Files S1-S2

Available for download as .zip files at http://www.genetics.org/lookup/suppl/doi:10.1534/genetics.114.161729/-/DC1

File S1 Phenotypic and experimental data

File S2 Physical experimental data

Table S1 Number of individuals for all factor levels of the experimental design.

Cross	Maturity	fresh	salt	clear	sediments	fresh:clear	fresh:sediments	salt:clear	salt:sediments	Overall
WW	immature	17	16	15	18	6	11	9	7	33
WW	female	37	37	40	34	19	18	21	16	74
WW	male	40	35	37	38	22	18	15	20	75
WW	all	94	88	92	90	47	47	45	44	183
BC	immature	49	43	45	47	27	22	18	25	92
BC	female	23	23	20	26	8	15	12	11	46
BC	male	23	21	25	19	13	10	12	9	44
BC	all	95	87	90	92	48	47	42	45	182
F1	immature	49	51	53	47	24	25	29	22	100
F1	female	17	23	16	24	8	9	8	15	40
F1	male	29	26	28	27	15	14	13	13	55
F1	all	95	100	97	98	47	48	50	50	195
F2	immature	54	52	59	47	30	24	29	23	106
F2	female	18	14	16	16	9	9	7	7	32
F2	male	24	27	20	31	9	15	11	16	51
F2	all	96	93	95	94	48	48	47	46	189
DD	immature	38	47	45	40	19	19	26	21	85
DD	female	14	10	11	13	4	10	7	3	24
DD	male	40	37	39	38	24	16	15	22	77
DD	all	92	94	95	91	47	45	48	46	186
Overall	all	472	462	469	465	237	235	232	230	934

Comments: Numbers are given for the three maturity groups (*Maturity*) between the crosses of wild (WW) and domesticated (DD) Atlantic salmon, reciprocal first- (F1) and

second-generation hybrids (F2), and the reciprocal wild backcross (BC, WW x F1). Combinations of environmental factor levels for *Salinity* (levels: fresh, salt) and *Sediment*

(levels: clear, sediments) are indicated by a colon. Results from an analysis of these occurrences, additionally accounting for occurrences for each tank, can be found in Table S2.

Table S2   Results for the analysis of number of individuals among all study-design term levels.

Term	DF	DDF	F	P
Intercept	1	4	>1000	< 0.001
Sediment	1	4	0.7	0.439
Salinity	1	4	1.6	0.277
Cross	4	56	0.7	0.606
Maturity	2	56	48.8	< 0.001
Sediment:Salinity	1	4	4.8	0.095
Sediment:Cross	4	56	0.2	0.916
Salinity:Cross	4	56	0.2	0.932
Sediment:Maturity	2	56	0.5	0.632
Salinity:Maturity	2	56	0.1	0.888
Cross:Maturity	8	56	20.6	< 0.001
Sediment:Salinity:Cross	4	56	0.4	0.781
Sediment:Salinity:Maturity	2	56	2.9	0.061
Sediment:Cross:Maturity	8	56	1.5	0.181
Salinity:Cross:Maturity	8	56	0.8	0.577
Sediment:Salinity:Cross:Maturity	8	56	2.9	0.008

Comments: The response is log-transformed (Ln) number of individuals per *Cross*-by-*Maturity* level and tank. Interactions among terms are indicated by a colon. Given for each term are degrees of freedom (DF), denominator DF (DDF), *F*-statistic (*F*) and probability (P). Among-tank stratum variance was 0.0169 with 4 DF, residual stratum variance was 0.0725 with 56 DF.

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Table S3 Results for the selection of among-individual (co)variances model structures.

