

WS on Monitoring/EUROPE-INBO 2013



WFD compliant Monitoring in Austria

Organisation and role of monitoring actors

lebensministerium.at

Karin Deutsch/BMLFUW-VII 1

karin.deutsch@lebensministerium.at



Water monitoring in Austria (1)



lebensministerium.at

Austrian national surface water monitoring before WFD

- since 1991
- Surface water:
 - 285 permanent sites in running water
 - site selection – main purpose monitoring chemical pollution
- Ground water:
 - ~ 2000 permanent sites
 - Representative overview



WFD adaption - since 2007:

■ *Surface water*

→ large changes in system

- Ecological / Chemical Status: new methods, type-specific
- Definition Surveillance Monitoring - few permanent sites
- Operative Monitoring:
 - based on Risk analysis
 - **flexible not permanent**
 - **Emphasis: Monitoring Hydromorphological Pressure**
 - **Monitoring programme change every 3 years**

■ *Ground water*

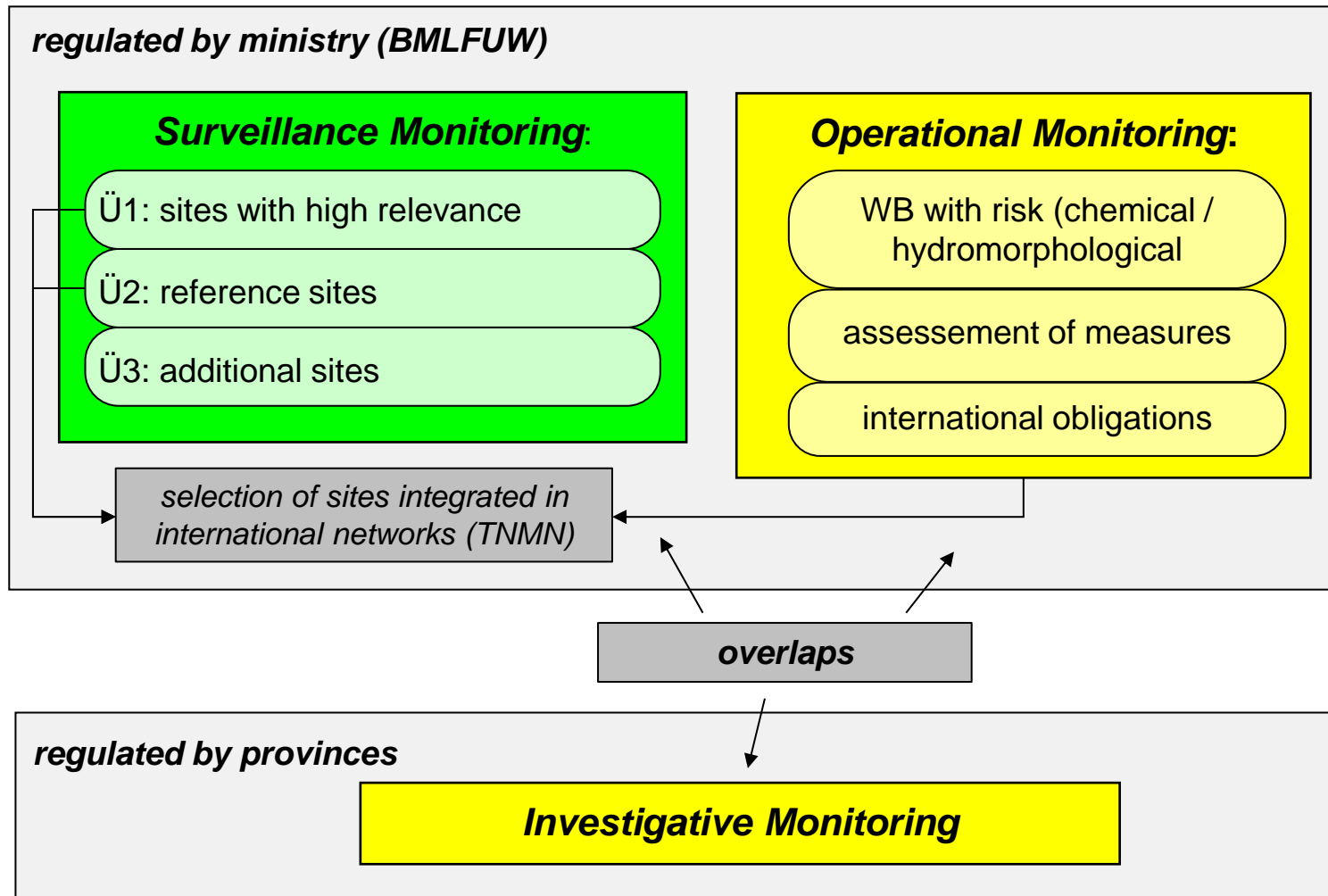
→ +/- the same as before 2007

- **Water Framework Directive**
- **Austrian Water Act**
- **Gewässerzustandsüberwachungsverordnung (GZÜV)**
(Ordinance on the Monitoring of the Status of Waters)
 - **regulates Surveillance Monitoring and Operational Monitoring**
 - Criteria for site selection, monitoring methods and frequencies
- **Investigative Monitoring:**
Responsibility of 9 provinces

