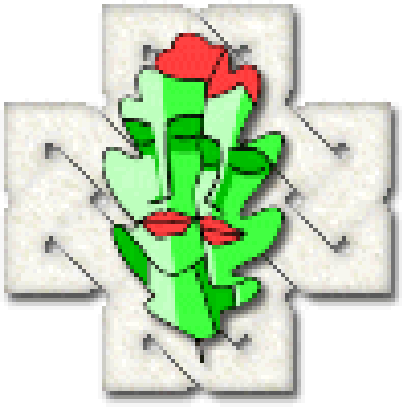
FOREST FRIENDS / CAIRDE NA COILLE NEWSLETTER

(Issue 13, February 2010)

CONTENTS



Editorial

January 2010 has started off the New Year with the disastrous earthquake in Haiti, whose history is the saddest one of slavery, environmental destruction, land grabbing and subjugation to world debt that cannot be paid back: the latest form of slavery. The indigenous people of this island have all but disappeared. The rainforest has been destroyed and the people forced into cities and sweatshops. The colonialists are well known to us. They hardly need to be named and one of them has in effect re-occupied Haiti, the earthquake providing a good opportunity for another kind of takeover.

Last December in Copenhagen political representatives failed to reach an agreement on targets which would arrest the worst effects of climate change. This can only lead to more and more damage to the planet which can no longer sustain a growing population that is projected to reach nine million in a relatively short time. Increased desertification, whether by the Sahara or the Gobi deserts, increased resource conflict, such as has happened in Iraq, will lead to an increase in the number of conflicts. The collapse of neoliberal capitalism has not been recognised as the wake up call that it should have been. Instead, the controlling forces, including the World Bank, the World Trade Organization, the International Monetary Fund, the European Central Bank, the United Nations are all combined, it would appear, to prop up the failed system. Ordinary people are being exploited and their small earnings are taken back to do just that.

The rainforests, the lungs of the world, are being destroyed at a rate never before witnessed, the biodiversity which is the real currency of planet Earth and the life-sustaining forces are being whittled away in the name of so-called "progress" and "economic development". No sustainable criteria which would make life on this planet liveable for future generations have even been discussed by world leaders. It may be too late when an ethos of co-operation rather than cut throat competition is accepted as the way forward. If under-developed countries are to practice the same wasteful lifestyle of the developed world, we will need three or even four earths, which we obviously do not have. It needs to be remembered that the resources of planet Earth are finite.

Forest Friends, as one of over thirty environmental organisations who constitute the Irish Environmental Network, calls on the Irish Government to change over from growing a monoculture of non-native exotic Sitka Spruce plantation forestry to one which concentrates in the main on planting and cultivating our native Irish hardwood trees. In doing so, they would reduce the amount of hardwoods imported from endangered rainforests and make an important contribution both locally and globally. Forest Friends also call on the Irish Government to change from plantation forestry policy to one based on species diversity, selective harvesting of species planted on a silvaculture basis, thus keeping the forest canopy intact. We also call on the government to integrate agroforestry and permaculture principles into forestry policy making it increasingly community-based. Forest Friends also calls on the government not to sell off our forests and to resist present moves in that direction that were advocated in the recent McCarthy Report.

New Forest Friends Office!

The New Forest Friends Ireland office is located at

55 Fairview Strand, Fairview, Dublin 3, Ireland.

Haiti

The devastating earthquake, the worst in 200 years, that struck Port-au-Prince on Tuesday, 12th of January, laid waste to the city and killed untold numbers of people. The earthquake toppled poorly constructed houses, hotels, hospitals and even the capital city's main political buildings, including the presidential palace. According to some estimates, more than 100,000 people may have died, in a metropolis of 2 million people. The weak Préval government was unable to respond to the crisis, and the United Nations, which occupies Haiti with close to 9,000 troops, was completely unprepared to manage the situation. International Red Cross spokesman Paul Conneally said that 3 million out of Haiti's 9 million people would need international emergency aid in the coming weeks just to survive. The UN, U.S., European Union, Canada and countless non-governmental organizations (NGOs) have promised humanitarian aid. The media reported that shifting tectonic plates along a fault line underneath Port-au-Prince caused the earthquake--and that Haiti's poverty and the incapacity of the Préval government made the disaster so much worse. But they didn't delve below the surface.

