

## 4.5 Low Marishes Water Resource Management Unit

Map 8 and Table 16 show the location of sites and features that may affect abstraction licence/water availability. Table 14 shows the existing and the target low flow resources availability status for the WRMU.

### Our strategy

The water resource availability status of this WRMU is no water available at low flows. The target status for the WRMU in 2010 is no water available.

The target status is the outcome of the sustainability appraisal process. If you want more information about the sustainability appraisal process and how we came to this decision please refer to Chapter 3 of the Technical Document on the attached CD.

### Strategy for new and existing licences

The strategy for this WRMU is to stay at no water available. This means that for **new** licences:

- we will continue to determine them on a case-by-case basis, subject to the normal determination criteria, and consider the impact on the Low Marishes WRMU and also on the downstream critical Sutton upon Derwent WRMU;
- consumptive licences may be available with constraints and non-consumptive licences without constraints;
- constrained licences will have a HOF condition local to the Low Marishes WRMU and also a critical HOF condition from the Sutton upon Derwent WRMU. The downstream critical HOF means that conditions on the licence could be more restrictive in order to protect the downstream reaches of the river from the effects of abstraction;

- water will only be available during periods of higher flow. To make your supply more reliable, you could apply for a licence to fill a winter storage reservoir;
- they will be time limited to a common end date of 31 March 2013.

and for **existing** licences:

- there will be a presumption of renewal, subject to other renewal criteria and local considerations;
- on renewal, abstractors will be encouraged to voluntarily reduce their licensed quantities.

### How much water is available and what restrictions might apply

Table 15 gives an indication of how much water is available for further abstraction and the associated restrictions that may apply to **new or varied** abstraction licences from the main river. New constrained abstractions within this WRMU will also have a downstream critical HOF, applied from the Sutton upon Derwent WRMU, as shown in Table 15. Tributaries to the main river may be subject to different restrictions and quantities. We will be able to advise you on this.

**All abstraction licence applications will be subject to an assessment to take account of any local issues and be granted on a first come, first served basis.**

The quantities shown in Table 15 are accurate at the time this document was published and apply to the main river. For up to date information please contact us or look at the annual update of this information on our website at [www.environment-agency.gov.uk/cams](http://www.environment-agency.gov.uk/cams)

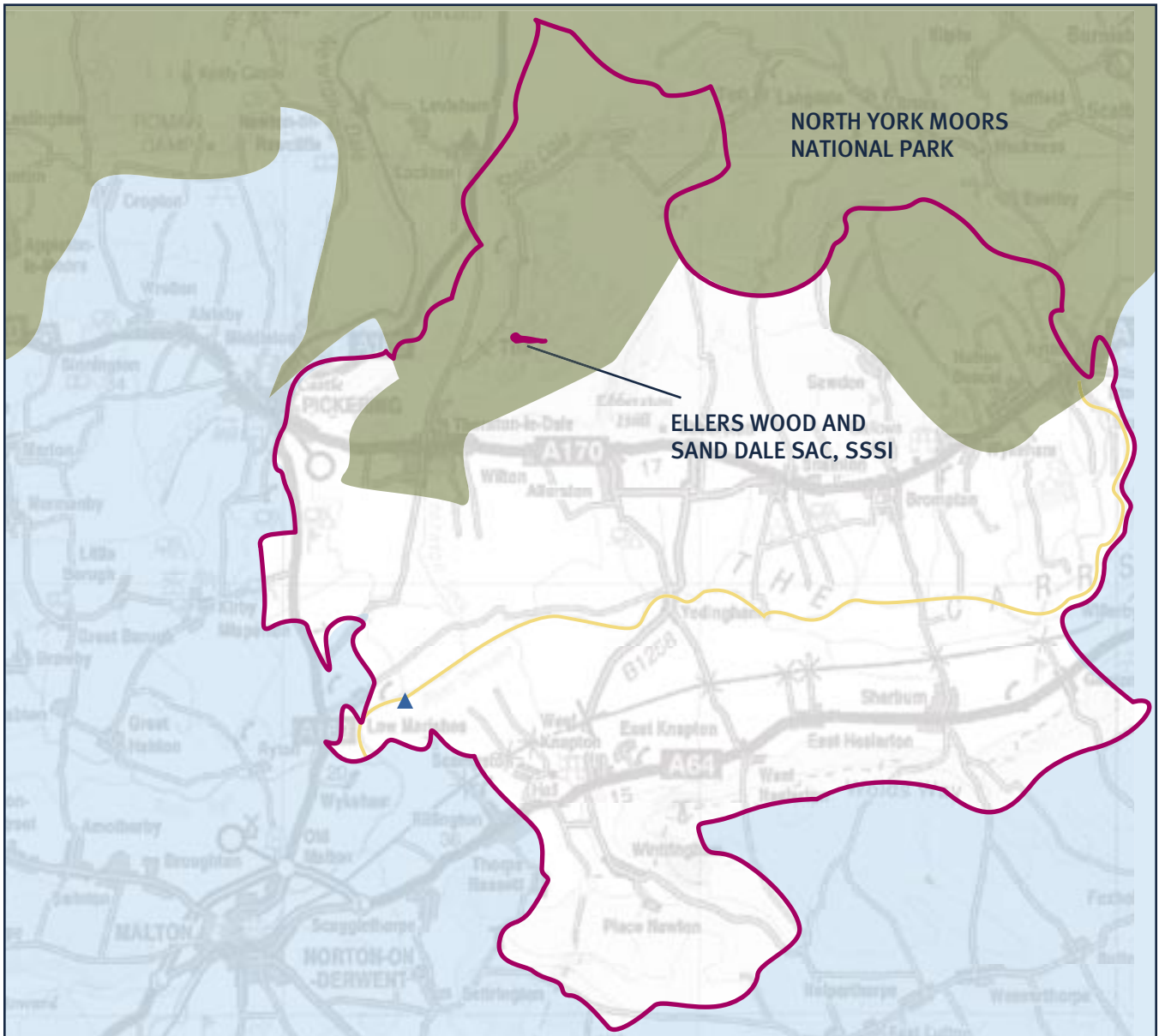
### Additional local information specific to this WRMU

The gauging station used to set the HOFs in this WRMU is Low Marishes, as shown on Map 8 on page 30. The downstream critical HOF means that conditions on the licence could be more restrictive in order to protect the downstream reaches of the river from the effects of abstraction.

**Table 14** Existing low flow resource availability status and target low flow resource availability status for the Low Marishes WRMUs

| Associated main river | Resource availability status |                        |                       |                       | Comment  |
|-----------------------|------------------------------|------------------------|-----------------------|-----------------------|--|
|                       | Individual WRMU status       | Integrated WRMU status | Target status in 2010 | Target status in 2016 |  |
| River Derwent         | No water available           | No water available     | No water available    | No water available    | New licences may be available, but only at periods of higher flow and licences may have constraints. |

Map 8 Low Marishes WRMU



| Legend  |                                |
|---|--------------------------------|
|  | No water available             |
|  | Gauging station                |
|  | National Park                  |
|  | Water Resource Management Unit |
|  | Water Related SAC/SSSI         |

