



# **ENVIRONMENTAL REPORT 2002**

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## **1 INTRODUCTION**

### **(i) Eurotunnel activities**

Eurotunnel is an Anglo-French bi-national group that, manages and operates the Channel Tunnel, under a Concession expiring in December 2086. As operator of the transportation system, Eurotunnel operates its own shuttles: 9 passenger shuttles and 16 truck shuttles. As manager of the infrastructure, Eurotunnel also ensures safe efficient passage for the trains of other operators that use the Tunnel: passenger trains operated by Eurostar and freight trains operated by SNCF and EWS. Every day an average of 340 trains or shuttles use the Channel Tunnel, carrying 45,000 people, 6,400 cars and 3,400 trucks. The Group employs about 3,400 people directly, in addition to those employed on the site by sub-contractors and the Authorities.



### **(ii) Historical perspective**

Respect for the environment was a key element of the UK and French Governments' choice of the Eurotunnel rail tunnel project. The Channel Tunnel runs entirely underground and so does not interfere at all with the marine environment. From the outset, Eurotunnel has been committed to respecting the environment.

During the design and construction phases, Eurotunnel was committed to ensuring that the works had a positive environmental impact. This commitment is evidenced by the landscaping of Fond Pignon in France and Shakespeare Cliff in the UK, which were used as disposal sites for the chalk extracted during excavation.



Fond Pignon



Shakespeare Cliff

Before the Tunnel opened for commercial service, Eurotunnel undertook a number of environmental studies and forged close ties with environmental conservation organisations, with local authorities and other interested parties.

Eurotunnel has formalised its management of environmental issues by setting up an Environmental Management System (EMS) with the aim of continually improving environmental performance and controlling the actual or potential environmental impact of its operations. The priorities of this system are to optimise the management of waste (from Eurotunnel's activities or generated by customers), and of water and to optimise power consumption.

Eurotunnel has done its utmost to integrate the transport system and its related activities into the landscape and to preserve and respect the local environment by limiting any noise nuisance as far as possible.

### **(iii) Key environmental issues**

The environmental credentials of rail transport are not disputed: occupying less space, with greater safety, giving rise to a low level of atmospheric pollution, and being a minor emitter of green house gases. By its very nature, Eurotunnel's core activities do not directly generate greenhouse gases. That said, Eurotunnel has to comply with special environmental regulations that apply to its maintenance activities, particularly rolling stock maintenance and repair and Channel Tunnel cooling. Eurotunnel endeavours to optimise waste management.

Eurotunnel has forged many contacts in the areas around its sites on both sides of the Channel, evidencing its commitment to work together with all interested parties, particularly institutional bodies and local residents.

**(iv) Environmental achievements**

Eurotunnel and the White Cliffs Countryside Project (WCCP) have worked in partnership to manage and develop Samphire Hoe and the Folkestone Escarpment. This joint venture has been awarded a number of prizes:

- Property Awards (Environmental category) sponsored by Property Week.
- Environmental Awards for Kent Business (Site Management and Nature Conservation categories) sponsored by Kent County Council.
- National RICS Award for Countryside & Coastal Regeneration sponsored by the Royal Institute of Chartered Surveyors.
- Site of Special Scientific Interest Award sponsored by English Nature.

Eurotunnel's environmental efforts have been recognised in the UK where it is listed in the FTSE4Good Index, the ethical stock market index.

## **2 EUROTUNNEL'S ENVIRONMENTAL APPROACH**

Eurotunnel's environment organisational structure is clearly defined:

- Eurotunnel's Joint Board, which is responsible for overall environmental policy, monitors environmental issues via the Joint Board Safety, Security and Environment Committee. This committee comprises 5 non-executive directors and keeps under review the impact of Eurotunnel's activities on the environment.
- The Safety, Quality, Health and Environment Directorate ensures senior management are aware of environmental issues, and plans and conducts internal audits and organises management reviews. The head of the directorate reports to the Chief Executive and is responsible for environmental policy implementation and monitoring. He also has direct access to the Chairman of the Joint Board Safety, Security and Environment Committee.
- The Environment and Health Committee (currently 10 members) is responsible for monitoring and implementing the Environmental Management System in the operating divisions, ensuring regulatory compliance, communication with interested parties, reporting on systems performance and implementing a programme of improvements.
- Environment Correspondents are responsible for facilitating implementation of the EMS in the operating divisions. They also convey information between staff and the Committee.

