



The National Field  
Research Centre for  
Environmental Conservation  
About innovative Environment Research

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Sultanate of Oman  
Diwan of Royal Court

Issue 18

# The Wadies are Yelling

Is There Anyone to Help



## Environmental Definitions from the Omani Law

### Environment Protection:

Conservation of the components of the environment and its properties, natural balance and ecosystems and preventing its deterioration or pollution through reduction and control of such pollution and conservation of natural resources, rationalization of their use and protection of living organisms particularly the rare and endangered ones.

## Environmental concepts

A hazardous substance is a substance with characteristics that are hazardous to human health and the environment.

One of the properties that makes a substance dangerous is the fact that such substance is toxic (causes death or severe illness when swallowed, inhaled or contacted) or flammable or corrosive substance (destroys living tissue when in contact) or explosive

### Hazardous materials and wastes:

(causing an explosion at friction or heat) or fast reaction (very active for chemical reaction) or carcinogenic (causes cancer at ingestion, inhalation or contact) or mutagenic (causes hereditary or infectious abnormalities that cause the transmission of pathogens). Hazardous waste is the residue of hazardous substances that retain their hazardous properties. Many countries have developed lists of hazardous substances, putting in place principles and criteria for the safe circulation of these materials.



### point of view

## The Environmental Bill

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The economic challenges facing the world today, embodied in the continuous technological revolution and the increase in the number of industrial enterprises have made the world's countries run behind the material gains, oblivious to the negative effects of this technological revolution on ecosystems, natural resources and community health. The result was an increase in the bill paid by humanity in the form of attempts to reform ecosystems, natural resources and human health.

There is no doubt that such attempt of reform need high financial cost forced upon countries. This is the environmental bill that we are talking about and which countries are bearing to address the implications of these challenges and environmental problems that extend to the health, environmental, social and economic aspects. Nevertheless, those problems and challenges are made by States themselves.

Many countries in the world did not pay attention to the relevance of economic development and environmental development. Such countries developed their economic and development plans without a glance to the ecosystems. Therefore, they are close to destroy their natural resources.

The destruction of forests and vegetation, the extinction of many elements of wildlife and marine life, the spread of chronic diseases and epidemics, the increase in pollution, the toxic gases emitted from large oil factories, the widening of the ozone hole and the phenomenon of global warming, all these have led to serious climate changes. As well, such climatic environmental phenomena and other problems have also led to an increase in the cost of the environmental bill paid by countries to reduce these negative effects.

The cost of the environmental bill will inevitably increase significantly if countries do not place environmental and natural resources as high priorities within their development and economic plans. The compatibility between the economy and the environment has become urgent and necessary in light of the current situation of the countries of the world.

Instead of paying large sums of money in addressing the negative effects of the damage done to their ecosystems and natural resources, it is better to use such financial resources in implementation of new development projects and the sustainability of the existing development projects

## The National Field Research Centre Participates in the Celebration of "Earth Hour"

The National Field Research Centre for Environmental Conservation participated in the celebration of the "Earth Hour". The lights and electronic devices were closed at 8:30 am to 9:30 pm on March 25. The event also included awareness efforts for different social groups, stressing the importance of this event and the importance of participating in it. These efforts were to highlight the center conviction in the necessity of participation in maintaining the ecological balance, the establishment of the culture of



transformed into an annual world event, set to take place on the last Saturday of every March, a day close to spring equinox, or the time of equal length for night and day. This date is fixed to grantee the participations of most of the world's cities in close time of night in such cities, as Earth's Hour moves across time zones respectively. Earth's Hour achieved tremendous success last year 2016, with more than 162 countries and 7,000 cities participating. The most famous landmarks in the world turned off their lights during this hour, such as the Burj Khalifa in Dubai and the Eiffel Tower in Paris.

environment conservation, reducing the impact of climate change, awareness of the phenomenon of global warming and the importance of protecting the environment and energy consumption. The Earth Hour which began by the World Wide Fund for Nature (WWF), is the largest grassroots movement to seeking protection of environment against climate change. Since its launch in 2007, the Earth Hour has become a global phenomenon with the participation of nearly 1.8 billion people the world. At the beginning of the project of the Earth Hour project, as it is now, the call to turn off the lights was for everyone, and the Earth Hour was quickly

