ANNEX I – TENDER SPECIFICATIONS

Copernicus Initial Operations 2011-2013 - Land Monitoring Service

Local Component: riparian zones

Reference: **Open call for tenders EEA/MDI/14/001**

Closing date: **22.4.2014**

1. Introduction to EEA and Copernicus

The European Environment Agency (EEA) is a European Union public body governed by Regulation (EC) No 401/2009 of the European Parliament and of the Council of 23 April 2009[1]. The EEA role is to support the European Union in the development and implementation of environmental policy by providing relevant, reliable, targeted and timely information on the state of the environment and future prospects. The EEA also provides the necessary independent scientific knowledge and technical support to enable the Union and the member countries to take appropriate measures to protect and improve the environment as laid down in the Treaty and by successive Community action programmes on the environment and sustainable development. Currently, the EEA has 33 member countries (the Member States of the European Union, Iceland, Liechtenstein, Norway, Switzerland and Turkey).

The EEA is the hub of the European Environment Information and Observation Network (Eionet), a network of around 350 organisations across Europe, including European topic Centres, through which it collects and disseminates environment-related data and information. The EEA and Eionet contribute to the European Shared Environmental Information System (SEIS), a distributed, integrated, web-enabled information system based on a network of public information providers sharing environmental data and information. It builds on existing e-infrastructure, systems and services in the Member States and EU institutions.

Further information about the work of EEA can be obtained on its website: http://www.eea.europa.eu.

Copernicus, previously known as GMES (Global Monitoring for Environment and Security), is the European Programme for the establishment of a European capacity for Earth Observation.

The objective of the Copernicus Land monitoring service is to provide users in the field of environment and other terrestrial applications with information based on space data combined with other sources. It addresses a wide range of policies such as environment, agriculture, regional development, transport and energy at EU level, and European commitments to International Conventions. The service has entered its Initial Operations phase when Regulation (EU) n°911/2010 of 22 September 2010 of the European Parliament and the Council on the

[1] OJEU L 126 of 21.5.2009, p. 13.

European Earth monitoring programme (GMES) and its initial operations (2011 to 2013)[2] came into force. It consists of three main components: global, continental (Pan-European), and local. The continental and the local components are technically coordinated by the EEA.

The local component aims to provide specific and more detailed information that is focusing on specific types of hotspots, such as urban areas, Natura2000 sites (N2K), coastal zones, or in this particular context the mapping of riparian zones (in support to the MAES Mapping and Assessment of Ecosystems and their Services[3] as part of the EU Biodiversity Strategy to 2020[4]), as described in the GMES/Copernicus 2013 work programme, integral part of the European Commission implementing decision C(2013)2449.

[2] OJEU L 276 of 20.10.2010, p. 1.

[3] http://ec.europa.eu/environment/nature/knowledge/ecosystem_assessment/pdf/MAESWorkingPaper2013.pdf

[4] EU Biodiversity Strategy: http://ec.europa.eu/environment/nature/biodiversity/comm2006/2020.htm

2. Presentation of the tender

Tenders shall be submitted in accordance with the ***double envelopes system***:

The outer envelope or parcel should be sealed with adhesive tape and signed across the seal and carry the following information:

- The call for tenders reference No **EEA/MDI/14/001**
- The contract title ***"Copernicus Initial Operations 2011-2013 - Land Monitoring Service, Local Component: riparian zones"***
- The specific lot number
- The name of the tenderer
- The indication ***"Tender – Not to be opened by the internal mail services"***
- The address for submission of tender (as specified in the letter of invitation to tender)
- The date of submission shall be legible on the outer envelope or parcel

The outer envelope or parcel must contain three inner envelopes, i.e. Envelopes No 1, 2 and 3, corresponding to the following three sections: administrative section, technical offer and financial offer.

(a) Envelope No 1 – Administrative section shall include the following:

- The Tender submission form drawn up in accordance with the template in annex 1
- The declaration(s) on exclusion criteria as required under section 11.1.2 drawn up in accordance with the template in annex 2
- The legal entity form(s) as required under section 11.2.1 drawn up in accordance with the template in annex 3
- The financial identification form drawn up in accordance with the template in annex 4
- The evidence and documentation demonstrating the fulfilment of the selection criteria as required under sections 11.2.2 (economic and financial capacity) and 11.2.3 (technical and professional capacity)

(b) Envelope No 2 – Technical offer shall include the following:

The technical offer providing all information requested under sections 6, 7, and 11.3.1, including, where appropriate, information relevant to subcontracting as requested under section 4.3.

(c) Envelope No 3 – Financial offer shall include the following:

The financial offer providing all information requested under sections 10 and 11.3.2, drawn up in accordance with the template in annex 5.

Tenders shall be drafted in one of the official languages of the European Union, **preferably in English** (supporting evidence does not need be translated) and submitted **in triplicate** (one signed original unbound and two copies).

It is important that tenders be presented in the correct format and include all documents necessary to enable the evaluation committee to asses them. Failure to respect these requirements will constitute a formal error and may result in the rejection of the tender.

Tenderers shall observe precisely the indications in points 2, 3, 4 and 6 of the letter of invitation to tender to ensure their tender are admissible. Late delivery will lead to the non-admissibility of the tender and its rejection from the award procedure for this contract. Tenders sent by e-mail or by fax will also be non-admissible and discarded. Envelopes found opened at the opening session will also lead to non-admissibility of the tender. Consequently, tenderers must ensure that their tenders are packed in such a way as to prevent any accidental opening during their mailing.

3. Confidentiality and protection of personal data

For the processing of this tendering procedure, the EEA observes the rules set in Regulation (EC) No 45/2001 on the protection of individuals with regard to the processing of personal data by Community institutions and bodies and on the free movement of such data (OJEU L 8 of 12.1.2001, p. 1).

For further detailed information please refer to the privacy statement available on the EEA external website at the following address: http://www.eea.europa.eu/about-us/tenders/privacy-statement.

4. Participation in the tendering procedure

Submission of a tender implies acceptance of the terms and conditions set out in the invitation to tender, in these tender specifications and in the draft framework contract attached to the latter (see annex 6) and, where appropriate, waiver of the tenderer's own general or specific terms and conditions. It is binding on the tenderer to whom the contract is awarded for the duration of the contract.

4.1. Eligibility

This call for tenders is open on equal terms to all natural and legal persons from one of the 33 EEA member countries and to all natural and legal persons established in a third country which has a special agreement with the European Union in the field of procurement on the conditions laid down in that agreement[5].

As proof of eligibility tenderers must indicate in the tender submission form (see annex 1) in which country they have their headquarters, registered office or residence, and provide the necessary supporting documents in accordance with their national law. If the tenderer is a natural person, he/she must provide a copy of identity card/passport or driving license and proof that he/she is covered by a social security scheme as a self-employed person.

4.2. Application

All eligible natural and legal person (as per above) or groupings of such persons (consortia) may apply.

[5] At this point in time, tenderers established in one of the following countries are eligible: EEA member countries, i.e. EU28, Iceland, Liechtenstein, Norway, Switzerland and Turkey; and under the stabilisation and association agreements: FYROM, Albania, Montenegro and Serbia.

A consortium may be a permanent, legally established grouping or a grouping, which has been constituted informally for a specific tender procedure. If awarded the contract, the members of the consortium (i.e. the leader and all the other partners) will have an equal standing towards the EEA in executing the framework service contract and they will be jointly and severally liable to the EEA.

The participation of ineligible natural or legal person will result in the automatic exclusion of that person. In particular, if that ineligible person belongs to a consortium, the whole consortium will be excluded.

The EEA will not request consortia to have a given legal form in order to be allowed to submit a tender, but reserves the right to require a consortium to adopt a given legal form before the contract is signed if this change is necessary for proper performance of the contract. This can take the form of an entity with or without legal personality but offering sufficient protection to the EEA contractual interests (depending on the member countries concerned, this may be for instance, incorporation or partnership or a temporary association). Consortia must identify one of their members as coordinator who will interface with the EEA.

Each member of a consortium must fulfil the conditions for participation mentioned in this section and section 4.1 above and provide the required documents listed in these tender specifications under sections 11.1 and 11.2 below. Therefore, each member of a consortium shall specify his role, qualifications and experience.

4.3. Subcontracting

A contractor may subcontract part of the services.

Tenderers must state what part of the work, if any, they intend to subcontract, and to what extent (for instance % of the total contract value), specifying the names, addresses and legal status of the subcontractors. If subcontracting is **not** envisaged, tenderers shall clearly state so in the tender submission form (see annex 1).

