Table	Definition
Start LfStg	**Beginning Lifestage**
End LfStg	**Ending lifestage**
Start Age (mn)	**Beginning Age (months)**
End Age (mn)	**Ending Age (months)**

Notes on table designations

Life stage → This is the life stage at which survival was quantified

Beginning Age → Age of fish at the beginning of survival determination

Duration → Duration was total length of time of survival
For Egg to hatching and Egg to emergence, a value of NA is given because the time is incubation temperature dep
and generally not reported in manuscript

→ Indicates that we may decide to NOT use this data

→ Indicates that the information in this cell was not able to be checked - info may be incorrect or was never reported

pendent

Peer reviewed 1st, then old ASC

Add Bley & Moring's stuff

check!!!!

Author	Species	Region	River	Start LfStg	End Lfstg	Start Age (mn)
Burns, 1971, from Bley & Moring, 1988	Oncorhynchus mykiss	California		fry	0+ parr	unk
Egglishaw & Shackley, 1973, from Locke, 1998	Salmo salar	Scotland		Fry	0+ parr	Fry
Elson, 1957b, from Locke, 1998	Salmo salar	New Brunswick	Pollet	Egg	0+ parr	Egg
Elson, 1957b, from Locke, 1998	Salmo salar	New Brunswick	Miramachi	Egg	0+ parr	Egg
Gardiner & Shackley, 1991	Salmo salar	Scotland	Selligan Burn	Fry	0+ parr	0
Greenwood, 1981, from Bley & Moring, 1988	Salmo salar	New Hampshire, USA	Baker River	Fry	0+ parr	fry
Hume & Parkinson, 1987	Oncorhynchus mykiss	British Columbia	Lynn Creek	Fry	0+ parr	1.5
Jessop, 1984, from Locke, 1998	Salmo salar	New Brunswick	Big Salmon	Egg	0+ parr	Egg
Jessop, 1984, from Locke, 1998	Salmo salar	New Brunswick	LaHave	Egg	0+ parr	Egg
Jessop, 1984, from Locke, 1998	Salmo salar		Tobique	Egg	0+ parr	Egg
Jessop, 1984, from Locke, 1998	Salmo salar		Nashwaak	Egg	0+ parr	Egg
Kennedy & Strange, 1984, from Bley & Moring, 1988	Salmo salar	Ireland	Bush	Fry	0+ parr	fry
Knight et al., 1982, from Bley & Moring, 1988	Salmo salar	New Hampshire, USA	Mad River	Fry	0+ parr	fry
McMenemy, 1995	Salmo salar	Vermont	West River, Conneticut R.	Fry	0+ parr	0
McMenemy, 1995	Salmo salar	Vermont	West River, Conneticut R.	Fry	0+ parr	0
Meister, 1962, from Locke, 1998	Salmo salar	Maine, USA	Cove Brook	Egg	0+ parr	Egg
Mills, 1969, from Locke, 1998	Salmo salar	Scotland	Tributaries, River Bran	Fry	0+ parr	Fry
Orciari et. al., 1994	Salmo salar	New England	Sandy Brook, Connecticut	Fry	0+ parr	0
Spalding et al., 1995	Oncorhynchus kisutch	Washington state	Artificial stream, Big Beef Creek	Fry	0+ parr	1
Stewart, 1963, from Bley & Moring, 1988	Salmo salar	England	Various	Fry	0+ parr	fry
Stewart, 1963, from Bley & Moring, 1988	Salmo salar	England	Various	Fry	0+ parr	fry
Wentworth & LaBar, 1984	Oncorhynchus mykiss	Vermont	Lewis	Fry	0+ parr	0
Wentworth & LaBar, 1984	Oncorhynchus mykiss	Vermont	Lewis	Fry	0+ parr	0
Beland & Friedland, 1997	Salmo salar	Maine, USA	Narraguagus	Egg	1+ parr	Egg
Burns, 1971, from Bley & Moring, 1988	Oncorhynchus mykiss	California		1+ parr	1+ parr	unk
Close & Anderson, 1992	Oncorhynchus mykiss	Minnesota	Stewart	Fry	1+ parr	0
Close & Anderson, 1992	Oncorhynchus mykiss	Minnesota	Stewart	Fry	1+ parr	0
Close & Anderson, 1992	Oncorhynchus mykiss	Minnesota	Split Rock	Fry	1+ parr	0
Close & Anderson, 1992	Oncorhynchus mykiss	Minnesota	Split Rock	Fry	1+ parr	0
Close & Anderson, 1992	Oncorhynchus mykiss	Minnesota	Two Island	Fry	1+ parr	0
Cote & Pomerleau, 1985, from Locke, 1998	Salmo salar	Quebec		0+ parr	1+ parr	unk
Egglishaw & Shackley, from Locke, 1998	Salmo salar	Scotland		0+ parr	1+ parr	unk
Gardiner & Shackley, 1991	Salmo salar	Scotland	Selligan Burn	Fry	1+ parr	0

12.38

End Age (mn)	Duration (# months)	% Mean Survival	Range	# Years of data	Origin	mortality	Searcher	Report or Peer reviewed
unk	5	27.00	20 - 29	unk	unk		Magee	peer
unk	unk	20.00	9 - 30	unk	hatchery		Magee	
unk	unk	7.00	6 - 8	unk	wild		Magee	
unk	unk	8.00	unk	unk	wild		Magee	
6	6	16.40	2.8 - 24	6	Wild	Density dependent mortality	Magee	peer
unk	unk	12.30	15.3 - 25.8	3	hatchery		Magee	
3	1.6	44.00	29 - 59	3	Hatchery		Magee	peer
unk	unk	2.00	1 - 3	unk	wild		Magee	
unk	unk	7.00	5 - 8	unk	wild		Magee	
unk	unk	12.00	7 - 20	unk	wild		Magee	
unk	unk	15.00	11 - 18	unk	wild		Magee	
unk	unk	16.70	NA	unk	hatchery		Magee	
unk	unk	25.00	11 - 46	5	hatchery		Magee	
4	4	42.40	31.7 - 53	5	Hatchery	Density dependent mortality	Magee	peer
6	6	11.60	5.5-16.6	3	Hatchery	Density dependent mortality	Magee	peer
unk	unk	10.00	9 - 11	unk	wild		Magee	
unk	unk	8.00	1 - 30	4-5	hatchery		Magee	
5	5	27.00	18 - 35	3	wild		Magee	peer
4.5	3.5	74.00	63 - 91	1	wild	unk	Magee	peer
unk	unk	1.73	NA	unk	hatchery		Magee	
unk	unk	8.80	NA	unk	hatchery		Magee	
3	3	21.80	13 - 32	1	Hatchery	unk	Magee	peer
5	5	18.00	11 - 22	1	Hatchery	unk	Magee	peer
22	22	2.50	2 - 2.9	3	Wild	unk	Magee	report
unk	5	56.00	34 - 94	unk	unk		Magee	peer
12	12	3.70	0.0	1	Hatchery	unk	Magee	peer
12	12	16.00	0.0	1	Hatchery	unk	Magee	peer
12	12	2.60	0.0	1	Hatchery	unk	Magee	peer
12	12	3.00	0.0	1	Hatchery	unk	Magee	peer
12	12	3.20	0.0	1	Hatchery	unk	Magee	peer
unk	unk	17.00	1 - 29	unk	wild		Magee	
unk	unk	51.00	22 - 88	unk	wild		Magee	
18	18	1.25	0.4 - 2.8	5	Wild	Density dependent mortality	Magee	peer

