## North Region

## River Oykel SAC: Grade 1



## Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement ${ }^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 2.85 | $2,135,000$ | $6,069,000$ | 96.53 | 96.23 | 95.58 | 96.95 | 95.16 | 0.9609 | 1 |

[^0]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Annual catch as a proportion of stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).
2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish



Plot shows 50,70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50,70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 96.53 |
| 2019 | 96.23 |
| 2020 | 95.58 |
| 2021 | 96.95 |
| 2022 | 95.16 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated $2,212,875$ square meters of known salmon habitat in the River Oykel SAC and a further 425,975 square meters where salmon may be present.

## Egg requirement


5. Percentage chance that the egg requirement has been reached


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## River Carron (Bonar Bridge): Grade 1



## Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |  |
| 2.89 | $1,039,000$ | $2,997,000$ | 97.1 | 97.74 | 97.48 | 95.75 | 95.64 | 0.96742 | 1 |  |

${ }^{\text {a }}$ Figures presented are median values

## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


Monthly number of eggs


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 97.10 |
| 2019 | 97.74 |
| 2020 | 97.48 |
| 2021 | 95.75 |
| 2022 | 95.64 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated $1,161,666$ square meters of known salmon habitat in the River Carron (Bonar Bridge) and a further 38,038 square meters where salmon may be present.

## Egg requirement


5. Percentage chance that the egg requirement has been reached


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## River Shin: Grade 1



Summary Table

| Eggs required$\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | $\begin{aligned} & \text { Area } \\ & \left(\mathrm{m}^{2}\right)^{\mathrm{a}} \end{aligned}$ | Total egg requirement ${ }^{\text {a }}$ | Percentage chance meeting requirement |  |  |  |  |  | Grade |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 2018 | 2019 | 2020 | 2021 | 2022 | Overall |  |
| 2.83 | 960,000 | 2,705,000 | 90.49 | 84.82 | 90.49 | 87.66 | 85.26 | 0.87744 | 1 |

[^1]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish


Monthly number of spawning females


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 90.49 |
| 2019 | 84.82 |
| 2020 | 90.49 |
| 2021 | 87.66 |
| 2022 | 85.26 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated $1,009,616$ square meters of known salmon habitat in the River Shin and a further 159,360 square meters where salmon may be present.

## Egg requirement



## 5. Percentage chance that the egg requirement has been reached



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## River Evelix: Grade 3



## Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement $^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 2.88 | 193,000 | 556,000 | 0.76 | 3.27 | 0.7 | 9.27 | 0 | 0.028 | 3 |

[^2]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Annual estimated stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Total annual egg numbers


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 0.76 |
| 2019 | 3.27 |
| 2020 | 0.70 |
| 2021 | 9.27 |
| 2022 | - |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 211,036 square meters of known salmon habitat in the River Evelix and a further 17,315 square meters where salmon may be present.

## Egg requirement


5. Percentage chance that the egg requirement has been reached


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## River Brora: Grade 1



Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 2.77 | $1,044,000$ | $2,883,000$ | 89.38 | 92.54 | 91.14 | 85.34 | 88.44 | 0.89368 | 1 |

[^3]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish


Monthly number of spawning females


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


Monthly number of eggs


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 89.38 |
| 2019 | 92.54 |
| 2020 | 91.14 |
| 2021 | 85.34 |
| 2022 | 88.44 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated $1,127,803$ square meters of known salmon habitat in the River Brora and a further 117,496 square meters where salmon may be present.

## Egg requirement



## 5. Percentage chance that the egg requirement has been reached



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## River Loth: Grade 3



## Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement $^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 2.72 | 21,000 | 56,000 | 0 | 0 | 0.68 | 0.08 | 0 | 0.00152 | 3 |

[^4]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


## Monthly stock estimates (out of season in black)



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Annual catch as a proportion of stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).
2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish


Monthly number of spawning females


Plot shows 50,70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Total annual egg numbers


| Year | Percentage above |
| :---: | ---: |
| 2018 | - |
| 2019 | - |
| 2020 | 0.68 |
| 2021 | 0.08 |
| 2022 | - |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 23,584 square meters of known salmon habitat in the River Loth and a further 0 square meters where salmon may be present.

## Egg requirement


5. Percentage chance that the egg requirement has been reached


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## River Helmsdale: Grade 1



Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement ${ }^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 3.84 | $1,052,000$ | $4,035,000$ | 100 | 99.89 | 71.69 | 91.84 | 99.93 | 0.9267 | 1 |

${ }^{\text {a }}$ Figures presented are median values

## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish


Monthly number of spawning females


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



| Year | Percentage above |
| ---: | ---: |
| 2018 | 100.00 |
| 2019 | 99.89 |
| 2020 | 71.69 |
| 2021 | 91.84 |
| 2022 | 99.93 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated $1,181,419$ square meters of known salmon habitat in the River Helmsdale and a further 26,509 square meters where salmon may be present.