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**Table 15** How much water is available and the number of days you can abstract (in an average year)

| Restriction/condition on abstraction  | Amount of water available in ML/d | Number of days abstraction allowed (average year) | Explanation  |
|---|-----------------------------------|---|--|
| Downstream critical<br>HOF = 503.1ML/d  | 200.1                             | 237   | We will consider new abstractions totalling 200.1ML/d with a HOF of 503.1ML/d. The HOF will be measured at Buttercrambe gauging station. This is to protect the river flows in the Sutton upon Derwent WRMU. |
| <b>A local condition will also be applied to manage the local flows. These are outlined below</b> |                                   |   |  |
| Unconstrained abstraction   | 0                                 |   | There is no unconstrained water available.   |
| <b>HOF 1 will be applied to new licences</b>  |                                   |   |  |
| HOF 1 = 88.5ML/d  | 10.5                              | 321   | We will consider new abstractions totalling 10.5ML/d with a HOF of 88.5ML/d. With this condition you could abstract water for most of the year, except during times of very low flow.                        |
| <b>Once the HOF1 water has been licensed the HOF2 will be applied to new licences</b>             |                                   |   |  |
| HOF 2 = 128ML/d   | 39.5                              | 281   | We will consider new abstractions totalling 39.5ML/d with a HOF of 128ML/d. With this condition you could still abstract water for the majority of the year, except during lower flows.                      |
| <b>Once the HOF2 water has been licensed the HOF3 will be applied to new licences</b>             |                                   |   |  |
| HOF 3 = 207ML/d   | 69.1                              | 219   | We will consider new abstractions totalling 69.1ML/d with a HOF of 207ML/d. With this condition you could abstract water during times of medium to high flows.   |

### Important local features that may affect water availability

**Table 16** Presence of features that may affect water availability

| Feature  | Comment                          |
|--|----------------------------------|
| Water related Site of Special Scientific Interest (SSSI) | North York Moors                 |
| Water related Special Area of Conservation (SAC) site    | North York Moors                 |
| Water related Special Protection Area (SPA) site         | North York Moors                 |
| Additional local features                                | Vale of Pickering character area |

## 4.6 River Hertford Water Resource Management Unit

There are no sites or features that may affect abstraction licence/water availability. Map 9 shows the location of the River Hertford WRMU. Table 17 shows the existing and the target low flow resource availability status for the WRMU.

### Our strategy

The water resource availability status of this WRMU is no water available at low flows. The target status for the WRMU in 2010 is no water available.

The target status is the outcome of the sustainability appraisal process. If you want more information about the sustainability appraisal process and how we came to this decision please refer to Chapter 3 of the Technical Document on the attached CD.

### Strategy for new and existing licences

The strategy for this WRMU is to stay at no water available. This means that for **new** licences:

- we will continue to determine them on a case-by-case basis, subject to the normal determination criteria, and consider the impact on the River Hertford WRMU and also on the downstream critical Sutton upon Derwent WRMU;
- consumptive licences may be available with constraints and non-consumptive licences without constraints;
- constrained licences will have a HOF condition local to the River Hertford WRMU and also a critical HOF condition from the Sutton upon Derwent WRMU. The downstream critical HOF means that conditions on the licence could be more restrictive in order to protect the downstream reaches of the river from the effects of abstraction;
- water will only be available during periods of higher flow. To make your supply more reliable, you could apply for a licence to fill a winter storage reservoir;
- they will be time limited to a common end date of 31 March 2013.

and for **existing** licences:

- there will be a presumption of renewal, subject to other renewal criteria and local considerations;
- on renewal, abstractors will be encouraged to voluntarily reduce their licensed quantities.

### How much water is available and what restrictions might apply

Table 18 gives an indication of how much water is available for further abstraction and the associated restrictions that may apply to **new or varied** abstraction licences from the main river. New constrained abstractions within this WRMU will also have a downstream critical HOF, applied from the Sutton upon Derwent WRMU, as shown in Table 18. Tributaries to the main river may be subject to different restrictions and quantities. We will be able to advise you on this.

**All abstraction licence applications will be subject to an assessment to take account of any local issues and be granted on a first come, first served basis.**

The quantities shown in Table 18 are accurate at the time this document was published and apply to the main river. For up to date information please contact us or look at the annual update of this information on our website at [www.environment-agency.gov.uk/cams](http://www.environment-agency.gov.uk/cams)

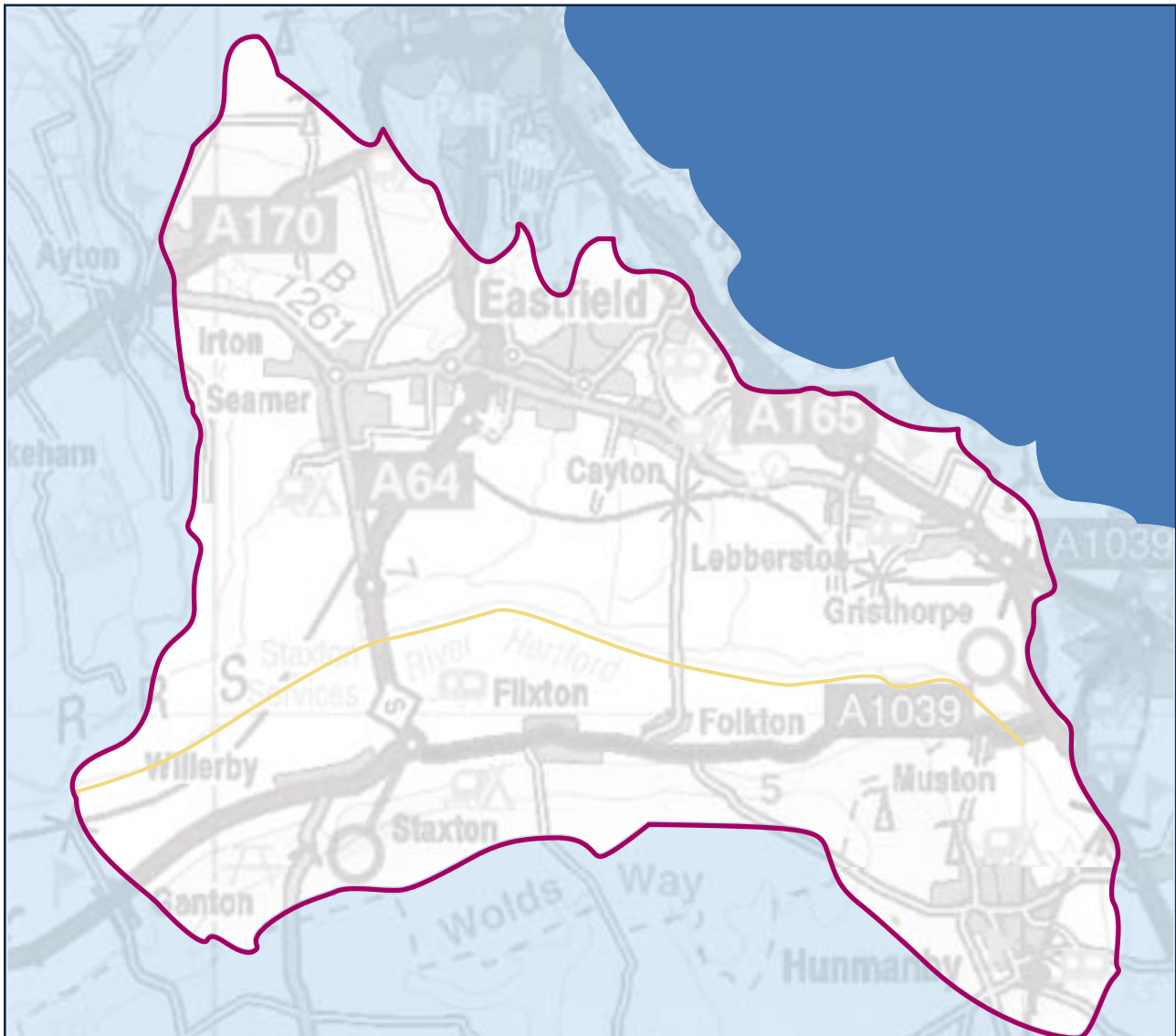
### Additional local information specific to this WRMU

There are no gauging stations in the River Hertford WRMU. River flows in this WRMU have been generated from 'Low Flows 2000'. This is a modelling software package which is used to generate flow statistics for a catchment.





