

Data for: Riparian buffers mitigate downstream effects of clear-cutting on instream metabolic rates

SND-ID: 2025-71. **Version:** 1. **DOI:** <https://doi.org/10.5878/4g5y-nd76>

Download data

Incubation_data_GPP_and_ER.tsv (8.46 KB)

Whole_stream_GPP_ER.tsv (29.2 KB)

Associated documentation

Methods for metabolism.pdf (167.31 KB)

README.txt (1.75 KB)

Download all files

2025-71-1.zip (~206.72 KB)

Citation

Myrstener, M., Greenberg, L. A., Lidberg, W., & Kuglerová, L. (2025) Data for: Riparian buffers mitigate downstream effects of clear-cutting on instream metabolic rates (Version 1) [Data set]. Swedish University of Agricultural Sciences. Available at: <https://doi.org/10.5878/4g5y-nd76>

Creator/Principal investigator(s)

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Research principal

[Swedish University of Agricultural Sciences](#) - Department of Forest Ecology and Management

Principal's reference number

SLU.vfm.2025.4.2.IÄ-1

Description

This dataset was used for the paper "Riparian buffers mitigate downstream effects of clear-cutting on instream metabolic rates". Data includes modelled whole stream oxygen data and modelled oxygen data from bottle incubations of biofilms, all modelled to gross primary production and respiration. This manuscript is part of a larger project which aims at evaluating how current forest management practices effect ecological functions of headwaters. This specific dataset was collected to answer if negative effects of clear-cutting on streams also propagate to downstream reaches.

Data contains personal data

No

Language

[English](#)

Time period(s) investigated

2021-07-14 – 2021-10-05

Data format / data structure

[Numeric](#)

[Text](#)

Data collection 1

- Mode of collection: Measurements and tests
- Description of the mode of collection: Each stream was equipped with a miniDOT (Precision Measurement Engineering Inc., USA) to record dissolved oxygen. Metabolism was estimated using the single-station diel oxygen method approach where gross primary production (GPP) and Ecosystem Respiration (ER) was estimated using Bayesian inverse modelling.
- Time period(s) for data collection: 2021-07-14 – 2021-10-05
- Data collector: Swedish University of Agricultural Science
- Instrument: YSI ProODO - The YSI ProODO utilize ODO® technology, an optical-based sensor, to measure dissolved oxygen.
- Instrument: PME miniDOT logger - The PME miniDOT is a submersible instrument that includes an optical dissolved oxygen sensor.
- Source of the data: Research data
- Temporal resolution: 10 minute

Geographic spread

Geographic location: [Sweden](#), [Västerbotten County](#)

Geographic description: The surveyed streams are located near Nordmaling, Rödånäs, Gräsmyr, Bjurholm and Vindelån.

Responsible department/unit

Department of Forest Ecology and Management

Funding

- Funding agency: Swedish Research Council for Environment Agricultural Sciences and Spatial Planning
- Funding agency's reference number: 2019-01108
- Project name on the application: New ways to improve water protection from forestry practices

Research area

[Natural sciences](#) (Standard för svensk indelning av forskningsämnen 2011)

[Environment](#) (INSPIRE topic categories)

Keywords

[Forest exploitation](#), [Alga](#), [Land use](#), [Algae](#), [Buffer](#), [Primary production](#), [Forestry](#), [Stream health](#)

Publications

Maria Myrstener, Larry A. Greenberg, William Lidberg, Lenka Kuglerová,
Riparian buffers mitigate downstream effects of clear-cutting on instream metabolic rates,
Journal of Environmental Management,
Volume 379,
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124740,
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Accessibility level

Access to data through SND
Data are freely accessible

Use of data

[Things to consider when using data shared through SND](#)

License

[CC0 1.0](#)

Versions

Version 1. 2025-03-25

Contacts for questions about the data

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Download metadata

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[DDI 2.5](#)
[DDI 3.3](#)
[DCAT-AP-SE 2.0](#)
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[File overview \(CSV\)](#)

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