The questions that ought to be asked are

- why were 60 percent of the buildings in Port-au-Prince shoddily constructed and unsafe in normal circumstances, according to the city's mayor?
- why are there no building regulations in a city that sits on a fault line?
- why has Port-au-Prince swelled from a small town of 50,000 in the 1950s to a population of 2 million desperately poor people today?
- why was the state completely overwhelmed by the disaster?

A number of factors, but not confined to the ones listed, contributed to this state of affairs:

U.S. imperial policy toward Haiti. The U.S. government, the UN, and other powers have aided the Haitian elite in subjecting the country to neoliberal economic plans that have impoverished the masses, deforested the land, destroyed the infrastructure and incapacitated the government.

The U.S. support of the dictatorships of Papa Doc Duvalier and then Baby Doc Duvalier, which dominated the country from 1957 to 1986, was an anti-communist counter-weight to Castro's Cuba nearby. Under guidance from Washington, Baby Doc Duvalier opened the Haitian economy up to U.S. capital in the 1970s and 1980s. Floods of U.S. agricultural imports destroyed peasant agriculture resulting in hundreds of thousands of people flocking to the teeming slums of Port-au-Prince to labour for pitifully low wages in sweatshops located in U.S. export processing zones.

In the 1980s, masses of Haitians rose up to drive the Duvaliers from power--later, they elected reformer Jean-Bertrand Aristide to be president on a platform of land reform, aid to peasants, reforestation, investment in infrastructure for the people, and increased wages and union rights for sweatshop workers. The U.S. in turn backed a coup that drove Aristide from power in 1991. Eventually, the elected president was restored to power in 1994 when Bill Clinton sent U.S. troops to the island, but on the condition that he implement the U.S. neoliberal plan which Haitians called the "plan of death."

Aristide resisted parts of the U.S. program for Haiti, but implemented other provisions, undermining his hoped-for reforms. The U.S. grew impatient with Aristide's failure to obey completely, especially when he demanded $21 billion in reparations during his final year in office. The U.S. imposed an economic embargo that strangled the country, driving peasants and workers even deeper into poverty.

In 2004, Washington collaborated with Haiti's ruling elite to back death squads that toppled the government and kidnapped and deported Aristide. The United Nations sent troops to occupy the country, and the puppet government of

Gérard Latortue was installed to continue Washingotn's neoliberal plans.

Latortue's brief regime was marked by corruption: he and his associates pocketed large portions of the $4 billion poured into the country by the U.S. and other powers when they ended their embargo. The regime dismantled the mild reforms Aristide had managed to implement. Thus, the pattern of impoverishment and degradation of the country's infrastructure was accelerated.

In 2006 elections, the Haitian masses voted in longtime Aristide ally René Préval as president. But Préval has been a weak figure who has collaborated with U.S. plans for the country and failed to address the growing social crisis. In fact, the U.S., UN and other imperial powers effectively bypassed the Préval government and instead poured money into NGOs. "Haiti now has the highest per capita presence of NGOs in the world," says Yves Engler. The Préval government has become a political fig leaf, behind which the real decisions are made by the imperial powers, and implemented through their chosen international NGOs.

THE REAL state power isn't the Préval government, but the U.S.-backed United Nations occupation. Under Brazilian leadership, UN forces have protected the rich and collaborated with--or turned a blind eye to--right-wing death squads who terrorize supporters of Aristide and his Lavalas Party.

