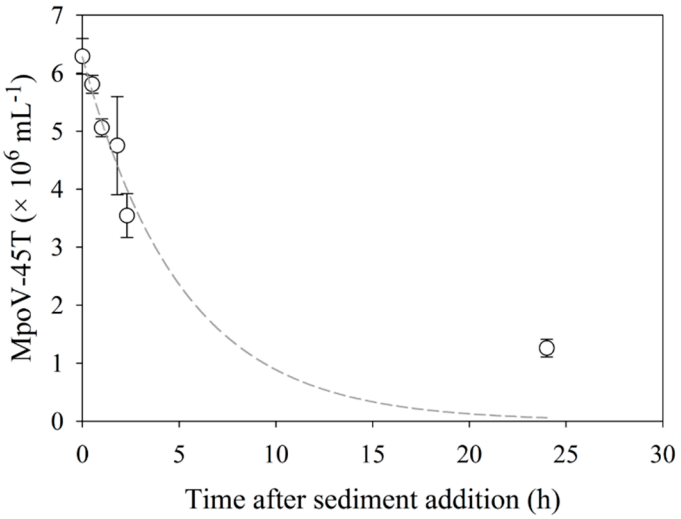
Supplement Table S1: Calculated absolute and relative losses and exponential loss rates with 30, 100 and 200 mg L^{-1} sediment from the adsorption-removal experiments with MpV-08T, MpoV-45T, PgV-07T and the natural virus community (NVC). Values significantly different from the controls are in italics (p=0.05). The exponential loss rates (only calculated for significant decreases) were calculated for 3 time frames: i) -0.15 – 0h, ii) 0 – 6h, and 6 – 36h and only significant values are shown. *only for upper frame (absolute numbers).

		Sediment (mg L^{-1})	**MpV-08T (×10^4)***	**MpoV-45T (×10^4)***	**PgV-07T (×10^4)***	**NVC (×10^7)***
Virus loss (viruses mL^{-1})	T0	30	0.53 ±0.20	*1.3 ±0.2*	0.14 ±0.08	1.0 ±0.5
		100	1.0 ±0.3	*4.0 ±0.2*	*1.0 ±0.2*	*3.7 ±0.3*
		200	*1.7 ±0.3*	*5.7 ±0.3*	*1.7 ±0.1*	*4.4 ±0.9*
	T6	30	0.75 ±0.3	*1.4 ±0.4*	0.40 ±0.20	0.05 ±0.01
		100	*2.0 ±0.3*	*3.6 ±0.2*	*1.2 ±0.3*	*2.6 ±0.06*
		200	*3.4 ±0.4*	*5.8 ±0.1*	*2.6 ±0.1*	*5.4 ±0.5*
	T36	30	*0.99 ±0.06*	*1.2 ±0.3*	0.34 ±0.09	1.0 ±0.8
		100	*3.2 ± 0.6*	*4.0 ±0.3*	*1.3 ±0.2*	*3.5 ±0.3*
		200	*4.9 ±0.1*	*6.0 ±0.1*	*2.6 ±0.2*	*5.9 ±0.1*
Virus loss (% of total)	T0	30	9.7 ±4	*19 ± 3*	3 ±2	9 ±4
		100	*19 ±6*	*55 ±2*	*23 ±4*	*33 ±2*
		200	*32 ±6*	*78 ±4*	*38 ±3*	*38 ±8*
	T6	30	14 ±6	*19 ±5*	9 ±4	0.44 ±0.80
		100	*36 ±6*	*50 ±3*	*25 ±6*	*23 ±1*
		200	*60 ±6*	*80 ±1*	*57 ±2*	*48 ±5*
	T36	30	*17 ± 1*	*18 ±4*	7 ±2	8 ±6
		100	*54 ±9*	*59 ±5*	*29 ±5*	*29 ±2*
		200	*83 ±2*	*88 ±2*	*57 ±4*	*48 ±0.1*
Exponential loss rate (d^{-1})	-0.15 – 0h	30	-	33 ±6	-	-
		100	-	126 ±54	43 ±16	63 ±23
		200	62 ±16	247±55	76 ±19	78 ±24
	0 – 6h	30	-	-	-	-
		100	0.9 ±0.4	-	-	-
		200	2.2± 0.3	-	1.4 ±0.2	-
	6 – 36h	30	-	-	-	-
		100	0.3 ±0.1	-	-	-
		200	0.7 ±0.0	1.4 ±0.1	-	-

Supplement Table S2: Absolute and relative total virus losses of the undiluted lysates of MpV-08T, MpoV-45T and PgV-07T in relation to their starting abundances and sediment concentration to test whether higher viral abundances reduce the removal of sediment due to occupation of binding sites.

