



Measure of the Dean No. 11/2018

The flood-control plan and evacuation of the units at the FFPW USB in Vodňany

The Faculty of Fisheries and Protection of Waters of the University of South Bohemia in České Budějovice (FFPW USB) has been affected by devastating floods at irregular intervals since 2002, mainly in the basin of the Blanice River in Vodňany. Since it is necessary to protect the property of the Faculty and health of its employees, I issue the following measure with a detailed flood-control plan and evacuation of the premises with a manual for the following units; the IEEAIC (unit M), GFC (unit C), EFCF (unit D) and the Main building (unit A) of the FFPW USB in Vodňany. This manual is a part of the Operational Card for each unit of the Faculty which is imminently threatened by flood (Annex No. 1 – Operational cards).

The Dean of the Faculty ordered to breed tagged fish gene pool only in ponds and reservoirs which do not bear the risk of genofond escape during the floods or which were treated during anti-flood actions. This order takes effect from the year 2016.

This Measure of the Dean cancels the Dean's decision No. 6/2016.

This Measure of the Dean comes into effect on 10th April 2018.

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Prof. Dipl.-Ing. Pavel Kozák, Ph.D.
Dean of FFPW USB

Annex No. 1 – Operational cards



Annex No. 1 – Operational cards

OPERATIONAL CARD

UNIT “M”



IEEAIC – International Environmental Educational, Advisory and Information Centre of Water Protection of the Faculty of Fisheries and Protection of Waters, University of South Bohemia in České Budějovice (*hereinafter referred to as IEEAIC FFPW USB*), unit “M”



CONTENT

- 1. Water management information – unit “M”**
- 2. Organizational flood-control measures**
- 3. Important telephone numbers**
- 4. Persons responsible for adherence to the flood plan**
- 5. Equipment of the unit “M” with the devices usable during a flood event**



1. WATER MANAGEMENT INFORMATION – UNIT “M”

High water levels in the profile of the unit “M” – IEEAIC FFPW USB (river km 24.7) – right bank

Q_N	Water level (Baa)	Flow rate (Q) in $m^3 \cdot s^{-1}$
Q_1	390.54	20
Q_2	390.97	37
Q_5	391.61	66
Q_{10}	392.13	95
Q_{20}	392.56	129
Q_{50}	392.81	183
Q_{100}	393.02	232
Q_{500}	393.50	374

A flood threat in relation of Q_N to a floor height level of the ground floor and the depth of flooding is stated in the following table:

Unit (Building)	Elevation of the ground floor +/- 0	Danger Q_N	Water depth
Unit “M” – IEEAIC FFPW USB	392.64 metres a.s.l.	$>Q_{20}$	at $Q_{50} = 0.17$ m at $Q_{100} = 0.38$ m at $Q_{500} = 0.86$ m

The time of arrival of flood water in case of causal precipitation in the territory located around the Husinec Dam corresponds approximately to 24 hours. In case of an overflow over the Husinec Dam, the travel time to Vodňany is about 3 to 4 hours.

Implementation time of safety works including construction of sandbag barriers

Unit (building)	Number of required employees	Construction time
Unit “M” – IEEAIC FFPW USB		
Protection of the building and entrances by sandbag barriers	4 – employees	3 hours



Material usable during a flood event

There are sandbags for individual protection of the units. It involves sealing off the entrances (threatened by raised water level).

Unit (building)	Area protected by sandbags*)	Number of sandbags	Mobile barriers
Unit "M" – IEEAIC FFPW USB	10 m ²	110	

*) 11 sandbags are required for constructing barriers in the area of 1 m².

Levels of flood activity

The levels of flood activity for the FFPW USB units are related to the "B" Bavorov warning profile.

Level of flood activity	State of water level gauge / flow rate
1 st level – state of watchfulness	140 cm / 23 m ³ · s ⁻¹ (<Q ₁)
2 nd level – state of emergency	170 cm / 40 m ³ · s ⁻¹ (>Q ₂)
3 rd level – state of threat	190 cm / 53 m ³ · s ⁻¹ (<Q ₅)

Internal information about the flood state

The levels of flood activity for the FFPW USB units are announced/informed about by Dipl.-Ing. David Gela, Ph.D. – a member of the Flood Commission of the town of Vodňany (his possible Deputy is Dipl.-Ing. Pavel Lepič) who always inform by telephone the Dean of the Faculty or his Deputy (see the internal attendance system) and the Head of the flood team or an authorized person for a given unit about the situation. In case of absence or unavailability of the Dean, his Assistant must be immediately informed and she will cooperate with Dipl.-Ing. David Gela, Ph.D. (possibly with Dipl.-Ing. Pavel Lepič) on acquainting the Vice-Deans and the Registrar. If the Vice-Deans or the Registrar are unavailable, Dipl.-Ing. David Gela, Ph.D. (possibly Dipl.-Ing. Pavel Lepič) will automatically become the Deputy of the Dean and he will supervise the flood-control measures of the Faculty. Presence/replaceability of the above-mentioned persons must be dully edited in the internal attendance system of the Faculty (responsibility of the Dean's Assistant) which applies to each calendar day during a year.



2. ORGANIZATIONAL FLOOD-CONTROL MEASURES

1. STATE OF WATCHFULNESS

This state is announced if the 1st level of flood activity is achieved in the “B” Bavorov warning profile (i.e., the state is 140 cm and the flow rate is 23 m³ · s⁻¹).

Dipl.-Ing. David Gela, Ph.D., as a member of the Flood Commission of the town of Vodňany informs by telephone or in any other way relevant persons in compliance with the article concerning Internal information about the flood state.

If further unfavourable development of the flood hazard is expected, the Head of the flood team is obliged to:

Monitor the flood situation and get information about its development.

Ensure availability of responsible employees or their permanent presence on site if safety works etc. are necessary to be carried out.

The flood team ensures the following activities:

- The team inspects functionality of the equipment intended for carrying out safety works and inspects a relevant unit with regard to carrying out possible safety works or, in the extreme case, evacuation.
- If the team receives warning information about further dangerous development of the flood situation, it immediately adjusts the time schedule of the works in such a way that these activities are finished, if possible, before being influenced by the rising water, i.e., if there is an imminent occurrence of an extreme hydrometeorological phenomenon.