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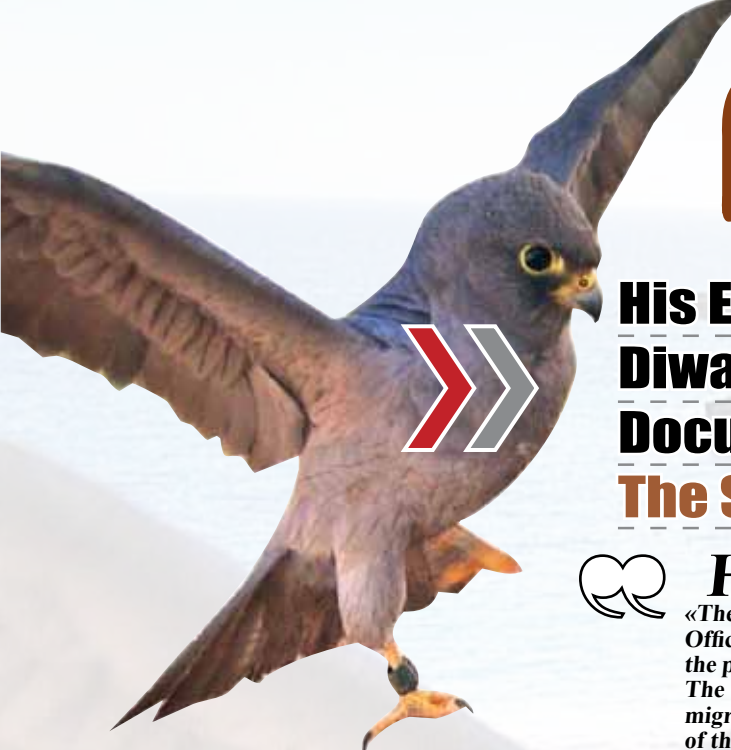
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## His Excellency the Minister of the Diwan of Royal Court Inaugurates the Documentary Film: «The Immigrant ... The Sooty Falcon in Oman»



His Excellency Alsayid Khalid bin Hilal bin Saud Al Busaidi, Minister of the Diwan of Royal Court, inaugurated the documentary film «The Immigrant ... The Sooty Falcon in Oman» which is produced by the Office of Conservation of the Environment (OCE) at Al Wahat Club, in the presence of a number of dignitaries, researchers and environmentalists. The new film documents the life story of one of the most prominent migratory falcons in the Sultanate, the Sooty Falcon. The film tells the story of the migration of this bird which begins from Africa to the archipelago of the Omani islands «Dimaniyat» and «Al Fahal» island from May to early November, to reproduces on the coastline of the Sea of Oman.



as one of its stations in its annual migration, which is considered a safety station for it for spending a sensitive period of its life, the period of mating and reproduction. The documentary documents the work of the Office of Conservation of the Environment (OCE), such as surveys and field work, to create a database through fixing bracelets and numbering the bird, monitoring its numbers, follow-up its eggs and nests, collect blood samples and feathers, taking measurements and weights, and determining males and females through genetic laboratory analysis of blood samples. The film also documents the stage of putting tracking devices that were installed on a number of birds to track their migrations and trace them via satellite. As well, the film documents the database on that track and analysis all the data related to it. 476 falcon birds were fixed with bracelets so as to be observed and tracked. The film features scenes of the tourist side of the Sultanate, showing some of the routes that the falcon takes during its migration, as it passes through some tourist stations in the Sultanate such as Nizwa, the Empty Quarter, and other famous tourist destinations in the Republic of Ethiopia such as Tana Lake. Down to Madagascar, the Sooty Falcon flies about 7,000 kilometers on each trip.

The film also shows the life cycle of this unique bird from the stage of breeding to the formation of the nest, laying of eggs, care for the young ones to grow up and be able to fly and be ready for the migration route across the desert and the Red Sea to the Republic of Madagascar at the coast of Africa.

The (Sooty Falcon - Falco Concolor) reproduce on the islands and coastal slopes bordering the Oman Sea. Studies conducted in late 1970 indicate that nearly 10 percent of the world's population of this bird has grown in the Sultanate. Recent studies indicate that the population of these birds in the world has decreased by 15% since then. The Office of Conservation of the Environment (OCE) at the Diwan of Royal Court has been working to

■ The film presents the life cycle of this unique bird from the stage of breeding to the preparation for migration route

■ The Sooty Falcon reproduces on islands and coastal cliffs overlooking the Sea of Oman

■ Nearly 10% of these birds worldwide have reproduced in the Sultanate

implement the research project for the conservation of migrant birds since 2007, in cooperation with the specialized local and international organizations.

