




## Your insight to the LUBW.

 Monitor. Evaluate. Advise.  
We develop solutions!



Baden-Württemberg

# A word. Moment



Dear readers,

I am delighted at your interest in the LUBW. On the following pages, we would like to show you what our tasks are and what main topics we are working on - clearly and to the point.

The LUBW is the competence center of the state of Baden-Württemberg in matters of environmental and nature protection, technical occupational safety, radiation protection and product safety. The topics of climate change and sustainability are becoming increasingly urgent.

Around 550 employees with backgrounds in science, engineering and technology, as well as laboratory work and administration, are using their expertise to find solutions to increasingly complex environmental problems.

I hope you gain an interesting insight into the LUBW.

Eva Bell  
President of the  
LUBW State Institute for the Environment  
Baden-Württemberg

# Numbers that count.

## At a glance

85

AREAS OF CROSS-MEDIA ENVIRONMENTAL MONITORING

108

RADIO PROBES FOR RADIATION LEVEL MEASUREMENT

4

STATE INSTITUTIONS SUMMARIZED

30

PROFESSIONAL SPECIALIZED FIELDS

550

EMPLOYEES

18

KEY ISSUES

2

MEASUREMENT VESSELS

~1200

SAMPLES PER YEAR FOR RADIOACTIVE MEASUREMENT

# LUBW

1975

FOUNDED

2.600

GROUND WATER MEASURING STATIONS

~230.000

BIOTOPES

700

PRODUCT TESTS FOR MARKET SURVEILLANCE PER YEAR

34

AIR MEASURING STATIONS

155

SOIL PERMANENT MONITORING AREAS

250

WATER-LEVEL REPORTS IN BW

2.000

EXAMINATION SITES FOR RUNNING WATERS QUALITY

Version: 05/2019

# What we do for nature and the environment.

## **WE MONITOR**

We operate our monitoring networks for air, water, soil and radioactivity statewide. Mappings of fauna and flora provide information about the state of nature and the landscape. We observe climate change. Cross-media environmental monitoring gives us information about the state of the ecosystems. We investigate noise and electromagnetic fields. Environmental samples are used to analyse chemical, radiological or biological composition. As required, we also initiate the development of new analytical procedures.

## **WE EVALUATE**

We evaluate the results in an interdisciplinary and supra-regional manner. Our experts evaluate measures and technologies for environmental protection and nature conservation. In addition, they develop IT procedures that provide us and third parties with an overview of the data obtained.

## **WE ADVISE**

We advise and support the state government and the environmental and nature conservation administration in Baden-Württemberg. We also make available our measured data and the results of our work to the Interested public. Based on our data, we regularly prepare an environmental status report for Baden-Württemberg. We are the information and networking platform for communities, businesses and institutions. We offer support on the topic of sustainability.



# Our services for you.

## WEB

You will find all information, measured values and a comprehensive range of data and maps on our website: [www.lubw.de](http://www.lubw.de)



## PUBLICATIONS

Find out about the results of our work. You can download the numerous publications on our website or order them in print.

## EVENTS

We support employees of regional councils, district offices and municipalities in their daily work for environmental and nature conservation through a range of practical training. Some of the events are also aimed at engineering and planning offices.

## APP

With „Meine Umwelt“ (my environment) you can get daily location-based information on different environmental topics. Using the reporting function, you can report your own environmental observations and findings of selected animal and plant species or the allergenic common ragweed. Our app „Meine Pegel“ (my level) is also worth a look. You can find the download links in our Internet offering.





# That is what we do on the topic.

## ■ CONTAMINATION

Contaminated sites are the unwanted legacy of the technical and industrial progress of the past century. To reduce the burden on our environment, we create work aids for inspection and remediation. In addition, we participate in the districts' rating commissions.

## ■ OCCUPATIONAL SAFETY

The right to life and physical integrity is firmly anchored in the Federal Republic of Germany's Basic Constitutional Law. Of course, this also applies to safety and health at work. To ensure this, we deal with questions of technical safety.