The occupiers have done nothing to address the poverty, wrecked infrastructure and massive deforestation that have exacerbated the effects of a series of natural disasters--severe hurricanes in 2004 and 2008, and now the Port-au-Prince earthquake.

Instead, they merely police a social catastrophe, and in so doing, have committed great crimes. As Dan Beeton wrote in NACLA Report on the Americas, "The UN Stabilization Mission in Haiti (Minustah), which began its mission in June 2004, has been marred by scandals of killings, rape, and other violence by its troops almost since it began."

First the Bush administration and now the Obama administration have used the coup and social and natural crises to expand the U.S.'s neoliberal economic plans.

Under Obama, the U.S. has granted Haiti $1.2 billion in debt relief, but it hasn't cancelled all of Haiti's debt--the country still pays huge sums to the Inter-American Development Bank. The debt relief is classic window-dressing for Obama's real Haiti policy, which is the same old Haiti policy.

In close collaboration with the new UN Special Envoy to Haiti, former President Bill Clinton, Obama has pushed for an economic program familiar to much of the rest of the Caribbean--tourism, textile sweatshops, and weakening of state control of the economy through privatisation and deregulation.

Eco-tourism, archaeological exploration and voyeuristic visits to Vodou rituals are all being touted by Haiti's struggling boutique tourism industry, as Royal Caribbean plans to bring the world largest cruise ship here, sparking the need for excursions.

Clinton celebrated the possibilities of sweatshop development during a whirlwind tour of a textile plant owned and operated by the infamous Cintas Corp. He announced that George Soros had offered $50 million for a new industrial park of sweatshops that could create 25,000 jobs in the garment industry. Clinton explained at a press conference that Haiti's government could create "more jobs by lowering the cost of doing business, including the cost of rent."

As TransAfrica founder Randall Robinson told Democracy Now! "That isn't the kind of investment that Haiti needs. It needs capital investment. It needs investment so that it can be self-sufficient. It needs investment so that it can feed itself."

As previous U.S. presidencies have done before, the Obama administration has worked to aid Haiti's elite, sponsor international corporations taking advantage of cheap labor, weaken the ability of the Haitian state to regulate the society, and repress any political resistance to that agenda.THESE POLICIES led directly to the incapacitated Haitian state, dilapidated infrastructure, poorly constructed buildings and desperate poverty that combined with the hurricanes and now the earthquake to turn natural disasters into social catastrophes.

We should therefore agitate against any attempt by the U.S. and other powers to use this crisis to further impose their program on a prostrate country.

The U.S. should also stop deportations of Haitians who have fled their crisis-torn country and grant Temporary Protected Status to Haitian refugees. That would allow any Haitians who have fled the political and social crisis since the coup, the hurricanes and now the earthquake to remain legally in the U.S.

On top of that, we must demand that the U.S. stop imposing its neoliberal plans. The U.S. has plundered Haitian society for decades. Instead of Haiti owing any debt to the U.S., other countries or international financial institutions, the reverse is the case. The U.S., France, Canada and the UN owe the people of Haiti reparations to redress the imperial plunder of the country.

With these funds and political space, Haitians would be finally able to begin shaping their own political and economic future--the dream of the great slave revolution 200 years ago.

(Taken in great part from HAITI: A TRAGEDY CAUSED BY POVERTY AND EMPIRE, from SocialistWorker.org (US)
contact
newsletter@swp.ie

WHAT IS SILVICULTURE?

Silviculture is the theory and practice of controlling the establishment, composition and growth of stands of trees. This exercise is composed by all the methods that enable the creation and the exploitation of forests and that assure in the same time their conservation and regeneration. **Silviculture** enables also to maximize the yield of goods such as timber, energy, fruits and fodder and to maximize the benefits related to water, wildlife habitat, microclimate and carbon sequestration. **Silviculture** practice leans on all natural factors that have consequences on tree growing and guide the development of the vegetation. It is not about creating a substitution for natural processes of forest growth but rather about imitating them. The aim is to achieve an effective forest development, that is to say one that provides a production of wood while simultaneously preserving the future of the stand.