The film shows some of the wildlife features seen by the falcon during its journey and migration

from the Sultanate to the coast of Africa and the risks it faces until it reaches Madagascar to spend the winter. The film tells, in an interesting manner, the story of the life of the Sooty Falcon it lives there. At the end of the film, Sooty Falcon returns to the Sultanate



Recently, spread the phenomenon of dumping of waste in the middle and the edges of valleys. A phenomenon which foreshadows environmental disasters, and affects one of the most important elements of the Omani environment, the biodiversity. Also, recently many wrong practices emerged. Though such practices are by some of the weak soul persons, but they pose a serious threat that has to be watched intensively, to prevent go on and destroy our beautiful valleys, and make us lose one of the most important features of the Omani environment.



# The Wadies are Yelling

## Is There Anyone to Help




**Our Wadies are turned into a dumping ground for waste or drains for the new facilities waste.**

The Al-Washaq (The lynx) cameras identified samples of dumping the construction waste, discharging liquid waste of new facilities and sand in the wadies, sifting of sand and the death of many trees due to these and other actions that hurt our wadies.

### Wadies are Importance for the balance of Environment

This environmental breach and this assault on the components of the ecological nature of the wadies and adjacent trees, which is one of the wealth of the Sultanate, lead to the imbalance of the environment.

This phenomena also lead to negative results such as the killing of living organisms and the closing of the wadies streams. This in its turn causes large floods that affect the villages around the wadies and the destruct the vegetation. As well, it leads to high percentage of soil salinity which is a direct threat to humans and their health. Not forgetting the negative effect of depriving agricultural land from a renewed clay resource that restores the balance to agricultural land.

Wadies are the only artery that feeds and distributes water through their streams. They are a major source of stored groundwater, that

water which is used for irrigation and human use through Aflaj and wells. Therefore, attacking wadies is not merely an environmental disaster but also a crime that threatens biodiversity, affects human health, and increase desertification.

### Clear Laws and Deterrent Penalties

Article 20 of the Environmental Protection and Pollution Control Law, issued by the Royal Decree No. 114 / 2001, prohibits the discharge of hazardous materials, hazardous wastes and other environmental pollutants into the wadies streams or waterways, groundwater recharge areas, rainwater and floods drainage networks or Aflaj and their streams. It is also prohibited to use or discharge untreated wastewater in the places indicated.

As well, drainage may not be used or discharged except after obtaining a permit from the Ministry of Environment and Climate Affairs in accordance with the procedures and conditions issued by a decision of the Minister.

In Article 21 of the same law, authorizes the Ministry of Environment and Climate Affairs to take all necessary actions, in

■ ■  
**Assault on wadies is not just an environmental disaster, but also a crime that threatens biodiversity and affects human health**

■ ■  
**Prevention of any activity that harms the quantity or quality of vegetation or lead to desertification or deformation of the natural environment in any region. Punishment by imprisonment and fines for those who violate.**





■ ■  
**Assault on wadies is a serious threat to the nature and to natural system of the wadies environment.**



■ ■  
**The wadies are the only artery that feeds and distributes water through their streams. They are that major source for storing underground water.**

■ ■  
**The Omani legislation banned the disposal of hazardous substances and other environmental pollutants in the wadies or streams and imposed deterrent penalties on those who violate the legislation.**

coordination with the competent authorities, for protecting the soil and combating desertification according to the natural characteristics of the soil and according to the conditions of the area concerned and It is not permissible:

A. To cut, uproot or damage any tree, shrub or grass from public forests, unless authorized by the Ministry.

B. To exercise any activity that affects the quantity or quality of vegetation in any region, that would lead to desertification or deformation of the natural environment.

C. To remove stones, uprooting trees, shrubs and grasses, or transfer soil and sand from streams, beaches, wadies, ponds, marshes, public water drains and banks without permission from the Ministry, excluding maintenance and collection of samples carried out in coordination with the Ministry.

The penalties are deterrent in Article 34, which states that, without prejudice to any more severe penalty provided for in any other law, any person who contravenes the provisions of Article 20 of this law or any owner who fails to notify the Ministry about occurrence of

an environmental disaster or an illegal discharge of source or area belong to him, shall be punished by imprisonment for a period not less than one month and not more than one year and a fine not less than OMR 500 (Omani Riyals five hundred) and not more than OMR 50,000 (Omani Riyals fifty thousand) or one of these penalties.