## Egg requirement



## 5. Percentage chance that the egg requirement has been reached



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## Berriedale and Langwell Waters SAC: Grade 1



## Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement ${ }^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 1.83 | 513,000 | 933,000 | 89.59 | 88.27 | 95.28 | 83.6 | 77.5 | 0.86848 | 1 |

${ }^{\mathrm{a}}$ Figures presented are median values

## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish


Monthly number of spawning females


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 89.59 |
| 2019 | 88.27 |
| 2020 | 95.28 |
| 2021 | 83.60 |
| 2022 | 77.50 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 498,899 square meters of known salmon habitat in the Berriedale and Langwell Waters SAC and a further 168,534 square meters where salmon may be present.

## Egg requirement



## 5. Percentage chance that the egg requirement has been reached



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## Dunbeath Water: Grade 2



## Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement ${ }^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 1.93 | 241,000 | 460,000 | 80.06 | 89.28 | 86.85 | 29.28 | 83.32 | 0.73758 | 2 |

[^5]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 80.06 |
| 2019 | 89.28 |
| 2020 | 86.85 |
| 2021 | 29.28 |
| 2022 | 83.32 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 221,170 square meters of known salmon habitat in the Dunbeath Water and a further 104,801 square meters where salmon may be present.

## Egg requirement


5. Percentage chance that the egg requirement has been reached


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## Wick River: Grade 1



Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement $^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 3.57 | 420,000 | $1,504,000$ | 94 | 96.78 | 96.16 | 65.45 | 82.23 | 0.86924 | 1 |

[^6]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish



Plot shows 50,70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 94.00 |
| 2019 | 96.78 |
| 2020 | 96.16 |
| 2021 | 65.45 |
| 2022 | 82.23 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 445,830 square meters of known salmon habitat in the Wick River and a further 64,032 square meters where salmon may be present.

## Egg requirement


5. Percentage chance that the egg requirement has been reached


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## River Thurso SAC: Grade 1



Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement ${ }^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 3.24 | $1,373,000$ | $4,423,000$ | 92.55 | 97.85 | 97.19 | 93.08 | 95.97 | 0.95328 | 1 |

[^7]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish


Monthly number of spawning females


Plot shows 50,70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


Monthly number of eggs


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 92.55 |
| 2019 | 97.85 |
| 2020 | 97.19 |
| 2021 | 93.08 |
| 2022 | 95.97 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated $1,395,204$ square meters of known salmon habitat in the River Thurso SAC and a further 328,194 square meters where salmon may be present.

## Egg requirement



## 5. Percentage chance that the egg requirement has been reached



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## Forss Water: Grade 3



Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement $^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 2.17 | 404,000 | 864,000 | 55.16 | 86.66 | 50.48 | 0 | 0.36 | 0.38532 | 3 |

[^8]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Annual estimated stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



| Year | Percentage above |
| ---: | ---: |
| 2018 | 55.16 |
| 2019 | 86.66 |
| 2020 | 50.48 |
| 2021 | - |
| 2022 | 0.36 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 310,404 square meters of known salmon habitat in the Forss Water and a further 297,446 square meters where salmon may be present.

## Egg requirement


5. Percentage chance that the egg requirement has been reached


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## Halladale River: Grade 1



Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement $^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 2.68 | 560,000 | $1,496,000$ | 94.61 | 98.5 | 98.24 | 97.51 | 98.76 | 0.97524 | 1 |

[^9]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Total annual egg numbers


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 94.61 |
| 2019 | 98.50 |
| 2020 | 98.24 |
| 2021 | 97.51 |
| 2022 | 98.76 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 565,178 square meters of known salmon habitat in the Halladale River and a further 144,243 square meters where salmon may be present.

## Egg requirement


5. Percentage chance that the egg requirement has been reached


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## River Strathy: Grade 3



## Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement $^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 1.29 | $3 \mathrm{e}+05$ | 382,000 | 0 | 0 | 33.22 | 58.83 | 0 | 0.1841 | 3 |

${ }^{\mathrm{a}}$ Figures presented are median values

## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Annual estimated stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual catch as a proportion of stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).
2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50,70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| :---: | ---: |
| 2018 | - |
| 2019 | - |
| 2020 | 33.22 |
| 2021 | 58.83 |
| 2022 | - |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 236,435 square meters of known salmon habitat in the River Strathy and a further 208,129 square meters where salmon may be present.

## Egg requirement


5. Percentage chance that the egg requirement has been reached


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## River Naver SAC: Grade 1



Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 3.04 | $1,559,000$ | $4,728,000$ | 94.91 | 97.55 | 97.98 | 95.76 | 96.87 | 0.96614 | 1 |

[^10]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 94.91 |
| 2019 | 97.55 |
| 2020 | 97.98 |
| 2021 | 95.76 |
| 2022 | 96.87 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated $1,420,831$ square meters of known salmon habitat in the River Naver SAC and a further 709,847 square meters where salmon may be present.

