

WATER RESOURCES ACT 1991

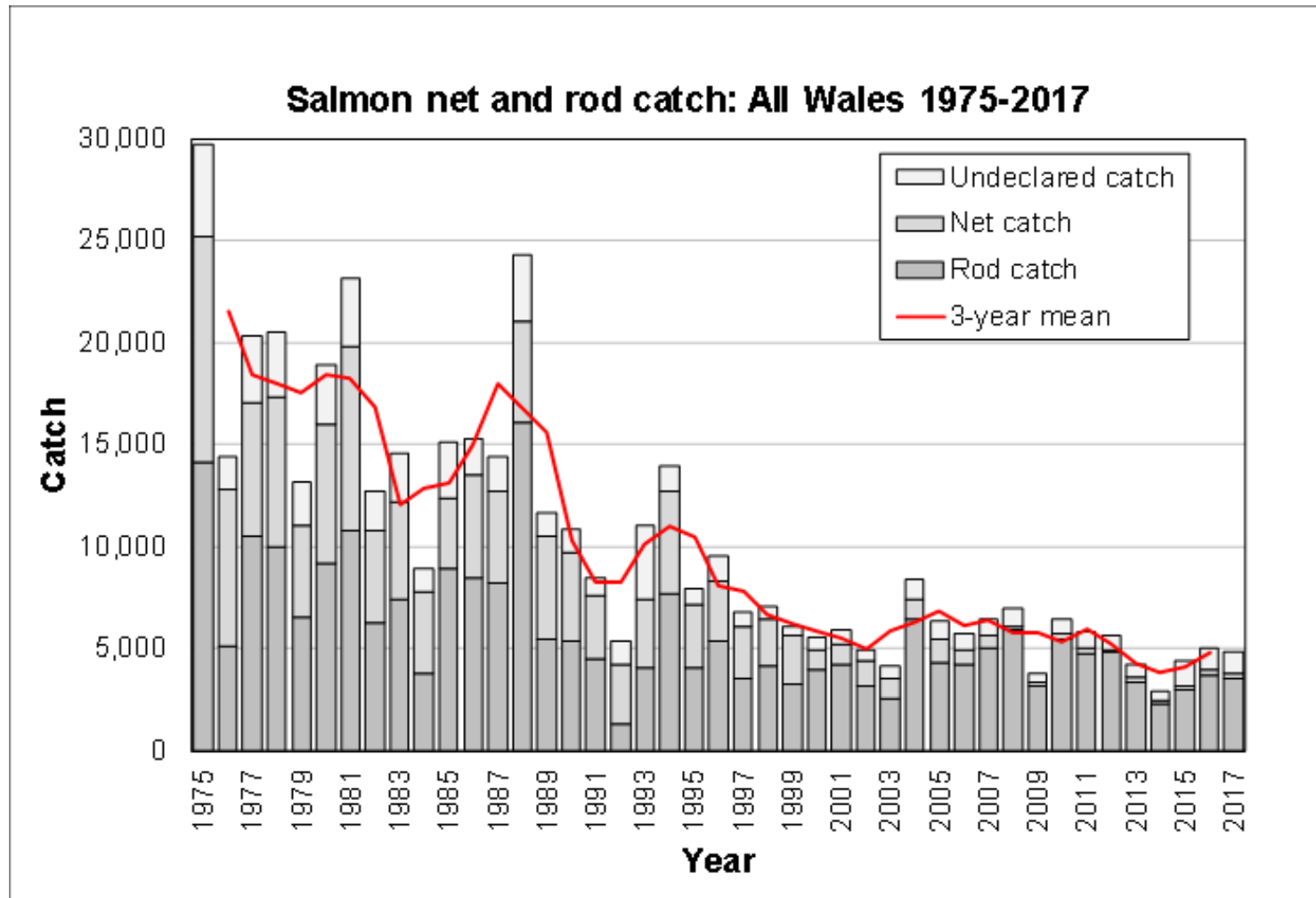
THE WALES ROD AND LINE (SALMON AND SEA TROUT) BYELAWS 2017
THE WALES NET FISHING (SALMON AND SEA TROUT) BYELAWS 2017

