

Out-of-season spawning of Atlantic salmon:

Shifting Atlantic salmon
photoperiods to achieve off season
spawning in freshwater RAS

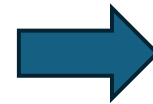


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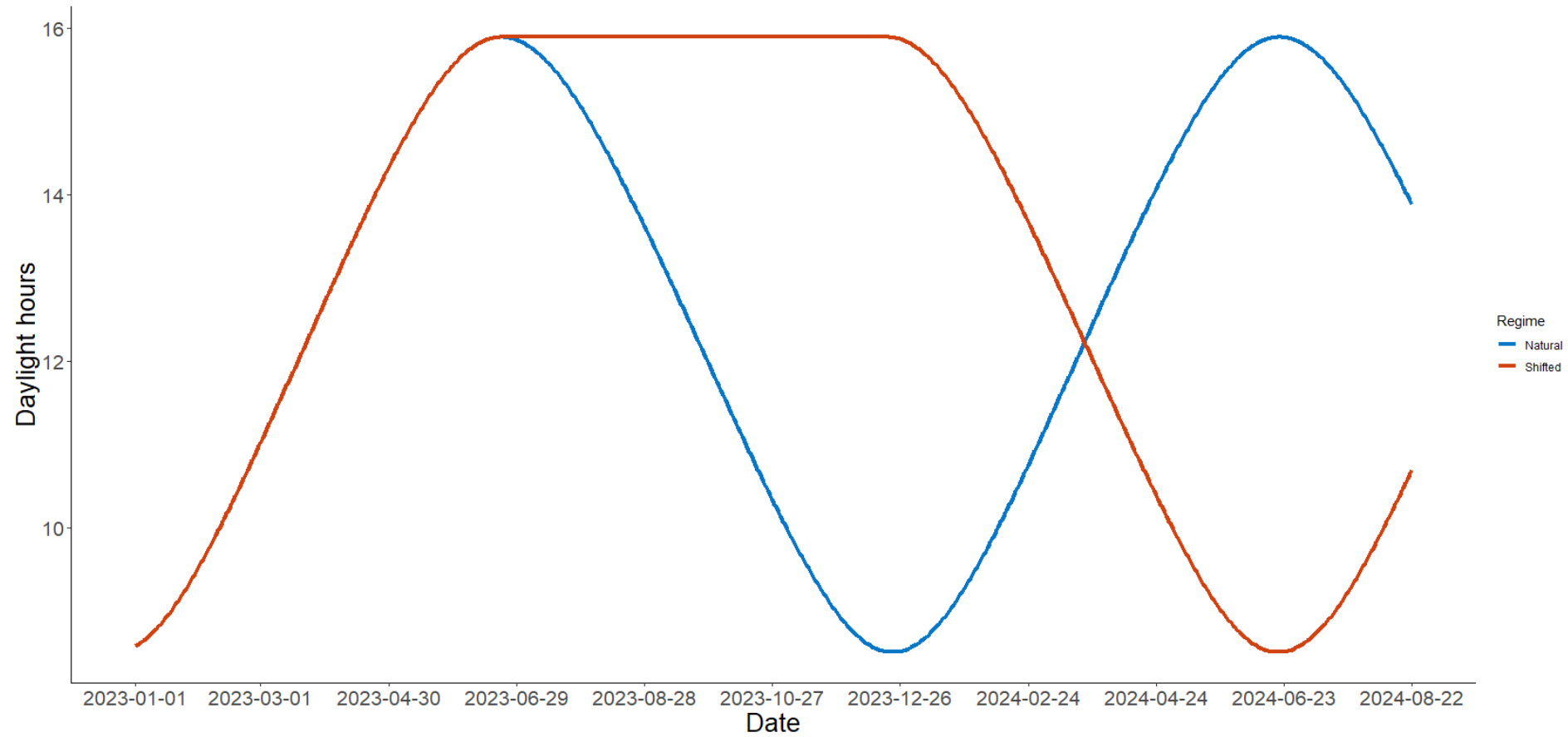
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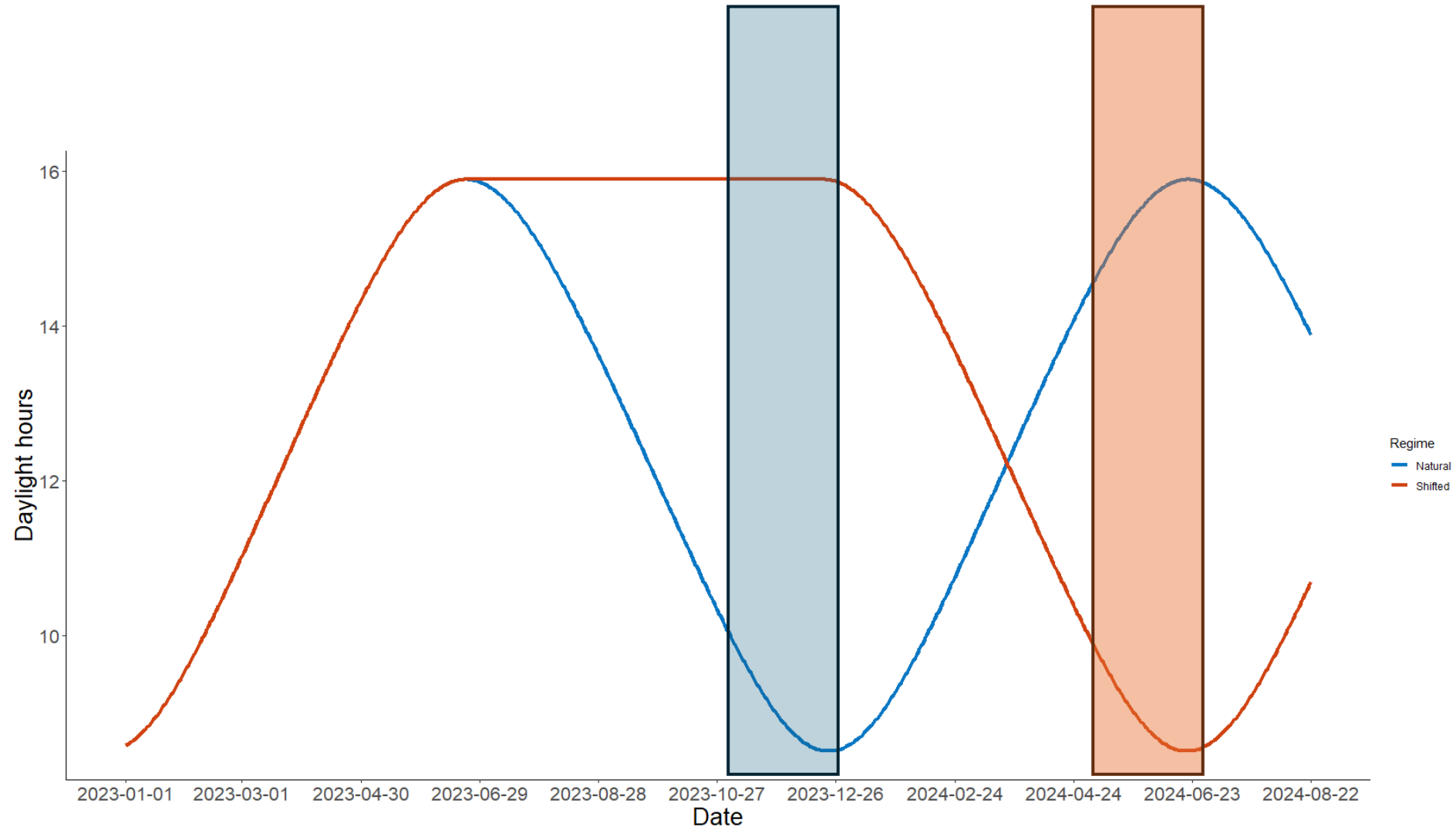
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Photoperiod regimes



Photoperiod regimes



Results

- **Natural Photoperiod**

- 7 of 12 sentinel females ovulated, with fertilization success ranging 51–85%

- **Phase-shifted Photoperiod**

- 2 of 12 sentinel females ovulated. Fertilization success was 0%.
- Phase-shifted group females showed advanced reproductive development but did not produce viable eggs; necropsy revealed large numbers of atretic eggs