River Hertford near Ganton

Map 9 River Hertford WRMU



**Legend**

-  No water available
-  Water Resource Management Unit
-  Sea

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**Table 17** Existing low flow resource availability status and target low flow resource availability status for the River Hertford WRMU

| Associated main river | Resource availability status |                        |                       |                       | Comment  |
|-----------------------|------------------------------|------------------------|-----------------------|-----------------------|--|
|                       | Individual WRMU status       | Integrated WRMU status | Target status in 2010 | Target status in 2016 |  |
| River Hertford        | No water available           | No water available     | No water available    | No water available    | New licences may be available, but only at periods of high flow and licences may have constraints. |

**Table 18** How much water is available and the number of days you can abstract it (in an average year)

| Restriction/condition on abstraction  | Amount of water available in ML/d | Number of days abstraction allowed (average year) | Explanation  |
|---|-----------------------------------|---|--|
| Downstream critical<br>HOF = 503.1ML/d  | 200.1                             | 237   | We will consider new abstractions totalling 200.1ML/d with a HOF of 503.1ML/d. The HOF will be measured at Buttercrambe gauging station. This is to protect the river flows in the Sutton upon Derwent WRMU. |
| <b>A local condition will also be applied to manage the local flows. These are outlined below</b> |                                   |   |  |
| Unconstrained abstraction   | 0                                 |   | There is no unconstrained water available.   |
| <b>HOF 1 will be applied to new licences</b>  |                                   |   |  |
| HOF 1 = 12.1ML/d  | 1.2                               | 317   | We will consider new abstractions totalling 1.2ML/d with a HOF of 12.1ML/d. With this condition you could abstract water for most of the year, except during times of very low flow.                         |
| <b>Once the HOF1 water has been licensed the HOF2 will be applied to new licences</b>             |                                   |   |  |
| HOF 2 = 16.8ML/d  | 8.9                               | 277   | We will consider new abstractions totalling 8.9ML/d with a HOF of 16.8ML/d. With this condition you could still abstract water for the majority of the year, except during lower flows.                      |
| <b>Once the HOF2 water has been licensed the HOF3 will be applied to new licences</b>             |                                   |   |  |
| HOF 3 = 28.7ML/d  | 14.3                              | 197   | We will consider new abstractions totalling 14.3ML/d with a HOF of 28.7ML/d. With this condition you could abstract water during times of medium to high flows.  |

### Important local features that may affect water availability

**Table 19** Presence of features that may affect water availability

| Feature  | Comment                          |
|--|----------------------------------|
| There are no water-related designated features in the River Hertford WRMU that may impact upon potential abstraction |                                  |
| Additional local features  | Vale of Pickering character area |

## 4.7 West Ayton Water Resource Management Unit

Map 10 and Table 22 show the location of sites and features that may affect abstraction licence/water availability. Table 20 shows the existing and the target low flow resource availability status for the WRMU.

### Our strategy

The interaction between the groundwater and surface water in this WRMU is very complex. A proportion of the river flow is lost to the underlying Corallian Limestone aquifer via swallow holes. Some of this 'river water' is subsequently abstracted from a public water supply borehole at Irton in the River Hertford WRMU. The current resource status for the West Ayton WRMU has resulted from allocating the full impact of the groundwater abstraction to two surface WRMUs in the RAM Framework. The abstraction impact has been split between the West Ayton WRMU, where the river loses water to the aquifer, and also the Low Marishes WRMU, where the downstream impacts are felt.

Consultation responses suggested this assumption was an over-simplification. Therefore a further study is underway to improve our understanding of the groundwater and surface water interaction so we can represent the groundwater volumes and flows more accurately using our RAM Framework. This has been identified as a strategy action in Section 5. Please refer to Derwent CAMS Technical Document for more information on this WRMU.

The water resource availability status of this WRMU is over-licensed/over-abstracted at low flows. The target status for the WRMU in 2010 is over-licensed/over-abstracted. Although constrained licences may still be available our preferred option through the sustainability appraisal process is to encourage any voluntary reduction in licensed quantities whilst we carry out the study on the groundwater and surface water interaction within this WRMU. We may also revoke any licences which have not been used for four years (since 1 April 2004), without compensation under The Water Act 2003, unless reasonable need to retain the licence can be demonstrated. A reduction in licence volume is unlikely to change the resource status but will help protect the current low flow status and reduce the risk of damage to the environment.

The target status is the outcome of the sustainability appraisal process which concluded that the status should remain at over-licensed/over-abstracted. If you want more information about the sustainability appraisal process and how we came to this decision please refer to Chapter 3 of the Technical Document on the attached CD.

### Strategy for new and existing licences

The strategy for this WRMU is to stay at over-licensed/over-abstracted until the study has been completed and

a sustainable solution identified and agreed. This means that for **new** licences:

- we will continue to determine them on a case-by-case basis, subject to the normal determination criteria, and consider the impact on the West Ayton WRMU and also on the downstream critical Sutton upon Derwent WRMU;
- consumptive licences may be available with constraints and non-consumptive licences without constraints;
- constrained licences will have a HOF condition local to the West Ayton WRMU and also a critical HOF condition from the Sutton upon Derwent WRMU. The downstream critical HOF means that conditions on the licence could be more restrictive in order to protect the downstream reaches of the river from the effects of abstraction;
- water will only be available during periods of higher flow. To make your supply more reliable, you could apply for a licence to fill a winter storage reservoir;
- they will be time limited to a common end date of 31 March 2013.

and for **existing** licences:

- there will be a presumption of renewal, subject to other renewal criteria and local considerations;
- on renewal, abstractors will be encouraged to voluntarily reduce their licensed quantities;
- if a licence has not been used for four years (since 1 April 2004) then it may be revoked, without compensation under The Water Act 2003, unless reasonable need to retain the licence can be demonstrated.

### How much water is available and what restrictions might apply

Table 21 shows that there is no water available from the main river with the current HOF constraints. However, a licence application will still be considered under its own merits and water may be available at constraints higher than HOF 3. New constrained abstractions within this WRMU will also have a downstream critical HOF, applied from the Sutton upon Derwent WRMU, as shown in Table 27. Tributaries to the main river may be subject to different restrictions and quantities. We will be able to advise you on this.