[a]Model(I)	k	k(G)	k(I)	AIC	BIC	REML	k	k(G)	k(I)	AIC	BIC	REML	X²	DF	[a]P
			Homogeneous variances for Cross-by-Maturity						**Heterogeneous variances for Cross-by-Maturity**						
A															
GLM	5	4	1	-4310.0	-4277.8	2160.0	19	4	15	-4548.4	-4426.4	2293.2	266.5	14	< 0.001
GLMH	9	4	5	-4295.0	-4237.2	2156.5	79	4	75	-4434.7	-3927.3	2296.4	279.7	70	< 0.001
CS	13	11	2	-14995.5	-14912.0	7510.8	cf	cf	30	cf	cf	cf	NA	NA	NA
CSH	16	10	6	-15012.7	-14910.0	7522.4	101	11	90	-15063.1	-14414.4	7632.6	220.4	85	< 0.001
AR(1)	cf	cf	2	cf	cf	cf	cf	cf	30	cf	cf	cf	NA	NA	NA
ARH(1)	cf	cf	6	cf	cf	cf	104	14	90	-16852.7	-16184.7	8530.4	NA	NA	NA
ANTE(1)	20	11	9	-17403.9	-17275.2	8721.9	148	13	135	-17466.9	-16516.3	8881.5	319.1	128	< 0.001
ANTE(2)	26	14	12	-17571.9	-17404.9	8812.0	193	13	180	-17581.5	-16341.9	8983.8	343.6	167	< 0.001
ANTE(3)	28	14	14	-17573.3	-17393.5	8814.7	224	14	210	*-17582.7*	-16143.9	9015.3	401.3	196	< 0.001
UN	26	11	15	-17555.7	-17388.7	8803.9	235	10	225	-17572.9	-16063.5	9021.4	435.1	209	< 0.001
RC	21	18	3	-16742.9	-16608.0	8392.5	63	18	45	-16774.9	-16370.3	8450.4	116.0	42	< 0.001
RCS	19	15	4	-17409.5	-17287.4	8723.7	75	15	60	-17448.3	*-16966.6*	8799.1	150.8	56	< 0.001
RCSC	29	14	15	-17400.2	-17213.9	8729.1	cf	cf	225	cf	cf	cf	NA	NA	NA
B															
GLM	4	3	1	-15056.5	-15030.8	7532.2	18	3	15	-15321.5	-15205.9	7678.8	293.1	14	< 0.001
GLMH	8	3	5	-15052.6	-15001.2	7534.3	78	3	75	-15208.9	-14707.9	7682.4	296.3	70	< 0.001
CS	9	7	2	-28041.2	-27983.4	14029.6	38	8	30	-28220.5	-27976.4	14148.2	237.3	29	< 0.001
CSH	12	6	6	-28118.1	-28041.0	14071.0	97	7	90	-28324.6	-27701.6	14259.3	376.6	85	< 0.001
AR(1)	cf	cf	2	cf	cf	cf	cf	cf	30	cf	cf	cf	NA	NA	NA
ARH(1)	cf	cf	6	cf	cf	cf	cf	cf	90	cf	cf	cf	NA	NA	NA
ANTE(1)	18	9	9	-31127.0	-31011.4	15581.5	144	9	135	-31256.0	-30331.1	15772.0	381.0	126	< 0.001
ANTE(2)	cf	cf	12	cf	cf	cf	187	7	180	-31431.9	-30230.9	15903.0	NA	NA	NA
ANTE(3)	cf	cf	14	cf	cf	cf	218	8	210	-31506.7	-30106.5	15971.3	NA	NA	NA

ªModel(I)	k	k(G)	k(I)	AIC	BIC	REML	k	k(G)	k(I)	AIC	BIC	REML	X²	DF	ªP
				Homogeneous variances for Cross-by-Maturity						Heterogeneous variances for Cross-by-Maturity					
UN	28	13	15	-31428.4	-31248.6	15742.2	235	10	225	*-31527.0*	-30017.6	15998.5	512.6	207	< 0.001
RC	17	14	3	-30771.2	-30662.0	15402.6	60	15	45	-30848.1	-30462.7	15484.0	162.9	43	< 0.001
RCS	22	18	4	-31395.0	-31253.7	15719.5	78	18	60	-31517.1	*-31016.1*	15836.5	234.0	56	0.000
RCSC	33	18	15	-31387.0	-31175.1	15726.5	cf	cf	225	cf	cf	cf	NA	NA	NA

NA: evaluation not available

cf: convergence failed

The suffix 'H' to a model name indicates heterogeneous variances across *Time*

GLM: general linear model (common variance, no covariance)

CS: compound symmetry (common variance, common covariance)

AR(1): autoregressive order 1 (common variance, covariances decline exponentially between *Time* levels with increasing lag)

ANTE(i): antedependence of order i (heterogeneous variances across *Time*, heterogeneous covariances for distance between *Time* levels up to lag i)

UN: unstructured (heterogeneous variances across *Time*, heterogeneous covariances among all variances)

RC: random coefficients (variance for both individual intercepts and slopes, including the covariance between intercept and slope)

RCS: RC with individual splines (like RC but additional individual-based splines, independent of RC effects).

