

Figure S1 – Balance of GHG flows in CO₂ equivalent on the Rybinskoe reservoir and the river (positive values characterize emission, negative values characterize absorption).

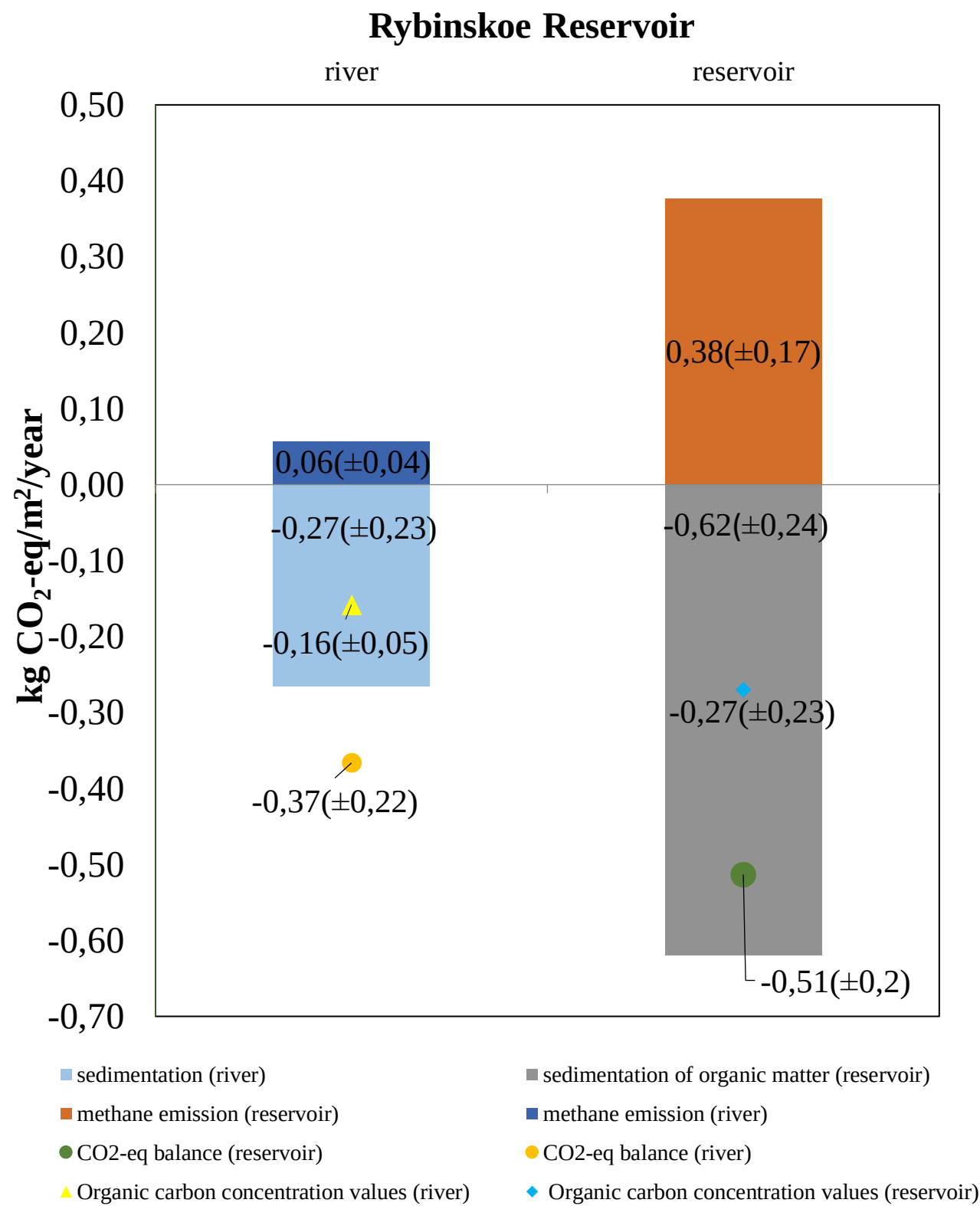


Figure S2 – Balance of GHG flows in CO₂ equivalent on the Kuibyshevskoye reservoir and the river (positive values characterize emission, negative values characterize absorption).