Legal persons must provide a document containing a list of the professional qualifications of the subcontractors and statement of the means of confidentiality when subcontractors are used. If awarded the contract, the contractor may not choose subcontractors other than those mentioned in the bid unless he obtains the prior written authorisation of the EEA. The overall responsibility of the work remains with the contractor.

Tenderers shall acknowledge (see annex 1) that the EEA reserves the right to request them at a later stage to provide documentation in relation to exclusion and selection criteria for any proposed subcontractors (see sections 11.1 and 11.2 below).

If awarded the contract, the contractor must ensure that Article II.17 of the draft framework service contract (see annex 6) can be applied to subcontractors. Once the contract has been signed, Article II.12 of the above-mentioned draft framework service contract shall govern subcontracting.

5. Contractual terms

In drawing up their bid, tenderers should bear in mind the provisions of the standard framework service contract and standard specific contract attached to these tender specifications (annex 6).

6. Subject of contract

To allow for a systematic assessment of freshwater ecosystems and riverine habitats, spatial information on extent, distribution and land cover and land use (LC/LU) characteristics of

riparian zones is required. The local component shall provide more detailed land cover and land use information, complementary to the Pan-European component (Corine Land Cover (CLC) and High Resolution Layers (HRL) on land cover characteristics) and to the other local component, i.e. the Urban Atlas, over these specific areas of interest (the riparian zones) using Very High Resolution (VHR) imagery collected between 2011/13 in combination with other available datasets (High Resolution (HR) and Medium Resolution (MR) images).

The purpose of this call for tenders is to establish a framework contract with an economic operator who can provide services for the production of three data layers, i.e. a) the production of VHR LC/LU on a riparian buffer zone along selected rivers, b) a VHR delineation of riparian zones, and c) a VHR green linear elements data layer. The production of these three data sets shall be undertaken in parallel.

Furthermore, the framework contract resulting from this call for tenders aims at the provision of consultancy services ancillary to the production of the three data layers specified above.

6.1 Context of contract

According to Article 4 of Regulation (EU) No 911/2010, the Commission is in charge of the overall coordination of the GMES/Copernicus programme. Article 4 (5) of that regulation stipulates that the coordination of the technical implementation of the GMES/Copernicus services shall be entrusted to competent Union bodies or intergovernmental organisations. Within the land monitoring service, the coordination of the local component was entrusted to the EEA, which has a longstanding experience in similar activities (CLC and GMES Land Fast Track precursor).

Within the land service outline (2011-2013)[6], a local component will be implemented. The specific areas of interest for this local component are the riparian zones, the interface between land and a river, stream, lake or sea where detailed and harmonised information is missing across the EU, filling a gap that GMES/Copernicus had not yet addressed, i.e. biodiversity. It also reflects an increasing awareness of the ecological and economic importance of riparian zones with its focus on ecosystem services.

From a policy perspective, the choice for the riparian zones is underpinned by the objectives of several legal acts and policy initiatives in the environmental domain, to mention a few:

- Link with the EU Biodiversity Strategy to 2020[7], in particular target 2, on mapping and assessing ecosystems and their services[8], green infrastructure[9] and restoration;
- Link with the Nature Directives (Habitats[10] and Birds[11] Directives) and target 1 of the EU Biodiversity Strategy to 2020;
- Link with the management of river basins in line with the Water Framework Directive[12] (WFD);

[6] European Earth monitoring programme (GMES/Copernicus) and its initial operations (2011 – 2013) 2013 Work Programme, European Commission implementing decision C(2013)2449

[7] http://ec.europa.eu/environment/nature/biodiversity/comm2006/2020.htm

[8] http://ec.europa.eu/environment/nature/knowledge/ecosystem_assessment/pdf/MAESWorkingPaper2013.pdf

9 http://ec.europa.eu/environment/nature/ecosystems/index_en.htm

[10] http://ec.europa.eu/environment/nature/legislation/habitatsdirective/

[11] http://ec.europa.eu/environment/nature/legislation/birdsdirective/

[12] http://ec.europa.eu/environment/water/water-framework/

- Link with the flood protection measures in the Floods Directive[13];
- Link with the new initiative on Maritime Spatial Planning and Integrated Coastal Management[14].

The service shall be designed in such a way that it delivers usable information for Mapping and Assessment of Ecosystems and their services (MAES)[15], Green Infrastructure and restoration objectives (in accordance with target 2 of the EU biodiversity strategy to 2020), in particular by mapping features which are crucial for ecosystem condition and the delivery of ecosystem services, while allowing for land cover change detection to take place in future exercises, suitable for the EEA land accounts[16].

This Copernicus land service will serve as a basis for habitat and biodiversity monitoring and in support of the MAES exercise (see annexes 7 and 8)

Future exercises, repeated in policy-relevant intervals, are meant to analyse changes in land use and its influence on land cover, which is a major factor in the distribution and functioning of ecosystems and in the delivery of ecosystem services[17].

The overall service for the production of the riparian zones mapping is split into 3 components, which can be executed almost in parallel and with a minimum of interdependencies, rather than sequentially. Each part of the service yields a separate VHR data layer. Nevertheless, it is obligatory that consistency and coherence between the 3 components be maintained.

6.2 Description of the services:

6.2.1 Production of Land Cover and Land Use along a buffer zone of selected rivers

This service aims at the production of a tailored LC/LU dataset focusing on a buffer zone along selected rivers, covering an area of interest (AOI) of approximately 500.000 km^2.

In order to cover a sufficient range of riparian functions (average recommended or observed minimum and maximum riparian width per riparian function are available from scientific literature) and a manageable extension of rivers, an indicative *shapefile* of the AOI is made available in a password protected ftp-server, comprising the maximum extent of 2 input layers, i.e.:

- A variable riparian buffer layer, according to Strahler levels 3 to 8, as extracted from the EU-Hydro[18] dataset. Buffers are starting at 3 km at Strahler level 8 and go down to 0.5 km at Strahler level 3.
- The Pan-EU Flood Hazard Map, produced by JRC[19].

[13] http://ec.europa.eu/environment/water/flood_risk/

[14] http://ec.europa.eu/environment/iczm/prop_iczm.htm

[15] http://ec.europa.eu/environment/nature/knowledge/ecosystem_assessment/pdf/MAESWorkingPaper2013.pdf

[16] http://www.eea.europa.eu/themes/landuse/interactive/land-and-ecosystem-accounting-leac

[17] http://biodiversity.europa.eu/bise/topics/land-use-changes

[18] EU-hydro (Beta version; produced in the frame of GMES preparatory action 2009: RDA project) is provided on an as-is basis, not validated dataset

19 http://onlinelibrary.wiley.com/doi/10.1002/hyp.9947/abstract

To get access to the ftp-server please write an email to gio.land@eea.europa.eu.

The AOI shapefile is derived from the EU-Hydro dataset (also made available on the ftp-server). Please note that, as stated in footnote 18 (page 7) EU-hydro (Beta version; produced in the frame of GMES preparatory action 2009: RDA project) is provided on an as-is basis, not validated dataset. Only river segments with Strahler levels ≥ 3 were selected and the following buffer widths applied:

Strahler level	**Distance (to each river side)**
Strahler 3	250m
Strahler 4	250m
Strahler 5	500m
Strahler 6	750m
Strahler 7	1000m
Strahler 8	1500m

The second input dataset is the Pan-EU Flood Hazard Map produced by the JRC for the 100-year return period (as described in Alfieri et al. 2013; http://onlinelibrary.wiley.com/doi/10.1002/hyp.9947/abstract). This map is also made available in the above mentioned ftp server together with the license agreement setting the conditions of use.

The Pan-EU Flood Hazard Map with 100m grid size was converted into vector format. In a final step the vectorised Pan-EU Flood Hazard Map and the EU-Hydro derived and buffered Strahler segments were merged through a spatial UNION obtaining the maximum extent of both layers. The AOI shapefile is only an indication of the working area to be mapped for LU/LC, as described in 6.2.1. The vectorised Pan-EU Flood Hazard Map was not filtered, i.e., small island polygons and artefacts resulting from the raster to vector conversion still exist and were not filtered yet from the dataset. A clean version will be provided to the successful tenderer. Since the Pan-EU Flood Hazard Map data is not available for the EEA39 coverage, for those countries which are not covered (e.g. Turkey) only the river network with the above mentioned Strahler level buffers was applied.