Structure of monitoring network



lebensministerium.at



Surveillance Monitoring - Surface Water



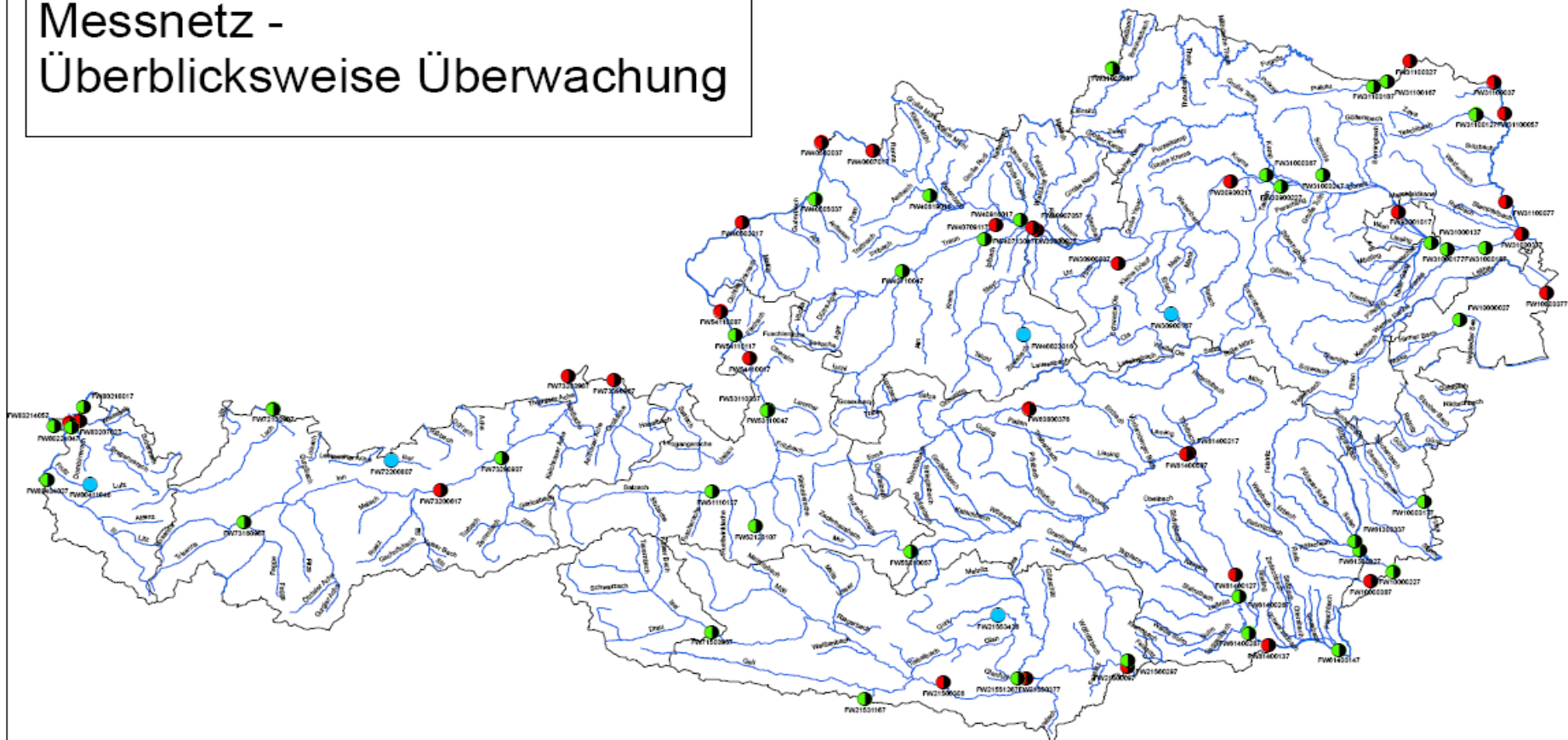
lebensministerium.at

- Permanent monitoring network
- Mostly existing monitoring sites (data since 1992)
- 3 different types of monitoring sites:
 - Ü1: sites with high relevance
 - Ü2: reference sites
 - Ü3: additional sites

	Ü1	Ü2	Ü3
<i>rivers</i>	31	5	40

- Parameters based on WFD

Messnetz - Überblicksweise Überwachung



0 12,5 25 50 75 100
Kilometers

- Legende**
- Überblicksmessstelle - Ü1
 - Überblicksmessstelle - Ü2
 - Überblicksmessstelle - Ü3

Layout: Helena MÖhmann, BAW-IWG
erstellt am 24. Juli 2006

 Institut für Wassergüte
Einkaufsstelle für Wassergüte

Ein Projekt des BAW-PA



Operational Monitoring – Surface Water



lebensministerium.at

- **Non-permanent monitoring network**
- **3 different types of monitoring sites:**
 - sites with high risk (chemical / hydromorphological)
 - sites for assesement of measures (after measures)
 - international obligations
- **sampling frequency and duration**
 - **frequency depends on method:**
 - chemical and physical: 12 p.a.
 - biological QE: 1 p.a
 - **duration:**
 - 1 – 2 years depending on parameter

Operational Monitoring



■ sampling method – most indicative quality element

quality elements: Pressures:	Fundamental Physical and chemical Parameters	Pollutants	Phyto- benthos	Makro- phytes	MZB	Fish
Chemical pressures						
nutrients	X		X	(X)	(X)	
oxygen conditions	X				X	(X)
temperature	X				(X)	X
salinisation	X		(X)		(X)	X
acidification	X			(X)	X	(X)
pollutants	X	relevant pollutant				
Hydromorphological pressures:						
Morphological modifications:					(X)	X
<i>only modification of stream bed</i>					X	(X)
residual flow				(X)	(X)	X
hydro peaking				(X)	(X)	X
impoundment				(X)	X	(X)
interruption of continuum					(X)	X