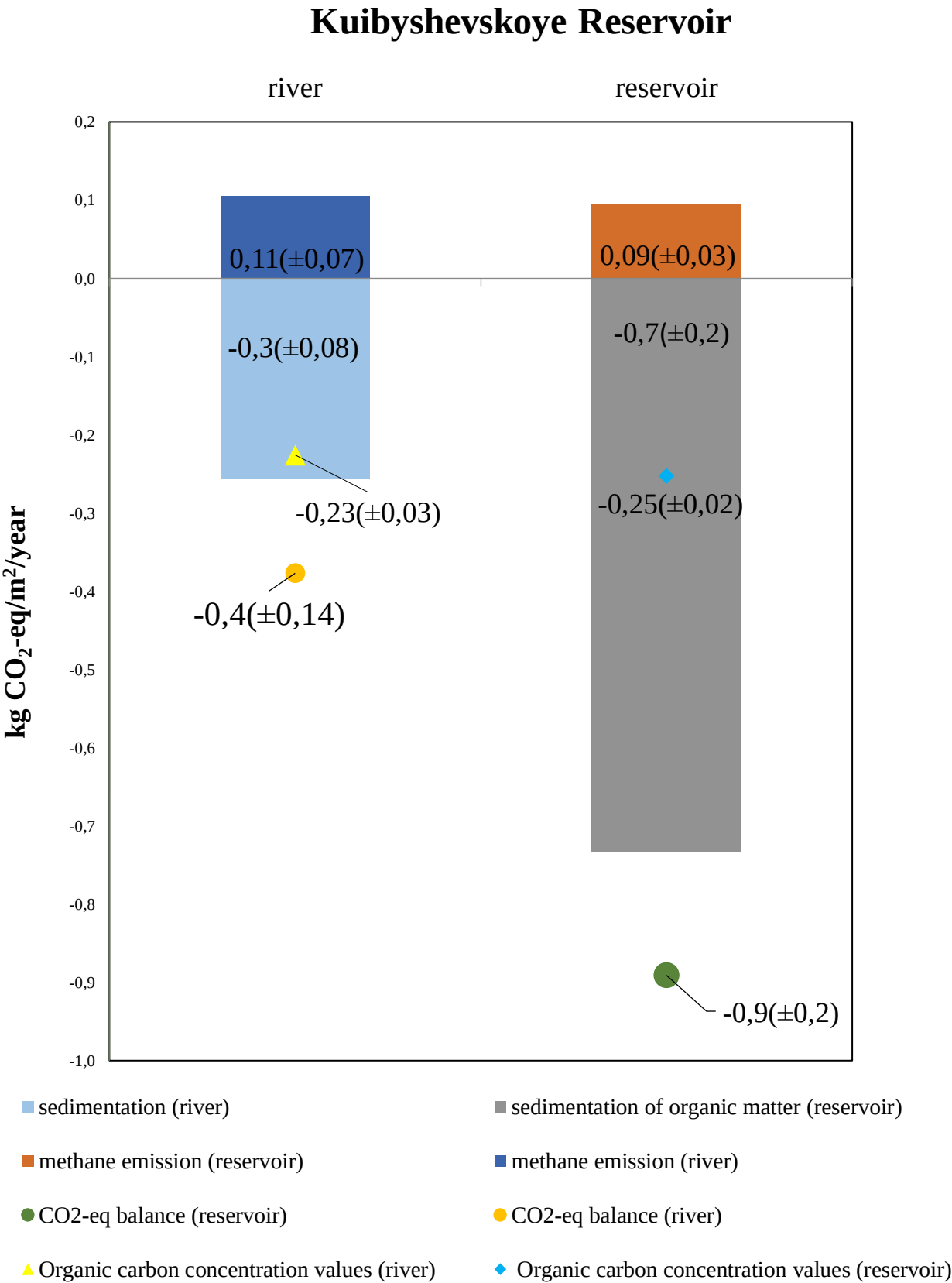