Comments

Fry stocked from eggs hatched in hatchery
Stocked as fry after 1-2 months of feeding in hatchery

Fry stocked from eggs hatched in hatchery
Fry stocked from eggs hatched in hatchery
Stocked at low density (32/100m2)
Stocked at low density (117/100m2)

Fry hatched in hatchery and released unfed
Fry collected after emergence and transferred to artificial stream channels
Unfed fry stocked at 2/yd
Fed fry stocked at 5-14/yd

Are these really wild only? - presentation at 1997 AFS meeting

Heggenes & Borgstroem, 1991	Salmo salar	Norway		0+ parr	1+ parr	
Hume & Parkinson, 1987	Oncorhynchus mykiss	British Columbia	Lynn Creek	0+ parr	1+ parr	3
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Englishman	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Englishman	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Englishman	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Englishman	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Englishman	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Englishman	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Englishman	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Englishman	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Englishman	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Englishman	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Englishman	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Moriarty	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Moriarty	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Moriarty	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Moriarty	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Moriarty	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Moriarty	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Moriarty	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Moriarty	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Moriarty	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Moriarty	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Moriarty	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Moriarty	Fry	1+ parr	0
Hume & Parkinson, 1988	Oncorhynchus mykiss	British Columbia	Moriarty	Fry	1+ parr	0
Kennedy & Strange, 1980, from Bley & Moring, 1988	Salmo salar	Ireland		0+ parr	1+ parr	unk
Kennedy & Strange, 1980, from Bley & Moring, 1988	Salmo salar	Ireland		0+ parr	1+ parr	unk
Kennedy & Strange, 1980, from Locke, 1998	Salmo salar			0+ parr	1+ parr	unk
Kennedy & Strange, 1986, from Locke, 1998	Salmo salar			0+ parr	1+ parr	unk
Knight et al., 1982, from Bley & Moring, 1988	Salmo salar	New Hampshire, USA	Mad River	0+ parr	1+ parr	unk
McMenemy, 1995	Salmo salar	Vermont	West River, Conneticut R.	Fry	1+ parr	0
McMenemy, 1995	Salmo salar	Vermont	West River, Conneticut R.	Fry	1+ parr	0
Meister, 1962, from Locke, 1998	Salmo salar	Maine, USA	Cove Brook	0+ parr	1+ parr	unk

		24.80					Magee	
15	12	29.00	10 - 51	3	Hatchery		Magee	peer
1+ parr	13	13.86	0.0	2	Hatchery		Magee	peer
1+ parr	12	5.39	5.4 - 12	2	Hatchery		Magee	peer
1+ parr	12	11.99	5.4 - 12	2	Hatchery		Magee	peer
1+ parr	11	14.12	14.1 - 15.9	2	Hatchery		Magee	peer
1+ parr	11	15.89	14.1 - 15.9	2	Hatchery		Magee	peer
1+ parr	10	21.12	0.0	2	Hatchery		Magee	peer
1+ parr	9	24.68	0.0	2	Hatchery		Magee	peer
1+ parr	8	63.60	37.6 - 63.6	2	Hatchery		Magee	peer
1+ parr	8	37.63	37.6 - 63.6	2	Hatchery		Magee	peer
1+ parr	7	26.46	26.5 - 46	2	Hatchery		Magee	peer
1+ parr	7	32.06	26.5 - 46	2	Hatchery		Magee	peer
1+ parr	7	46.00	26.5 - 46	2	Hatchery		Magee	peer
1+ parr	13	8.87	0.0	2	Hatchery		Magee	peer
1+ parr	12	23.72	23.7 - 27.5	2	Hatchery		Magee	peer
1+ parr	12	27.50	23.7 - 27.5	2	Hatchery		Magee	peer
1+ parr	11	24.20	17.6 - 24.2	2	Hatchery		Magee	peer
1+ parr	11	17.62	17.6 - 24.2	2	Hatchery		Magee	peer
1+ parr	10	29.14	0.0	2	Hatchery		Magee	peer
1+ parr	9	23.41	0.0	2	Hatchery		Magee	peer
1+ parr	8	42.67	42.7 - 52.7	2	Hatchery		Magee	peer
1+ parr	8	45.40	42.7 - 52.7	2	Hatchery		Magee	peer
1+ parr	8	52.68	42.7 - 52.7	2	Hatchery		Magee	peer
1+ parr	7	57.07	36.2 - 50.1	2	Hatchery		Magee	peer
1+ parr	7	36.23	36.2 - 50.1	2	Hatchery		Magee	peer
1+ parr	7	40.22	36.2 - 50.1	2	Hatchery		Magee	peer
1+ parr	7	39.58	36.2 - 50.1	2	Hatchery		Magee	peer
1+ parr	7	50.11	36.2 - 50.1	2	Hatchery		Magee	peer
unk	unk	31.70	NA	unk	wild		Magee	
unk	unk	14.30	NA	unk	wild		Magee	
unk	unk	NA	14 - 32	unk	wild		Magee	
unk	unk	47.00	NA	unk	wild		Magee	
unk	unk	45.00	18 - 64	unk	hatchery		Magee	
16	16	18.50	16.3 - 20.9	5	Hatchery	Density dependent mortality	Magee	peer
16	16	4.60	1.3-7.5	3	Hatchery	Density dependent mortality	Magee	peer
unk	unk	50.00	41 - 59	unk	wild		Magee	

Stocked as fry after 1-2 months of feeding in hatchery

Stream gradient = 1:35

Stream gradient = 1:22

Fry stocked from eggs hatched in hatchery

Stocked at low density (32/100m2)

Stocked at low density (117/100m2)

