

European Wildlife Radio Tracking Workshop 2020

Workshop on terrestrial wildlife radio tracking for scientists, students, amateur radio enthusiasts and volunteers in nature conservation



BONNER ARBEITSKREIS FÜR FLEDERMAUSSCHUTZ

Radio tracking is an important tool for finding roosts, maternity stays and hunting habitats of endangered species like birds and bats. Only known locations can be protected effectively. Animals can be tagged with small transmitters to locate them by bearing their position. Lifetime and detection range of these miniaturized transmitters are limited due to their lightweight construction and small size and must be located quickly. Therefore conservationists and scientists are often dependent on external help. Not only wildlife biologists, even technology interested volunteers, especially amateur radio enthusiasts, are welcome to support such projects.



For effective retrieval, knowledge about radiowave propagation, function of transmitters, receivers, antennas as well as bearing strategies and error sources are indispensable. But even legal issues should not be omitted.

What we will not do: This workshop is mainly about terrestrial radio tracking using conventional VHF tags. GSM-, GPS- or satellite-based tracking systems are subject to manufacturer's courses.



Contrary to last year's workshops, this one will take place on two subsequent days, to make it more convenient for those who come from afar. On Saturday we will have the theory part and on Sunday we will do the practical outdoor training. Venues will be the historical Poppelsdorf Palace in Bonn and the estuary of the river Sieg and its meadows which is one of the most important bat habitats in Germany.

We would be glad if such trained persons would support us in future projects and workshops.

- Date:** March 28th and 29th, 2020
- Venues:** Poppelsdorf Palace Bonn & Fishery Museum Troisdorf-Bergheim
- Previous knowledge:** not needed
- Fees:** Estimated 25 € depending on the number of participants. Material costs for maker session will be additional.
- Registration :** until March 1st, 2020 by using the registration form and sending it to w.dreckmann@der-baff.de



European Wildlife Radio Tracking Workshop 2020

March, 28th Venue: University Bonn, Poppelsdorf Palace, Meckenheimer Allee 171



- 09:00 h** **Registration and Coffee** (Exact fee will be appreciated.)
- 09:30 h** **Welcome Adress**
- 10:00 h** **The purpose of Wildlife Radio Tracking**
- Legal an ethical issues
 - Exemplary Projects
- Speaker: Jens Trasberger, BAFF
- 10:45 h** **Technical Basics Part 1**
- Radiowave propagation
 - Transmitters an receivers
 - Antennas
- Speaker: Werner Dreckmann, BAFF
- 11:15 h** **Technical Basics Part2**
- Sources of interference
 - Handling your equipment
 - Bearing strategies
- Speaker: Werner Dreckmann, BAFF
- 12:30 h** **Lunchbreak** – No catering. In the surrounding of the palace you will find a lot of bistros, restaurants and fast food temples. Have a good meal.
- 13:30 h** **Do the right thing! – Proper tag selection and application**
- Speaker: René Janssen, Bionet Natuuronderzoek, Netherlands
- 14:15 h** **Using Short Range Radio Telemetry for Home Range Determination in a Small Lacertid (*Lacerta agilis* LINNAEUS, 1758)**
- Speaker: Vic Clement, Zoological Research Museum Alexander Koenig
- 14:45 h** **Coffee Break**
- 15:00 h** **Closing the information gap: Automatic radio-tracking as a future standard in environmental impact assessments**
- Speaker: Jannis Gottwald, University Marburg, Germany
- 15:45 h** **Organizational aspects of next day's outdoor training. - End of lecture sessions.**
- 19:00 h** **Open End Maker session** - Build your own lightweight portable tracking antenna or bat detector. For the latter soldering experience would be useful. (Bring your own soldering station if you have one.) Material costs: 15 – 25 €.

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March, 29th Venue: Fishery Museum, Nachtigallenweg 39, 53844 Troisdorf-Bergheim



09:30 h **Outdoor Training**

„Sunday morning telemetry walk“ in small guided groups (max. 4 persons each) through the meadows of the river Sieg and it's estuary near Bonn. We will set up a parcours of different realistic bearing situations where you have to perform specific tasks. Each group will be guided by an experienced tutor.

Station 1: Cross bearing

Station 2: Homing in, looking for bat roosts in residential areas

Station 3: Homing in and near field bearing, looking for bat roosts in the forest

Station 4: Near field bearing, searching for a lost tag on the forest ground

12:00 h **Lunchtime in the museum**

A hot vegetarian lentil soup with buns will be served (plus optional sausage for the carnivores).

13:30 h **Certificate handout** (only for registered participants)

14:30 h **Open transmitter hunting**

Test your skills by tracking some more hidden transmitters under realistic conditions. A GPS device to find your way back in unknown terrain may be useful.

Flexible departure

No previous knowledge required. Please bring your own equipment if you have (receiver, antenna, attenuator, compass, and notepad). We have only limited numbers of equipment for lending. Outdoor clothing and waterproof shoes are recommended.

If there are any questions, don't hesitate to ask:

Werner Dreckmann, Phone ++492247921693, w.dreckmann@der-baff.de

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Registration Form

End of registration: 1st March 2020



First Name, last Name _____
Street _____
ZIP-Code, City _____
Country _____
Call (HAM only) _____
E-Mail _____
Phone _____

Reason of interest in this workshop (e. g. scientific, volunteer, professional)

_____ (optional)

Species to be tagged

_____ (optional)

For grouping during the practical part following information will be helpful.

- Previous knowledge about radio tracking is available.

I will bring my own equipment:

- receiver*
 headphones/earphones
 directional antenna*
 notepad
 attenuator
 compass

*Frequency range of the used tags during training will be 149.900 MHz – 150.240 MHz, mode SSB or CW.

**The antenna should be suitable and directional within this range (e. g. Yagi- or HB9CV-type antenna).

- I will arrive by car.
 I agree providing my contact data to other participants for setting up ride shares.

During the maker sessions I want to build (please choose only one kit, all sessions will take place in parallel)

- 3-Element portable lightweight fullsize Yagi-Antenna (improved version)
 3-Element portable miniature Yagi-Antenna for close-up bearing w/o attenuator
 Bat detector (heterodyne)

Tag frequency range (needed for dimensioning antenna): _____ MHz to _____ Mhz
(default: 150.040 MHz to 150.250 MHz according to German radio regulations)

Date, Signature

Please send you registration to W. Dreckmann, Krokusweg 16b, D-53819 Neunkirchen-Seelscheid or by E-Mail to w.dreckmann@der-baff.de.