An ancient science

Historically silviculture is a time-honoured science and there is evidence that it was practiced as far back as 8000 years ago in the Empire of China. Since this time farmers have exchanged and kept information about the most efficient techniques.

Polyculture vs. monoculture

The removing of old trees and the replacing of new species determines the structure and developmental process of the new stand. For example if all the plantations come from the same species the result is a mono-culture or pure stand; all of the trees form so a single canopy of foliage. Conversely if several species are sewed together we are going to obtain a stratified mixture; with some trees used to grow in the shade of their sun-loving neighbours. These different spatial and temporal patterns of stand structure correspond to three forestry plans:

- The copse is made up of suckers and the trees come from stumps. Renewal is ensured by vegetative means.
- The trees come from seeds.
- The coppice with standards is a mixed plan, it includes trees which were born with seeds and other obtained by vegetative means

There are four main forestry exploitation system created by different methods of reproduction.

1. **Clear-cutting**. This is the simplest method whereby all the vegetation is removed.
2. **The shelterwood method** consists of leaving enough trees on the cutting area to let them provide a substantial source of seed and reduce the degree of exposure significantly. So some old trees are removed only when the new stand is well-established.
3. **The uncut**: this method represents a compromise between the two outlined above. The number of trees which not removed is hardly sufficient to be a plentiful source of seeds. After **uncutting** it may be necessary to recreate a new stand by artificial seeding or planting.
4. **Regeneration cutting:** this approach is based on a natural development of the different species of trees. Using this method each species has the best conditions and best time in which to grow. We can differentiate:

♣ **The pioneers**, which are used to the sunlight which can result from heavy cutting or in nature floods, landslides, catastrophic windstorms and severe fire. These species grow quickly but are short-lived so they seldom attain large size.

♣ Species with an **intermediate position** and a tolerance to shade. They grow secondly and do best with the light initial shade such as created by **shelterwood** cutting.

♣ The **shade-tolerant species** are the last in the climax stages in the succession. They can grow in their own shade and are more adapted to re-establishment after local disturbance such as disease, insects or atmospheric agencies rather than after more complete disturbance.

As well as the practice of cutting, silviculture involves other methods to maintain a diversified ecosystem in forests. For example where there is a risk of high fire it is important to burn the **slash** (logging debris) as a way of reducing the potential fuel and the physical barrier represented by the slash. Without this barrier the establishment of seedlings is improved.

Thus silviculture is a method of managing the forest to obtain its best products but also a way of ensuring the sustainability of this forest and of everything that lives there.

WHAT IS PERMACULTURE?

Permaculture is a way of working, living and *designing*. It deals with the good management of elements. It aims to create a suitable environment to the sustainability and in harmony with nature. It integrates the different exterior elements but above all focuses on the relationships between them. The model of permaculture is nature because through its diversity this ecosystem is the most stable, strong and feeder that we know.

Historically, some practices that would be called permaculture today have been applied in that spirit for millennia. It was about cultivate without degrading environment and by combining with crops, natural elements such as trees, shrubs. Humans could then eat, dress and heal.

More recently, in the 1970's, two Australians called Bill Mollison and David Holmgren conducted an in-depth study of permaculture and published their findings in a book called *Permaculture One: A Perennial Agricultural System for Humans Settlements*. Holmgren and Mollison are now referred to as creators of the concept.