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

on behalf of
NATURAL RESOURCES WALES

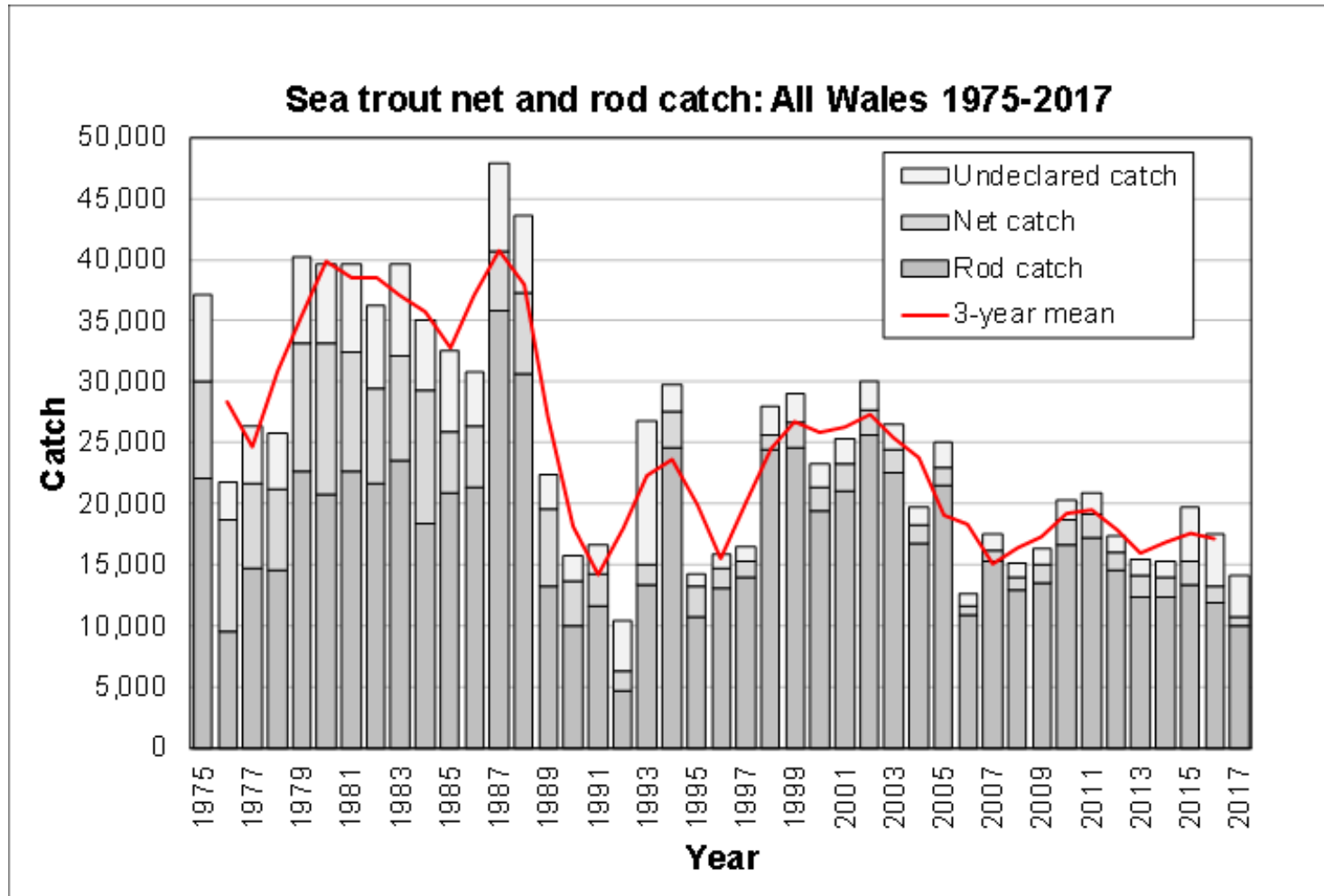
NOVEMBER 2018

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

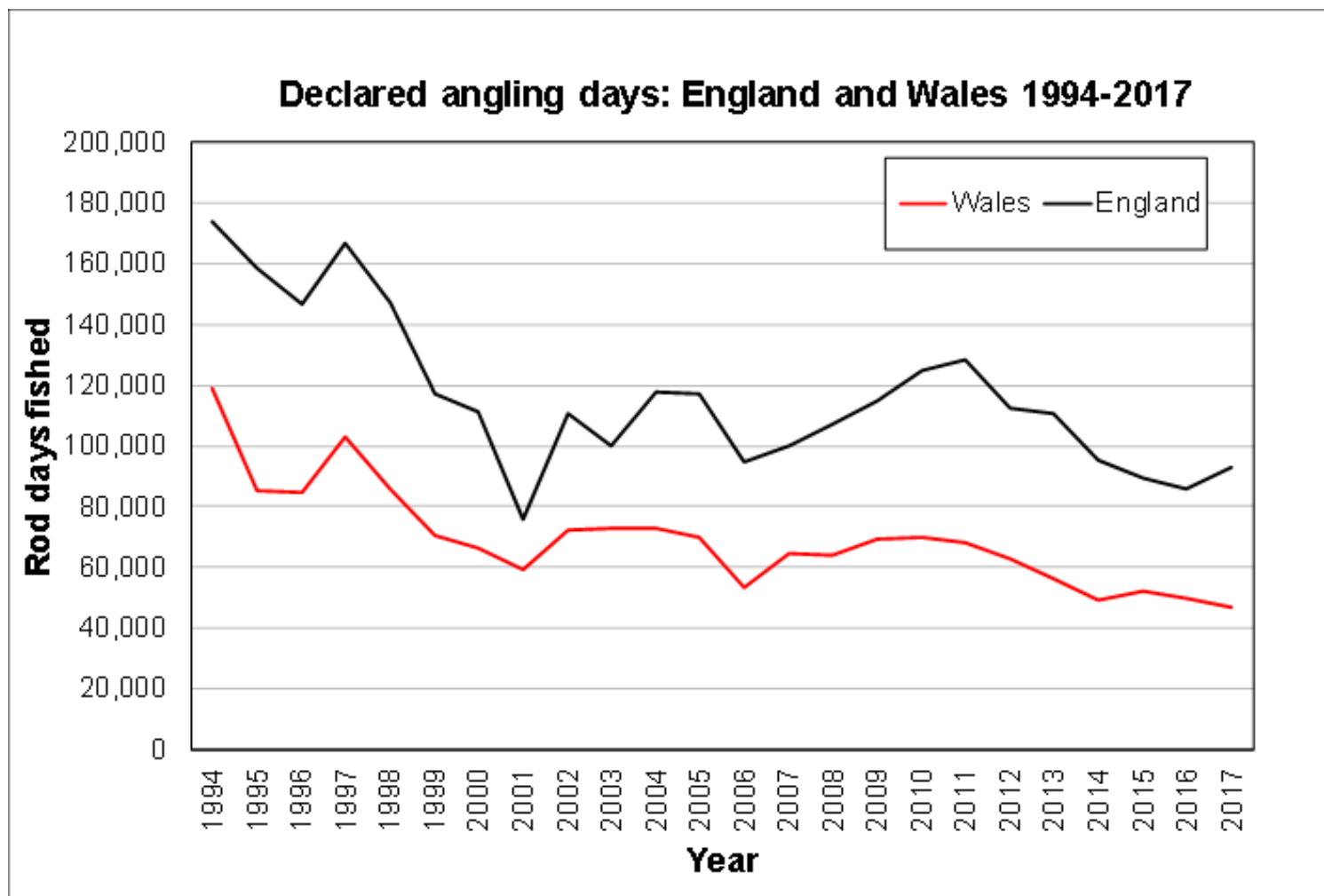


Figure 3. Numbers of net and rod licences issued in England and Wales, 1994-2017

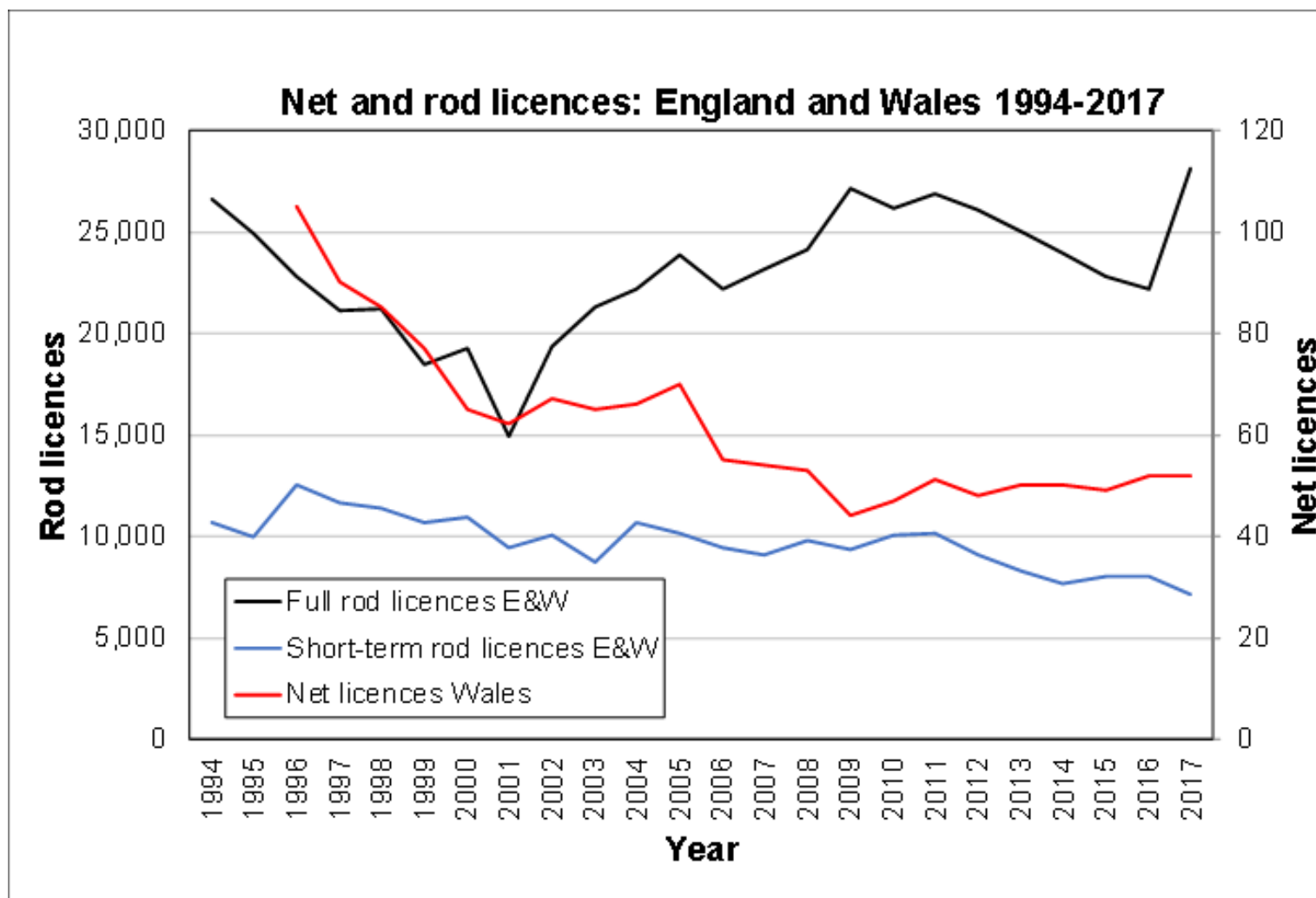


Figure 4(a). Run estimates for adult salmon from counters/traps on the rivers, Taff, Teifi, and Dee, 1992-2017

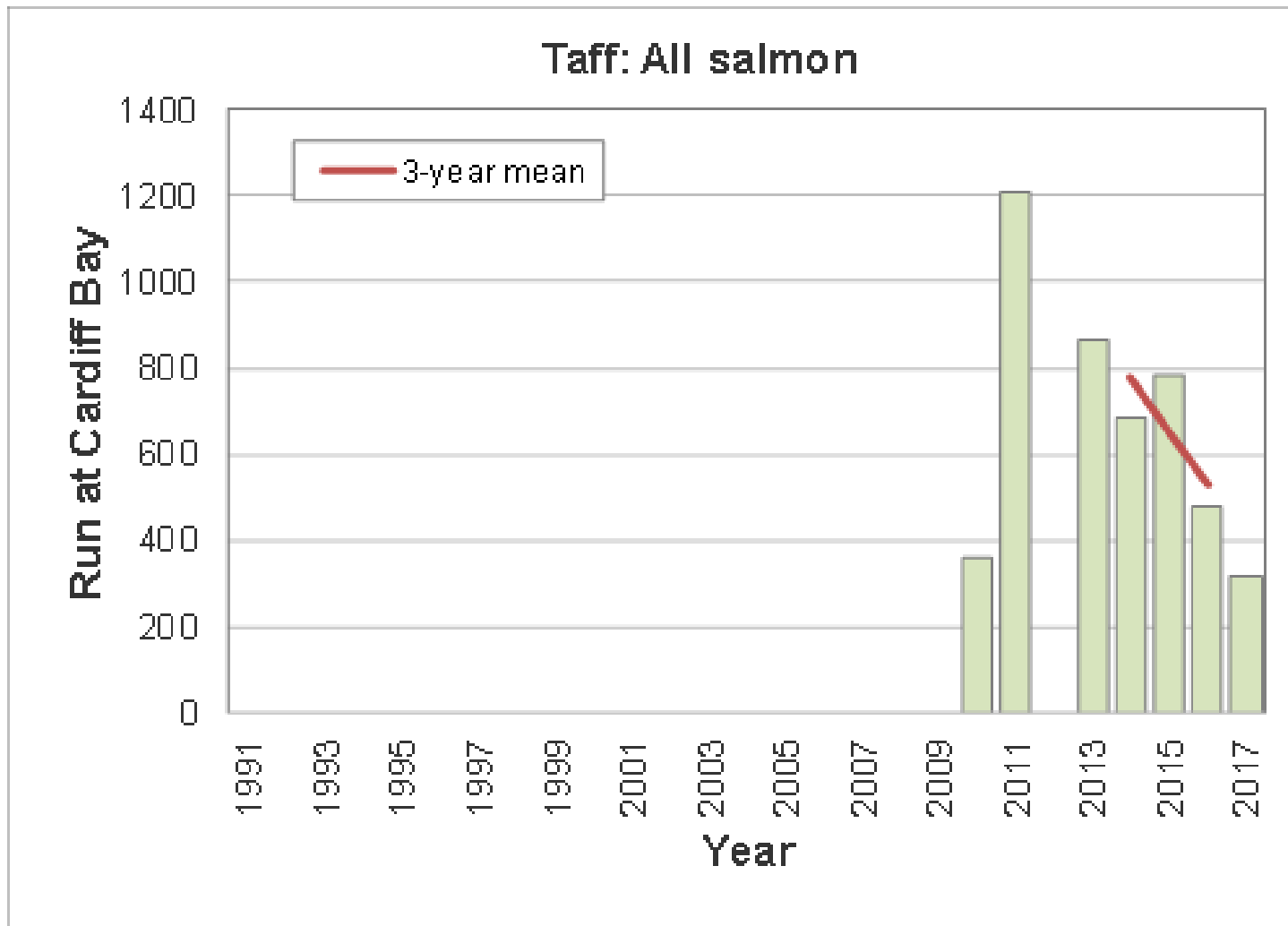


Figure 4(b).

