

During the application procedures for Responsibly Produced Peat (RPP), questions emerged about the best approach for mitigating, monitoring and compensation related to the impacts of peat extraction.

It became clear, that every site is unique, and every application requires an evaluation and decision that matches the situation. Therefore, there was a strong need for sharing experience and knowledge regarding “best practice for mitigation measures”.

Examples were gathered from practice and in addition a special workshop ‘Best Practices of Mitigation Measures’ was organized (Riga, 2017). Experts from the industry, scientists and consultants discussed possible mitigation options to make them available for future proceedings in the RPP-Toolbox.

RPP is not responsible for the application of proposed measures and the results to be achieved. It is recommended to consult an expert for the best possible options, application and detailed technical constructions. The "RPP-Toolbox" can however certainly provide initial orientation and help



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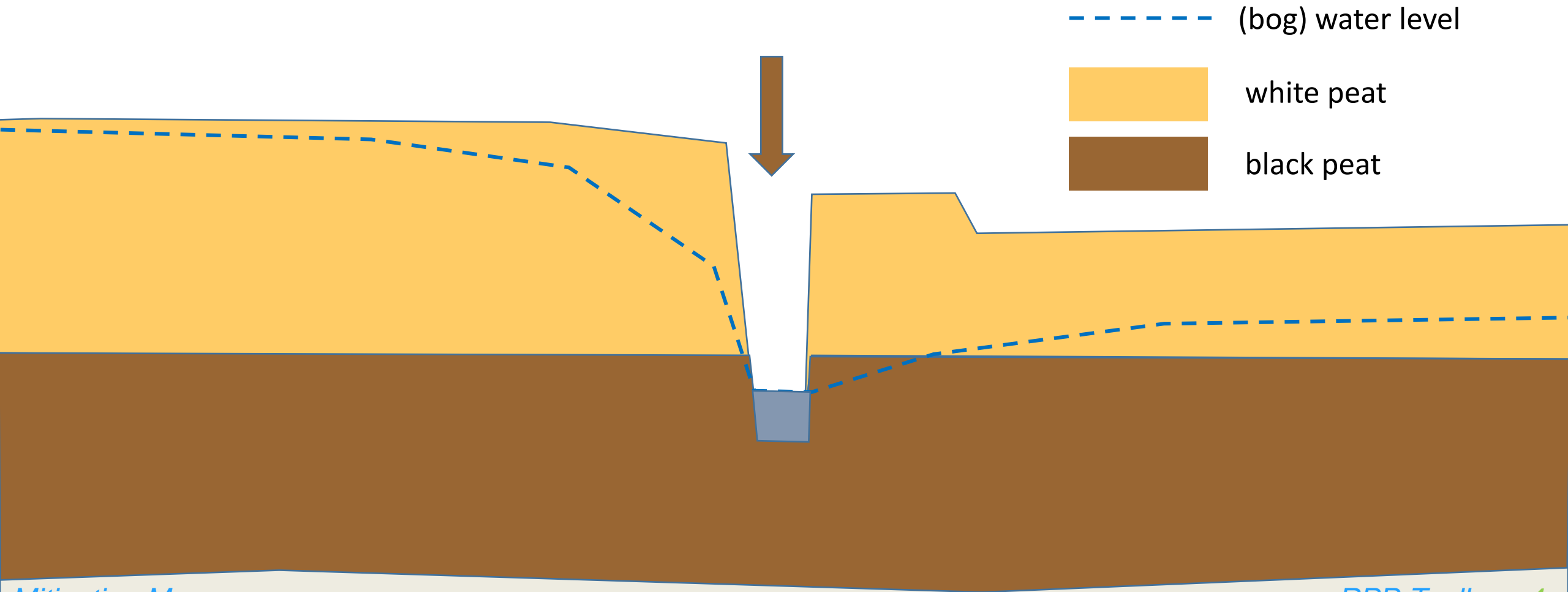
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When a peat extraction site borders a pristine bog (area with HCVs)

- I. First, a quick scan or EIA needs to be performed to determine absence or presence of High Conservation Values (HCVs).
- II. Based on the results of the assessment, a time-bound mitigation plan needs to be developed.