Article (38) stipulates that «Without prejudice to any more severe penalty stipulated in any other law, any person who contravenes the provisions of Article 21 of this Law shall be punished by imprisonment for not less than 10 days and not exceeding three months and a fine not less than OMR 500 (Omani Riyals five hundred) and not more than OMR 5000 (Omani Riyals five thousand) or one of these penalties, and doubled the penalty in case of repeating the same violation.

In spite of all this, still some morally weak persons insist to break the law and damage the environment of wadies by dumping the building waste, which destroys the plant, affects human health, and destroys one of the most important environmental elements in the Sultanate, the wadies. is there any response ?!!!





In a Special Dialogue with Al-Washaq,  
The Vice Chancellor of Sultan Qaboos University:  
“There is Obvious Omani Interest  
in Protecting Ecosystems and  
their Vital Components”



**S**ultan Qaboos University is one of the pillars of Environmental work in the Sultanate, because of its research capacity in the field of environment. It has established a centre specialized in environmental research. It also allocates a large part of its academic activities to help students conduct various environmental researches, believing that it is its role as one of the largest academic institutions of the society. On the environmental orientations of the University and its relations with environmental bodies in the Sultanate, we had this dialogue with HE Dr. Ali bin Masoud Al-Baimani, Vice Chancellor of Sultan Qaboos University:



◆ There is a tendency for cooperation between the Centre for Environmental Studies and Research at the University the National Field Research Centre for Environmental Conservation to cooperate in some research projects in the future.

**H**is Majesty Sultan Qaboos bin Said is paying great attention to the environment. Such attention has contributed in raising awareness on this respect on the national, regional and international levels. How do you see the current environmental situation in the Sultanate in the light of this high interest?

There is a rich and unique biodiversity in Oman. That is why the Government, under the leadership of His Majesty Sultan Qaboos bin Said, has devoted great attention to the protection of ecosystems and their vital components. In addition, environmental institutions in Oman paid special attention to protect the natural and cultural characteristics of Omani society. Therefore, the legislations and laws concerned with protecting of environment in the Sultanate and regulating the relationship between environment and society have been issued. The Sultanate has made great strides in the field of environmental policies, plans and programs in order to protect the environment and reduce the sources of pollution.

Sultan Qaboos University plays a major role in providing environmental research in the Sultanate. This is reflected in the establishment of a centre specialized in environmental research. What is the role assigned to this centre? What are its mission, objectives and vision?

The Centre for Environmental Studies and Research at Sultan Qaboos University aims to conduct researches and studies on environment. It aims to collect environmental information and establish a database related to environmental studies and researches, in addition to exchanging environmental information with all sectors concerned with the environment. The Centre also seeks to provide support to the community, governmental and private organizations and other environmental institutions, to help them develop specific and effective strategies to protect the environment from various sources of pollution, as well as to work on the concept of sustainable management of natural resources.

What are the most important environmental researches and studies carried out by the University, represented by the Centre for Environmental Research?

Since its establishment, the Centre for Environmental Research and Studies has conducted a series of environmental studies and researches, either independently or in cooperation with various governmental or private units. The Centre also contributed to the organization and coordination of a number of environmental studies and researches carried out by some colleges and units at Sultan Qaboos University. One of the most important research achievements of the Centre was a recent research study on the management of coastal ecosystems in Oman. It is a case study for Al Batinah Region as well as the completion of the book titled: «Birds of Oman» which was achieved in cooperation with a group of international experts. In addition, the Centre is currently working on developing a National Strategy for Adaptation and Mitigation of Climate Change, in cooperation with the Ministry of Environment and Climate Affairs.