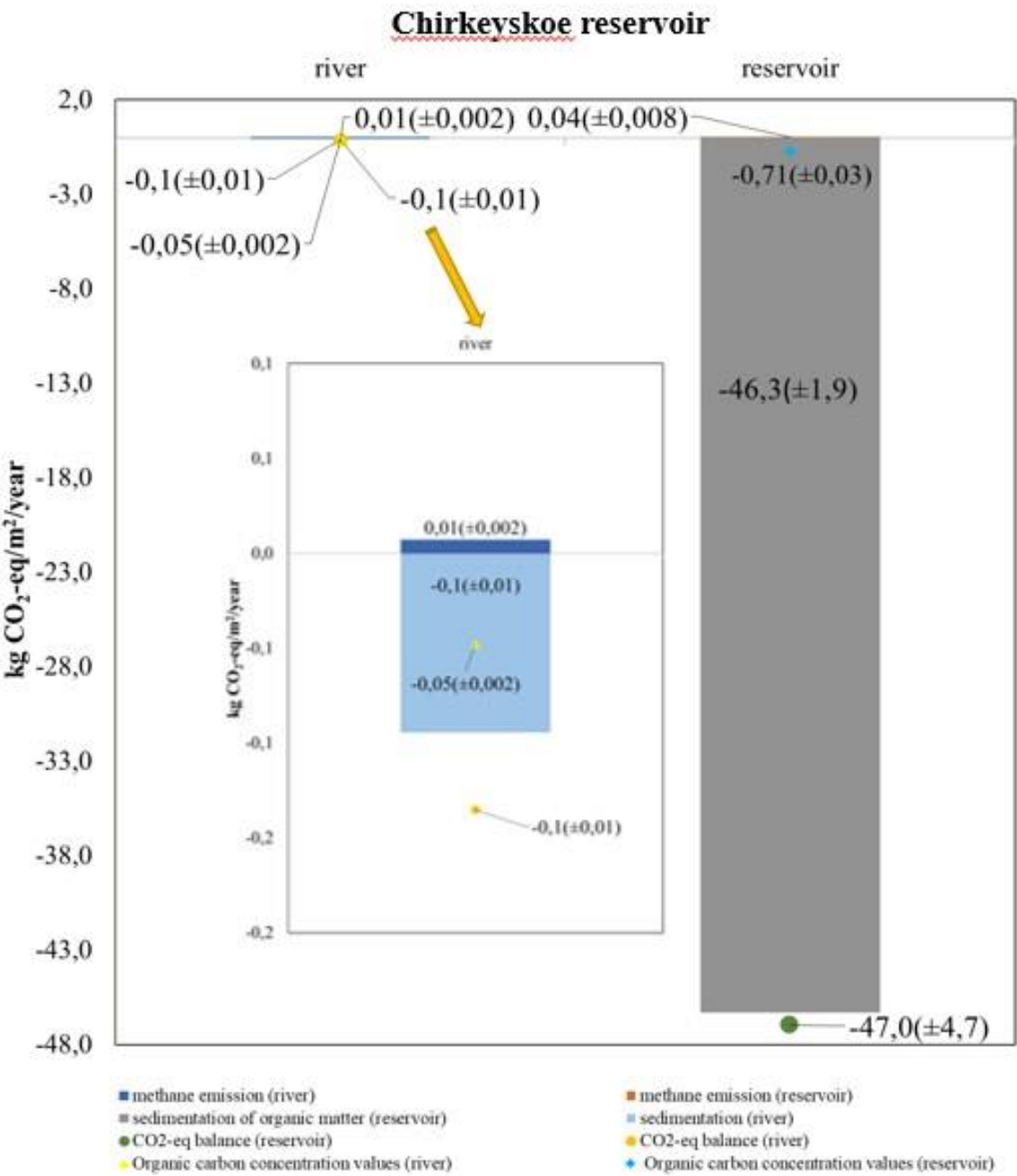