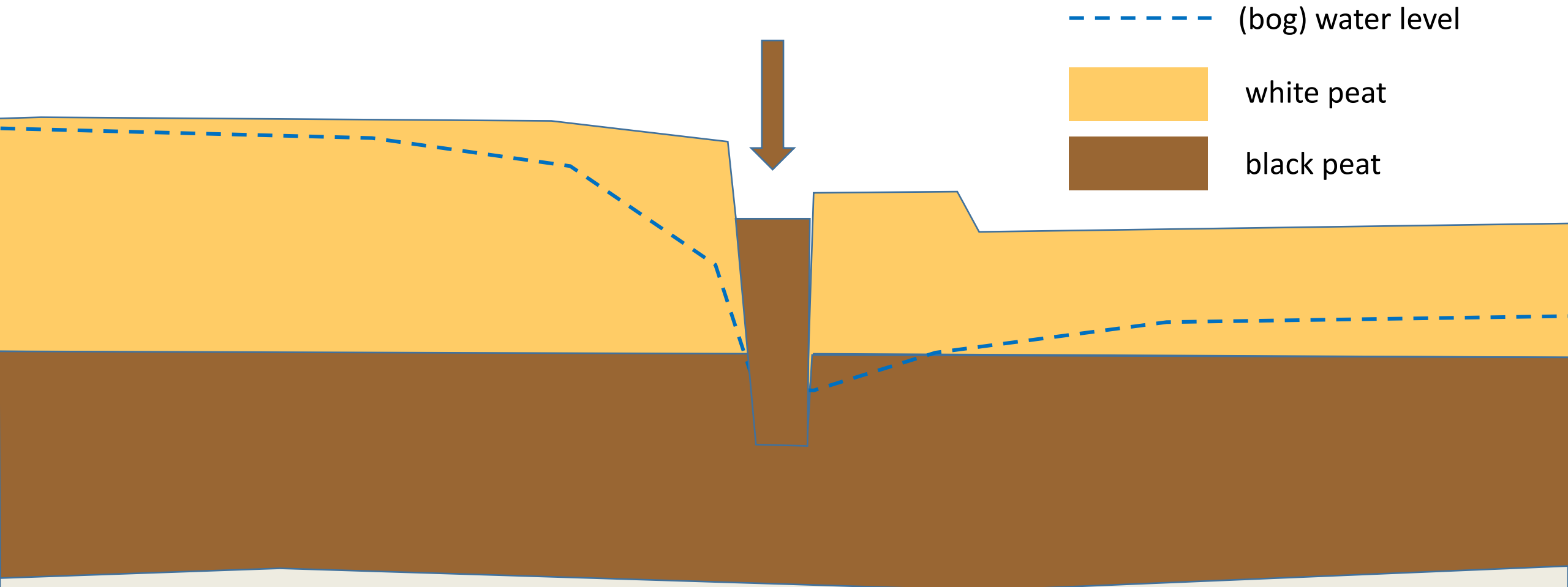
Possible solutions for mitigation are explained in the next few pages.

1. Blocking or refilling of ditches along borderline



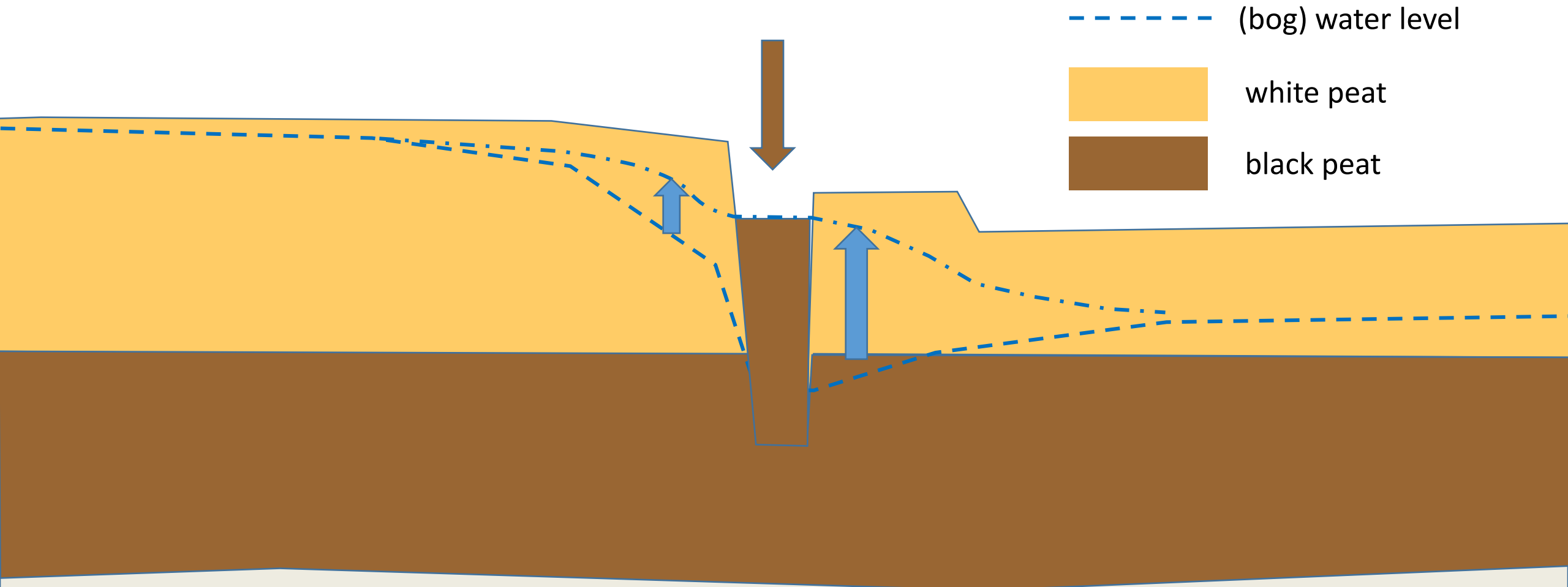
1. Blocking or refilling of ditches along borderline