Eurotunnel has an Environmental Management System (EMS) based on the requirements of ISO 14001, which is a recognised standard for the setting up of environmental management systems. The EMS has contributed to the improvements in Eurotunnel's environment organisation and structure and thus given Eurotunnel improved awareness and control of the impacts of its activities.

### **3 ENVIRONMENTAL MANAGEMENT SYSTEM**

Eurotunnel's Environmental Management System (EMS) is a process whose purpose is to develop, implement, review and maintain the Group's environmental policy.

#### **3.1 Planning**

The Environment and Health Committee carries out environmental analysis to identify specific Eurotunnel activities that could have an impact on the environment and to ensure regulatory compliance in the UK and in France. Within this framework, Eurotunnel has focused its attention in particular on the following three areas:

- Raising staff awareness and internal communications
- External relations
- Regulatory compliance

#### **3.2 Staff Awareness**

Everyone working for the company, including outside contractors, has a role to play in environmental matters. As a result, everyone concerned has access to the annual Environment Report. All sub-contractors are given a guide containing the environmental requirements applicable on the site.

Eurotunnel has developed an Environment Intranet website to inform all staff about ongoing initiatives in order to increase awareness of the various environmental issues affecting the Group. The Environment and Health Committee regularly publishes articles on environmental topics in the company's newsletters. An environment module has been included in Eurotunnel's induction training course for all new staff.

#### **3.3 External Relations**

Benchmarking is a way of comparing and learning from experience in our local environment: Eurotunnel is a member of the ISO 14001 Club set up by the Boulogne-sur-Mer Chamber of Commerce and Industry. The Club provides an opportunity for companies to exchange information and is a useful source of feedback.

Eurotunnel has forged good contacts with external bodies such as the Environment Agency which has carried out inspections on the UK Terminal and a French regional authority concerned with industry, research and the environment - the Direction régionale de l'industrie de la recherche et de l'environnement (DRIRE), a subdivision of the Nord-Pas-De-Calais coastal region in France.

As part of a drive to further improve Eurotunnel's relations with its neighbouring communities, it has decided to take part in a number of initiatives, the main ones being:

- Installation of equipment to measure wave crest lines at Samphire Hoe (European research project), as well as improving accesses and establishing new footpaths.
- Active participation in monitoring noise levels generated by Eurotunnel activities affecting residents (self-monitoring, and monitoring by the Permanent Secretariat for Industrial Pollution Prevention (SPPPI), etc.)
- In the Folkestone Escarpment and Holywell areas, introduction of a management plan to improve public access and promote the site's ecological value.
- Adoption of environmentally-friendly agricultural methods in the Farthingloe area.

#### **3.4 Regulatory Compliance**

Eurotunnel has a system in place to monitor compliance with existing statutory requirements and to anticipate the impact of future requirements.

### **3.5 Current Registration**

In France, a number of facilities on the French Terminal and Sangatte site are registered under the 1976 Environment Protection Registered Facilities Act (*Law no. 76-663 of 19 July 1976* relating to facilities registered for the protection of the environment - ICPE). These regulations do not apply to the UK Terminal.

The facilities registered are:

- Tunnel cooling plant
- Repair and maintenance workshops for vehicles and power-driven equipment
- Compressed air installations
- Storage and use of CFCs
- Liquefied combustible gas stores
- Battery charging workshops

In addition, Eurotunnel has put in place an organisation to identify and manage any modifications to existing registered facilities or the creation of new activities requiring registration under this legislation.