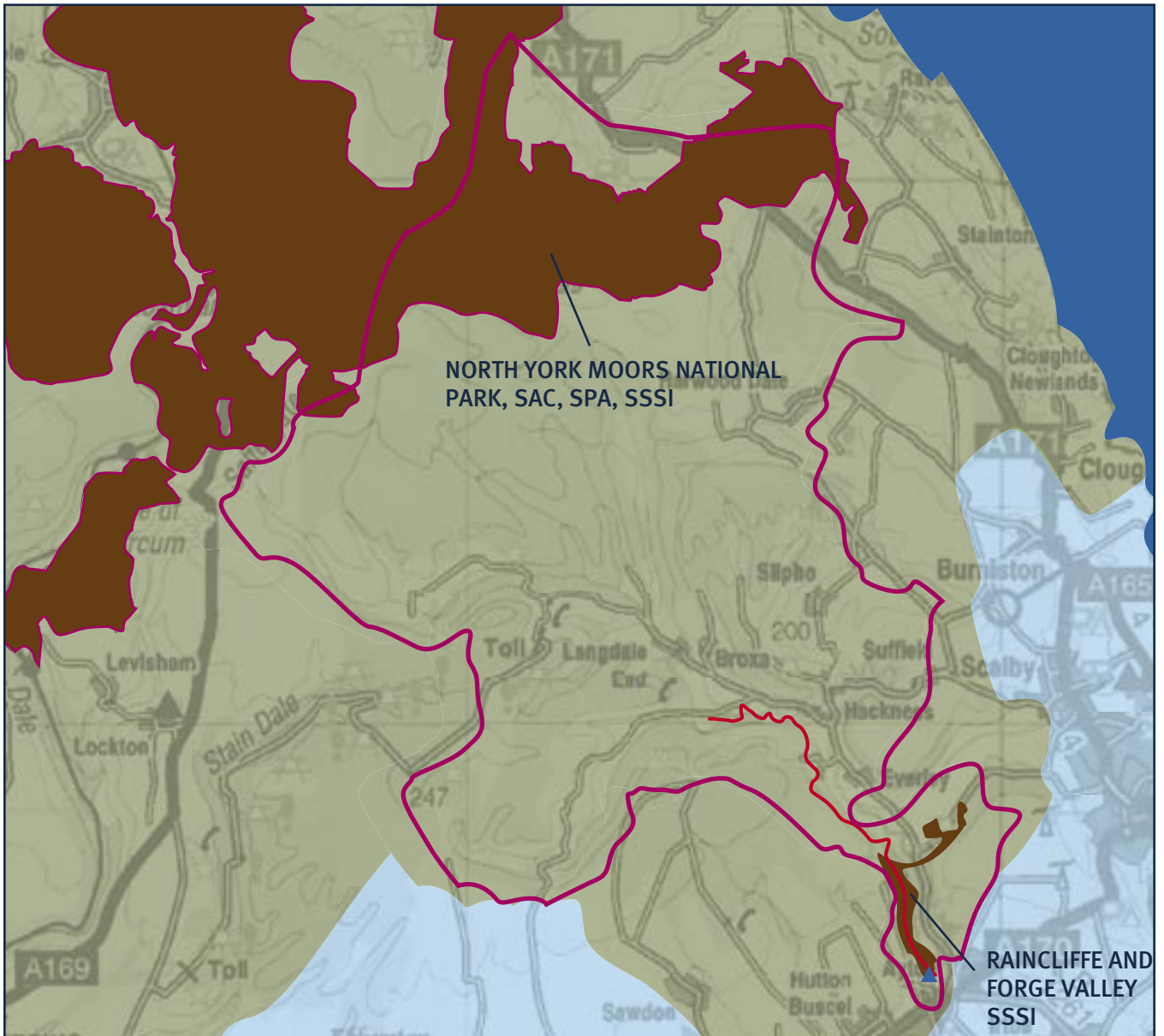
**All abstraction licence applications will be subject to an assessment to take account of any local issues and be granted on a first come, first served basis.**

For up to date information please contact us or look at the annual update of this information on our website at [www.environment-agency.gov.uk/cams](http://www.environment-agency.gov.uk/cams)

### Additional local information specific to this WRMU

The gauging station used to set the HOFs in this WRMU is West Ayton, as shown on Map 10 on page 36.

Map 10 West Ayton WRMU



| Legend |                                |
|--------|--------------------------------|
|        | Over-abstracted                |
|        | Gauging station                |
|        | Water related SSSI             |
|        | National Park                  |
|        | Water Resource Management Unit |
|        | Sea                            |
|        | Water related SAC, SPA, SSSI   |

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**Table 20** Existing low flow resource availability status and target low flow resource availability status for the West Ayton WRMU

| Associated main river | Resource availability status      |                                   |                                   | Target status in 2016 | Comment  |
|-----------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------|--|
|                       | Individual WRMU status            | Integrated WRMU status            | Target status in 2010             |                       |  |
| Derwent               | Over-licensed and over-abstracted | Over-licensed and over-abstracted | Over-licensed and over-abstracted | Over-licensed         | A study of the groundwater and surface water interaction within this WRMU is underway. However new licences may be available with constraints. |

**Table 21** How much water is available and the number of days you can abstract (in an average year)

| Restriction/condition on abstraction  | Amount of water available in ML/d | Number of days abstraction allowed (average year) | Explanation  |
|---|-----------------------------------|---|--|
| Downstream critical HOF = 503.1ML/d   | 200.1                             | 237   | We will consider new abstractions totalling 200.1ML/d with a HOF of 503.1ML/d. The HOF will be measured at Buttercrambe gauging station. This is to protect the river flows in the Sutton upon Derwent WRMU. |
| <b>A local condition will also be applied to manage the local flows. These are outlined below</b> |                                   |   |  |
| Unconstrained abstraction   | 0                                 |   | There is no unconstrained water available.   |
| <b>Once the unconstrained water has been licensed the HOF1 will be applied to new licences</b>    |                                   |   |  |
| HOF 1 = 2.7ML/d   | 0                                 |   | There is no water available with this constraint.  |
| <b>Once the HOF1 water has been licensed the HOF2 will be applied to new licences</b>             |                                   |   |  |
| HOF 2 = 12.0ML/d  | 0                                 |   | There is no water available with this constraint.  |
| <b>Once the HOF2 water has been licensed the HOF3 will be applied to new licences</b>             |                                   |   |  |
| HOF 3 = 25.8ML/d  | 0                                 |   | There is no water available with this constraint.  |

### Important local features that may affect water availability

**Table 22** Presence of features that may affect water availability

| Feature  | Comment   |
|--|---|
| Water related Site of Special Scientific Interest (SSSI) | North York Moors<br>Raincliffe and Forge Valley |
| Water related Special Area of Conservation (SAC) site    | North York Moors                                |
| Water related Special Protection Area (SPA) site         | North York Moors                                |
| Additional local features                                | Forge Valley NNR                                |

## 4.8 Howe Bridge Water Resource Management Unit

Map 11 and Table 25 show the location of sites and features that may affect abstraction licence/water availability. Table 23 shows the existing and the target low flow resource availability status for the WRMU.

### Our strategy

The water resource availability status of this WRMU is no water available at low flows. The target status for the WRMU in 2010 is no water available.

The target status is the outcome of the sustainability appraisal process. If you want more information about the sustainability appraisal process and how we came to this decision please refer to Chapter 3 of the Technical Document on the attached CD.

### Strategy for new and existing licences

The strategy for this WRMU is to stay at no water available. This means that for **new** licences:

- we will continue to determine them on a case-by-case basis, subject to the normal determination criteria, and consider the impact on the Howe Bridge WRMU and also on the downstream critical Sutton upon Derwent WRMU;
- consumptive licences may be available with constraints and non-consumptive licences without constraints;
- constrained licences will have a HOF condition local to the Howe Bridge WRMU and also a critical HOF condition from the Sutton upon Derwent WRMU; The downstream critical HOF means that conditions on the licence could be more restrictive in order to protect the downstream reaches of the river from the effects of abstraction;
- water will only be available during periods of higher flow. To make your supply more reliable, you could apply for a licence to fill a winter storage reservoir;
- they will be time limited to a common end date of 31 March 2013.

and for **existing** licences:

- there will be a presumption of renewal, subject to other renewal criteria and local considerations;
- on renewal, abstractors will be encouraged to voluntarily reduce their licensed quantities.

### How much water is available and what restrictions might apply

Table 24 gives an indication of how much water is available for further abstraction and the associated restrictions that may apply to **new or varied** abstraction licences from the main river. New constrained abstractions within this WRMU will also have a downstream critical HOF, applied from the Sutton upon Derwent WRMU, as shown in Table 24. Tributaries to the main river may be subject to different restrictions and quantities. We will be able to advise you on this.

