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## **WFD Groundwater Bodies: Consequences of the new national aquifer reference system BDLISA for their delineation in France WFD Groundwater Bodies**

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### ► To cite this version:

Alexandre Brugeron, Susanne Schomburgk, Laurence Chery. WFD Groundwater Bodies: Consequences of the new national aquifer reference system BDLISA for their delineation in France WFD Groundwater Bodies. International Workshop on Groundwater Systems in Europe, Aug 2013, Berlin, Germany. . hal-01163584

**HAL Id: hal-01163584**

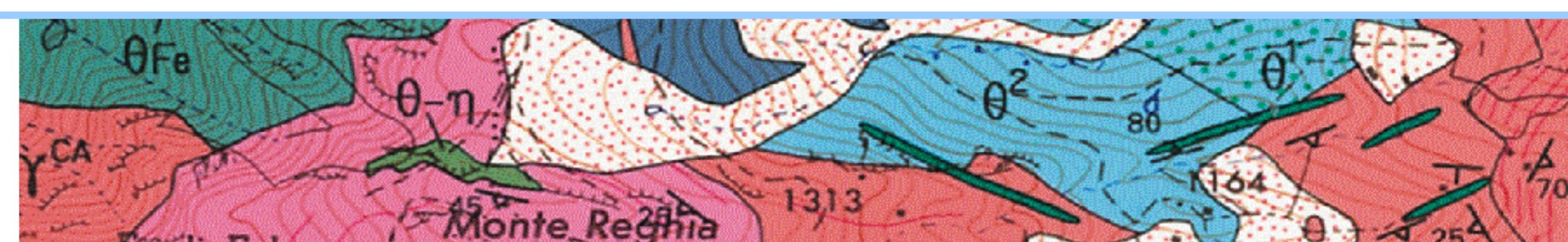
**<https://brgm.hal.science/hal-01163584>**

Submitted on 15 Jun 2015

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# WFD Groundwater Bodies



## Consequences of the new national hydrogeological reference system BDLISA for their delineation in France

Since 2012 and the release of BDLISA, some River Basin Districts are engaged in the adjustment of their Water Framework Directive groundwater bodies, based on this up-to-date hydrogeological knowledge.

For the next River Basin Management Plans (RBMP), WFD groundwater bodies are :

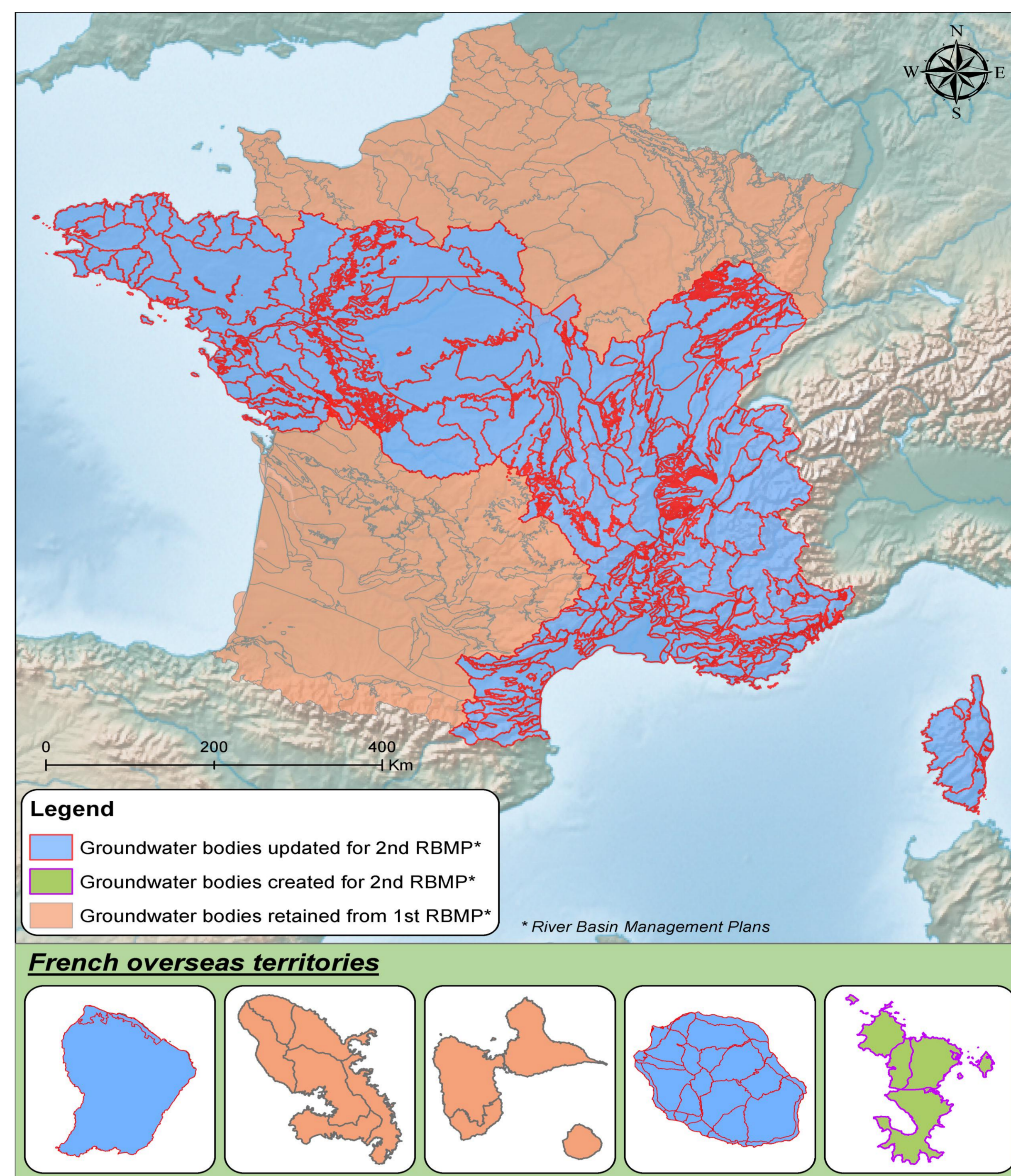
### Adjusted for following River Basin Districts:

- Loire, Brittany and Vendee coastal waters → 143 bodies : number maintained between 1<sup>st</sup> and 2<sup>nd</sup> RBMP
- Rhone and Coastal Mediterranean → from 180 bodies for 1<sup>st</sup> RBMP to 239 for 2<sup>nd</sup> RBMP
- Corsica → from 9 bodies for 1<sup>st</sup> RBMP to 15 for 2<sup>nd</sup> RBMP
- French Guiana → from 12 bodies for 1<sup>st</sup> RBMP to 2 for 2<sup>nd</sup> RBMP
- Reunion Island → from 16 bodies for 1<sup>st</sup> RBMP to 27 for 2<sup>nd</sup> RBMP

### Created for Mayotte, new French territory since march 2011

### Retained from 1<sup>st</sup> RBMP for following River Basin Districts:

- Sambre & Scheldt, Somme and coastal waters of the Channel and the North Sea
- Rhine & Meuse
- Adour, Garonne, Dordogne, Charente and coastal waters of Aquitania
- Seine and Normandy coastal waters
- Guadeloupe & Martinique



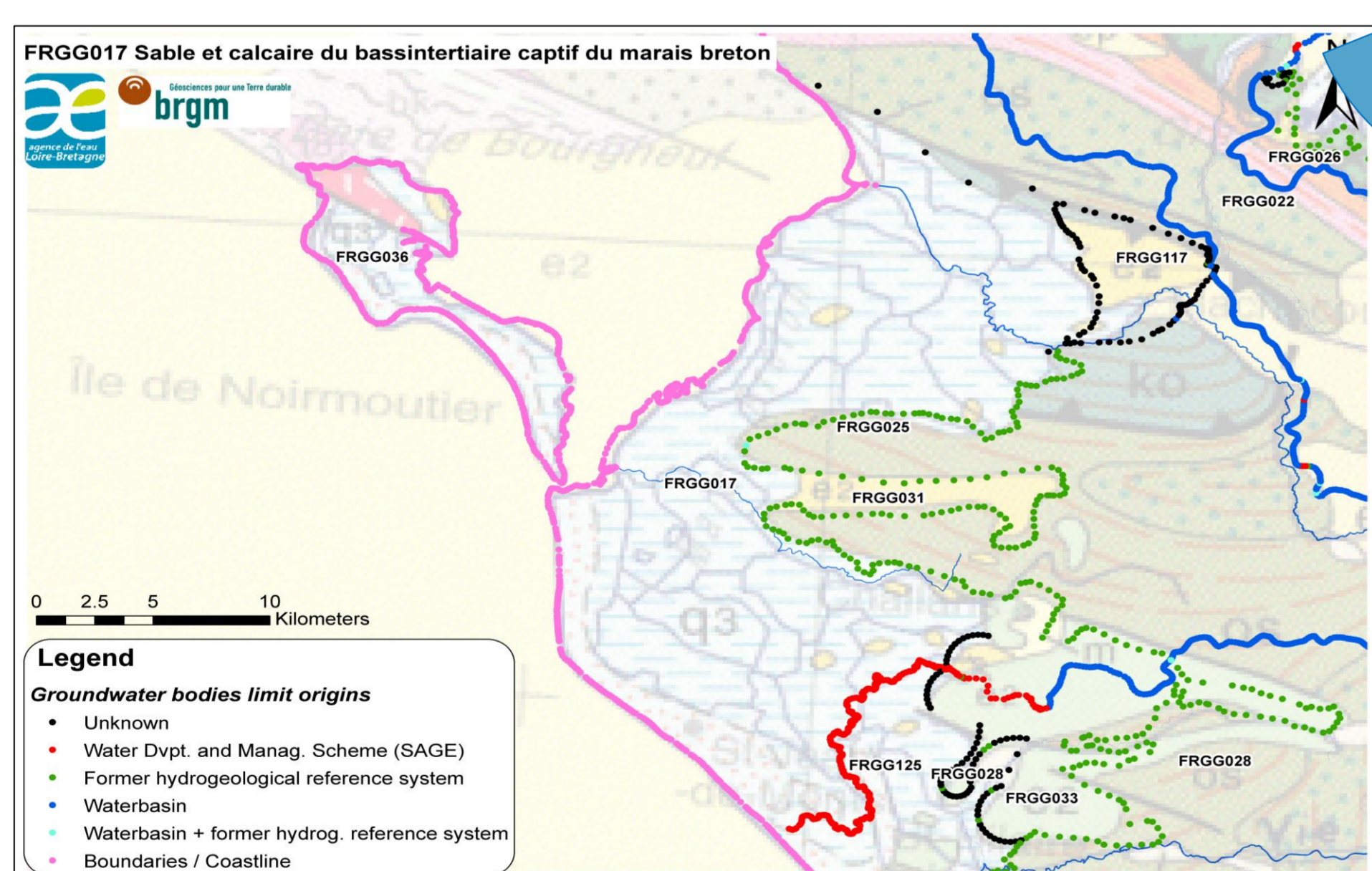
## A methodology that benefits from BDLISA

