Temperature dependence of biomass and ecosystem function depend on species interactions. Supplementary File 3: Zooplankton figures and tables.

Section S3.1: Zooplankton Abundance data over whole experiment

Figure S3. 1: Abundance of zooplankton (Number / 10L) over all tanks and weeks.

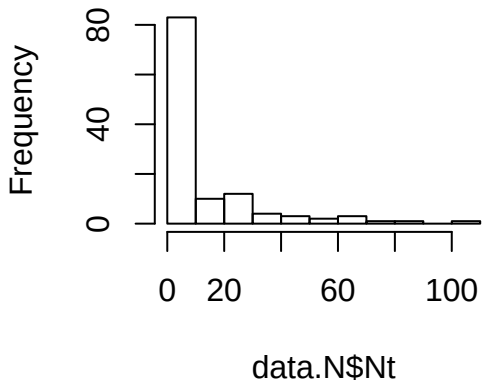
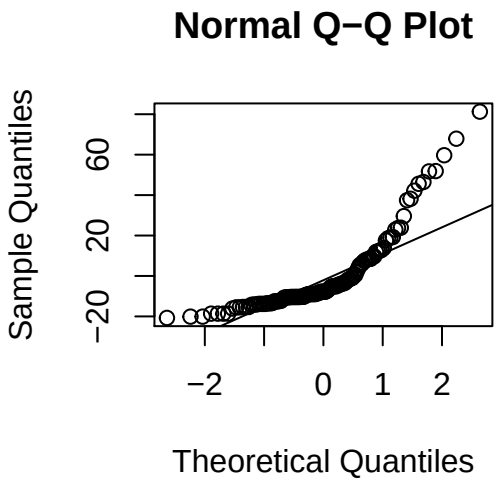


Figure S3. 2: Residual plot for linear model of abundance with normally distributed errors

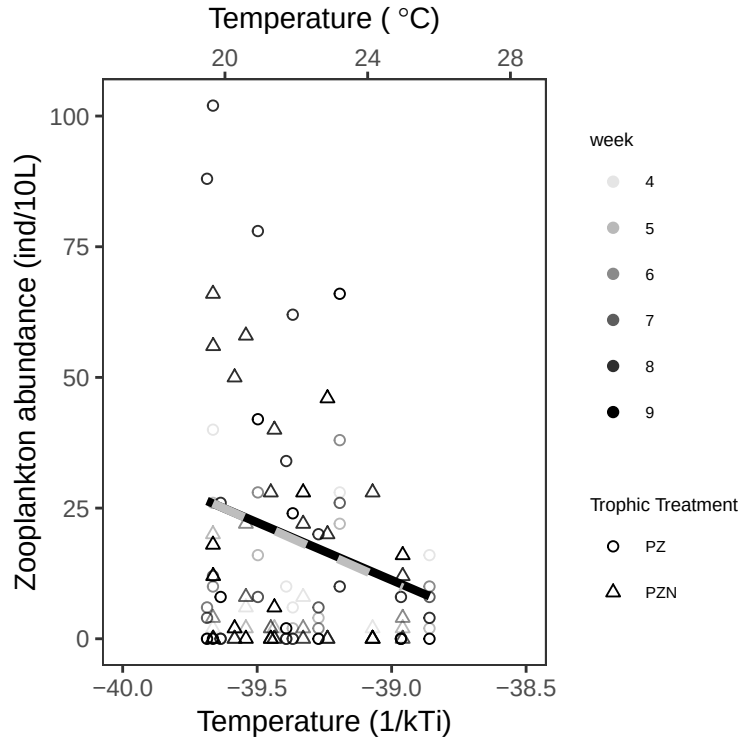



```
##       chisq       ratio         rdf           p
##  97.1449726   0.8374567 116.0000000   0.8975533
```

Table S3. 1: Model selection results for zooplankton abundance, with 1|Tank as a random effect. Model terms are: intercept (Int), Temperature - weekly average (Tw), trophic treatment (TL), statistical estimates

