

WATER RESOURCES ACT 1991

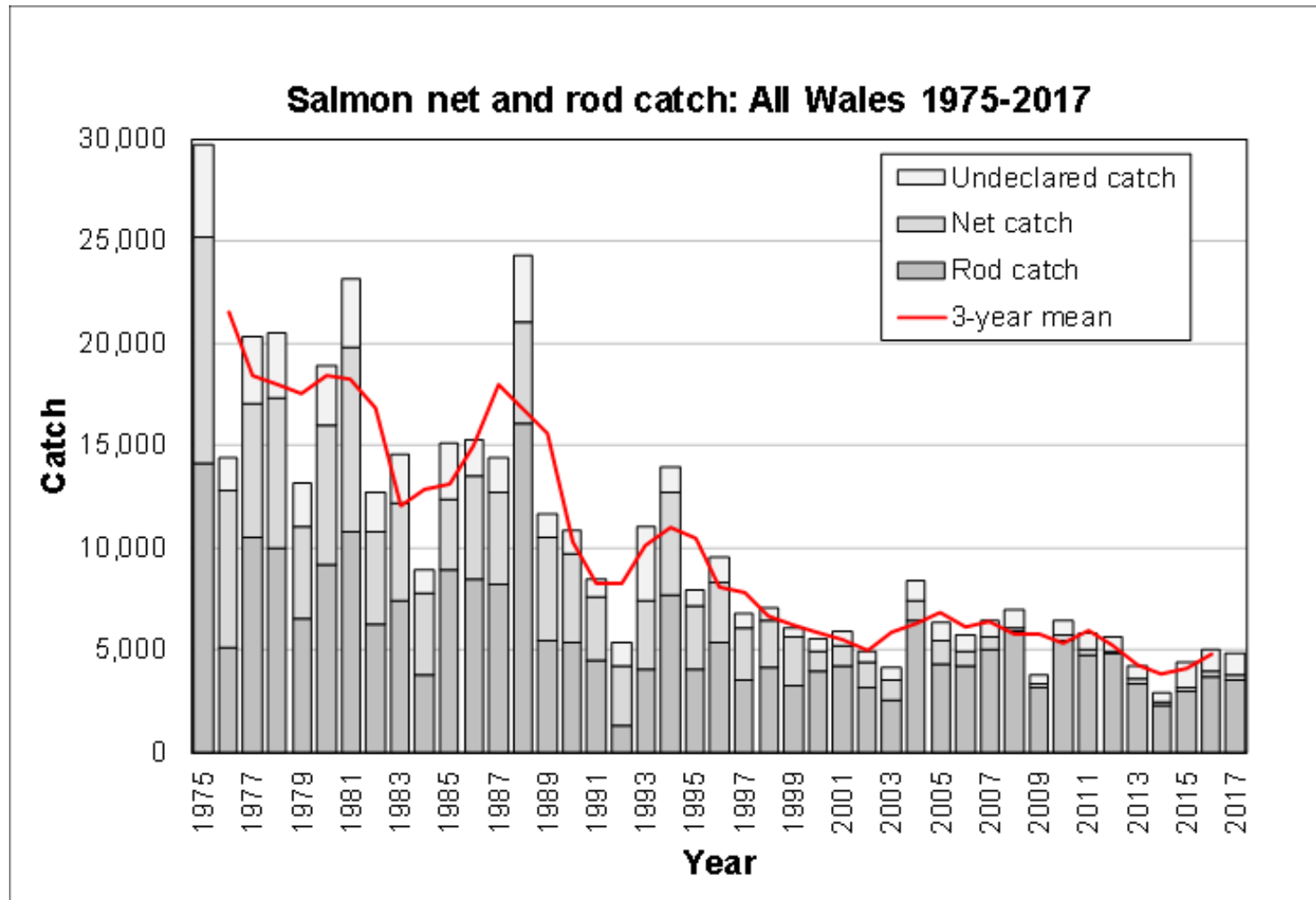
THE WALES ROD AND LINE (SALMON AND SEA TROUT) BYELAWS 2017
THE WALES NET FISHING (SALMON AND SEA TROUT) BYELAWS 2017