**All abstraction licence applications will be subject to an assessment to take account of any local issues and be granted on a first come, first served basis.**

The quantities shown in Table 24 are accurate at the time this document was published and apply to the main river. For up to date information please contact us or look at the annual update of this information on our website at [www.environment-agency.gov.uk/cams](http://www.environment-agency.gov.uk/cams)

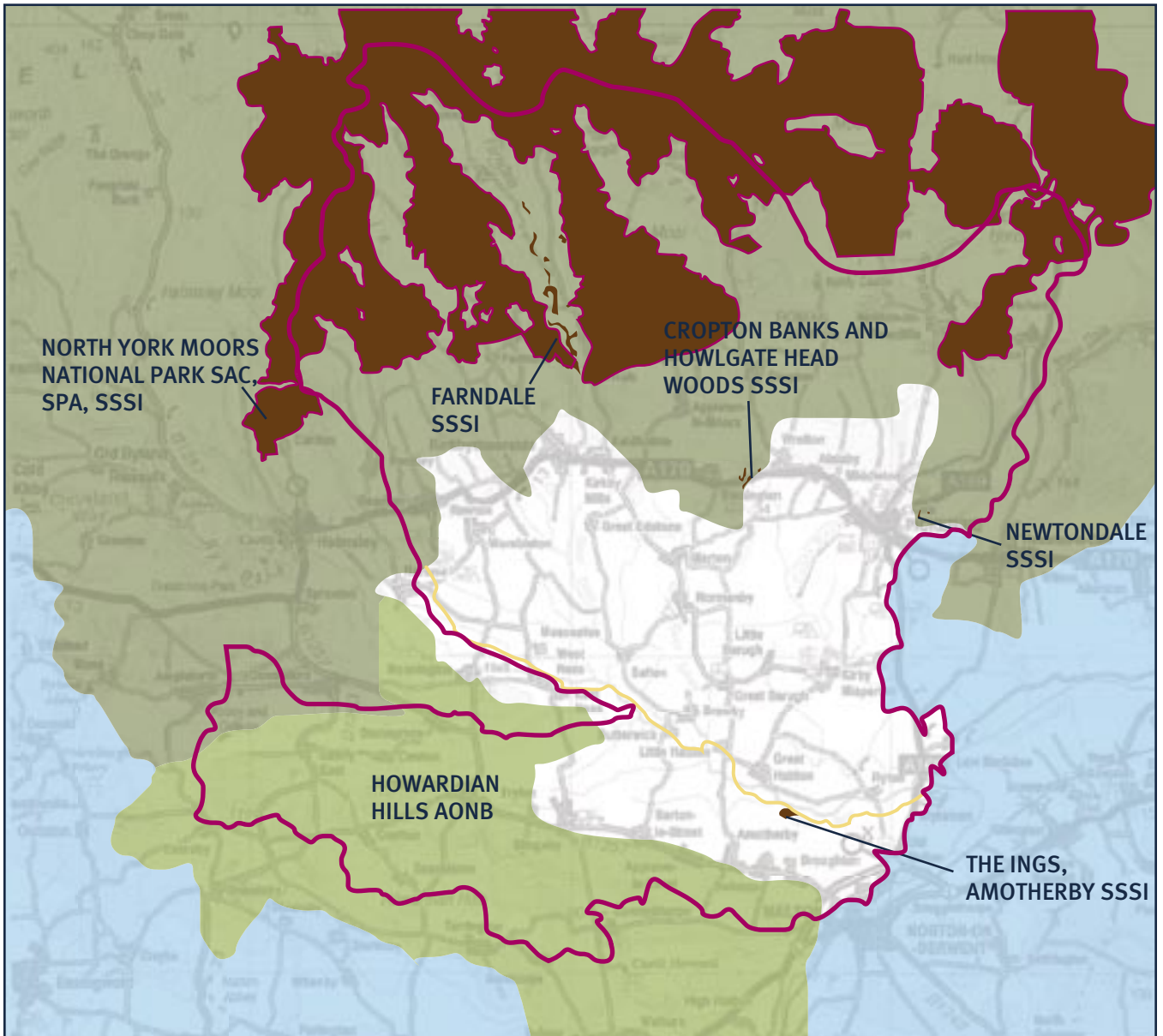
### Additional local information specific to this WRMU

There are no gauging stations in the Howe Bridge WRMU which measure river flows. The monitoring instrumentation in this WRMU measures river level only. Therefore river flows for the Howe Bridge WRMU have been generated from the 'Low Flows 2000' modelling package.

**Table 23** Existing low flow resource availability status and target low flow resource availability status for the Howe Bridge WRMU

| Associated main river | Resource availability status |                        |                       |                       | Comment   |
|-----------------------|------------------------------|------------------------|-----------------------|-----------------------|---|
|                       | Individual WRMU status       | Integrated WRMU status | Target status in 2010 | Target status in 2016 |   |
| Rye                   | No water available           | No water available     | No water available    | No water available    | New licences may be available, but only at periods of higher flow and licences may have constraints |

Map 11 Howe Bridge WRMU



| Legend  |                                    |
|---|------------------------------------|
|  | No water available                 |
|  | Water related SAC, SPA, SSSI       |
|  | National Park                      |
|  | Area of Outstanding Natural Beauty |
|  | Water Resource Management Unit     |

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**Table 24** How much water is available and the number of days you can abstract it (in an average year)

| Restriction/condition on abstraction  | Amount of water available in ML/d | Number of days abstraction allowed (average year) | Explanation  |
|---|-----------------------------------|---|--|
| Downstream critical<br>HOF = 503.1ML/d  | 200.1                             | 237   | We will consider new abstractions totalling 200.1ML/d with a HOF of 503.1ML/d. The HOF will be measured at Buttercrambe gauging station. This is to protect the river flows in the Sutton upon Derwent WRMU. |
| <b>A local condition will also be applied to manage the local flows. These are outlined below</b> |                                   |   |  |
| Unconstrained abstraction   | 0                                 |   | There is no unconstrained water available.   |
| <b>HOF 1 will be applied to new licences</b>  |                                   |   |  |
| HOF 1 = 215ML/d   | 14.8                              | 335   | We will consider new abstractions totalling 14.8ML/d with a HOF of 215ML/d. With this condition you could abstract water for most of the year, except during times of very low flow.                         |
| <b>Once the HOF1 water has been licensed the HOF2 will be applied to new licences</b>             |                                   |   |  |
| HOF 2 = 287.1ML/d   | 26.4                              | 295   | We will consider new abstractions totalling 26.4ML/d with a HOF of 287.1ML/d. With this condition you could still abstract water for the majority of the year, except during lower flows.                    |
| <b>Once the HOF2 water has been licensed the HOF3 will be applied to new licences</b>             |                                   |   |  |
| HOF 3 = 395.4ML/d   | 54.1                              | 240   | We will consider new abstractions totalling 54.1ML/d with a HOF of 395.4ML/d. With this condition you could abstract water during times of medium to high flows.   |

### Important local features that may affect water availability

**Table 25** Presence of features that may affect water availability

| Feature  | Comment  |
|--|--|
| Water related Sites of Special Scientific Interest (SSSIs) | Newtondale<br>Farndale<br>The Ings, Amotherby<br>Cropton Banks and Howlgate Head Woods<br>North York Moors |
| Water related Special Area of Conservation (SAC)           | North York Moors   |
| Water related Special Protection Area (SPA) site           | North York Moors   |
| Additional local features                                  | Howardian Hills AONB   |

## 4.9 Ness Water Resource Management Unit

Map 12 and Table 28 show the location of sites and features that may affect abstraction licence/water availability. Table 26 shows the existing and the target low flow resource availability status for the WRMU.

### Our strategy

The water resource availability status of this WRMU is no water available at low flows. The target status for the WRMU in 2010 is no water available.

The target status is the outcome of the sustainability appraisal process. If you want more information about the sustainability appraisal process and how we came to this decision please refer to Chapter 3 of the Technical Document on the attached CD.

### Strategy for new and existing licences

The strategy for this WRMU is to stay at no water available. This means that for **new** licences:

- we will continue to determine them on a case-by-case basis, subject to the normal determination criteria, and consider the impact on the Ness WRMU and also on the downstream critical Sutton upon Derwent WRMU;
- consumptive licences may be available with constraints and non-consumptive licences without constraints;
- constrained licences will have a HOF condition local to the Ness WRMU and also a critical HOF condition from the Sutton upon Derwent WRMU. The downstream critical HOF means that conditions on the licence could be more restrictive in order to protect the downstream reaches of the river from the effects of abstraction;

- water will only be available during periods of higher flow. To make your supply more reliable, you could apply for a licence to fill a winter storage reservoir;
- they will be time limited to a common end date of 31 March 2013.

and for **existing** licences:

- there will be a presumption of renewal, subject to other renewal criteria and local considerations;
- on renewal, abstractors will be encouraged to voluntarily reduce their licensed quantities.

