sy'n arwyneb, ac adnoddau arwynebol a 200m yn achos creigiau. Mae'r estyniadau hyn yn adlewyrchu'r pellter lleiaf rhwng datblygiad sensitif a gweithgareddau mwynol a nodir yn Nodyn Cyngor Technegol Mwynau 1: Agregau. Ni chaiff ardaloedd diogelu agregau eu dangos mewn ardaloedd trefol, a ddiffinir yn set data 'VectorMap Local' yr Arolwg Ordnans a lansiwyd yn 2009.

Reading the map

The maps show categories of aggregate mineral resources according to whether the resource is considered nationally important (Category 1) or is important for only regional and local markets (Category 2). Aggregate mineral resources that are considered unsuitable as sources of aggregate are not shown on the maps (Category 3). Category 1 resources, in turn, include resources that are contained in Geological Information System held by each Mineral Planning Authority. Category 1 resources are those resources that have a national importance as inferred by the information provided in the Regional Technical Statements for both North and South Wales, and national policies and guidance in Minerals Planning Policy Wales and Minerals Technical Advice Note 1: Aggregates. This includes those aggregates minerals that are specifically referenced in policy as being of limited occurrence and therefore particularly susceptible to sterilisation in the region, and those particularly economically important due to their high quality and / or limited occurrence across the United Kingdom. Category 2 resources have been selected as those resources that are considered to be of local importance and may have some regional significance, but are less economically important than those identified for Category 1. The mineral resources that qualify as Category 2 resources were selected by BGS and technical experts in a project steering group, as detailed knowledge of the local industry is necessary to make these judgements.

The map production techniques used for the Aggregates Safeguarding Maps are that superficial deposits (sand and gravel) overlie bedrock, and where there are two coincident bedrock aggregates categories, Category 1 safeguarding areas overlie Category 2 safeguarding areas. Where Category 1 bedrock aggregates safeguarding areas underlie superficial deposits aggregates safeguarding areas, a solid line shows the boundary (see outlined area in example map below).


Holywell
Mostyn
Flint
Bagillt
Hawarden
Shotton
Connah's Quay
Queensferry
Ewloe
Hiraethog
Denbigh
Llanrhaeadr
Cefn Meiriadog
Trefnant
Tremeirchion
Cwm
Rhuddlan
Bodelwyddan
Kinmel Bay
Rhyl
Prestatyn
Meliden
Dyserth
Trelawnyd
Gwaenysgor
Llanasa
Tallarn Green
Llanfynydd
Caergwrle
Hope
Penyffordd
Buckley
Mynydd Isa
Mold
Leeswood
Pantymwyn
Gwernymynydd
Nercwys
Eryrys
Llanferres
Llanarmon yn Iâl
Llangynhafal
Llanbedr Dyffryn Clwyd
Llandyrnog
Llangwm
Gyrn Goch
Clocaenog
Derwen
Cerrigydrudion
Llanfwrog
Llanrhaeadr yng Nghinmeirch
Bylchau
Betws Gwerfil Goch
Llangynhafal
Llanfair Talhaiarn
Abergele
Pensarn
Colwyn Bay
Llysfaen
Old Colwyn
Dolgarrog
Llanddulas
Rhyd-y-foel
Capel Garmon
Tal-y-cafn
Eglwysbach
Llansanffraid Glan Conwy
Betws-y-Coed
Llanrwst
Trefriw
Llanddoged
Llanbedr-y-Cennin
Pandy Tudur
Tyn-y-Gongl
Llangernyw
Gwytherin
Cerrigydrwm
Llanfair Talhaearn
Llanfairfechan
Penmaenmawr
Dwygyfylchi
Sychnant
Conwy
Deganwy
Llandudno
Llandudno Junction
Llanrhos
Penrhyn Bay
Colwyn Bay
Rhos-on-Sea