DOCUMENT NRW/2B
APPENDIX 1 TO PROOF OF EVIDENCE OF IAN DAVIDSON
FIGURES AND TABLES

on behalf of
NATURAL RESOURCES WALES

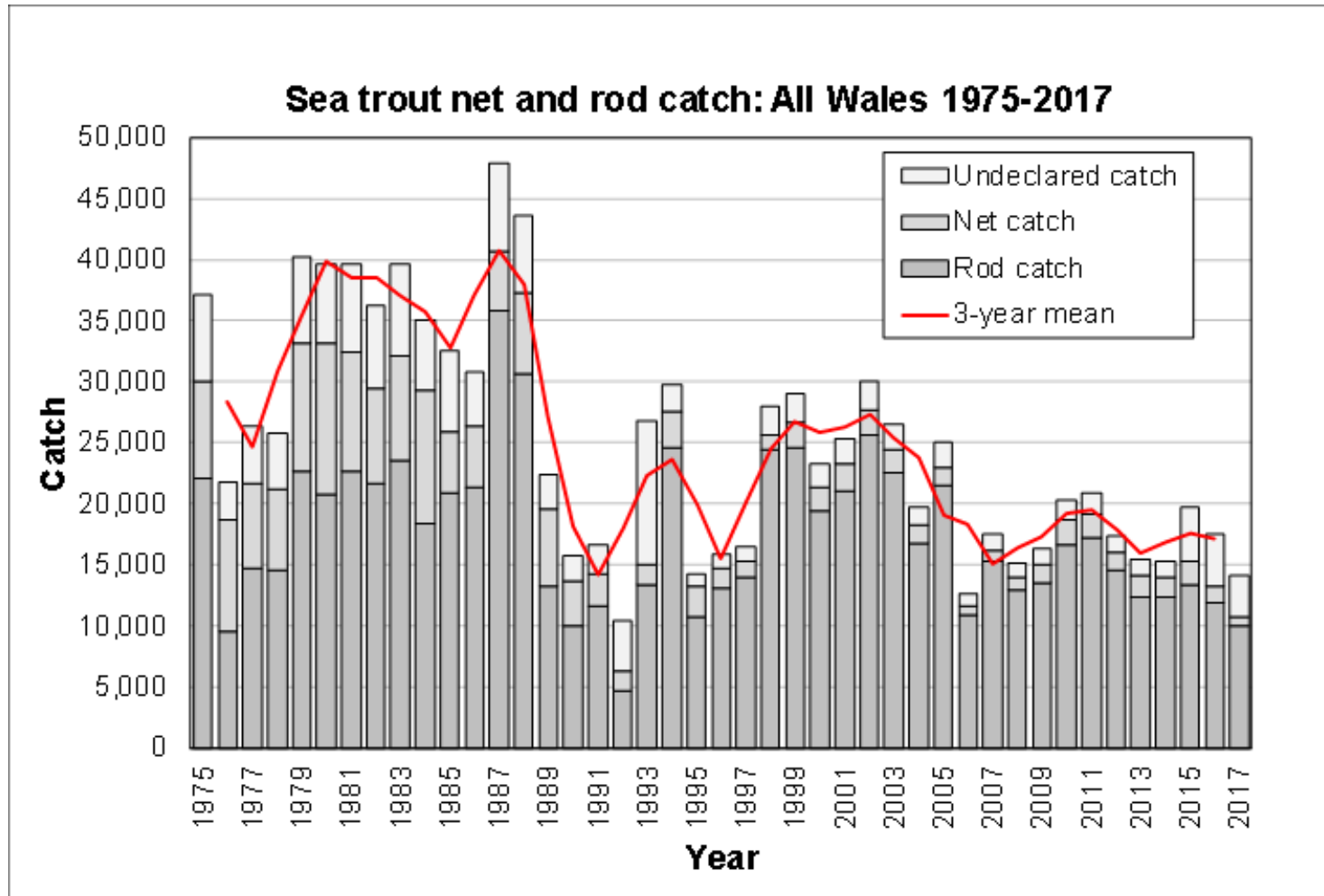
NOVEMBER 2018

Figure 1(a). 'All Wales'¹ net and rod catches for salmon, 1975-2017



¹ Excludes the River Severn

Figure 1(b). 'All Wales'¹ net and rod catches for sea trout, 1975-2017



¹ Excludes the River Severn

Figure 2. Angling days fished in England and Wales, 1994-2017

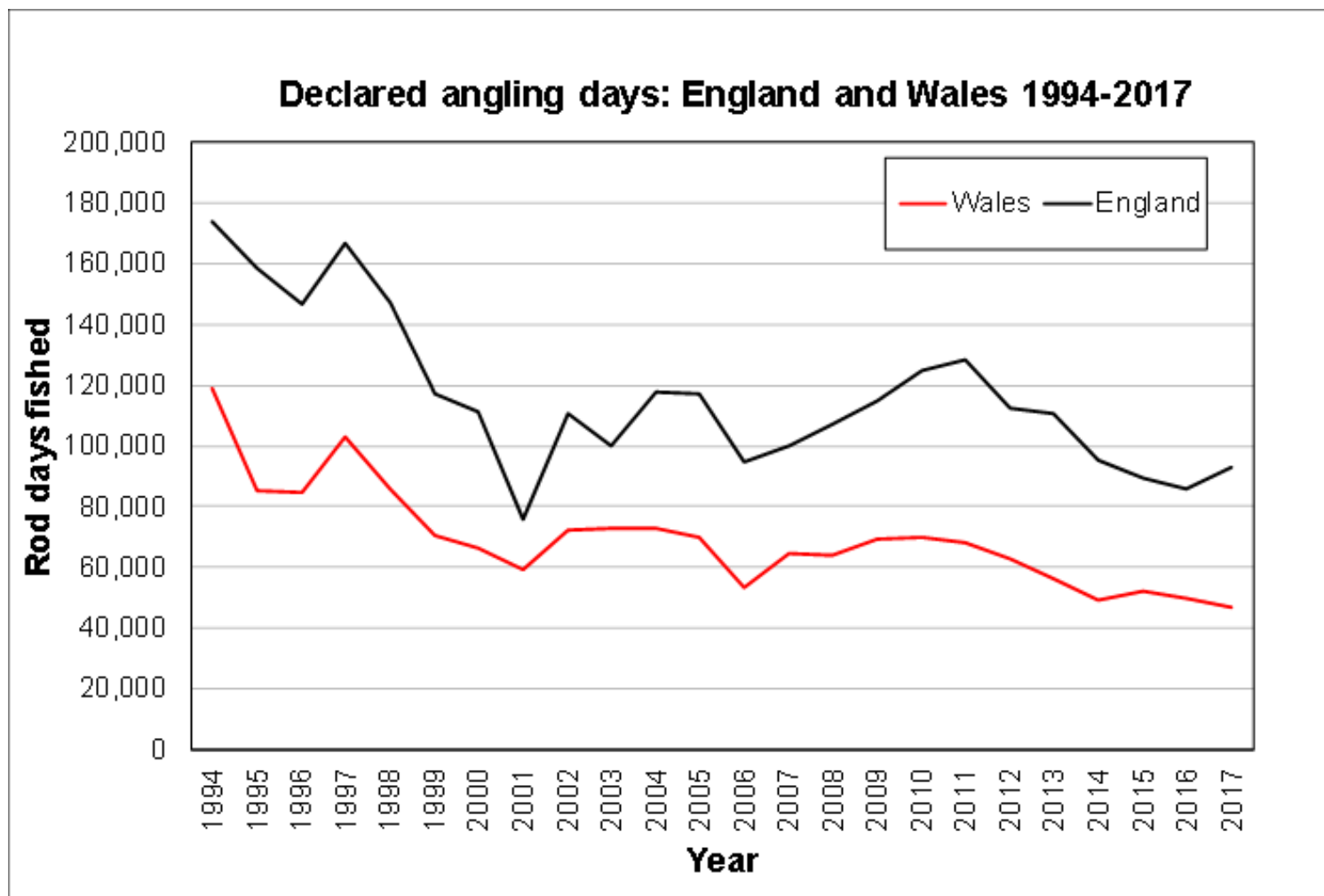


Figure 3. Numbers of net and rod licences issued in England and Wales, 1994-2017

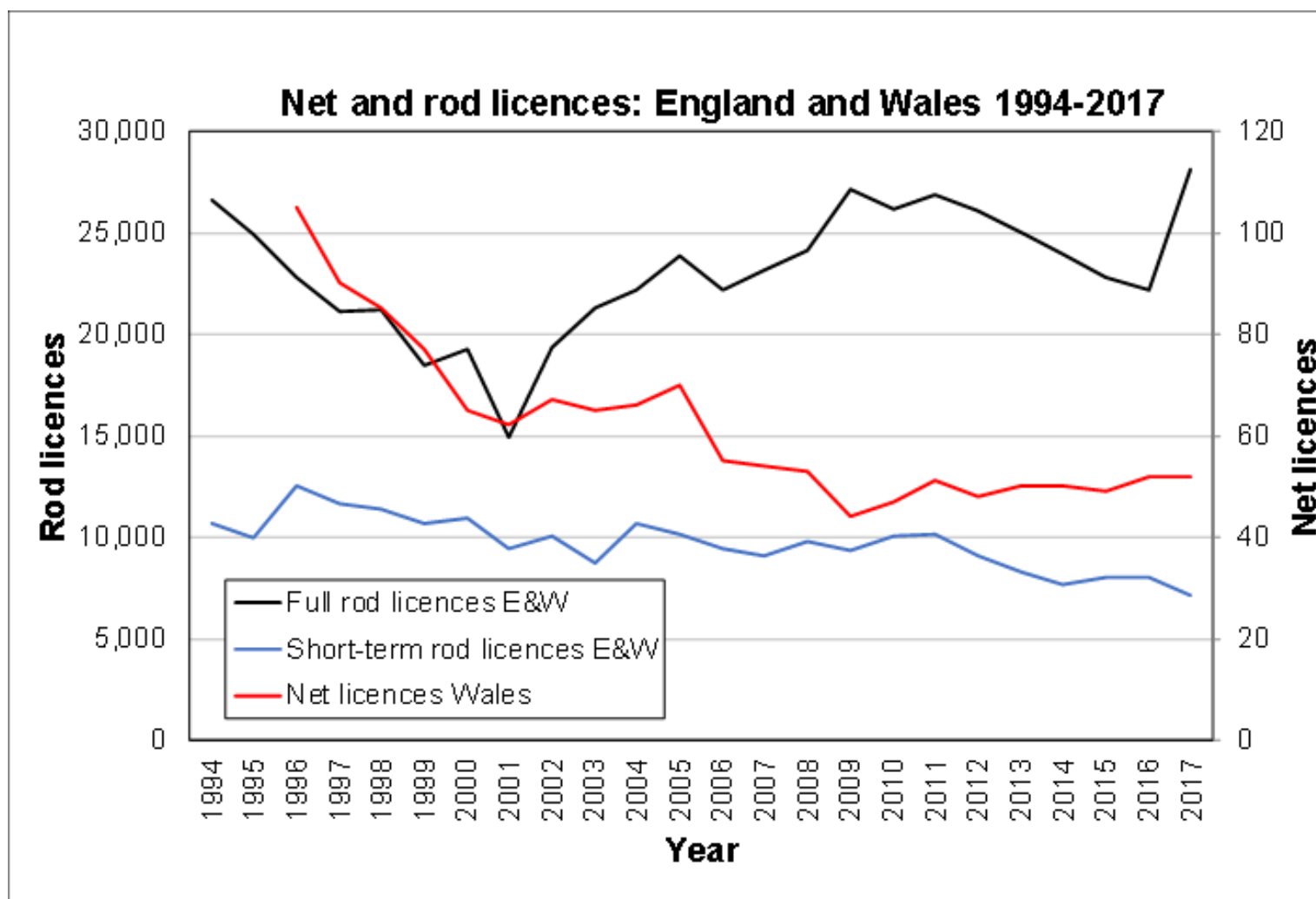


Figure 4(a). Run estimates for adult salmon from counters/traps on the rivers, Taff, Teifi, and Dee, 1992-2017

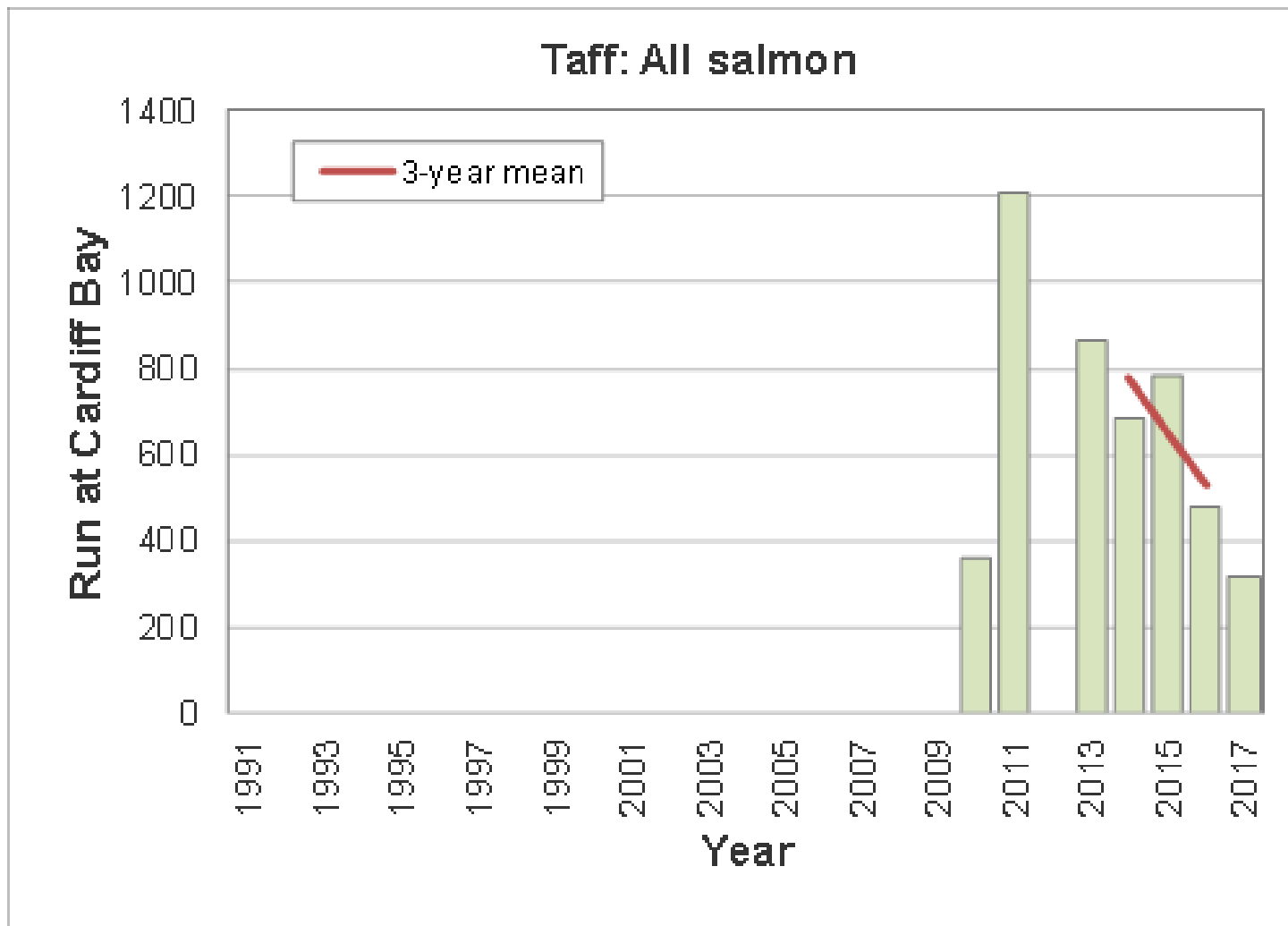


Figure 4(b). Run estimates for adult salmon from counters/traps on the rivers, Taff, Teifi, and Dee, 1992-2017