Orciari et. al., 1994	Salmo salar	New England	Sandy Brook, Connecticut	0+ parr	1+ parr	5
Orciari et. al., 1994	Salmo salar	New England	Sandy Brook, Connecticut	0+ parr	1+ parr	5
Orciari et. al., 1994	Salmo salar	New England	Sandy Brook, Connecticut	1+ parr	1+ parr	14
Orciari et. al., 1994	Salmo salar	New England	Sandy Brook, Connecticut	Fry	1+ parr	0
Seelbach, 1987	Oncorhynchus mykiss	Michigan, USA	Little Manistee River	0+ parr	1+ parr	3
Wentworth & LaBar, 1984	Oncorhynchus mykiss	Vermont	Lewis	Fry	1+ parr	0
Heggenes & Borgstroem, 1991	Salmo salar	Norway		0+ parr	1+ smolt	
Peterson et al., 1994	Oncorhynchus kisutch	Washington state	Big Beef Creek, Hood Canal	0+ parr	1+ smolt	5
Gardiner & Shackley, 1991	Salmo salar	Scotland	Selligan Burn	0+ parr	1+parr	6
Ritter,1989	Salmo salar	Newfoundland	Big Salmon	smolt	1SW,2SW,3SW	unk
Orciari et. al., 1994	Salmo salar	New England	Sandy Brook, Connecticut	1+ parr	2+ parr	17
Orciari et. al., 1994	Salmo salar	New England	Sandy Brook, Connecticut	2+ parr	2+ parr	26
Hume & Parkinson, 1987	Oncorhynchus mykiss	British Columbia	Lynn Creek	1+ parr	2+ parr, 2+ smo	15
Elson, 1957a, from Locke, 1998	Salmo salar			0+ parr	2+ smolt	unk
Elson, 1957a, from Locke, 1998	Salmo salar			0+ parr	2+ smolt	unk
Elson, 1957a, from Locke, 1998	Salmo salar			1+ parr	2+ smolt	unk
Elson, 1975, from Locke, 1998	Salmo salar			0+ parr	2+ smolt	unk
Elson, 1975, from Locke, 1998	Salmo salar			0+ parr	2+ smolt	unk
Meister, 1962, from Locke, 1998	Salmo salar	Maine, USA	Cove Brook	0+ parr	2+ smolt	unk
Orciari et. al., 1994	Salmo salar	New England	Sandy Brook, Connecticut	1+ parr	2+ smolt	17
Orciari et. al., 1994	Salmo salar	New England	Sandy Brook, Connecticut	1+ parr	2+ smolt	14
Orciari et. al., 1994	Salmo salar	New England	Sandy Brook, Connecticut	Fry	2+ smolt	0
Seelbach, 1987	Oncorhynchus mykiss	Michigan, USA	Little Manistee River	1+ parr	2+ smolt	15
Baum, 1983, from Bley & Moring, 1988	Salmo salar	Maine, USA		smolt	adult	unk
Beland & Friedland, 1997	Salmo salar	Maine, USA	Narraguagus	smolt	adult	31 assumed
Bilton et. al., 1982	Oncorhynchus kisutch	British Columbia	Rosewall Creek	Fry	adult	unk
Bjornn, 1978, from Bley & Moring, 1988	Oncorhynchus mykiss	Idaho		smolt	adult	unk
Bradford, 1995	Oncorhynchus kisutch	Various	Various	smolt	adult	unk
Coronado & Hilborn, 1998	Oncorhynchus kisutch	CA, OR, WA, BC, AK	Various	smolt	adult	unk
Coronado & Hilborn, 1998	Oncorhynchus kisutch	Alaska	Various	smolt	adult	unk
Coronado & Hilborn, 1998	Oncorhynchus kisutch	British Columbia	Various	smolt	adult	unk
Coronado & Hilborn, 1998	Oncorhynchus kisutch	Washington state	Various	smolt	adult	unk
Coronado & Hilborn, 1998	Oncorhynchus kisutch	Oregon	Various	smolt	adult	unk
Coronado & Hilborn, 1998	Oncorhynchus kisutch	California	Various	smolt	adult	unk
Cross et al., 1991	Oncorhynchus kisutch	British Columbia	Various	smolt	adult	unk
Gibson, 1979, from Bley& Moring, 1988	Salmo salar	Quebec	Matamek River	smolt	adult	unk
Holtby et al., 1990	Oncorhynchus kisutch	British Columbia	Carnation Creek	1+ smolt, 2+smc	adult	12 - 24

14	9	53.30	45 - 68	3	wild		Magee	peer
17	12	32.40	27 - 42	3	wild		Magee	peer
17	3	60.70	60 - 62	3	wild		Magee	peer
17	17	8.60	7 - 10	3	wild		Magee	peer
15	12	30.30	13 - 90	3	wild		Magee	peer
12	12	4.60	2 - 9	1	Hatchery	unk	Magee	peer
		15.50					Magee	
12	7	33.75	25.4 - 42.1	2	wild	unk	Magee	peer
18	12	11.30	3.3 - 18.7	5	Wild	Density dependent mortality	Magee	peer
unk		6.00	1-9.7	6	wild		Sus	peer
26	9	7.50	2 - 11	3	wild		Magee	peer
29	3	74.80	59 - 84	3	wild		Magee	peer
24 - 27	25	11.00	4 - 36	3	Hatchery		Magee	peer
unk	unk	20.00	NA	unk	wild		Magee	
unk	unk	NA	3 -12	unk	hatchery		Magee	
unk	unk	11.00	2 - 30	unk	hatchery		Magee	
unk	unk	38.00	NA	unk	wild		Magee	
unk	unk	8.00	NA	unk	hatchery		Magee	
unk	unk	>5	NA	unk	wild		Magee	
24.5	7.5	31.20	24 - 37	3	wild		Magee	peer
24.5	10.5	19.00	14 - 23	3	wild		Magee	peer
24	24	3.00	2 - 3	3	wild		Magee	peer
24	9	55.70	13 - 90	3	wild		Magee	peer
unk	unk	NA	0.7 - 1.39	unk	hatchery		Magee	
43 - 67	12 - 36	0.70	0.5 - 0.9	3	Wild	unk	Magee	report
unk	15 - 30	20.46	3.3 - 45.5	1	hatchery	unk	Magee	peer
unk	unk	NA	0.5 - 2.2	10	unk		Magee	peer
unk	unk	2.32	na	unk	unk		Magee	peer
unk	unk	4.30	0.9 - 5	20	hatchery	unk	Magee	peer
unk	unk	3.80	NA	20	hatchery	unk	Magee	peer
unk	unk	5.00	NA	20	hatchery	unk	Magee	peer
unk	unk	4.70	NA	20	hatchery	unk	Magee	peer
unk	unk	2.00	NA	20	hatchery	unk	Magee	peer
unk	unk	0.90	NA	20	hatchery	unk	Magee	peer
unk	unk	9.85	5.5 - 15	11	hatchery	unk	Magee	report
unk	unk	1.50	NA	unk	unk		Magee	
24 - 60	12 - 36	15.10	5 - 30	17	wild	unk	Magee	peer

Fry hatched in hatchery and released unfed
Fry hatched in hatchery and released unfed
Fry hatched in hatchery and released unfed
Fry hatched in hatchery and released unfed