RCSC: RCS with all possible covariances among three spline variances and both RC variances (like RCS but splines are additionally not independent of the remaining RC effects)

ªThe comparisons are only approximations as among-group random effects terms varied among covariance structures and have not been tested for significance

Comments: Models are for response of body mass (A) or fork length (B). For each (co)variance model (Model(I)), the number of (co)variance parameters are indicated for the

total (k), for among-groups (k(G)), and for among-individuals (k(I)). For each successfully fitted model, the AIC, BIC (both in "smaller is better" form, best model for each trait in

italic) and the log residual maximum likelihood (REML) are given. Each among-individual covariance model was fitted with either homogeneous or heterogeneous parameters

among the 15 *Cross*-by-*Maturity* groups. For each model, the improvement in model fit by the heterogeneous version was assessed by likelihood ratio test (LRT) for which the

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test statistic (χ^2), degrees of freedom (DF), and the approximated probability (P) are given. As the heteroscedastic models were always better as clearly indicated by LRTs, we ignored the homoscedastic versions for among-model comparisons. All models were fitted with the same fixed full structure (*Sediment*Salinity*Cross*Maturity*Time*) and with all possible random spline (spl(*Time*)) and random deviation (dev(*Time*)) among-group terms (spl(*Time*)/(*Sediment*Salinity*Cross*Maturity*)+dev(*Time*)/(*Sediment*Salinity*Cross*Maturity*). In the model equation asterisks indicate factor crossing (main effects plus interactions), and slashes indicates nesting (main effects to the left of the slash plus their interactions with effects to the right of the slash). Furthermore, all models were fitted with error terms for tank identification (*Tank*), and *Tank*:*Time*, as well as random spline and deviation terms for *Tank*. All random parameters that converged to zero were removed before model evaluation except for *Tank* and *Tank*:*Time* which were always retained to account for the splits-plot design. As models account differently for the variance across *Time*, parameters that converged to zero differed among models and that is the reason why k(G) differ among models.

Table S4   Variance parameters for the overall and maturity-group-specific growth models of body mass.

Term	Var	SE	Var/SE	X_1^2	P
A overall					
spl(*Time*)	7.0E-05	1.7E-04	0.4	0.2	0.643
spl(*Time*):*Sediment*	1.1E-04	1.1E-04	1.0	7.3	0.007
spl(*Time*):*Cross*:*Maturity*	5.3E-05	1.9E-05	2.7	52.2	<0.001
dev(*Time*):*Maturity*	1.5E-04	1.1E-04	1.4	19.4	<0.001
Sediment:*Salinity*:*Cross*:*Maturity*:dev(*Time*)	3.3E-05	1.1E-05	3.0	18.3	<0.001
[a]Tank	2.9E-09	1.4E-10	20.8	NA	NA
[a]Tank:*Time*	5.2E-11	2.5E-12	20.8	NA	NA
Tank:dev(*Time*)	7.4E-05	2.7E-05	2.7	94.3	<0.001
WW-females intercept	7.4E-02	1.2E-02	6.0		
WW-females cov(intercept, slope)	1.7E-05	3.9E-04	0.0		
WW-females:*Time*	1.4E-04	2.5E-05	5.5		
WW-males intercept	9.7E-02	1.6E-02	6.0		
WW-males cov(intercept, slope)	3.8E-04	4.7E-04	0.8		
WW-males:*Time*	1.6E-04	2.8E-05	5.6		
WW- immature intercept	8.5E-02	2.2E-02	4.0		
WW-immature cov(intercept, slope)	1.5E-04	8.3E-04	0.2		
WW- immature:*Time*	2.4E-04	6.4E-05	3.8		
BC-females intercept	2.1E-01	4.5E-02	4.7		
BC-females cov(intercept, slope)	2.7E-04	9.6E-04	0.3		
BC-females:*Time*	1.8E-04	4.0E-05	4.4		
BC-males intercept	1.1E-01	2.4E-02	4.6		
BC-males cov(intercept, slope)	6.7E-04	8.2E-04	0.8		
BC-males:*Time*	2.4E-04	5.4E-05	4.4		
BC- immature intercept	8.6E-02	1.3E-02	6.7		
BC-immature cov(intercept, slope)	-2.1E-04	5.2E-04	-0.4		
BC- immature:*Time*	2.7E-04	4.1E-05	6.4		
F1-females intercept	1.8E-01	4.0E-02	4.4		
F1-females cov(intercept, slope)	2.5E-03	1.0E-03	2.4		
F1-females:*Time*	1.9E-04	4.6E-05	4.1		
F1-males intercept	1.5E-01	2.8E-02	5.2		
F1-males cov(intercept, slope)	1.8E-03	8.1E-04	2.3		
F1-males:*Time*	2.1E-04	4.3E-05	4.9		
F1- immature intercept	1.4E-01	2.0E-02	7.0		
F1-immature cov(intercept, slope)	2.1E-03	6.6E-04	3.2		
F1- immature:*Time*	2.6E-04	3.9E-05	6.7		