## ■ OPERATIONAL ENVIRONMENTAL PROTECTION

Environmental protection is also an important topic in the private sector. We show how companies can gain competitive advantages through sustainable business practices. At the same time, we take care of plant safety and accident prevention in Baden-Württemberg.

## ■ SOIL

Soil is the basis of life for humans, animals and plants. It supplies us with food and renewable raw materials, filters water and regulates the ecosystem's material cycles. We develop methods and strategies for preventive, sustainable soil protection and regularly record and evaluate the state of soils statewide.

## ■ CHEMICALS

Our life is unimaginable without chemistry. Chemical substances play an important role in almost all areas of human existence. More than 100,000 are used in over one million products worldwide. We provide information on possible hazards for people and the environment.

## ■ ELECTROMAGNETIC FIELDS

Electrical appliances are indispensable in everyday life. We determine the effect of the electromagnetic fields and check whether the legal thresholds are respected.

## ■ RENEWABLE ENERGY

Our energy mix is changing towards the use of more renewable energy sources. We look after the effects on the environment and nature and provide evaluation bases for the approval of the necessary equipment.

## ■ CLIMATE CHANGE AND ADAPTATION

Climate change is also noticeable in Baden-Württemberg. We track the regional changes and regularly produce a monitoring report. We develop the strategic foundations for long-term planning in adapting to climate change.

## ■ CIRCULAR ECONOMY

Sustainable waste management not only tries to avoid waste, but also to recycle existing waste in terms of material or energy. We are looking for solutions to these aspects.

## ■ NOISE

Noise is a big stressor and bad for your health. We investigate noise pollution, create strategic noise maps and support cities and municipalities in noise action planning.

## ■ AIR

The air pollutant concentrations are still too high on busy roads and exceed the emission limits. We measure and assess the air quality and pass on our knowledge to help develop concepts for air pollution control. Through our statewide surveys on the release of air pollutants, we determine the causes of detected air pollutants.

## ■ MARKET SURVEILLANCE

Products not only have to work - they should also be safe, environmentally sound and energy efficient. We review toys, tools and appliances for market surveillance authorities.

## ■ CROSS-MEDIA ENVIRONMENTAL MONITORING

Die Cross-media environmental monitoring investigates and evaluates changes in the animate environment in forest, grassland and running water ecosystems.



## ■ SUSTAINABILITY

Sustainability means living today in such a way that future generations will inherit a world that is livable. The LUBW's Sustainability Office supports municipalities and initiatives in environmentally sustainable development.

## ■ NATURE AND LANDSCAPE

Nature is our basis of life. We provide data, create concepts and working principles, and provide expert advice to preserve species, habitats and landscapes and their interrelationships.

## ■ RADIOACTIVITY

Radioactivity is invisible and can harbor dangers. We study it in the environment, measure the radiation levels around nuclear facilities and support the nuclear regulatory authority in radiation protection issues.

## ■ ENVIRONMENTAL RESEARCH

The use of technology is helpful - it's impact on the environment is anything but. We evaluate these aspects together with research institutes and support putting knowledge into practice.

## ■ WATER

Water is one of the most important resources. We study water quality in rivers, lakes and groundwater. Our level monitoring network and flood forecast form the basis of successful flood protection in Baden-Württemberg.



# For well-founded statements.

LUBW is one of the largest monitoring network operators in Germany. Different monitoring networks provide us with a wealth of data on the condition of air, water and soil.

The measurements range from the acquisition of air and soil parameters to measurements of water levels and groundwater to radioactivity. Data sources include the groundwater monitoring network and nuclear reactor remote monitoring. Our data centers – for example the air monitoring center and the flood forecasting center – bundle the data flows. Extensive data collection also takes place in the area of nature, landscape and ecosystem functions.

We store the data from the monitoring networks, check it for plausibility and use it for numerous analyzes and evaluations. It is also made available to the authorities and the general public. You will find the data on the internet, for example, in the LUBW's data and map service.

# Insight



# For clean air.

One of our main tasks is the monitoring and assessment of air quality in Baden-Württemberg. Our air monitoring network currently consists of 34 measuring stations, where up to 10 different air pollutant components are measured. The air quality in the city is measured at 24 measuring stations, 8 stations are traffic-related measuring stations and 2 measuring stations represent the air quality in the countryside. In addition, so-called spot measurements are carried out on busy roads. This air data is a valuable basis for assessing and reducing air pollutants in Baden-Württemberg.