The land cover classification and/or interpretation shall be tailored for the purpose of biodiversity monitoring in Europe, whilst maintaining to the extent feasible a backward compatibility with existing LC/LU services at European level, such as CLC and Urban Atlas (UA).

The LC/LU information may be obtained by any combination of automatic classification routines and/or computer assisted visual interpretation of VHR imagery available in the ESA GMES/Copernicus Data Warehouse (DWH). Automatic classification, segmentation and indices (such as vegetation index) etc., may be applied whenever appropriate however whilst taking into account a homogeneous methodology and consistent results throughout the whole

territory. The work may be complemented with information extraction from ancillary in-situ data to the extent that homogeneity can be maintained throughout the full coverage of the exercise. The focus of the proposed methodology shall be on facilitating the downstream work on biodiversity monitoring.

In first instance, the classification scheme has to be fully compatible with the ecosystem types according to the MAES classification[20] (urban; cropland; woodland and forest; grassland; heathland and shrub; sparsely vegetated land; wetlands; lagoons coastal wetlands and estuaries; and rivers and lakes).

In second instance the concern for compliance with existing nomenclatures (CLC/UA2012) is requested in view of combining/integrating these datasets.

Annex 9 shows a breakdown of the obligatory MAES classification from 10 classes into 25 classes in level 2 and 51 classes in level 3, while maintaining a high degree of compliance with CLC level 3. The use of MAES levels 1 to 3 is an obligatory requirement with a fixed nomenclature for the present call for tenders. The production of level 4 is also an obligatory requirement, but optional in its level of discrimination. As such, level 4 in annex 9 shows one possible breakdown of level 3 for the LC class 'forest', towards the EUNIS classification of species for the forest classes (level 3). It is up to the tenderers to propose the optimal subdivision in level 4 aiming at the best possible combination for monitoring biodiversity, in support of the MAES exercise and feasibility of production, while maintaining coherence with the third hierarchical level outlined in the draft MAES nomenclature.

Imperviousness degree (IMD) and tree cover density (TCD) as extracted from Copernicus land pan-European High Resolution Layers (HRL)[21] 2012 or any other source may be used for discriminating between urban and forest classes at MAES level 3. In case an obvious error in the density values is found, any other alternative source of ancillary data should be used. Whenever a density value (IMD and TCD) is used as a discriminating criterion between classes, it shall be calculated on the basis of locally averaged values.

To avoid interpreting the same area twice, whenever urban areas covered by UA2012 are available, the core urban areas shall be covered with a regrouping of the UA2012 towards MAES. The regrouping is provided in the 2nd part of the nomenclature table (UA2012 based) in Annex 9. Urban areas that are not covered by UA2012 shall be mapped according to the MAES nomenclature.

In case a class cannot be clearly determined from a mono-temporal satellite image, the contractor is entitled to use other available image sources for a multi-temporal analysis. The contractor is also entitled to use other ancillary information sources for further detailing the nomenclature on condition that the same level of detail is coherently maintained throughout similar types of riparian zones as they occur in the full geographic coverage.

The classification scheme to be applied shall enable the production of a consistent product and allow a future repetition of the exercise in view of change monitoring.

An appropriate accuracy assessment of the classification shall be included, taking into account the relative occurrence of the classes, and documented by a detailed description of how the accuracy has been assessed.

[20] http://ec.europa.eu/environment/nature/knowledge/ecosystem_assessment/pdf/MAESWorkingPaper2013.pdf

[21] http://land.copernicus.eu/pan-european/high-resolution-layers/view

Description of the Very High Resolution (VHR) LC/LU data layer to be produced

Title	land cover/land use in a buffer zone of selected rivers
Abstract	land cover/land use classification tailored to the needs of biodiversity monitoring in a buffer zone of selected rivers[22]
INSPIRE themes	Land cover Land use
Keywords from GEMET[23] concepts list	Land cover[24] Land use[25]
Geographic description	EEA39[26] (33 member countries and 6 cooperating countries). Overseas territories are not covered. Andorra, Monaco, San Marino and Vatican city should be fully embedded in the EEA39 coverage. Within the EEA39 coverage the area of interest focuses on a wide buffer around river systems, fully encompassing the riparian zones.
Temporal description	2012 reference date (extracted from Very High Resolution (VHR) satellite imagery ranging from 2011 to 2014).
Purpose	Provide the baseline of land cover/land use information extracted from VHR and other available imagery (and combined with in-situ data) in a buffer zone along selected rivers and water bodies, for supporting biodiversity monitoring and mapping and assessment of ecosystem and their services.
Spatial data type	GIS compatible vector format; too complex polygons shall be split into GI-technical manageable units.
Minimum Mapping Unit	0.5 ha for polygon elements minimum width of 10m for transport networks or other linear landscape features
Nomenclature	A range of 10 (L1), 25 (L2) and 51 (L3) LC/LU classes relevant for biodiversity monitoring, and classifiable/interpretable by remote sensing, consistent with CORINE Land Cover (CLC) level 3. A 4th level, optional in its level of discrimination, provides further detail and remains compliant with the higher levels in the nomenclature.
Projection	ETRS89 Lambert Azimuthal Equal Area (LAEA) (EPSG 3035)

[22] very much in a similar way as Urban Atlas provides more detail on the urban land cover/land use

[23] GEneral Multilingual Environmental Thesaurus,

[24] http://www.eionet.europa.eu/gemet/concept?cp=4612&langcode=en&ns=1

[25] http://www.eionet.europa.eu/gemet/concept?cp=4678&langcode=en&ns=1

[26] http://www.eea.europa.eu/about-us/countries-and-eionet

Delivery formats	Geospatial data shall be provided either in shapefile or personal geodatabase for the vector files, and geoTIFF for any complementary or intermediate raster data; Opendoc shall be used for the documentation and XML for the metadata. Medium: Delivery via FTP, using one of the existing EEA data exchange platforms. Detailed technical guidance on file structure, naming conventions, practicalities for deliveries etc. will be provided and specified in each specific contract.
Metadata	INSPIRE compliant meta data profile Specifications available online at: http://taskman.eionet.europa.eu/projects/sdi/wiki/Cataloguemetadata_guidelines. Always refer to the online version as these guidelines are periodically updated
Positional accuracy	< 5 m (according to geo-location accuracy of satellite imagery delivered by ESA: <5m RMSE)
Overall classification accuracy[27] (thematic)	> 85%, taking into account the relative occurrence of the classes in the proposed nomenclature and including a detailed description of the accuracy calculation method;

6.2.2 Delineation of riparian zones

Riparian zones[28] refer to transitional areas occurring between terrestrial and freshwater ecosystems, are found in all of the European regions and include a large number of different habitat types. These zones have a key ecological role as transitional areas between terrestrial and freshwater ecosystems and provide a multitude of services for human well-being (encompass highly valuable habitats, provide wildlife support, contaminant filtering function, sediment entrapment, stabilisation of river banks, flood hazard reduction, carbon capturing etc.) and improve connectivity of the landscape (e.g. act as dispersal corridors) providing a clear link to target 2 of the EU Biodiversity Strategy referred above; these zones are however fragile and subject to frequent natural disturbances, e.g. floods, fires, droughts, and are exposed to strong anthropogenic pressures which translate into land conversion due to sealing, industrial and housing developments or agricultural expansion, channel rectifications, hydro-electric dams and reservoirs; in addition, these zones are subject to the effects of climate change (e.g. precipitation change and increased flood risks) that need to be better quantified at European level.

[27] An independent validation exercise will be conducted by EEA on the final dataset (subject to a separate contract)

[28] Nicola Clerici, Christof J. Weissteiner, Maria Luisa Paracchini, Luigi Boschetti, Andrea Baraldi, Peter Strobl, Pan-European distribution modelling of stream riparian zones based on multi-source Earth Observation data. Ecological Indicators, vol. 24, no. January 2013, p. 221-223 and Nicola Clerici, Maria Luisa Paracchini, Joachim Maes, Land-cover change dynamics and insights into ecosystem services in European stream riparian zones. Ecohydrology and Hydrobiology, in press, corrected proof available online http://www.sciencedirect.com/science/article/pii/S1642359314000044

For the purposes of this call for tenders only riparian zones depending on rivers (but including riparian areas along other inland surface waters within the river system) are to be considered.