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Term	Var	SE	Var/SE	X_1^2	P
F2-females intercept	1.2E-01	3.0E-02	3.9		
F2-females cov(intercept, slope)	1.1E-03	9.3E-04	1.2		
F2-females:*Time*	2.0E-04	5.4E-05	3.7		
F2-males intercept	1.6E-01	3.3E-02	5.0		
F2-males cov(intercept, slope)	-1.1E-03	8.6E-04	-1.2		
F2-males:*Time*	2.0E-04	4.3E-05	4.7		
F2- immature intercept	8.2E-02	1.1E-02	7.2		
F2-immature cov(intercept, slope)	1.2E-04	4.1E-04	0.3		
F2- immature:*Time*	2.0E-04	3.0E-05	6.8		
DD-females intercept	4.7E-02	1.4E-02	3.4		
DD-females cov(intercept, slope)	1.0E-03	7.9E-04	1.3		
DD-females:*Time*	2.6E-04	8.2E-05	3.2		
DD-males intercept	9.6E-02	1.6E-02	6.1		
DD-males cov(intercept, slope)	1.7E-03	7.0E-04	2.5		
DD-males:*Time*	3.4E-04	5.8E-05	5.9		
DD- immature intercept	6.7E-02	1.0E-02	6.4		
DD-immature cov(intercept, slope)	1.7E-03	6.1E-04	2.7		
DD- immature:*Time*	4.0E-04	6.4E-05	6.3		
WW-females:spl(*Time*)	2.4E-04	4.5E-05	5.3		
WW-males:spl(*Time*)	1.6E-04	3.3E-05	4.8		
WW-immature:spl(*Time*)	2.0E-04	5.8E-05	3.4		
BC-females:spl(*Time*)	2.1E-04	4.9E-05	4.4		
BC-males:spl(*Time*)	2.1E-04	5.6E-05	3.8		
BC-immature:spl(*Time*)	2.6E-04	4.3E-05	6.1		
F1-females:spl(*Time*)	4.3E-04	9.8E-05	4.4		
F1-males:spl(*Time*)	1.6E-04	4.0E-05	4.0		
F1-immature:spl(*Time*)	2.1E-04	3.4E-05	6.1		
F2-females:spl(*Time*)	3.9E-04	1.1E-04	3.7		
F2-males:spl(*Time*)	2.1E-04	5.1E-05	4.1		
F2-immature):IND:spl(*Time*)	2.3E-04	3.8E-05	6.2		
DD-females:spl(*Time*)	7.3E-04	2.0E-04	3.7		
DD-males:spl(*Time*)	3.0E-04	5.4E-05	5.6		
DD-immature:spl(*Time*)	2.3E-04	4.0E-05	5.7		
Residuals	5.1E-04	2.5E-05	20.8		
B immature					
spl(*Time*)	4.0E-04	3.8E-04	1.1	2.9	0.089
spl(*Time*):*Sediment*	7.4E-05	8.6E-05	0.9	4.2	0.040
spl(*Time*):*Sediment*:*Salinity*:*Cross*	2.4E-05	1.3E-05	1.9	7.3	0.007

Term	Var	SE	Var/SE	X_1^2	P
Sediment:*Cross*:dev(*Time*)	1.9E-05	1.5E-05	1.3	3.8	0.051
[a]Tank	NA	NA	NA	NA	NA
[a]Tank:*Time*	NA	NA	NA	NA	NA
Tank:dev(*Time*)	8.2E-05	3.4E-05	2.4	58.4	<0.001
WW intercept	8.2E-02	2.1E-02	4.0		
WW cov(intercept, slope)	2.1E-04	8.1E-04	0.3		
WW:*Time*	2.4E-04	6.3E-05	3.8		
BC intercept	8.6E-02	1.3E-02	6.7		
BC cov(intercept, slope)	-2.8E-04	5.2E-04	-0.5		
BC:*Time*	2.8E-04	4.3E-05	6.5		
F1 intercept	1.4E-01	2.0E-02	7.0		
F1 cov(intercept, slope)	2.1E-03	6.7E-04	3.2		
F1:*Time*	2.7E-04	4.0E-05	6.7		
F2 intercept	8.1E-02	1.1E-02	7.2		
F2 cov(intercept, slope)	1.4E-04	4.1E-04	0.3		
F2:*Time*	2.0E-04	2.9E-05	6.9		
DD intercept	7.0E-02	1.1E-02	6.4		
DD cov(intercept, slope)	1.8E-03	6.2E-04	2.9		
DD:*Time*	4.1E-04	6.4E-05	6.3		
WWspl(*Time*)	2.1E-04	6.0E-05	3.5		
BC:spl(*Time*)	3.0E-04	4.7E-05	6.3		
F1:spl(*Time*)	2.4E-04	3.7E-05	6.4		
F2:spl(*Time*)	2.8E-04	4.3E-05	6.5		
DD:spl(*Time*)	2.6E-04	4.4E-05	5.9		
Residuals	4.1E-04	3.2E-05	12.9		
C females					
spl(*Time*):*Sediment*	2.6E-04	1.9E-04	1.4	12.9	<0.001
spl(*Time*):*Cross*	5.0E-05	3.4E-05	1.5	9.4	0.002
[a]Tank	NA	NA	NA	NA	NA
[a]Tank:*Time*	NA	NA	NA	NA	NA
dev(*Time*):Tank	7.4E-05	3.9E-05	1.9	12.4	<0.001
WW intercept	7.5E-02	1.2E-02	6.0		
WW cov(intercept, slope)	1.9E-05	3.9E-04	0.0		
WW:*Time*	1.4E-04	2.5E-05	5.4		
BC intercept	2.1E-01	4.5E-02	4.7		
BC cov(intercept, slope)	2.9E-04	9.5E-04	0.3		
BC:*Time*	1.8E-04	4.0E-05	4.4		
F1 intercept	1.7E-01	3.9E-02	4.4		