Warning:

All performed measures and activities protecting against floods (after verification) must be recorded in the flood diary. The records represent a source for assessing a flood event, for carrying out further measures and alternatively for an insurance company in case of an insurance event (for determining the scope of rightful damage). Records in the flood diary are made by the Head of the flood team.

2. STATE OF EMERGENCY

This state is announced if the 2nd level of flood activity is achieved in the “B” Bavorov warning profile (i.e., the state is 170 cm and the flow rate is 40 m³ · s⁻¹).

Dipl.-Ing. David Gela, Ph.D., as a member of the Flood Commission of the town of Vodňany, informs by telephone or in any other way relevant persons in compliance with the article



concerning Internal information about the flood state.

Next, the Head of the flood team or his Deputy ensure information about a hydrometeorological situation in a particular basin, about the state of water levels, time path of flood arrival in the Blanice River and they make records (related to flood protection) in the flood diary. The Head of the flood team receives up-to-date information about monitoring of water states and development of flow rate tendencies in the Blanice River.

The flood team prepares safety devices (sandbags, mobile barriers etc.), technical equipment for carrying out safety works and possible evacuation as fast arrival of flood water must be anticipated.

In case of rising tendencies of water levels and flow rates (unfavourable prognosis of the flood development), the flood team will ensure preparedness of the currently used technical devices and readiness for evacuation or ability to transport technical equipment and materials before a threatened part of the premises is flooded (reactions must be operative in compliance with an up-to-date schedule of carried out safety works).

The flood team inspects operation of all systems. According to the flood situation development, the Head of the flood team decides operatively on acceleration of safety works and alternatively he starts fulfilling activities, as required, that are stated in the schedule of safety works after the 3rd level of flood activity has been announced (such activities can be optimally sped up with regard to development of the flood situation). Individual activities are mentioned in the paragraph "Organization of flood-control safety works".

Material and items which cannot be transported from the premises to a safe place are secured by the flood team against being washed away. Number of such secured objects must be minimised.

3. STATE OF THREAT

This state is announced if the 3rd level of flood activity is achieved in the "B" Bavorov warning profile (i.e., the state is 190 cm and the flow rate is 53 m³ · s⁻¹).

Dipl.-Ing. David Gela, Ph.D., as a member of the Flood Commission of the town of Vodňany, informs by telephone or in any other way relevant persons in compliance with the article concerning Internal information about the flood state.

The Head of the flood team or his Deputy ensure up-to-date information concerning a hydrometeorological situation in the particular basin, the state of water levels, the time path of flood arrival in the Blanice River and they make records (related to flood protection) in the flood diary.



Organization of flood-control safety works

Unit "M" – IEAIC FFPW USB

Safety works:

- Moving equipment and other items from the floor to higher places (positional protection).
- Securing the elevator, i.e., after transporting selected items to higher floors, the elevator must stay in the top floor.
- Protecting the unit entrances with sandbags.

In case of evacuation, before leaving the premises, utility networks must be closed and the unit must be secured, within the limits, against vandalism.

In case of evacuation, transfer of means of transport securing evacuation must be organized in compliance with the traffic situation in a given locality (road passability must not be limited for other road users). Where appropriate, it is advisable to ask the Police of the Czech Republic to assist in ensuring continuous traffic.

Before departure (evacuation) of employees who do not participate in safety works any longer, a list of their names must be responsibly written which will serve for checking of those employees who are staying on site until the end of evacuation (search for missing persons during final leaving of the units and adjacent premises or alternatively leaving persons in flood zones must be avoided).

When the works and subsequent evacuation are terminated, the Head of the flood team or his Deputy will ensure switching off the power supply for a relevant unit and premises (putting the stable power source out of operation and possibly evacuation of a mobile source). All remaining employees will leave a relevant unit and the premises via the path of retreat.

After termination of evacuation activities and transport of all technical equipment and means of transport outside of the flood hazard area, the Head of the flood team will ensure inspection of the secured units and adjacent premises (he makes a record into the flood diary and, if possible, he completes the record with photodocumentation of the units and adjacent premises before possible flooding and he secures protection of other documentation, e.g., flood diary, computer memories etc.). The Head of the flood team will ensure changing of patrols (provision of a flood documentation in particular units, adjacent areas etc.) and up-to-date information about the development of the situation.



3. IMPORTANT TELEPHONE NUMBERS

RIVER MANAGER

POVODÍ VLTAVY, State Enterprise – General Directorate	
Exchange	221 401 111
Central Water Management Dispatch	257 329 425 257 326 310 tel. + fax 724 067 719
Internet	www.pvl.cz

POVODÍ VLTAVY, State Enterprise – Plant Horní Vltava	
Exchange	387 683 111
Central Water Management Dispatch	387 203 609

CZECH HYDROMETEOROLOGICAL INSTITUTE

Regional Forecasting Office in České Budějovice 386 460 102, 386 460 383
Department of Hydrology 386 102 256

CHMI PRAGUE – KOMOŘANY

244 031 111, 724 178 576
725 001 544, 244 010 898
Meteorological service 244 032 236, 241 773 508
Hydrological service 241 773 543

MUNICIPALITY VODŇANY

Municipality Vodňany 383 379 155
Nám. Svobody no. 18, Vodňany

FIRE RESCUE SERVICE VODŇANY

950 217 118
Tylova street no. 842, Vodňany 383 383 864



4. PERSONS RESPONSIBLE FOR ADHERENCE TO THE FLOOD PLAN

Person responsible for adherence to the flood plan:

Head of the flood team

Telephone to work

Mobile phone

Dipl.-Ing. Michal Hojdekr, MBA

387 774 663

725 391 382

Deputy of the Head of the flood team

Telephone to work

Mobile phone

Dipl.-Ing. Martin Vlček

387 774 663

601 377 639

Member of the flood team

Telephone to work

Mobile phone

Volodymyr Bondarenko, MSc., Ph.D.

387 774 783

724 504 922

Member of the flood team

Telephone to work

Mobile phone

PaedDr. Jiří Koleček

387 774 772

606 050 576



5. EQUIPMENT OF THE UNIT “M” WITH THE DEVICES USABLE DURING A FLOOD EVENT

- 1) Locker – operational card, keys from electrical switchboards, special keys from other valves, flood diary, basic tools – pliers, screwdriver with heads, small hammer, 4 portable head lamps, 4 reflecting vests, 4 life jackets and 10 m long rope.
- 2) Charging device for rechargeable lamps – fitting of two lamps (in the locker with the devices).