The extent of riparian zones throughout Europe is variable, depending from the definition and applied methodology. No hard figures are available on the full extent of riparian zones throughout Europe, however a few indirect indications are considered to be useful threads in this context:

- According to a study performed by the European Commission Joint Research Centre (JRC)[28], riparian zones represent 2% (+/- 90.000 km^2 of the EU-25). The JRC study targeted functional riparian zones (mainly including forests and semi-natural types of land cover);
- A second indirect and approximate indication of the occurrence of riparian zones in Europe can be given by the following table, which derives cumulative lengths of rivers throughout EU28 and EEA39 as extracted from the EU-Hydro dataset.

Strahler level	Indicative cumulative river lengths in EU28 (km)	Indicative cumulative river lengths in EEA39 (km)
1	933,219	1,170,072
2	352,948	440,853
3	189,482	234,001
4	98,599	122,092
5	56,397	69,002
6	23,992	28,797
7	14,113	15,187
8	1,925	2,076

- A third incomplete and indirect indication on the extent of riparian zones in Europe can be found in the Atlas of European Soils[29], in which it is stated that fluvisols (young soil in alluvial (floodplain), lacustrine (lake) and marine deposits add up to +/- 5% of Europe's territory.
- A fourth indication can be found in figures provided at national levels, using different methodologies to delineate riparian zones, such as: DE: 1.4% of the total territory[30], AT: 1.1 % of the total territory[31] or CH: 0.5% of the total territory[32].

There are many methods for mapping riparian zones, from existing to potential, from mapping typical riparian vegetation to accounting for topography (geomorphic delineation based on the geomorphology of the stream and its valley) or even depending on the riparian function that is

[29] http://eusoils.jrc.ec.europa.eu/projects/soil_atlas/download/30.pdf

[30] http://www.bfn.de/0324_auenzustandsbericht.html

[31] http://www.lebensministerium.at/dms/lmat/wasser/wasser-oesterreich/fluesse-und-seen/aueninventar/-sterreichisches-Aueninventar_Final_20111108/%C3%96sterreichisches%20Aueninventar_Final_20111108.pdf

[32] http://www.bafu.admin.ch/schutzgebiete-inventare/07839/index.html?lang=de

being monitored (average recommended or observed minimum and maximum riparian width per riparian function are available from scientific literature). This service will additionally cover areas with intensified land use (urban and agricultural areas), which will exceed the 2% of the area that was the focus of the JRC study.

Minimum required service:

The service shall produce a VHR data layer that delineates the riparian zones throughout the river networks in EEA39, covering as a minimum all water bodies within the Strahler level range of 3 to 8.

As a minimum, the potential riparian extent shall be derived from a combination of:

- River network (EU-Hydro) as source layer;
- Height-distance information derived from EU-DEM;
- The available satellite images in the ESA GMES/Copernicus DWH (MR, HR and VHR imagery) and derived geospatial parameters;
- The JRC riparian zones delineation dataset.

Furthermore it is recommended to use ancillary data such as:

- The Pan-EU Flood Hazard Map produced by the JRC using the LISFLOOD model[33] (or any other data on flood-frequency available at national level);
- Soil maps.

In addition to this minimum requirement, tenderers are expected to propose other more performing approaches (see section 11.3.1 below), provided that they meet the above listed expectations, taking benefit from the obligatory listed data and other ancillary data to better delineate the extent of riparian zones that account for most of riparian functions and also cover productive agricultural and urban areas.

Description of the VHR data layer to be produced

Title	Riparian zones delineation
Abstract	Riparian zones extent, covering a majority of riparian functions
INSPIRE themes	Land cover
Keywords from GEMET[34] concepts list	Riparian zone[35]
Geographic extension	EEA39[36] (33 member countries and 6 cooperating countries). Overseas territories are not covered. Andorra, Monaco, San Marino and Vatican city should be fully embedded in the EEA39 coverage. Riparian zones along the European river networks, covering Strahler levels 8 to 3

[33] http://floods.jrc.ec.europa.eu/lisflood-model.html

[34] GEneral Multilingual Environmental Thesaurus, http://www.eionet.europa.eu/gemet

[35] http://www.eionet.europa.eu/gemet/concept?cp=7230&langcode=en&ns=1

[36] http://www.eea.europa.eu/about-us/countries-and-eionet

Temporal description	N/A
Purpose	Riparian zones extent, covering a majority of riparian functions, for supporting biodiversity monitoring and ecosystem assessment purposes
Spatial data type	GIS compatible vector format; too complex polygons shall be split into GI-technical manageable units.
Spatial resolution	N/A
Nomenclature	N/A
Projection	ETRS89 Lambert Azimuthal Equal Area (LAEA) (EPSG 3035)
Delivery formats	Geospatial data shall be provided either in shapefile or personal geodatabase for the vector files. Opendoc shall be used for the documentation and XML for the metadata. Medium: Delivery via FTP, using one of the existing EEA data exchange platforms. Detailed technical guidance on file structure, naming conventions, practicalities for deliveries etc. will be provided and specified in each specific contract.
Metadata	INSPIRE compliant meta data profile Specifications available online at: http://taskman.eionet.europa.eu/projects/sdi/wiki/Cataloguemetadata_guidelines. Always refer to the online version as these guidelines are periodically updated
Positional accuracy	< 5 m (according to geo-location accuracy of satellite imagery delivered by ESA: <5m RMSE)

6.2.3 Green linear elements

Green linear elements are important vectors of biodiversity and provide information on fragmentation of habitats with a direct potential for restoration while also providing a link to hazards protection and Green Infrastructure, amongst others.

VHR imagery available in the ESA Copernicus DWH will be the source data for the detection of green[37] linear elements identifiable within the given image resolution (2 to 2.5 m), as hedgerows and groups of trees, shoulders, typically smaller than the minimum width of 10 m), within the buffer zone.

The green linear elements layer shall comprise as a minimum breakdown between trees and hedgerows/scrub. The spatial pattern shall be limited to linear structures and isolated patches smaller than the MMU of the LC/LU layer as described in section 6.2.1. It may be derived by any combination of (semi-automated) image segmentation, feature extraction and classification and/or morphological analysis, or manual editing.

[37] with vegetation cover

Description of the VHR data layer to be produced

Title	Green linear elements
Abstract	Green linear elements found in a buffer zone of selected rivers
INSPIRE themes	Land cover Land use
Keywords from GEMET[38] concepts list	Land cover[39] Land use[40]
Geographic extension	EEA39[41] (33 member countries and 6 cooperating countries). Overseas territories are not covered. Andorra, Monaco, San Marino and Vatican city should be fully embedded in the EEA39 coverage.
Temporal description	2012 reference date (extracted from Very High Resolution (VHR) satellite imagery ranging from 2011 to 2014).
Purpose	Small green linear elements are important vectors of biodiversity and provide information on fragmentation of habitats with a direct potential for restoration while also providing a link to hazards protection and Green Infrastructure, therefore supporting biodiversity monitoring and ecosystem assessment purposes.
Spatial data type	GIS compatible vector format; too complex polygons shall be split into GI-technical manageable units. Complementary relevant raster data in a commonly used image data structure.
Minimum Mapping Unit	Min. 100 m length for linear elements, and minimum 500m^2 for small patches of trees and scrub.
Nomenclature	1. trees 2. hedgerows and scrub
Projection	ETRS89 Lambert Azimuthal Equal Area (LAEA) (EPSG 3035)
Delivery formats	Geospatial data shall be provided either in shapefile or personal geodatabase for the vector files, and geoTIFF for any complementary or intermediate raster data; Opendoc shall be used for the documentation and XML for the metadata. Medium: Delivery via FTP, using one of the existing EEA data exchange platforms. Detailed technical guidance on file structure, naming conventions,

[38] GEneral Multilingual Environmental Thesaurus, http://www.eionet.europa.eu/gemet

[39] http://www.eionet.europa.eu/gemet/concept?cp=4612&langcode=en&ns=1

[40] http://www.eionet.europa.eu/gemet/concept?cp=4678&langcode=en&ns=1

[41] http://www.eea.europa.eu/about-us/countries-and-eionet

	practicalities for deliveries etc. will be provided and specified in each specific contract.
Metadata	INSPIRE compliant meta data profile Specifications available online at http://taskman.eionet.europa.eu/projects/sdi/wiki/Cataloguemetadata_guidelines. Always refer to the online version as these guidelines are periodically updated
Positional accuracy	< 5 m (according to geo-location accuracy of satellite imagery delivered by ESA: <5m RMSE)
Overall classification accuracy (thematic)	> 85% taking into account the relative occurrence of the 2 classes to be identified.