Overwinter survival of s-CW and PIT tagged parr

Estimates made by salmon catches by the sea fisheries and returns to the river
Fry hatched in hatchery and released unfed
Fry hatched in hatchery and released unfed
Stocked as fry after 1-2 months of feeding in hatchery
Hatchery reared to 0+
Hatchery reared to 0+
Hatchery reared to 0+
Hatchery reared to 0+
Hatchery reared to 0+

Fry hatched in hatchery and released unfed
Fry hatched in hatchery and released unfed
Fry hatched in hatchery and released unfed

Green Lake hatchery smolts
presentation at 1997 AFS meeting
Differential survival due to timing and size at release

Instantaneous mortality reported in % suvival column
Graph indicates highest survival over 20 years was 5% but text indicate "6.21%" for British Columbia

Survival is for all BC hatcheries from 1975 to 1985

Includes survival rates for 1+ and 2+ smolts (which were not significantly different)

Hume & Parkinson, 1984, from Bley & Moring, 1988	Oncorhynchus mykiss	British Columbia		smolt	adult	unk
Hume & Parkinson, 1984, from Bley & Moring, 1988	Oncorhynchus mykiss	British Columbia		smolt	adult	unk
Hvidsten & Hansen, 1988	Salmo salar	Norway	Gaula, Surna	smolt	adult	31 assumed
Hvidsten & Johnsen, 1993	Salmo salar	Norway	Orkla	smolt	adult	unk
Labelle et al., 1997	Oncorhynchus kisutch	British Columbia	Various	smolt	adult	unk
Martin & Wertheimer, 1987	Oncorhynchus kisutch	Alaska	Little Port Walter Hatchery	1+ parr	adult	6
Martin & Wertheimer, 1987	Oncorhynchus kisutch	Alaska	Little Port Walter Hatchery	2+ smolt	adult	12
Martin & Wertheimer, 1987	Oncorhynchus kisutch	Alaska	Little Port Walter Hatchery	2+ smolt	adult	14
Mathews & Ishida, 1989	Oncorhynchus kisutch	Oregon	Big Creek, Columbia R.	0+ smolt	adult	6
Mathews & Ishida, 1989	Oncorhynchus kisutch	Oregon	Big Creek, Columbia R.	1+ smolt	adult	12
Mathews & Ishida, 1989	Oncorhynchus kisutch	Oregon	Big Creek, Columbia R.	1+ smolt	adult	13
Mathews & Ishida, 1989	Oncorhynchus kisutch	Oregon	Big Creek, Columbia R.	1+ smolt	adult	14
Mathews & Ishida, 1989	Oncorhynchus kisutch	Oregon	Big Creek, Columbia R.	1+ smolt	adult	12 - 13
Meister, 1962, from Bley & Moring, 1988	Salmo salar	Maine, USA	Cove Brook	smolt	adult	unk
Murray, 1968	Salmo salar	Newfoundland	Little Codroy	smolt	adult	13 - 67
Osterdahl, 1969, from Bley & Moring, 1988	Salmo salar	Sweden		smolt	adult	unk
Reddin	Salmo salar	Northwest Atlantic	Wester Arm Brook, Nfld	smolt	adult	unk
Ritter,1989	Salmo salar	Newfoundland	Sand Hill	smolt	adult	unk
Staurnes et al., 1993	Salmo salar	Norway	Ingdalselva	smolt	adult	25
Staurnes, et al., 1996	Salmo salar	Norway	Lygna	smolt	adult	13 - 25
Staurnes, et al., 1996	Salmo salar	Norway	Lygna	smolt	adult	13 - 25
Staurnes, et al., 1996	Salmo salar	Norway	Audna	smolt	adult	13 - 25
Wagner, 1969, from Bley & Moring, 1988	Oncorhynchus mykiss	Oregon		smolt	adult	unk
Wagner, 1969, from Bley & Moring, 1988	Oncorhynchus mykiss	Oregon		smolt	adult	unk
Wagner, 1969, from Bley & Moring, 1988	Oncorhynchus mykiss	Oregon		smolt	adult	unk
Wagner, 1969, from Bley & Moring, 1988	Oncorhynchus mykiss	Oregon		smolt	adult	unk
Wagner, 1969, from Bley & Moring, 1988	Oncorhynchus mykiss	Oregon		smolt	adult	unk
Watt, 1986, from Bley & Moring, 1988	Salmo salar	Nova Scotia	St. John River	smolt	adult	unk
Watt, 1986, from Bley & Moring, 1988	Salmo salar	Maine, USA	Narraguagus	smolt	adult	unk
Wendt & Saunders, 1973, from Bley & Moring, 1988	Salmo salar	Sweden		smolt	adult	unk
Wendt & Saunders, 1973, from Bley & Moring, 1988	Salmo salar	Sweden		smolt	adult	unk
Carlin, 1967, from Locke, 1998	Salmo salar			1+ smolt, 2+ sm	adult, 1-2SW	unk
Carlin, 1967, from Locke, 1998	Salmo salar			1+ smolt, 2+ sm	adult, 1-2SW	unk
Isaksson, 1979, from Locke, 1998	Salmo salar	Iceland	Ellidaar	1+ smolt, 2+ sm	adult, 1-2SW	unk
Isaksson, 1979, from Locke, 1998	Salmo salar	Iceland	Sugandafjordur	1+ smolt, 2+ sm	adult, 1-2SW	unk
Isaksson, 1979, from Locke, 1998	Salmo salar	Iceland	Artunsa	1+ smolt, 2+ sm	adult, 1-2SW	unk
Isaksson, 1979, from Locke, 1998	Salmo salar	Iceland	Ellidaar	1+ smolt, 2+ sm	adult, 1-2SW	unk