	Int	T_{ij}	Z_j	df	logLik	AICc	d	w
nbinommod1b	-47.41	1.28	NA	5	-367.00	744.53	0.00	0.49557915
nbinommod1	-48.76	1.32	+	6	-366.37	745.47	0.95	0.30895745
nbinommod1c	2.95	NA	NA	4	-369.46	747.26	2.74	0.12621312
nbinommod1a	3.07	NA	+	5	-368.97	748.46	3.94	0.06925027

Figure S3. 3: Total Zooplankton abundance and modeled temperature dependence from negative binomial regression



Section S3.2: Daphnia and Copepods

Figure S3. 4: Abundance of Daphnia and Copepods (Number / 10L) over all tanks and weeks.

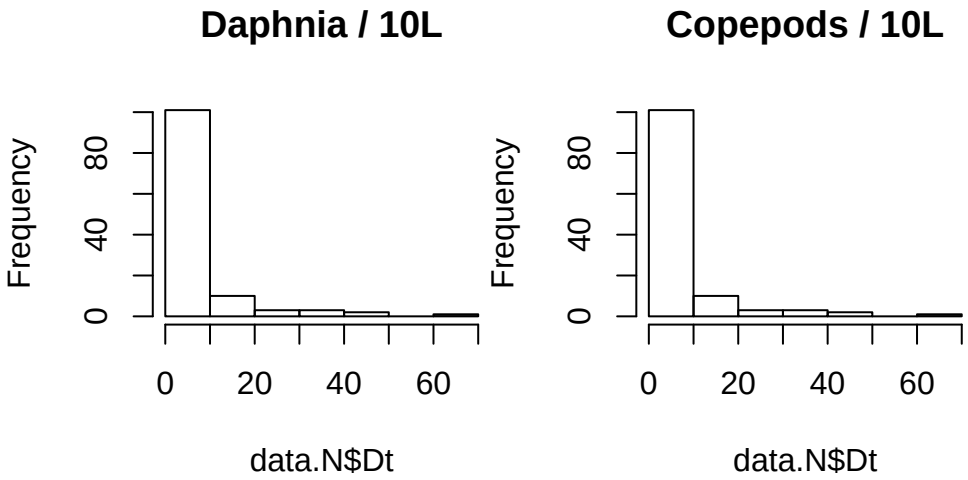


Table S3. 2: Daphnia abundance model selection results for Poisson regression. Model terms are: intercept (Int), trophic treatment (TL), Temperature - weekly average (Tw), and statistical estimates

	Int	T_{ij}	Z_j	T_{ij}*Z_j	df	logLik	AICc	d	w
poismod.Db	-34.88	0.88	+	NA	4	-115.75	239.85	0.00	0.63118106

	Int	T_{ij}	Z_j	T_{ij}*Z_j	df	logLik	AICc	d	w
poismod.Da	-38.64	0.97	+	+	5	-115.73	241.98	2.13	0.21709779
poismod.Dd	-0.97	NA	NA	NA	2	-119.71	243.52	3.67	0.10060719
poismod.Dc	-31.32	0.77	NA	NA	3	-119.33	244.87	5.03	0.05111395

Table S3. 3: Daphnia abundance model coefficients

	Estimate	se	Pr(>|z|)	LL	UL
(Intercept)	-34.88	29.57	0.24	-92.85	23.08
invTT	0.88	0.75	0.24	-0.60	2.35
trophic.levelPZN	-1.14	0.40	0.00	-1.91	-0.36

Figure S3. 5: Daphnia abundance with modeled temperature dependence from poisson regression; estimates and confidence intervals given in Table S3.3