To understand this concept, here are the 12 principles of the practicde as described by the two authors in *Permaculture: Principles and Pathways Beyond Sustainability*:

1. Observe and interact
2. Catch and store energy
3. Obtain a yield
4. Apply self-regulation and accept feedback
5. Use and value renewable resources and services
6. Produce no waste
7. Design from patterns to details
8. Integrate rather than segregate
9. Use small and slow solutions
10. Use and value diversity
11. Use edges and value the marginal
12. Creatively use and respond to change

To design a system in agreement with permaculture, there is a methodology summed up in the acronym O'BREDIM which stands for

- **Observation** that lasts ideally one year. During this time the system is studied and its relationships are highlighted.
- **Boundaries**, ones that I choose for the system but also the ones that are imposed upon me.
- **Resources**, human or not.
- **Evaluation**, after the first three points we know what we have to hand so we can prepare the next three points which are
- **Design**: the process of reflexion of the future synergetic relationships.
- **Implementation**: the part of concrete actions.
- **Maintenance**: to keep the system at its maximum. If the design has been well-done, no major adjustments are needed.

Permaculture can be used on all systems, not only the agricultural systems (which was the first to be studied) but also in the development of a town, the construction of a house etc. In all cases, the three basic ethical principles are the same:

- Take care of the earth (preserve it with its complexity and diversity).
- Take care of humans.
- Limit the consumption and redistribute the surplus.

To study permaculture in application, take the example of agriculture. This agro-ecosystem is a very powerful model because it is much more productive than all of the human system. Permaculture aims to precisely copy nature and nature's seven layers in a mature ecosystem:

1. the **canopy**,
2. **low tree layer**,
3. **shrubs**,
4. **herbaceous**,
5. **rhizosphere** (root crops),
6. **soil surface** (cover crops),
7. **vertical layers** (climbers etc.).

(An eighth layer of the **mycosphere** is often added).

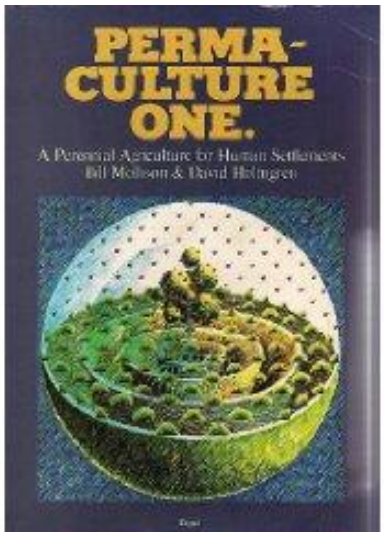
Some tools enable one to act to that balance:

- Firstly there is **polyculture,** which represents the diversity of natural ecosystem. By growing many crops in the same field we associate different elements that create positive relationships. Polyculture includes **alley-cropping**, **inter-cropping** etc.
- Secondly the usefulness of **agroforestry** is a famous and precise example of polyculture. Growing trees in crops are advantageous in many points for the two productions. In particular perennial plants that do not need much maintenance or fertilisers since they are not planted each year.
- Thirdly permaculture focuses on **edges**. These buffers are indeed the most productive so it

should be adjusted the fields to benefits of these effects.

- Fourthly permaculture design fosters the appeal of **animals** rather than humans. On the one hand because animals consume food that would be unpalatable to people (termites, grass, some weeds), on the other hand because they supply fertilizer through their droppings. Livestock grazing after the crops is an example of agroforestry.
- Finally it is essential to think in terms of **energy**. The main objectives are to avoid the use of non-renewable energies and to design a system that works with minimal amounts of energy. This economy of energy goes hand in hand with the non-production of pollution. It might be wise at this point to bring to mind another maxim of permaculture: "pollution is energy in the wrong place".

In conclusion let us not forget that permaculture can also be applied in other fields. It is above all a thought process to design sustainable systems that promote the natural cohesion of elements.



(*cover of Holmgren and Mollisons* Permaculture One. *Image taken from Amazon website*)

BIODIVERSITY

WHAT IS BIODIVERSITY?

As defined in the proposed US Congressional Biodiversity Act, HR1268 (1990), "biological diversity means the full range of variety and variability within and among living organisms and the ecological complexes in which they occur, and encompasses ecosystem or community diversity, species diversity, and genetic diversity."