# For undamaged soil.

Our valuable resource soil is endangered: Soil is overbuilt, sealed and compacted. The soil structure, heavy rainfall and lack of cover lead to erosion and runoff of huge amounts of soil. Pollutant inputs affect the soil as a habitat and plant production site. The LUBW provides diverse data on soil and soil conditions and conducts a soil monitoring program. We develop effective strategies and measures to protect our soil resources. We also provide extensive expert knowledge on the proper handling of contaminated sites.



# For clean water.

Assessing the status of rivers, lakes and groundwater in Baden-Württemberg is another key issue. We assess biological components in surface waters such as plankton algae, aquatic plants, microorganisms and fish. In addition, we determine the water structure. Chemical components such as the nutrients phosphorus and nitrate, pesticides, industrial and household chemicals, heavy metals and oxygen content are also included in the overall assessment of water bodies. In groundwater, the lowest possible levels of nitrate and pesticide contamination are crucial for their use as drinking water. The aim is to maintain the waters' good condition or, if necessary, to achieve this through appropriate measures.

Water is not just a basis of life but can also pose a danger through flooding. Through our flood forecasts, which, among other things, are based on water level and discharge measurements at the gauges, authorities, municipalities and rescue teams gain valuable time to prepare for impending flood disasters. In periods of low rainfall, daily updated low water forecasts are important for water authorities, shipping and agriculture.



# For diverse nature.

Current data is essential to protect flora and fauna. We map species and habitats and thus provide a valuable data basis for describing the state of our animate environment, designating protected areas and collecting indicators. Through our concepts and data, we support the implementation and management of the Europe-wide Natura 2000 network of protected areas for habitats, plants and animals in Baden-Württemberg.

By publishing Red Lists, we give a voice to endangered species. Our species and biotope protection concepts help when implementing protective measures. The specialized plan of statewide biotope networks (Fachplan Landesweiter Biotopverbund) connects habitats. Through our working aids for „eco-accounts“ and on the subject of wind power and species protection, we ensure that nature conservation issues are taken into account and appropriate compensation is provided for interventions in nature. Civic participation in species conservation is made possible by our online reporting platforms.

## Insight



# For a healthy climate.

Climate change and its consequences are a global problem. Baden-Württemberg has long been affected by this. In Baden-Württemberg, the average annual temperature rose by 1.3° C in the period from 1881 to 2015 (Monitoring Report on the Climate Protection Act Baden-Württemberg 2017). A continuation of the long-term trend is to be expected. This is due in particular to the emission of greenhouse gases. The climatic changes already have consequences for people and the environment, which are likely to intensify in the future.

We are working on the technical foundations to estimate the future climatic development and possible consequences in Baden-Württemberg. In addition, we support the state government in the development and implementation of adaptation strategies on the consequences of climate change. Practical questions are being developed in search and model projects, for example with municipalities.

# Insight



# For a sustainable life.

Sustainability means living today in such a way that future generations will inherit a world that is livable. Those who want to act in a manner that ensures intergenerational justice must equally take into account economic, social and ecological aspects. At the same time, being able to live sustainably is an invitation to everyone to work together locally to actively shape the future.

The LUBW's Sustainability Office supports municipalities and initiatives as they strive for sustainability with practical assistance and promotes the exchange of information between the participants. The municipalities act as role models for the population and can be the space of action for many civil society sustainability initiatives. Consistent, sustainable procurement promotes ecological, social and, where possible, regional products.



# We offer attractive jobs.

LUBW is an employer for more than 30 different professions.

In addition, we even provide training in some areas.

Our openings for traineeships, study programs and jobs can be found on the Internet at: [www.lubw.de](http://www.lubw.de)



## ANY QUESTIONS?

We would love to answer your questions about the LUBW.

Please note: If you have questions about specific individual cases regarding environmental and nature conservation, the local authorities are usually your first point of contact.

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