unk	unk	13.00	n	unk	wild		Magee	peer
unk	unk	5.00	n	unk	Hatchery		Magee	peer
43 - 55	12 - 24	9.00	5 - 16	25	Hatchery	Low discharge at time of stocking	Magee	peer
unk	12 - 36	2.90	0.7 - 6.8	5	Hatchery	unk	Magee	Peer
unk	unk	9.20	0.5 - 23.1	3	both	unk	Magee	peer
unk	unk	0.27	0.02 - 0.52	2	hatchery	unk	Magee	peer
unk	unk	0.25	0.2 - 0.3	2	hatchery	unk	Magee	peer
unk	unk	8.70	3.3 - 12	2	hatchery	unk	Magee	peer
42+	36+	7.89	NA	1	hatchery	unk	Magee	peer
48+	36+	1.16	NA	1	hatchery	unk	Magee	peer
47+	35+	4.27	NA	1	hatchery	unk	Magee	peer
46+	34+	2.77	NA	1	hatchery	unk	Magee	peer
47+	35+	2.87	0.95 - 5.14	1	hatchery	unk	Magee	peer
unk	unk	2.95	NA	unk	wild		Magee	
25 - 79	12 - 67	9.42	NA	8	Wild	unk	Magee	peer
unk	unk	NA	6 - 13	unk	hatchery		Magee	
unk		5.5	3-12.10	8	wild		Sus	peer
unk		23.2	20.2-26.7	3	wild		Sus	peer
37 - 61	12 - 36	1.00	0.3 - 1.6	1	Hatchery	unk	Magee	peer
25 - 37	12 - 24	0.60	0.5 - 0.8	1	Hatchery	Acid exposure	Magee	peer
25 - 37	12 - 24	4.00	3.8 - 4.1	1	Hatchery	unk	Magee	peer
25 - 37	12 - 24	4.40	2.5 - 5.9	2	Hatchery	unk	Magee	peer
unk	unk	NA	1.6 - 6	unk	Hatchery		Magee	peer
unk	unk	NA	2.3 - 3.5	unk	Hatchery		Magee	peer
unk	unk	NA	1.7 - 3.1	unk	Hatchery		Magee	peer
unk	unk	NA	1.5 - 5.7	unk	Hatchery		Magee	peer
unk	unk	NA	3.3 - 7	unk	Hatchery		Magee	peer
unk	unk	NA	5 - 8	unk	unk		Magee	
unk	unk	NA	3 - 5	unk	unk		Magee	
unk	unk	NA	0.4 - 13	unk	hatchery		Magee	
unk	unk	NA	2.1 - 12	unk	hatchery		Magee	
unk	unk	10.00	2 - 16	unk	wild		Magee	
unk	unk	NA	0 - 11	unk	hatchery		Magee	
unk	unk	21.00	na	unk	wild		Magee	
unk	unk	NA	1 - 2	unk	hatchery		Magee	
unk	unk	2.00	NA	unk	hatchery		Magee	
unk	unk	8.00	NA	unk	hatchery		Magee	

Release into large shoals of wild fish increased survival to adult

Survival estimates are averaged across stocks and across years (1986-1988)

Survival of fish released into estuary in October

Survival of fish released into estuary in march/early April

Survival of fish released into estuary in late May

Fish released as 0+ smolts - graded for largest individuals at a private hatchery

Fish released in May - survival excluding jacks

Fish released in June - survival excluding jacks

Fish released in July - survival excluding jacks

Fish released on five dates from June-July

Natural escapement and return: no tagging

Estimated commercial fishery had taken 48% grilse, 75% 2SW, and 43% 3SW fish

Estimates made by salmon catches by the sea fisheries and returns to the river

Smolts used were progeny of wild fish from nearby river in central Norway

River of release (Lygna)was acidic

Released into estuary of acidic river (Lygna)

Released into limed river (Audna)

"Untrained" hatchery smolts

"Trained" hatchery smolts (range is from four years of data)

Osterdahl, 1969, from Locke, 1998	Salmo salar	Sweden		1+ smolt, 2+ sm	adult, 1-2SW	unk
Osterdahl, 1969, from Locke, 1998	Salmo salar	Sweden		1+ smolt, 2+ sm	adult, 1-2SW	unk
Rideout & Stolte, 1988, from Locke, 1998	Salmo salar	USA	Connecticut River	1+ smolt, 2+ sm	adult, 1-2SW	unk
Rideout & Stolte, 1988, from Locke, 1998	Salmo salar	USA	Connecticut River	1+ smolt, 2+ sm	adult, 1-2SW	unk
Rideout & Stolte, 1988, from Locke, 1998	Salmo salar	USA	Merrimack River	1+ smolt, 2+ sm	adult, 1-2SW	unk
Shearer, 1961, from Locke, 1998	Salmo salar			1+ smolt, 2+ sm	adult, 1-2SW	unk
Shearer, 1961, from Locke, 1998	Salmo salar			1+ smolt, 2+ sm	adult, 1-2SW	unk
Meyers, 1994, from Locke, 1998	Salmo salar	USA	Connecticut River	2+ smolt	adult, 1-3SW	24
Piggins, 1979, from Locke, 1998	Salmo salar	Ireland	Bush	2+ smolt	adult, 1-3SW	24
Piggins, 1979, from Locke, 1998	Salmo salar	Ireland	Burrishoole	2+ smolt	adult, 1-3SW	24
Piggins, 1979, from Locke, 1998	Salmo salar	Ireland	Bush	2+ smolt	adult, 1-3SW	24
Piggins, 1979, from Locke, 1998	Salmo salar	Ireland	Bush	2+ smolt	adult, 1-3SW	24
Piggins, 1979, from Locke, 1998	Salmo salar	Ireland	Burrishoole	2+ smolt	adult, 1-3SW	24
Piggins, 1979, from Locke, 1998	Salmo salar	Ireland	Burrishoole	2+ smolt	adult, 1-3SW	24
Stolte, 1994, from Locke, 1998	Salmo salar	USA	Merrimack River	2+ smolt	adult, 1-3SW	24
Wagner, 1968	Oncorhynchus mykiss	Oregon	Alsea	smolt	adult, 1-3SW	unk
Ward & Slaney, 1988	Oncorhynchus mykiss	British Columbia	Keogh R.	smolt	adult, 1-3SW	24 - 48
Ward & Slaney, 1990	Oncorhynchus mykiss	British Columbia	Keogh R.	smolt	adult, 1-3SW	31 assumed
Baum, 1983, from Locke, 1998	Salmo salar	Maine, USA	Penobscot	2+ smolt	adult, 1SW	24
Chadwick et al., 1974, from Bley & Moring, 1988	Salmo salar	Newfoundland	West Arm Brook	3+ smolt	adult, 1SW	unk
Chadwick et al., 1974, from Bley & Moring, 1988	Salmo salar	Newfoundland	West Arm Brook	4+ smolt	adult, 1SW	unk
Chadwick et al., 1974, from Bley & Moring, 1988	Salmo salar	Newfoundland	West Arm Brook	5+ smolt	adult, 1SW	unk
Chadwick, 1986, from Locke, 1998	Salmo salar	Newfoundland	Little Codroy	2+ smolt	adult, 1SW	24
Chadwick, 1986, from Locke, 1998	Salmo salar	Newfoundland	Western Arm	2+ smolt	adult, 1SW	24
Chadwick, 1986, from Locke, 1998	Salmo salar	Newfoundland	Sand Hill	2+ smolt	adult, 1SW	24
Crozier & Kennedy, 1993, from Locke, 1998	Salmo salar	Ireland	Bush	2+ smolt	adult, 1SW	24
Crozier & Kennedy, 1993, from Locke, 1998	Salmo salar	Ireland	Bush	2+ smolt	adult, 1SW	24
Harvie & Amiro, 1996, from Locke, 1998	Salmo salar		Liscomb	2+ smolt	adult, 1SW	24
Harvie & Amiro, 1996, from Locke, 1998	Salmo salar	New Brunswick	St. John	2+ smolt	adult, 1SW	24
Harvie & Amiro, 1996, from Locke, 1998	Salmo salar	New Brunswick	LaHave	2+ smolt	adult, 1SW	24
Isaksson, 1979, from Locke, 1998	Salmo salar	Iceland	Kollafjordur	2+ smolt	adult, 1SW	24
Jessop, 1986, from Locke, 1998	Salmo salar		Big Salmon	2+ smolt	adult, 1SW	24
McIntyre et al., 1988	Oncorhynchus kisutch	Oregon	Big Creek, Columbia R.	1+ smolt	adult, 2-3SW	18
Baum, 1983, from Locke, 1998	Salmo salar	Maine, USA	Penobscot	2+ smolt	adult, 2SW	24
Beland et al., 1982, from Bley & Moring, 1988	Salmo salar	Maine, USA	Dennys River	smolt	adult, 2SW	unk
Chadwick, 1986, from Locke, 1998	Salmo salar		Sand Hill	2+ smolt	adult, 2SW	24
Chadwick, 1986, from Locke, 1998	Salmo salar		Little Codroy	2+ smolt	adult, 2SW	24