Genetic diversity is the combination of different genes found within a population of a single species, and the pattern of variation found within different populations of the same species. *Species diversity* is the variety and abundance of different types of organisms which inhabit an area. *Ecosystem diversity* encompasses the variety of habitats that occur within a region, or the mosaic of patches found within a landscape. In one ecosystem we can found many habitats: grasslands, wetlands, rivers, estuaries, fresh and salt water."

Currently we estimate that 1.4 million species inhabit the planet with the allocation below:

Nevertheless we know that all species have not been identified that is why the number is re-valued to 10 millions. Irish species represents only 0,05 % of the world species. An explanation is that some places welcome more biodiversity than the others.

Where are the greatest locations for biodiversity in the world?

The **megadiverse** countries are a group of countries that harbour the majority of the Earth's species and are therefore considered extremely **biodiverse**. Seventeen megadiverse countries have been acknowledged by the World Conservation Monitoring Centre; most of these are located in the tropics. Of the total of seventeen countries, **Brazil**, **Indonesia**, **South Africa** and **Colombia** are the most megadiverse. Some ecosystems are more particularly known for their biodiversity. Among them are rainforests and mangrove forests.

The Importance of Rainforests

Just to present briefly the rainforest, here are some figures: Rainforests represent around 10% of the planet's land-area; they harbour more than half the world's species: animals, plants and microorganisms. Tragically, tropical deforestation causes a loss of more than 100 species every single day. This rate of extinction is believed to be 400 times faster than at any other period in the history of the planet. Experts state that the last remaining rainforests could be consumed in less than 40 years.

Rainforests have evolved over millions of years to turn them into the incredibly complex environments they are today. Rainforests represent a store of living renewable natural resources that have existed for aeons. They have contributed a wealth of resources for the survival and well-being of humankind. These resources have included basic food supplies. At least 80% of the developed world's diet originated in the tropical rainforests: clothing, shelter, fuel, spices, industrial raw materials, and medicine for all those who have lived in the forest. Today, less than 1 percent of the world's tropical forest plants have been tested for pharmaceutical properties, whereas a quarter of all modern medicines came originally from rainforests. However, the inner dynamics of a tropical rainforest is an intricate and fragile system. Presented below are several facts to highlight the extraordinary biodiversity in rainforest:

- A single pond in Brazil can sustain a greater variety of fish than is found in all of Europe's rivers.
- A single rainforest reserve in Peru is home to more species of birds than are found in the entire United States.
- One hectare (2.47 acres) may contain over 750 types of trees and 1500 species of higher plants.
- One single tree in Peru was found to harbour forty-three different species of ants - the entire number of ant species in the British Isles.

The Importance of Mangrove forests

Mangrove forests are **extremely productive ecosystems** that provide numerous goods and services, both to the marine environment and to people, which according to a **recent report** are conservatively estimated to be worth US$186 million each year. These forests are home to a large variety of fish, crab, shrimp, and mollusk species. These fisheries form an essential source of food for thousands of coastal communities around the world. The forests also serve as nurseries for many fish species. They are also famous for their timber and plants. Mangrove wood is resistant to rot and insects, making it extremely valuable. Many coastal and indigenous communities rely on this wood for construction material as well as for fuel. These communities also collect medicinal plants from mangrove ecosystems and use mangrove leaves as animal fodder. Recently, the forests have also been commercially harvested for pulp, wood chip, and charcoal production.

A few countries have begun to use the rainforests to attract tourists that is a substantial means to raise funds to preserve them in their natural state and so to curb their extinction.

The causes of the extinctions?

Extinction is a normal process in the course of **evolution**. Species have slowly evolved and disappeared throughout geologic time as the result of climate changes and the inability to adapt to survive competition and predation. Since the 1600s, however, the rate of extinction has accelerated rapidly because of human population growth and human resource consumption. Today, most of the world's habitats are changing faster than most species can adapt to such changes through evolution, or the process of **natural selection**.