■ Operational Monitoring/Running Waters

	Operative Überwachung in FG – Messstellenanzahl			
	In OWK mit Risiko Hydromorphologie	In OWK mit Risiko stofflich	davon Schadstoffe	Gesamtanzahl
2007-2009	458	114	42	572
2010-2012	1051	201	22	1252
2013-2015	ca. 450	163	21	ca. 613
2007-2015	ca. 1960	478	85	ca. 2440

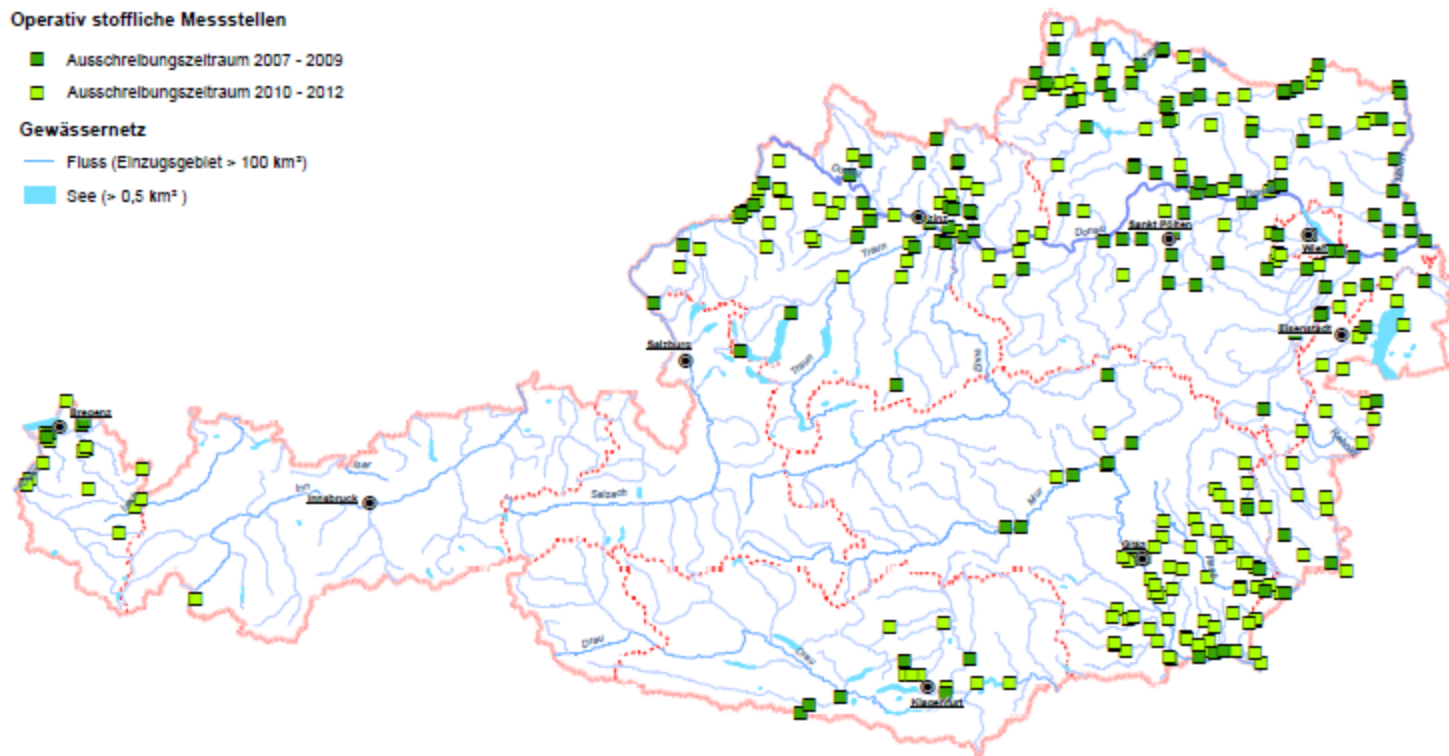
Operatives Messnetz - Oberflächengewässer Stofflich 2007 - 2012

Operativ stoffliche Messstellen

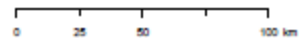
- Ausschreibungszeitraum 2007 - 2009
- Ausschreibungszeitraum 2010 - 2012

Gewässernetz

- Fluss (Einzugsgebiet > 100 km²)
- See (> 0,5 km²)



Quelle: Gewässerzustandsberichterstattung
 (GZBV) BGBl. Nr. 479/2005 i.d.g.F.; BMLFUW, Sektion
 VII/Abteilung 1 Nationale Wasserwirtschaft,
 Ämter der Landesregierungen;
 Auswertung/Graphik: Umweltbundesamt GmbH, 2010