Figure S3 – Balance of GHG flows in CO₂ equivalent on the Chirkeyskoe reservoir and the river (positive values characterize emission, negative values characterize absorption).



Volgogradskoye reservoir

river reservoir

Component	Value (gC/m²/yr)	Error (gC/m²/yr)
sedimentation (river)	-0,26	±0,08
sedimentation of organic matter (reservoir)	-0,52	±0,2
methane emission (reservoir)	0,05	±0,01
methane emission (river)	0,12	±0,08
CO ₂ -eq balance (reservoir)	-0,74	±0,1
CO ₂ -eq balance (river)	-0,30	±0,10
Organic carbon concentration values (river)	-0,16	±0,05
Organic carbon concentration values (reservoir)	-0,27	±0,03

Legend:

- sedimentation (river)
- sedimentation of organic matter (reservoir)
- methane emission (reservoir)
- methane emission (river)
- CO₂-eq balance (reservoir)
- CO₂-eq balance (river)
- Organic carbon concentration values (river)
- Organic carbon concentration values (reservoir)

Figure S6 – Balance of GHG flows in CO₂ equivalent on the Zeyskoye reservoir and the river (positive values characterize emission, negative values characterize absorption).

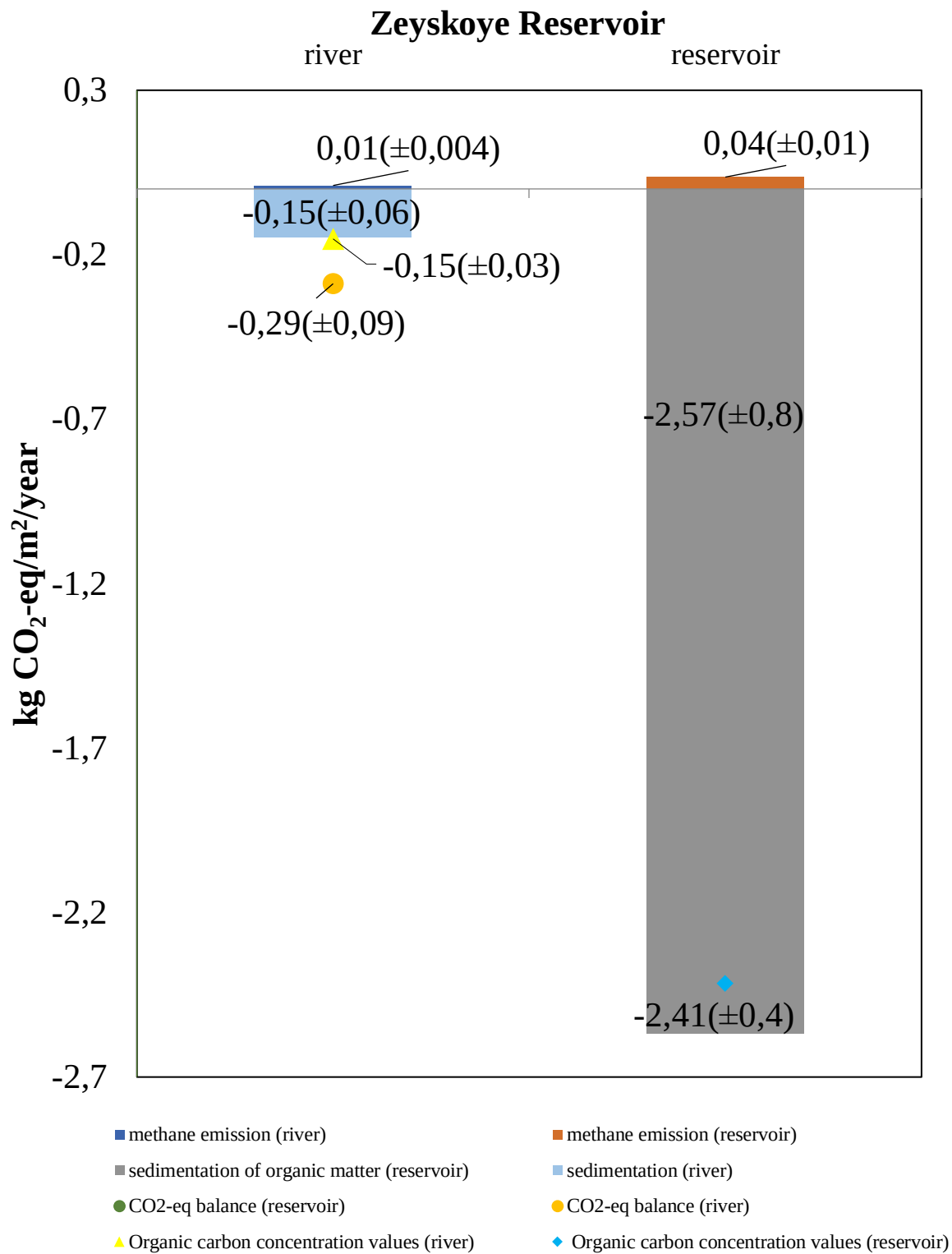


Figure S7 – Balance of GHG flows in CO₂ equivalent on the Bureyskoye reservoir and the river (positive values characterize emission, negative values characterize absorption).