Let us consider some actions of human beings that jeopardize biodiversity.

The accelerating transformation of the earth due to the growing human population deeply modifies, degrades and destroys the habitats, in particular the forests. This increase of world population goes hand on hand with the appropriation of most available fresh drinking water and half of the world's net primary productivity. In detail six behaviours endanger species:

1. **Habitat loss**, habitat **degradation** and habitat **fragmentation** is an important cause of known extinctions. All species have specific food and habitat needs. The more specific these needs and localized the habitat, the greater the vulnerability of species to loss of habitat to agricultural land, roads or the spread of cities. Currently deforestation caused by the destruction of forests for agricultural land is the most dangerous.

2. The **invasion** of **non-native species** is often underestimated. One species can be enough to weaken all the others of an ecosystem. Islands are the most affected places because they are laboratories for evolution.

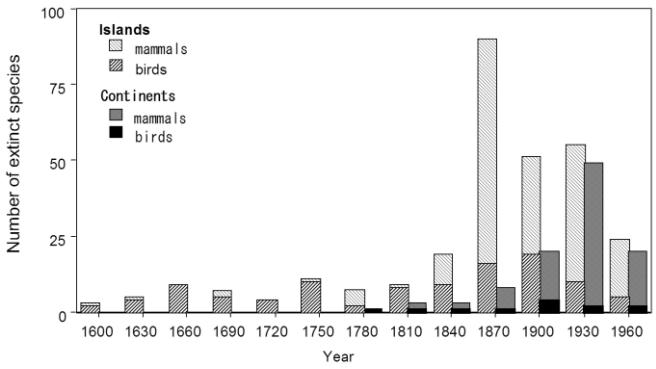
3. **Domino effects** occur when the removal of one species (an **extinction event**) or the addition of one species (an **invasion event**) affects the entire biological system. Domino effects are especially likely when two or more species are highly interdependent, or when the affected species is a "keystone" species, meaning that it has strong connections to many other species.

4. **Pollution** from chemical contaminants is dangerous, always because of the degradation of the habitats.

5. **Climate change** jeopardizes species. The distribution of species and ecosystems is largely determined by climate. Climate change modifies this distribution but species are not so fast to be able either to adjust or to migrate. Besides, human infrastructures such as roads and cities are as so many barriers for the movement of species. The ecosystems adapted to species are thus moved or eliminated.

6. Finally **over-hunting** is a very old cause of extinction. Commercial hunting to provide goods, fashion or profit is the main threat.

Some experts have valued the known causes of animal extinctions since 1600 thus:



(*source: Journal of Disaster Research Vol.3No.3, 2008*)

New analysis shows that 869 species became extinct or extinct in the wild since the year 1500 while 290 more species are considered critically endangered and possibly extinct. At least 16,928 species are threatened with extinction, including nearly one-third of amphibians, and nearly a quarter of mammals. Thus the current biodiversity is threatened and particularly where it is the richest. Humans are responsible for the most of the threats against species. Man must thus react and change his way of living and consuming.

BIODIVERSITY AND THE NATIONAL BOTANIC GARDEN

(*National Botanic Gardens, Glasnevin. Image taken from http://www.fotopedia.com*)

The protection of the biodiversity concerns everybody. In particular, Botanic Gardens have a role to play to maintain this diversity. The National Botanic Garden in Glasnevin acts in different ways.

Firstly the Botanic Garden practices ex situ conservation and recovery. The National Botanic Gardens, zoos and private collections enables indeed to conserve biodiversity in gene banks and living collections. The importance of ex situ conservation as an integrated part of Ireland's biodiversity conservation plan should be recognized and highlighted. Within the living collections at the National Botanic Garden 300 endangered species from around the world and 6 species already extinct in the wild are present. In this the Garden can be compared to a Noah's Ark as a vital resource.