### How much water is available and what restrictions might apply

Table 27 gives an indication of how much water is available for further abstraction and the associated restrictions that may apply to **new or varied** abstraction licences from the main river. New constrained abstractions within this WRMU will also have a downstream critical HOF, applied from the Sutton upon Derwent WRMU, as shown in Table 27. Tributaries to the main river may be subject to different restrictions and quantities. We will be able to advise you on this.

**All abstraction licence applications will be subject to an assessment to take account of any local issues and be granted on a first come, first served basis.**

The quantities shown in Table 27 are accurate at the time this document was published and apply to the main river. For up to date information please contact us or look at the annual update of this information on our website at [www.environment-agency.gov.uk/cams](http://www.environment-agency.gov.uk/cams)

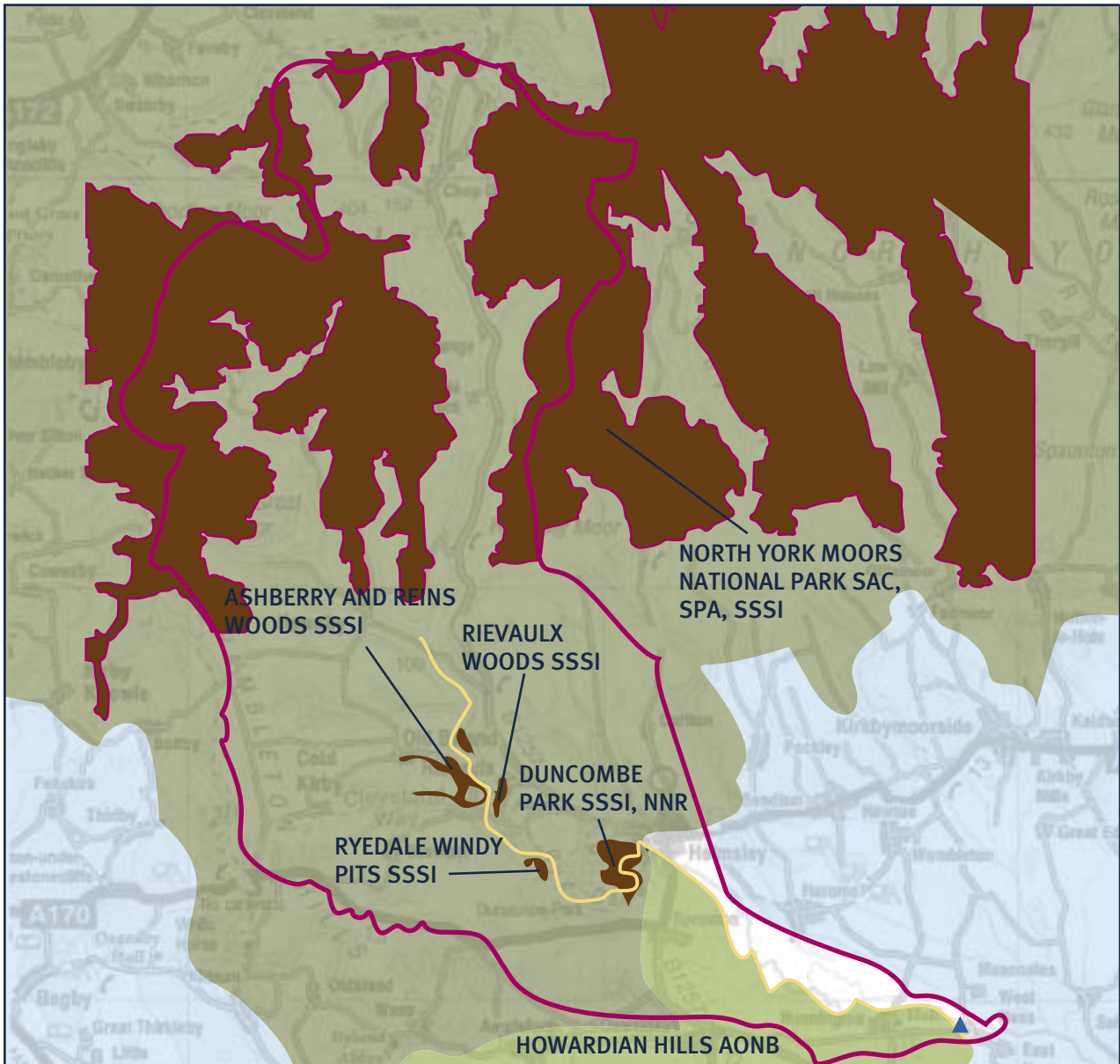
### Additional local information specific to this WRMU

The gauging station used to set the HOFs in this WRMU is Ness, as shown on Map 12 on page 42.



River Rye near Nunnington Hall

Map 12 Ness WRMU



| Legend |                                    |
|--------|------------------------------------|
|        | No water available                 |
|        | Gauging station                    |
|        | Water related SAC, SPA, SSSI       |
|        | National Park                      |
|        | Area of Outstanding Natural Beauty |
|        | Water Resource Management Unit     |

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0 1.5 3 6 Kilometres



**Table 26 Existing low flow resource availability status and target low flow resource availability status for the Ness WRMU**

| Associated main river | Resource availability status |                        |                       |                       | Comment  |
|-----------------------|------------------------------|------------------------|-----------------------|-----------------------|--|
|                       | Individual WRMU status       | Integrated WRMU status | Target status in 2010 | Target status in 2016 |  |
| Rye                   | No water available           | No water available     | No water available    | No water available    | New licences may be available, but only at periods of higher flow and licences may have constraints. |

**Table 27 How much water is available and the number of days you can abstract it (in an average year)**

| Restriction/condition on abstraction  | Amount of water available in Ml/d | Number of days abstraction allowed (average year) | Explanation  |
|---|-----------------------------------|---|--|
| Downstream critical<br>HOF = 503.1Ml/d  | 200.1                             | 237   | We will consider new abstractions totalling 200.1Ml/d with a HOF of 503.1Ml/d. The HOF will be measured at Buttercrambe gauging station. This is to protect the river flows in the Sutton upon Derwent WRMU. |
| <b>A local condition will also be applied to manage the local flows. These are outlined below</b> |                                   |   |  |
| Unconstrained abstraction   | 0                                 |   | There is no unconstrained water available.   |
| <b>HOF 1 will be applied to new licences</b>  |                                   |   |  |
| HOF 1 = 57.9Ml/d  | 4.2                               | 339   | We will consider new abstractions totalling 4.2Ml/d with a HOF of 57.9Ml/d. With this condition you could abstract water for most of the year, except during times of very low flow.                         |
| <b>Once the HOF 1 water has been licensed the HOF 2 will be applied to new licences</b>           |                                   |   |  |
| HOF 2 = 87.6Ml/d  | 6.7                               | 295   | We will consider new abstractions totalling 6.7Ml/d with a HOF of 87.6Ml/d. With this condition you could still abstract water for the majority of the year, except during lower flows.                      |
| <b>Once the HOF 2 water has been licensed the HOF 3 will be applied to new licences</b>           |                                   |   |  |
| HOF 3 = 132.2Ml/d   | 11                                | 244   | We will consider new abstractions totalling 11Ml/d with a HOF of 132.2Ml/d. With this condition you could abstract water during times of medium to high flows.   |

### Important local features that may affect water availability

**Table 28 Presence of features that may affect water availability**

| Feature  | Comment   |
|--|---|
| Water related Sites of Special Scientific Interest (SSSIs) | Duncombe Park<br>Ashberry and Reins Woods<br>Rievaulx Woods<br>Ryedale Windy Pits<br>North York Moors |
| Water related Special Area of Conservation (SAC)           | North York Moors  |
| Water related Special Protection Area (SPA)                | North York Moors  |
| Additional local features                                  | Duncombe Park NNR<br>Howardian Hills AONB   |

# 5.0

These are the actions that we will undertake in the next six years to implement this strategy.