Storage of these devices – the locker is located in the room 1.06 next to the supply entrance of the building. **The Head of the flood team, his Deputy and the Dean’s Assistant have the keys from the locker.**



OPERATIONAL CARD

UNIT "C"



GFC – Genetic Fisheries Center of the Faculty of Fisheries and Protection of Waters, University of South Bohemia in České Budějovice (*hereinafter referred to as GFC FFPW USB*),
unit "C"



CONTENT

- 1. Water Management information – unit “C”**
- 2. Organizational flood-control measures**
- 3. Important telephone numbers**
- 4. Persons responsible for adherence to the flood plan**
- 5. Equipment of the unit “C” with the devices usable during a flood event**



1. WATER MANAGEMENT INFORMATION – UNIT “C”

High water levels in the profile of the unit “C” – GFC FFPW USB (river km 24.6) – left bank

Q_N	Water level (Baa)	Flow rate (Q) v $m^3 \cdot s^{-1}$
Q_1	390.53	20
Q_2	390.94	37
Q_5	391.53	66
Q_{10}	392.03	95
Q_{20}	392.46	129
Q_{50}	392.65	183
Q_{100}	392.83	232
Q_{500}	393.24	374

A flood threat in relation of Q_N to a floor height level of the ground floor and the depth of flooding is stated in the following table:

Unit (building)	Elevation of the ground floor +/- 0	Threat Q_N	Water depth
Unit “C” – GFC FFPW USB	392.30 m a.s.l.	$<Q_{20}$	at Q_{20} = 0.16 m at Q_{50} = 0.35 m at Q_{100} = 0.53 m at Q_{500} = 0.94 m

The time of arrival of flood water in case of causal precipitation in the territory located around the Husinec Dam corresponds approximately to 24 hours. In case of an overflow over the Husinec Dam, the travel time to Vodňany is about 3 to 4 hours.

Implementation time of safety works including construction of sandbag barriers and mobile aluminium barriers

Unit (building)	Number of required employees	Construction time
Unit “C” – GFC FFPW USB*)		
Premises of the GFC FFPW USB	Minimum - 2 employees Optimum - 5 employees Reality - 3 employees	4 hours
Fish hatchery	Minimum - 2 employees Optimum - 5 employees Reality - 3 employees	4 – 6 hours



New unit of the GFC FFPW USB (including sandbag barriers)	Minimum - 2 employees Optimum - 5 employees Reality - 3 employees	3 hours
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*) +1 extra hour during the season (May - June) – it involves evacuation of fish from outside hatcheries into upper floors under the oxygen

Material usable during a flood event

There are sandbags for individual protection of the units. It involves sealing off the entrances (threatened by raised water level). Sandbags are stored behind the large metal hall.

Unit (building)	Area protected by sandbags*)	Number of sandbags	Mobile barriers
Unit "C" – GFC FFPW USB	10 m ²	110	

*) 11 sandbags are required for constructing barriers in the area of 1 m².

Levels of flood activity

The levels of flood activity for the FFPW USB units are related to the "B" Bavorov warning profile.

Level of flood activity	State of water level gauge / flow rate
1 st level – state of watchfulness	140 cm / 23 m ³ . s ⁻¹ (<Q ₁)
2 nd level – state of emergency	170 cm / 40 m ³ . s ⁻¹ (>Q ₂)
3 rd level – state of threat	190 cm / 53 m ³ . s ⁻¹ (<Q ₅)

Internal information about the flood state

The levels of flood activity for the FFPW USB units are announced/informed about by Dipl.-Ing. David Gela, Ph.D. – a member of the Flood Commission of the town of Vodňany (his possible Deputy is Dipl.-Ing. Pavel Lepič) who always inform by telephone the Dean of the Faculty or his Deputy (see the internal attendance system) and the Head of the flood team or an authorized person for a given unit about the situation. In case of absence or unavailability of the Dean, his Assistant must be immediately informed and she will cooperate with Dipl.-Ing. David Gela, Ph.D. (possibly with Dipl.-Ing. Pavel Lepič) on acquainting the Vice-Deans and the Registrar. If the Vice-Deans or the Registrar are unavailable, Dipl.-Ing. David Gela, Ph.D. (possibly Dipl.-Ing. Pavel Lepič) will automatically



become the Deputy of the Dean and he will supervise the flood-control measures of the Faculty. Presence/replaceability of the above-mentioned persons must be dully edited in the internal attendance system of the Faculty (responsibility of the Dean's Assistant) which applies to each calendar day during a year.

2. ORGANIZATIONAL FLOOD-CONTROL MEASURES

1. STATE OF WATCHFULNESS

This state is announced if the 1st level of flood activity is achieved in the "B" Bavorov warning profile (i.e., the state is 140 cm and the flow rate is 23 m³. s⁻¹).

Dipl.-Ing. David Gela, Ph.D., as a member of the Flood Commission of the town of Vodňany informs by telephone or in any other way relevant persons in compliance with the article concerning Internal information about the flood state.

If further unfavourable development of flood hazard is expected, the Head of the flood team is obliged to:

Monitor the flood situation and get information about its development.

Ensure availability of responsible employees or their permanent presence on site if safety works etc. are necessary to be carried out.

The flood team ensures the following activities:

- The team inspects functionality of equipment intended for carrying out safety works and inspects a relevant unit with regard to performance of possible safety works or, in the extreme case, evacuation.
- If the team receives warning information about further dangerous development of the flood situation, it immediately adjusts the time schedule of the works in such a way that these activities are finished, if possible, before being influenced by rising water, i.e., if there is an imminent occurrence of an extreme hydrometeorological phenomenon.

Warning:

All performed measures and activities protecting against floods (after verification) must be recorded in the flood diary. The records represent a source for assessing a flood event, for carrying out further measures and alternatively for an insurance company in case of an insurance event (for determining the scope of rightful damage). Records in the flood diary are made by the Head of the flood team.



2. STATE OF EMERGENCY

This state is announced if the 2nd level of flood activity is achieved in the “B” Bavorov warning profile (i.e., the state is 170 cm and the flow rate is 40 m³. s⁻¹).

Dipl.-Ing. David Gela, Ph.D., as a member of the Flood Commission of the town of Vodňany, informs by telephone or in any other way relevant persons in compliance with the article concerning Internal information about the flood state.