Eurotunnel has applied for an amendment to its Prefect's Order (French local administrative authority's order) to include the modifications that it proposes to make to its environment protection registered facilities. These modifications involve extending the existing activities, creating new activities, ceasing some activities and incorporating changes into the Registered Facilities Nomenclature. Eurotunnel is using the proposed modifications as an opportunity to put together a file consolidating all the activities affected by the environment protection registered facilities regulations.

As part of a national campaign of verification, the DRIRE inspected Eurotunnel's cooling facilities on the Sangatte site on the 24 May 2002. The inspection report concluded that these facilities were in accordance with the regulatory requirements.

### **3.6 Environmental Indicators**

Eurotunnel has already put in place a number of environmental indicators, amongst which are those relating to wastewater, surface water, halon discharges, energy consumption and waste production. As part of its process of continuous improvement, Eurotunnel is in the process of optimising these indicators and continues in its development of additional appropriate indicators for its activities.

## 4 MONITORING AND PREVENTING WATER POLLUTION

### 4.1 Waste Water



The urban biological purification plant built by Eurotunnel in France, has a design capacity equivalent to a population of 13,500 people. This water treatment plant treats the wastewater from Eurotunnel and from Coquelles.

An agreement was signed on 9 January 1996 to treat Coquelles commune wastewater, particularly wastewater from the Cité Europe urban land association, in the Channel Tunnel Fixed Link's French Terminal treatment plant.

During 2002, waste water discharge quality was in compliance with the maximum and minimum criteria of the law.

### 4.2 Surface Water

Eurotunnel employed a laboratory to conduct a full analysis of surface water at the point where discharges are made and the results were satisfactory. In 2003, Eurotunnel will be in a position to carry out a monthly check. Stormwater and wastewater drainage systems have been mapped for the entire site. On the UK Terminal, the Environment Agency has been approached to formalise the administrative status of surface water discharges.

On the French Terminal, Eurotunnel actively contributes to the preservation of the historic system of Wateringues, which are local drainage systems for protecting the plain of Calais / Dunkerque / Saint Omer, which is lower than high water sea level.

This network of Wateringues (from "water" and "rings"), created in 1169 by Philippe of Alsace and perfected over the centuries, was crucial to flood prevention: making dams to prevent the entry of sea water at high tide, draining the land by channels (watergangs), allowing water to flow to the sea and retaining fresh water in dry periods.



Eurotunnel took this historical local feature into account in the design of the French Terminal: watergangs (drainage ditches) and streams were fitted out after a hydraulic enquiry. The hydraulic systems put in place by Eurotunnel maintain the flows of water on and off the Terminal. The self regulating water quality systems were improved in 2002 on two of the four storage reservoirs designed to allow the control of the discharges and the quality of surface water released to the sea.

Eurotunnel continuously monitors pH, temperature, suspended solids and rainfall on two retention lagoons in order to ensure water quality standards for the Sangatte watergang.



Eurotunnel actively contributes to the study of the rich and varied flora and fauna specific to the Wateringues area, which abounds as a result of the combined effects of man and of nature (see "Ecological Balance" below).

## **5 PREVENTING ATMOSPHERIC POLLUTION**

### **5.1 Electric Vehicle Fleet**

The electric vehicle fleet has grown to comprise thirty or so vehicles. These vehicles are mainly used in the service tunnel to minimise exhaust emissions.



### **5.2 Noise pollution**

Measures to protect residents from noise nuisance were taken during construction and have continued since opening. These include the covered loop of the UK terminal, soundproofing dwellings on the UK side and an embankment around the Sangatte site.

Noise surveys are carried out for every new project or future modification to minimise noise nuisance (e.g. truck shuttle capacity expansion). Eurotunnel has introduced a programme of measuring noise levels covering both Terminals to check that levels are within the statutory limits and monitor any changes.