1.a - Blocking of ditches



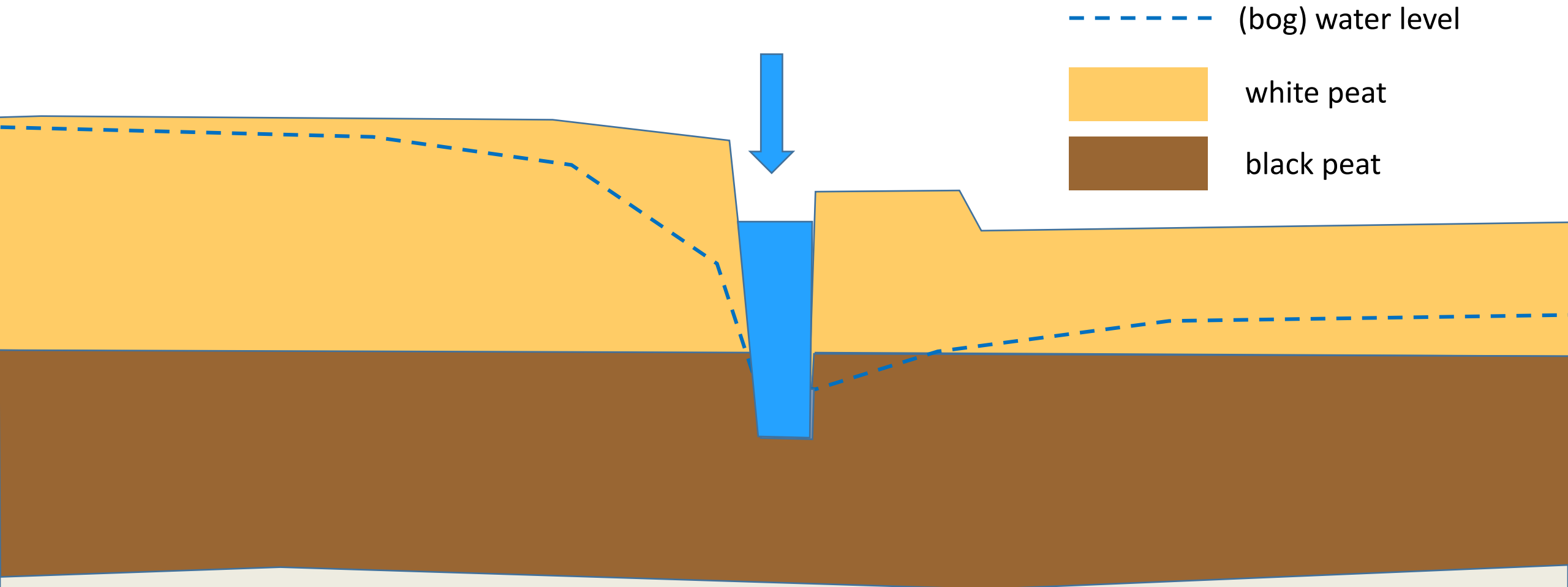
1. Blocking or refilling of ditches along borderline

1.a - Blocking of ditches



1. Blocking or refilling of ditches along borderline

1.b - Refilling of ditches



1. Blocking or refilling of ditches along borderline

Advantage:

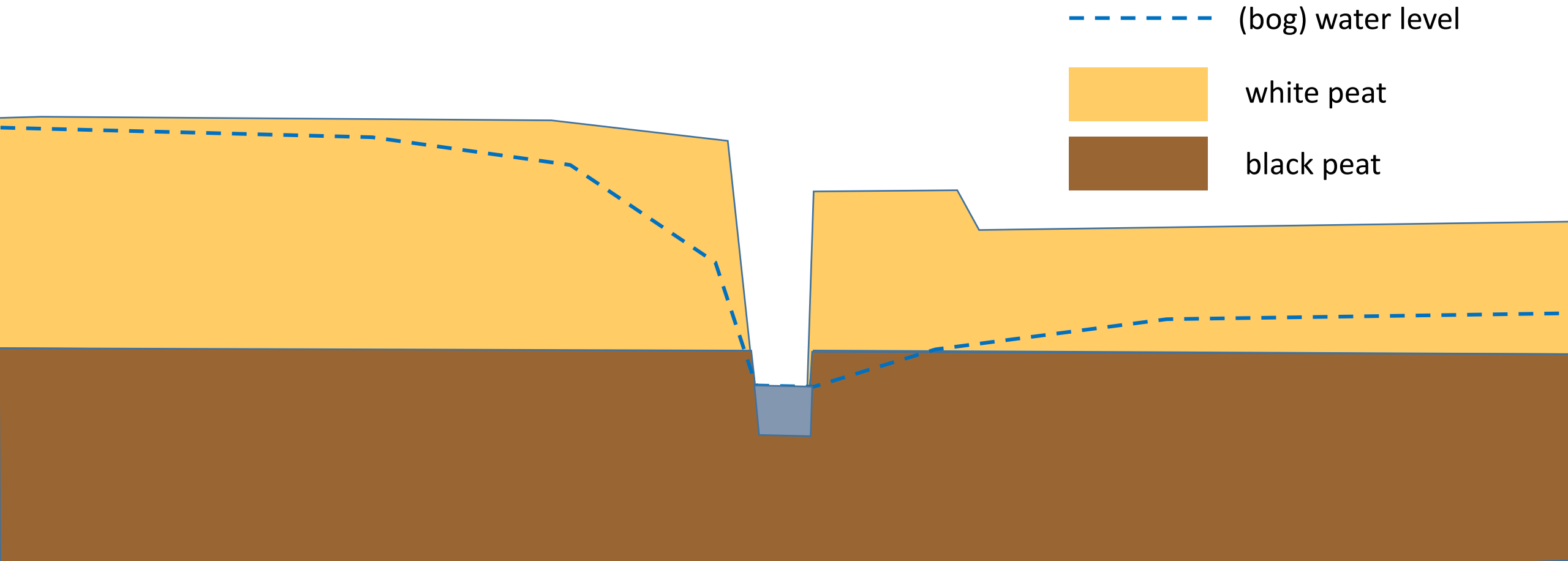
- You can create a "polder" (fast rewetting after excavation)
- Can be a simple measurement for unused or secondary ditches