Run

estimates for adult salmon from counters/traps on the rivers, Taff, Teifi, and Dee, 1992-2017

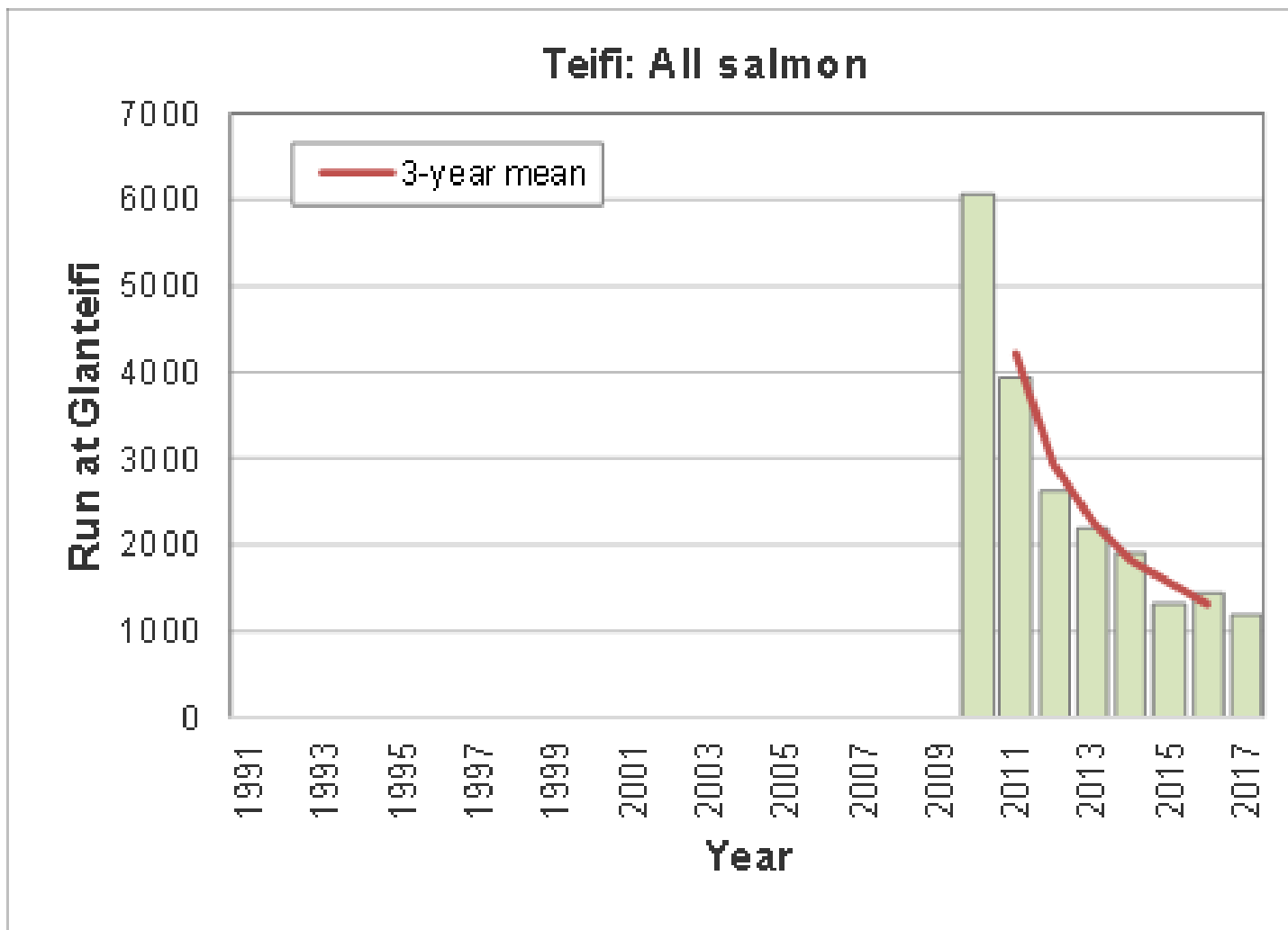


Figure 4 (c). Run estimates for adult salmon from counters/traps on the rivers, Taff, Teifi, and Dee, 1992-2017