## Strategy actions

Table 29 outlines what we will do to assist in water resource management during the lifetime of the strategy.

**Table 29** Actions to assist in water resource management

| Description, aim and comments  | WRMU  | Start | Finish | External partners           |
|--|---|-------|--------|-----------------------------|
| We will carry out routine sampling to monitor fish populations and macrophyte/macroinvertebrate communities.   | All WRMUs                                       | 2006  | 2010   |                             |
| We may revoke any licences which have not been used for four years, (since 1 April 2004), without compensation under The Water Act 2003, unless reasonable need to retain the licence can be demonstrated. | Barmby Barrage, Sutton upon Derwent, West Ayton | 2006  | 2010   |                             |
| We intend to encourage abstractors to voluntarily reduce their licensed quantities.  | All WRMUs                                       | 2006  | 2010   |                             |
| We have started a study to improve our understanding of the groundwater and surface water interaction and its relationship with the river ecology to achieve a sustainable solution.                       | West Ayton                                      | 2005  | 2006   |                             |
| We will complete the Habitats Regulations review of consents for abstractions within the Derwent CAMS area and define actions accordingly.   | All WRMUs                                       | 2004  | 2008   | English Nature, Abstractors |



# Glossary of terms and abbreviations

## **Abstraction**

Removal of water from a source of supply (surface or groundwater).

## **Abstraction licence**

The authorisation granted by the Environment Agency to allow the removal of water.

## **Aquifer**

A geological formation that can store and transmit groundwater in significant quantities.

## **Assessment Point (AP)**

Critical point in a catchment at which an assessment of available resources is made. APs are located at the extremities of identified reaches and Water Resource Management Units.

## **Biodiversity**

The living component of the natural world. It embraces all plant and animal species and communities associated with terrestrial, aquatic and marine habitats. It also includes genetic variation within species.

## **Biodiversity Action Plans (BAPs)**

At the Earth Summit in Rio in 1992, governments from across the world pledged to take urgent action to secure the future of the Earth's resources. In the UK, a national strategy has been developed for the conservation of biological diversity through the UK Biodiversity Action Plan.

## **Borehole**

Well sunk into a water bearing rock from which water will be pumped.

## **Canal**

An artificial watercourse used for navigation.

## **Catchment**

The area from which precipitation and groundwater will collect and contribute to the flow of a specific river.

## **Confluence**

The point where two or more streams or rivers meet.

## **Consumptive use/Consumptiveness**

Use of water where a significant proportion is not returned, either directly or indirectly, to the source of supply after use, e.g. spray irrigation.

## **Designated water dependent sites**

Nationally or internationally important (habitat) sites that have been legally recognised, which could be affected by water management or water quality issues.

## **Discharge**

The release of substances (i.e. water, sewage, etc.) into surface waters.

## **Discharge consent**

A statutory document issued by the Environment Agency, which defines the legal limits and conditions on the discharge of effluent into controlled waters.

## **Drought**

A general term covering prolonged periods of below average rainfall resulting in low river flows and/or low recharge to groundwater, imposing significant strain on water resources and potentially the environment.

## **Dry Weather Flow (DWF)**

This can be thought of as the average flow in the driest week in the average summer.

### **EC Directive**

Issued by the European Commission to member states with the objective of producing common standards in the European Union – member states are then obliged to introduce appropriate legislation to comply with the Directive.

### **Ecological River Flow Objectives/Level Requirements**

The minimum river flows (or water levels) required to protect ecological objectives.

### **Environmental impact**

The total effect of any operation on the environment.

### **Environmental weighting**

An assessment of a river's sensitivity to abstraction based on physical characteristics, fisheries, plant life and invertebrates. It is specifically used in the CAMS RAM.

### **Gauging station**

A site where the flow of a river is measured.

### **General Quality Assessment (GQA)**

Method for assessing the general quality of inland and coastal waters.

### **Groundwater**

Water that is contained in underground rocks.

### **Groundwater Management Units (GWMUs)**

Administrative sub-divisions of aquifers, defined on geological and hydrogeological criteria, which form the basis for groundwater resource management and licensing policy decisions.

### **Habitat**

Place in which a species or community of species live, with characteristic plants and animals.

### **Habitats Directive**

A European directive on Conservation of Natural Habitats and of Wild Flora and Fauna. The Directive is implemented in the UK by the Conservation (Natural Habitats & c.) Regulations 1994 – commonly known as the 'Habitats Regulations'. The Directive created a network of protected areas across the European Union known as 'Natura 2000' sites.

### **Hands-Off Flow (HOF)**

A condition attached to an abstraction licence which states that if flow (in the river) falls below the level specified on the licence, the abstractor will be required to reduce or stop the abstraction.

### **Hands-Off Level (HOL)**

A river flow level below which an abstractor is required to reduce or stop abstraction.

### **Hydrogeology**

Branch of geology concerned with water within the Earth's crust.

### **Hydrology**

The study of the Earth's water, in particular of water under and on the ground before it reaches the ocean or before it evaporates.

### **Internal Drainage Board (IDB)**

A local land drainage authority with powers to raise finance and do works.

### **Licence**

Formal permit allowing the holder to engage in an activity (in the context of this report, usually abstraction), subject to conditions specified in the licence itself and the legislation under which it was issued.

### **Licence application**

Formal request by an individual or organisation to the competent authority for a licence. For abstraction licences, the competent authority is the Environment Agency.

### **Licence determination**

A decision by the Environment Agency on what terms to grant or refuse a licence application, by reference to regulatory powers and duties.

### **Low flow**

It is usually determined at a given value of 'Q95', which means that flow falls below this level 5 per cent of the time.

### **'Low Flows 2000'**

A software package which originated from CEH, which can be used to generate low flow statistics for a catchment.

### **Managing Water Abstraction**

Document produced in May 2001 about the CAMS process. It was updated in July 2002.

### **Natura 2000**

The Habitats Directive established and protects a network of designated sites of the most important areas for wildlife across Europe. It consists of SPAs to protect bird species and SACs for the protection of habitats.

### **Non-consumptive**

This is where all abstracted water is returned to the source a relatively short distance downstream of the abstraction point. E.g. hydropower generation, fish farming.

### **Precautionary principle**

Where data within an area is incomplete but there is potential for significant environmental damage, all decisions err on the side of caution in order to protect the environment.

### **Q95**

The flow of a river which is exceeded on average for 95 per cent of the time.

### **RAM Framework**

Resource Assessment and Management Framework – a technical framework for resource assessment (for the definition and reporting of CAMS) and subsequent resource management (including abstraction licensing).

### **Ramsar site**

A site of international conservation importance classified at the 'Convention on Wetlands of International Importance' 1971, which was ratified by the UK Government in 1976.

### **Restoring Sustainable Abstraction (RSA) programme**

The programme for resolving environmental problems caused by unsustainable abstraction in certain catchments.

### **Review of consents**

The procedure by which the Environment Agency as a competent authority will apply the Habitats Regulations to review all relevant existing discharge consents, abstraction licences, permissions and activities which are likely to affect a designated European site.

### **Revocation**

The cancellation of a licence and all associated rights and benefits.

### **River Flow Objectives (RFOs)**

The minimum river outflows required to protect ecological objectives within the area. It also considers effluent dilution requirements, navigation and other in-river needs.

### **Salmonids**

Family of fish (salmonidae) which includes many commercially farmed species such as salmon, trout and char.