Disadvantage:

- Negative influence if adjacent area is a forest.
- wetter conditions in the extraction site and probably a loss of material

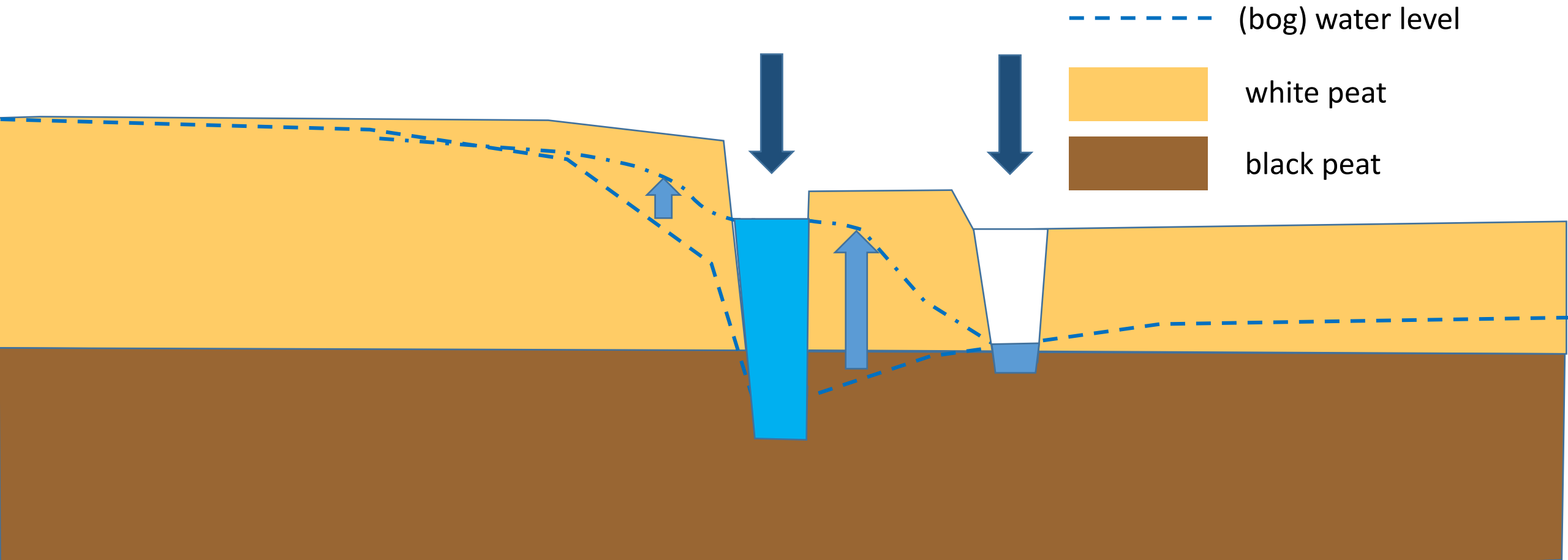
2. Steering and rise of water-table in borderline ditches

Shift of dewatering function



2. Steering and rise of water-table in borderline ditches

Shift of dewatering function



Shift of dewatering function

Advantage:

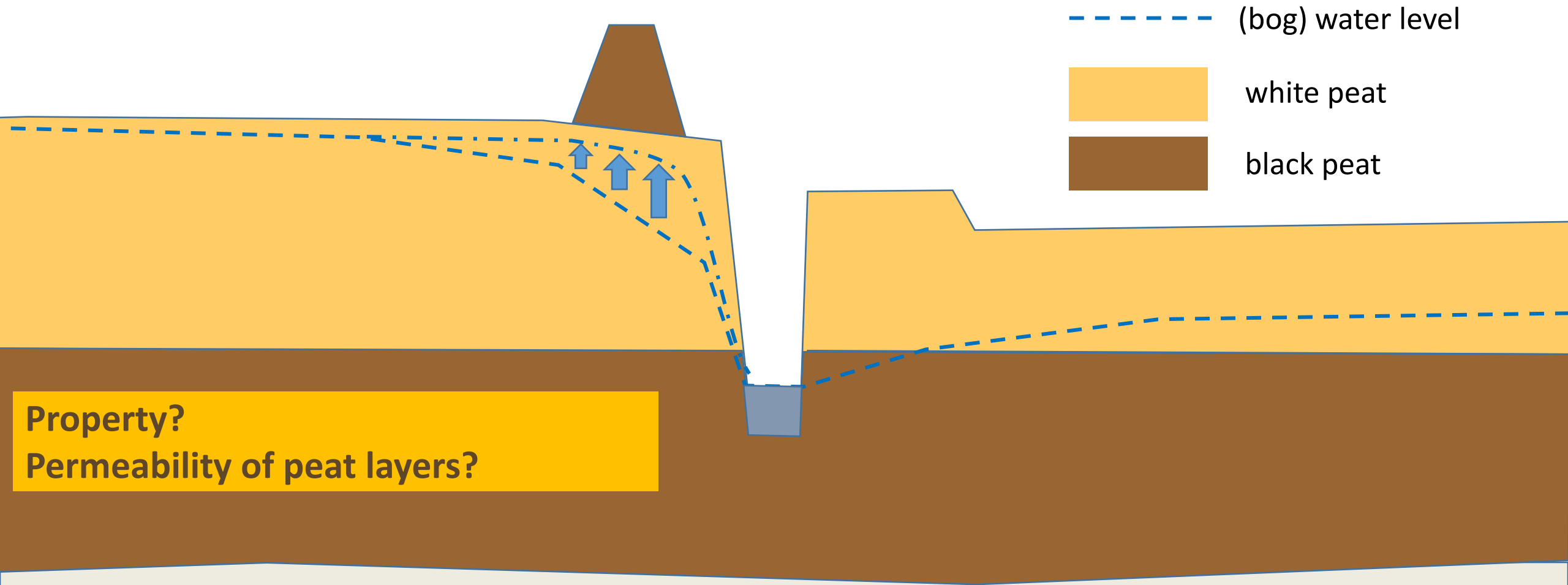
- Enables continued production while the water table off-site is maintained
- Transport road can be made between ditches (makes the area more compact)

