## North East Region

## River South Esk SAC: 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 | 2018 | 2019 | 2020 | 2021 | 2022 | Overall | Grade |
| 2.9 | $2,018,000$ | $5,844,000$ | 67.22 | 66.29 | 80.66 | 73.38 | 68.41 | 0.71192 | 2 |

${ }^{\text {a }}$ 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


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 | 67.22 |
| 2019 | 66.29 |
| 2020 | 80.66 |
| 2021 | 73.38 |
| 2022 | 68.41 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated $2,281,060$ square meters of known salmon habitat in the River South Esk SAC and a further 23,422 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 North Esk: 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 |
| 8.3 | $2,295,000$ | $19,044,000$ | 44.18 | 91.21 | 98.6 | 98.81 | 98.63 | 0.86286 | 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

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 | 44.18 |
| 2019 | 91.21 |
| 2020 | 98.60 |
| 2021 | 98.81 |
| 2022 | 98.63 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated $2,589,901$ square meters of known salmon habitat in the River North Esk and a further 35,777 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)

## Bervie 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 |
| 1.16 | 222,000 | 257,000 | 4.21 | 42.33 | 28.63 | 10.93 | 9.62 | 0.19144 | 3 |

[^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)


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 | 4.21 |
| 2019 | 42.33 |
| 2020 | 28.63 |
| 2021 | 10.93 |
| 2022 | 9.62 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 247,541 square meters of known salmon habitat in the Bervie Water and a further 10,307 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)

## Carron 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 |
| 3.13 | 50,000 | 156,000 | 0 | 0 | 0.47 | 0.05 | 0 | 0.00104 | 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)



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 | 0.47 |
| 2021 | 0.05 |
| 2022 | - |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 48,140 square meters of known salmon habitat in the Carron Water and a further 16,935 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)

## Cowie Water: Grade 3



## 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 ${ }^{a}$ | Percentage chance meeting requirement |  |  |  |  |  | Grade |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 2018 | 2019 | 2020 | 2021 | 2022 | Overall |  |
| 3.04 | 126,000 | 384,000 | 6.42 | 1.76 | 3.94 | 0.51 | 0.38 | 0.02602 | 3 |

[^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)


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 | 6.42 |
| 2019 | 1.76 |
| 2020 | 3.94 |
| 2021 | 0.51 |
| 2022 | 0.38 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 141,768 square meters of known salmon habitat in the Cowie Water and a further 2,859 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 Dee SAC: Grade 1



Summary Table

|  |  |  | Percentage chance meeting requirement |  |  |  |  |  | Grade |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 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 ${ }^{a}$ | 2018 | 2019 | 2020 | 2021 | 2022 | Overall |  |
| 3.11 | 9,124,000 | 28,360,000 | 90.07 | 83.34 | 89.03 | 87.41 | 88.1 | 0.8759 | 1 |

[^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

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 | 90.07 |
| 2019 | 83.34 |
| 2020 | 89.03 |
| 2021 | 87.41 |
| 2022 | 88.10 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated $10,214,141$ square meters of known salmon habitat in the River Dee SAC and a further 309,956 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 Don: 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 |  |
| 2.38 | $3,983,000$ | $9,479,000$ | 44.35 | 70.56 | 54.91 | 47.51 | 44.88 | 0.52442 | 3 |  |

[^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


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 | 44.35 |
| 2019 | 70.56 |
| 2020 | 54.91 |
| 2021 | 47.51 |
| 2022 | 44.88 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated $4,373,313$ square meters of known salmon habitat in the River Don and a further 300,299 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 Ythan: 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 |  |
| 2.5 | 562,000 | $1,410,000$ | 38.64 | 22.84 | 47.51 | 44.27 | 46.81 | 0.40014 | 3 |  |

[^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


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 | 38.64 |
| 2019 | 22.84 |
| 2020 | 47.51 |
| 2021 | 44.27 |
| 2022 | 46.81 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 613,162 square meters of known salmon habitat in the River Ythan and a further 51,709 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 Ugie: 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 |  |
| 2.26 | 478,000 | $1,080,000$ | 39.57 | 31.16 | 40.46 | 43.7 | 59.95 | 0.42968 | 3 |  |

${ }^{a}$ 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

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 | 39.57 |
| 2019 | 31.16 |
| 2020 | 40.46 |
| 2021 | 43.70 |
| 2022 | 59.95 |

## 4. Egg requirement

## Areas of salmon habitat in square meters

There is an estimated 468,597 square meters of known salmon habitat in the River Ugie and a further 146,438 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]:    ${ }^{\mathrm{a}}$ Figures presented are median values

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

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

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

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

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

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

