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# ♠ Lakes ABPS Protocol - Optimized protocol for the extraction of fish DNA from freshwater sediments (Thomson-Laing et al., 2022)

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### OPEN ACCESS

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**Protocol status:** Working We use this protocol and it's working

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80636

### **ABSTRACT**

DNA was extracted from lake sediment samples by an alkaline lysis method with ethanol precipitation adapted from method described by Kuwae et al. (2020); Sakata et al. (2020a).

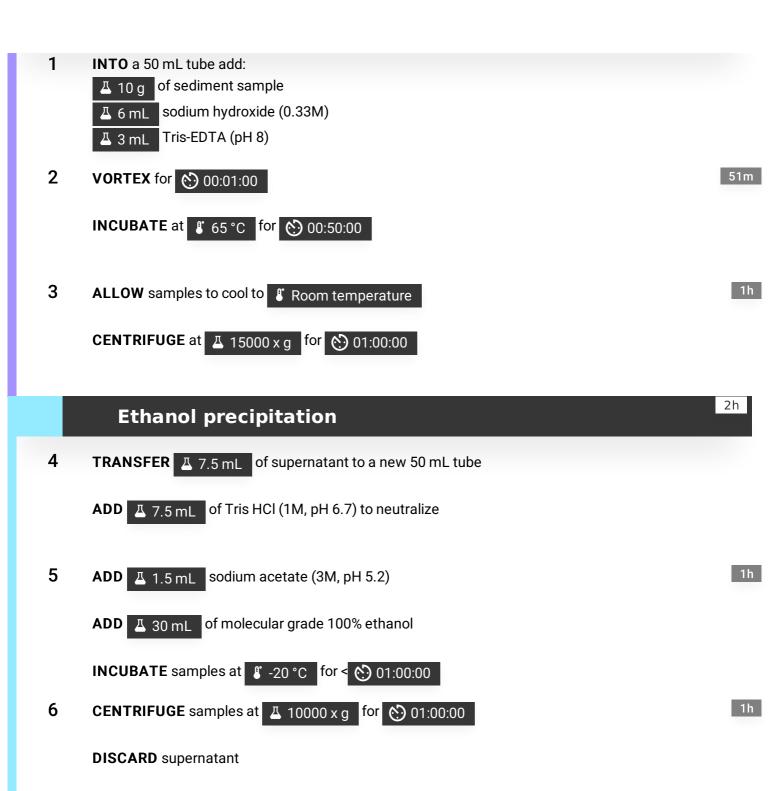
In a comparison of multiple sedDNA extraction methods, the ABPS (Alkaline buffer-power soil) protocol yielded the highest concentrations of target genets across a range of lake sediments. This protocol was further optimized (65C incubation temperature, pooling of multiple PowerSoil extractions) to overcome technical challenges related to co-precipitation of organic content in lake-surface sediments.

The optimized ABPS protocol is called the "Lakes ABPS protocol"

This protocol has proven to be successful at detecting fish sedDNA from surface sediments in multiple systems for multiple species.

**Alkaline extraction** 

1h 51m



## **DNeasy PowerSoil extraction**

7 EXTRACT the total pellet using multiple DNeasy PowerSoil DNA Isolation Kit extractions following the manufacturer's instructions

**RETAIN** precipitated pellet

Note

△ 0.25-0.5 g of pellet per extraction

POOL resultant DNA elutes

DNA is now ready for downstream applications