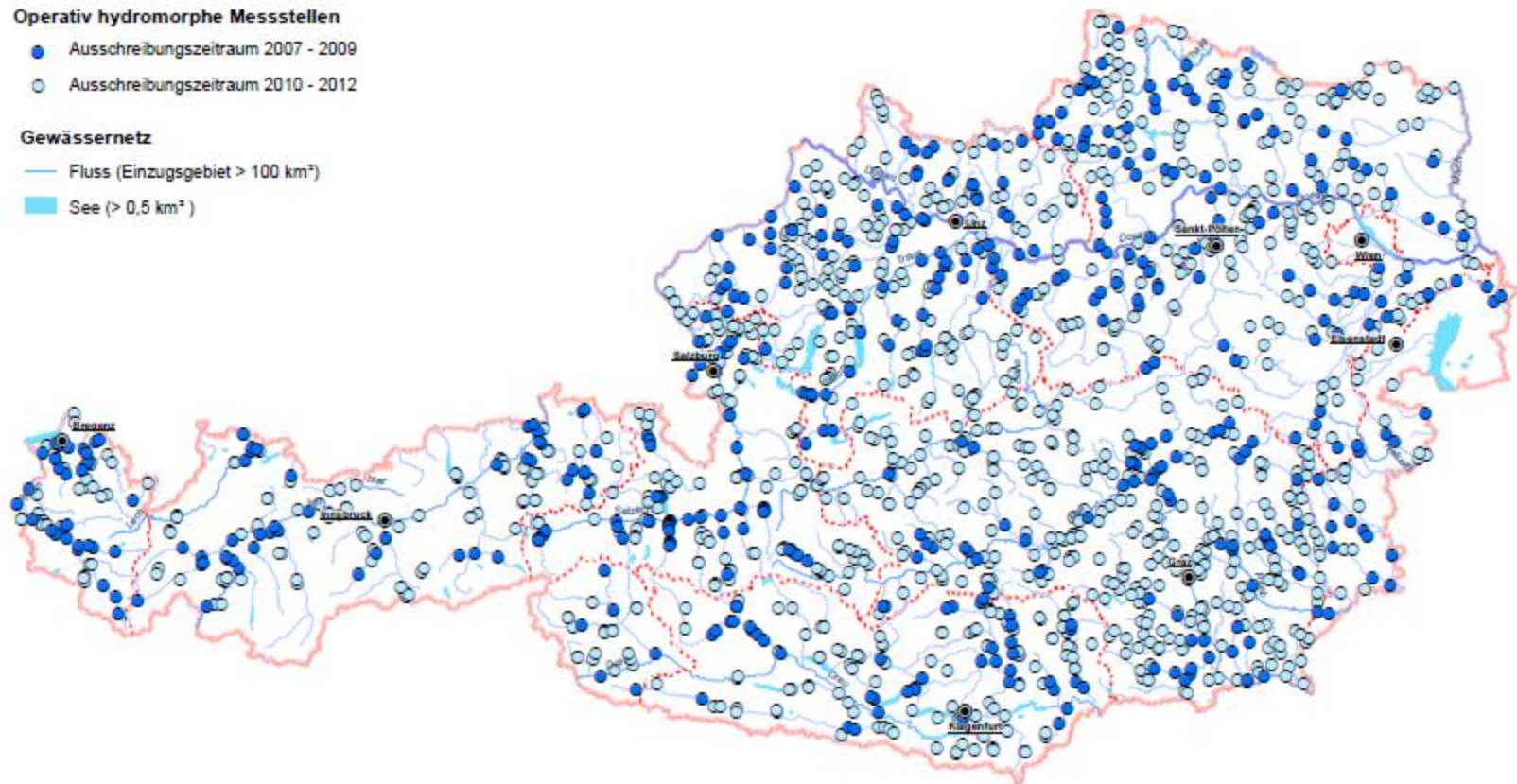
Operatives Messnetz - Oberflächengewässer Hydromorph 2007 - 2012

Operativ hydromorphe Messstellen

- Ausschreibungszeitraum 2007 - 2009
- Ausschreibungszeitraum 2010 - 2012

Gewässernetz

- Fluss (Einzugsgebiet > 100 km²)
- See (> 0,5 km²)



Quelle: Gewässerzustandsüberwachungsverordnung (GZÜV) BGBl. Nr. 479/2006 i.d.F.; BMLFUW, Sektion VII/Abteilung 1 Nationale Wasserwirtschaft, Ämter der Landesregierungen;

Auswertung/Graphic: Umweltbundesamt GmbH, 2013



umweltbundesamt[®]



GZÜV - Groundwater

Lage und Grenzen von Grundwasserkörpern

(Stand 2008)

Einzelgrundwasserkörper und Gruppen von Grundwasserkörpern gemäß Wasserrahmenrichtlinie (WRRL 2000/60/EG)

Oberflächennahe Grundwasserkörper

- Einzelgrundwasserkörper
- Gruppen von Grundwasserkörpern
- Fließgewässernähe
- Fließgewässernähe
- Fließgewässernähe