Next, the Head of the flood team or his Deputy ensure information about a hydrometeorological situation in a particular basin, about the state of water levels, flow rates, time path of flood arrival in the Blanice River and they make records (related to flood protection) in the flood diary. The Head of the flood team receives up-to-date information about monitoring of water states and development of flow rate tendencies in the Blanice River.

The flood team will prepare safety devices (sandbags, mobile barriers etc.), technical equipment for carrying out safety works and possible evacuation as fast arrival of flood water must be anticipated.

In case of rising tendencies of water levels and flow rates (unfavourable prognosis of flood development), the flood team will ensure preparedness of currently used technical devices and readiness for evacuation or ability to transport technical equipment and materials before a threatened part of the premises is flooded (reactions must be operative in compliance with up-to-date schedule of carried out safety works).

The flood team inspects operation of all systems. According to the flood situation development, the Head of the flood team decides operatively on acceleration of safety works and alternatively he starts fulfilling activities, as required, that are stated in the schedule of safety works after the 3rd level of flood activity has been announced (such activities can be optimally sped up with regard to the development of the flood situation). Individual activities are mentioned in the paragraph “Organization of flood-control safety works”.

Material and items that cannot be transported from the premises to a safe place are secured by the flood team against being washed away. Number of such secured objects must be minimised.

3. STATE OF THREAT

This state is announced if the 3rd level of flood activity is achieved in the “B” Bavorov warning profile (i.e., the state is 190 cm and the flow rate is 53 m³. s⁻¹).

Dipl.-Ing. David Gela, Ph.D., as a member of the Flood Commission of the town of Vodňany, informs by telephone or in any other way relevant persons in compliance with the article concerning Internal information about the flood state.



The Head of the flood team or his Deputy ensure up-to-date information about a hydrometeorological situation in a particular basin, about the state of water levels, flow rates, possibly a time path of flooding, prognosis concerning development of water states and flow rates in the Blanice River and they make records (related to flood protection) in the flood diary.

Organization of flood-control safety works

Unit "C" – GFC FFPW USB

Safety works:

Premises of the GFC FFPW USB

- closure of inlets into the handling ponds in the hatchery area in case of operation of aerators running on reserve power source in order to prevent turbid water from getting into the tanks. If the aerators are switched off, it is necessary to restore flowing through the handling ponds to minimize risk of death of the fish stock due to oxygen deficit. A member of the flood team will clean inflow and outflow bars and he will also inspect security of outlets of the discharge devices in individual ponds in order to prevent the sluice planks from being pushed out by backwater.
- disconnection and disassembly of the blowers in blue sacs and circular tanks in IV
- filling outside pools up to the maximum water level
- inspection of the entire premises including the hall and warehouses (if extreme flooding is expected, it is required to secure metal warehouses)
- fish must not be fed in the entire premises except for those cases when omission of feeding rations would result in 100% death of a fish stock

Fish hatchery

- moving of equipment and other items that could be damaged from the hatchery and the trough facility to higher-elevated places in the new unit GFC FFPW USB (only non-movable equipment will remain in the hatchery and the trough facility)
- disassembly of circulation pumps of small recirculations in sacs and pumps
- filling all incubation silos and pools with water up to the maximum level
- fish staying in sacs must be provided with water inflow and alternatively with aeration from the laboratory room

New unit of the GFC FFPW USB

- inspection of operation of all systems
- before putting the power supply out of operation from the distribution network, it is necessary to inspect the power generator and refill all oil cans with fuel
- in order to ensure sufficient aeration of the generator, it is required to open the garage gate in time



- after the power supply is interrupted and the generator starts working, immediate inspection of operation of electrical devices for fish rearing systems in the entire premises must be carried out **(during the first 8 hours of the dead interval the inspection is repeated at hourly intervals at the latest)**

Warning:

Some appliances are connected to the “battery power supply” which will go flat after several hours and the appliance will thus stop working!

- electrical appliances in the entire premises that need not be necessarily in operation must be switched off as soon as possible after beginning of the dead interval
- motor vehicles must be prepared for leaving the premises in case of mandatory evacuation
- the main gate to be opened manually
- protecting entrances to the premises with sandbags

In case of evacuation, before leaving the premises, it is necessary to ensure closure of utility networks and to protect the premises, if possible, against vandalism.

Extreme flood event

- In case that the GFC premises are threatened by water that would flood the floor in the new unit of the GFC FFPW USB, operation must be switched off for safety precautionary reasons and recirculation pumps of the rearing systems A, B, C, F must be disconnected from the pipe and put as high as possible to prevent water from getting into electric motors.
- It is required to switch on O₂ generators for the fish kept in the rearing tanks or alternatively add air blowers.
- If water gets into the heat management room, the sensor attached at the ground will disconnect all electrical circuits and will also switch off the reserve power supply generator. The position of the sensor cannot be changed for safety reasons.
- In case that evacuation is announced for the entire area, access to the unit GFC FFPW USB is made impossible for several days and it is thus impossible to keep the generator in operation. Therefore, it will be switched off by employees of the flood team before their departure from the GFC premises at the latest.
- In case that the dead interval lasts longer than 8 hours, large fish stocks in handling ponds 2 – 12 are put at risk in summer period. Aerators in these ponds are connected to a reserve power supply generator. A member of the flood team will verify their correct operation running on the reserve source.

After termination of evacuation activities and transport of all technical equipment and means of transport outside of the flood hazard area, the Head of the flood team will ensure



inspection of the secured units and adjacent premises (he makes a record into the flood diary and, if possible, he completes the record with photodocumentation of the units and adjacent premises before possible flooding and he also secures protection of other documentation, e.g., flood diary, computer memories etc.). The Head of the flood team will ensure changing of patrols (provision of the flood documentation in particular units, adjacent areas etc.) and up-to-date information about the situation development.