6.2.4 Provision of consultancy services ancillary to the riparian zones production

With this call for the tenders, the EEA intends as well to procure consultancy services to cover possible issues in relation to the LC/LU service for the purpose of biodiversity monitoring that may arise during the performance of the framework contract, as a result of:

- Policy changes: analysis of feasibility of changes in the LC/LU approach for biodiversity monitoring;
- Changes in satellite imagery, for instance, the need to include gap filling based on imagery with clearly different image characteristics;
- Merging of the Urban Atlas 2012 based MAES nomenclature for urban classes in core cities of UA2012 Larger Urban Zones in the VHR Riparian Zones LC/LU dataset to avoid duplication of efforts in areas already mapped by other Copernicus land services;
- Methodological support in the design of a scientifically sound statistical validation method;
- Nomenclature refinement;
- Further in-deep classification of specific LC/LU classes in relation to their function to host biodiversity, consistent with the EUNIS classification and MAES ecosystem mapping;
- Feasibility analysis of new scientific developments in the field of remote sensing classification techniques, in particular pre-operational results from FP7 R&D projects in the domain of land monitoring, and eligible for operational implementation.
- Development of a stratified random sampling and extrapolation approach to cover the rivers belonging to the remaining Strahler levels in the river system, taking into account the regional diversity in Europe. The relative distribution of LC/LU categories in the riparian zones captured by the samples can then be extrapolated to the full extent of the riparian zones of these upstream levels of the European river-systems.

The future contractor is therefore expected to be able to provide upon request consultancy services in the areas specified above under sections 6.2.1 to 6.2.3 and more particularly in the following related areas:

- Integration of multi-scale (VHR, HR and MR) satellite imagery into a consistent and coherent LC/LU database;
- LC/LU classification techniques and interpretation methods;
- Spatial analysis of combined LC/LU vector and raster datasets;
- Analysis of landscape characteristics that contribute to biodiversity monitoring and ecosystem services assessment;
- Spatial sampling techniques;
- Analysis of time series.

6.2.5 Future provision of similar Land Cover and Land Use of other specific geographical areas

On the basis of the performance of the activities specified in sections 6.2.1 to 6.2.3 above, it is planned to award a separate service contract in the 3rd quarter of 2014 with a view to cover similar LC/LU mapping of (a) a selection of Natura2000 (N2K) sites and (b) a selection of coastal zones. This separate service contract will be awarded to the successful tenderer under the call for tenders EEA/MDI/14/001 on the basis of Article 134(1) (f) of the rules of application of the financial rules applicable to the general budget of the European Union[42].

6.3 Input data

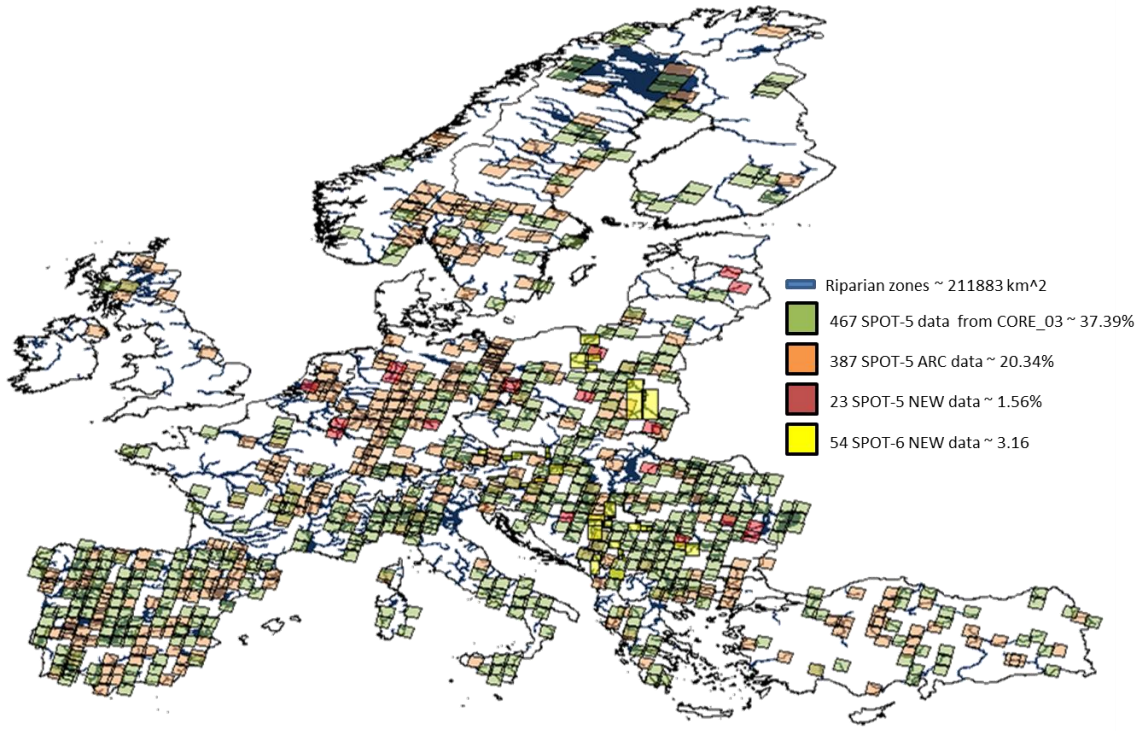
6.3.1 Input satellite data and use conditions

The work shall be produced on the basis of satellite imagery made available through ESA's GMES/Copernicus Data Warehouse (DWH), optical very high resolution (VHR2, 1m < resolution <= 4m) multispectral satellite data mainly acquired in the 2011-2013 period, and to be completed with 2014 acquisitions, covering EEA39, available in LAEA ETRS89 projection (EPSG code 3035) and identified by the name DWH_MG2b_CORE_03:

- SPOT-5 at 2.5m pan-sharpened;
- SPOT-6 at 1.5 m pan-sharpened;
- FORMOSAT-2 at 2m pan-sharpened.

The 2011 and 2012 acquisitions of the DWH_MG2b_CORE_03 dataset were using Urban Atlas specifications meaning that also snow free winter images have been acquired for this product. In 2013 the specifications have been amended to ensure that to the extent feasible, and where the initially acquired images were dated outside the vegetation season, the dataset could be extended with acquisitions within the vegetation season. For the retrieval of additional archive imagery over the 2011-2012 timeframe, as well as for the 2013 programming, the same acquisition windows as identified for the HR imagery (DWH_MG2b_CORE_01) have been used. However, the combination of initial 2011-2012 acquisitions together with the 2013 acquisitions still doesn't provide full coverage within the vegetation season (up to 62.4% coverage, as depicted in the figure below), and therefore will still be complemented with acquisitions in 2014.

[42] Commission delegated Regulation (EU) No 1268/2012 of 29 October 2012, OJEU L 362/1 of 31.12.2012, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:362:0001:0111:EN:PDF



Produced using footprints of the products © GCME (i.e. Airbus Defence & Space), provided under EC/ESA GSC-DA

A list of DWH_MG2b_CORE_03 delivered products, per sensor and acquisition date is provided in annex 10, together with a *shapefile* of footprints. A list of data delivered in addition to the nominal CORE_03 in response to the new Riparian zones coverage requirement containing the identification of the SubDataSet and the Filename can be found in http://gmesdata.esa.int/web/gsc/resource_details?p_p_id=rdtPortlet_WAR_gscportlets&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=1&_rdtPortlet_WAR_gscportlets_rid=427

Full specifications of the satellite input data made available for this project can be found in the document *"GMES Space Component Data Access Portfolio: Data Warehouse 2011-2014"*, available at

http://gmesdata.esa.int/web/gsc/dap_document

Attention is drawn to the fact that minor updates of the document may become available on the above mentioned URL, and shall be taken as guiding reference for the input data throughout the contract. The service provider(s) shall comply with the general licensing conditions (established in the frame of this Data Warehouse) for the use of the data. These conditions are described in the following documents: *"Multiple-User and -Usage Sub-licence for EO Data from the GSC-DA, Terms & Conditions"* and "*Multiple-User and -Usage Sub-licence for EO Data from the GSC-DA/Specific Provisions concerning PLEIADES, SPOT-6 and SPOT-7 Products, Terms & Conditions"*, available at:

http://gmesdata.esa.int/web/gsc/terms_and_conditions

Additionally, other datasets may be made available, which hold different resolution and characteristics:

DWH_MG2_CORE_01

Optical, high resolution multispectral satellite data, Pan-European coverage (EEA39), acquired primarily in the reference year 2012 (-/+ 1 year), covering 2 dates within the vegetation season, ortho-rectified using cubic convolution interpolation:

- Coverage 1: IRS-P6/Resourcesat - VNIR[43] + SWIR[44], re-sampled to 25m in LAEA ETRS89 projection;
- Coverage 2: RapidEye – VNIR re-sampled to 25m in LAEA ETRS89 projection; also available in 5m, UTM projection.
- Iceland + gap-filling with SPOT 4/5 VNIR + SWIR, re-sampled to 25m in LAEA ETRS89 projection.