unk	unk	23.00	20 - 26	unk	wild		Magee	
unk	unk	10.00	6 - 13	unk	hatchery		Magee	
unk	unk	0.04	NA	unk	hatchery		Magee	
unk	unk	0.33	NA	unk	hatchery		Magee	
unk	unk	0.06	0.001 - 0.16	unk	hatchery		Magee	
unk	unk	NA	2 - 6	unk	wild		Magee	
unk	unk	NA	0.2 - 2	unk	hatchery		Magee	
unk	unk	NA	0.004 - 0.36	unk	hatchery		Magee	
unk	unk	4.00	NA	unk	wild		Magee	
unk	unk	8.00	4 -13	unk	wild		Magee	
unk	unk	0.45	NA	unk	hatchery		Magee	
unk	unk	2.40	1 - 4	unk	hatchery		Magee	
unk	unk	2.70	0.5 - 7	unk	hatchery		Magee	
unk	unk	2.30	NA	unk	hatchery		Magee	
unk	unk	0.07	0.008 - 0.17	unk	hatchery		Magee	
unk	12 - 36	5.60	2.8 - 10.9	5	Hatchery	unk	Magee	peer
36 - 84	12 - 36	16.00	7 - 26	7	wild		Magee	peer
43 - 67 assumed	12 - 36	7.00	3 - 11	2	wild		Magee	peer
unk	unk	0.05	0.01 - 0.1	unk	wild		Magee	report
unk	unk	12.00	NA	unk	hatchery		Magee	
unk	unk	6.00	NA	unk	hatchery		Magee	
unk	unk	3.00	NA	unk	hatchery		Magee	
unk	unk	0.70	0.5 - 3	unk	wild		Magee	
unk	unk	6.00	1 -12	unk	wild		Magee	
unk	unk	7.00	3 - 12	unk	wild		Magee	
unk	unk	8.00	4 -12	unk	wild		Magee	
unk	unk	2.00	0.6 - 8	unk	hatchery		Magee	
unk	unk	1.00	0.3 - 3	unk	hatchery		Magee	
unk	unk	1.00	0.4 - 4	unk	hatchery		Magee	
unk	unk	2.00	0.4 - 5	unk	hatchery		Magee	
unk	unk	4.00	1 - 6	unk	hatchery		Magee	
unk	unk	6.00	1 -17	unk	wild		Magee	
42+	24+	0.89	0 - 1.72	5	hatchery	unk	Magee	peer
unk	unk	0.70	0.2 - 1.3	unk	hatchery		Magee	
unk	unk	NA	3 - 5	unk	unk		Magee	
unk	unk	0.60	0.3 - 0.9	unk	wild		Magee	
unk	unk	0.60	0.4 - 1	unk	wild		Magee	

Stocked as smolts
Stocked as fry

Stocked 1974-1976
Stocked 1972-1974
Stocked 1966-1977
Stocked 1971-1977

Age of smolts not reported
Smolts were 2-5 years old
Smolts were 2-5 years old

All returns are grilse (no tagging)
All returns are grilse (no tagging)
All returns are grilse (no tagging)

Survival for several families of coho salmon

Crozier & Kennedy, 1993, from Locke, 1998	Salmo salar	Ireland	Bush	2+ smolt	adult, 2SW		24
Crozier & Kennedy, 1993, from Locke, 1998	Salmo salar	Ireland	Bush	2+ smolt	adult, 2SW		24
Harvie & Amiro, 1996, from Locke, 1998	Salmo salar	Iceland	Liscomb	2+ smolt	adult, 2SW		24
Harvie & Amiro, 1996, from Locke, 1998	Salmo salar	New Brunswick	St. John	2+ smolt	adult, 2SW		24
Harvie & Amiro, 1996, from Locke, 1998	Salmo salar		LaHave	2+ smolt	adult, 2SW		24
Isaksson, 1979, from Locke, 1998	Salmo salar	Iceland	Kollafjordur	2+ smolt	adult, 2SW		24
Bjornn, 1978, from Bley & Moring, 1988	Oncorhynchus mykiss	Idaho	Lemhi	Egg	emergence		egg
MacKenzie & Moring, 1988	Salmo salar	Maine	Northern Stream, Pleasant R.	Egg	emergence		Egg
Pauwels & Haines, 1994	Salmo salar	Maine	Tributaries, Narraguagus R.	Egg	emergence		Egg
Phillips et al., 1975, from Bley & Moring, 1988	Oncorhynchus mykiss	Oregon		Egg	emergence		egg
Scrivener & Brownlee, 1989	Oncorhynchus kisutch	British Columbia	Carnation Creek	Egg	emergence		Egg
Scrivener & Brownlee, 1989	Oncorhynchus kisutch	British Columbia	Carnation Creek	Egg	emergence		Egg
Sheppard, 1972, from Bley & Moring, 1988	Oncorhynchus mykiss	Various		Egg	emergence		egg
Egglishaw & Shackley, 1980, from Bley & Moring, 1988	Salmo salar	Scotland	Burn	Egg	Fry		Egg
Elson, 1975, from Bley & Moring, 1988	Salmo salar	New Brunswick	Pollett River	Egg	Fry		Egg
Elson, 1975, from Bley & Moring, 1988	Salmo salar	New Brunswick	Miramichi	Egg	Fry		Egg
Jordan & Beland, 1981, from Bley & Moring, 1988	Salmo salar	Maine, USA	Various	Egg	Fry		Egg
Meister, 1962, from Bley & Moring, 1988	Salmo salar	Maine, USA	Cove Brook	Egg	Fry		Egg
Ward &Slaney, 1993	Salmo gairdneri	British Columbia	Keogh River	Egg	Fry		Egg
Wentworth & LaBar, 1984	Oncorhynchus mykiss	Vermont	Lewis	Fry	Fry		0
MacKenzie & Moring, 1988	Salmo salar	Maine	Northern Stream, Pleasant R.	Egg	hatching		Egg
Pauwels & Haines, 1994	Salmo salar	Maine	Tributaries, Narraguagus R.	Egg	hatching		Egg
Annual Report of the Directorate of Fisheries Resources, from Pedley & Jones, 1978	Salmo salar	Scotland	Lake Kinardochy	Fry	smolt		unk
Bjornn, 1978, from Bley & Moring, 1988	Oncorhynchus mykiss	Idaho		emergence	smolt	emergence	
Brayshaw,1972, from Pedley & Jones, 1978	Salmo salar	England	Two Lakes	Fry	smolt		unk
Chadwick, 1982	Salmo salar	Newfoundland	Western Arm Brook	Egg	smolt		Egg
Department of Agriculture and Fisheries in Sotland, from Pedley & Jones, 1978	Salmo salar	Scotland	Lake Kinardochy	Fry	smolt		unk
Evans, 1970, from Pedley & Jones, 1978	Salmo salar	Wales	Dyrnogydd	Fry	smolt		unk
Evans, 1970, from Pedley & Jones, 1978	Salmo salar	Wales	Cilan	Fry	smolt		unk
Evans, 1970, from Pedley & Jones, 1978	Salmo salar	Wales	Cilan	Fry	smolt		unk
Hewestson, 1963, from Pedley & Jones, 1978	Salmo salar	Ireland	Knader	Fry	smolt		unk
Munro, 1965, from Pedley & Jones, 1978	Salmo salar	Scotland	Lake Kinardochy	Fry	smolt		unk
Pedley & Jones, 1978	Salmo salar	Wales	Dwythwch	Fry	smolt		unk
Reddin	Salmo salar	Northwest Atlantic	Wester Arm Brook, Nfld	Egg	smolt		Egg
Ward &Slaney, 1993	Salmo gairdneri	British Columbia	Keogh River	Egg	smolt		Egg
Ward &Slaney, 1993	Salmo gairdneri	British Columbia	Keogh River	Fry	smolt		0