In France, the Côte d'Opale Flandre SPPPI (Permanent Secretariat for Industrial Pollution Prevention) commissioned a study to assess the noise nuisance to which the populations of neighbouring Fréthun, Coquelles and Peuplingues are exposed. The study concerned Eurotunnel, DDE (French regional government department which manages large urban development, road and rail projects), SNCF (French national railways) and EDF (French national electricity company).

The SPPPI report stated that Eurotunnel's installations were within the regulations for permitted noise levels at the property boundary (November 1999 Statutory Order applicable to railway infrastructures). However, Eurotunnel continues to explore ways of reducing noise levels.

### **5.3 Reducing Greenhouse Gas Emissions**

Eurotunnel uses electricity for traction power. It only uses fossil fuels, principal cause of greenhouse gases, in a minor way. Eurotunnel is continuing its programme of monitoring and reducing greenhouse gas emissions (halons and hydrochlorofluorocarbons).

Freon (R22) is used in the Tunnel cooling plant, rolling stock air conditioning units and air conditioning in buildings. Eurotunnel's refrigeration experts ensure compliance with the European Union Regulation of 28 September 2000 and the French Decree of 7 December 1992, governing the use of fire extinguishing gases and refrigerants, particularly in the cooling plants in France and the UK, in buildings and in building and rolling stock air conditioning units. Eurotunnel is already using substitute products, such as HFCs (R134a and R147c), for its new equipment.



Halon is used as a fire extinguisher on the passenger rolling stock fleet and in certain technical equipment rooms. Eurotunnel has special dispensation, due to its specific activities, under a European Union regulation of 29 June 2000 to continue to use halon. Since March 2000, Eurotunnel has been systematically monitoring unintended releases of Halon, identifying the causes and taking action to reduce such discharges. As a result the number of discharges reduced significantly in 2002 compared to 2001.

## **6 ENERGY MANAGEMENT**

The average energy consumption for the Eurotunnel system is about 65MW (this would represent a town of 40,000 inhabitants, roughly half the size of Calais).

### **6.1 Energy Efficiency**

#### **6.1.1 Existing Installations**

Eurotunnel analyses electricity consumption to find ways to improve its utilisation. Efforts have been focussed on the following areas:



- Workshops (heating/lighting)
- Tunnel and terminal lighting
- Cooling and pumping regulation
- Carrying out research on new lamps and equipment
- Better control of lighting
- Installing meters.

Good progress has been made in the last two years in reducing consumption in a number of these areas.

#### **6.1.2 New Projects**

When new building projects require heating and lighting, Eurotunnel ensures that operating criteria are defined so as to optimise the choice and performance of the heating and lighting installations. Performance obligations are included in supply and maintenance contracts to ensure that the temperature and the consumption curve are maintained. Eurotunnel is in the process of installing a centralised management system for heating with a personnel detector system in its workshops.

#### **6.1.3 Energy Saving**

Sensors with new cells have been installed to optimise the switching on and off of lighting on the French Terminal.

Eurotunnel is in the process of installing twenty meters on the main 21,000 volt feeders to monitor energy flows.

The progressive upgrade of the locomotive fleet to 7 MW will improve technical performance, bringing improved energy consumption efficiency of the electrical traction.

### **6.2 Developing Renewable Sources of Energy**

Eurotunnel is actively contributing to the development of renewable energy sources. An initial project involving a 6 x 1.5 megawatt wind farm on the French Terminal is being studied. A risk analysis was produced and submitted to the Safety Authority and the impact study is under way. The six wind turbines should be up and running by 2004 subject to the necessary planning consents. The site's size and layout make it a particularly good location for wind turbines.



Wind farm project France (artist's impression)

## 7 WASTE SORTING

Eurotunnel has introduced the selective collection of special waste and non-hazardous waste on the two Terminals.

