



Portsmouth Water

Nitrate Intervention Payment for Ecosystem Services (PES) Scheme Handbook



Downs & Harbours
**Clean Water
Partnership**



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SECTION 1

Introduction and Contact Information

Portsmouth Water is undertaking catchment management in response to a need to tackle rising nitrate levels affecting groundwater abstracted for public water supply and excessive nutrient loading into surface and coastal waters.

Portsmouth Water Nitrate Intervention Payment for Ecosystem Services (PES) scheme will directly assist farmers (and other land managers) in high sensitive catchment areas to deliver measures that aim to reduce nitrate leaching and improve farming efficiency.

This handbook details the current PES incentive measures available under the scheme. Farmers and land managers who wish to check their eligibility for any of the measures should contact PW Catchment Team in the first instance. Funding for additional incentive measures will be available following feasibility and further research.

Contact details for Portsmouth Water

Portsmouth Water's Catchment and Environment Department

E: catchment.management@portsmouthwater.co.uk

T: 023 9224 9248 (Portsmouth Water's Catchment Management Officer)

Portsmouth Water Ltd

Catchment and Environment Department

PO Box 8

West Street

Havant

Hampshire

PO9 1LG

SECTION 2

PES Options and Payment Rates

Measure Number	Measure Description	Payment Rate	Page
1	AUTUMN / WINTER COVER CROP FOLLOWED BY SUMMER FALLOW	£350/ha	4
2	AUTUMN / WINTER COVER CROPS	£35/ha/yr	5
3	AUTUMN / WINTER COVER CROPS (TIERED DESTRUCTION)	£25/ha/yr - £35/ha/yr	6
4	UNDERSOWN SPRING CROPS	£200/ha/yr	7
5	ARABLE REVERSION FOR KARST FEATURE RISK	£400/ha/yr	8
6	SOIL N TESTING AND SPECIALIST ADVICE	100% of agreed total	9
7a	VARIABLE NITROGEN SERVICE (N MAPPING) - HIGH RISK	100% of agreed total	10
7b	VARIABLE NITROGEN SERVICE (N MAPPING) - MEDIUM & LOW RISK	100% of agreed total (up to 150 ha)	11
8	NUTRIENT MANAGEMENT PLAN	100% of agreed total	12

SECTION 3

Option Prescriptions

Please note: Agreed prescription will be made available with formal offers.

MEASURE 1

COVER CROP FOLLOWED BY SUMMER FALLOW

£350/ha

General specifications

- Cover crop drilled in the autumn (established by 15th September), retained until the spring (1st April), and field left fallow until the following summer (15th July).
- Type of cover crop is flexible; Legumes such as clover can be in the cover crop mix if it is grown alongside another cover crop (e.g. oats, mustard) to a maximum proportion of 35%.
- Fallow can be managed for biodiversity target species.
- Forage crop allowed, but not cash crop.
- No artificial fertiliser inputs and/or manure/digestate/muck spreading unless prior written agreement is made with Portsmouth Water.
- Use of graminicides permitted.
- Measure to be implemented on an individual field on a one-off basis – could rotate through high risk fields, implementing 1 year in 5.

Targeting (where funding will be offered)

- Measure will be available to high risk holdings, please refer to Portsmouth Water Risk Map (Appendix 1).

Benefits

- ✓ **Water Quality**
Reduced nitrate leaching over winter due to cover cropping and no/less N being applied during fallow period, therefore reduced nitrate leaching to groundwater.
- ✓ **Biodiversity**
Potential benefits for uncommon arable plants and farmland birds.
- ✓ **Soil Health**
Fallow for one season, soil recovery and increased organic matter.
- ✓ **Pest control**
Opportunity to help control weeds (black grass, sterile brome).
- ✓ **Financial**
Savings in fertiliser costs and some operational costs.

MEASURE 2

AUTUMN / WINTER COVER CROPS

£35/ha/yr

General specifications

- Over Autumn/Winter cover crop for arable fields, prior to spring drilling. To be established by 15th September. Destruction by either:
 - Low intensity grazing (from 15th January), or
 - Glyphosate application (from 1st January).
- Forage crop allowed.
- Type of cover crop is flexible; Legumes such as clover can be in the cover crop mix if it is grown alongside another cover crop (e.g. oats, mustard) to a maximum proportion of 35%.
- No artificial fertiliser inputs and/or manure/ digestate/muck spreading on cover crops unless prior agreement is made with Portsmouth Water.
- Cultivation 6 weeks before proposed drilling date.
- Free soil testing on top of payment available.