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Term	Var	SE	Var/SE	X^2_1	P
F1 cov(intercept, slope)	2.5E-03	1.0E-03	2.5		
F1:*Time*	1.8E-04	4.5E-05	4.1		
F2 intercept	1.2E-01	3.0E-02	3.9		
F2 cov(intercept, slope)	1.1E-03	9.4E-04	1.2		
F2:*Time*	2.1E-04	5.6E-05	3.7		
DD intercept	4.8E-02	1.4E-02	3.4		
DD cov(intercept, slope)	1.1E-03	8.0E-04	1.4		
DD:*Time*	2.6E-04	8.2E-05	3.2		
WWspl(*Time*)	2.1E-04	4.4E-05	4.9		
BC:spl(*Time*)	2.0E-04	4.8E-05	4.1		
F1:spl(*Time*)	3.9E-04	9.3E-05	4.2		
F2:spl(*Time*)	3.4E-04	1.0E-04	3.4		
DD:spl(*Time*)	7.4E-04	2.1E-04	3.6		
Residuals	6.1E-04	5.9E-05	10.3		
D males					
spl(*Time*):*Cross*	1.5E-04	7.0E-05	2.1	89.3	<0.001
Sediment:dev(*Time*)	1.5E-04	1.2E-04	1.3	12.4	<0.001
[a]Tank	NA	NA	NA	NA	NA
Tank:*Time*	1.3E-06	4.3E-06	0.3	0.1	0.756
Tank:spl(*Time*)	3.8E-05	2.0E-05	1.9	20.9	<0.001
WW intercept	9.9E-02	1.6E-02	6.0		
WW cov(intercept, slope)	3.8E-04	4.8E-04	0.8		
WW:*Time*	1.6E-04	2.8E-05	5.6		
BC intercept	1.1E-01	2.4E-02	4.6		
BC cov(intercept, slope)	5.8E-04	8.1E-04	0.7		
BC:*Time*	2.4E-04	5.4E-05	4.3		
F1 intercept	1.4E-01	2.8E-02	5.2		
F1 cov(intercept, slope)	1.8E-03	8.4E-04	2.1		
F1:*Time*	2.3E-04	4.7E-05	4.9		
F2 intercept	1.6E-01	3.3E-02	5.0		
F2 cov(intercept, slope)	-1.1E-03	8.6E-04	-1.2		
F2:*Time*	2.1E-04	4.4E-05	4.7		
DD intercept	9.7E-02	1.6E-02	6.1		
DD cov(intercept, slope)	1.7E-03	7.0E-04	2.4		
DD:*Time*	3.3E-04	5.7E-05	5.9		
WWspl(*Time*)	1.4E-04	3.3E-05	4.4		
BC:spl(*Time*)	1.8E-04	5.1E-05	3.4		
F1:spl(*Time*)	1.4E-04	3.9E-05	3.7		

Term	Var	SE	Var/SE	χ_1^2	P
F2:spl(*Time*)	1.6E-04	4.6E-05	3.6		
DD:spl(*Time*)	2.8E-04	5.4E-05	5.2		
Residuals	6.0E-04	4.7E-05	12.7		

[a]Variance was constrained to be positive and converged to zero.