Disadvantage:

- Measurement within licensed area so reduction of production area and higher investment costs

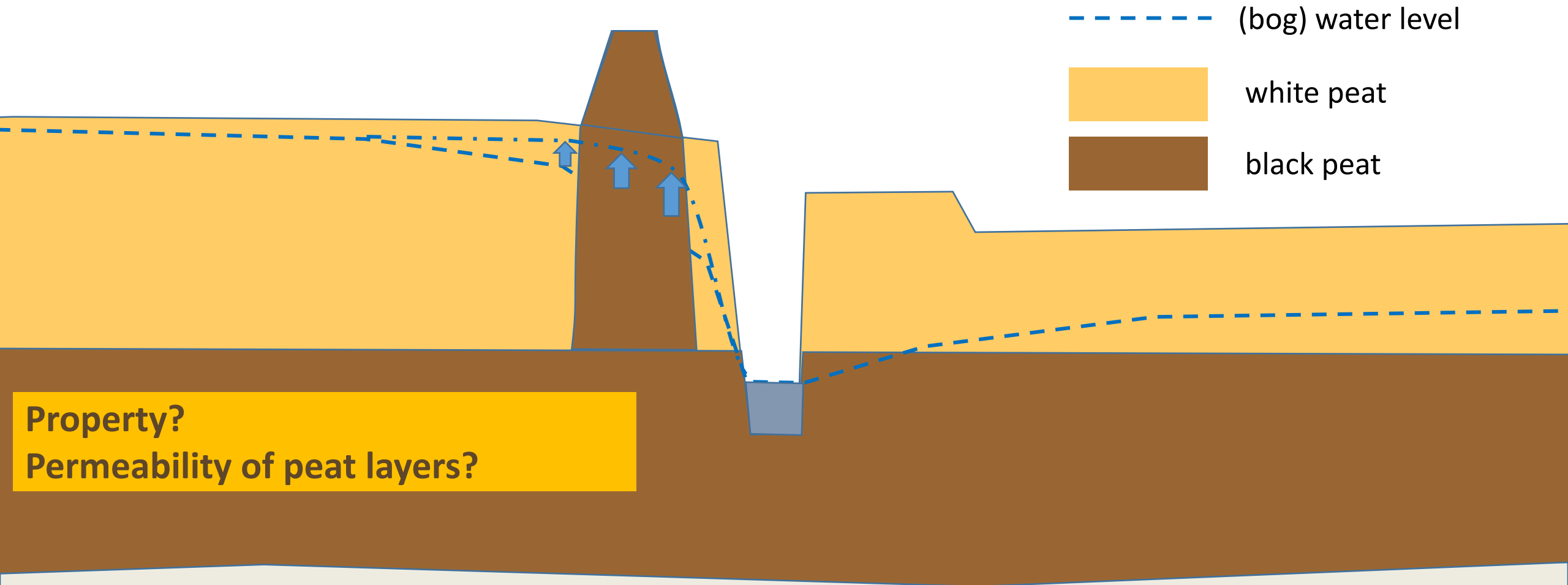
3. Peat dam – compacting peat depot

Peat dam



3. Peat dam – compacting peat depot

Peat dam + compacting peat depot



Advantage:

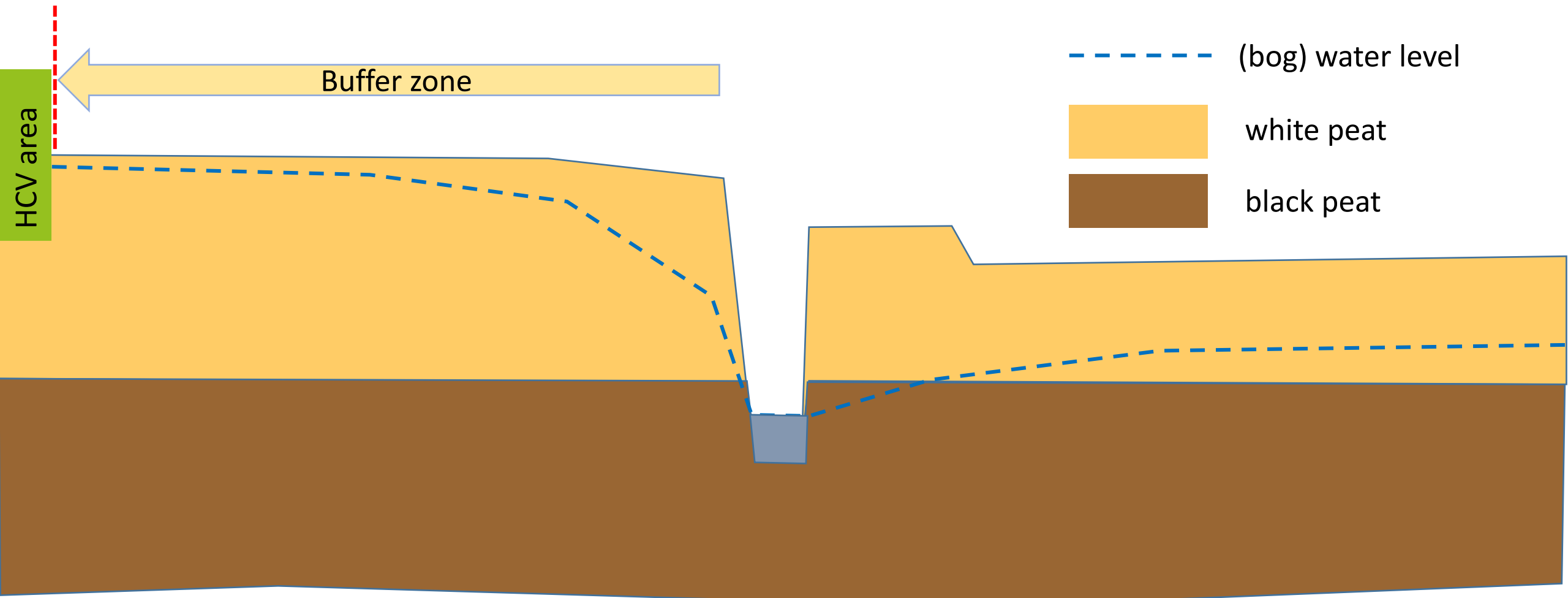
- Relatively simple and cheap
- If the width of the dam is about 8m it can be used as transport line

Remarks:

- Extra material compacted under dam give better results (decomposing degree is important for compression)
- Slope is important: Less steep means less material and easier maintenance. Steep slopes means less danger of destruction by muskrats (musquash)
- To keep the water table in the adjacent area high and lower the angle on the extraction site: Leave the peat in the 42m stockpile area.