DWH_MG2_CORE_02

Access to former pan-European coverage archives of HR multispectral data, with comparable characteristics as CORE_01 data is available as well.

DWH_MG2-3_CORE_08

Optical, medium resolution multispectral satellite data, acquired in the 2011-2013 period as seasonal datasets in the acquisition window March to October (2011: up to 8 coverages from March to October; 2012: up to 6 coverages from March to August, plus a partial coverage in September over those areas that were not yet covered at least 3 times in 2012).

- Resourcesat 1/2 - VNIR & SWIR, ortho-rectified using the LAEA ETRS89 projection, 60m (AWiFS) ground resolution

The use of Landsat-8 data or other freely available satellite image sources is not excluded as a complementary data source.

6.3.2 In-situ ancillary data

In-situ data as defined by GMES/Copernicus comprise all non-space-borne data with a geographic dimension.

Two European legal acts may to some extent facilitate the access to existing in-situ data, i.e.:

- Article 9.2 of the GMES Initial Operations Regulation[45],
- Article 17 of the INSPIRE directive[46]

In addition, the GISC (GMES In Situ Coordination) project undertaken by the EEA has identified a number of essential datasets in support of GMES/Copernicus land service. The project established an inventory of required and useful in-situ data offered by Member States, including practical URL access information to some of the datasets (see annex 11 and 11-2)

Furthermore, the INSPIRE State of Play country reports[47], in their annexes, provide valuable information on contact points, access points and responsible authorities in the countries, managing the national and regional in-situ data.

[43] Visible and Near Infra Red

[44] Short Wave Infra Red

[45] Regulation (EU) No 911/2010 of the European Parliament and of the Council of 22 September 2010 on the European Earth Monitoring Programme (GMES) and its initial operations (2011 to 2013); Official Journal of the European Union, L276/1, 20.10.2010

[46] Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)

In-situ data in the context of this open call for tenders will be needed to support the processing of satellite data and the production processes of the VHRL by providing ground truth data.

The service providers are fully responsible for getting access to (and procuring when appropriate) the necessary in-situ data. However, EEA strongly encourages service providers to investigate with the participating countries in order to explore to which extent access to national and regional in-situ data can be provided for this open call for tenders, either through services the countries are establishing in the framework of the implementation of the INSPIRE directive, and/or through services the countries will set up as part of their contribution to the GIO Land Monitoring services.

At European level, EEA will provide access to the following datasets accessible through its Data- and Maps service at *http://www.eea.europa.eu/data-and-maps/*

- EEA coastline for analysis[48];
- LUCAS 2009-2012 point sampling of terrain photographs and LC description;

EEA will provide access to the following datasets accessible through the Copernicus land portal at *http://land.copernicus.eu*

- Corine Land Cover 2006 seamless vector dataset[49] (covering 37 countries);
- Urban Atlas 2006[50] (305 Larger Urban Zones in 32 countries) and UA2012 (in production; 695 LUZ);
- Digital elevation Model: EU-DEM (GMES preparatory action 2009: RDA project[51]).

Other datasets only available in the EEA internal Spatial Data Infrastructure (SDI) will be made accessible via sFTP to the successful tenderer to whom the framework contract will be awarded:

- Dataset with the borders of the area of interest, which should be used during the project for clipping the data (EEA39);
- HRL2012 intermediate products (20 m resolution) on imperviousness, forestry;
- The 2006 HRL imperviousness (100 m);
- The 2009 HRL imperviousness (100 m);
- Hydrographic network: EU-Hydro (Beta version; GMES preparatory action 2009: RDA project);
- EuroGlobalMap;
- The JRC riparian zones delineation dataset;
- The JRC Pan-EU Flood Hazard Map.

None of the HRL datasets will have been subject to an independent statistical validation by the time of the kick-off meeting for the contract resulting from this call for tender, and are therefore provided on an “as is” basis.

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[47] http://inspire.jrc.ec.europa.eu/index.cfm/pageid/6/list/4

[48] http://www.eea.europa.eu/data-and-maps/data/eea-coastline-for-analysis

[49] http://www.eea.europa.eu/data-and-maps/data/clc-2006-vector-data-version-2

[50] http://www.eea.europa.eu/data-and-maps/data/urban-atlas

[51] EU-hydro and EU-DEM are provided on an as-is basis: validation of both datasets is planned in the same time frame as the production of this local component.

7. General obligations of the tenderer/mandatory requirements

7.1 Deliverables and schedule

The table below describes the deliverables to be provided. Timing is indicating latest possible delivery dates as referred to the start of the contract. Depending on the organisation of the workflow, the tenderer is entitled to propose upfront shifts in the project management plan (see section 7.2).

Nr.	DELIVERABLE	Estimated timing (T0 = signature of relevant specific contract)	Comments
1	Draft project management plan	T0 + 3 weeks	
2	Draft metadata report	T0 + 1 month	
3	Final project management plan	T0 + 1 month	
4	First vector dataset of the tailored LC/LU classification within the predefined buffer zone covering 1 major river basin, with the associated INSPIRE compliant metadata, and providing all requested MAES nomenclature levels 1 to 3 (and the proposed detail in level 4)	T0 + 2 months	Can be fine-tuned on mutual agreement during kick off meeting
5	Intermediate (X) vector datasets of the tailored LC/LU classification within the predefined buffer zone covering approximately half of the total required coverage of river basins, with the associated INSPIRE compliant metadata. The delivery shall provide MAES nomenclature levels 1 to 3 (and the proposed detail in level 4) as a separate set of files. The core urban areas, to be covered with a regrouping of the UA2012 towards MAES, shall be included to the extent UA2012 data are available at T0 + 6 months.	T0 + 7 months	
6	Remaining (Y) vector datasets of the tailored LC/LU classification within the predefined buffer zone covering approximately half of the total required coverage of river basins, with the associated INSPIRE compliant metadata. The delivery shall provide MAES nomenclature levels 1 to 3 (and the	T0 + 12 months	

	proposed detail in level 4) as a separate set of files. All core urban areas, to be covered with a regrouping of the UA2012 towards MAES, shall be included to the extent UA2012 data are available at T0 +11 months.		
7	First vector dataset of the delineation of riparian zones covering 1 major river basin with the associated INSPIRE compliant metadata.	T0 + 5 months	River basin to be chosen on mutual agreement during kick-off meeting
8	Remaining vector datasets of the delineation of riparian zones covering all the remaining river basins with the associated INSPIRE compliant metadata.	T0 + 12 months	
9	First green linear elements layer covering 1 major river basin, with the associated INSPIRE compliant metadata.	T0 + 7 months	River basin to be chosen on mutual agreement during kick-off meeting
10	Remaining green linear elements layer covering all remaining river basins, with the associated INSPIRE compliant metadata.	T0 + 12 months	
11	Nomenclature guidelines (report)	T0 + 12 months	Whenever a class is compliant with CLC the class description shall be extracted from "*Corine land cover nomenclature illustrated guide*" and further complemented, if needed and taking into account the 0.5 ha MMU
12	Final report	T0 +12 months	

7.2 Project management

The project management plan shall be the controlling document for the contract, permitting to define, organize and monitor all activities. The project management plan shall provide a feasible and effective breakdown of the activities and shall include the following items:

- Description of the methodology;
- Staff plan and key personnel relevant for the tasks at stake;
- Tasks breakdown and content with deliverables and delivery milestones (production plan);
- Facilities and resources;
- QA/QC procedures, including an internal accuracy assessment of the datasets (the thematic accuracy assessment of the LC/LU dataset shall take into account the necessary differentiation in accuracies, depending on the levels of detail proposed in the nomenclature, as well as the relative occurrence of the classes in the nomenclature);
- Risk analysis and mitigation measures.