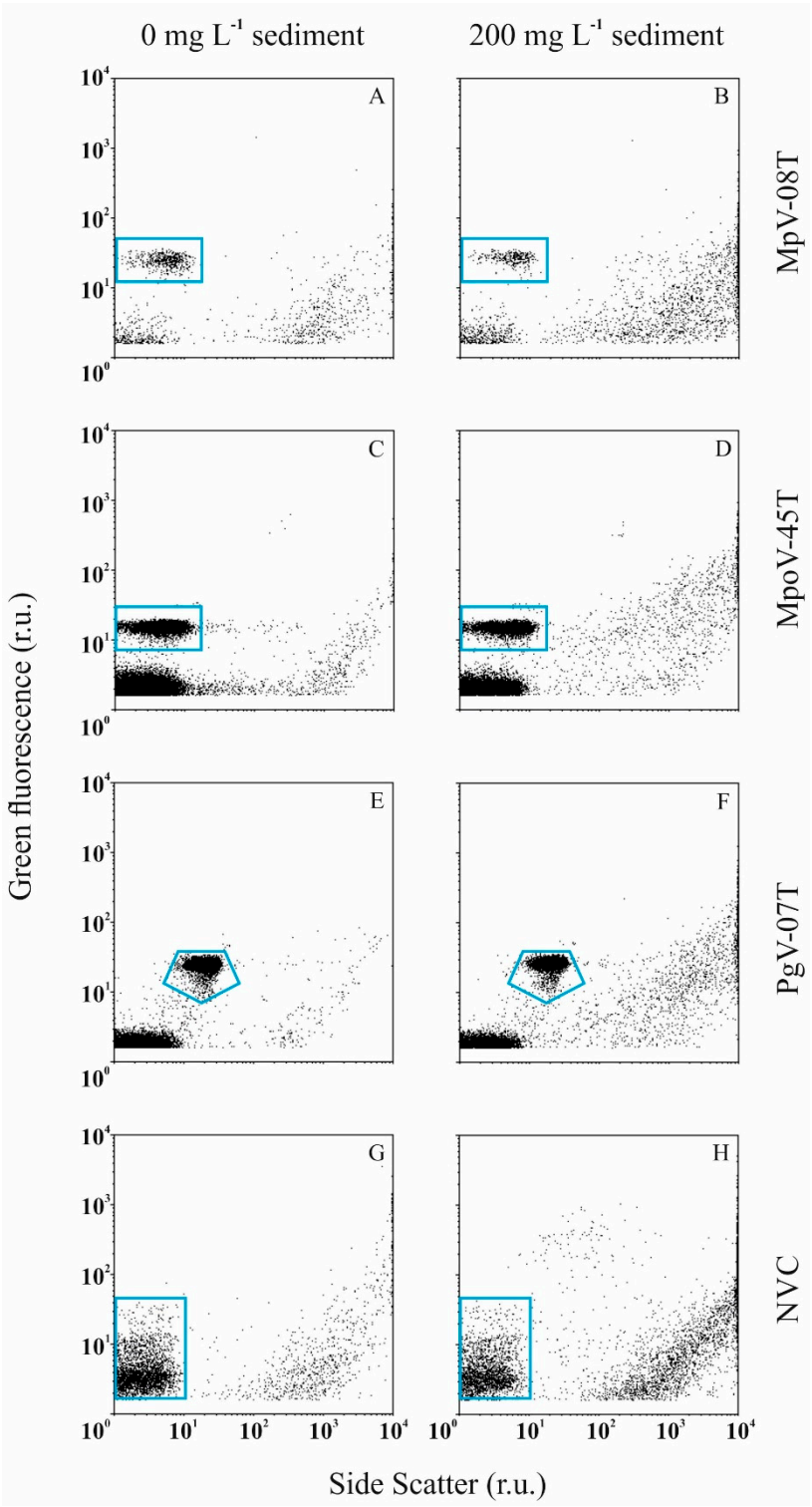
Virus type	Starting abundance (ml^{-1})	Sediment ($mg\ L^{-1}$)	Absolute loss ($\times 10^7\ ml^{-1}$)
MpV-08T	$1.3 \pm 0.15 \times 10^7$	30	0.44 ±0.07
		100	1.1 ±0.03
		200	1.2 ±0.01
MpoV-45T	$1.4 \pm 0.18 \times 10^8$	30	0.49 ±0.10
		100	1.1 ±0.3
		200	2.2 ±0.4
PgV-07T	$2.4 \pm 0.71 \times 10^8$	30	0.93 ±0.70
		100	2.3 ±1.1
		200	2.0 ±0.8