Comments: Parameters are given for the overall model (**A**), and for maturity groups of immature individuals (**B**), females (**C**), and males (**D**). A colon between terms indicates the formation of the interaction. Some terms contain splines (spl(*Time*)) and deviations (dev(*Time*)) from linear trajectories. Among-individual (co)variances are given for each cross. Crosses are abbreviated with WW, wild; F1, first-generation hybrid; F2, second-generation hybrid; and DD, domesticated Atlantic salmon. The covariance between among-individual variances for intercepts and slopes (interaction of individual with *Time*) is abbreviated by 'cov'. For all among-group variance parameters, the results from REML-likelihood ratio tests (LRT) are given as test-statistic (χ^2, all with 1 degree of freedom) and probability of being different from zero (P). LRT results for among-individual (co)variance terms are reported in supplementary Table S3.

Table S5 Variance parameters for the overall and maturity-group-specific growth models of fork length.

Term	Var	SE	Var/SE	X_1^2	P
A: overall					
spl(*Time*):*Maturity*	6.6E-06	4.0E-06	1.7	24.2	<0.001
spl(*Time*):*Cross*:*Maturity*	5.6E-07	2.7E-07	2.1	15.6	<0.001
dev(*Time*)	3.2E-06	5.0E-06	0.6	1.5	0.219
Sediment:*Salinity*:dev(*Time*)	2.5E-06	1.7E-06	1.5	3.0	0.083
Sediment:*Cross*:dev(*Time*)	2.3E-07	2.0E-07	1.2	2.7	0.101
Sediment:*Maturity*:dev(*Time*)	8.1E-07	6.3E-07	1.3	8.4	0.004
[a]Tank	NA	NA	NA	NA	NA
Tank:lin(*Time*)	1.6E-08	8.0E-08	0.2	0.05	0.829
Tank:spl(*Time*)	7.1E-07	4.1E-07	1.7	24.6	<0.001
WW-females:spl(*Time*)	5.2E-06	1.1E-06	4.8		
WW-males:spl(*Time*)	2.6E-06	7.0E-07	3.8		
WW-immature:spl(*Time*)	9.9E-06	2.7E-06	3.7		
BC-females:spl(*Time*)	5.6E-06	1.4E-06	4.0		
BC-males:spl(*Time*)	4.5E-06	1.3E-06	3.5		
BC-immature:spl(*Time*)	9.0E-06	1.5E-06	6.0		
F1-females:spl(*Time*)	1.2E-05	2.7E-06	4.4		
F1-males:spl(*Time*)	4.0E-06	1.0E-06	3.8		
F1-immature:spl(*Time*)	6.4E-06	1.1E-06	5.7		
F2-females:spl(*Time*)	9.0E-06	2.5E-06	3.7		
F2-males:spl(*Time*)	2.7E-06	8.8E-07	3.1		
F2-immature:spl(*Time*)	7.2E-06	1.2E-06	6.0		
DD-females:spl(*Time*)	1.9E-05	5.2E-06	3.5		
DD-males:spl(*Time*)	1.1E-05	2.0E-06	5.4		
DD-immature:spl(*Time*)	1.2E-05	2.1E-06	5.9		
WW-females intercept	6.8E-03	1.1E-03	6.0		
WW-females cov(intercept, slope)	-3.9E-05	3.0E-05	-1.3		
WW-females:*Time*	9.1E-06	1.6E-06	5.7		
WW-males intercept	1.1E-02	1.8E-03	6.1		
WW-males cov(intercept, slope)	-6.0E-05	3.2E-05	-1.8		
WW-males:*Time*	6.5E-06	1.1E-06	5.7		
WW- immature intercept	6.6E-03	1.7E-03	4.0		
WW-immature cov(intercept, slope)	-5.8E-05	7.6E-05	-0.8		
WW- immature:*Time*	2.7E-05	6.8E-06	3.9		
BC-females intercept	2.0E-02	4.3E-03	4.7		
BC-females cov(intercept, slope)	-1.5E-04	8.0E-05	-1.8		