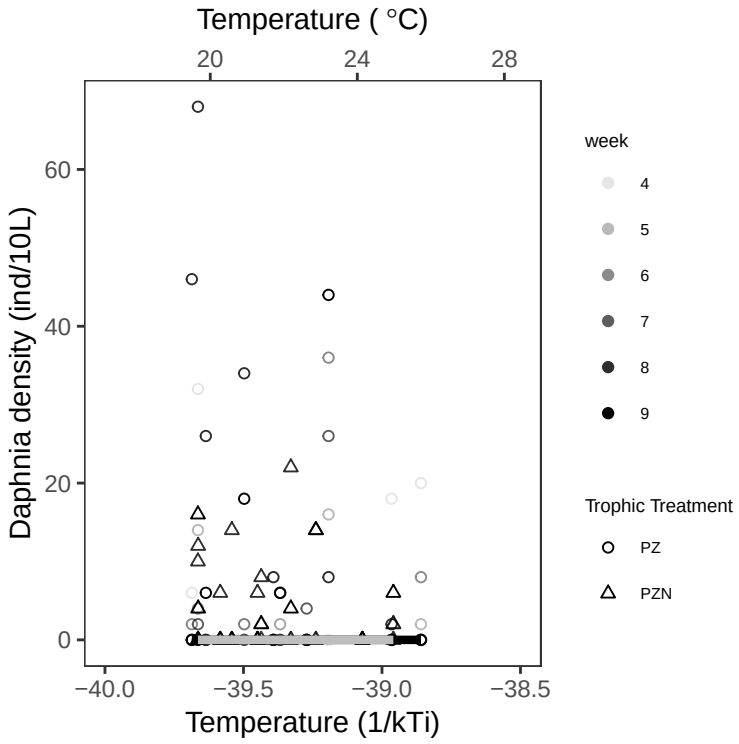


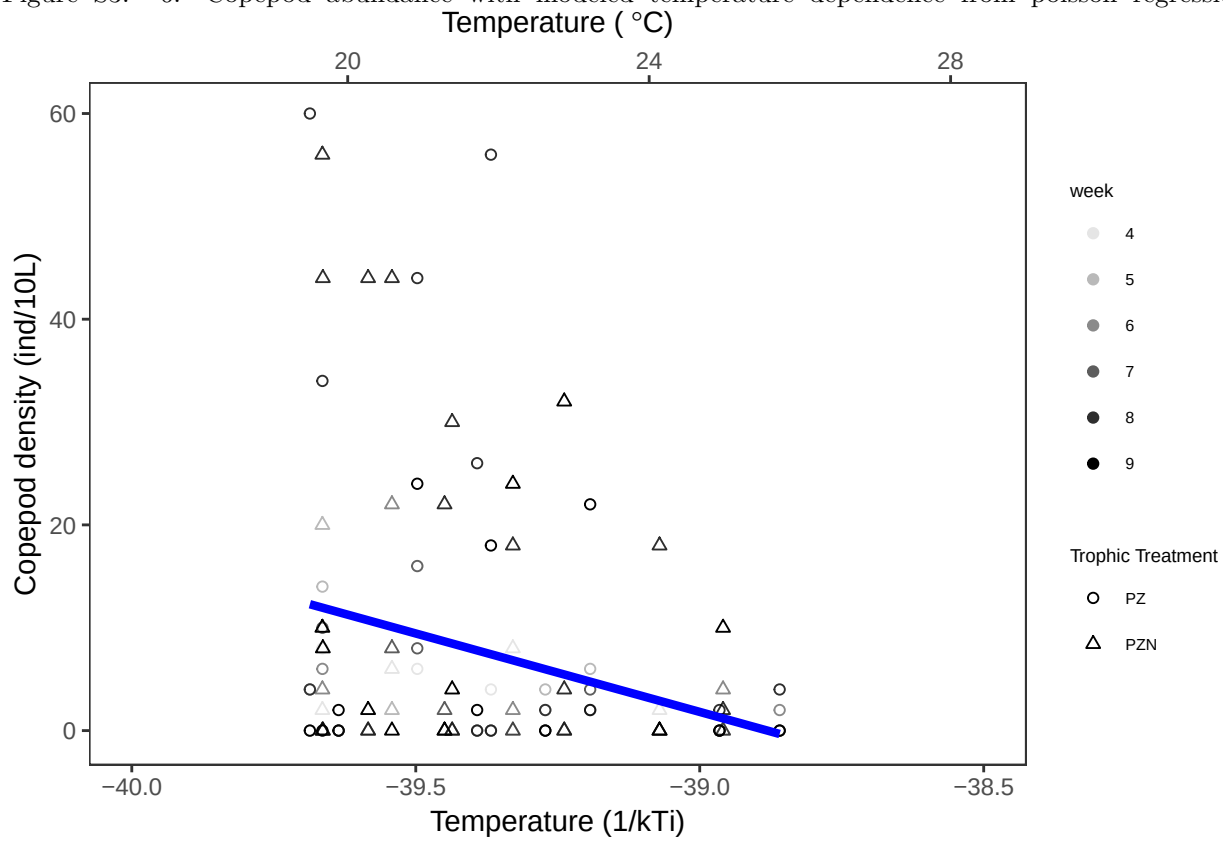
Table S3. 4: Copepod abundance model selection results for Poisson regression. Model terms are: intercept (Int), trophic treatment (TL), Temperature - weekly average (Tw), temperature - expt average (Tt), interaction terms and statistical estimates