Targeting (where funding will be offered)

- Measure will be available to high risk holdings, please refer to Portsmouth Water Risk Map (Appendix 1).

Benefits

- ✓ **Water Quality**
Providing winter cover and nitrate soak up - reduces winter nitrate leaching to groundwater. Reduced levels of soil erosion and gullyng.
- ✓ **Biodiversity**
Winter cover for wildlife.
- ✓ **Soil Health**
Soil recovery over winter.
- ✓ **Financial**
Cover crop seed funding, free soil testing and results.

MEASURE 3

AUTUMN / WINTER COVER CROPS (TIERED DESTRUCTION)

£25/ha/yr - £35/ha/yr

General specifications

- Over Autumn/Winter cover crop for arable, prior to spring drilling. To be established by 15th September.
Destruction by either:
 - Low intensity grazing (from 15th of chosen destruction month), or
 - Glyphosate application (not before, during or following heavy rainfall).
- Forage crop allowed.
- Type of cover crop is flexible; Legumes such as clover can be in the cover crop mix if it is grown alongside another cover crop (e.g. oats, mustard) to a maximum proportion of 35%.
- No artificial fertiliser inputs and/or manure/ digestate/muck spreading on cover crops unless prior agreement is made with PW.
- Cultivation 6 weeks before proposed drilling date.
- Free soil testing on top of payment available.
- Tiered destruction flexible (November Destruction £25/ha (per year); December Destruction £30/ha (per year); January Destruction £35/ha (per year)).

Targeting (where funding will be offered)

- Measure will be available to high risk holdings, please refer to Portsmouth Water Risk Map (Appendix 1).

Benefits

- ✓ **Water Quality**
Providing winter cover and nitrate soak up - reduces winter nitrate leaching to groundwater. Reduced levels of soil erosion and gullying.
- ✓ **Biodiversity**
Winter cover for wildlife.
- ✓ **Soil Health**
Soil recovery over winter.
- ✓ **Financial**
Cover crop seed funding, free soil testing and results.

MEASURE 4

UNDERSOWN SPRING CROPS

£200/ha/yr

General specifications

- Undersow spring crops with grass or a mix of grass and legumes and/or herbs. Undersown mix to be left in during the autumn and winter to provide cover.
- Legumes used to a maximum proportion of 50% to ensure the grasses and herbs can utilise the N fixed by the legumes.
- Herbicide usage allowed provided it is authorised by a qualified agronomist.
- N input allowed to establish spring crop, but no N to be applied during subsequent grass ley in the first year.

Targeting (where funding will be offered)

- Measure will be available to high risk holdings, please refer to Portsmouth Water Risk Map (Appendix 1).

Benefits

- ✓ **Water Quality**
Reduces nitrate leaching due to greater uptake by plants, and longer duration of cover. Reduces soil erosion. May reduce need for herbicide usage.
- ✓ **Biodiversity**
Winter cover for wildlife.
- ✓ **Soil Health**
Builds soil fertility.
- ✓ **Pest control**
May suppress weeds.
- ✓ **Financial**
Undersowing mix funding, free soil testing and results.

MEASURE 5

ARABLE REVERSION FOR KARST FEATURE RISK

£400/ha/yr

General specifications

- Arable reversion to grassland on specific fields thought to be at high risk of karstic 'fast pathways' to groundwater.
- Reversion of whole field(s) to grassland, year round. Option to divide very large fields if karstic features concentrated in one area (to be negotiated on a case by case basis).
- Maintain grass sward for at least 4 years with rolling annual review.
- Field must have been used for cropping in the last year.
- No application of N allowed.
- Light grazing by livestock allowed.
- Occasional application of chemical P and K fertiliser and / or occasional re-seeding permitted.

Targeting (where funding will be offered)

- Measure will be available to high risk holdings, please refer to Portsmouth Water Risk Map (Appendix 1) and only to a few particular fields with high karstic risk, on a case-by-case basis.

Benefits

- ✓ **Water Quality**
Less fertiliser applied.
- ✓ **Biodiversity**
Habitat / food for birds, arable plants, insects.
- ✓ **Financial**
Save on N fertiliser costs and reduced operational burden/costs.

MEASURE 6

SOIL N TESTING AND SPECIALIST ADVICE

100% of agreed total

General specifications

- Soil Mineral Nitrogen (SMN) soil and/or crop tissue N testing and free specialist advice to provide understanding of N residuals to better plan nutrient applications.
- Advice via meetings with agronomist/farmer.
- Specifics of soil sampling to be based on farm situation, needs and interest.
- One of Portsmouth Water's suggested suppliers (Appendix 2) can undertake the service. The use of other suppliers is permitted provided there is written agreement with Portsmouth Water.