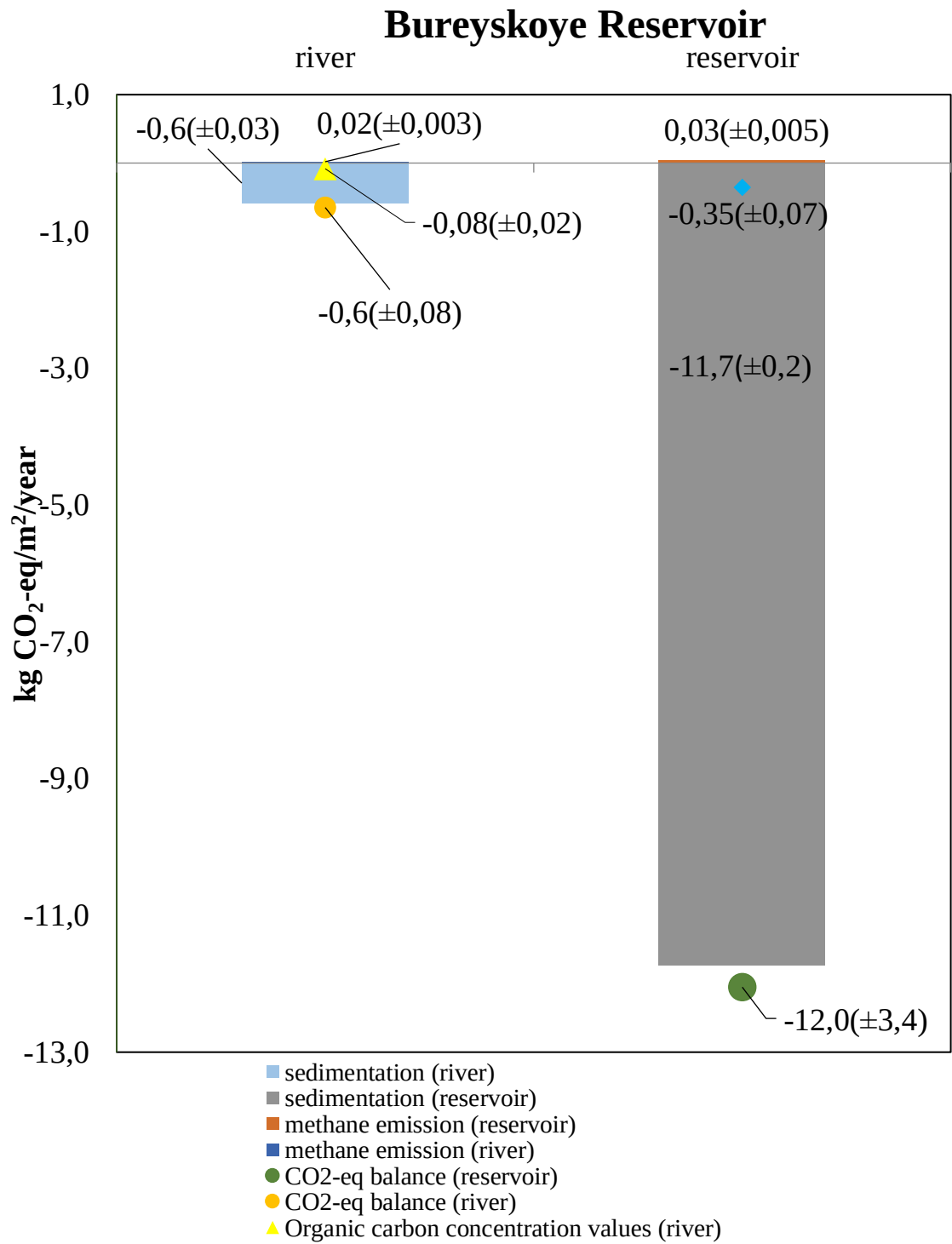


Figure S8 – Balance of GHG flows in CO₂ equivalent on the Kolymskoye reservoir and the river (positive values characterize emission, negative values characterize absorption).