Selective collection has necessitated an overhauling of all equipment and facilities, the modification of waste flows, and the creation of a waste centre on the French Terminal. The existing water collection system in the waste storage area on the UK Terminal has been modified. The Eurotunnel workforce strongly contributes to the protection of the environment in their everyday actions in sorting waste and preventing pollution.

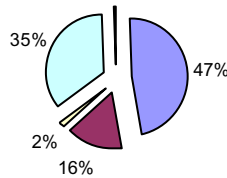


Area for temporary waste storage, France

On the French Terminal, all waste is collected and stored before its removal by specialist companies. Specialist industrial waste (paints, solvents, bulbs and batteries) are stored in a warehouse before their disposal to approved plants. Industrial waste notes certify to their destruction. The 2002 results were encouraging demonstrating a tangible reduction in the quantity of waste disposed of to landfill, reduced by nearly half. A waste register is also kept up to date, in accordance with the regulatory requirements on each Terminal.

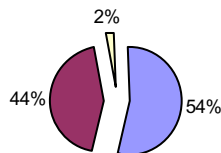
Eurotunnel now has an effective system for managing waste in both the UK and France. Further efforts are underway to optimise waste management, reduce waste flows and improve recycling.

### Waste disposal. UK



■ Landfill ■ Skips ■ Special ■ Recycled ■ Clinical

### Waste disposal. France



■ Landfill ■ Recycled ■ Incinerated

## 8 ECOLOGICAL BALANCE

For several years now Eurotunnel has been monitoring the wildlife in and around its two Terminals to identify any changes in the ecological balance of the natural environments.

### 8.1 Monitoring Wildlife on the French Terminal

The Groupe Ornithologique et Naturaliste du Nord-Pas-De-Calais (Nord-Pas-de-Calais Ornithological and Nature Group) on behalf of Eurotunnel is responsible for drawing up an inventory of nesting and migratory birds and overwinterers and commenting on aquatic macroinvertebrates in France.



The Group, known as GON, is also responsible for providing biological indices on water quality in natural environments. GON helps Eurotunnel to manage and care for these living environments.



*Penduline tit*: Pont du Jour lake (north end of French Terminal) nesting species rare in the region



*Bearded tit*: Pont du Jour lake nesting species rare in Nord-Pas-de-Calais

### 8.2 Managing the Folkestone Escarpment in the UK

Eurotunnel began active management of its land (approx 48 hectares) on the Folkestone Escarpment near the UK Terminal in 1988. The principal aim was to improve the wildlife value and public enjoyment of the site.

The Escarpment is one of the largest remaining areas of ancient chalk grassland in Kent and forms part of the Kent Downs Area of Outstanding Natural Beauty (AONB). It is also designated a Site of Special Scientific Interest (SSSI) and includes many rare species of flora and fauna, among them national rarities such as the late spider orchid, woolly thistle and the bedstraw broomrape.

When Eurotunnel acquired the land it had not been under active management for approximately 30 years. Areas were becoming invaded by scrub, and coarse tor grass (*Brachypodium Pinnatum*) was rampant, choking out the more delicate species of flora. Fencing had become dilapidated and fly-tipping and abandoned vehicles were becoming commonplace. There were a number of public footpaths that had become overgrown or unusable.

Eurotunnel's primary objective in managing the land was to restore and improve the chalk downland habitat, and to maximise the diversity of habitats within the site without diminishing unique components. This was achieved mainly by the introduction of grazing cattle that control the coarse grasses, allowing the more delicate chalk grassland species to thrive. This in turn led to an increase in the number of invertebrate species including the rare Adonis Blue butterfly (see photo) which had been on the edge of extinction in this area.



Ongoing ecological monitoring confirms a constantly improving trend in the species diversity of the flora and fauna.

At the same time care has been taken to preserve and improve use with a number of new footpaths being established to create circular walks.

Throughout all the improvements, care has been taken to provide information through the publication of free bilingual leaflets and site interpretation panels.