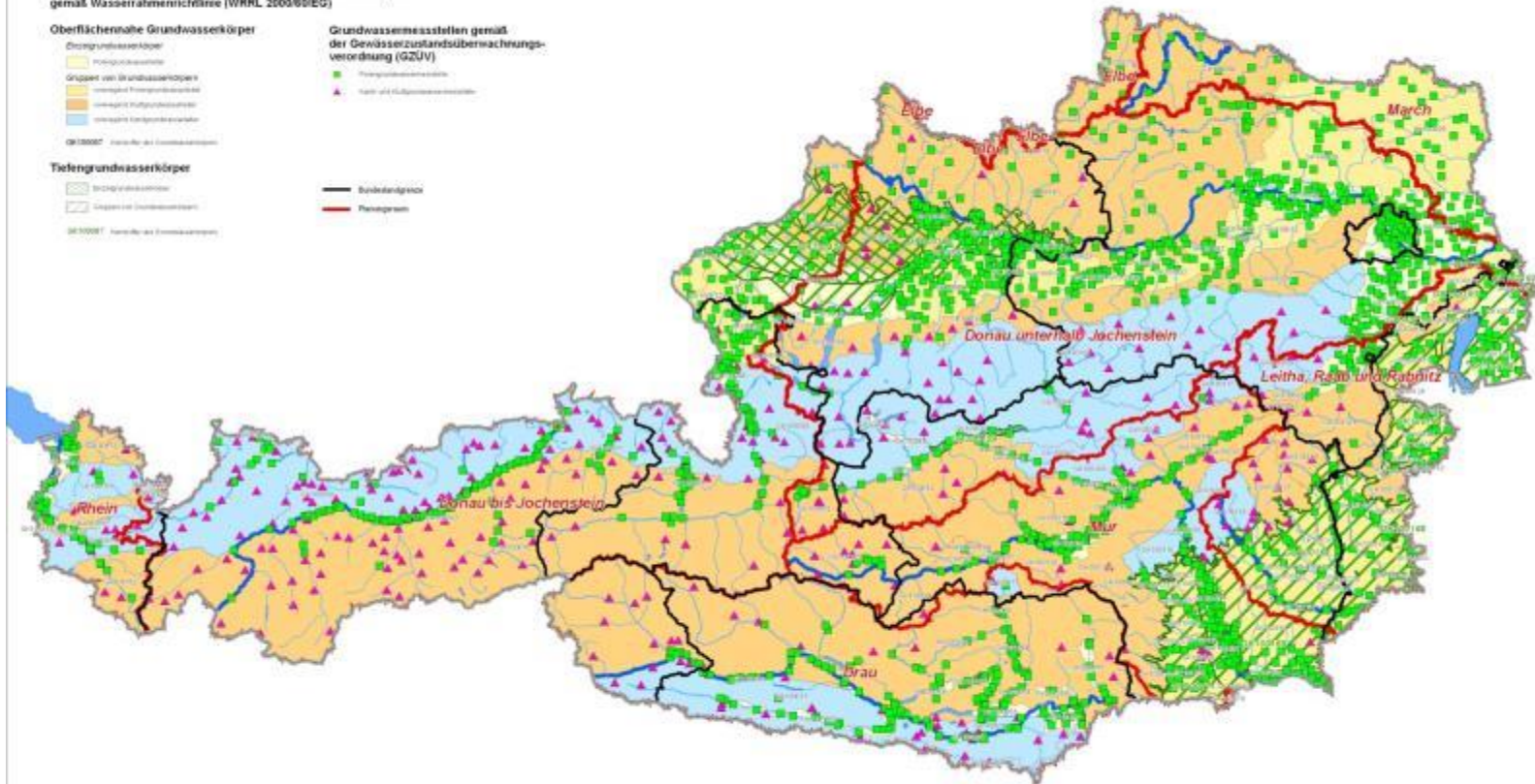
Grundwassermessstellen gemäß der Gewässerzustandsüberwachungsverordnung (GZÜV)

- Fließgewässernähe
- Fließgewässernähe

Tiefgrundwasserkörper

- Einzelgrundwasserkörper
- Gruppen von Grundwasserkörpern

- Bundeslandsgrenze
- Planungseinheit



Questions:

- **Q 1: Who does what in monitoring (actors, roles and responsibilities?)**
- **Q2: Participatory tools for collection of information on aquatic environment?**
- **Q3: What are the sources of funding for monitoring and their respective shares?**

Q 1: Who does what in monitoring (actors, roles and responsibilities?)