### **Site of Special Scientific Interest (SSSI)**

An area given a statutory designation by English Nature or the Countryside Council for Wales because of its nature conservation value.

### **Special Area of Conservation (SAC)**

An area classified under the EC Habitats Directive and agreed with the EU to contribute to biodiversity by maintaining and restoring habitats and species.

### **Special Protection Area (SPA)**

An area classified under the EC Birds Directive to provide protection to birds, their nests, eggs and habitats.

### **Spray irrigation**

Abstracted water sprayed onto grassland, fruit, vegetables, etc. During the summer period it has a high impact on water resources.

### **Springs**

These occur where the water table intersects the ground's surface.

### **Surface water**

This is a general term used to describe all water features such as rivers, streams, springs, ponds and lakes.

### **Surplus or deficit**

How much more or how much less abstraction impact is acceptable: = Scenario flows – RFOs

### **Tidal limit**

The most upstream point within an estuary or river where water levels are subject to tidal variation.

### **Time limited licence**

Licence with specified end date.

### **Topography**

Physical features of a geographical area.

### **Treatment Works (also Waste Water Treatment Works)**

Wastewater treatment works or Water Treatment Works.

### **Water Level Management Plans (WLMPs)**

These provide a framework by which the water level requirements of a particular site can be discussed in order to incorporate and integrate a range of activities. The Agency has a responsibility to be involved in the production of these plans in consultation with other interested bodies such as English Nature, Internal Drainage Boards, conservation groups and landowners.

### **Water Resource Management Unit (WRMU)**

An area that has similar groundwater and/or surface water characteristics and is managed in a similar way.

### **Water Resources Strategies (The)**

Strategy for water resource planning in England and Wales over the next 25 years which will ensure sustainable use and sufficient water for all human uses with an improved water environment. The strategies predict demand using different social and economic scenarios.

### **Water Rights Trading**

The transfer of licensable water rights from one party to another for benefit.

### **Wetland**

An area of low lying land where the water table is at or near the surface for most of the time, leading to characteristic habitats.

## **List of Abbreviations**

### **AOD (also m AOD)**

Above Ordnance Datum: Land levels are measured relative to the average sea level at Newlyn in Cornwall. This average level is referred to as “Ordnance Datum”. Contours on Ordnance Survey maps of the UK show heights above AOD in metres, hence m AOD.

### **AONB**

Area of Outstanding Natural Beauty.

### **AP**

Assessment Point.

### **BAP**

Biodiversity Action Plan.

### **CAMS**

Catchment Abstraction Management Strategy.

### **DWF**

Dry Weather Flow.

### **EU**

European Union.

### **GQA**

General Quality Assessment.

### **GWMU**

Groundwater Management Unit.

### **HOF**

Hands-Off Flow.

### **HOL**

Hands-Off Level.

### **Km**

Kilometres.

### **Km<sup>2</sup>**

Square kilometres.

### **m<sup>3</sup>/s**

Cubic metres per second.

### **m AOD**

Metres above Ordnance Datum (mean sea level at Newlyn, Cornwall 1915-1921).

### **MI, MI/d, MI/day**

MI = megalitres = 1,000,000 litres = 1,000 cubic metres = 1,000 m<sup>3</sup> = 220,000 gallons  
MI/d = MI/day = MI per day, = thousand cubic metres per day (tcmd).

### **MI/a**

MI/a = Megalitres per year.

### **mm**

Millimetres.

### **NNR**

National Nature Reserve.

### **Q95**

Flow exceeded 95 per cent of the time period considered.

### **RAM**

Resource Assessment and Management.

### **RFO**

River Flow Objectives.

### **SAC**

Special Area of Conservation.

### **SPA**

Special Protection Area.

### **SSSI**

Site of Special Scientific Interest.

### **WRMU**

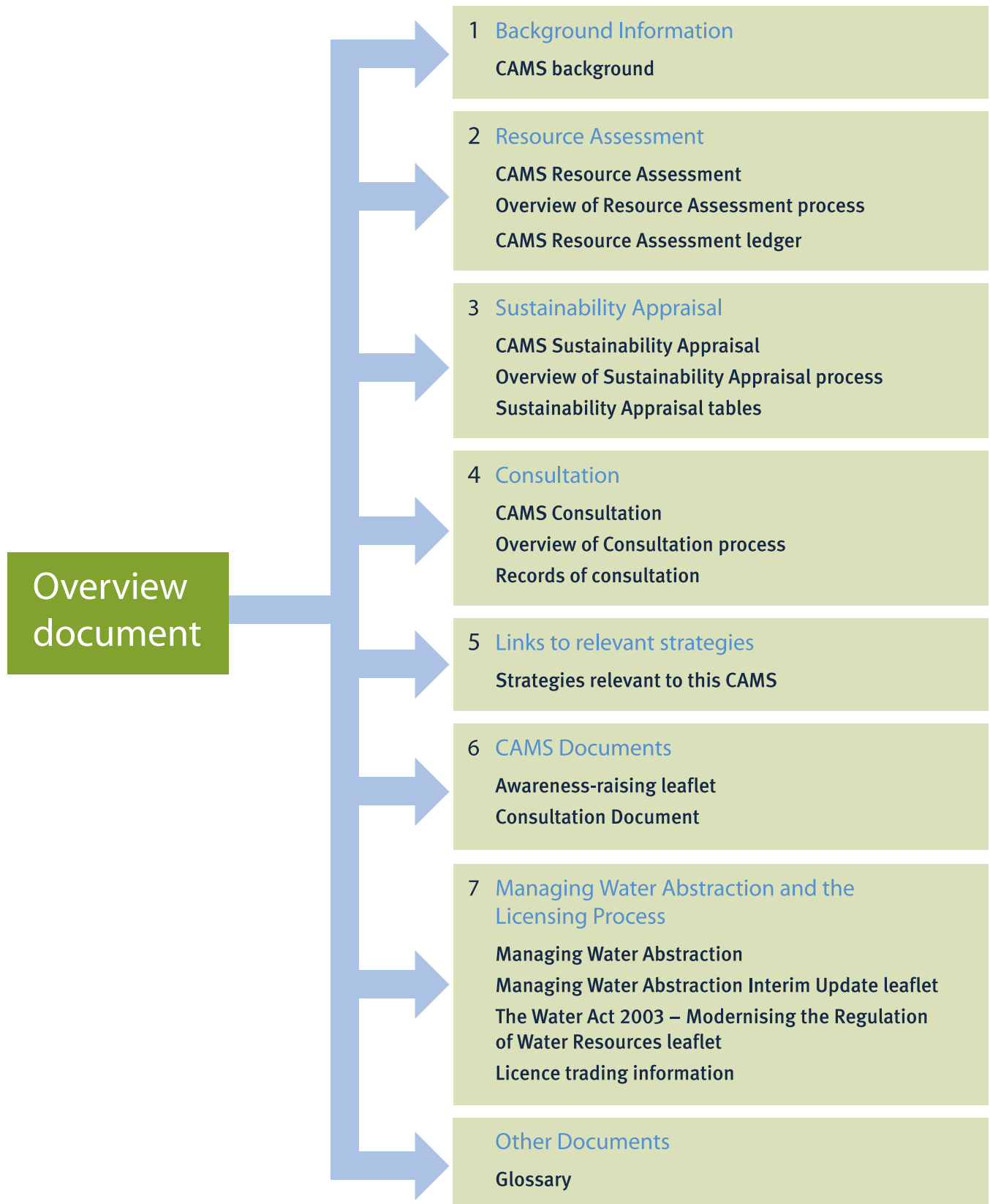
Water Resource Management Unit.

# Notes

# Notes

# Notes

# Appendix 1: Outline structure and information in the Technical Document and CD





This CD-ROM contains the Derwent CAMS Technical Document in a printable PDF format and can be viewed in Adobe Acrobat. If you have any problems with the CD, please contact

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