	Int	T_{ij}	Z_j	T_{ij}*Z_j	df	logLik	AICc	d	w
poismod.Cc	-98.14	2.54	NA	NA	4	-305.33	619.02	0.00	0.64590506
poismod.Cb	-98.47	2.55	+	NA	5	-305.30	621.12	2.11	0.22529433
poismod.Ca	-122.18	3.15	+	+	6	-305.07	622.88	3.86	0.09377367
poismod.Cd	1.99	NA	NA	NA	3	-309.32	624.84	5.83	0.03502693

Table S3. 5: Copepod abundance model coefficients

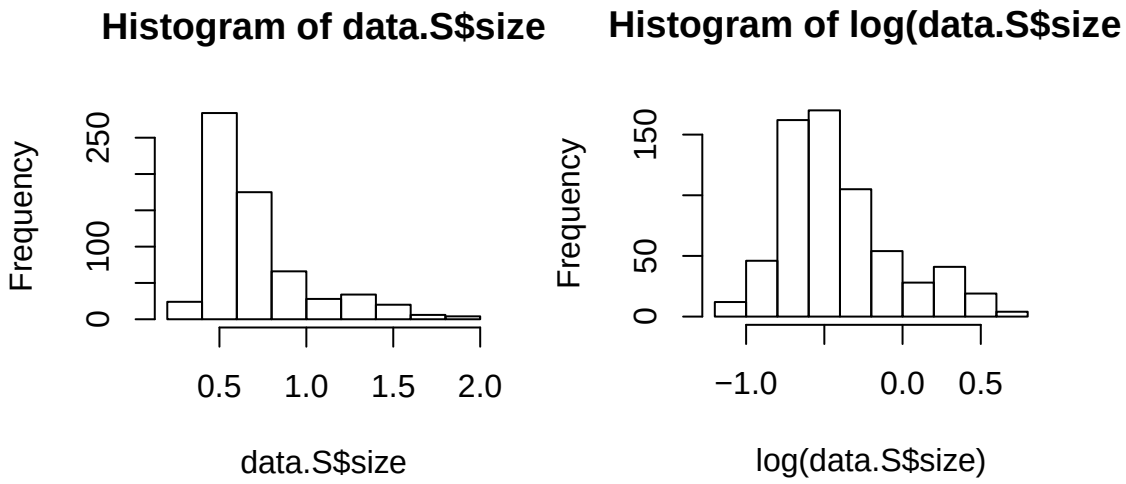
	Estimate	se	Pr(>|z|)	LL	UL
(Intercept)	-98.14	33.11	0	-163.04	-33.25
invTT	2.54	0.84	0	0.89	4.19

Figure S3. 6: Copepod abundance with modeled temperature dependence from poisson regression



