Table S1. List of animal taxa collected in the Sélune River for stable isotope analyses.

Benthic invertebrates	Herbivores (grazers, scrapers)	Baetidae (*Acentrella* sp., *Baetis* sp., *Centroptilum* sp.) Ephemerellidae (*Ephemerella* sp., *Serratella* sp.) Heptageniidae (*Ecdyonurus* sp., *Electrogena* sp., *Heptagenia* sp., *Rhitrogena* sp.)
	Detritivores (shredders)	Limnephilidae (*Halesus* sp., *Chaetopteryx* sp., *Limnephilus* sp., *Potamophylax* sp.) Sericostomatidae (*Sericostoma* sp.)
	Omnivores	Gammaridae (*Echinogammarus* sp., *Gammarus* sp.) Ephemeridae (*Ephemera* sp.) Hydropsychidae (*Hydropsyche* sp.) Similidae
Crayfish	Omnivore	*Pacisfastacus leniusculus*
Lamprey (juvenile)	Omnivore	*Petromyzon marinus, Lampetra fluviatilis, L. planeri*
Fish	Invertebrate eater	*Cottus gobio, Barbatula barbatula, Phoxinus phoxinus, Gobio gobio, Leuciscus cephalus, Rutilus rutilus*

Figure S2. Percentages of benthopelagic (white), planktonic microalgae (black) and unknown taxa in the biofilm upstream (site S5) and downstream (S8) of the dams on the Sélune River from June 2015 to September 2016. The remaining percentage up to 100% (not showed) corresponds to benthic taxa.

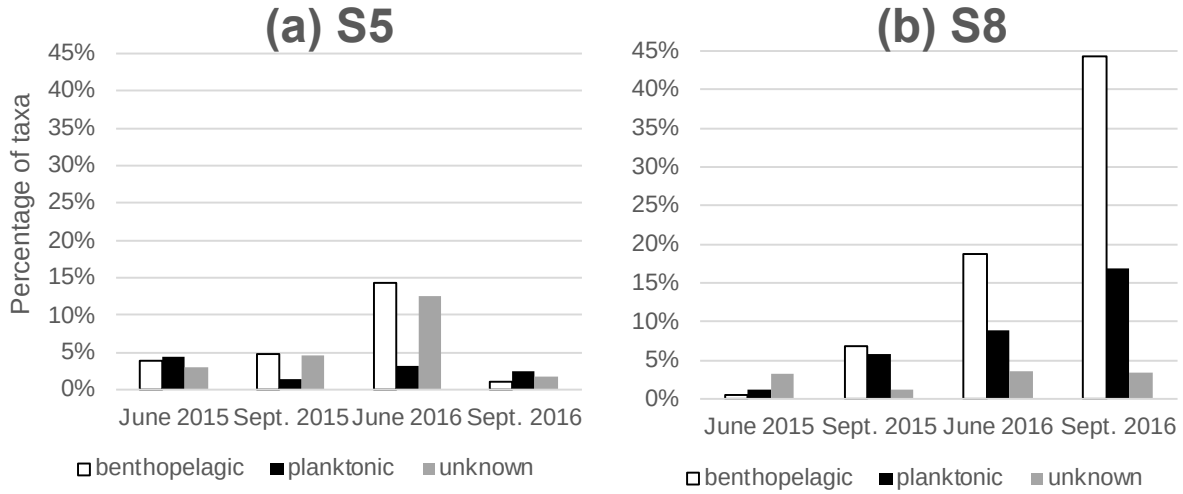

Table S3. List of invertebrate primary consumer taxa collected in the Sélune River upstream and downstream of the reservoirs. The leading modalities are indicated for each taxon: food items, SOD (small organic debris < 1 mm), LOD (large organic debris > 1mm), ALG (algae), MAC (macrophytes); feeding behavior DEP (deposit feeder), SHR (shredder), FIL (filter feeder) and SCR (scraper). Only the most informative taxa are presented (affinity scores > 3 for food item traits and > 2 for feeding behavior traits.