## The National Field Research Centre Participates in (Until They Change What within Themselves) Third Cultural Week

By: Omer Al Hasani:

The National Field Research Centre for Environmental Conservation participated in the Third Cultural Week held at the village of Almisfa in the Wilayat of Dama and al-Tayyeen under the slogan: «Until They Change What within Themselves.» The Centre participated in the accompanying exhibition through the Omani Environment Corner and presented some pamphlets, brochures, magazines and phopos related to the Omani environment for the purpose

of achieving community partnership and to make the community the basis for environmental conservation. The environmental activities of the cultural week were varied and included a mountain trip to Wadi Sareen, one of the beautiful tourist valleys in the village, passing through Ain Al-Mur, which is a permanent sulphate spring that flows through the course of the year and located about 3 kilometers away from the village. This spring feeds Falj Al-Mur with water. The week also included a campaign for cleaning public and tourist areas and putting up guiding signs to preserve nature



### Environmental Vocabulary

## The icon of Al Jebel Al Akhdhar

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Standing with its majestic splendor, Spenetrating with its wooden roots the hard rocks, striking its green structure in the depths of history. It is a record of weather flacuations and climate changes. Its wooden stem that covered with peel still grappling with the challenges of time and space. When it looks at first glance, it looks like a tree of another world, in its evergreen cone shape, its length of ten meters, majestic in length, great in shape, and the splendor of the shadows, exquisite beauty. It is characterized by it's good smell among greatest trees, and gain it a uniqueness among the same in other countries.

The perennial Juniper tree that belonging to the conifer, harmonized with the presence of the human around it. It is enriched him with its generosity, firewood fuel for food, pillars for his residence, its fruits and leaves, food and medicine for him and his livestock, its shadow for his rest in return. Both were in natural coexistence and balance, no harm, no damage. It was not in this simple man's thoughts to extend to this inherited element any hand does not know the value of nature, and does not realize what has this perennial tree of great secrets, causing to it carelessly a serious damage.

This giant tree has taken the foothills of the Western Al-Hajar Mountains as a safe haven, especially in the Al Jebel Al Akhdhar. It has a fertile environment and a climate that provides a cool atmosphere. This is what recent studies have shown. The Juniper trees at heights of more than 2,200 m are very healthy compared to those in lower elevations, where the older trees decreasing and the younger are disappearing. This is the largest evidence of climate change over the past decades. It is the ruthless weather, and the hand of humorous people in the name of love and benefit, this tree paid its irreplaceable tax. This could be mitigated in case of a careful planning and a more precise and faithful implementation.

Its slow growth and decline in some places, focus our attention to accelerate the recovery from the clutches of natural and human threats. There are many mechanisms that support the preservation of this important environmental element, which carries a deep history and a huge scientific record, with its uniqueness and exclusive positioning in a location that has highest geographic, scientific, social, economic and tourist attractions. It is an eternal living symbol of those locations, which draws its existence over time, bears witness to every rock and stone, it is really the icon of the Al Jebel Al Akhdhar.

### HE Dr. Al-Bimani:

◆ **The Centre for Environmental Studies and Research at the University aims to conduct environmental researches and studies to establish a database and exchange information with all sectors concerned with the environment.**

◆ **The University has carried out a series of studies and researches related to the environment, either independently or in cooperation with various governmental or private units.**

**The National Field Research Centre for Environmental Conservation undertakes great efforts in environmental field research, what are the aspects of cooperation with your Centre now and in the future? What are the areas in which the two institutions can exchange experiences?**

The Centre is working, in cooperation with other environmental centres and institutions, to promote awareness on environmental issues among the public by organizing a range of events and activities such as lectures, field visits and participation in workshops and exhibitions related to environmental issues. There is a tendency for cooperation between the Centre for Environmental Studies and Research at the University and the National Field Research Centre for Environmental Conservation for conducting some research projects in the future. There are also reciprocal visits in the framework of common concerns between researchers and staff on both sides.

**The National Centre is working on developing Omani competencies in the field of scientific research. How does the university benefit from these efforts?**

There is close cooperation between the Centre for Environmental Studies and Research at the University and other governmental institutions concerned with environmental issues through training workshops for some of the staff of these institutions or cooperation in the organization of conferences and events related to environmental issues. Cooperation with the National Field Research Centre for Environmental Conservation can be possible through organizing of some seminars, training courses and joint events. It is possible to link the staff of the two centres through future research projects.

**The students projects in scientific colleges in the fields of environment represent an important resource for the efforts exerted and open wide horizons for our children to explore the Omani environment. What are the most important projects of your students in the field of environmental research?**

The Centre seeks to attract students who are studying or interested in environmental sciences through research cooperation with postgraduate students to benefit and invest their research results in the service of the Centre's research process. The Centre also trains university students or students of other educational institutions - governmental or private - and involves them in the research process whenever the opportunity allows.