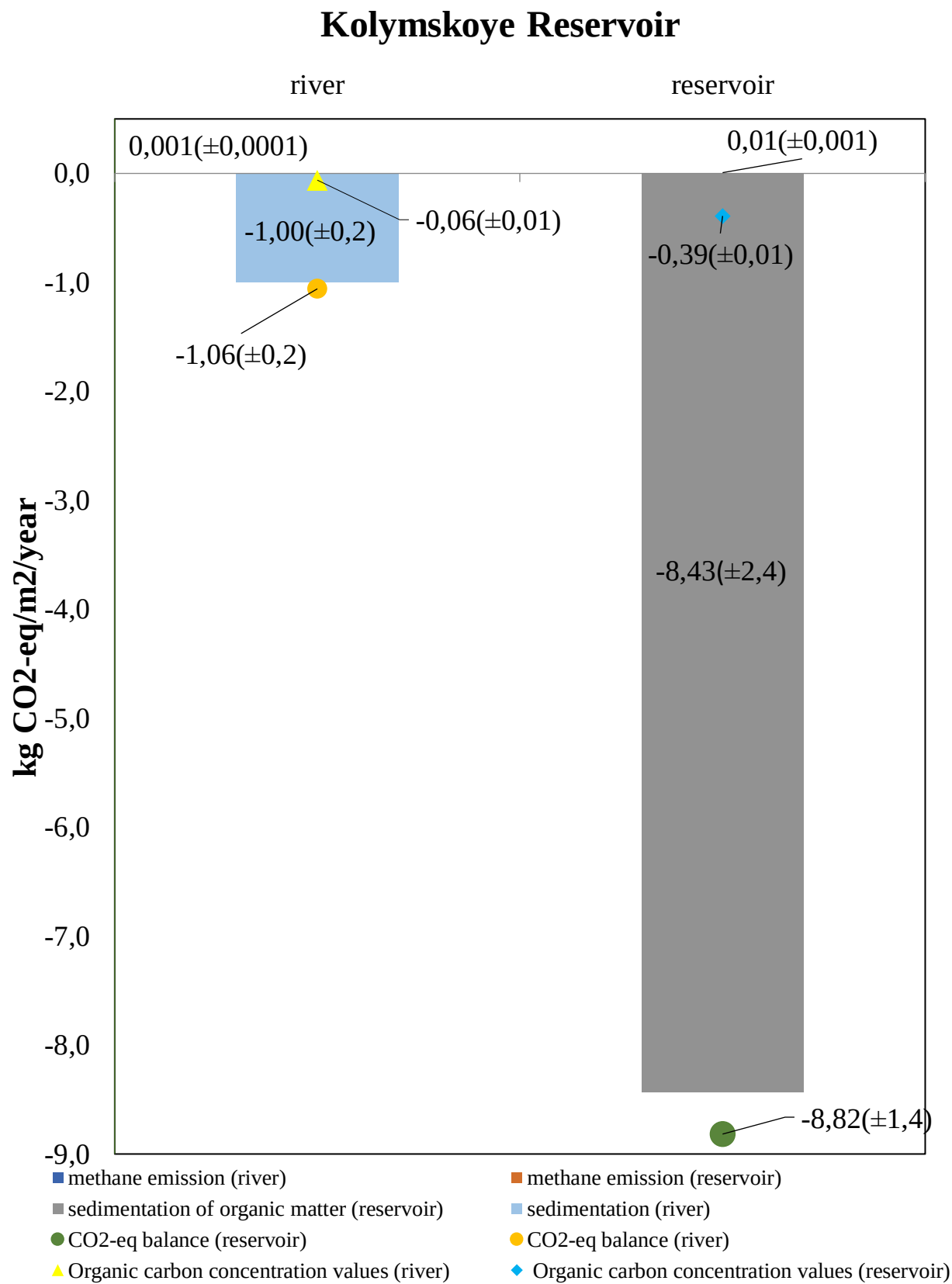


Figure S9 – Balance of GHG flows in CO₂ equivalent on the Sayano-Shushenskoye reservoir and the river (positive values characterize emission, negative values characterize absorption).