3. IMPORTANT TELEPHONE NUMBERS

RIVER MANAGER

POVODÍ VLTAVY, State Enterprise – General Directorate	
Exchange	221 401 111
Central Water Management Dispatch	257 329 425 257 326 310 tel. + fax 724 067 719
Internet	www.pvl.cz

POVODÍ VLTAVY, State Enterprise – Plant Horní Vltava	
Exchange	387 683 111
Central Water Management Dispatch	387 203 609

CZECH HYDROMETEOROLOGICAL INSTITUTE

Regional Forecasting Office in České Budějovice 386 460 102, 386 460 383
Department of Hydrology 386 102 256

CHMI PRAGUE – KOMOŘANY

Meteorological service 244 031 111, 724 178 576
Hydrological service 725 001 544, 244 010 898
244 032 236, 241 773 508
241 773 543

MUNICIPALITY VODŇANY

Municipality Vodňany 383 379 155

Nám. Svobody no. 18, Vodňany

Na Valše 207, 389 01 Vodňany, Česká republika T/ +420 387 774 640 F/ +420 387 774 634

Processed by: Dipl.-Ing. Nedopil

www.frov.jcu.cz



FIRE RESCUE SERVICE VODŇANY

Tylova street no. 842, Vodňany

950 217 118

383 383 864

4. PERSONS RESPONSIBLE FOR ADHERENCE TO THE FLOOD PLAN

Person responsible for adherence to the flood plan:

Head of the flood team

Telephone to work

Mobile phone

Dipl.-Ing. David Gela, Ph.D.

387 774 762

724 508 430

Member of the flood team

Telephone to work

Mobile phone

B.Sc. Martin Kahanec, Dis.

387 774 664

602 263 481

Member of the flood team

Telephone to work

Dipl.-Ing. Milan Aldorf

387 774 664

Member of the flood team

Telephone to work

Lukáš Vojík

387 774 664

Member of the flood team

Telephone to work

Kamil Kuneš

387 774 664

Member of the flood team

Telephone to work

Mobile phone

Dipl.-Ing. Martin Pšenička, Ph.D.

387 774 717

725 787 925



5. EQUIPMENT OF THE UNIT “C” WITH THE DEVICES USABLE DURING A FLOOD EVENT

- 1) Locker – operational card, keys from electrical switchboards, special keys from other valves, flood diary, basic tools – pliers, screwdriver with heads, small hammer, 6 portable head lamps and 6 reflecting vests.
- 2) Charging device for rechargeable lamps – fitting of two lamps (next to the locker with the devices).

Storage of the devices – the locker is located in the office of the Head of the GFC FFPW USB no. 107. **The Head of the flood team, his Deputy and the Assistant of the Director of the RIFCH have the keys from the locker.**



OPERATIONAL CARD

UNIT "D"



EFCF – Experimental Fish Culture and Facility of the Faculty of Fisheries and Protection of Waters, University of South Bohemia in České Budějovice (*hereinafter referred to as EFCF FFPW USB*), building "D"



CONTENT

- 1. Water Management information – unit “D”**
- 2. Organizational flood-control measures**
- 3. Important telephone numbers**
- 4. Persons responsible for adherence to the flood plan**
- 5. Equipment of the unit “D” with the devices usable during a flood event**



1. WATER MANAGEMENT INFORMATION – UNIT “D”

High water levels in the profile of the unit “D” – EFCF FFPW USB (river km 25.3) – right bank

Q_N	Water level (Baa)	Flow rate (Q) v $m^3 \cdot s^{-1}$
Q_1	390.96	20
Q_2	391.58	37
Q_5	392.36	66
Q_{10}	392.78	95
Q_{20}	393.11	129
Q_{50}	393.49	183
Q_{100}	393.79	232
Q_{500}	394.53	374

A flood threat in relation of Q_N to a floor height level of the ground floor and the depth of flooding is stated in the following table:

Unit (building)	Elevation of the ground floor +/- 0	Threat Q_N	Water depth
Unit “D” – EFCF FFPW USB	394.393 m a.s.l.	$>Q_{100}$	at $Q_{500} = 0.14$ m

The time of arrival of flood water in case of causal precipitation in the territory located around the Husinec Dam corresponds approximately to 24 hours. In case of an overflow over the Husinec Dam, the travel time to Vodňany is about 3 to 4 hours.

Implementation time of safety works including construction of sandbag barriers and mobile aluminium barriers

Unit (building)	Number of required employees	Construction time
Unit “D” – EFCF FFPW USB		
Building and entrances protected by mobile barriers including sandbags	4 – 5 employees	2 hours



Material used during a flood event

There are sandbags for individual protection of the units. It involves sealing off the entrances (threatened by raised water level).

Unit (building)	Area protected by sandbags*)	Number of sandbags	Mobile barriers
Unit "D" – EFCF FFPW USB	19 m ²	209	Entrance barriers (stored in the warehouse)

*) 11 sandbags are required to cover the area of 1 m².

Levels of flood activity

Levels of flood activity for the FFPW USB units are related to the "B" Bavorov warning profile.

Level of flood activity	State of water level gauge / flow rate
1 st level – state of watchfulness	140 cm / 23 m ³ . s ⁻¹ (<Q ₁)
2 nd level – state of emergency	170 cm / 40 m ³ . s ⁻¹ (>Q ₂)
3 rd level – state of threat	190 cm / 53 m ³ . s ⁻¹ (<Q ₅)

Internal information about the flood state

The levels of flood activity for the FFPW USB units are announced/informed about by Dipl.-Ing. David Gela, Ph.D. – a member of the Flood Commission of the town of Vodňany (his possible Deputy is Dipl.-Ing. Pavel Lepič) who always inform by telephone the Dean of the Faculty or his Deputy (see the internal attendance system) and the Head of the flood team or an authorized person for a given unit about the situation. In case of absence or unavailability of the Dean, his Assistant must be immediately informed and she will cooperate with Dipl.-Ing. David Gela, Ph.D. (possibly with Dipl.-Ing. Pavel Lepič) on acquainting the Vice-Deans and the Registrar. If the Vice-Deans or the Registrar are unavailable, Dipl.-Ing. David Gela, Ph.D. (possibly Dipl.-Ing. Pavel Lepič) will automatically become the Deputy of the Dean and he will supervise the flood-control measures of the Faculty. Presence/replaceability of the above-mentioned persons must be dully edited in the internal attendance system of the Faculty (responsibility of the Dean's Assistant) which applies to each calendar day during a year.



2. ORGANIZATIONAL FLOOD-CONTROL MEASURES

1. STATE OF WATCHFULNESS

This state is announced if the 1st level of flood activity is achieved in the “B” Bavorov warning profile (i.e., the state is 140 cm and the flow rate is 23 m³ · s⁻¹).

Dipl.-Ing. David Gela, Ph.D., as a member of the Flood Commission of the town of Vodňany, informs by telephone or in any other way relevant persons in compliance with the article concerning Internal information about the flood state.