Supplement Figure S1



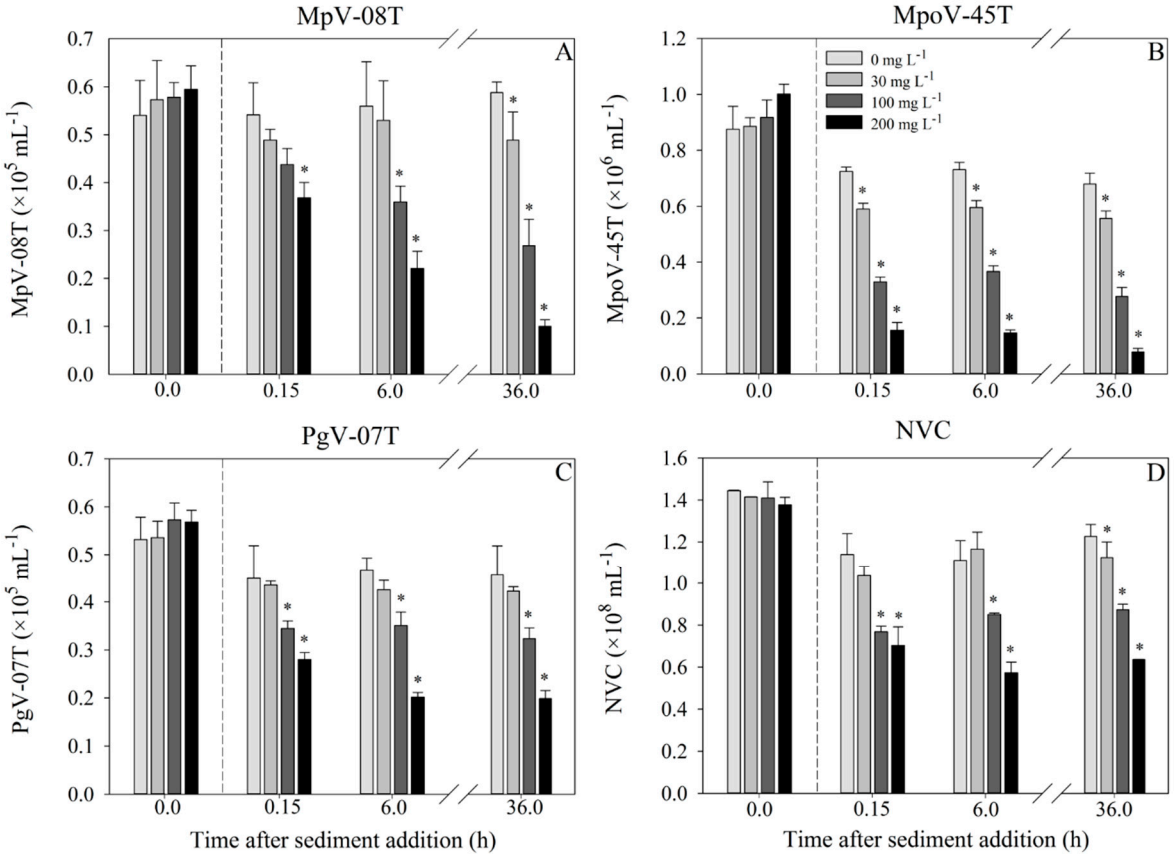
Supplement Figure S1: MpoV-45T abundance over time (n=3) exposed to 50 mg L^{-1} montmorillonite clay. The loss of viruses follows an exponential decay process: $N(t) = 6276998\ e^{-0.2t}$ (r^2=0.90).