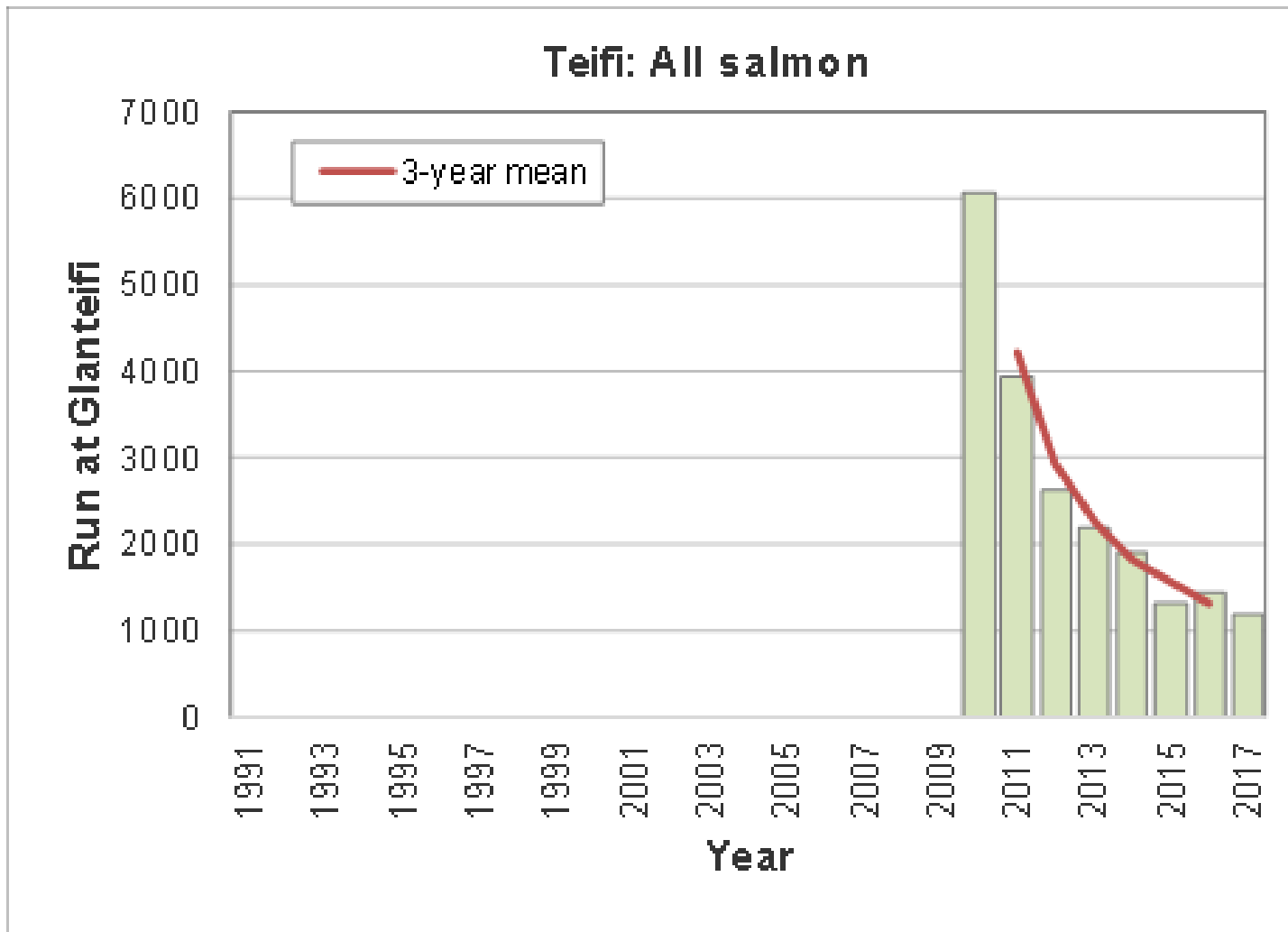


Figure 4 (c). Run estimates for adult salmon from counters/traps on the rivers, Taff, Teifi, and Dee, 1992-2017