Targeting (where funding will be offered)

- Measure will be available to low, medium and high risk holdings. Please refer to Portsmouth Water Risk Map (Appendix 1).

Benefits

- ✓ **Water Quality**
Reduced risk of over application therefore reduced nitrate leaching risk especially post-harvest (due to high N residuals).
- ✓ **Soil Health**
Better understanding of soil health.
- ✓ **Financial**
Reduced wastage of nitrate fertiliser (and costs).

MEASURE 7a

VARIABLE NITROGEN SERVICE (N MAPPING)

100% of agreed total

General specifications

- Satellite images and the application files to suit on farm GPS/ Fertiliser/Sprayer controller and variable rate mapping.
- GPS images and associated spread files.
- No area restriction for service on high-risk holdings.
- Consultation with a soil specialist through the growing season on nitrogen rates and advise/ supply correct variable plans for that application.
- One of Portsmouth Water's suggested suppliers (Appendix 2) can undertake the service. The use of other suppliers is permitted provided there is written agreement with Portsmouth Water.

Targeting (where funding will be offered)

- Measure will be available to high risk holdings. Please refer to Portsmouth Water Risk Map (Appendix 1).

Benefits

- ✓ **Water Quality**
Precise and informed fertiliser applications to reduce the risk of over application therefore reduced nitrate leaching risk especially post-harvest (due to high N residuals).
- ✓ **Soil Health**
Better understanding of soil health, reduced 'trafficking'.
- ✓ **Financial**
Reduced wastage of nitrate fertiliser (and costs). Greater and/or more consistent crop yields and protein content across fields.

MEASURE 7b

VARIABLE NITROGEN SERVICE (N MAPPING)

100% of agreed total (up to 150ha)

General specifications

- Satellite images and the application files to suit on farm GPS/ Fertiliser/Sprayer controller and variable rate mapping.
- GPS images and associated spread files.
- Area restriction for service on medium and low risk holdings (up to an area of 150 Ha/Farm (370.5 acres).
- Consultation with a soil specialist through the growing season on nitrogen rates and advise/ supply correct variable plans for that application.
- One of Portsmouth Water's suggested suppliers (Appendix 2) can undertake the service. The use of other suppliers is permitted provided there is written agreement with Portsmouth Water.

Targeting (where funding will be offered)

- Measure will be available to low and medium risk holdings. Please refer to Portsmouth Water Risk Map (Appendix 1).

Benefits

- ✓ **Water Quality**
Precise and informed fertiliser applications to reduce the risk of over application therefore reduced nitrate leaching risk especially post-harvest (due to high N residuals).
- ✓ **Soil Health**
Better understanding of soil health, reduced 'trafficking'.
- ✓ **Financial**
Reduced wastage of nitrate fertiliser (and costs). Greater and/or more consistent crop yields and protein content across fields.

MEASURE 8

NUTRIENT MANAGEMENT PLAN

100% of agreed total

General specifications

- A farm specific nutrient management plan to inform better nutrient applications, compared to using RB209 assumptions.
- Farm specific nutrient management plan taking into consideration recent soil analysis results.
- If organic manures are used, the nutrient content must be taken into account.
- Soil and crop tissue N testing will provide understanding of N residuals and inform more accurate application levels.
- One of Portsmouth Water's suggested suppliers (Appendix 2) can undertake the service. The use of other suppliers is permitted provided there is written agreement with Portsmouth Water.

Targeting (where funding will be offered)

- Measure will be available to low, medium and high risk holdings. Please refer to Portsmouth Water Risk Map (Appendix 1).

Benefits

- ✓ **Water Quality**
Better informed nutrient applications potential to reduce the risk of over application therefore reduced nitrate leaching risk especially post-harvest (due to high N residuals).
- ✓ **Financial**
Reduced wastage of nitrate fertiliser (and costs). Greater and/or more consistent crop yields and protein content across fields.

SECTION 4

How to Apply

The PES Application Form is available to download from the Downs and Harbours Clean Water Partnership website (www.cleanwaterpartnership.co.uk) or available from PW Catchment Officer.