Supplement Figure S2



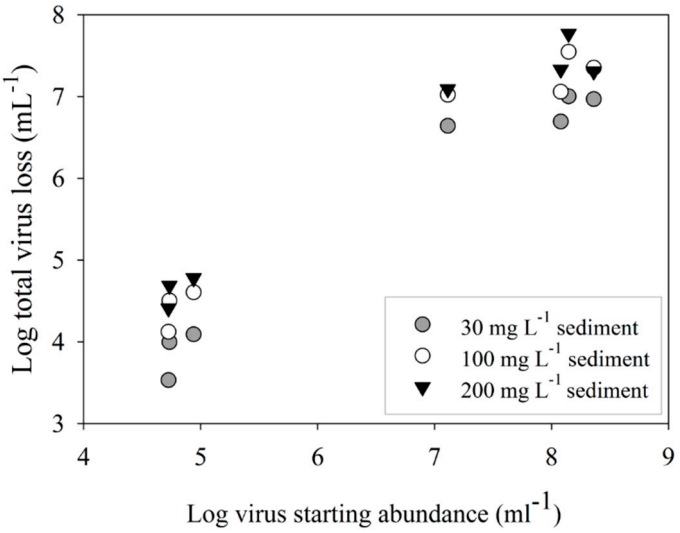
Supplement Figure S2. Cytograms of the 3 algal viruses (A-F) and the natural virus community (NVC; G-H) for 0 mg L^{-1} (A,C,E,G) and 200 mg L^{-1} (B,D,F,H) sediment addition treatment. The specific viruses were discriminated based on their green nucleic acid-specific green fluorescence and the side scatter signal (cluster is depicted by blue frame).

Supplement Figure S3



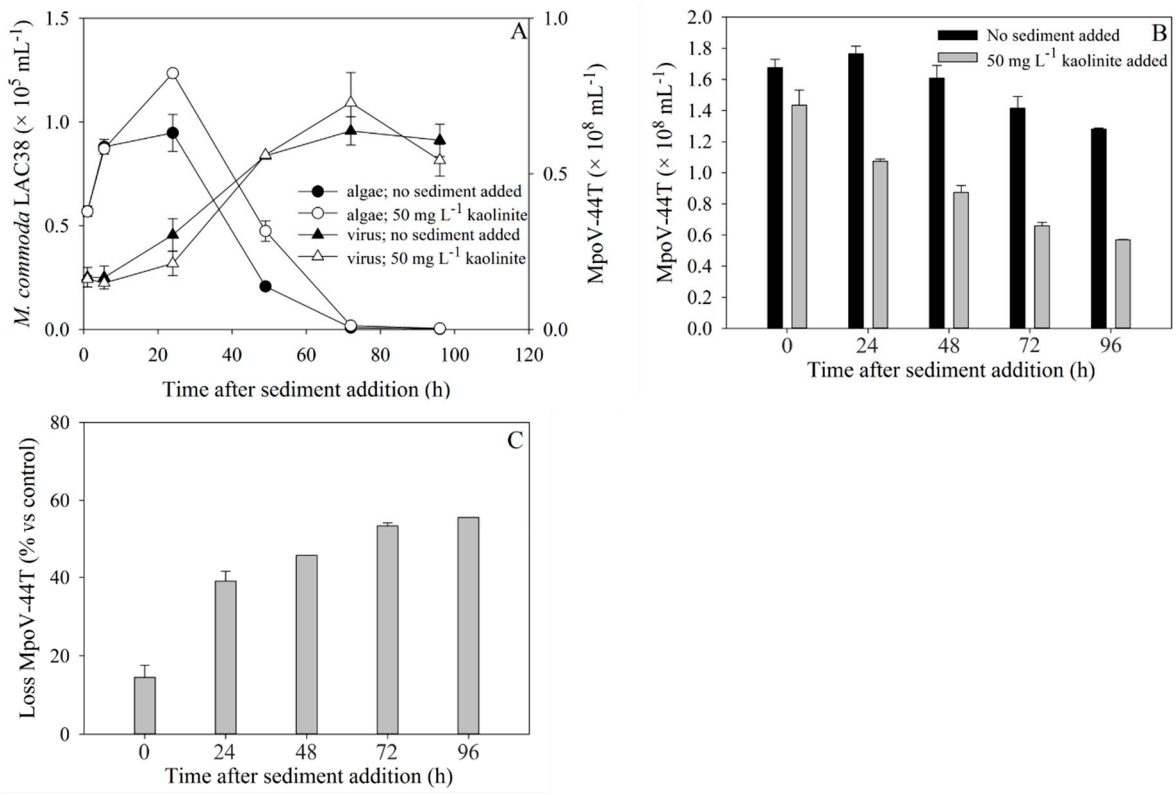
Supplement Figure S3. Absolute viral abundances (mean ± s.d.) of MpV-08T (A), MpoV-45T (B), PgV-07T (C) and NVC (D) over time during the adsorption-removal experiments and with 0 (control), 30, 100 and 200 mg L^{-1} glacier-derived sediment. The abundances right before sediment addition (T0 h) are depicted on the left side of the vertical dotted line. Further sampling was done at T0.15 h, T6 h and T36 h. Asterisks (*) above the bars show which treatments are significantly different ($p<0.05$) from the control. A part of the decrease in viral abundances between T0 and T0.15 (visible in the controls) is due to the addition of sediment suspension or (for the controls) medium.