unk	unk	1.00	0.4 - 2	unk	wild		Magee	
unk	unk	0.10	0 - 0.7	unk	hatchery		Magee	
unk	unk	0.10	0.03 - 0.2	unk	hatchery		Magee	
unk	unk	0.50	0.1 - 1.5	unk	hatchery		Magee	
unk	unk	0.70	0.2 - 3	unk	hatchery		Magee	
unk	unk	0.20	0 - 0.5	unk	hatchery		Magee	
emergence	unk	NA	40 - 95	unk	unk		Magee	peer
emergence	NA	2.00	0 - 7	1	Hatchery		Magee	peer
emergence	NA	7.00	2 - 12	1	Hatchery		Magee	peer
emergence	unk	NA	18 - 99	unk	Hatchery		Magee	peer
emergence	NA	18.55	7 - 33	10	wild	unk	Magee	peer
emergence	NA	28.54	22 - 36	5	wild	unk	Magee	peer
emergence	unk	NA	65 - 85	unk	unk		Magee	report
unk	unk	NA	11.1 - 14.8	unk	unk		Magee	
unk	unk	NA	1.7 - 8	unk	wild		Magee	
unk	unk	17.60	NA	unk	wild		Magee	
unk	unk	25.00	15 - 35	unk	wild		Magee	
unk	unk	NA	9 - 11	unk	wild		Magee	
1		6.5	1.82-8.95	7	wild		Sus	peer
1	1	19.60	15 - 25	1	Hatchery	unk	Magee	peer
hatching	NA	74.00	45 -88	1	Hatchery		Magee	peer
hatching	NA	31.00	7 - 61	1	Hatchery		Magee	peer
unk	unk	5.90	NA	unk	hatchery	unk	Magee	
unk	unk	NA	0.4 - 3.8	unk	unk		Magee	peer
unk	unk	15.00	NA	unk	hatchery	unk	Magee	
31	31	3.75	3.6 - 3.8	5	Wild	unk	Magee	peer
unk	unk	3.20	NA	unk	hatchery	unk	Magee	
unk	unk	35.00	NA	unk	hatchery	unk	Magee	
unk	unk	17.00	NA	unk	hatchery	unk	Magee	
unk	unk	18.90	NA	unk	hatchery	unk	Magee	
unk	unk	3.30	NA	unk	hatchery	unk	Magee	
unk	unk	17.50	NA	unk	hatchery	unk	Magee	
unk	unk	0.01	NA	2	hatchery	unk	Magee	
unk		1.7	1.42-2.08	7	wild		Sus	peer
unk		0.7	.28-1.3	7	wild		Sus	peer
unk		12.6	3.38-21.9	7	wild		Sus	peer

Some mortality attributed to logging (increase in sedimentation)
Some mortality attributed to logging (increase in sedimentation)

Fry stocked from eggs hatched in hatchery

Natural spawning

Stocked as fry

Stocked as fry

Stocked as fry
Stocked as fry
Stocked as fry
Stocked as fry
Stocked as fry
Stocked as fry
Stocked as fry

Hvidsten and Lund, 1988	Salmo salar	Norway	Orkla	Smolt emigratior	Smolt emigratio	31 assumed
Hvidsten and Lund, 1988	Salmo salar	Norway	Orkla	Smolt emigratior	Smolt emigratio	31 assumed
Hvidsten and Mokkelgjerd, 1987	Salmo salar	Norway	Surna	Smolt emigratior	Smolt emigratio	31 assumed
Jepsen et. al.,1998	Salmo salar	Denmark	Gudena	Smolt emigratior	Smolt emigratio	13
Larsson, 1985	Salmo salar	Sweden	Morrum	Smolt emigratior	Smolt emigratio	31 assumed
Larsson, 1985	Salmo salar	Sweden	Eman	Smolt emigratior	Smolt emigratio	31 assumed
Larsson, 1985	Salmo salar	Sweden	Lule	Smolt emigratior	Smolt emigratio	31 assumed
Magee, 1999	Salmo salar	Maine, USA		Smolt emigratior	Smolt emigratio	31 assumed
Magee, 1999	Salmo salar	Maine, USA		Smolt emigratior	Smolt emigratio	13
Moore et. al., 1995	Salmo salar	England		Smolt emigratior	Smolt emigratio	31 assumed
Osterdal, 1969, from Larsson, 1985	Salmo salar	Sweden		Smolt emigratior	Smolt emigratio	unk
Osterdal, 1969, from Larsson, 1985	Salmo salar	Sweden		Smolt emigratior	Smolt emigratio	unk
Symons 1979	Salmo salar	summary paper	add to database update	1+ parr	2+ smolt	
Symons 1979	Salmo salar	summary paper	add to database update	2+ parr	3+ smolt	
Evans et al. 1984	Salmo salar	Newfoundland	add to database update			
Myers 1984	Salmo salar	Newfoundland	add to database update	1+ parr	2+ smolt	
Myers 1984	Salmo salar	Newfoundland	add to database update	2+ parr	3+ smolt	
Bagliniere et al. 1993	Salmo salar	France	add to database update	0+ parr	1+ smolt	
Bagliniere et al. 1993	Salmo salar	France	add to database update	1+ parr	2+ smolt	
Whelan 1998	Salmo salar	Vermont	add to database update			
Whelan and Parrish 1999	Salmo salar	Vermont	add to database update			