7.3 Meetings

The table below provide information of the planned schedule for implementation of the contract:

MEETINGS			
Meeting		Estimated timing (T0 = signature of relevant specific contract)	Comments
1	Kick-off meeting	T0 + 1 month	To be held at EEA premises in Copenhagen
2	1st intermediate progress meeting	After completion of Deliverable 4 (completion of LC/LU mapping covering 1 major river basin of the AOI)	To be held at EEA premises in Copenhagen or via video or teleconference
3	2nd intermediate progress meeting	After completion of the LC/LU mapping corresponding to +/-60% of the geographical AOI	To be held at EEA premises in Copenhagen or via video or teleconference
4	Participation to Copernicus ad-hoc meetings organised by the European Commission (e.g. Copernicus user Forum meeting, coordination meeting with other Copernicus services, etc.)		It is expected that a maximum of 3 meetings may take place during the duration of the contract
5	Technical meetings organised by EEA to discuss the details of		It is expected that each specific contract

	consultancy tasks in section 6.2.4		on a consultancy task will require one physical meeting to discuss the detailed task description, and 2 to 3 videoconferences to discuss progress or technical issues.

Between each of the first deliveries of the respective vector datasets and the continuation of the production, a semantic check of the first delivery will be performed to assess the initial quality of the products, and to fine-tune on potential technical details that may need a corrective action before proceeding in full production mode. This semantic check will be performed under responsibility of the EEA.

8. Place of delivery of the services

The services shall mainly be performed at the contractor's premises with occasional meetings at the EEA in Copenhagen or at the European Commission (EC) in Brussels. Other meetings will be done by videoconference.

Information products shall be delivered to the EEA, according to specifications as described in sections 6 & 7 above, and to be agreed upon fine-tuning during the kick-off meeting.

9. Type and volume of contract

The successful tenderer will be awarded a framework contract, which will enter into force upon its signature by both contracting parties. The period of execution of the tasks shall not exceed 12 (twelve) months or 30.6.2015, whichever date comes first. The services will be implemented through specific contracts depending on EEA's demand. The estimated maximum budget available is EUR 3.700.000 covering all services and tasks specified in section 6.2 above over a maximum period of 12 (twelve) months, distributed as follows (the breakdown is merely indicative):

- Riparian zones production (tasks under sections 6.2.1 to 6.2.3) = EUR 3.200.000;
- Consultancy services ancillary to the riparian zones production (tasks under section 6.2.4) = EUR 500.000.

A budget of EUR 1.000.000 is foreseen for implementation of a separate service contract to be awarded in the 3rd quarter of 2014, covering the tasks specified in section 6.2.5 above.

10. Price

Tenderers are required to quote prices for the services to be provided as follows:

- Prices must be quoted per category of service as described under section 6 (above) and in compliance with the requirements specified in section 11.3.2 below;
- Prices must be quoted as follows:

- LC/LU mapping in a buffer zone of selected rivers per 100 km^2;
- Delineation of riparian zones per 100 km length of river axis;
- Green linear elements per 100 km^2 covered within the initial buffer zone;
- For the additional tasks specified in section 6.2.4, prices must be quoted for each of the following profiles:
  - Daily rate for senior consultants working intramural at the EEA's premises for an extended period of time (i.e. between 1 and 2 weeks)
  - Daily rate for senior consultants working extramural at the Contractor's premises (or elsewhere)
  - Daily rate for junior consultants working intramural at the EEA's premises for an extended period of time (i.e. between 1 week and several months)
  - Daily rate for junior consultants working extramural at the Contractor's premises (or elsewhere)

- Prices quoted must be **all-inclusive** and expressed in **euro**, including for tenderers established in countries that are not part of the Eurozone. For tenderers established in countries that do not belong to the Eurozone, the price quoted may not be revised in line with exchange rate movements. It is for the tenderers to select an exchange rate and assume the risks or the benefits deriving from any variation;
- No additional expenses incurred in the performance of the services will be reimbursed separately by the EEA;
- The price quoted must be fixed and not subject to revision for the whole duration of the contract;
- Under Articles 3 and 4 of the Protocol on the Privileges and Immunities of the European Communities and the Headquarters Agreement between EEA and the Government of Denmark of 17 August 1995, the EEA is exempt from all charges, taxes and dues, including value added tax; such charges may not therefore be included in the calculation of the price quoted; the VAT amount must be indicated separately.
- The costs incurred in preparing and submitting tenders are borne by the tenderers and cannot be reimbursed.

11. Criteria

11.1. Exclusion criteria

11.1.1. Exclusion from participation and award in the procurement procedure

To be eligible to participate in this contract award procedure, tenderers must not be in any of the exclusion situations referred to in Articles 106 and 107 of the financial rules applicable to the general budget of the European Union[52].

11.1.2. Evidence to be provided by the tenderers

When submitting their bids, each tenderer (including any member of a consortium or any subcontractor) must provide a declaration on their honour in accordance with the form attached as annex 2, duly signed and dated, stating that they are not in any of the situations mentioned under section 11.1.1 above.

[52] Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council of 25.10.2012, OJEU L 298/1 of 26.10.2012.

The tenderer(s) to whom the contract is to be awarded will be required, prior to the signature of the contract, to provide the evidence specified in the penultimate paragraph of the declaration of honour mentioned above (see annex 2).

11.2. Selection criteria

11.2.1. Legal capacity

Any tenderer is required to prove that he is authorised to perform the contract under national law, as evidenced by inclusion in a trade or professional register, or a sworn declaration or certificate, membership of a specific organisation, express authorisation, or entry in the VAT register.

To that effect, each service provider (including any subcontractor or any member of a consortium) is required to submit a legal entity form (see annex 3) duly filled out and signed, accompanied by a copy of inscription in trade register and/or a copy of inscription in VAT register, where applicable. However the subcontractor(s) shall not be required to fill out or provide those documents when the services represent less than 20 % of the contract.

11.2.2. Economic and financial capacity

Evidence of economic and financial capacity shall be furnished by one (**or more**) of the following documents:

- appropriate statements from banks or evidence of professional risk indemnity insurance; OR
- the presentation of balance sheets or extracts from balance sheets for at least the last two years for which accounts have been closed, where publication of the balance sheet is required under the company law of the country in which the economic operator is established; OR
- a statement of overall turnover and turnover concerning the services covered by the contract during the last two financial years.

If, for some exceptional reason, which the EEA considers justified, a tenderer is unable to provide the reference(s) requested above, he may prove his economic and financial capacity by any other means which the EEA considers appropriate.

An economic operator may, where appropriate and for a particular contract, rely on the capacities of other entities, regardless of the legal nature of the links which it has with them. It must in that case prove to the EEA that it will have at its disposal the resources necessary for performance of the contract, for example by producing an undertaking on the part of those entities to place those resources at its disposal.

11.2.3. Technical and professional capacity

Tenderers should show their degree of technical and professional capacity to carry out the requested tasks by providing information on the criteria described below. If several service providers or subcontractors are involved in the tender, the selection criteria for the technical and professional capacity will be assessed in relation to the combined capacities of the service providers and/or subcontractors, as a whole, to the extent that service providers or subcontractors put their resources at the disposal of the tenderer for performance of the contract.

Tenderers shall provide the following documentation:

- ***Human resources:***

(i) CVs detailing the educational and professional qualifications of the firm's managerial staff as well as those of the staff designated to provide the services indicating the required professional experience as follows (minimum 10 CVs in total to be provided):

- Managerial staff: Minimum 1 CV (contract manager) documenting a minimum of 5 years' relevant experience and including language skills;
- Persons responsible for providing the services:

  (i) Minimum 3 CVs for senior experts providing clear references and examples to similar type of work and documenting a minimum of 5 years' relevant experience and including language skills;

  (ii) Minimum 6 CVs for junior experts providing clear references and examples to similar type of work, and documenting a minimum of 3 years' relevant experience and including language skills.

- ***Past contracts:***

  Tenderers shall provide details of major contracts awarded to them relevant to the services required by the EEA indicating the value, dates, brief description of the services provided and recipients of the services (public or private), under the following two categories: (1) contracts currently undertaken; and (2) contracts that have been undertaken over the last three years.

- ***List of IT equipment and software:***

  Tenderers shall provide a list of any IT equipment and software to be employed for performing the services;

- ***Quality control and customer service:***

  Tenderers shall provide the information outline below. In the event of a joint offer submitted by a consortium, **each member** of the consortium shall provide the requested information:

(i) Details of any quality assurance accreditation that they hold. If no accreditation held, tenderers shall provide an outline of any quality assurance policy specifying the status of implementation (e.g. measures employed to ensure the quality and stability of services such as classification techniques, visual interpretation, enhancement algorithms, training of interpreters, quality check of interpreters performance…), and details of any quality assurance accreditations for which they have applied.

(ii) A description of their terms and conditions in regard to customer service (e.g. their interaction with EEA and ability to respond quickly to request for services and/or modification thereof).