**How to achieve benefit from the researches done by the university in the environmental field? Will the required support be provided to transfer such researches into value-added projects?**

The Centre for Environmental Studies and Research publishes environmental research information locally and the regionally for the benefit of environmental institutions and individuals and relevant research and scientific institutions. The Centre also serves as a link to strengthen research cooperation and interaction between the university and governmental and private institutions concerned with the environment. It also plays a leading role in organizing workshops, forums and conferences on environmental issues and contributes to the development of environmental protection strategies and plans, to ensuring benefiting from the results of studies and research related to the environment or converting them into projects that add value to the environmental work in the Sultanate.





## «Bee'ah» to manage waste in Sohar

The Omani Holding Company (Bee'ah), in cooperation and coordination with Sohar Municipality, represented by the Department of Health Affairs earlier this month, started the process of transferring waste management in Sohar State. The Omani company contracted with Imad Al Batinah Company for the management. In order to ensure that the best services are provided in accordance with the vision of the company, the waste management service includes the provision of containers of various sizes and high quality specifications, as well as the sterilization and periodic maintenance of containers and the collection and transfer of waste to the company's landfill. The company will be established with high engineering specifications. Imdaad will carry out the collection, transportation and waste disposal operations in the state and transfer them to the engineering landfill of the company which serves the governorates of North Batinah Governorate.



## 1.6 Billion Years Old Fossils May Change the History of Plants

1.6 billion years old fossils discovered in India and look like red algae, might be the oldest known plants. This discovery could force scientists to re-evaluate the date of the first appearance of the main strains in the tree of life on Earth. Researchers described these microcellular fossils as being two types of red algae, one in the form of filaments and the other in a bulbous form that lived in a shallow marine environment, as well as mats of bacteria. So far, the oldest known plants, are 1.2 billion years old that are the red algae fossils from the Arctic in Canada



# Invisible plastic particles from textiles and tires are a major source of ocean pollution



Synthetic clothing and car tires, contribute up to 30% of the polluted «plastic soup» of the ocean



**T**iny plastic particles washed off products such as synthetic clothes and car tyres could contribute up to 30% of the 'plastic soup' polluting the world's oceans and – in many developed countries – are a bigger source of marine plastic pollution than plastic waste, according to a new IUCN report.

The results of this report have important implications for the global strategy to address the environmental pollution of the ocean

The report looked at primary microplastics – plastics that enter the oceans in the form of small particles, as opposed to larger plastic waste that degrades in the water – released from household, industrial products, car tyres, synthetic textiles, marine coatings, road markings, personal care products, plastic pellets and city dust.

These findings indicate that we must look far beyond waste management if we are to address ocean pollution in its entirety. IUCN therefore calls on private sector leadership to undertake the necessary R & D for the needed production shifts.

Manager, IUCN's Global Marine Programme. "They show that solutions must include product and infrastructure design as well as consumer behaviour. Synthetic clothes could be designed to shed fewer fibres, for example, and consumers can act by choosing natural fabrics over synthetic ones"

Solutions: Synthetic clothing can be designed so that fewer fibers are left and consumers can act by choosing natural fabrics

According to the report, between 15 and 31% of the estimated 9.5 m tonnes of plastic released into the oceans each year could be primary microplastics, almost two-thirds of which come from the washing of synthetic textiles and the abrasion of tyres while driving.

In parts of the developed world enjoying effective waste management, such as North America, primary microplastics are a bigger source of marine plastic pollution than plastic waste, according to the report. Synthetic textiles are the main source of primary microplastics in Asia and tyres dominate in the Americas, Europe and Central Asia.

Recent calls to ban the use of microbeads in cosmetics are a welcome initiative, but as this source is only responsible for 2% of primary microplastics, the effects of a potential ban would be limited, the report states. Plastic pollution harms marine wildlife and is thought to accumulate in the food web, with potentially negative consequences for human health. Effects on fragile ecosystems in regions such as the Arctic, where microplastics could affect ice formation and melting, are still unknown

Plastic contamination harms marine wildlife and builds up in the food network, causing adverse effects on human health

"This report is a real eye-opener, showing that plastic waste is not all there is to ocean plastics," says IUCN Director General Inger Andersen. "Our daily activities, such as washing clothes and driving, significantly contribute to the pollution choking our oceans, with potentially disastrous effects on the rich diversity of life within them, and