### 1. Cross-referencing between initial WFD groundwater bodies and BDLISA units

- First map matching between groundwater bodies and local and/or regional BDLISA units (not an unique result in most cases) → good matching for basement, volcanic and heavily folded domains, poor matching for alluvial and sedimentary basins because of different vertical overlays between the two reference systems.
- Establishing a correlation table between groundwater bodies and local and/or regional BDLISA units through hydro-lithological descriptions.

### 2. Differentiation of limit origins for each groundwater bodies

- Cartographic analysis to differentiate various types of limits as they can inherit from SAGE, from the former hydrogeological reference system BDRHFV1, from surficial water basin limits etc. (see illustration)



### 3. Replacement of "hydrogeological" limits by the BDLISA unit limits

- Adjustment of GWBs limits corresponding to the aquifers delineation from the former hydrogeological reference system BDRHFV1, in accordance to the corresponding BDLISA units as defined in the correlation table.
- Archiving modifications made on the groundwater body boundaries.

MS_CD	NIVEAU	EU_CD	NAME	COMMENT	SURF_KMS	ME2005	ME2011
4017	1	FRGG017	Sable et calcaire du bassin tertiaire captif du marais breton		373	NON	BDLISA_101A
4017	1	FRGG017	Sable et calcaire du bassin tertiaire captif du marais breton		373	NON	BDLISA_101A
4017	1	FRGG017	Sable et calcaire du bassin tertiaire captif du marais breton		373	NON	polygone à fermer
4017	1	FRGG017	Sable et calcaire du bassin tertiaire captif du marais breton		373	OUI	supprimer
4017	1	FRGG017	Sable et calcaire du bassin tertiaire captif du marais breton		373	OUI	conservé
4017	1	FRGG017	Sable et calcaire du bassin tertiaire captif du marais breton		373	OUI	supprimer
4017	1	FRGG017	Sable et calcaire du bassin tertiaire captif du marais breton		373	OUI	supprimer
4017	1	FRGG017	Sable et calcaire du bassin tertiaire captif du marais breton		373	OUI	supprimer
4017	1	FRGG017	Sable et calcaire du bassin tertiaire captif du marais breton		373	OUI	supprimer
4017	1	FRGG017	Sable et calcaire du bassin tertiaire captif du marais breton		373	OUI	supprimer
4017	1	FRGG017	Sable et calcaire du bassin tertiaire captif du marais breton		373	OUI	supprimer
4017	1	FRGG017	Sable et calcaire du bassin tertiaire captif du marais breton		373	OUI	supprimer