Section S3.4: Zooplankton size analysis

Figure S3. 7: Zooplankton body size (length) over all tanks and weeks.



```
## Linear mixed model fit by maximum likelihood  ['lmerMod']
## Formula: log(size) ~ invTT * taxon * trophic.level + (1 | Tank)
##    Data: data.S
##
##      AIC      BIC   logLik deviance df.resid
##    176.0    220.7    -78.0    156.0      631
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.6433 -0.5871 -0.0695  0.4866  3.4986
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Tank     (Intercept) 0.005115 0.07152
##  Residual             0.072303 0.26889
## Number of obs: 641, groups:  Tank, 18
##
## Fixed effects:
##                                     Estimate Std. Error t value
## (Intercept)                         -0.215915   4.955668  -0.044
## invTT                                0.001749   0.125677   0.014
## taxonCopepod                        -1.389227   4.673827  -0.297
## trophic.levelPZN                   -27.858315  11.159523  -2.496
## invTT:taxonCopepod                   0.023308   0.118503   0.197
## invTT:trophic.levelPZN               0.707073   0.284626   2.484
## taxonCopepod:trophic.levelPZN       29.244823  10.630503   2.751
## invTT:taxonCopepod:trophic.levelPZN -0.742089   0.271222  -2.736
##
## Correlation of Fixed Effects:
##             (Intr) invTT  txnCpp tr.PZN inTT:C iTT:.P tC:.PZ
## invTT       -1.000
## taxonCopepd -0.449  0.448
## trphc.lvPZN -0.444  0.444  0.199
## invTT:txnCp  0.448 -0.448 -1.000 -0.199
## invTT:t.PZN  0.442 -0.442 -0.198 -1.000  0.198
## txnCpp:.PZN  0.197 -0.197 -0.440 -0.787  0.440  0.788
## inTT:C:.PZN -0.196  0.196  0.437  0.788 -0.437 -0.789 -1.000
```

Table S3. 8: Zooplankton body size model selection results. Model terms are: intercept (Int), Temperature - weekly average (Tw), Taxon (Tx), trophic treatment (TL), and statistical estimates

	Int	Tw	Tx	TL	Tw*Tx	Tw*TL	Tx*TL	Tw*Tx*Tl	df	logLik	AICc	d	w
m2b	-0.22	0.00	+	+	+	+	+	+	10	-78.01	176.37	0.00	3.199077e-01
m2a	-0.22	0.00	+	+	+	+	+	+	10	-78.01	176.37	0.00	3.199077e-01
m2g	-0.15	NA	+	+	NA	NA	+	NA	6	-82.44	177.00	0.63	2.332649e-01
m2c	-1.36	0.03	+	+	NA	NA	+	NA	7	-82.37	178.91	2.54	8.981011e-02
m2l	-8.50	0.21	+	NA	+	NA	NA	NA	6	-84.95	182.04	5.66	1.883366e-02
m2j	-8.19	0.20	+	+	+	NA	NA	NA	7	-84.79	183.75	7.38	7.994116e-03
m2h	-0.18	NA	+	NA	NA	NA	NA	NA	4	-88.14	184.33	7.96	5.968647e-03
m2e	-3.38	0.08	+	NA	NA	NA	NA	NA	5	-87.65	185.40	9.03	3.502201e-03
m2m	-1.33	0.03	+	+	NA	+	NA	NA	7	-87.07	188.33	11.96	8.110022e-04
m2i	-0.34	NA	NA	+	NA	NA	NA	NA	4	-199.46	406.99	230.62	2.676594e-51
m2d	-3.91	0.09	NA	+	NA	NA	NA	NA	5	-199.22	408.54	232.17	1.230711e-51
m2k	-9.62	0.24	NA	+	NA	+	NA	NA	6	-198.45	409.04	232.66	9.611447e-52

	Int	Tw	Tx	TL	Tw*Tx	Tw*TL	Tx*TL	Tw*Tx*Tl	df	logLik	AICc	d	w
m2f	-5.03	0.12	NA	NA	NA	NA	NA	NA	4	-204.15	416.36	239.99	2.464245e-53

Table S3. 9: Zooplankton model estimates (model 2h), rom table S3.8

	Estimate	Lower	Upper
(Intercept)	-0.18	-0.23	-0.13
(Intercept)	-0.61	-0.66	-0.57

Figure S3. 8: Zooplankton body size (length) and modeled effects of predation