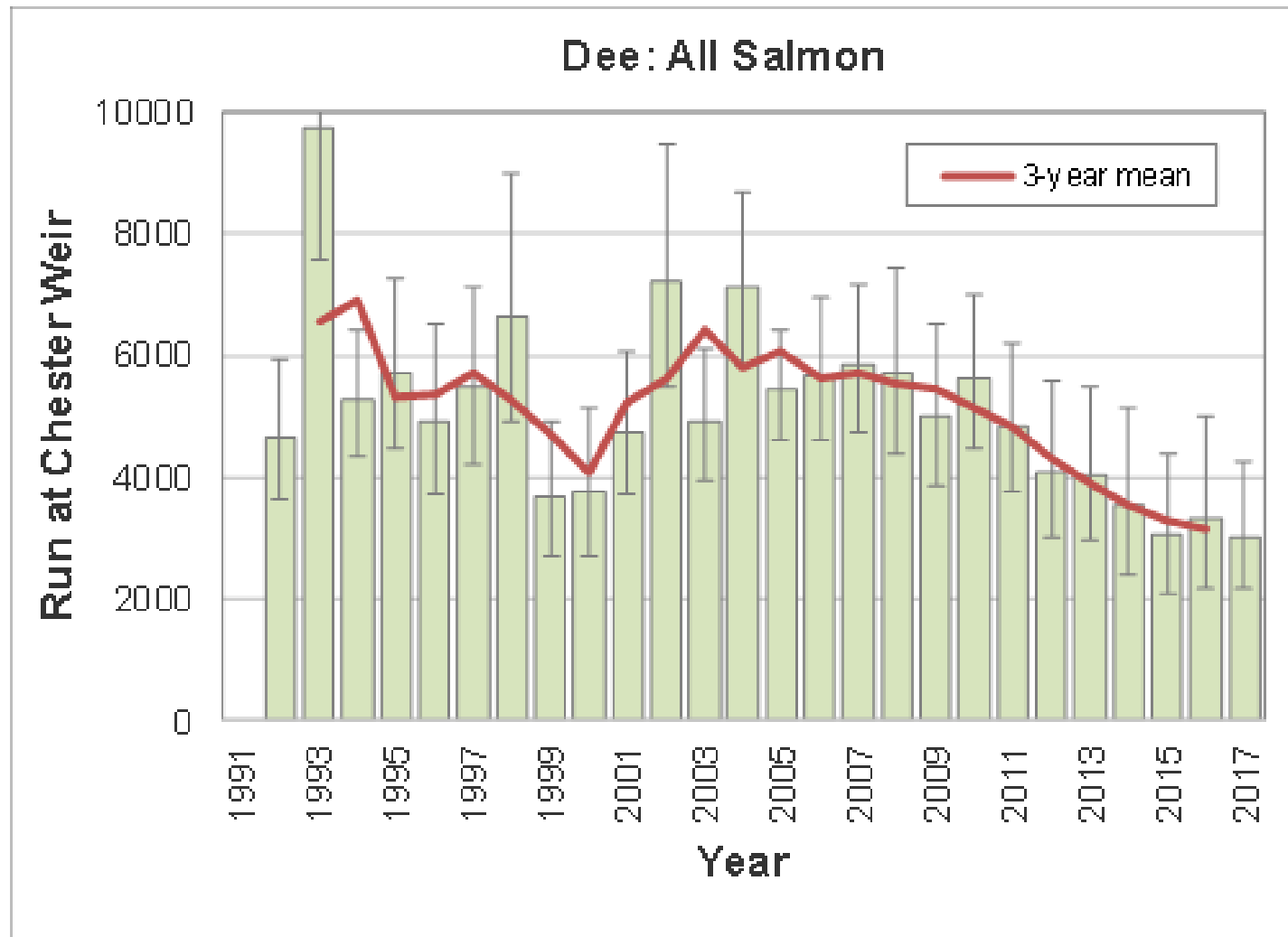


Figure 5(a). Run estimates for 1SW and MSW salmon on the River Dee, 1992-2017

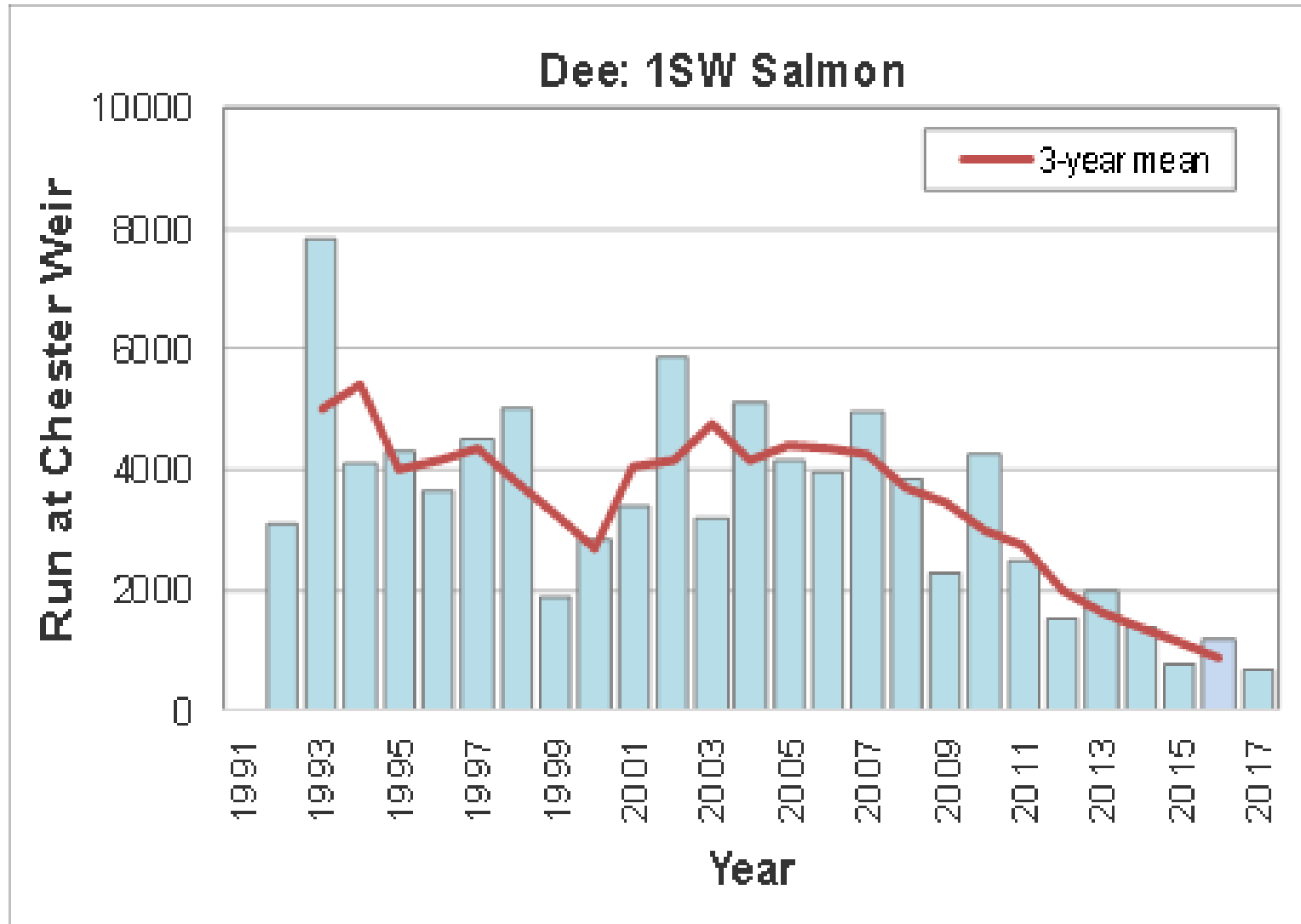


Figure 5(b). Run estimates for 1SW and MSW salmon on the River Dee, 1992-2017

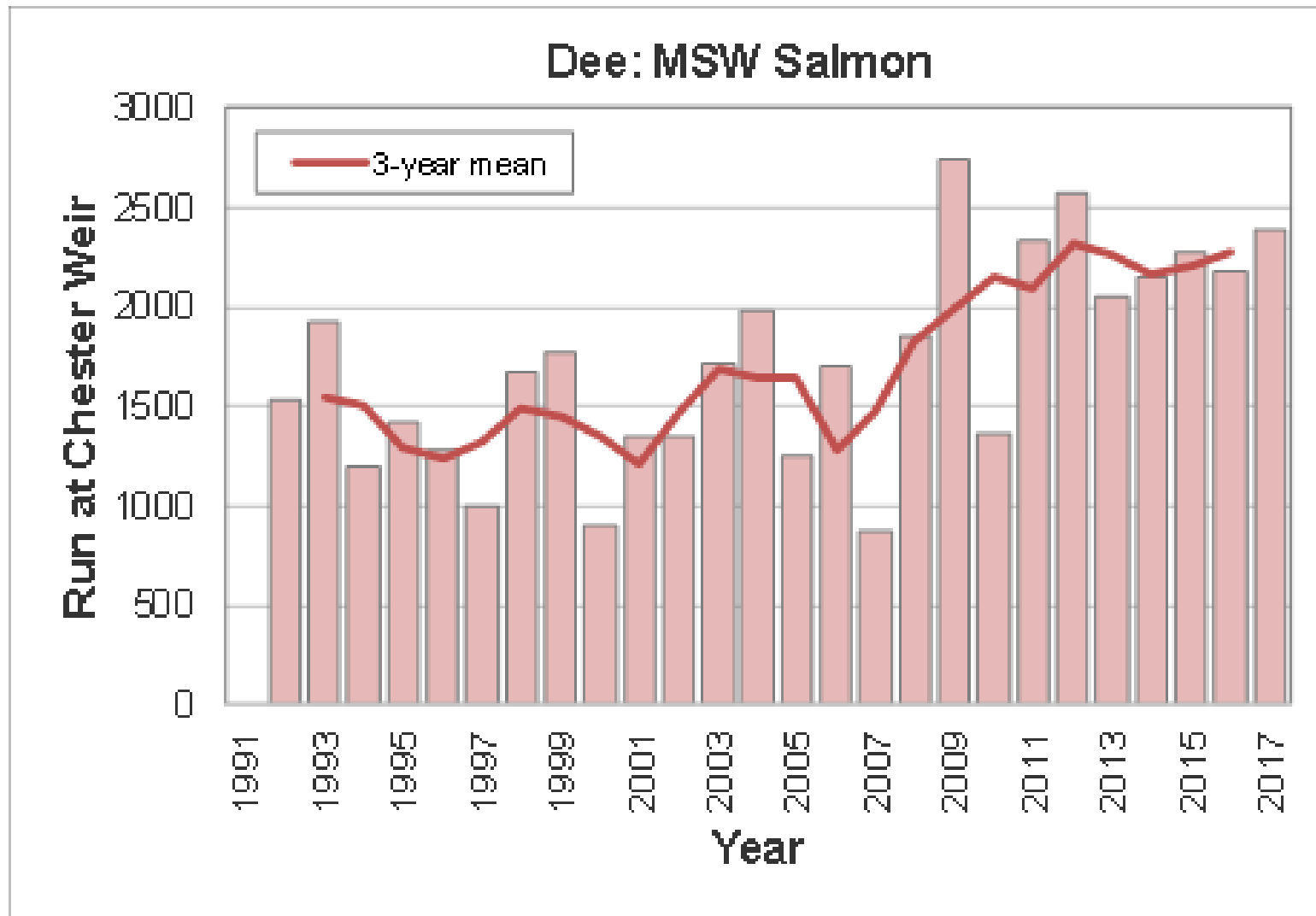


Figure 6(a). Annual variation in mean densities of salmon fry in principal Welsh catchments, 2002-2017 (95% confidence intervals shown)

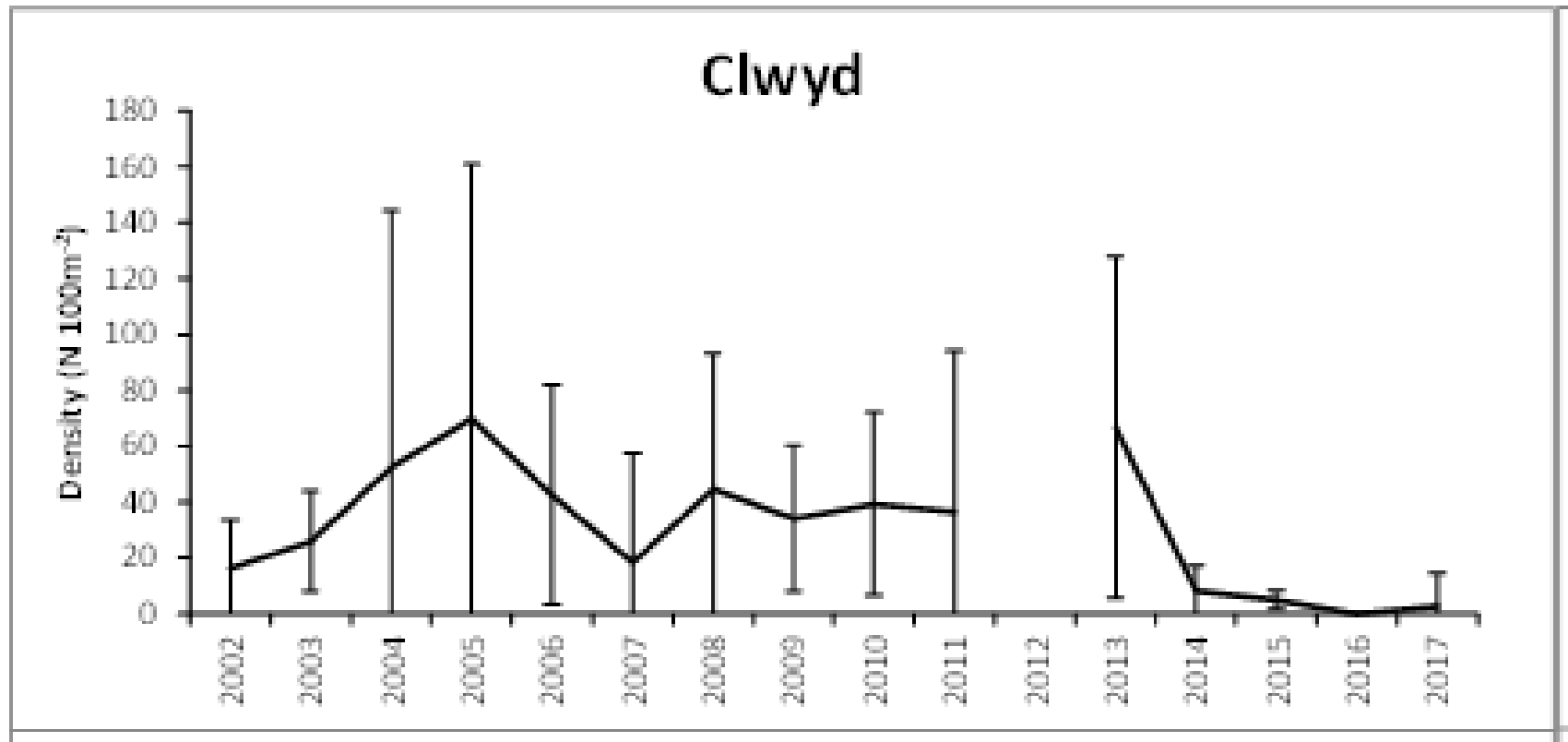


Figure 6(b). Annual variation in mean densities of salmon fry in principal Welsh catchments, 2002-2017 (95% confidence intervals shown)