### References

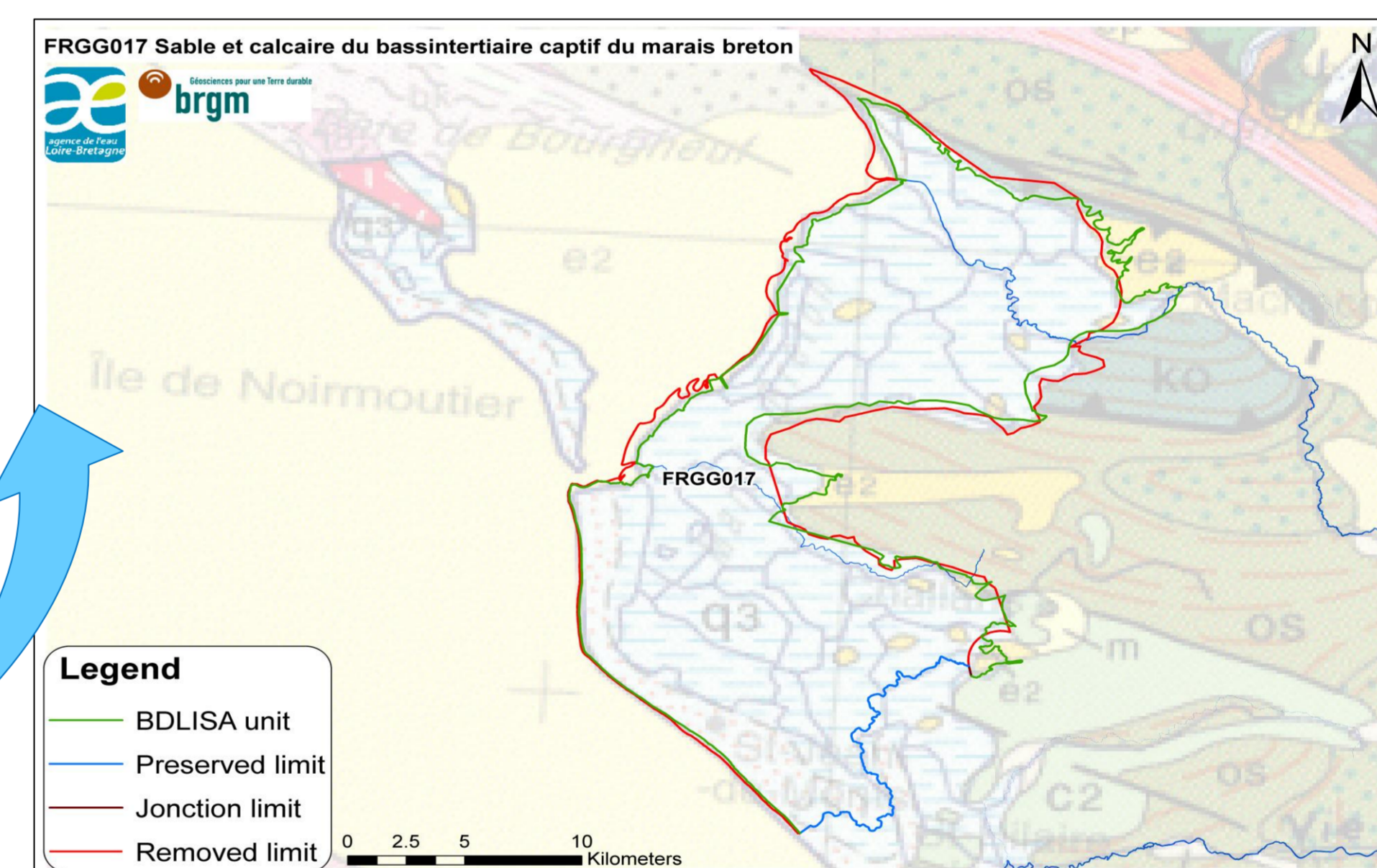
Brugeron A., Schomburgk S. (2013) - Mise en œuvre de la DCE : Identification et délimitation des masses d'eau souterraine. Mise à jour du guide méthodologique de 2003. Rapport final BRGM/RP-62275-FR

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### 4. Digitalization of Groundwater bodies based on the improved selected limits

- Manual reconstruction of each groundwater body by combination of their new associated limit.



### 5. Other adjustments...

- ... taking into account strong heterogeneity of pressures or quantitative/qualitative state inside of one single groundwater body.
- ... based on regional consultation meetings.

### 6. Verification of the new reference system consistency

- Checking of the topological consistency, detection of anomalies, correction of artifacts in order to maintain the general homogeneity of the national GWB repository.
- Checking of the association between each new groundwater body and each water well that belong to the WFD monitoring network.

Who's doing what regarding WFD Groundwater bodies delineation?

- Coordinator:** MEDD (French Ministry of Ecology and Sustainable Development) & ONEMA (French National Agency for Water and Aquatic Environments)
- Fulfillment:** the Water Agencies (≈ River Basin Districts)
- Technical support for methodology, harmonization and synthesis:** BRGM (French Geological Survey)

For more information...

All the digitalized information and associated database may be accessed at [www.sandre.eaufrance.fr](http://www.sandre.eaufrance.fr)

Find information on French Data Water reported to EU: [www.rapportage.eaufrance.fr](http://www.rapportage.eaufrance.fr)