lebensministerium.at

■ **Surveillance Monitoring**

■ **Operational Monitoring**

■ **Investigative Monitoring**

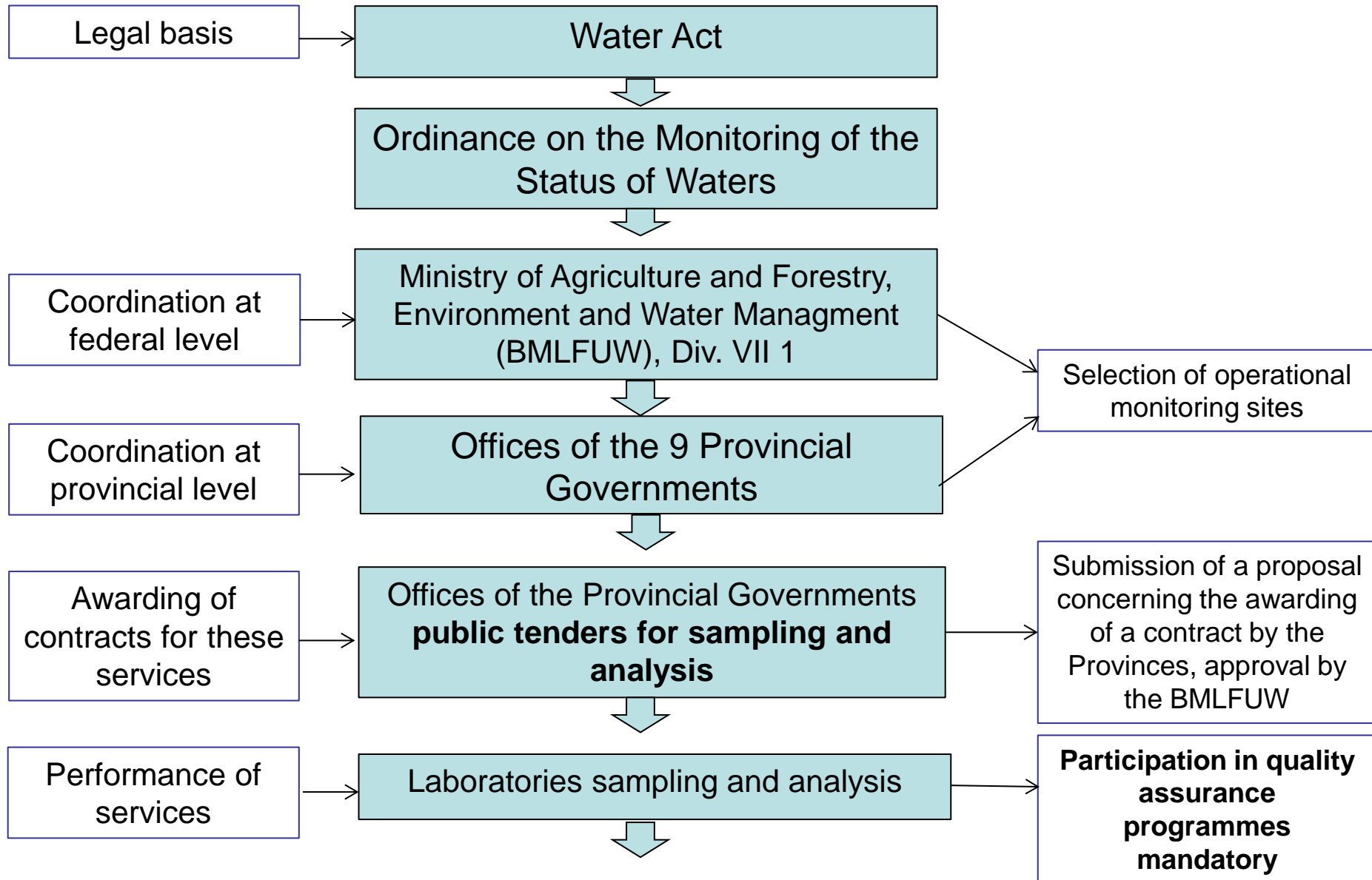


Responsibility:
Federal Ministry of
Agriculture, Forestry,
Environment, Water
Management (BMLFUW)
and
Offices of the 9
Provincial Governments