The local community is encouraged to become involved. The “on the ground” management is undertaken by the White Cliffs Countryside Project (WCCP), which enlists the help of volunteer wardens to keep the area in good order. WCCP also conducts guided walks and organises conservation activities and green gang events for children.

### **8.3 Samphire Hoe**

Samphire Hoe is basically a new piece of England – an additional 30 hectares of land situated at the foot of the cliffs near Dover. It was created from approximately 5 million cubic metres of chalk marl excavated during the construction of the Channel Tunnel.

The new land was used initially as a construction site, but it had been agreed at an early stage that once completed, the greater part of the area would be made available to the public for recreation activities such as walking, bird watching and sea angling.



The site has been open to the public since July 1997 since when it has been extremely popular with those people wishing to enjoy the peace and quiet of a unique country park setting.



Great care has been taken to strike the correct balance between wildlife conservation and visitor management. The day-to-day management is carried out by the White Cliffs Countryside Project (WCCP); a joint co-operative venture involving Eurotunnel, local authorities, environmental bodies and local businesses. Management of the site was recognised in its opening year with two Wildlife Conservation Awards.

#### **8.3.1 Landscape**

- Design criteria included diversity of wildlife habitat using natural landforms to blend with surrounding areas, use of local plants that would visually match the cliff vegetation and choosing path surfaces that would not be intrusive.
- Waymarking designed to be effective, but not intrusive in the open landscape.
- Signposts, picnic tables, interpretation panels made in “driftwood” style using reclaimed railway sleepers.

### 8.3.2 Wildlife

- Habitat creation with seeds from 30 locally growing plant species originally sown directly on the chalk marl.
- Through natural colonisation 180 plant species now exist. Some limited grazing has begun, aimed at improving the ecological diversity.
- 130 bird species recorded including 2 Red Data Book species.
- 26 butterfly species recorded.
- 169 species of moth recorded including 5 Biodiversity Action Plan species.
- 13 species of dragonflies and damselflies.
- Ecological monitoring is ongoing.

### 8.3.3 Visitors

- Over 120,000 members of public visit each year.
- Guided walks are regularly provided.
- Open weekend held every year. Special activities arranged, particularly for children.
- Network of waymarked footpaths across site.
- Sea angling from sea wall. Eurotunnel open championships held annually.
- Special attention given to disabled access (ramps, good quality surfaces to footpaths etc.).



### 8.3.4 Site Management

- WCCP full time Project Officer assisted by team of part-time volunteer rangers.
- Over 1,200 volunteers involved. Tasks include litter picking, site wardening and general assistance to the public.

### 8.3.5 Environmental Education

- Full colour interpretation panels produced explaining history and wildlife of site.
- Free bilingual colour leaflets.
- Regular illustrated talks given to schools and local groups.

## 8.4 Overall Assessment of the Ecological Balance on Eurotunnel's site

The monitoring that has been carried out for several years now has demonstrated the site's great heritage value. It has also demonstrated that the ecological balance improved during the increase in Eurotunnel activities and has since remained stable.

During 2002, however, 50 hectares of shrubland on the French Terminal had to be cleared for security reasons to prevent asylum-seekers disrupting Eurotunnel's commercial services. This deforestation is bound to have an adverse impact on the wildlife as future monitoring campaigns will doubtless show.

## **9 CONCLUSION**

2002 saw Eurotunnel enter a more active phase in environment management through the work of its Environment Committee and approval of a formal environment operational structure within the organisation. The environmental management system became fully operational, ensuring in particular that Eurotunnel has a good system in place to ensure regulatory compliance.

Eurotunnel in a voluntary process, has gradually put in place an environmental management system and a reference framework that will allow the measurement of its efforts, so as to be in a position to be able to apply for ISO14001 certification for its sites.

Eurotunnel has improved the environmentally friendliness of a number of parameters such as water discharges, the reduction of greenhouse gases and waste treatment. Eurotunnel is convinced that this position can be further improved and has defined new objectives for the years to come as part of its environmental protection action plan.