Supplement Figure S4



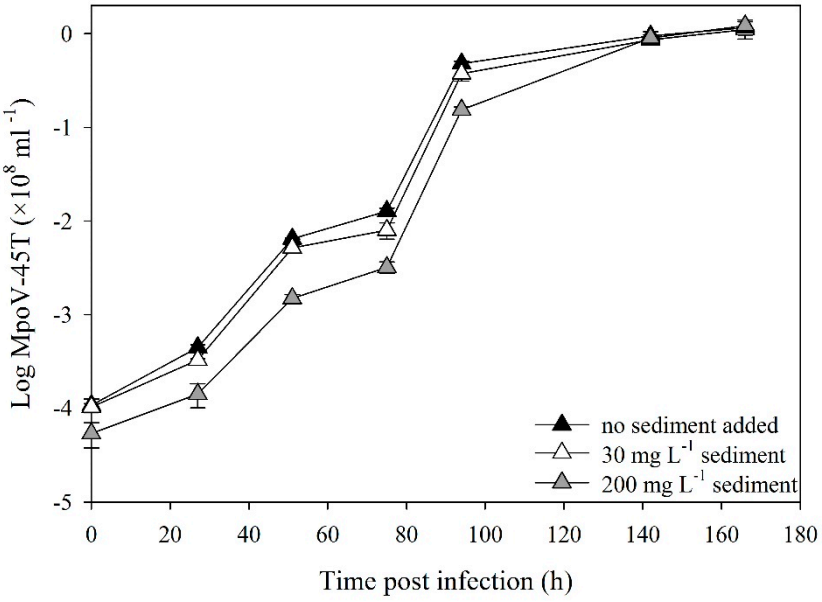
Supplement Figure S4: Total virus losses under the different starting abundances of diluted and undiluted MpV-08T, MpoV-45T and NVC and under sediment concentrations of 30, 100 and 200 mg L^{-1} sediment. Note the log scale for both the x- and y-axis.

Supplement Figure S5



Supplement Figure S5: The interaction of MpoV-44T with the clay kaolinite: A) a one-step infection cycle of MpoV-44T (triangles) on *Micromonas commoda* LAC38 (circles) with (white symbols) and without (black symbols) 50 mg L^{-1} kaolinite (temperature 3°C); B) absolute decreases in viral abundances in a filtered lysate with 50 mg L^{-1} kaolinite (grey bars) versus a control without sediment (black bars); C) Virus losses (%) relative to the control without sediment.

Supplement Figure S6



Supplement Figure S6: Viruses over time during the two-step infection experiment. The log y-axis clearly shows the two-step nature of the virus-host interaction, i.e. viruses are produced in different two cycles.