Term	Var	SE	Var/SE	X_1^2	P
BC-females:*Time*	1.3E-05	2.8E-06	4.6		
BC-males intercept	1.3E-02	2.7E-03	4.6		
BC-males cov(intercept, slope)	-9.7E-05	6.6E-05	-1.5		
BC-males:*Time*	1.4E-05	3.0E-06	4.5		
BC- immature intercept	8.2E-03	1.2E-03	6.7		
BC-immature cov(intercept, slope)	-9.5E-05	3.8E-05	-2.5		
BC- immature:*Time*	1.4E-05	2.2E-06	6.5		
F1-females intercept	1.6E-02	3.6E-03	4.4		
F1-females cov(intercept, slope)	3.5E-05	7.3E-05	0.5		
F1-females:*Time*	1.3E-05	3.0E-06	4.2		
F1-males intercept	1.5E-02	2.8E-03	5.2		
F1-males cov(intercept, slope)	2.4E-05	5.7E-05	0.4		
F1-males:*Time*	1.1E-05	2.3E-06	5.0		
F1- immature intercept	1.2E-02	1.7E-03	7.0		
F1-immature cov(intercept, slope)	6.7E-05	4.1E-05	1.6		
F1- immature:*Time*	1.3E-05	2.0E-06	6.8		
F2-females intercept	1.1E-02	2.8E-03	3.9		
F2-females cov(intercept, slope)	-1.2E-04	6.7E-05	-1.7		
F2-females:*Time*	1.1E-05	2.8E-06	3.8		
F2-males intercept	1.8E-02	3.7E-03	5.0		
F2-males cov(intercept, slope)	-1.6E-04	6.3E-05	-2.5		
F2-males:*Time*	8.9E-06	1.9E-06	4.7		
F2- immature intercept	8.0E-03	1.1E-03	7.2		
F2-immature cov(intercept, slope)	-9.9E-05	3.1E-05	-3.1		
F2- immature:*Time*	1.1E-05	1.6E-06	6.9		
DD-females intercept	4.9E-03	1.4E-03	3.4		
DD-females cov(intercept, slope)	7.8E-05	8.1E-05	1.0		
DD-females:*Time*	2.9E-05	8.7E-06	3.3		
DD-males intercept	9.3E-03	1.5E-03	6.1		
DD-males cov(intercept, slope)	4.7E-05	5.2E-05	0.9		
DD-males:*Time*	2.1E-05	3.5E-06	6.0		
DD- immature intercept	5.8E-03	9.0E-04	6.4		
DD-immature cov(intercept, slope)	4.3E-05	4.0E-05	1.1		
DD- immature:*Time*	2.2E-05	3.5E-06	6.3		
Residuals	2.0E-05	8.6E-07	23.0		
B: immature					
spl(*Time*)	1.20E-05	2.15E-05	0.6	0.5	0.462
spl(*Time*):*Cross*	8.76E-07	6.43E-07	1.4	8.3	0.004

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Term	Var	SE	Var/SE	X^2_1	P
spl(*Time*):*Sediment*	2.57E-06	2.72E-06	0.9	11.3	<0.001
spl(*Time*):*Salinity*	1.66E-06	2.07E-06	0.8	2.7	0.100
dev(*Time*)	9.84E-06	1.98E-05	0.5	0.5	0.474
Salinity:*Cross*:dev(*Time*)	9.07E-07	6.70E-07	1.4	4.1	0.042
dev(*Time*):Tank	2.30E-06	1.16E-06	2.0	22.6	<0.001
[a]Tank	NA	NA	NA	NA	NA
Tank:lin(*Time*)	2.33E-12	1.51E-13	15.4	1.6	0.204
WW:spl(*Time*)	9.31E-06	2.62E-06	3.6		
BC:spl(*Time*)	8.29E-06	1.47E-06	5.6		
F1:spl(*Time*)	5.80E-06	1.10E-06	5.3		
F2:spl(*Time*)	6.29E-06	1.13E-06	5.6		
DD:spl(*Time*)	1.07E-05	1.93E-06	5.5		
WW intercept	6.46E-03	1.63E-03	4.0		
WW cov(intercept, slope)	-4.58E-05	7.43E-05	-0.6		
WW:*Time*	2.61E-05	6.68E-06	3.9		
BC intercept	8.17E-03	1.22E-03	6.7		
BC cov(intercept, slope)	-9.47E-05	3.82E-05	-2.5		
BC:*Time*	1.44E-05	2.22E-06	6.5		
F1 intercept	1.20E-02	1.70E-03	7.0		
F1 cov(intercept, slope)	6.56E-05	4.16E-05	1.6		
F1:*Time*	1.34E-05	1.99E-06	6.7		
F2 intercept	7.88E-03	1.10E-03	7.2		
F2 cov(intercept, slope)	-9.83E-05	3.08E-05	-3.2		
F2:*Time*	1.07E-05	1.56E-06	6.9		
DD intercept	5.88E-03	9.24E-04	6.4		
DD cov(intercept, slope)	4.60E-05	4.03E-05	1.1		
DD:*Time*	2.20E-05	3.48E-06	6.3		
Residuals	2.30E-05	1.49E-06	15.4		
C: females					
spl(*Time*)	2.6E-06	3.7E-06	0.7	2.5	0.112
spl(*Time*):Tank	1.2E-06	7.1E-07	1.7	9.5	0.002
Sediment:dev(*Time*)	3.2E-06	3.3E-06	1.0	3.9	0.049
[a]Tank	NA	NA	NA	NA	NA
Tank:lin(*Time*)	5.0E-07	5.3E-07	0.9	1.6	0.204
WW:spl(*Time*)	5.3E-06	1.1E-06	4.9		
BC:spl(*Time*)	6.5E-06	1.6E-06	4.1		
F1:spl(*Time*)	1.1E-05	2.6E-06	4.4		
F2:spl(*Time*)	1.0E-05	2.7E-06	3.8		