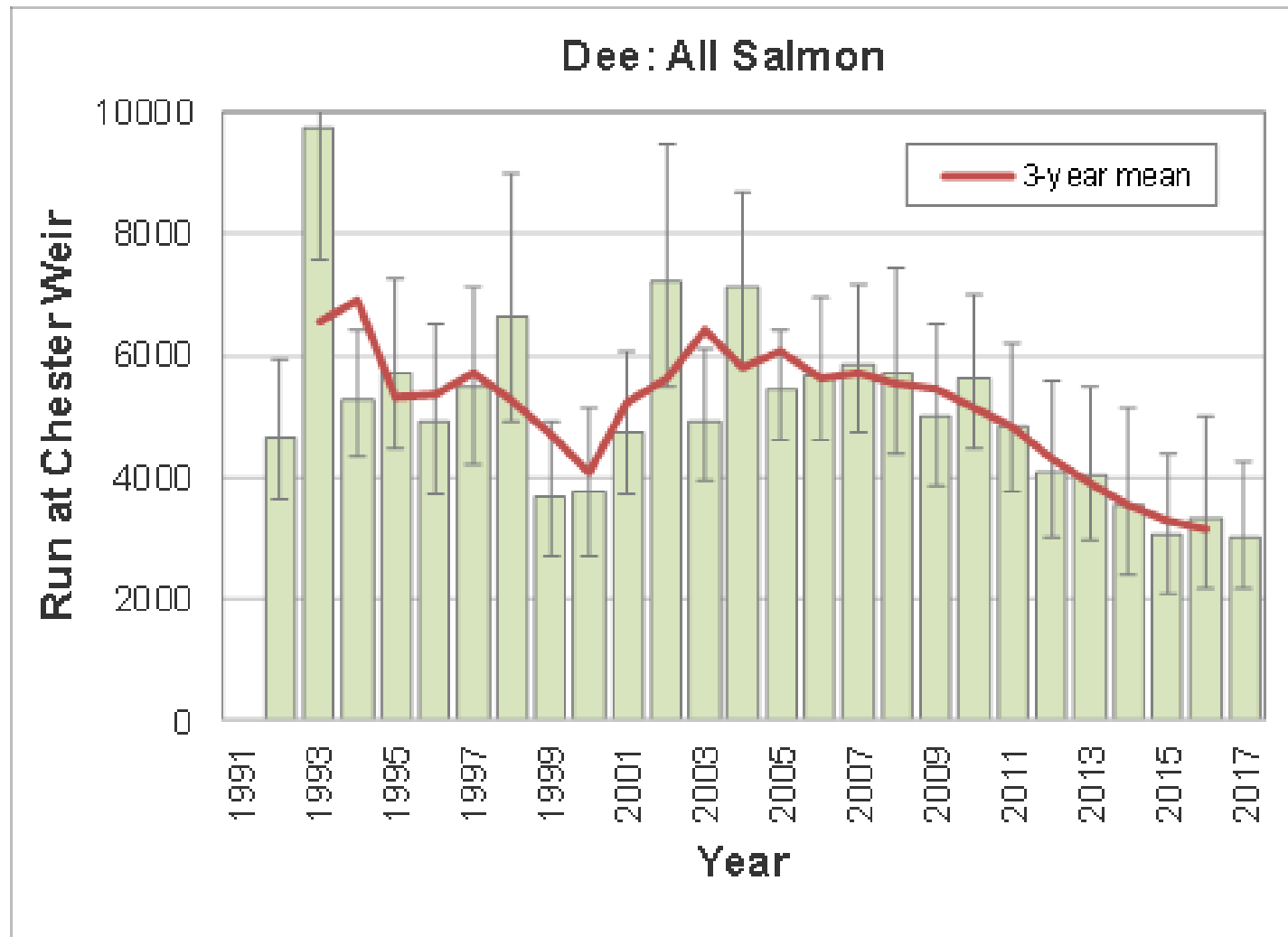


Figure 5(a). Run estimates for 1SW and MSW salmon on the River Dee, 1992-2017

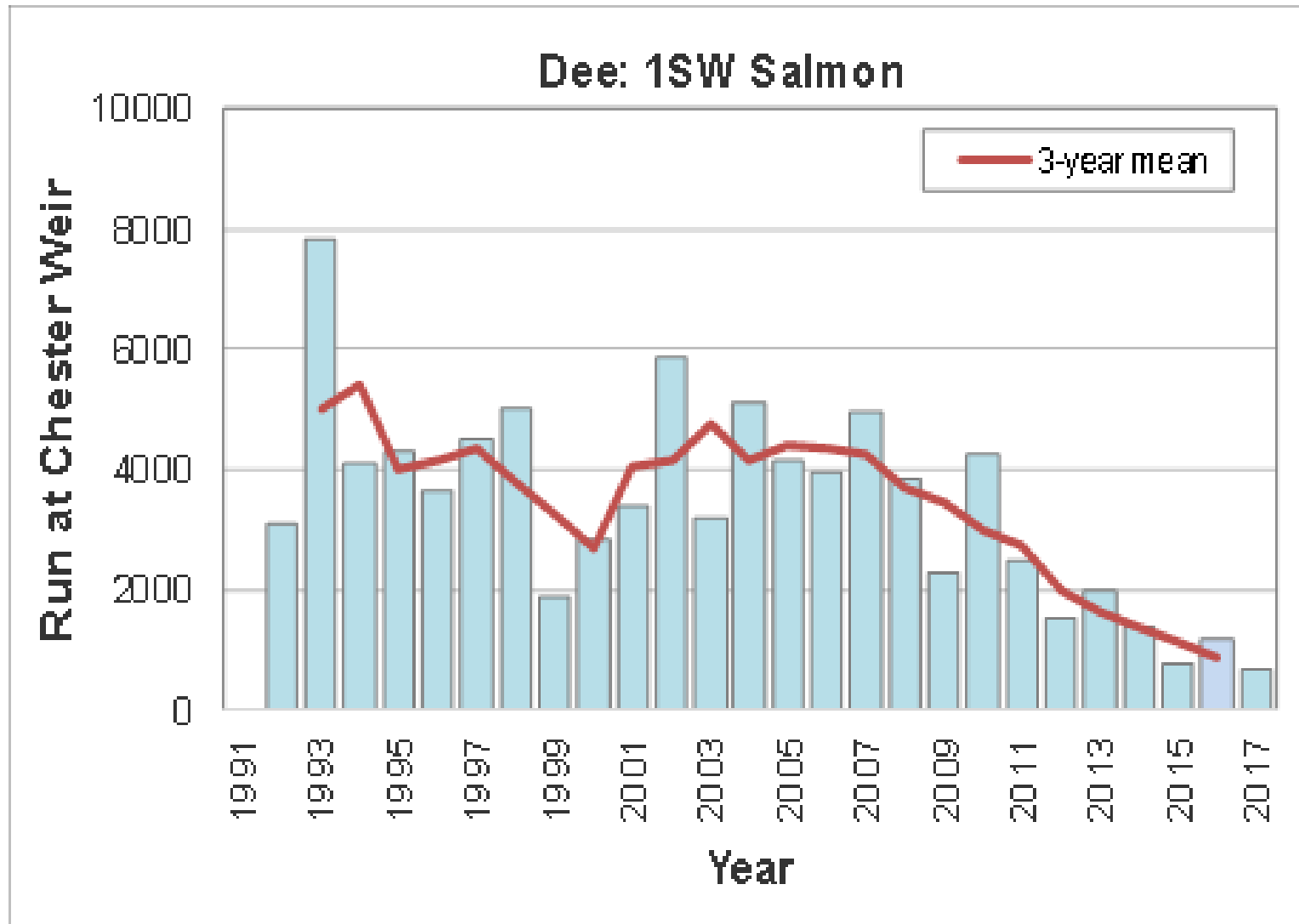


Figure 5(b). Run estimates for 1SW and MSW salmon on the River Dee, 1992-2017

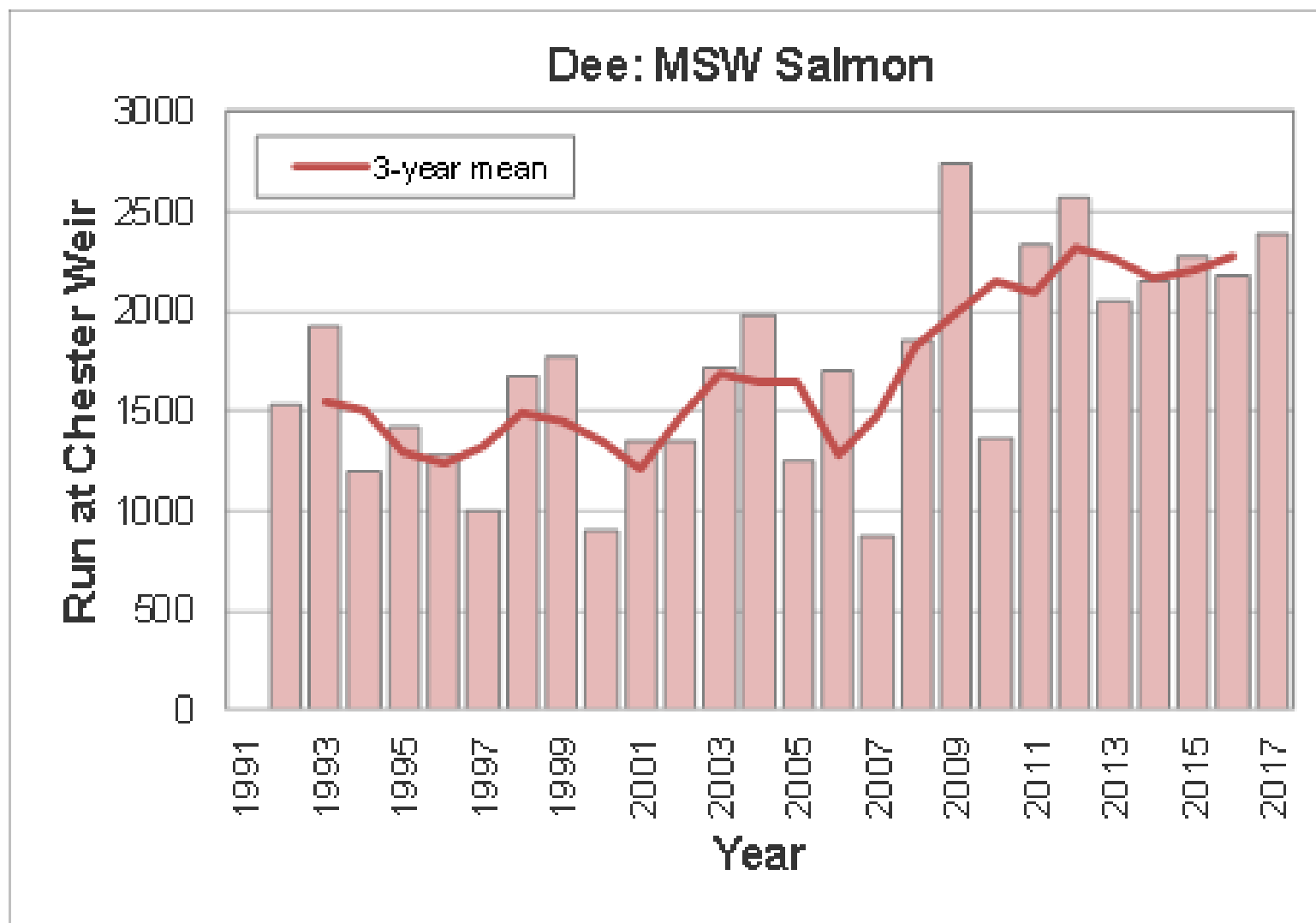


Figure 6(a). Annual variation in mean densities of salmon fry in principal Welsh catchments, 2002-2017 (95% confidence intervals shown)

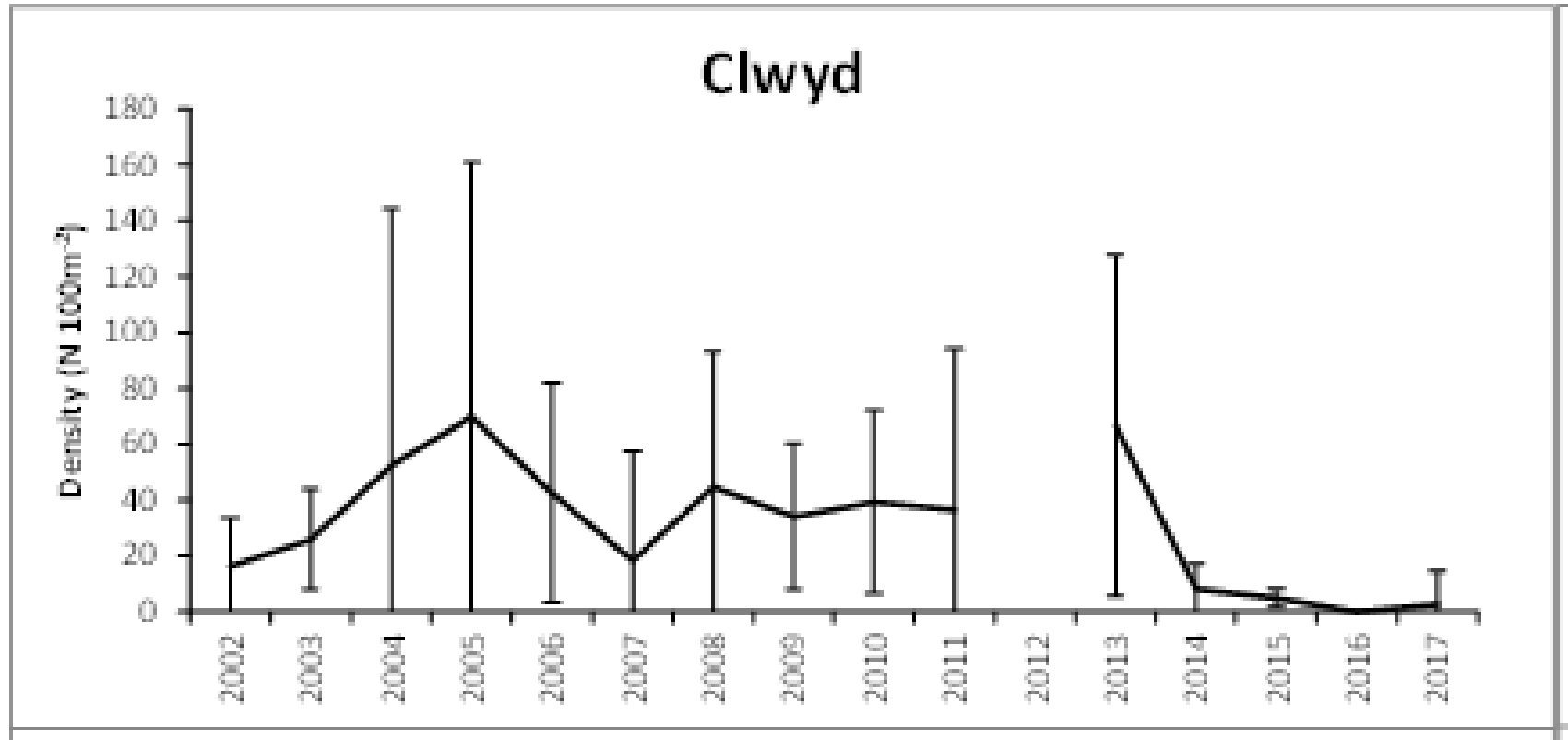


Figure 6(b). Annual variation in mean densities of salmon fry in principal Welsh catchments, 2002-2017 (95% confidence intervals shown)

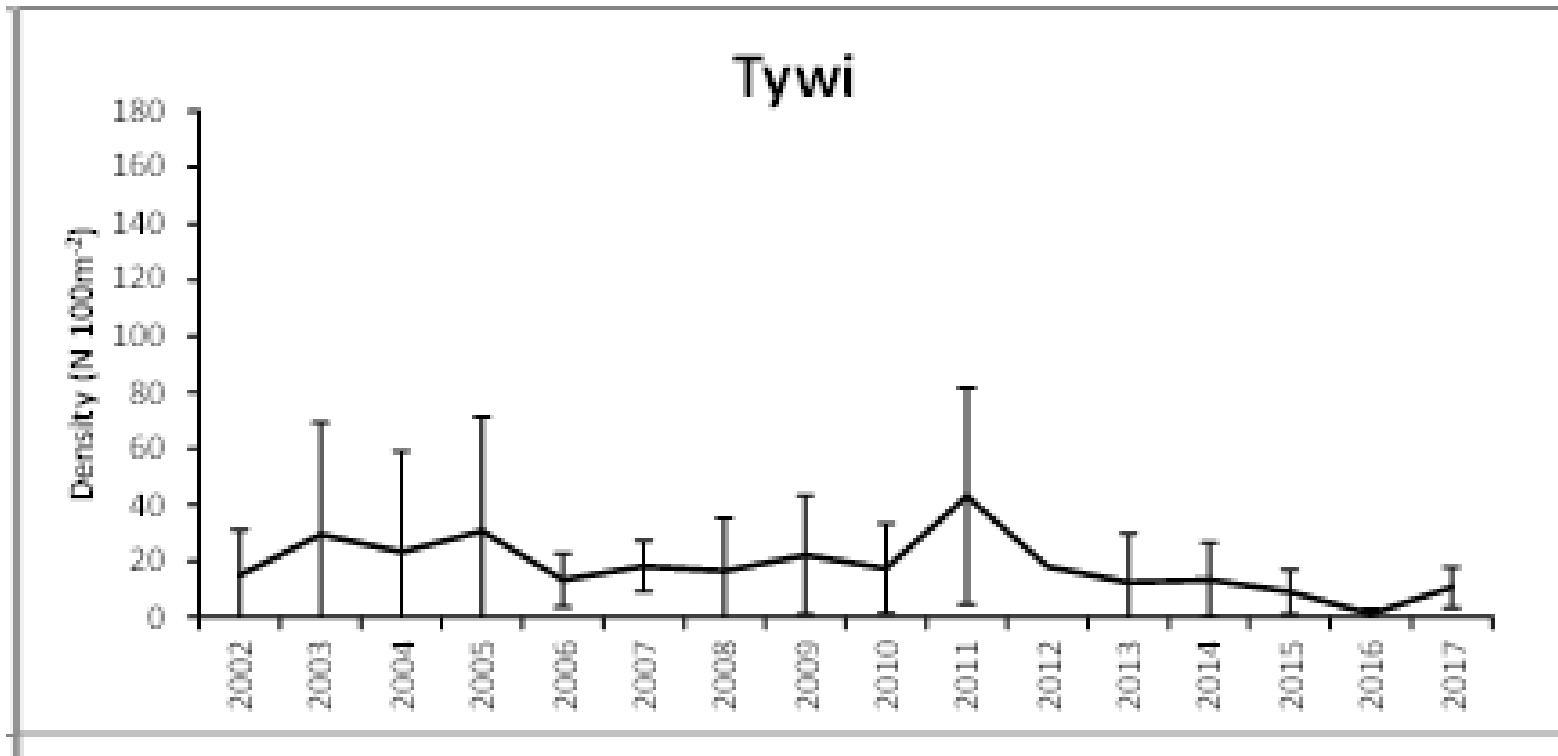


Figure 6(c). Annual variation in mean densities of salmon fry in principal Welsh catchments, 2002-2017 (95% confidence intervals shown)