- ***Environmental policy:***

  Tenderers shall provide a description of their environmental policy specifying the status of implementation. In the event of a joint offer submitted by a consortium, **each member** of the consortium shall provide the requested description.

11.3. Award criteria

The assessment method that will be used to determine the choice of the tender will be based on the criteria given below, on the basis of the economically most advantageous tender in terms of:

- The quality of the tender (Technical merit – TM)

  The financial value of the tender (Price – P)

11.3.1. Technical merit (TM) (max. 65, min. 45 points)

Tenders will be evaluated following the award criteria and weights outlined below, producing a total potential score of 65 points.

Tenderers shall elaborate on all criteria referred to below in order to score as many points as possible. The mere repetition of mandatory requirements set out in these tender specifications, without going into details or without giving any added value will only result in a low score. If essential elements of these tender specifications are not expressly addressed in the tender, EEA may decide to give a zero mark for the relevant quality criteria. **It is important that the technical offer is presented in a simple and clear structure, following the numbering and the headings of the award criteria outlined below to enable the evaluation committee to assess them. Failure to respect this requirement will result in a low score under award criterion No 2**.

No	Award criteria	Maximum points (65)	Minimum points (45)
1	***Strategy to deal with (Sub)Regional diversity*** Proposed strategy to deal with the diversity of different (bio-geographical) regions and relief in Europe and their influence on the landscape structure of riparian zones.	10	6
2	***Methodological approach*** - The methodological approach as documented by means of proposed image processing and classification and/or interpretation methods and post-processing techniques, applied definitions, data management, accuracy assessment, (min. 5/max. 15 A4 pages), including a comprehensive, detailed and documented workflow scheme; - Compliance to the nomenclature incorporated in annex 9, level of detail in level 4 of the nomenclature, and its fitness for the best possible combination for monitoring biodiversity and feasibility of production; - Proposed approach for the spatial delineation of riparian zones; - Accuracy assessment of products; - Repeatability and robustness of the method in view of establishing calibrated time series; - Proposed approach for use of local expertise.	25	19

3	***Production plan*** Including the optimisation aspects of the workflow, completeness of documentation, risk analysis and mitigation approach and resources foreseen (team composition and complementarity of the team)	15	10
4	***Data quality of the test area*** Tenderers shall provide an example of the final products for 2 test areas (one provided with the tender documentation (see annex 12) and one to be chosen by the tenderer; preferably tenderers should use the same type of input satellite imagery as will be used for the execution of the contract); - All test final products shall be accompanied by INSPIRE compliant metadata; - All test areas shall be provided together with a (min. A3) printout at scale 1:25.000 of the final product; - The tenderer shall ensure that the method applied to the test area is representative for the proposed methodological approach.	15	10

Only tenders which obtain the indicated minimum number of points, both for each award criterion and in total, will be considered for the next stage, which involves determining the financial value of the tender (price index) and for the final assessment.

11.3.2. Price (P) (max. 35 points)

Tenderers are requested to submit a financial offer, thereby taking **all tasks** as outlined under sections 6.2.1 to 6.2.4 above, all deliverables as outlined in section 7.1 above and all planned meetings specified in section 7.3 above, giving the **all-inclusive** (i.e. include all relevant costs and all expenditure (e.g. management and administrative costs, travel costs, etc…)) for the services outlined below.

For that purpose, tenderers shall complete the price quotation attached as annex 5 to these tender specifications. Tenderers shall bear in mind that all fields are compulsory and non-compliance will lead to exclusion of the tender from the award process.

11.3.2.1 *Price for the production phases (P_A) (max. 28 points)*

Tenderers shall provide **average price units in euro** for the following production phases:

Production phase	**Task description**	**Average price units**	**Evaluation Weighting Factor (WF)** [53]
P_1	Production of the VHRL (land cover/land use in a buffer zone of selected	Price/100 km²	65%

[53] The listed weighting factors are only applied for evaluation purposes.

	rivers)		
P_2	Delineation of the riparian zones	Price/100 km of river axes	20%
P_3	Green linear elements	Price/100 km²	15%

For each production phase above, tenders meeting all mandatory requirements including the minima for technical merit will score points in function of the following formula Ps = (Ps_{min}/Ps_0) x 28 x weighting percentage, where

Ps = Score for price of service,

Ps_{min} = the lowest price offered among the received tenders;

Ps_0 = the price of the tender being considered

28 = the maximum number of points that can be awarded under this award criterion

The price score for the production phase (P_A) is the sum of the three Ps.

11.3.2.2 *Price for additional related consultancy services (P_B) (max. 7 points)*

For additional tasks listed in section 6.2.4 above, tenderers are requested to submit a financial offer giving the **all-inclusive** (i.e. include all relevant costs and all expenditure (e.g. management and administrative costs, travel costs, etc…)) average daily rate in **euro** for the following profiles:

Price	Services	Price (EUR)	Weighting factor
$P_{1'}$	**Daily rate, senior consultant, intra muros**		35%
$P_{2'}$	**Daily rate, senior consultant, extra muros**		20%
$P_{3'}$	**Daily rate, junior consultant, intra muros**		30%
$P_{4'}$	**Daily rate, junior consultant, extra muros**		15%

Tenders meeting all mandatory requirements including the minima for technical merit will score points in function of the following formula Ps' = (Ps'_{min}/Ps'_0) x 7 x weighting percentage, where

Ps' = Score for price of service,

Ps'_{min} = the lowest price offered among the received tenders;

Ps'_0 = the price of the tender being considered

7 = the maximum number of points that can be awarded under this award criterion

The price score for the provision of additional related consultancy services (P_B) is the sum of the four Ps'.

11.3.2.3 *Total price*

The final score for the price that will be used as a basis for the purpose of comparative evaluation of the tenders will be the sum of the score obtained for the production phase and the score obtained for the provision of additional related consultancy services (total financial value of the tender = score for P_A + score for P_B).

11.3.3. Final Assessment

A framework contract will be awarded to the tenderer whose tender achieves the highest total score for technical merit and price (TM + P). Should tenders obtain the same final score and tie for first place, the winning tender will be decided on the basis of the highest score achieved for price.

12. Performance

Competence in both selection and award criteria must be maintained throughout the framework contract. Should the contractor fail to do this during the validity of the framework contract, EEA reserves the right to refuse any consultant if performance is not satisfactory and/or to terminate the contract.

13. Environmental Considerations

The EEA runs a certified environmental management system (EMAS) and aims to minimise the environmental impact of all its activities, including those carried out under contract. The future contractor will, therefore, be requested to consider the EEA environmental management guidelines in the implementation of the contract, in particular, those relating to business travel/electronic means of communication, paper and energy consumption. Further information on the EMAS system can be found on the EEA homepage: http://www.eea.europa.eu/documents/emas.

Moreover, it is strongly recommended that tenders are submitted in an environmentally friendly way, e.g., by choosing a simple and clear structure (list of contents and consecutive page numbering), double-sided printing, limiting attachments to what is required in the technical specifications (no additional material) and avoiding plastic folders or binders.

14. Timetable

The timetable for this call for tenders and signature of the resulting contract is as follows:

	Date	**Comments**
Call for tenders launch date	28.2.2014	Dispatch of the contract notice to the Office of Publication
Deadline for requests for clarifications	11.4.2014	
Last date on which clarifications are issued by EEA	14.4.2014	
Time limit for submission of tenders	22.4.2014	At 16:00 in case of hand delivery or 23:59 in case of mail delivery

Opening session	29.4.2014	At 10:00 local time at the EEA premises
Evaluation of tenders	From 30.4.2014 to 8.5.2014	Estimated
Award decision and notification of evaluation results	12.5.2014	Estimated
Contract signature	27.5.2014	Estimated
Implementation of contract		Immediately after contract signature

15. Annexes

Annex 1: Tender submission form

Annex 2: Declaration on exclusion criteria

Annex 3: Legal entity form

Annex 4: Financial identification form

Annex 5: Price quotation

Annex 6: Draft framework contract and draft specific contract

Annex 7: MAES Technical Report - 2013-067, April 2013

Annex 8: MAES Technical Report - 2014-080, Feb 2014

Annex 9: Nomenclature

Annex 10: List of DWH_MG2b_CORE_03 delivered products, per sensor and acquisition date and shapefile of footprints

Annexes 11 and 11-2: GISC report and related analysis of national in-situ capacities from 17 visited countries

Annex 12: Specifications for the final product template related to technical award criterion No 4