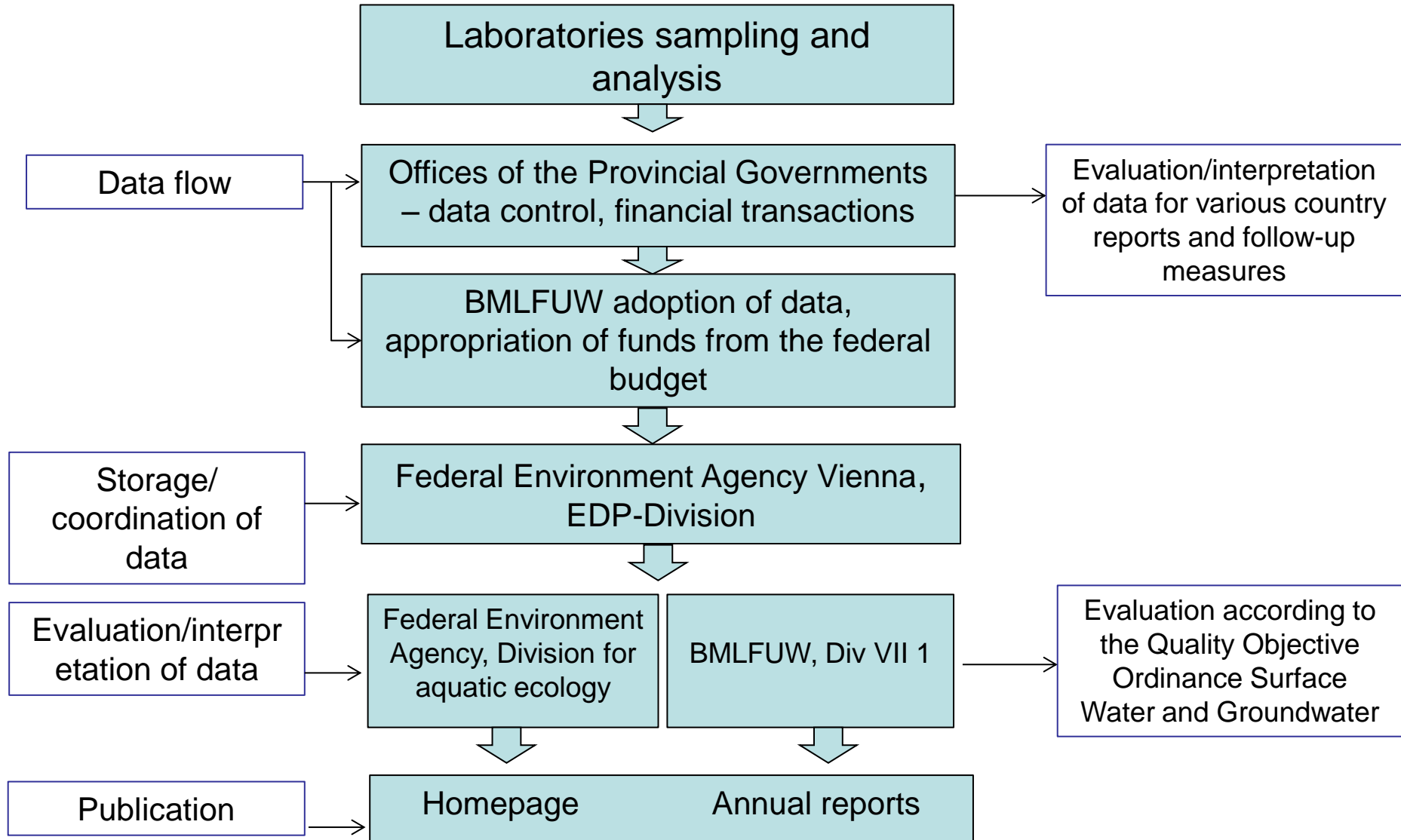


Responsibility:
9 Provinces

Surveillance and Operational Monitoring/1



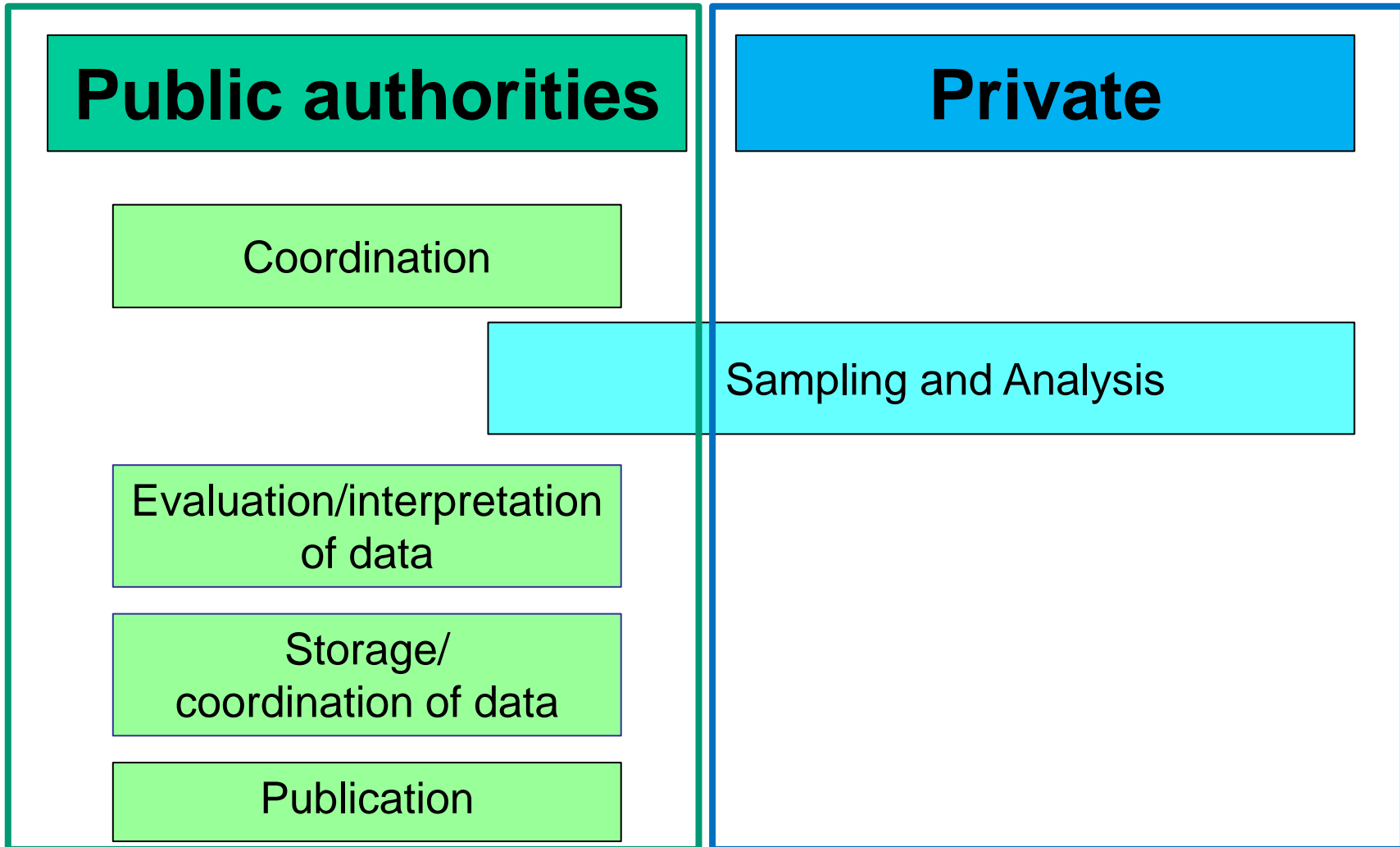
Surveillance and Operational Monitoring/2



Surveillance and Operational Monitoring/Actors



lebensministerium.at



Q2: Participatory tools for collection of information on aquatic environment (1)



lebensministerium.at

Use of Monitoring data (1)

- WFD - Status assessment and starting of measures
 - no use of participatory tools
 - essential need to get
 - data of high quality (AQC!)
 - data based on standardised methods
 - transparent assessment
 - implementation of a Monitoring Network based on legal basis (GZÜV)
 - Status assessment mostly based on governmental monitoring networks (GZÜV-Operational Monitoring Sites) or additional monitoring networks run by the Provincial Government

Q2: Participatory tools for collection of information on aquatic environment (2)



lebensministerium.at

GZÜV/Surveillance and Operational Monitoring Data are “Environmental Data” and public!