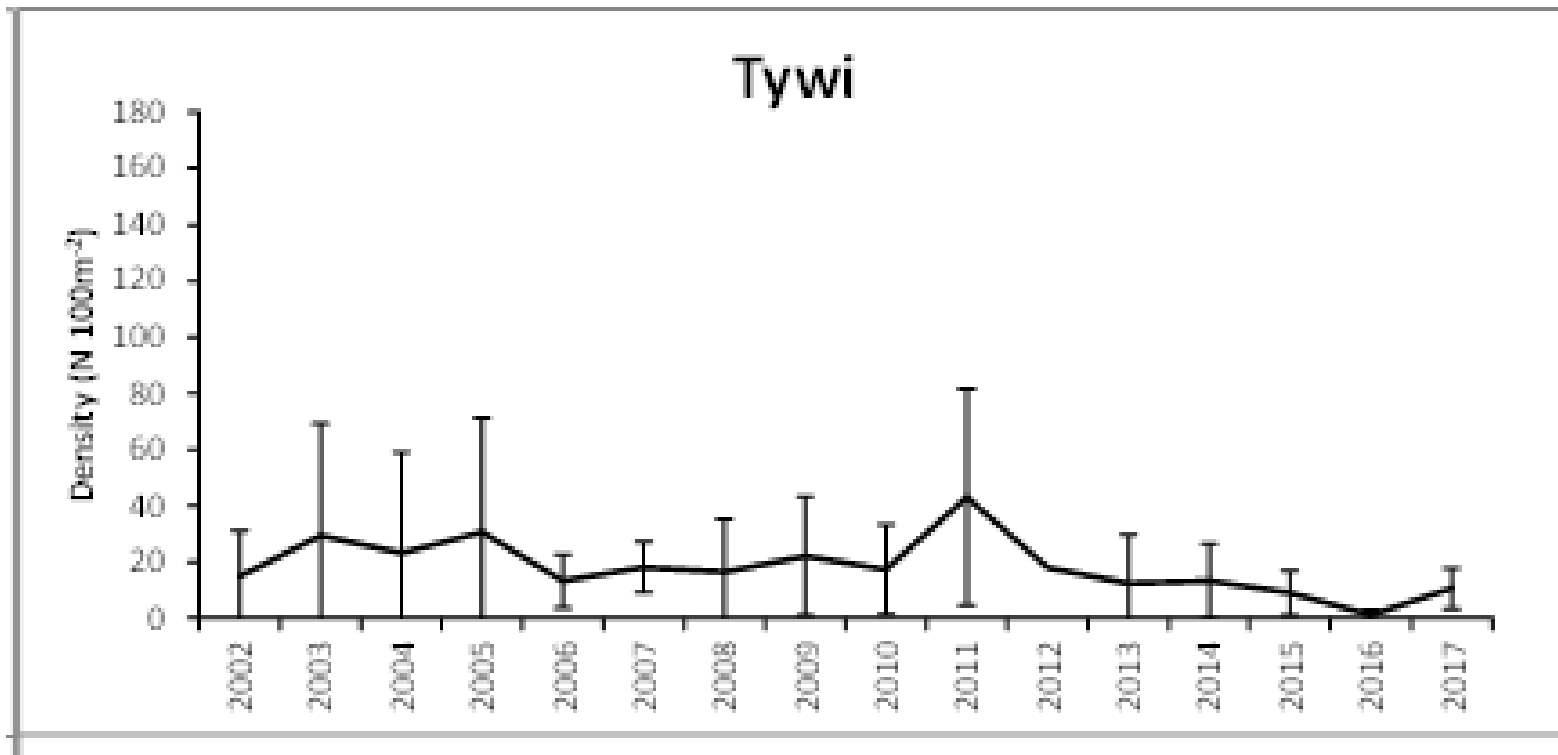


Figure 6(c). Annual variation in mean densities of salmon fry in principal Welsh catchments, 2002-2017 (95% confidence intervals shown)

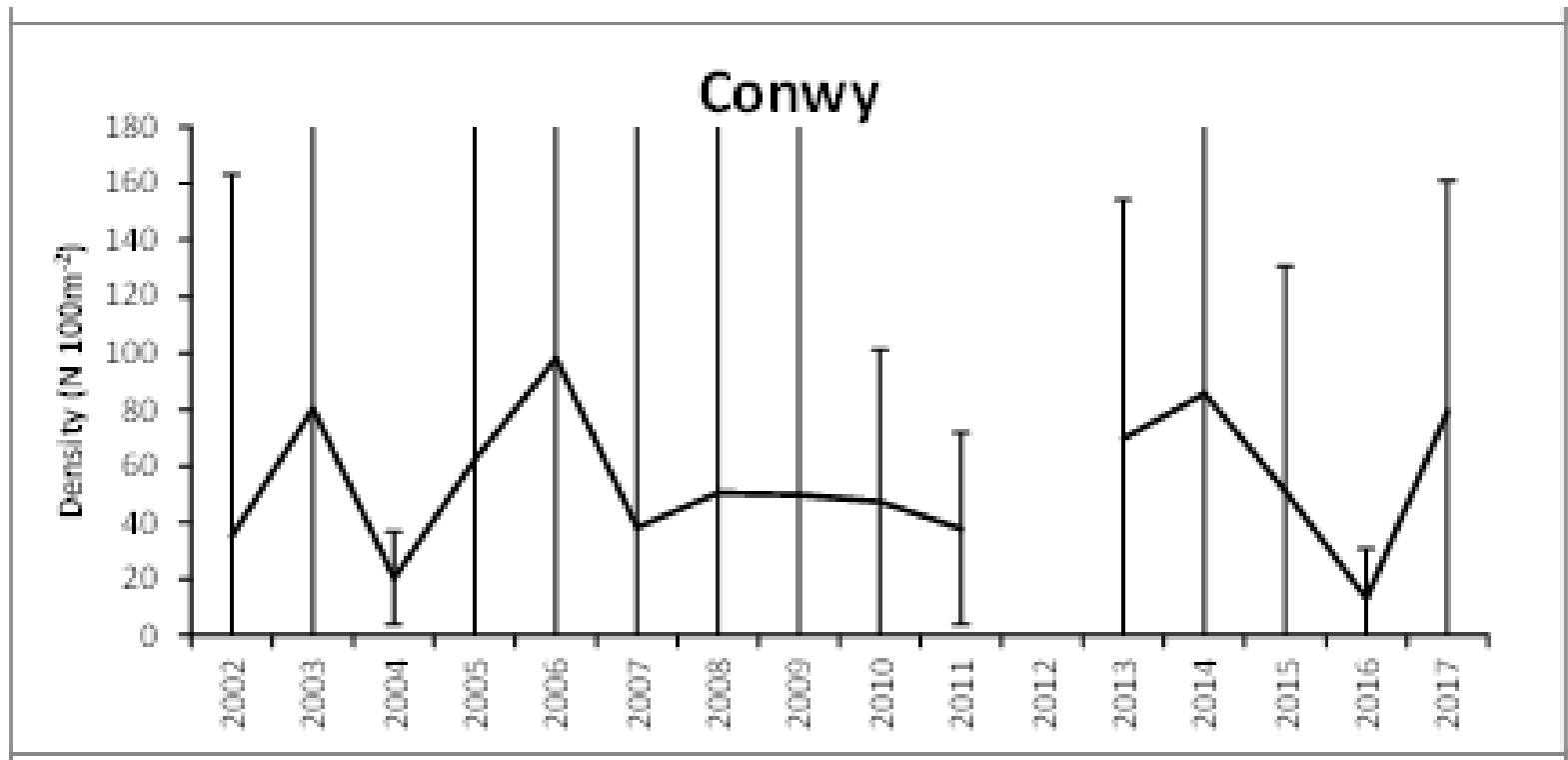


Figure 6(d). Annual variation in mean densities of salmon fry in principal Welsh catchments, 2002-2017 (95% confidence intervals shown)

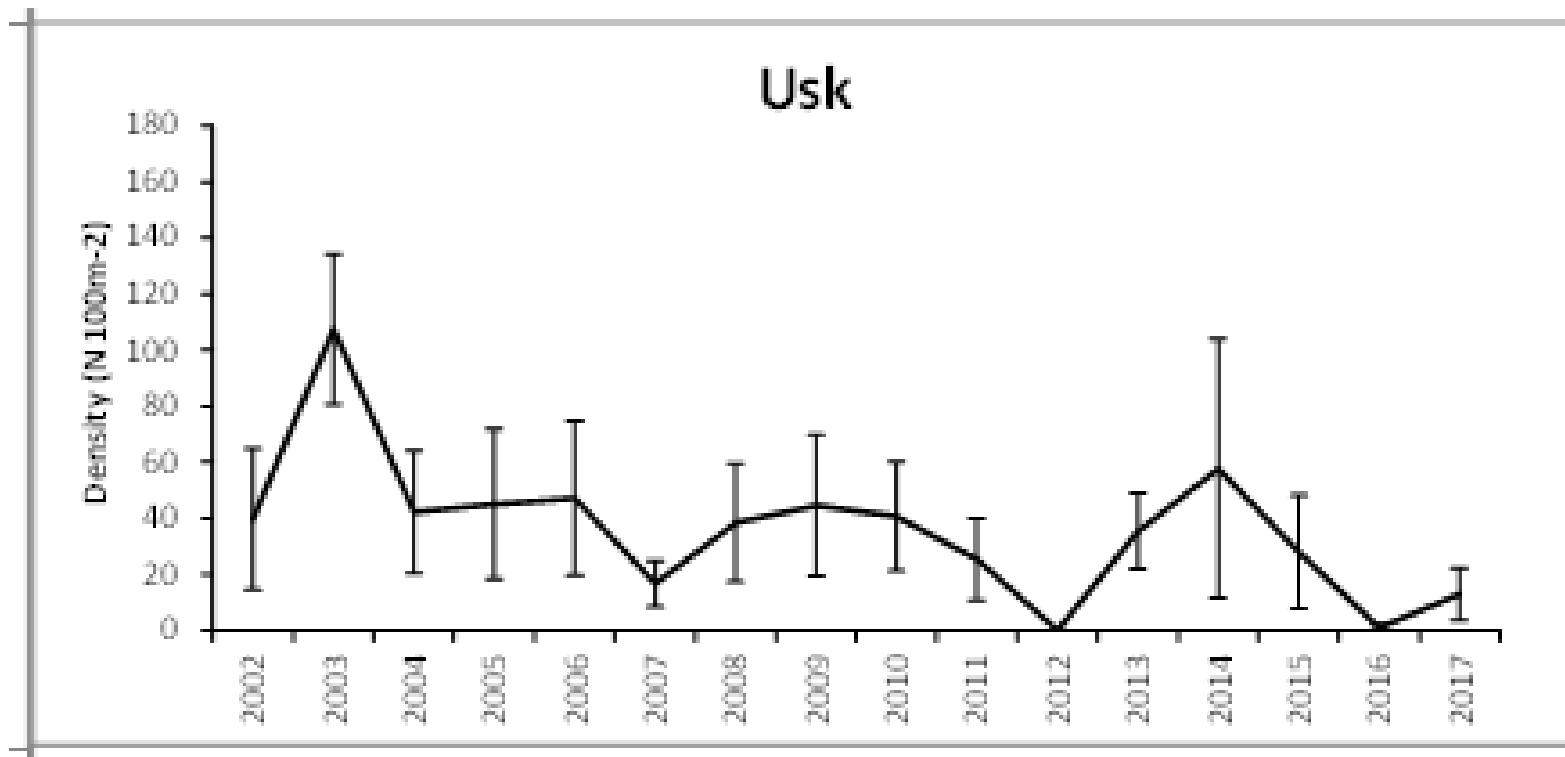


Figure 6(e). Annual variation in mean densities of salmon fry in principal Welsh catchments, 2002-2017 (95% confidence intervals shown)