Taxa	Food items	Feeding behavior	Upstream reservoirs	Downstream reservoirs
Echinogammarus berilloni	LOD	SHR	yes	yes
Gammarus pulex	LOD	SHR	yes	yes
Pisidium sp.	ALG	FIL	yes	yes
Riolus sp.	ALG	SCR	yes	yes
Dryops sp.	LOD, ALG	SHR, SCR	no	yes
Pomatinus sp.	LOD, ALG	SHR, SCR	no	yes
Dupophilus sp.		SCR	yes	yes
Elmis sp.	ALG	SCR	yes	yes
Esolus sp.	ALG	SCR	yes	yes
Limnius sp.	ALG	SCR	yes	yes
Macronychus sp.	ALG	SCR	no	yes
Oulimnius sp.	ALG	SCR	yes	yes
Stenelmis sp.	ALG	SCR	yes	yes
Orectochilus villosus		SHR	yes	yes
Hydraena sp.	ALG	SCR	yes	yes
Chironomini		DEP	yes	yes
Corynoneurinae	ALG	SCR	yes	no
Orthocladiinae	ALG	SCR	yes	yes
Tanytarsini	SOD	DEP	yes	yes
Ephydridae	ALG	SCR, FIL	yes	no
Limoniini	LOD		yes	no
Pediciini sp.		SHR	yes	no
Psychodidae	LOD	SHR	yes	no
Simuliidae	SOD	FIL	yes	yes
Tipulidae	LOD	SHR	yes	no
Acentrella sp.	ALG	SCR	yes	yes
Baetis sp.	ALG	SCR	yes	yes
Centroptilum sp.	ALG	SCR	yes	yes
Caenis sp.	SOD	DEP	yes	yes
Ephemerella mucronata	ALG	SHR, SCR	yes	no
Ephemerella notata	ALG	SHR, SCR	yes	no
Serratella	ALG	SHR, SCR	yes	yes
Ephemera sp.	SOD	SHR, FIL	yes	yes
Ecdyonurus sp.	LOD	SCR	yes	yes
Electrogena sp.	SOD,ALG	SCR	yes	yes

Heptagenia sp.	ALG	SCR	yes	yes
Heptageniidae	ALG	SCR	yes	no
Rhitrogena sp.	ALG	SCR	yes	yes
Leptophebia sp.	SOD	DEP	yes	no
Habrophlebia sp.	LOD	SHR	yes	yes
Paraleptophlebia sp	SOD	DEP, SHR	yes	yes
Potamanthus luteus	LOD	SHR	yes	yes
Ancylus fluviatis	ALG	SCR	yes	yes
Bithynia sp.	ALG	FIL	yes	yes
Potamopyrgus sp.	LOD	SHR	yes	yes
Radix sp.	ALG	SCR	no	yes
Physella sp.	ALG	SCR	yes	no
Gyraulus sp.	ALG	SCR	yes	yes
Micronecta sp.		SHR	yes	yes
Hydra sp.		FIL	yes	yes
Asellus aquaticus	LOD	SHR	yes	yes
Proasellus sp.	LOD	SHR	yes	yes
Euleuctra sp.	LOD	SHR	yes	yes
Leuctra sp.		SHR	yes	yes
Isoperla grammatica		SHR	yes	yes
Perlodes sp.		SHR	no	yes
Taeniopteryx sp.		SHR	yes	yes
Brachyptera sp.	ALG	SCR	no	yes
Micropterna sp.	MAC	SHR	yes	yes
Brachycentrus subnubilus	ALG	FIL	yes	yes
Ecnomus tenellus		FIL	yes	no
Hydropsyche contubernalis	ALG	FIL	yes	yes
Hydropsyche cf pellucidula	ALG	FIL	yes	yes
Hydropsyche siltalai	ALG	FIL	yes	yes
Hydroptila sp.	MAC		yes	yes
Ithytrichia lamellaris	ALG	SCR	yes	yes
Lepidostoma hirtum	LOD	SHR	yes	yes
Lepidostoma basale	LOD	SHR	no	yes
Athripsodes albifrons	MAC	SHR	yes	yes
Athripsodes cinereus	MAC	SHR	yes	yes
Athripsodes sp.	MAC	SHR	yes	yes
Ceraclea dissimilis	SOD	SHR	yes	yes
Mystacides azureus	MAC	SHR	yes	yes
Mystacides longicornis	MAC	SHR	yes	yes
Oecetis notata	MAC	SHR	yes	yes
Oecetis testacea	MAC	SHR	yes	yes
Halesus radiatus	MAC, LOD	SHR	yes	yes

Chaetopteryx villosa	LOD	SHR	no	yes
Limnephilus sp.	LOD	SHR	yes	yes
Potamophylax cingulatus	MAC, LOD	SHR	no	yes
Limniphilinae	LOD	SHR	no	yes
Polycentropidae	ALG		yes	yes
Polycentropus flavomaculatus	ALG		yes	yes
Polycentropus irroratus	ALG		yes	yes
Sericostoma personatum	ALG	SHR	no	yes
Lype phaepa	ALG	SCR	yes	yes
Psychomyia pusilla	ALG	SCR	yes	yes
Tinodes waeneri	ALG	SCR	no	yes