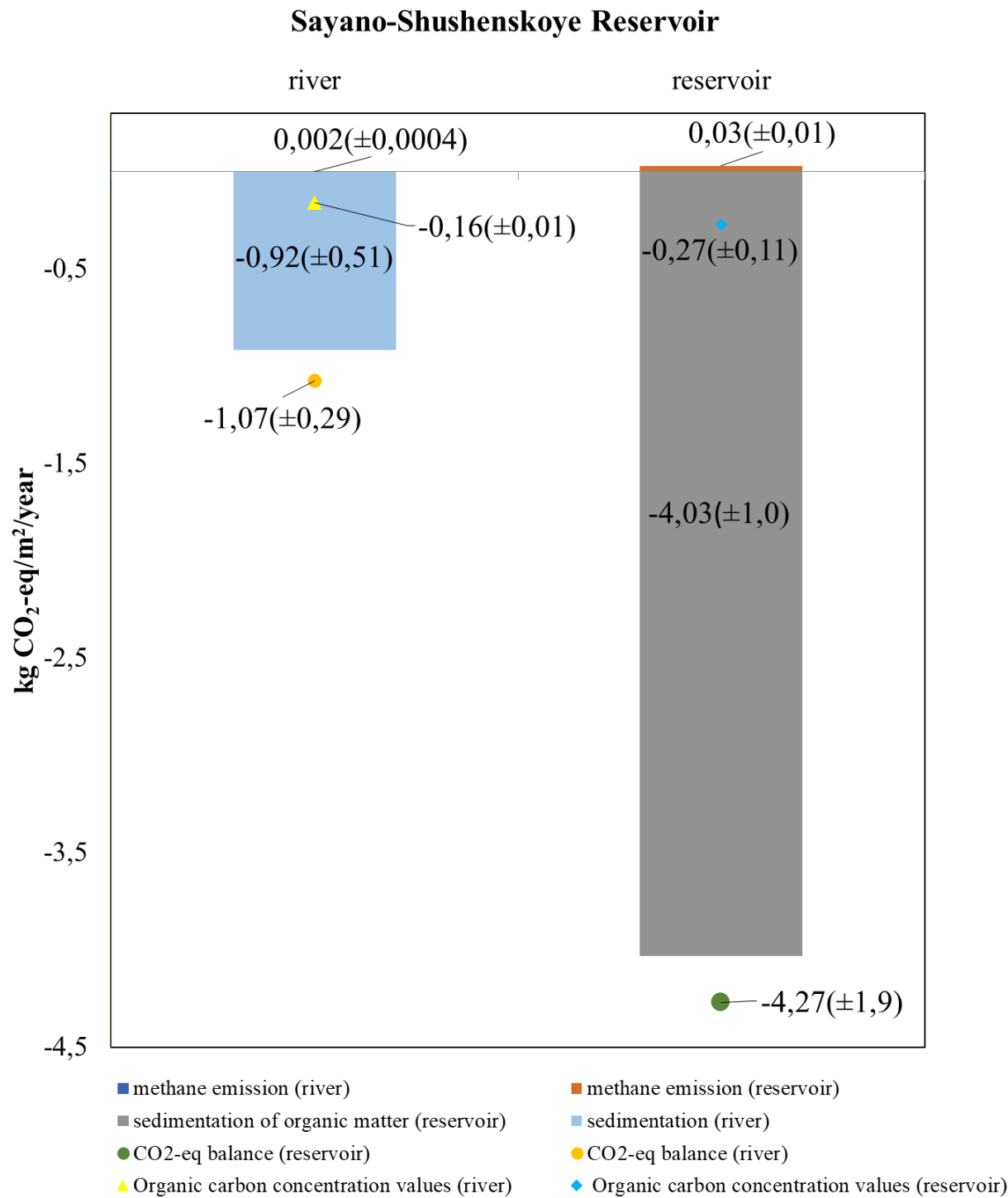


Figure S10 – Overall estimates of net GHG sink by hydroelectric reservoirs.