If further unfavourable development of flood hazard is expected, the Head of the flood team is obliged to:

Monitor the flood situation and get information about its development.

Ensure availability of responsible employees or their permanent presence on site if safety works etc. are necessary to be carried out.

The flood team ensures the following activities:

- The team inspects functionality of equipment intended for carrying out safety works and inspects a relevant unit with regard to carrying out possible safety works or, in the extreme case, evacuation.
- If the team receives warning information about further dangerous development of the flood situation, it immediately adjusts the time schedule of the works in such a way that these activities are finished, if possible, before being influenced by the rising water, i.e., if there is an imminent occurrence of an extreme hydrometeorological phenomenon.

Warning:

All performed measures and activities protecting against floods (after verification) must be recorded in the flood diary. The records represent a source for assessing a flood event, for carrying out further measures and alternatively for an insurance company in case of an insurance event (for determining the scope of rightful damage). Records in the flood diary are made by the Head of the flood team.

2. STATE OF EMERGENCY

This state is announced if the 2nd level of flood activity is achieved in the “B” Bavorov warning profile (i.e., the state is 170 cm and the flow rate is 40 m³ · s⁻¹).



Dipl.-Ing. David Gela, Ph.D., as a member of the Flood Commission of the town of Vodňany, informs by telephone or in any other way relevant persons in compliance with the article concerning Internal information about the flood state.

Next, the Head of the flood team or his Deputy ensure information about a hydrometeorological situation in a particular basin, about the state of water levels, time path of flood arrival in the Blanice River and they make records (related to flood protection) in the flood diary. The Head of the flood team receives up-to-date information about monitoring of water states and development of flow rate tendencies in the Blanice River.

The flood team prepares safety devices (sandbags, mobile barriers etc.), technical equipment for carrying out safety works and possible evacuation as fast arrival of the flood must be anticipated.

In case of rising tendencies of water levels and flow rates (unfavourable prognosis of the flood development), the flood team will ensure preparedness of currently used technical devices and readiness for evacuation or ability to transport technical equipment and materials before a threatened part of the premises is flooded (reactions must be operative in compliance with an up-to-date schedule of carried out safety works).

The flood team inspects operation of all systems. According to the flood situation development, the Head of the flood team decides operatively on acceleration of safety works and alternatively he starts fulfilling activities, as required, that are stated in the schedule of safety works after the 3rd level of flood activity has been announced (such activities can be optimally sped up with regard to development of the flood situation). Individual activities are mentioned in the paragraph "Organization of flood-control safety works".

Material and items that cannot be transported from the units to a safe place are secured by the flood team against being washed away. Number of such secured objects must be minimised.

3. STATE OF THREAT

This state is announced if the 3rd level of flood activity is achieved in the "B" Bavorov warning profile (i.e., the state is 190 cm and the flow rate is 53 m³ · s⁻¹).

Dipl.-Ing. David Gela, Ph.D., as a member of the Flood Commission of the town of Vodňany, informs by telephone or in any other way relevant persons in compliance with the article concerning Internal information about the flood state.

The Head of the flood team or his Deputy ensure up-to-date information about a hydrometeorological situation in a particular basin, about the state of water levels, flow rates, alternatively about the time path of flood arrival, prognosis of the water state and flow rates development in the Blanice River and they make records (related to flood protection) in the flood diary.



Organization of flood-control safety works

Unit "D" – EFCF FFPW USB

Safety works:

Experimental area

- securing motor vehicles
- closure of inlet devices into the experimental unit
- closure of discharging device from the experimental unit
- inspection of safety of outlets of discharge devices in individual ponds

Experimental fish culture facility - model

- transfer equipment and other items from the floor to higher-elevated places (positional protection)
- securing entrance to the control room – server
- securing entrances into the unit with sandbags
- inspection of generators – filling fuel tanks
- relocation of motor vehicles and equipment intended for evacuation before closure of the main entrance by mobile barriers
- installation of mobile barriers at the entrance to the premises

In case of evacuation, before leaving the unit, it is necessary to ensure closure of utility networks and secure the unit, if possible, against vandalism.

After termination of evacuation activities and transport of all technical equipment and means of transport outside of the flood hazard area, the Head of the flood team will ensure inspection of the secured units and adjacent premises (he makes a record into the flood diary and, if possible, he completes the record with photodocumentation of the units and adjacent premises before possible flooding and he also secures protection of other documentation, e.g., flood diary, computer memories etc.). The Head of the flood team will ensure changing of patrols (provision of the flood documentation in particular units, adjacent areas etc.) and up-to-date information about the situation development.



3. IMPORTANT TELEPHONE NUMBERS

RIVER MANAGER

POVODÍ VLTAVY, State Enterprise – General Directorate	
Exchange	221 401 111
Central Water Management Dispatch	257 329 425 257 326 310 tel. + fax 724 067 719
Internet	www.pvl.cz

POVODÍ VLTAVY, State Enterprise – Plant Horní Vltava	
Exchange	387 683 111
Central Water Management Dispatch	387 203 609

CZECH HYDROMETEOROLOGICAL INSTITUTE

Regional Forecasting Office in České Budějovice 386 460 102, 386 460 383
Department of Hydrology 386 102 256

CHMI PRAGUE – KOMOŘANY

244 031 111, 724 178 576
725 001 544, 244 010 898
Meteorological service 244 032 236, 241 773 508
Hydrological service 241 773 543

MUNICIPALITY VODŇANY

Municipality Vodňany 383 379 155
Nám. Svobody no. 18, Vodňany

FIRE RESCUE SERVICE VODŇANY

950 217 118
Tylova street no. 842, Vodňany 383 383 864



4. PERSONS RESPONSIBLE FOR ADHERENCE TO THE FLOOD PLAN

Person responsible for adherence to the flood plan:

Head of the flood team	Dipl.-Ing. Pavel Lepič
Telephone to work	387 774 765
Mobile phone	724 504 920
Deputy of the Head of the flood team	Petr Řezníček
Telephone to work	387 774 763
Member of the flood team	Dipl.-Ing. Josef Příborský
Telephone to work	387 774 763
Mobile phone	730 587 321
Member of the flood team	Petr Řezníček
Telephone to work	387 774 768
Mobile phone	
Member of the flood team	Dipl.-Ing. Jiří Hajíček
Telephone to work	387 774 763
Mobile phone	
Member of the flood team	Jiří Kasl
Telephone to work	387 774 763



5. EQUIPMENT OF THE UNIT “D” WITH THE DEVICES USABLE DURING A FLOOD EVENT

- 3) Locker – operational card, keys from electrical switchboards, special keys from other valves, flood diary, basic tools – pliers, screwdriver with heads, small hammer, 6 portable head lamps, 6 reflecting vests and 2 life jackets.
- 4) Charging device for rechargeable lamps – fitting of two lamps (in the locker with the devices).