Term	Var	SE	Var/SE	X_1^2	P
DD:spl(*Time*)	2.4E-05	6.3E-06	3.8		
WW intercept	6.7E-03	1.1E-03	6.0		
WW cov(intercept, slope)	-4.2E-05	3.0E-05	-1.4		
WW:*Time*	8.9E-06	1.6E-06	5.7		
BC intercept	2.0E-02	4.3E-03	4.7		
BC cov(intercept, slope)	-1.4E-04	7.8E-05	-1.8		
BC:*Time*	1.2E-05	2.7E-06	4.5		
F1 intercept	1.5E-02	3.5E-03	4.4		
F1 cov(intercept, slope)	4.0E-05	7.3E-05	0.5		
F1:*Time*	1.3E-05	3.1E-06	4.2		
F2 intercept	1.1E-02	2.8E-03	3.9		
F2 cov(intercept, slope)	-9.8E-05	6.8E-05	-1.4		
F2:*Time*	1.1E-05	3.1E-06	3.7		
DD intercept	4.8E-03	1.4E-03	3.4		
DD cov(intercept, slope)	7.7E-05	7.9E-05	1.0		
DD:*Time*	2.8E-05	8.6E-06	3.3		
Residuals	1.7E-05	1.6E-06	10.9		
D: males					
spl(*Time*)	1.46E-06	1.82E-06	0.8	8.6	0.003
Tank	5.04E-05	2.14E-04	0.2	0.1	0.806
[a]Tank:lin(*Time*)	NA	NA	NA	NA	NA
Cross:dev(*Time*)	6.42E-07	4.92E-07	1.3	5.7	0.017
Sediment:*Salinity*:dev(*Time*)	3.24E-06	1.63E-06	2.0	61.6	<0.001
WW:spl(*Time*)	2.82E-06	7.07E-07	4.0		
BC:spl(*Time*)	5.04E-06	1.37E-06	3.7		
F1:spl(*Time*)	4.82E-06	1.16E-06	4.1		
F2:spl(*Time*)	3.02E-06	8.99E-07	3.4		
DD:spl(*Time*)	1.30E-05	2.29E-06	5.7		
WW intercept	1.08E-02	1.80E-03	6.0		
WW cov(intercept, slope)	-6.33E-05	3.29E-05	-1.9		
WW:*Time*	6.55E-06	1.14E-06	5.7		
BC intercept	1.25E-02	2.72E-03	4.6		
BC cov(intercept, slope)	-9.85E-05	6.59E-05	-1.5		
BC:*Time*	1.36E-05	3.03E-06	4.5		
F1 intercept	1.43E-02	2.77E-03	5.1		
F1 cov(intercept, slope)	1.92E-05	5.84E-05	0.3		
F1:*Time*	1.23E-05	2.45E-06	5.0		
F2 intercept	1.83E-02	3.67E-03	5.0		

Term	Var	SE	Var/SE	χ^2_1	P
F2 cov(intercept, slope)	-1.53E-04	6.29E-05	-2.4		
F2:*Time*	9.05E-06	1.89E-06	4.8		
DD intercept	9.38E-03	1.53E-03	6.1		
DD cov(intercept, slope)	4.39E-05	5.17E-05	0.8		
DD:*Time*	2.08E-05	3.45E-06	6.0		
Residuals	1.72E-05	1.31E-06	13.1		

[a]Variance was constrained to be positive and converged to zero.

Comments: Parameters are given for the overall model (**A**), and for maturity groups of immature individuals (**B**), females (**C**), and males (**D**). A colon between terms indicates the formation of the interaction. Some terms contain splines (spl(*Time*)) and deviations (dev(*Time*)) from linear trajectories. Among-individual (co)variances are given for each cross. Crosses are abbreviated with WW, wild; F1, first-generation hybrid; F2, second-generation hybrid; and DD, domesticated Atlantic salmon. The covariance between among-individual variances for intercepts and slopes (interaction of individual with *Time*) is abbreviated by 'cov'. For all among-group variance parameters, the results from REML-likelihood ratio tests (LRT) are given as test-statistic (χ^2, all with 1 degree of freedom) and probability of being different from zero (P). LRT results for among-individual (co)variance terms are reported in supplementary Table S3.