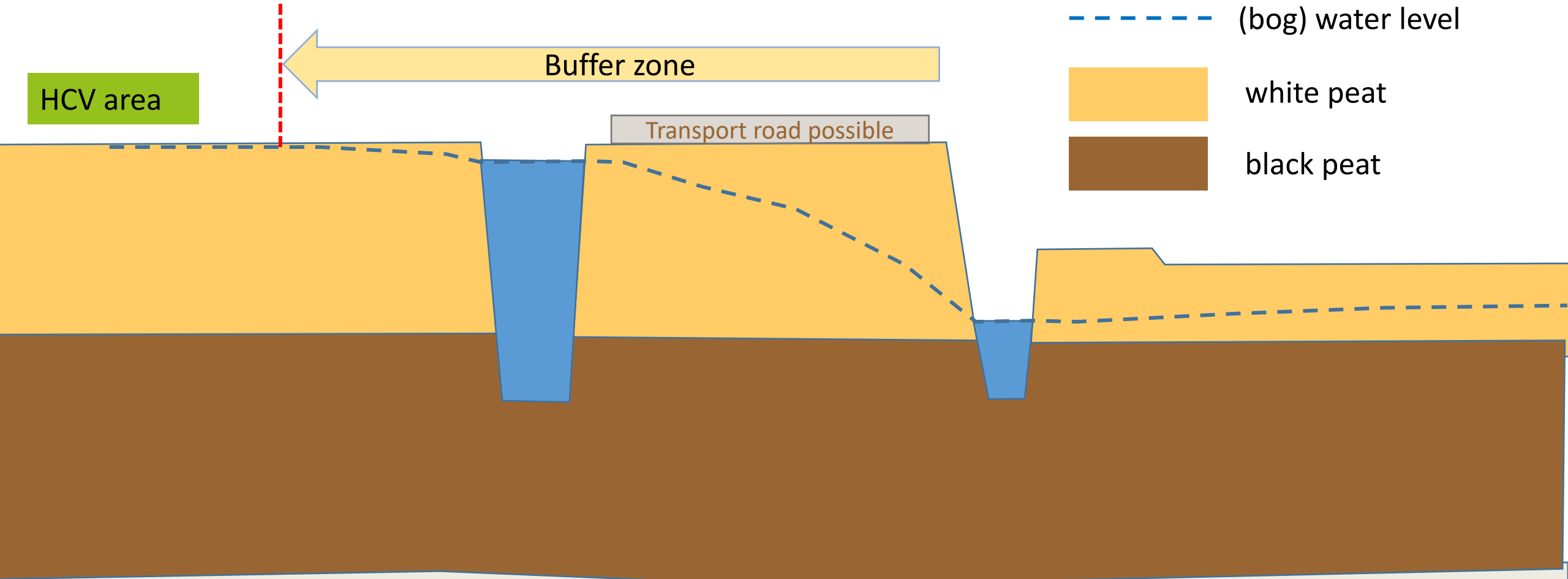
4. Buffer zone

Outside of border



4. Buffer zone

Within border



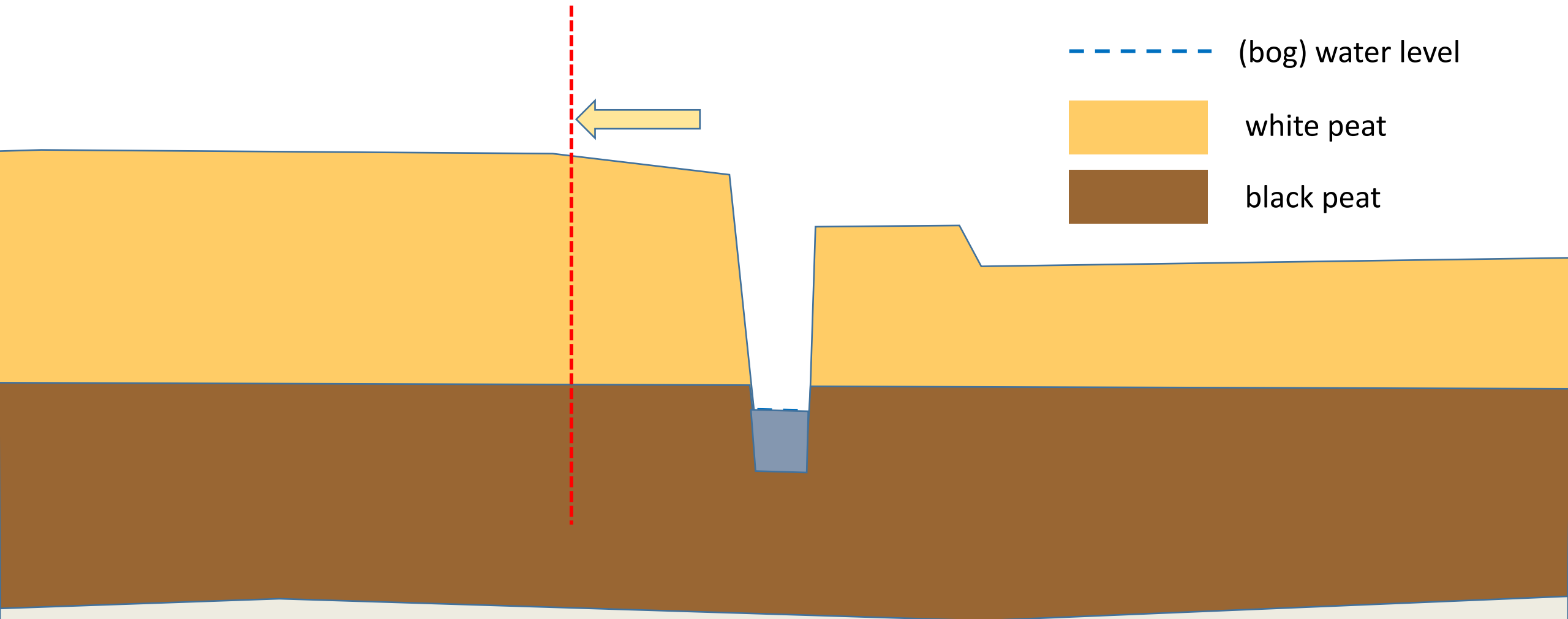
Remarks:

- Sometimes a buffer zone is naturally present. In other occasions the main ditch has to be filled and a second ditch has to be made to create a buffer zone in between.
- Main ditch can also be put more inwards so the old ditch area becomes the buffer zone.

Advantage:

- A transport road can be made between the old and new ditch (makes the area more compact).

5. Hydrological isolation



Remarks:

- This solution can be used when there are no other options.

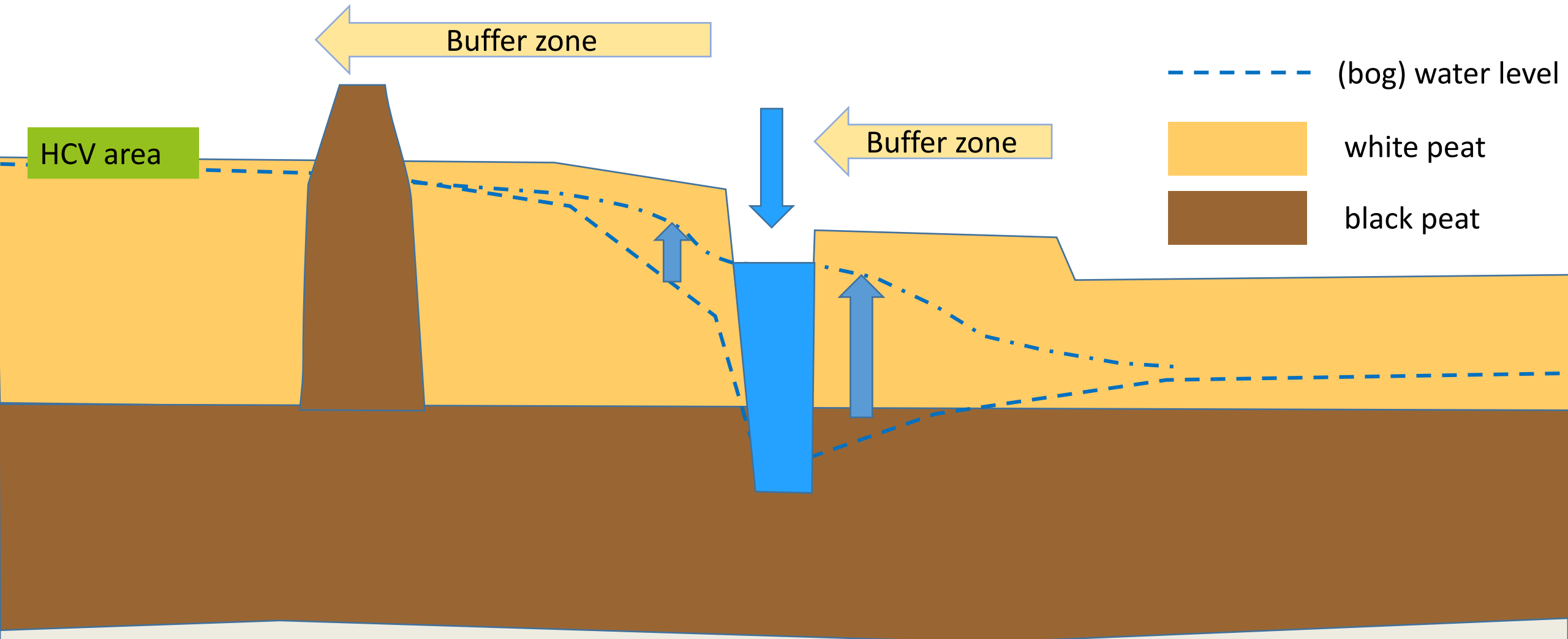
Disadvantage:

- Expensive
- If necessary, it is a lot of extra work to remove isolation after extraction.

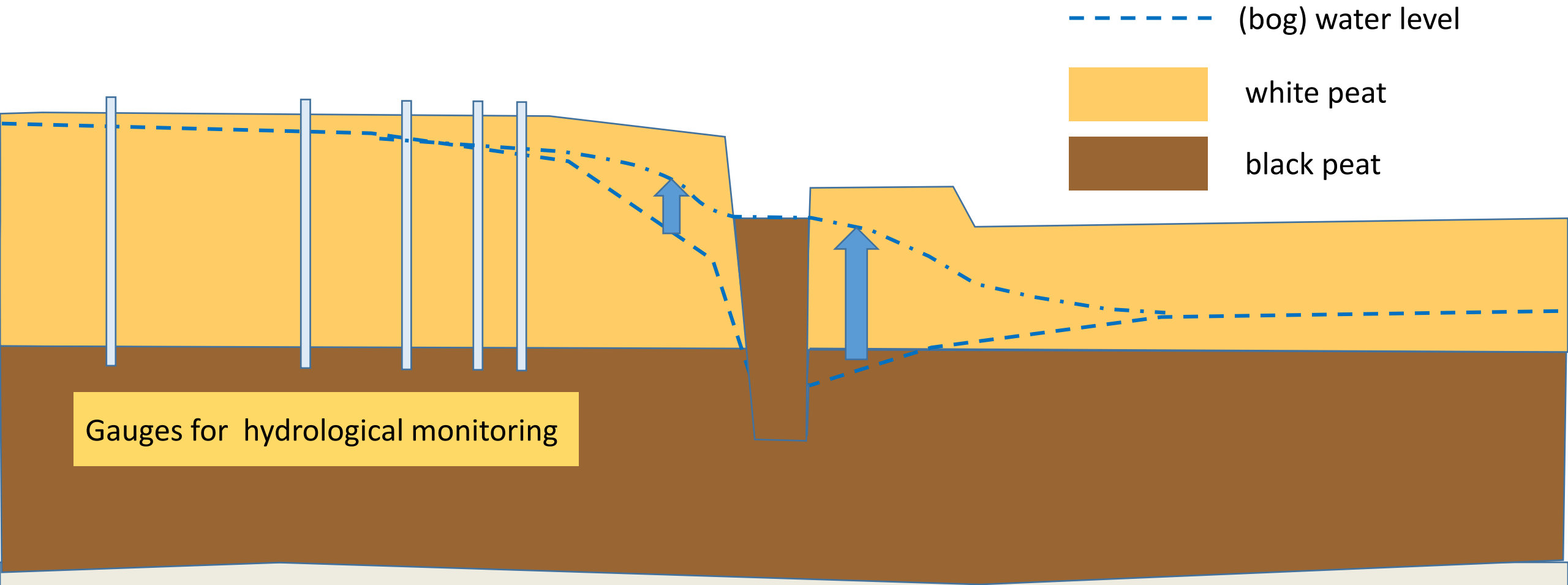
- **Time reduced extraction:**
Faster extraction from outer edge of extraction area going inwards.
- **Reduce extraction depth**
- **A wet extraction method:**
Can be used for sod peat or milled peat.
it limits the excavation depth (depending on the hydrology and stability).
- **Combination of mitigation measures:**
The combination of the use of a dam, a buffer zone and blocking/filling ditches can be an efficient way to raise the water table (see next page)

Combination of mitigation measures

peat dam, buffer zone and filling ditches



Confirm positive effect mitigation measurements



Confirm positive effect mitigation measurements

Remarks:

- Monitoring is required to confirm that mitigation measures installed have the desired effect.
- **Guidelines for hydrological and botanical monitoring** can be found in the RPP-toolbox
- Vegetation plots can be placed along the transects for hydrological monitoring
- The first monitoring should start before or with the instalment of mitigation measures to document the effect.
- In case monitoring is to confirm that mitigation measures are not necessary, monitoring should be implemented as agreed with the Certification Body to fulfil requirements for RPP certification.
- **Monitoring is not without consequences:**
The results may also show that additional mitigation measures are necessary to reach the desired effect.