Storage of the devices – the locker is located at the side entrance to the building next to the staircase. **The Head of the flood team, his Deputy and the Assistant of the Director of the RIFCH have the keys from the locker.**



OPERATIONAL CARD

UNIT "A"



**Main building of the Faculty of Fisheries and Protection of Waters,
University of South Bohemia in České Budějovice, unit "A"**



CONTENT

- 1. Water Management information – unit “A”**
- 2. Organizational flood-control measures**
- 3. Important telephone numbers**
- 4. Persons responsible for adherence to the flood plan**
- 5. Equipment of the unit “A” with the devices usable during a flood event**



1. WATER MANAGEMENT INFORMATION – UNIT “A”

High water levels in the profile of the unit “A” – main building (river km 25.3) – left bank

Q_N	Water level (Baa)	Flow rate (Q) v $m^3 \cdot s^{-1}$
Q_1	390.96	20
Q_2	391.58	37
Q_5	392.36	66
Q_{10}	392.78	95
Q_{20}	393.11	129
Q_{50}	393.49	183
Q_{100}	393.79	232
Q_{500}	394.53	374

A flood threat in relation of Q_N to a floor height level of the ground floor and the depth of flooding is stated in the following table:

Unit (building)	Elevation of the ground floor +/- 0	Threat Q_N	Water depth
Unit “A” – main building	393.92 m a.s.l.	$>Q_{100}$	at $Q_{500} = 0.61$ m

The time of arrival of flood water in case of causal precipitation in the territory located around the Husinec Dam corresponds approximately to 24 hours. In case of an overflow over the Husinec Dam, the travel time to Vodňany is about 3 to 4 hours.

Implementation time of safety works including construction of sandbag barriers and mobile aluminium barriers

Unit (building)	Number of required employees	Construction time
Unit “A” – main building		
Main building and entrances protected by mobile barriers including sandbags	4 – 6 employees	4 – 6 hours



Material usable during a flood event

There are sandbags for individual protection of the units. It involves sealing off the entrances (threatened by raised water level).

Unit (building)	Area protected by sandbags*)	Number of sandbags	Mobile barriers
Unit "A" – main building	5 m ²	55	Barriers at the entrance (stored in the garage)

*) 11 sandbags are required for covering the area of 1 m².

Levels of flood activity

The levels of flood activity for the FFPW USB units are related to the „B” Bavorov warning profile.

Level of flood activity	State of water level gauge / flow rate
1 st level – state of watchfulness	140 cm / 23 m ³ · s ⁻¹ (<Q ₁)
2 nd level – state of emergency	170 cm / 40 m ³ · s ⁻¹ (>Q ₂)
3 rd level – state of threat	190 cm / 53 m ³ · s ⁻¹ (<Q ₅)

Internal information about the flood state

The levels of flood activity for the FFPW USB units are announced/informed about by Dipl.-Ing. David Gela, Ph.D. – a member of the Flood Commission of the town of Vodňany (his possible Deputy is Dipl.-Ing. Pavel Lepič) who always inform by telephone the Dean of the Faculty or his Deputy (see the internal attendance system) and the Head of the flood team or an authorized person for a given unit about the situation. In case of absence or unavailability of the Dean, his Assistant must be immediately informed and she will cooperate with Dipl.-Ing. David Gela, Ph.D. (possibly with Dipl.-Ing. Pavel Lepič) on acquainting the Vice-Deans and the Registrar. If the Vice-Deans or the Registrar are unavailable, Dipl.-Ing. David Gela, Ph.D. (possibly Dipl.-Ing. Pavel Lepič) will automatically become the Deputy of the Dean and he will supervise the flood-control measures of the Faculty. Presence/replaceability of the above-mentioned persons must be dully edited in the internal attendance system of the Faculty (responsibility of the Dean's Assistant) which applies to each calendar day during a year.



2. ORGANIZATIONAL FLOOD-CONTROL MEASURES

1. STATE OF WATCHFULNESS

This state is announced if the 1st level of flood activity is achieved in the “B” Bavorov warning profile (i.e., the state is 140 cm and the flow rate is 23 m³. s⁻¹).

Dipl.-Ing. David Gela, Ph.D., as a member of the Flood Commission of the town of Vodňany, informs by telephone or in any other way particular persons in compliance with the article concerning Internal information about the flood state.

If further unfavourable development of flood hazard is expected, the Head of the flood team is obliged to:

Monitor the flood situation and get information about its development.

Ensure availability of responsible employees or their permanent presence on site if safety works etc. are necessary to be carried out.

The flood team ensures the following activities:

- The team inspects functionality of equipment intended for carrying out safety works and inspects a relevant unit with regard to carrying out possible safety works or, in the extreme case, evacuation.
- If the team receives warning information about further dangerous development of the flood situation, it immediately adjusts the time schedule of works in such a way that these activities are finished, if possible, before being influenced by the rising water, i.e., if there is an imminent occurrence of an extreme hydrometeorological phenomenon.

Warning:

All performed measures and activities protecting against floods (after verification) must be recorded in the flood diary. The records represent a source for assessing a flood event, for carrying out further measures and alternatively for an insurance company in case of an insurance event (for determining the scope of rightful damage). Records in the flood diary are made by the Head of the flood team.

2. STATE OF EMERGENCY

This state is announced if the 2nd level of flood activity is achieved in the “B” Bavorov warning profile (i.e., the state is 170 cm and the flow rate is 40 m³. s⁻¹).



Dipl.-Ing. David Gela, Ph.D., as a member of the Flood Commission of the town of Vodňany, informs by telephone or in any other way relevant persons in compliance with the article concerning Internal information about the flood state.

Next, the Head of the flood team or his Deputy ensure information about a hydrometeorological situation in a particular basin, about the state of water levels, time path of flood arrival in the Blanice River and they make records (related to flood protection) in the flood diary. The Head of the flood team receives up-to-date information about monitoring of water states and development of flow rate tendencies in the Blanice River.