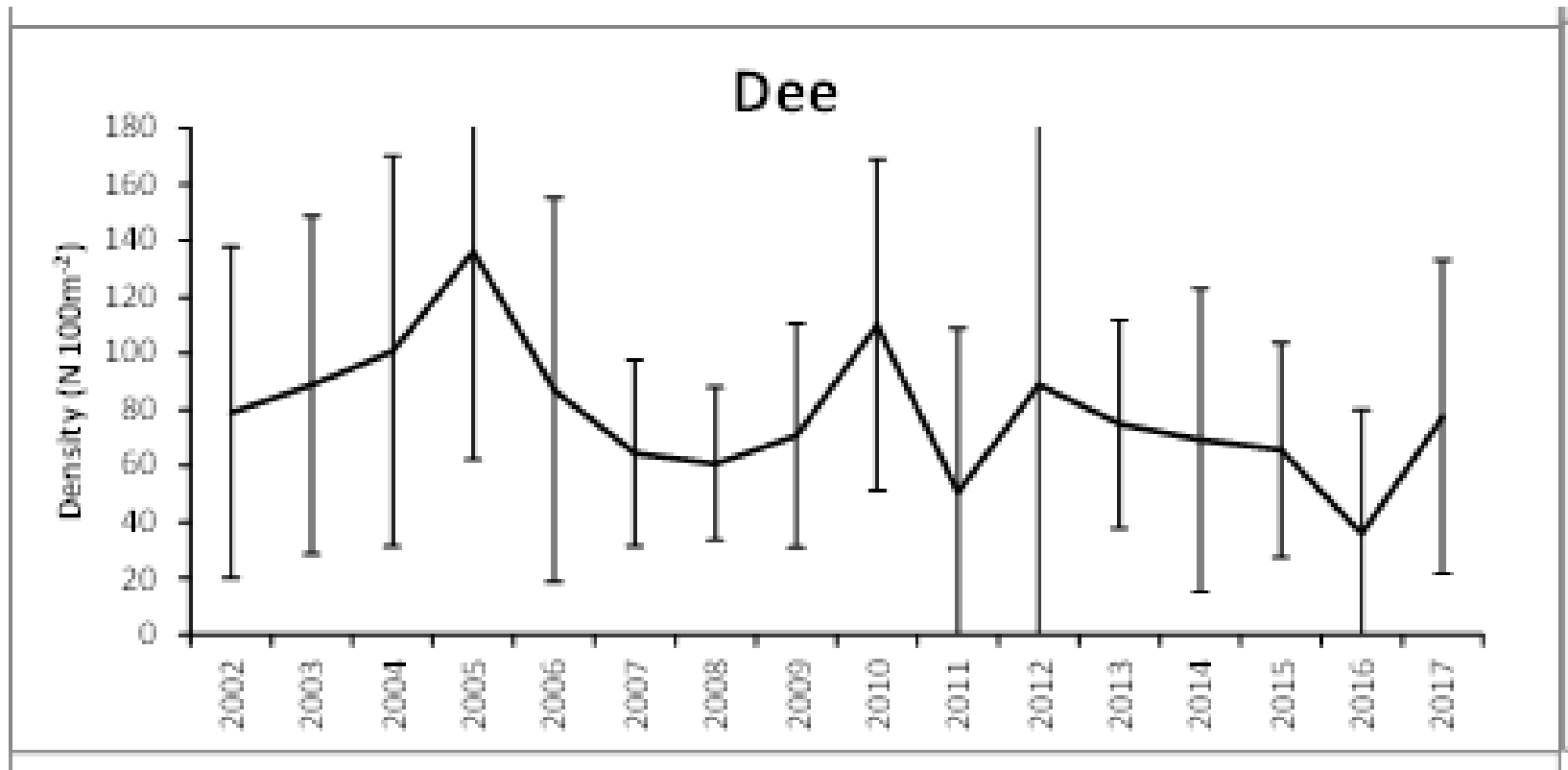


Figure 6(f). Annual variation in mean densities of salmon fry in principal Welsh catchments, 2002-2017 (95% confidence intervals shown)

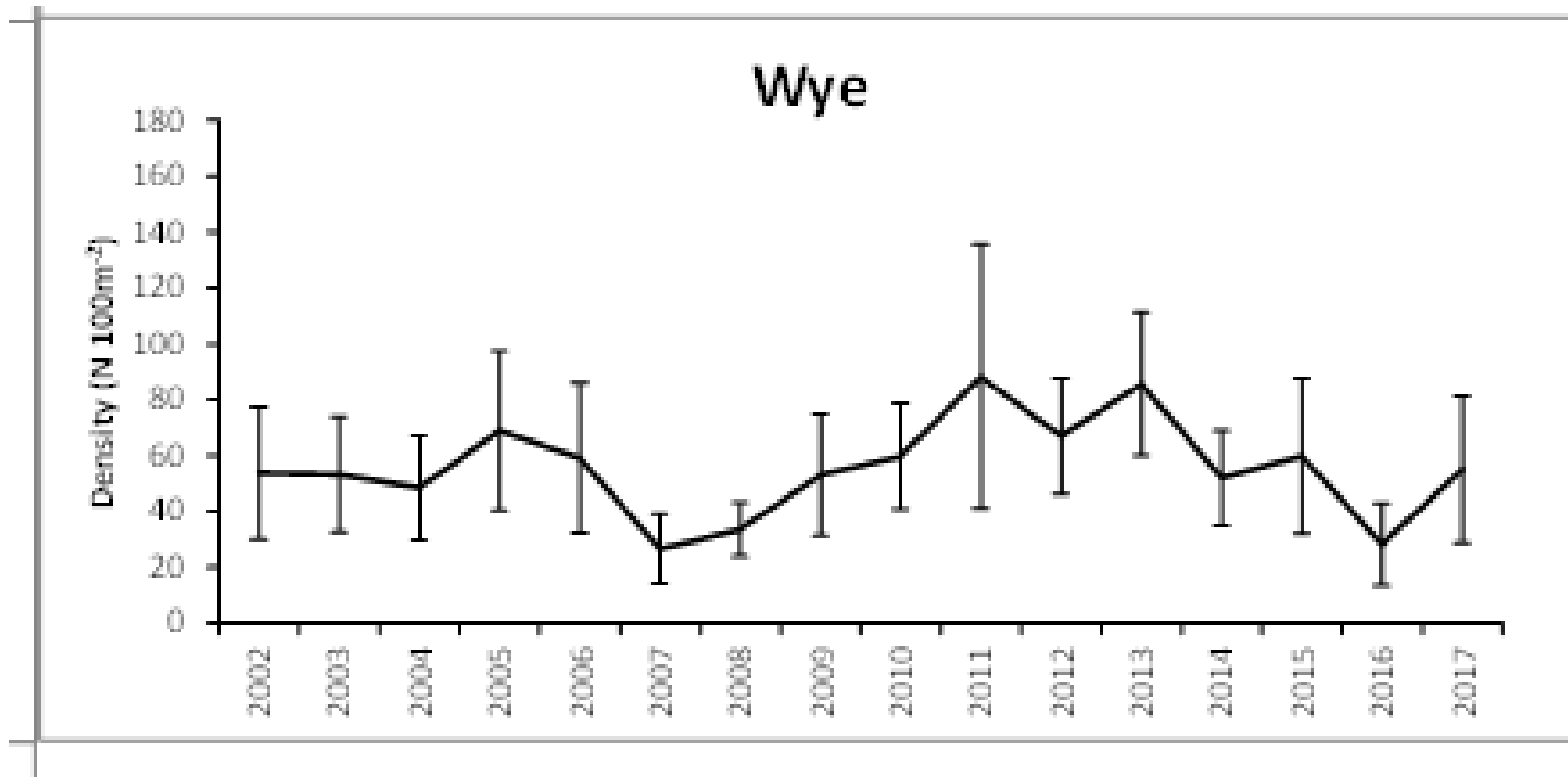


Figure 6(g). Annual variation in mean densities of salmon fry in principal Welsh catchments, 2002-2017 (95% confidence intervals shown)