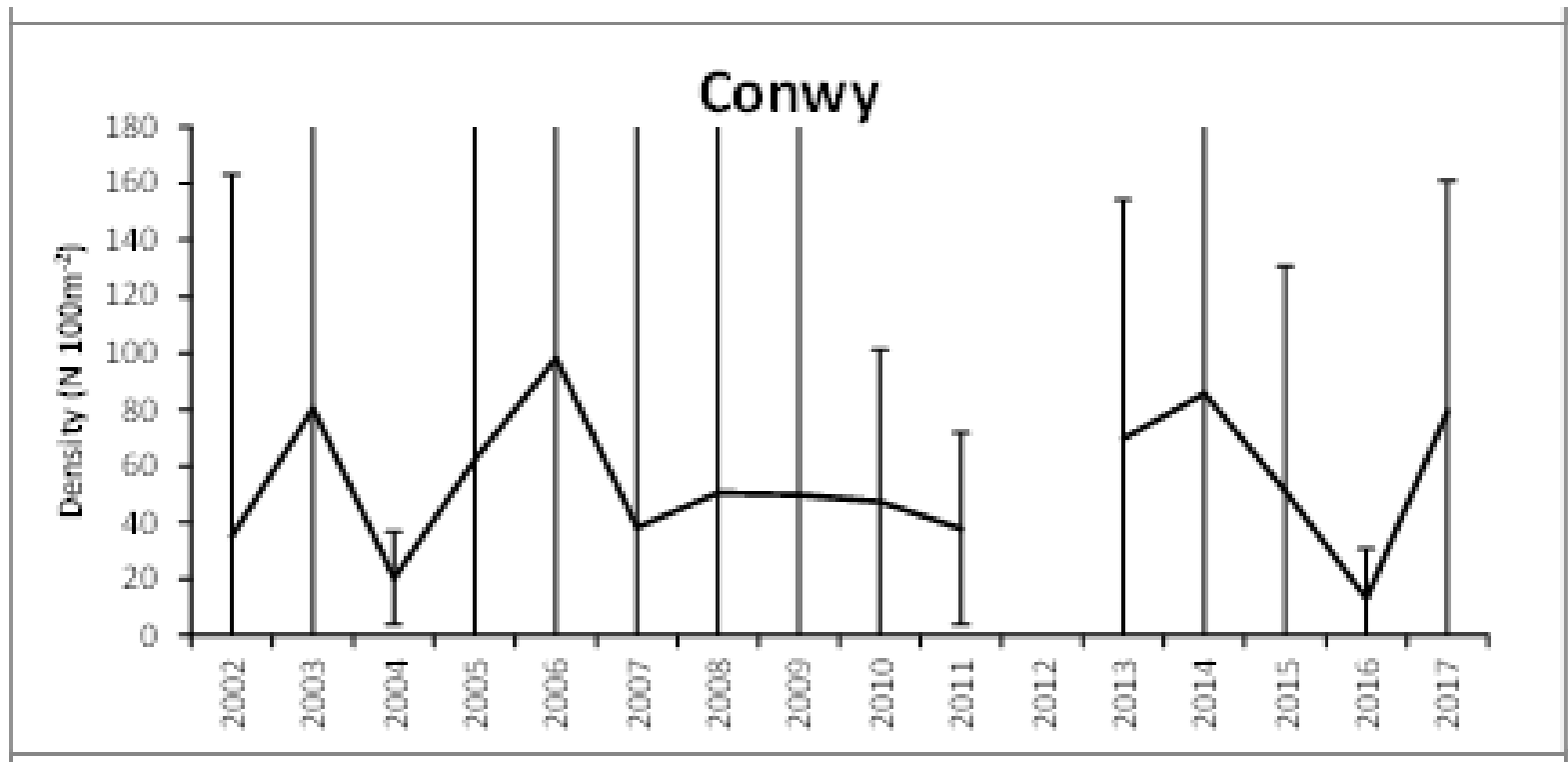


Figure 6(d). Annual variation in mean densities of salmon fry in principal Welsh catchments, 2002-2017 (95% confidence intervals shown)

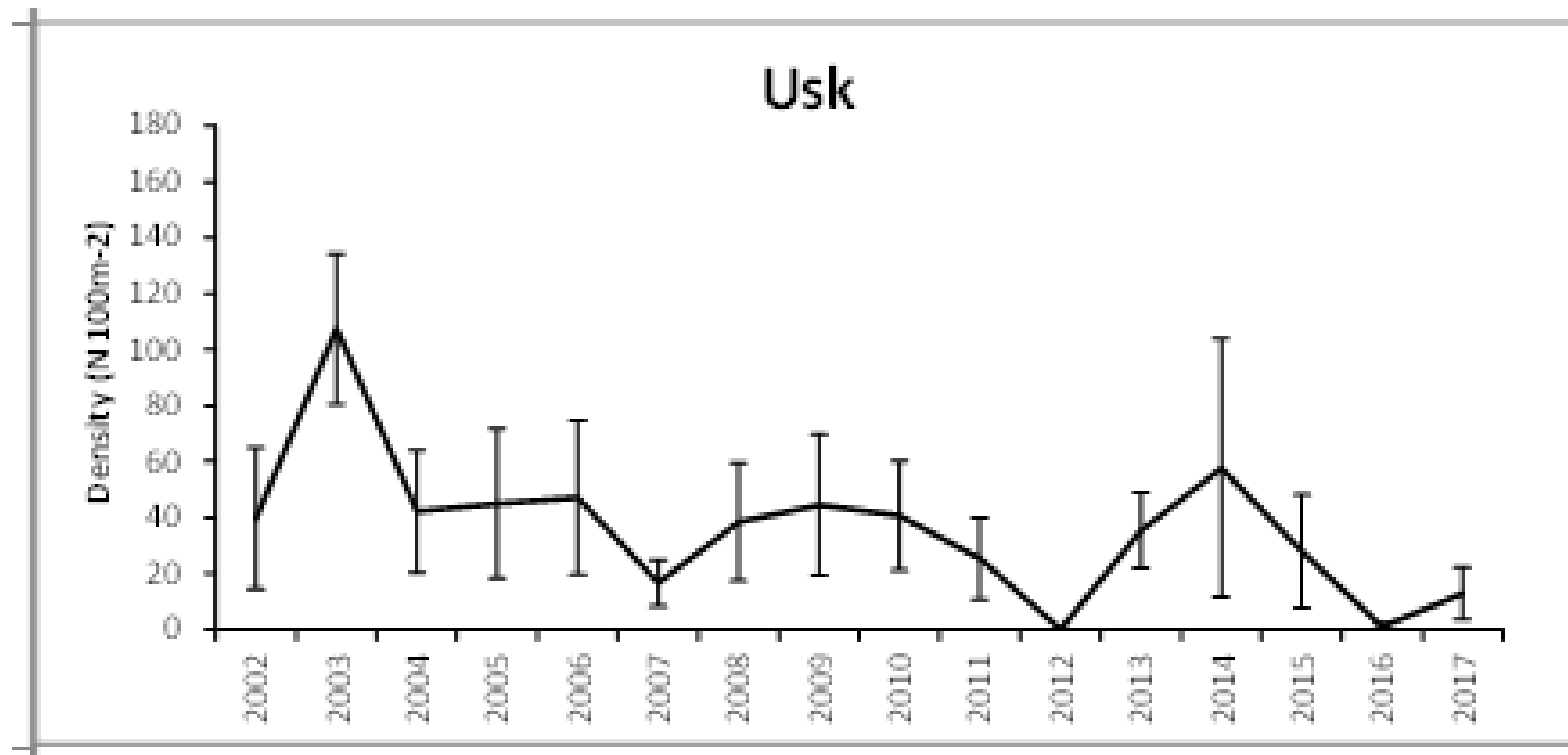


Figure 6(e). Annual variation in mean densities of salmon fry in principal Welsh catchments, 2002-2017 (95% confidence intervals shown)

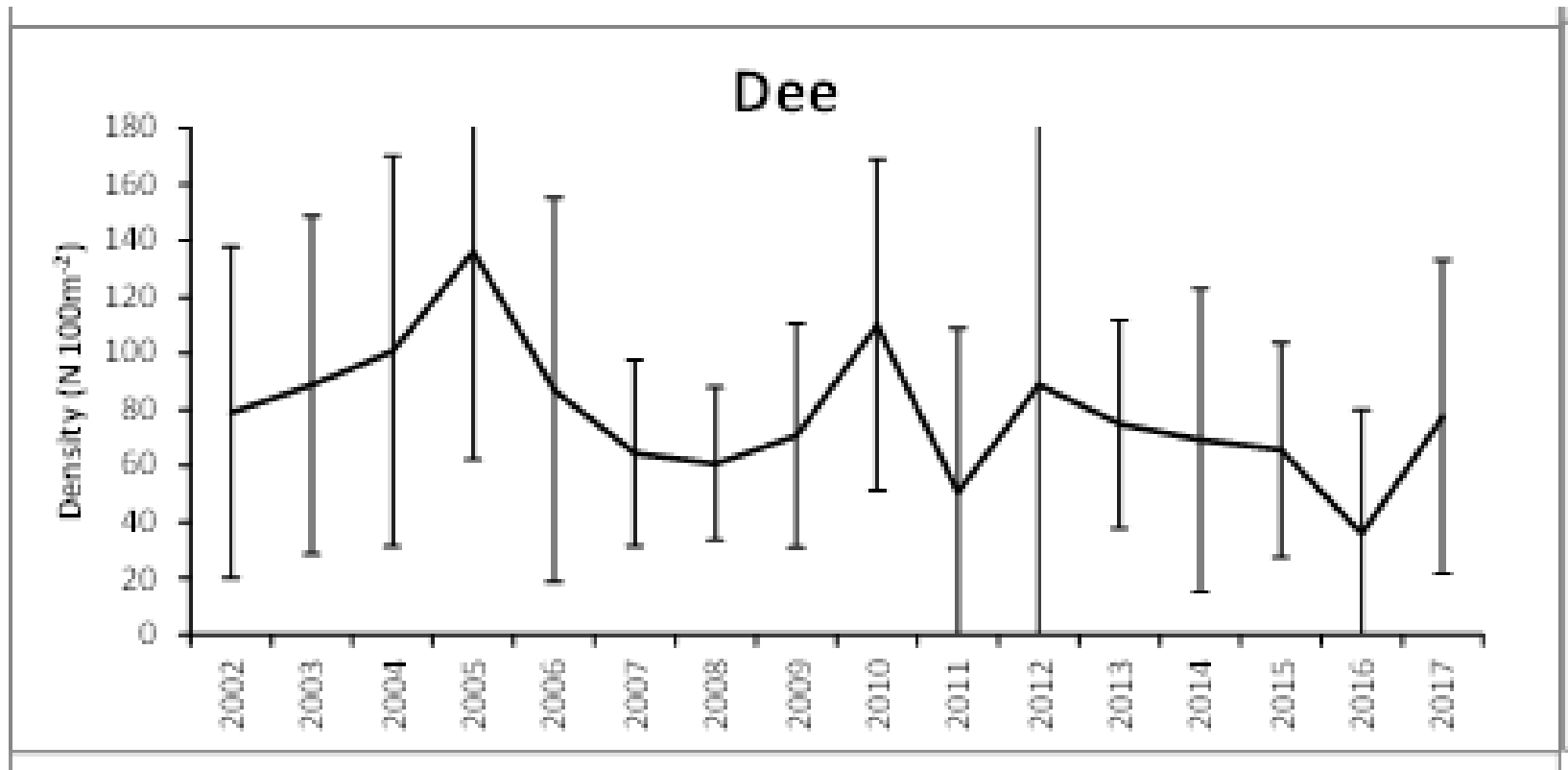


Figure 6(f). Annual variation in mean densities of salmon fry in principal Welsh catchments, 2002-2017 (95% confidence intervals shown)