The flood team prepares the safety devices (sandbags, mobile barriers etc.), technical equipment for carrying out safety works and possible evacuation as fast arrival of the flood must be anticipated.

In case of rising tendencies of water levels and flow rates (unfavourable prognosis of the flood development), the flood team will ensure preparedness of currently used technical devices and readiness for evacuation or ability to transport technical equipment and materials before a threatened part of the premises is flooded (reactions must be operative in compliance with the up-to-date schedule of carried out safety works).

The flood team inspects operation of all systems. According to the flood situation development, the Head of the flood team decides operatively on acceleration of safety works and alternatively he starts fulfilling activities, as required, that are stated in the schedule of safety works after the 3rd level of flood activity has been announced (such activities can be optimally sped up with regard to development of the flood situation). Individual activities are mentioned in the paragraph "Organization of flood-control safety works".

Material and items that cannot be transported from the units to a safe place are secured by the flood team against being washed away. Number of such secured objects must be minimised.

3. STATE OF THREAT

This state is announced if the 3rd level of flood activity is achieved in the "B" Bavorov warning profile (i.e., the state is 190 cm and the flow rate is 53 m³. s⁻¹).

Dipl.-Ing. David Gela, Ph.D., as a member of the Flood Commission of the town of Vodňany, informs by telephone or in any other way relevant persons in compliance with the article concerning Internal information about the flood state.

The Head of the flood team or his Deputy ensure up-to-date information about a hydrometeorological situation in a particular basin, about the state of water levels, flow rates, alternatively the time path of flood arrival, prognosis of water states and flow rates development in the Blanice River and they make records (related to flood protection) in the flood diary.



Organization of flood-control safety works

Unit "A" – Main building

Safety works:

- inspection of operation of all systems
- before putting the power supply out of operation from the distribution network, it is necessary to inspect the electrical generator and refill all oil cans with fuel
- it is required to open the gate of the room in time in order to ensure sufficient ventilation of the generator
- protection of the unit entrances with sandbags
- installation of mobile barriers at the entrance to the premises
- transfer of devices and other equipment from the floor to higher-elevated places (positional protection) – to focus primarily on expensive equipment, i.e., special freezers (nitrogen), equipment in the laboratories (to be lifted from the floor onto tables), protect books in the library (books to be put on higher shelves).
In general, such equipment that must be transferred from a threatened place to higher floors should be selected and next it is advisable to proceed according to a price (from more expensive equipment to cheaper items) and store these items on higher-elevated shelves, tables, counters in laboratories etc. with respect to remaining time until arrival of a flood wave.
- securing the elevator, i.e., when transport of selected items to higher floors is terminated, the lift should stay in the top floor

In case of evacuation, before leaving the unit, it is necessary to ensure closure of utility networks and secure the unit, if possible, against vandalism.

After termination of evacuation activities and transport of all technical equipment and means of transport outside of the flood hazard area, the Head of the flood team will ensure inspection of the secured units and adjacent premises (he makes a record into the flood diary and, if possible, he completes the record with photodocumentation of the units and adjacent premises before possible flooding and he secures protection of other documentation, e.g., flood diary, computer memories etc.). The Head of the flood team or his Deputy will ensure changing of patrols (provision of the flood documentation in particular units, adjacent areas etc.) and up-to-date information about the situation development.



3. IMPORTANT TELEPHONE NUMBERS

RIVER MANAGER

POVODÍ VLTAVY, State Enterprise – General Directorate	
Exchange	221 401 111
Central Water Management Dispatch	257 329 425 257 326 310 tel. + fax 724 067 719
Internet	www.pvl.cz

POVODÍ VLTAVY, State Enterprise – Plant Horní Vltava	
Exchange	387 683 111
Central Water Management Dispatch	387 203 609

CZECH HYDROMETEOROLOGICAL INSTITUTE

Regional Forecasting Office in České Budějovice 386 460 102, 386 460 383
Department of Hydrology 386 102 256

CHMI PRAGUE – KOMOŘANY

244 031 111, 724 178 576
725 001 544, 244 010 898
Meteorological service 244 032 236, 241 773 508
Hydrological service 241 773 543

MUNICIPALITY VODŇANY

Municipality Vodňany 383 379 155
Nám. Svobody no. 18, Vodňany

FIRE RESCUE SERVICE VODŇANY

950 217 118
Tylova street no. 842, Vodňany 383 383 864



4. PERSONS RESPONSIBLE FOR ADHERENCE TO THE FLOOD PLAN

Person responsible for adherence to the flood plan:

Head of the flood team

Telephone to work

Mobile phone

Dipl.-Ing. Vladimír Nedopil

387 774 779

725 150 109

Deputy of the Head of the flood team

Telephone to work

Mobile phone

Pavel Fořt

387 774 766

724 931 015

Member of the flood team

Telephone to work

Mobile phone

Ing. Július Szabó

387 774 766

730 161 463

Member of the flood team

Telephone to work

Mobile phone

Dipl.-Ing. Marek Rodina, Ph.D.

387 774 614

603 797 763

Member of the flood team

Telephone to work

Mobile phone

dr. hab. Dipl.-Ing. Josef Velíšek, Ph.D.

387 774 625

725 787 931

Member of the flood team

Telephone to work

Mobile phone

Assoc. Prof. Dipl.-Ing. Vladimír Žlábek, Ph.D.

387 774 730

777 698 427

Member of the flood team

Telephone to work

Mobile phone

Dipl.-Ing. Václav Nebeský, Ph.D.

387 774 774

602 263 544



5. EQUIPMENT OF THE UNIT “A” WITH THE DEVICES USABLE DURING A FLOOD EVENT

- 1) Locker – operational card, keys from electrical switchboards, special keys from other valves, flood diary, basic tools – pliers, screwdriver with heads, small hammer, 7 portable head lamps and 7 reflecting vests.
- 2) Charging device for rechargeable lamps – fitting of two lamps (in the locker with the devices).
- 3) Pallet truck necessary for moving heavy items (refrigerator, pressure vessels etc.) is located in the last garage by the power generator, next to the mobile barriers intended for the gate.

Location of these aids – the locker is placed under the stairs by the entrance for disabled persons. **The Head of the flood team, his Deputy and the Dean’s assistant have the keys from the locker.**