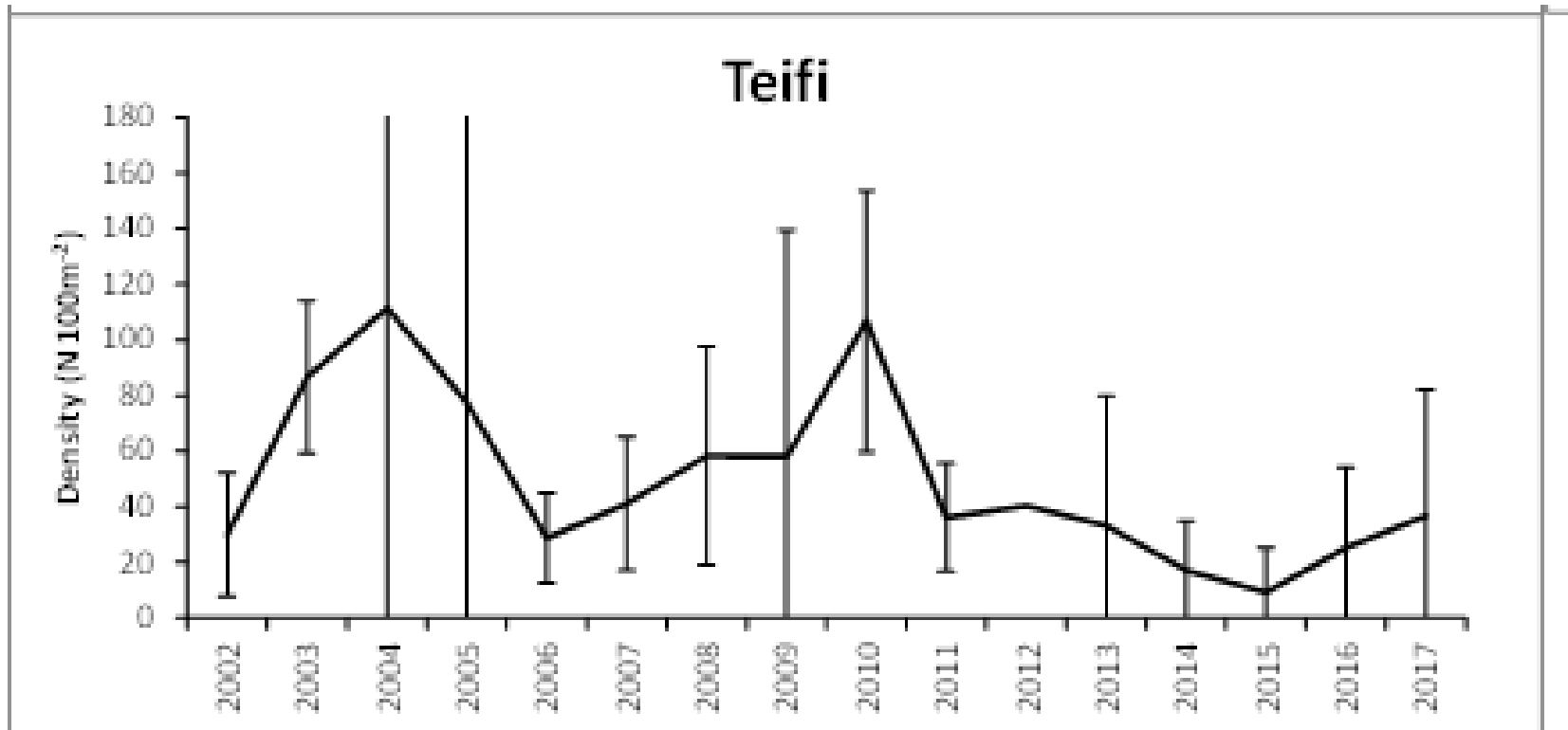


Figure 7(a). Conservation Limit and other reference points defined by the stock-recruitment curve and replacement line (where Stock = Eggs and Recruits = Smolts)

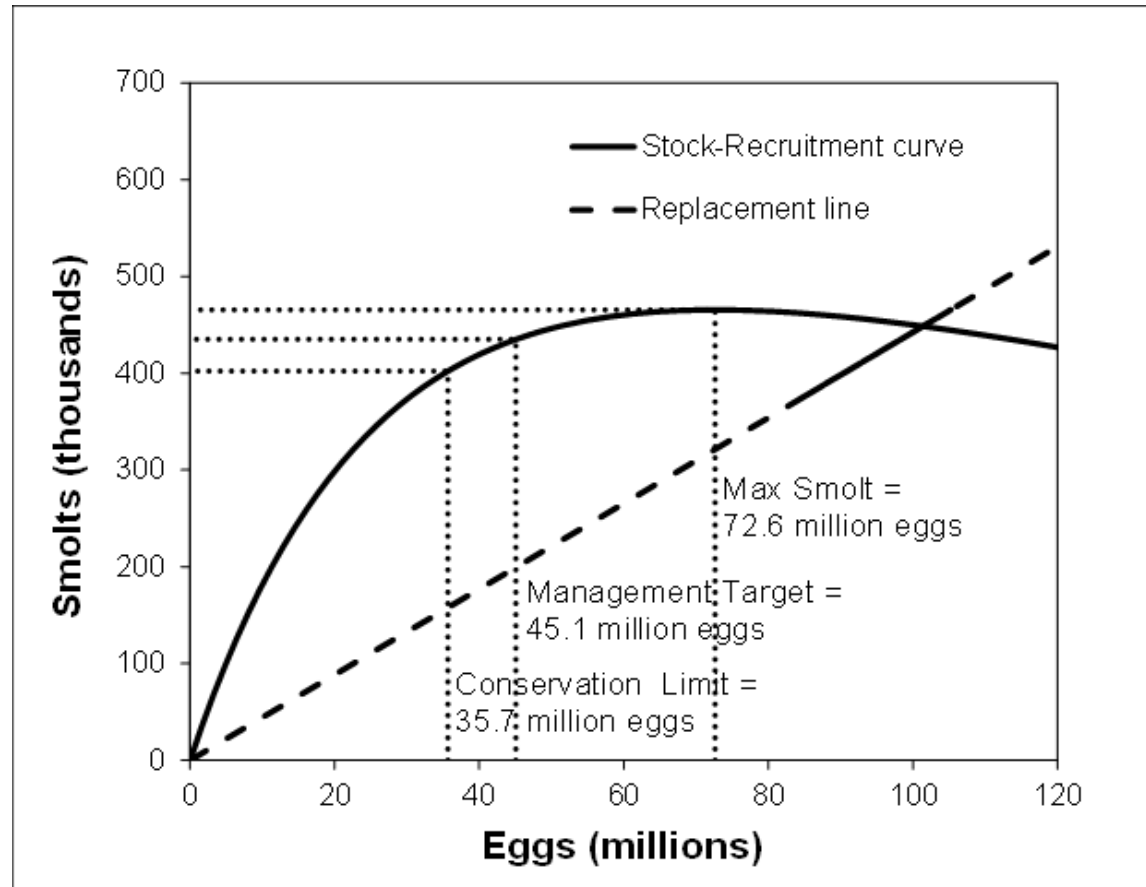


Figure 7(b). Compliance with Conservation Limits: Example graphical assessment for the River Wye, 2015