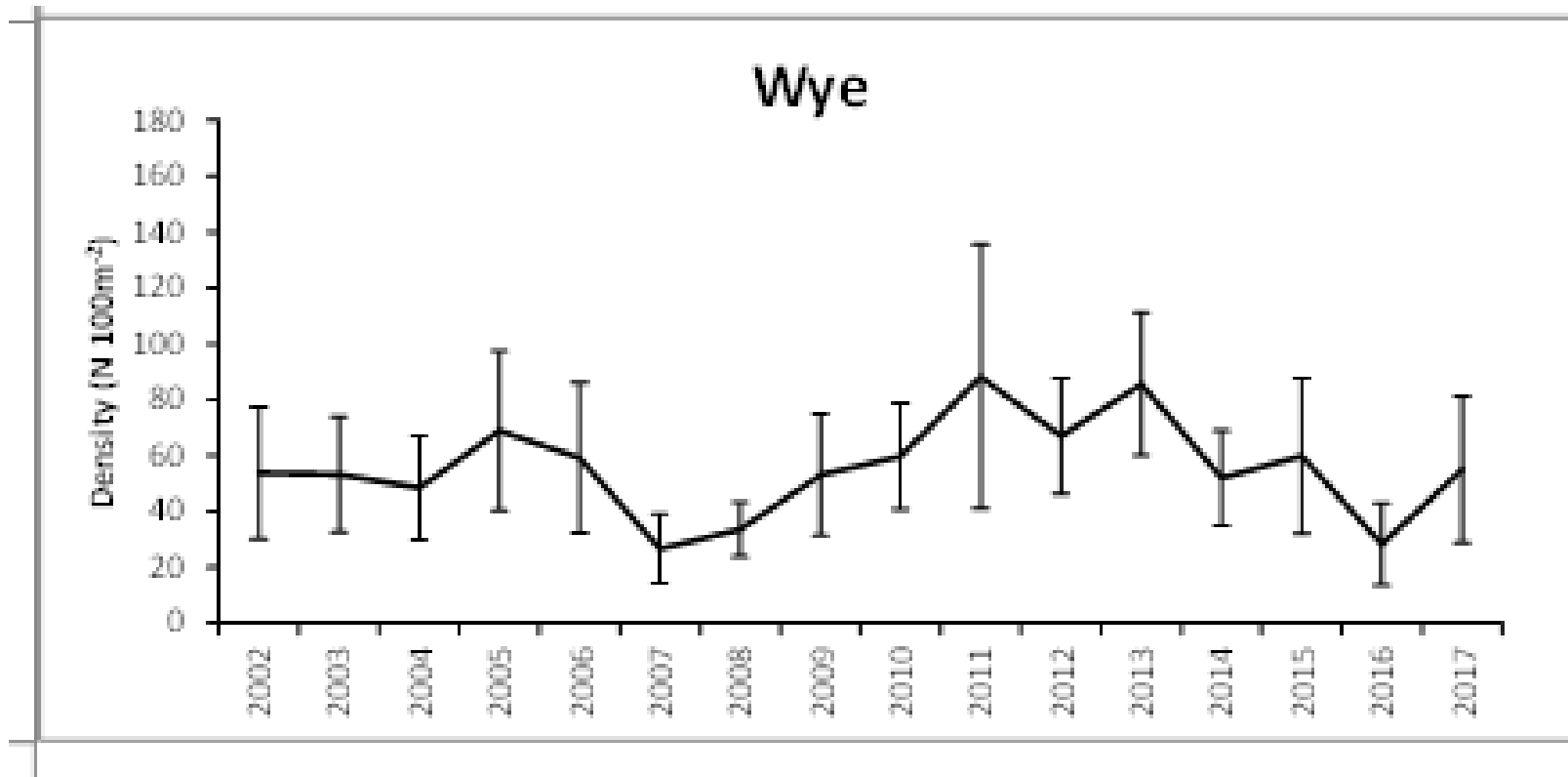


Figure 6(g). Annual variation in mean densities of salmon fry in principal Welsh catchments, 2002-2017 (95% confidence intervals shown)

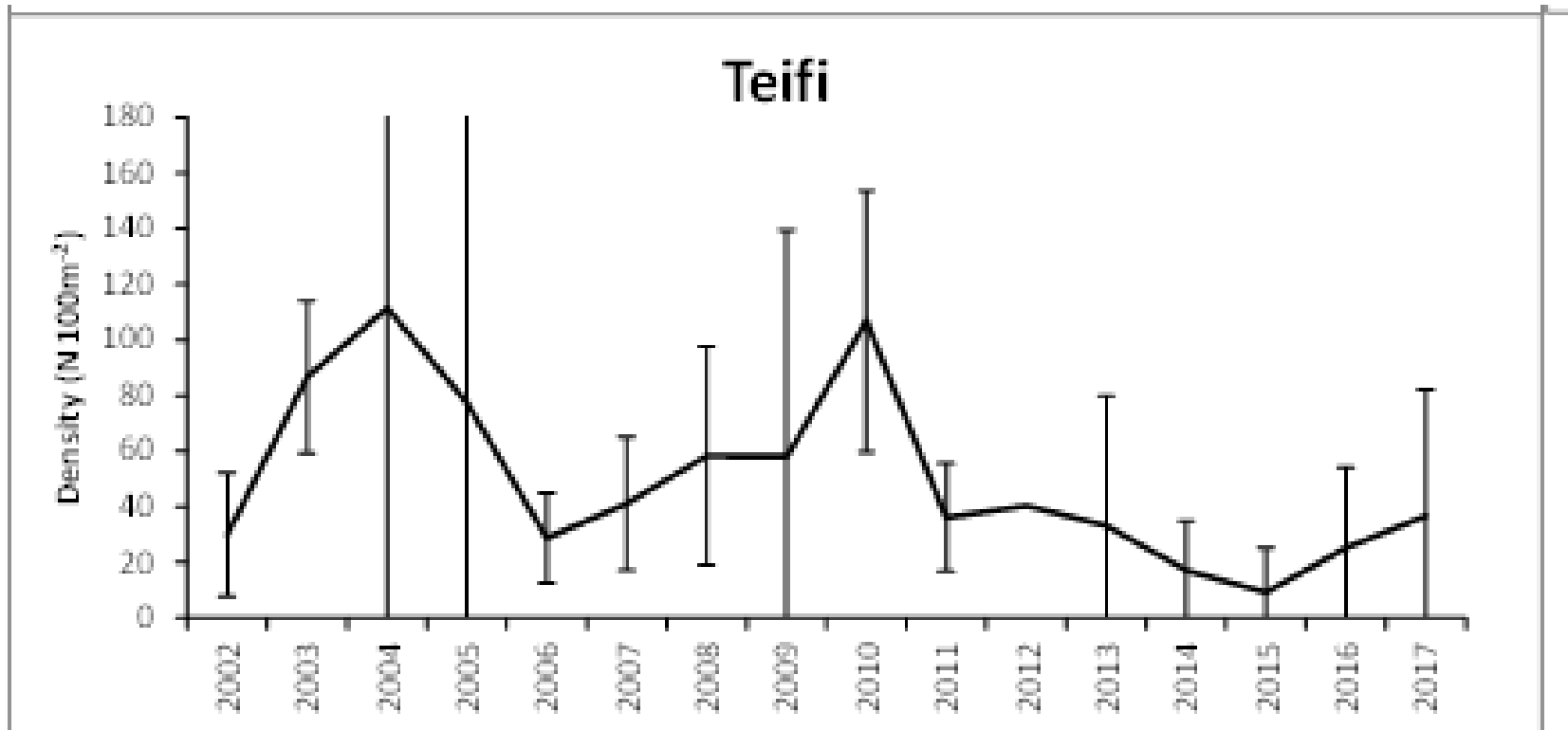


Figure 7(a). Conservation Limit and other reference points defined by the stock-recruitment curve and replacement line (where Stock = Eggs and Recruits = Smolts)

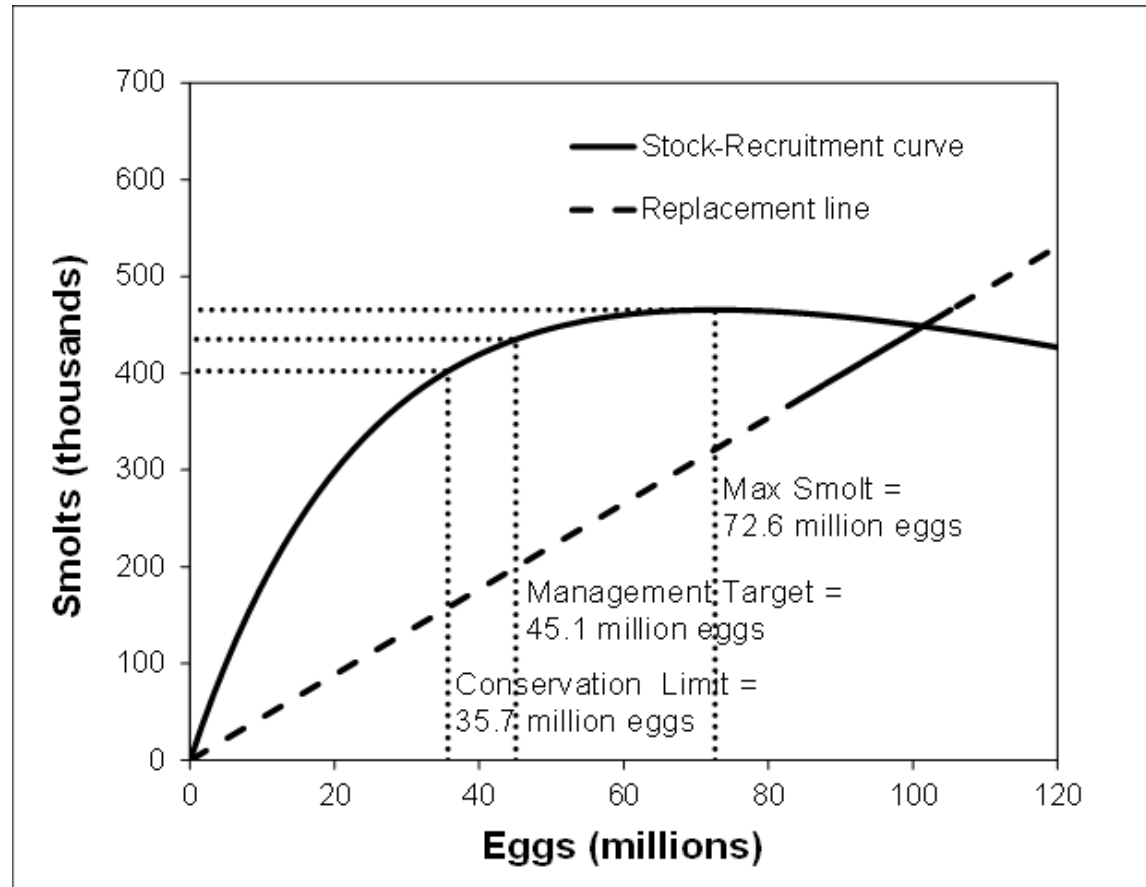


Figure 7(b). Compliance with Conservation Limits: Example graphical assessment for the River Wye, 2015