→ Data: WISA-Homepage
<http://wisa.lebensministerium.at/h2o>



→ Reports: Wassergüte in Österreich
<http://wisa.lebensministerium.at/article/articleview/92037/1/13193>



Q2: Participatory tools for collection of information on aquatic environment (3)



Use of Monitoring data (2)

- WFD – Risk analysis (Art 5 WFD) of water bodies
 - use of public and private data for assessing the likelihood that surface water bodies will fail to meet environmental quality objectives
 - e.g. Inventory of emissions of WTP, data for getting consent, scientific data
- Inventory of emissions of WTP works +/- as participatory website
 - the WTP upload their emissions data,
 - evaluation and control by Provincial Government/BMLFUW
 - Based on Ordinance on Inventory of point source emissions
- Local river authority → reporting local accidents, faecal pollution

Q3: What are the sources of funding for monitoring and their respective shares?



WFD compliant monitoring is paid by Public funds
Water Act § 143 b regulates shares

Operative and surveillance Monitoring

Installation of sampling sites
→ 100 % BMLFUW

sampling and analysis
→ 2/3 BMLFUW,
→ 1/3 Provincial Governments

Data storage
→ 100 % BMLFUW

Investigative Monitoring

100 % Provincial
Governments

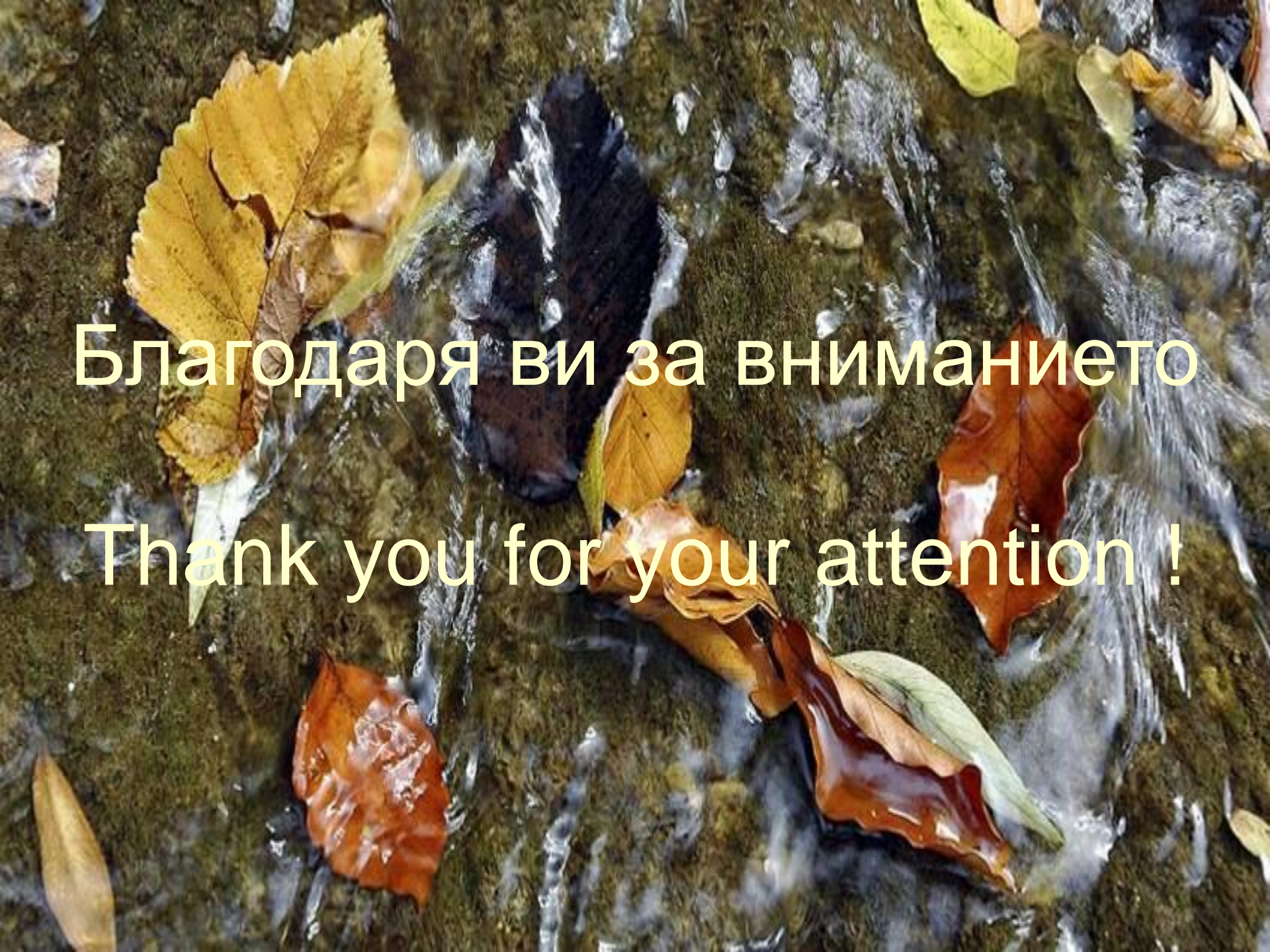
Q3: What are the sources of funding for monitoring and their respective shares (2)?



GZÜV – Surveillance and Operative Monitoring

Cost 2007 – 2012: Surface and Groundwater

Year	Surface water	Groundwater
2007-2009	€ 3.300.000,00	€ 2.700.000,00
2010-2012	€ 2.800.000,00	€ 1.800.000,00
	€ 6.100.000,00	€ 4.500.000,00



Благодаря ви за вниманието

Thank you for your attention !