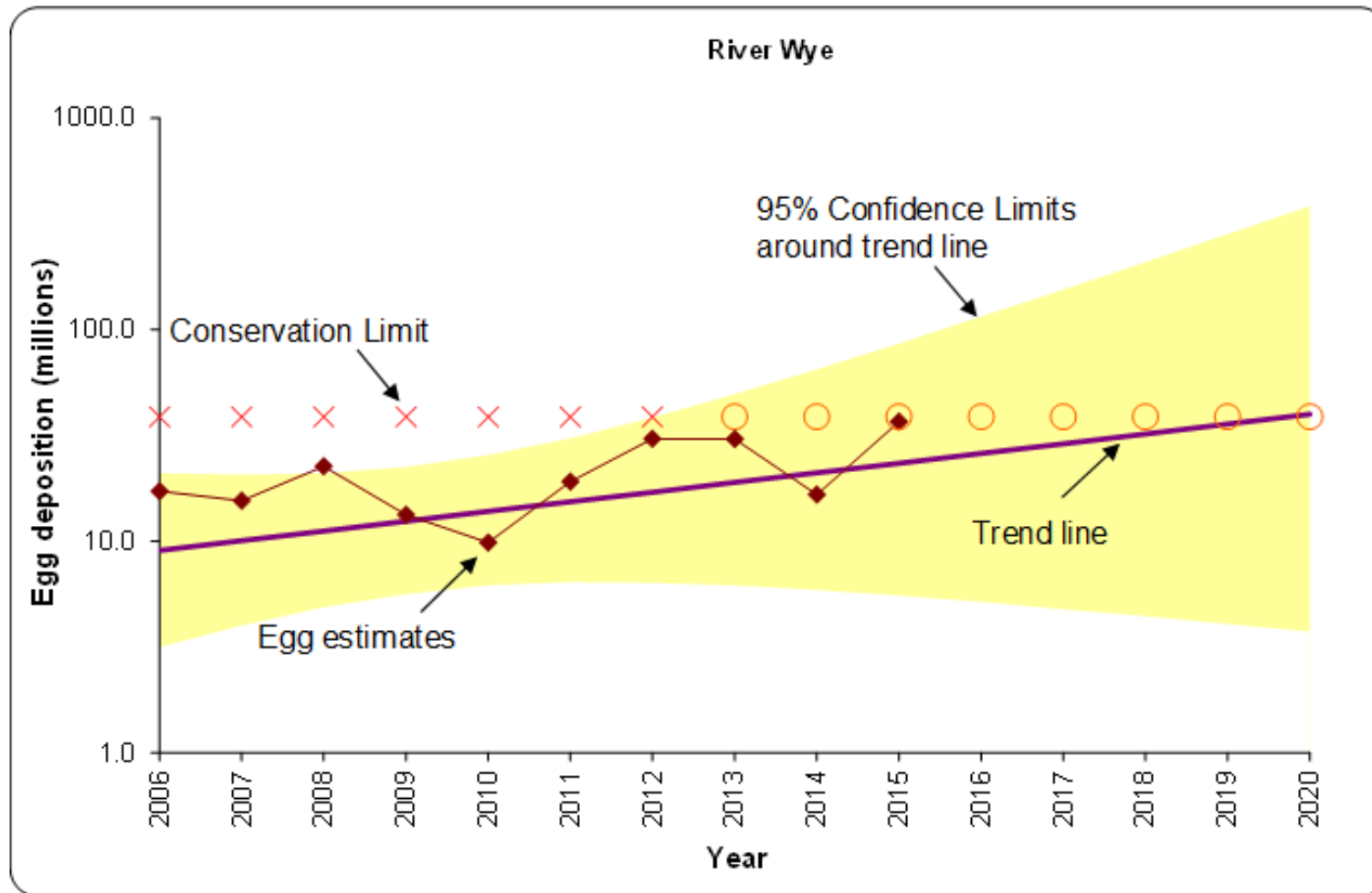


Figure 8. Sea trout CPUE assessment: Example for the River Teifi, 2013

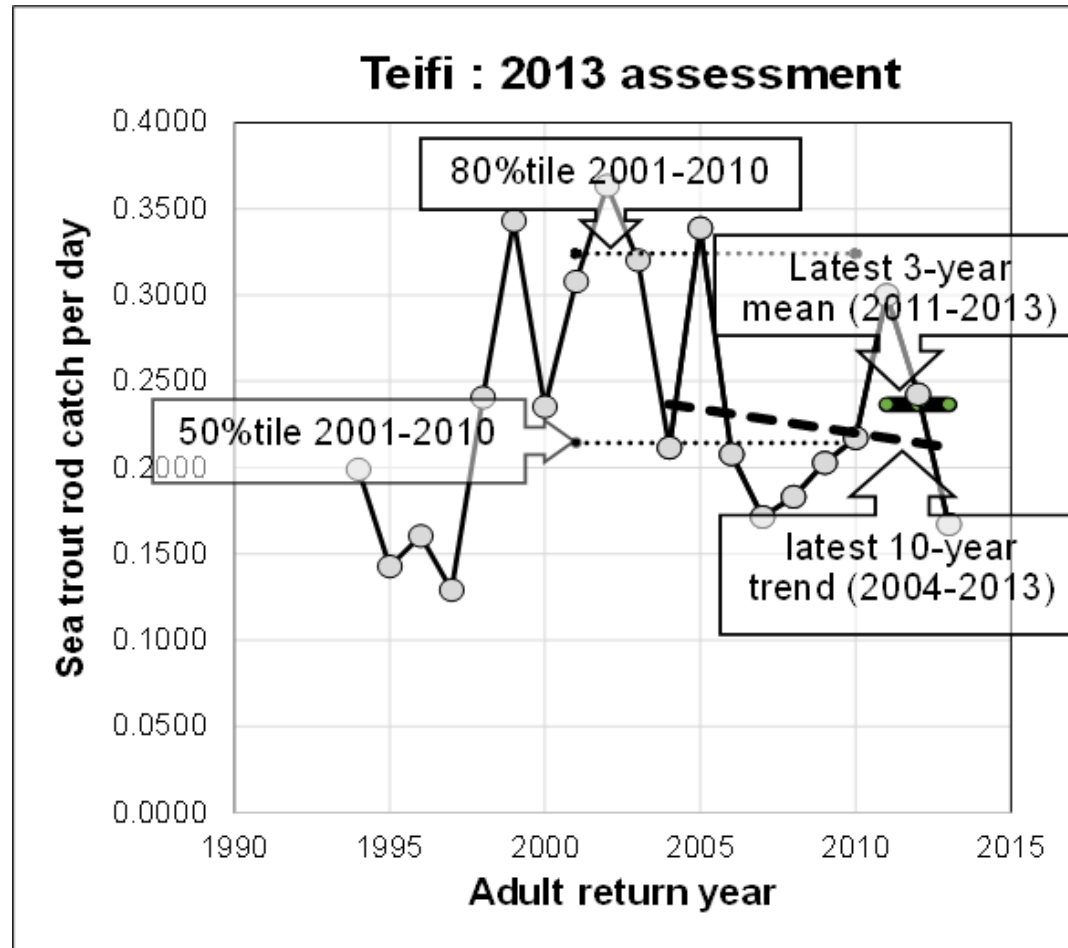


Figure 9. Sea trout Ricker stock-recruitment curve for the River Teifi (year classes 1995-2013)

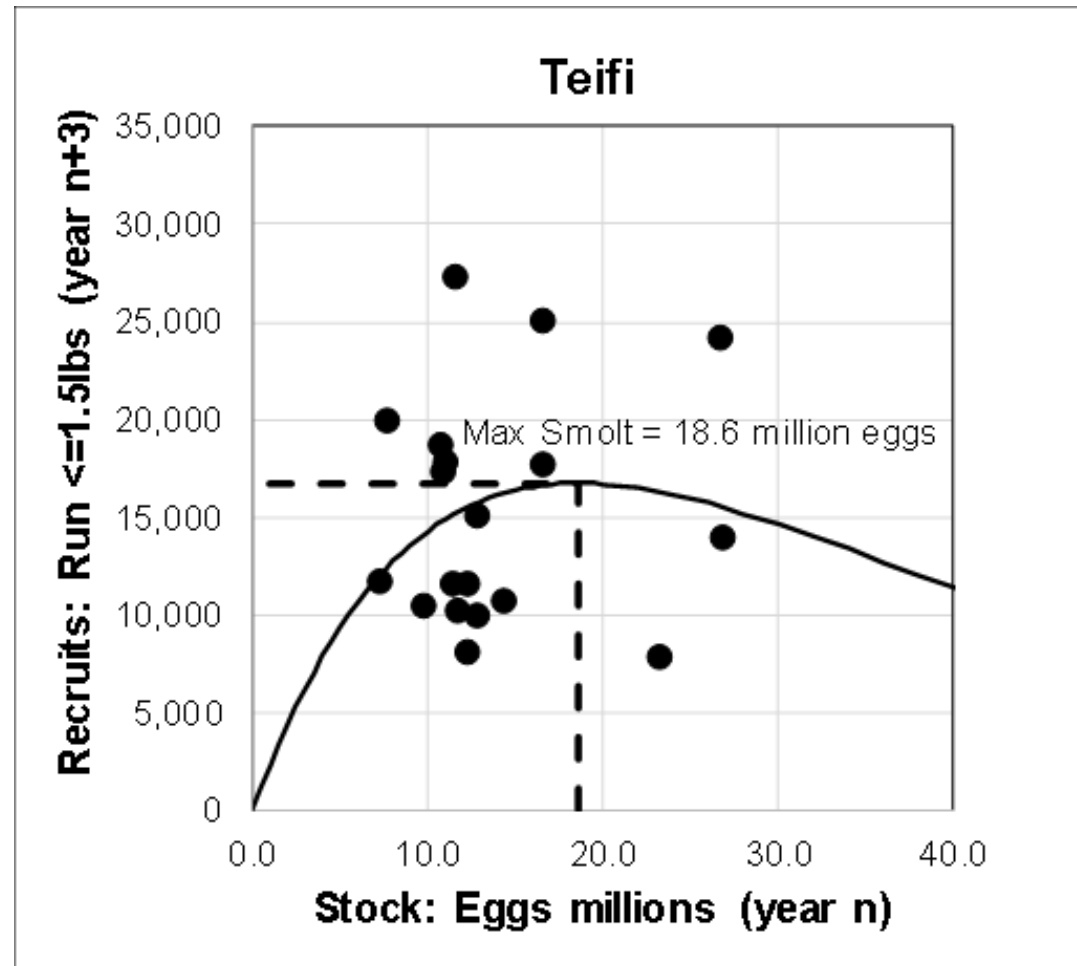


Figure 10. Compliance with Conservation Limits: Example graphical assessment for Teifi sea trout, 2016

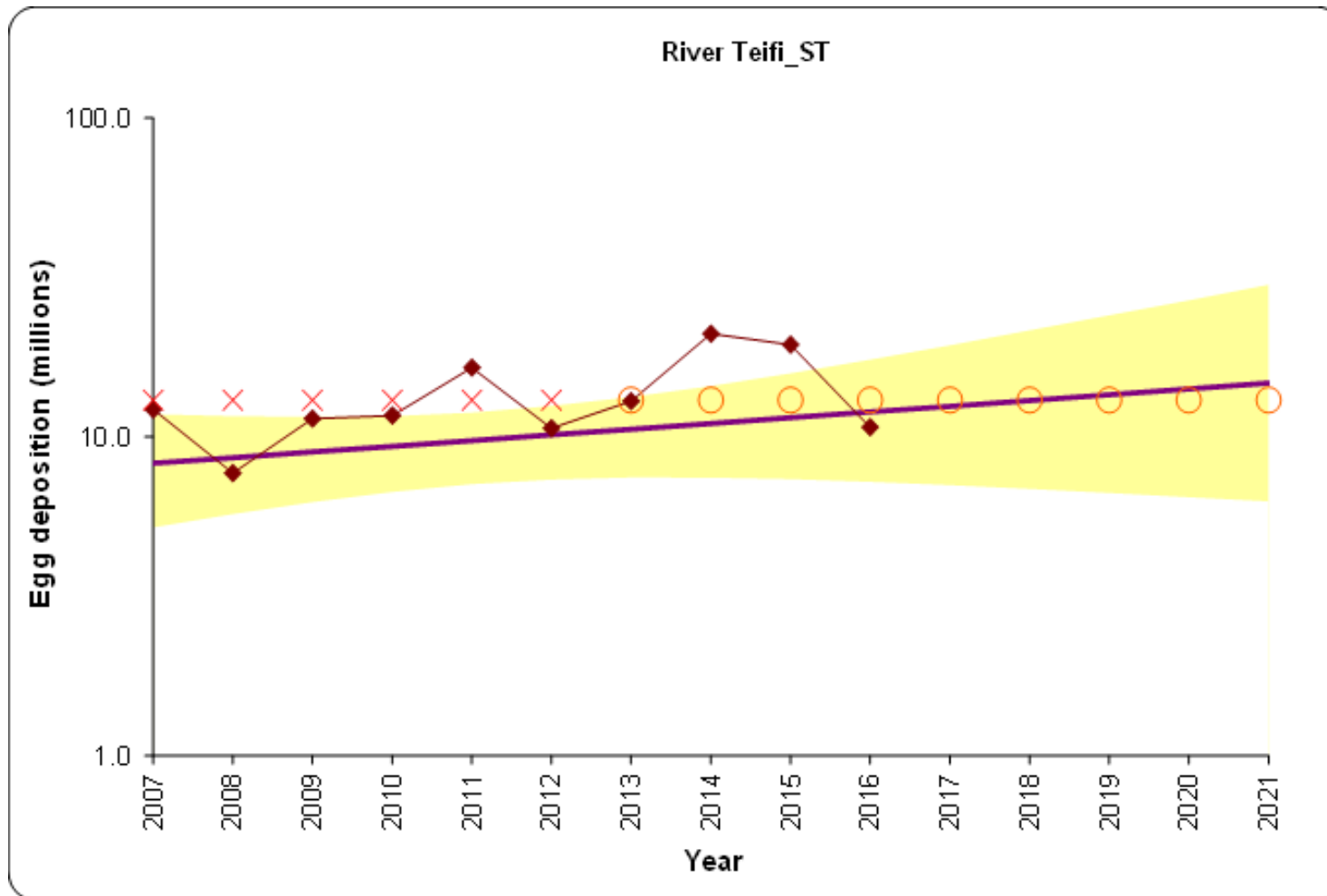


Table 1. Risk Status Categories

| 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 |
| Taff# | Prob at risk | -- | -66.01 |
| Teif# | Prob at risk | -- | -48.66 |
| Glaslyn# | Prob at risk | -- | -15.78 |
| Dwryyd# | 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 | +++ |

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Stock vulnerability

High

Low

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 |
| Tyw# | 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 |
| Dwyfawr | 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 |
| Gwyrfai | Prob not at risk | + | -14.11 |
| Artro | 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 Dwyrdd | 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 |