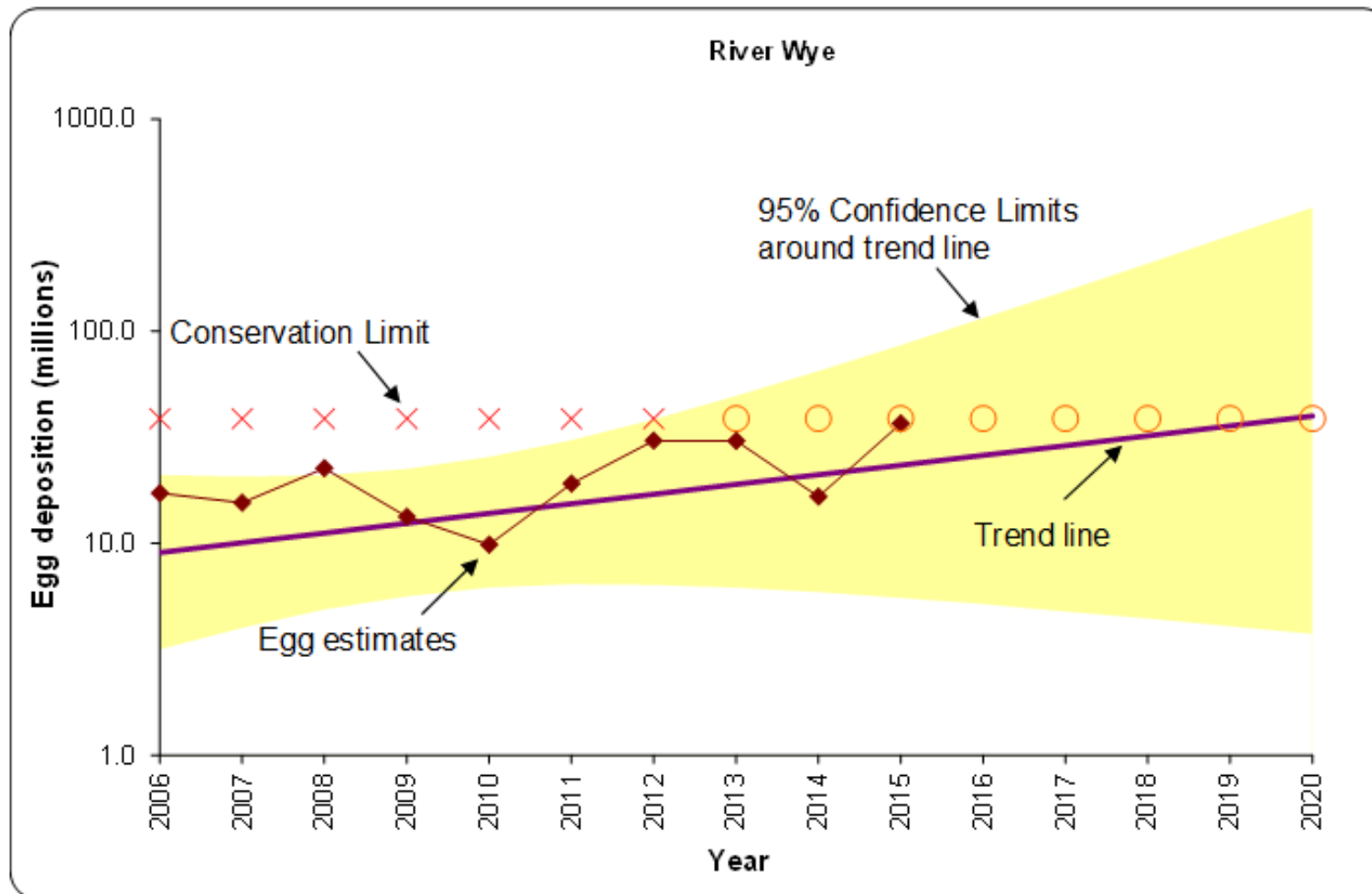


Figure 8. Sea trout CPUE assessment: Example for the River Teifi, 2013

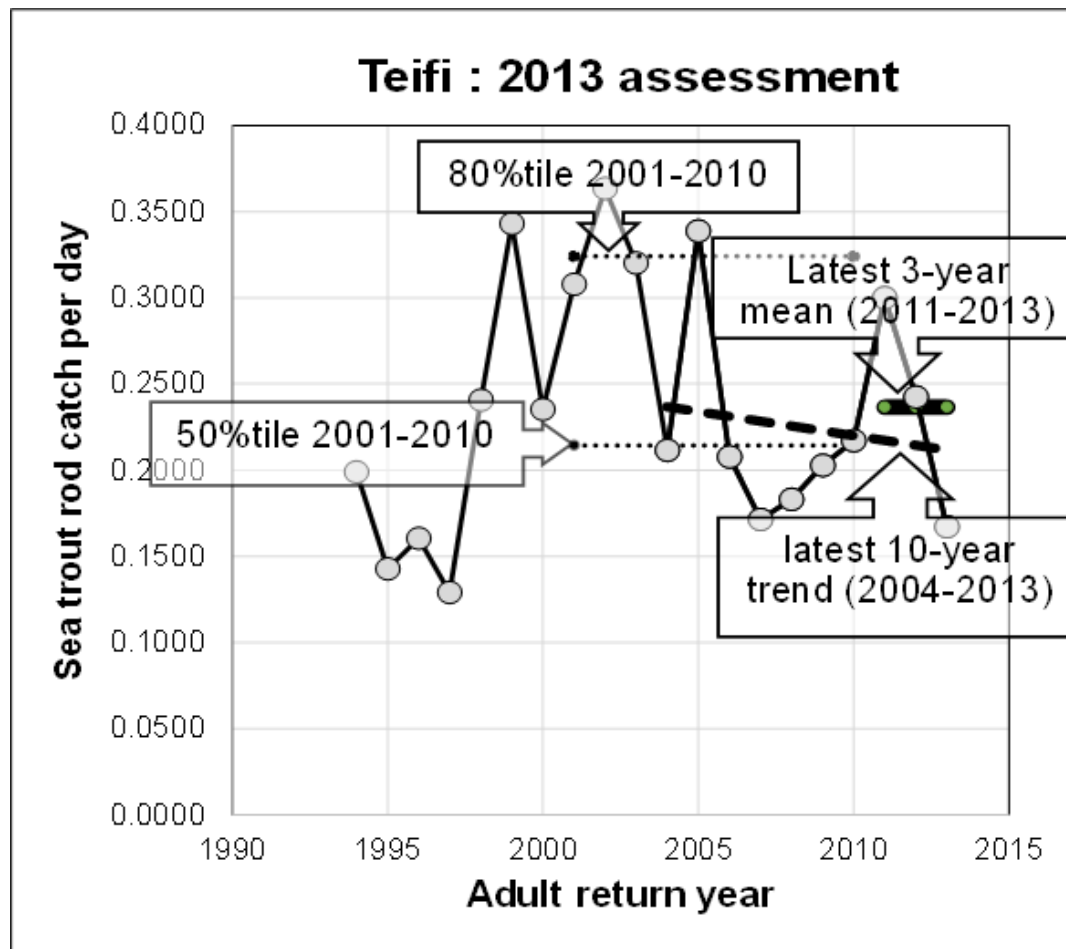


Figure 9. Sea trout Ricker stock-recruitment curve for the River Teifi (year classes 1995-2013)

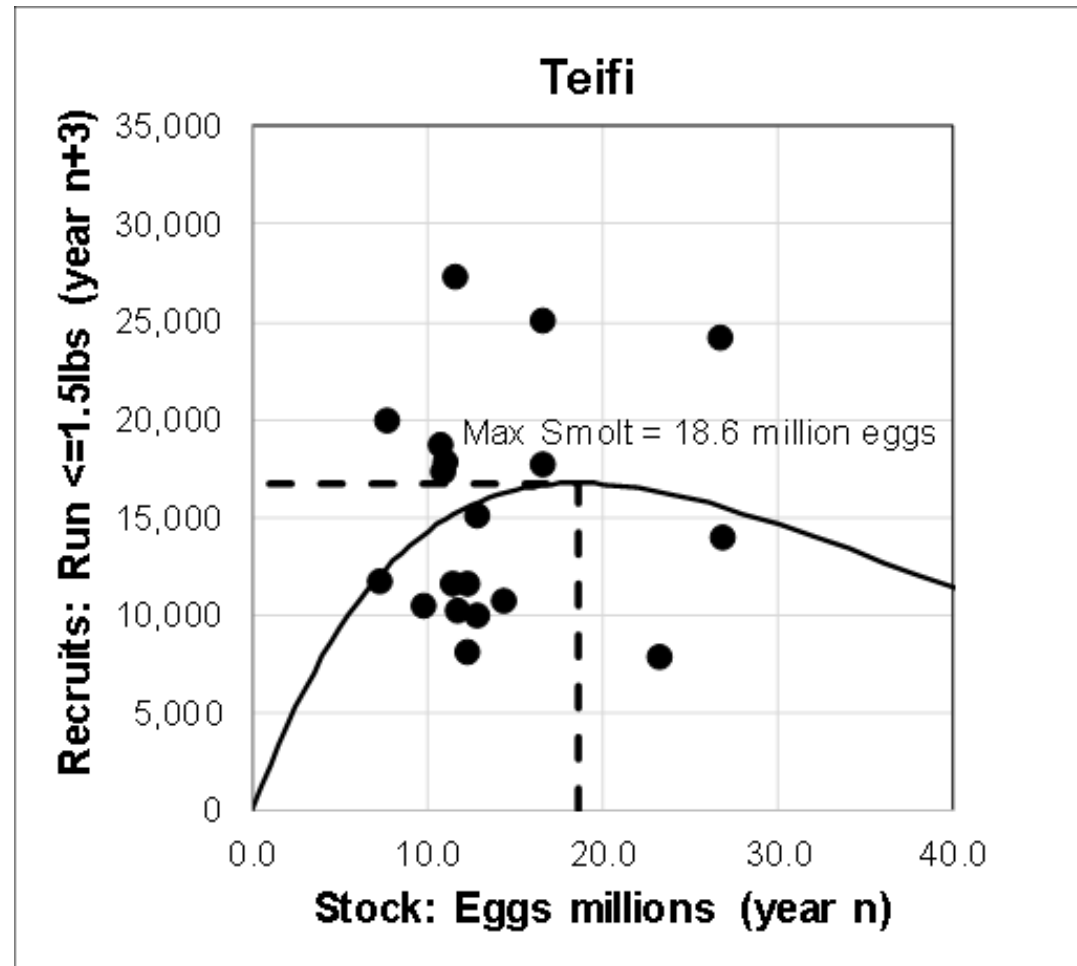


Figure 10. Compliance with Conservation Limits: Example graphical assessment for Teifi sea trout, 2016