31 assumed	1	NA	NA	1	Hatchery	Predation	Magee	peer
31 assumed	1	NA	NA	1	Hatchery	Predation	Magee	peer
31 assumed	1	NA	NA	1	Hatchery	Predation	Magee	peer
13	1	13.00	12.5 - 13.7	1	Hatchery	Predation and unk	Magee	peer
31 assumed	1	65.00	NA	1	Wild	Predation	Magee	peer
31 assumed	1	50.00	NA	1	Wild	Predation	Magee	peer
31 assumed	1	40.00	30 - 50	1	Hatchery	Predation	Magee	peer
31 assumed	1	77.00	NA	1	Wild	unk	Magee	report
13	1	81.00	NA	1	Hatchery	unk	Magee	report
31 assumed	1	> 94	NA	1	Wild		Magee	peer
unk	unk	22.80	NA	4	Wild	unk	Magee	peer
unk	unk	10.10	NA	4	Hatchery	unk	Magee	peer
		0.45					Kocik and McMenamy	
		0.65					Kocik and McMenamy	
		0.40					Kocik and McMenamy	
		0.10					Kocik and McMenamy	
		0.30					Kocik and McMenamy	
		0.43					Kocik and McMenamy	
		0.21					Kocik and McMenamy	
							Kocik and McMenamy	
							Kocik and McMenamy	

20% emigration mortality due to predation

20% emigration mortality due to predation

24.8% emigration mortality due to predation

Migration tracked through FW reservior

Migratory survival in freshwater

50% to 70% emigration mortality due to predation

Migration tracked from FW through estuary

Migration tracked from FW through estuary

31/33 smolts left the estuary. Two stopped moving in tidal FW area (authors not able to determine whether the two fish had died)

from Whelan 1998 Thesis

from Whelan 1998 Thesis

from Whelan 1998 Thesis

from Whelan 1998 Thesis

from Whelan 1998 Thesis

from Whelan 1998 Thesis

from Whelan 1998 Thesis

from Whelan 1998 Thesis

from Whelan 1998 Thesis

Author	River	Monthly mortality (%)	Monthly survival (%)	# months	Overall survival (%)
Hume & Parkinson, 1988	Englishman	14.1	0.859	13	13.9
Hume & Parkinson, 1988	Englishman	21.6	0.784	12	5.4
Hume & Parkinson, 1988	Englishman	16.2	0.838	12	12.0
Hume & Parkinson, 1988	Englishman	16.3	0.837	11	14.1
Hume & Parkinson, 1988	Englishman	15.4	0.846	11	15.9
Hume & Parkinson, 1988	Englishman	14.4	0.856	10	21.1
Hume & Parkinson, 1988	Englishman	14.4	0.856	9	24.7
Hume & Parkinson, 1988	Englishman	5.5	0.945	8	63.6
Hume & Parkinson, 1988	Englishman	11.5	0.885	8	37.6
Hume & Parkinson, 1988	Englishman	17.3	0.827	7	26.5
Hume & Parkinson, 1988	Englishman	15	0.85	7	32.1
Hume & Parkinson, 1988	Englishman	10.5	0.895	7	46.0
Hume & Parkinson, 1988	Englishman	11.5	0.885	7	42.5
Hume & Parkinson, 1988	Moriarty	17	0.83	13	8.9
Hume & Parkinson, 1988	Moriarty	11.3	0.887	12	23.7
Hume & Parkinson, 1988	Moriarty	10.2	0.898	12	27.5
Hume & Parkinson, 1988	Moriarty	12.1	0.879	11	24.2
Hume & Parkinson, 1988	Moriarty	14.6	0.854	11	17.6
Hume & Parkinson, 1988	Moriarty	11.6	0.884	10	29.1
Hume & Parkinson, 1988	Moriarty	14.9	0.851	9	23.4
Hume & Parkinson, 1988	Moriarty	10.1	0.899	8	42.7
Hume & Parkinson, 1988	Moriarty	9.4	0.906	8	45.4
Hume & Parkinson, 1988	Moriarty	7.7	0.923	8	52.7
Hume & Parkinson, 1988	Moriarty	13.5	0.923	7	57.1
Hume & Parkinson, 1988	Moriarty	12.2	0.865	7	36.2
Hume & Parkinson, 1988	Moriarty	12.4	0.878	7	40.2
Hume & Parkinson, 1988	Moriarty	9.4	0.876	7	39.6
Hume & Parkinson, 1988	Moriarty	7.7	0.906	7	50.1

Life stage	Description
Egg - R	Eggs within Redd
Egg - H	Eggs within Hatchery
0	< one month after initial feeding
31 assumed	Steelhead - Age of smolts not given but assumed to be age 2+ smolts, thus an average age of 31 months
13	Either 13 month old parr (1+ parr) or 13 month old (2+ smolts)
Egg	Egg
Hatching	Hatched egg (still in gravel)
Emergence	Fry just emerged from redd
Fry	< one month after initial feeding
0+	At least one month after initial feeding
0+ parr	At least two months after initial feeding
1+ parr	At least one year after feeding
adult	Adult returning to natal river after unknown # years at sea (or # years not reported)
adult, 1SW	Adult returning to natal river after one winter at sea
adult, 2SW	Adult returning to natal river after two winters at sea
adult, 3SW	Adult returning to natal river after three winters at sea
adult, 1-2SW	Adult returning to natal river after one to two winters at sea
adult, 1-3SW	Adult returning to natal river after one to three winters at sea
adult, 2-3SW	Adult returning to natal river after two to three winters at sea
1+ smolt, 2+ smolt	Smolts not distinguished by age
smolt	Age of smolts unknown or not reported
1+ smolt	Smolts of Age 1+
2+ smolt	Smolts of Age 2+
3+ smolt	Smolts of Age 3+
4+ smolt	Smolts of Age 4+
5+ smolt	Smolts of Age 5+
1+,2+ smolt	Smolts of Ages 1+ and 2+
a+,b+ smolt	Smolts of Ages a+ and b+