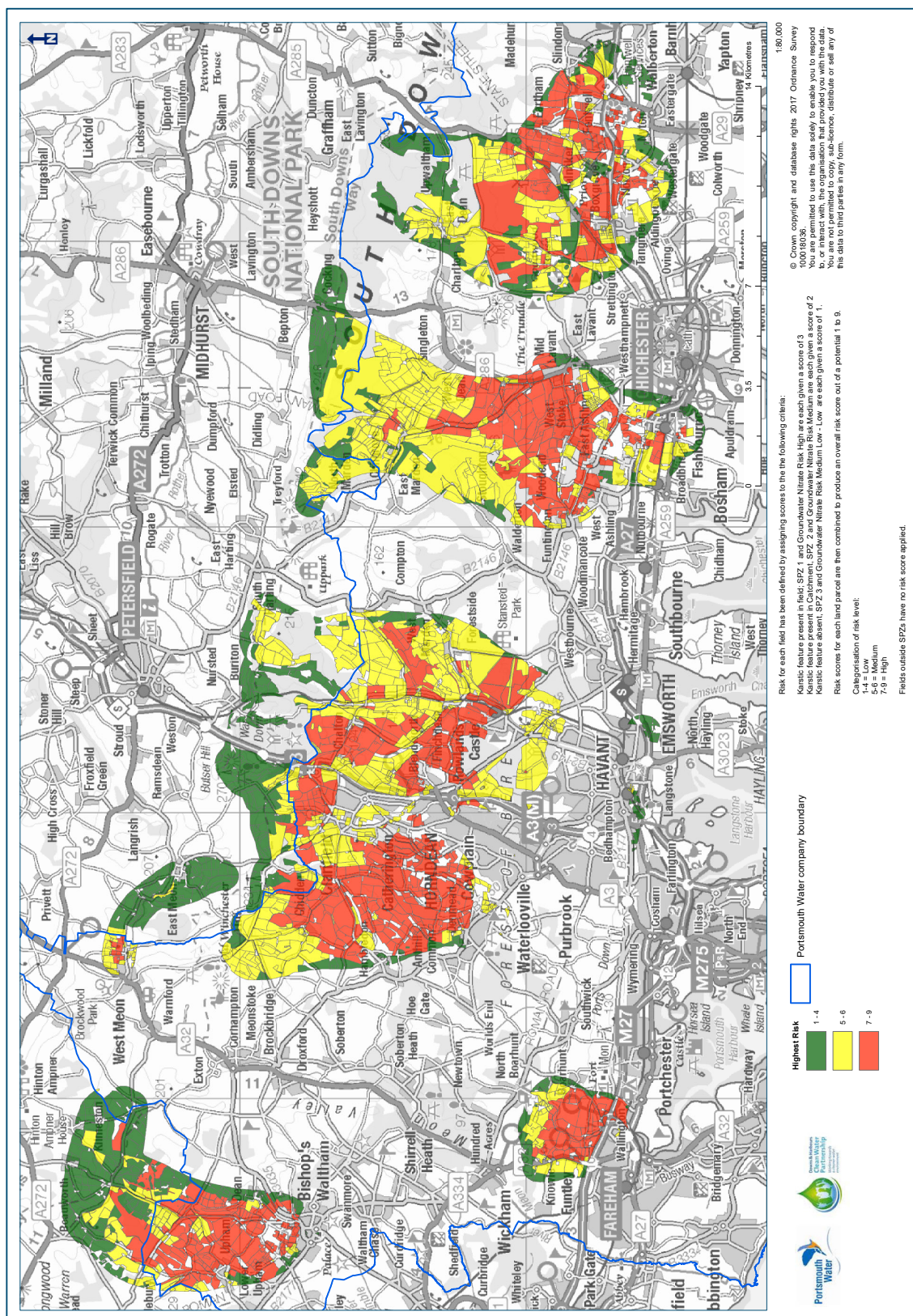
PES grants are not considered to have been agreed unless Portsmouth Water issues a formal agreement.

All applications should be sent either by email to the Catchment Management Department email address: catchment.management@portsmouthwater.co.uk or alternatively by post to the following address for the attention of the Catchment and Environment Department:

Portsmouth Water Ltd
Catchment and Environment Department
PO Box 8
West Street
Havant
Hampshire
PO9 1LG

APPENDIX 1

Portsmouth Water Risk Map



APPENDIX 2

Portsmouth Water's Suggested Supplier List

Supplier name	Measure	Contact details
S. Woodley Crop Services	6 & 8	t: 07745 138410 e: stephen@swoodleycropservices.co.uk
ADAS	8	t: 07768 924 392 / 01994 448321 e: Charles.Bentley@adas.co.uk
SOYL	7a & 7b	t: 01635 246584/ 07824 867260 e: Jon.Gooden@soyl.co.uk
Bartholomews Agri Food Ltd	6 & 8	t: 07920 134 992 e: andrewstilwell@bartholomews.co.uk
Hummingbird Technologies	7a & 7b	t: 07528 312254 e: andrewp@hummingbirdtech.com