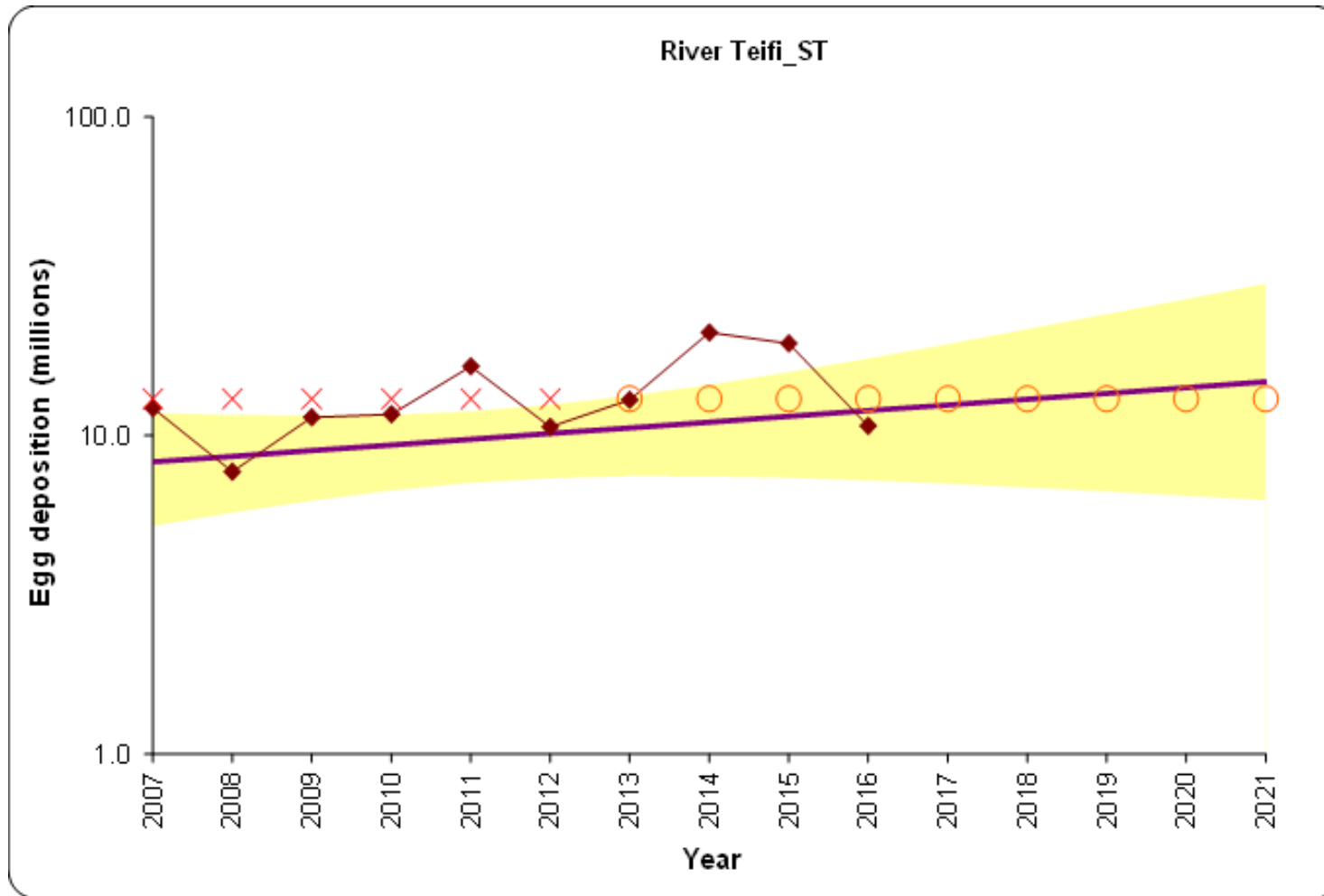


Table 1. Risk Status Categories

Status	Category	Score
Trend in CPUE significantly up or stable & current stock >80% of reference period	Not at risk	4
Trend in CPUE stable & current stock between 50 and 80% of reference period	Probably not at risk	3
Trend in CPUE stable & current stock <50% of reference period	Probably at risk	2
Trend in CPUE significantly down & current stock <50% of reference period	At risk	1

Table 2. Overview of salmon stock status and the requirement for additional regulatory measures following the 2017 assessment

River	Risk status: 2022	Trend	Egg deficit/surplus on Management Target (%)
Rheidol	At risk	---	-80.40
Clwyd	At risk	---	-87.03
Seiont	At risk	---	-81.99
Tawe	At risk	---	-77.65
Dee	At risk	---	-33.65
Dwyfawr	At risk	--	-86.18
Ogmore	At risk	--	-78.27
E&W Cleddau#	At risk	---	-68.11
Dyfi#	Prob at risk	--	-76.22
Taf#	Prob at risk	--	-66.01
Teif#	Prob at risk	--	-48.66
Glaslyn#	Prob at risk	--	-15.78
Dwryrd#	Prob at risk	-	-56.47
Tywi#	Prob at risk	-	-48.22
Ogwen	Prob at risk	-	-42.31
Mawddach#	Prob at risk	-	-27.34
Conwy#	Prob at risk	-	-26.92
Dysinn#	Prob at risk	+	-87.29
Taff & Ely	Prob at risk	+	-77.40
NeVERN#	Prob at risk	++	-23.33
Wye	Prob not at risk	++	-34.61
Usk	Prob not at risk	++	6.83
Severn##	Prob not at risk	++	14.81

Trend:	
p<0.05	---
p<0.10	--
0.10<=p<0.30	-
0.30<=p<0.50	-
0.70=>p>0.50	+
0.90=>p>0.70	++
p>0.90	+++
p>0.95	+++

Review of Net Limitation Order 2017
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Stock vulnerability

Additional regulatory measures

Table 3 Overview of sea trout stock status and the requirement for additional regulatory measures following the 2017 assessment

River	Risk status: 2022	Trend	Egg deficit/surplus on Management Target (%)
Taff#	At risk	---	-63.26
Taff & Ely	At risk	--	-91.31
Gwendraeth	At risk	--	-77.89
Usk	At risk	--	-77.27
Tawe	At risk	--	-71.66
Loughor	At risk	--	-61.97
E&W Cleddau#	At risk	--	-52.51
Rhymney	Prob at risk	--	-85.47
Ystwyth	Prob at risk	--	-26.26
Neath	Prob at risk	--	-9.55
Afan	Prob at risk	--	-5.20
Dwryd#	Prob at risk	--	-51.93
Wye	Prob at risk	-	-27.50
Tywi#	Prob at risk	-	-22.34
Glaslyn#	Prob at risk	-	-19.25
Nevern#	Prob at risk	-	9.32
Aeron	Prob at risk	+	-55.10
Llyfni	Prob at risk	+	-41.99
Dwrfawr	Prob at risk	+	-17.85
Teifi#	Prob at risk	+	-7.59
Ogmore	Prob at risk	+	-3.92
Clwyd	Prob at risk	++	-28.94
Rheidol	Prob at risk	++	-8.25
Gwryfai	Prob not at risk	+	-14.11
Arto	Prob not at risk	+	-11.82
Dee	Prob not at risk	+	0.84
Severn##	Prob not at risk	+	5.28
Dysinn#	Prob not at risk	+	19.84
Mawddach#	Prob not at risk	+	54.27
Dyfi#	Prob not at risk	++	31.08
Seiont	Prob not at risk	++	-18.21
Conwy#	Prob not at risk	++	43.87
Ogwen	Not at risk	+++	16.28

Stock vulnerability

High

Low

Additional regulatory measures

Trend:

p<0.05	---
p<0.10	--
0.10<=p<0.30	-
0.30<=p<0.50	.
0.70=>p>0.50	+
0.90=>p>0.70	++
p>0.90	+++
p>0.95	+++

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Table 4. Salmon Conservation Limit compliance on Welsh rivers: Projected ‘risk’ status in 5-years time for the assessment years 2013-2017

Assessment year:	2013	2014	2015	2016	2017
Compliance year:	2018	2019	2020	2021	2022
No. River					
28 Severn	Prob at risk	Prob at risk	Prob not at risk	Prob not at risk	Prob not at risk
43 Wye	Prob at risk	Prob at risk	Prob not at risk	Prob not at risk	Prob not at risk
44 Usk	Prob at risk	Prob at risk	Prob at risk	Prob not at risk	Prob not at risk
45 Taff & Ely	Prob at risk	Prob at risk	Prob at risk	Prob at risk	Prob at risk
46 Ogmore	At risk	Prob at risk	Prob at risk	At risk	At risk
47 Tawe	At risk	At risk	At risk	At risk	At risk
48 Tywi	Prob at risk	At risk	Prob at risk	Prob at risk	Prob at risk
49 Taf	At risk	Prob at risk	Prob at risk	Prob at risk	Prob at risk
50 E&W Cleddau	At risk	Prob at risk	Prob at risk	At risk	At risk
51 Teifi	Prob at risk	Prob at risk	Prob at risk	Prob at risk	Prob at risk
52 Rheidol	At risk	Prob at risk	Prob at risk	At risk	At risk
53 Nevern	At risk	Prob at risk	Prob at risk	Prob at risk	Prob at risk
54 Dyfi	At risk	At risk	At risk	At risk	Prob at risk
55 Dysinni	At risk	Prob at risk	Prob at risk	Prob at risk	Prob at risk
56 Mawddach	Prob at risk	Prob at risk	Prob at risk	Prob at risk	Prob at risk
57 Dwyrhyd	At risk	Prob at risk	Prob at risk	Prob at risk	Prob at risk
58 Glaslyn	Prob not at risk	Prob not at risk	Prob not at risk	Prob at risk	Prob at risk
59 Dwyfawr	At risk	Prob at risk	Prob at risk	Prob at risk	At risk
60 Seiont	At risk	At risk	At risk	At risk	At risk
61 Ogwen	Prob at risk	At risk	Prob at risk	Prob at risk	Prob at risk
62 Conwy	Prob not at risk	Prob at risk	Prob at risk	Prob at risk	Prob at risk
63 Clwyd	Prob at risk	Prob at risk	At risk	At risk	At risk
64 Dee	At risk	Prob at risk	At risk	At risk	At risk

Table 5. Sea trout Conservation Limit compliance on Welsh rivers: Projected 'risk' status in 5-years time for the assessment years 2016-2017

Assessment year:	2016	2017
Compliance year:	2021	2022
No. River		
32 Severn	Prob at risk	Prob not at risk
33 Wye	Prob not at risk	Prob at risk
34 Usk	At risk	At risk
35 Rhymney	At risk	Prob at risk
36 Taff & Ely	At risk	At risk
37 Ogmore	Prob not at risk	Prob at risk
38 Afan	Prob at risk	Prob at risk
39 Neath	Prob at risk	Prob at risk
40 Tawe	At risk	At risk
41 Loughor	At risk	At risk
42 Gwendraeth	At risk	At risk
43 Tywi	Prob at risk	Prob at risk
44 Taf	At risk	At risk
45 E&W Cleddau	At risk	At risk
46 Nevern	Prob not at risk	Prob at risk
47 Teifi	Prob not at risk	Prob at risk
48 Aeron	At risk	Prob at risk
49 Ystwyth	At risk	Prob at risk
50 Rheidol	Prob not at risk	Prob at risk
51 Dyfi	Not at risk	Prob not at risk
52 Dysinni	Not at risk	Prob not at risk
53 Mawddach	Not at risk	Prob not at risk
54 Artro	Prob at risk	Prob not at risk
55 Dwyrhyd	Prob at risk	Prob at risk
56 Glaslyn	Prob at risk	Prob at risk
57 Dwyfawr	Prob not at risk	Prob at risk
58 Llyfni	Prob not at risk	Prob at risk
59 Gwyrfai	Prob not at risk	Prob not at risk
60 Seiont	Prob not at risk	Prob not at risk
61 Ogwen	Prob not at risk	Not at risk
62 Conwy	Not at risk	Prob not at risk
63 Clwyd	Prob not at risk	Prob at risk
64 Dee	Not at risk	Prob not at risk