## Egg requirement



## 5. Percentage chance that the egg requirement has been reached



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## River Borgie SAC: Grade 1



## Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement $^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |  |
| 3 | 443,000 | $1,311,000$ | 78.8 | 97.42 | 97.16 | 94.9 | 90.64 | 0.91784 | 1 |  |

[^11]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish



Plot shows 50,70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 78.80 |
| 2019 | 97.42 |
| 2020 | 97.16 |
| 2021 | 94.90 |
| 2022 | 90.64 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 311,989 square meters of known salmon habitat in the River Borgie SAC and a further 388,074 square meters where salmon may be present.

## Egg requirement



## 5. Percentage chance that the egg requirement has been reached



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## Kinloch River: Grade 3



## Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement $^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 2.49 | 87,000 | 215,000 | 1.59 | 72.17 | 75.34 | 29.92 | 73.06 | 0.50416 | 3 |

[^12]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish


Monthly number of spawning females


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50,70 and $90 \%$ of the estimates (wide to narrow bars).

Total annual egg numbers


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 1.59 |
| 2019 | 72.17 |
| 2020 | 75.34 |
| 2021 | 29.92 |
| 2022 | 73.06 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 86,298 square meters of known salmon habitat in the Kinloch River and a further 24,062 square meters where salmon may be present.

## Egg requirement



## 5. Percentage chance that the egg requirement has been reached



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## River Hope: Grade 2



## Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement $^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |  |
| 2.7 | 407,000 | $1,099,000$ | 39.39 | 69.56 | 72.58 | 78.09 | 80.2 | 0.67964 | 2 |  |

${ }^{\mathrm{a}}$ Figures presented are median values

## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 39.39 |
| 2019 | 69.56 |
| 2020 | 72.58 |
| 2021 | 78.09 |
| 2022 | 80.20 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 446,128 square meters of known salmon habitat in the River Hope and a further 32,384 square meters where salmon may be present.

## Egg requirement


5. Percentage chance that the egg requirement has been reached


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## River Polla: Grade 3



## Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 2.7 | 81,000 | 218,000 | 4.22 | 22.35 | 7.87 | 17.21 | 19.85 | 0.143 | 3 |

[^13]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Annual estimated stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 4.22 |
| 2019 | 22.35 |
| 2020 | 7.87 |
| 2021 | 17.21 |
| 2022 | 19.85 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 91,883 square meters of known salmon habitat in the River Polla and a further 0 square meters where salmon may be present.

## Egg requirement



## 5. Percentage chance that the egg requirement has been reached



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)

## Kyle of Durness: Grade 2



## Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eggs required <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Area <br> $\left(\mathrm{m}^{2}\right)^{\mathrm{a}}$ | Total egg <br> requirement $^{\mathrm{a}}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |  |
| 2.76 | 501,000 | $1,378,000$ | 66.48 | 57.45 | 54.47 | 81.75 | 79.2 | 0.6787 | 2 |  |

[^14]
## 1. Converting Reported Catches to Numbers of Returning Salmon

Reported Catches (black $=$ retained, blue $=$ released $)$


Monthly flow data


Monthly stock estimates (out of season in black)


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual estimated stock


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

Annual catch as a proportion of stock

2. Converting Numbers of Returning Salmon to Numbers of Spawning Females Ages of fish


Monthly number of spawning females


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

## 3. Converting Number of Spawners to Number of Eggs

Egg contents of females


## Monthly number of eggs



Plot shows 50,70 and $90 \%$ of the estimates (wide to narrow bars).

## Total annual egg numbers



Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars).

| Year | Percentage above |
| ---: | ---: |
| 2018 | 66.48 |
| 2019 | 57.45 |
| 2020 | 54.47 |
| 2021 | 81.75 |
| 2022 | 79.20 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 501,145 square meters of known salmon habitat in the Kyle of Durness and a further 137,944 square meters where salmon may be present.

## Egg requirement


5. Percentage chance that the egg requirement has been reached


Plot shows 50, 70 and $90 \%$ of the estimates (wide to narrow bars). Shaded areas represent 50, 70 and $90 \%$ of the estimated egg requirements (dark to light areas)


[^0]:    ${ }^{\text {a }}$ Figures presented are median values

[^1]:    ${ }^{\text {a }}$ Figures presented are median values

[^2]:    ${ }^{\text {a }}$ Figures presented are median values

[^3]:    ${ }^{\mathrm{a}}$ Figures presented are median values

[^4]:    ${ }^{\mathrm{a}}$ Figures presented are median values

[^5]:    ${ }^{\text {a }}$ Figures presented are median values

[^6]:    ${ }^{\text {a }}$ Figures presented are median values

[^7]:    ${ }^{\text {a }}$ Figures presented are median values

[^8]:    ${ }^{\text {a }}$ Figures presented are median values

[^9]:    ${ }^{\text {a }}$ Figures presented are median values

[^10]:    ${ }^{\text {a }}$ Figures presented are median values

[^11]:    ${ }^{\text {a }}$ Figures presented are median values

[^12]:    ${ }^{\text {a }}$ Figures presented are median values

[^13]:    ${ }^{\text {a }}$ Figures presented are median values

[^14]:    ${ }^{\text {a }}$ Figures presented are median values

