Implications of the Directives for the Farming Industry

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Directives require

• Good Ecological Status/Good Chemical Status for all waters by 2015

• And define good status as only slightly changed from reference conditions
Farming ....

- Occupies 75% of the land surface
- Uses the environment as its factory floor
- Changes the quality of water that drains through it
Potential pollutants from farming

Point Source
• BOD
• ammonia

Diffuse source
• nutrients
• pesticides
• soil
• microbial pathogens
Example

• What does compliance with the “nitrate standard” mean for agriculture
Agricultural science – plant nutrition

In natural systems -
• plant growth is limited by nutrient availability
• any nutrients released are rapidly scavenged and little is lost

In modern agriculture -
• sufficient nutrients are provided to remove this limit on yields
• the system is no longer nutrient hungry and any released is not scavenged
Biological science

• Soil naturally contains vast quantities of nitrogen (typically 4 tonnes/hectare)
• A small proportion is released as nitrate each year, especially when soil is warm and wet
• Clearing the land of vegetation removes the uptake
• Large nitrate release follows –
  - clear felling forest
  - ploughing natural grassland
  - harvesting (killing) an agricultural crop
## Nitrate numbers

**NSA Nitrate Leaching Results (mean)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Nitrate (mg/l)</th>
<th>Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994/95</td>
<td>99</td>
<td>289</td>
</tr>
<tr>
<td>1995/96</td>
<td>122</td>
<td>289</td>
</tr>
<tr>
<td>1996/97</td>
<td>126</td>
<td>191</td>
</tr>
</tbody>
</table>
Message

- Achieving the “nitrate standard” of 50 mg/l is challenging
- Other parameters may be equally challenging
Cost estimates

- Regulatory Impact Assessment estimates agricultural costs up to £M2900
- Equates to over £16,000 per farm
- This covers nutrients only
Who bears the cost?

- Farmers are price takers
- Farm produce is mostly internationally traded commodities
- Costs cannot be passed on for most farm produce
- Costs therefore impact directly on the profit and loss account
- Many farmers could not sustain costs of this magnitude
Conclusion

• Implications of the Directives for farming could be serious to unsustainable
• Principal issue is inability to pass on costs to the customer
• This may lead to political problems