Secondly The Botanic Garden is a place of science and research. Studies are carried out. Some of them have indicated that significant proportions of Ireland's plant species may be threatened as a result of climate change over the next few decades. And precisely many native plant species are at risk of extinction. Thus another objective of the Botanic Garden is the Education and the will to increase public awareness of plants. Some events aim to instruct people about biodiversity. The Biodiversity week is a case in point.

The Botanic Garden acts also about the biodiversity with demonstration. For example as part of the United Nations Year of Biodiversity (2010), the Garden has invited the Dublin Naturalists' Field Club to survey the moths of the National Botanic Garden. To date two nights of trapping have produced over 50 records.

Last but not least the Botanic Garden plays a role in a bigger scale. It takes part in conservation plan to save endangered species of plant. Actually in 2005 at a major conference hosted by the National Botanic Gardens in Glasnevin, 80 delegates from British and Irish Botanic Garden were responding to a Global Strategy for Plant Conservation adopted by the United Nations Convention on Biological Diversity in 2002. The aim of the Strategy is to halt the current and future loss of plant species worldwide. The capacity for action of Botanic Garden is essential; indeed among the 200 plant species threatened by extinction in Britain and Ireland, some survive only in a few botanic gardens, having become extinct in the wild. The ways of acting are the following -as we saw previously: Botanic gardens conserve threatened plants in their living and seed bank collections and support conservation in the wild through their research programmes and by growing rare plants to return to safeguarded wild habitats.

WHAT IS DEEP ECOLOGY?

Deep ecology is a modern branch of ecological philosophy (ecosophy). It consists on considering that humans are part of the environment. They are not more important than the environment or less important. All non-human life and human life are equally important for the environment.

There are several ecological philosophies. Some of them consider that the environment exists so as humans can use the resources of the environment and in exchange for it they have to also conserve it. Other philosophies state that if we solve human conflicts, we will solve the environmental problems also because they are created by human conflicts.

What all this means is that in different ecological philosophies humans and the environment are at different levels. They give more importance to human life than to non-human life or the environment. What this new philosophy states is that they are at the same level and that the environment should not only be protected for exploitation by and for humans purposes. Humans are not a separate part of the ecosystem, we are in the environment and we live in it.

The phrase "deep ecology" was coined by the Norwegian philosopher **Arne Næss** *in 1973.* He rejected the idea that beings can be ranked according to their relative value. **Næss** states that from an ecological point of view *"the right of all forms [of life] to live is a*

universal right which cannot be quantified. No single species of living being has more of this particular right to live and unfold than any other species."

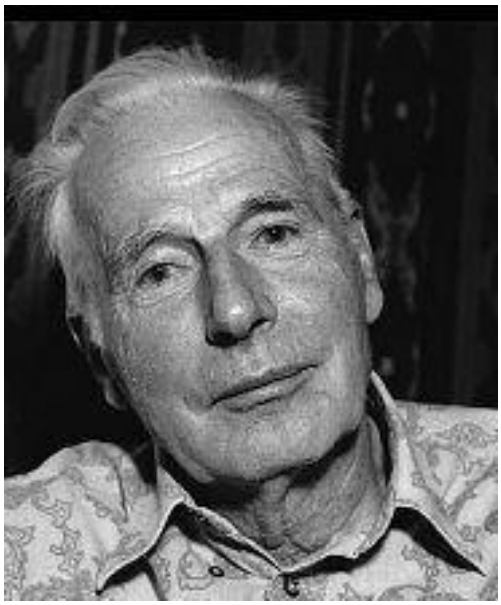
Human activity has damaged the environment through reduction of biodiversity, climate change and other influences. So, deep ecologists hope that with their philosophy they can influence social and political change. They think that everything is connected to everything else and human species is a part of the Earth and not separate from it. They think that the more we try to interact with others (people, animals, ecosystems), the more we realize ourselves that we are part of the planet and not a superior being. So they hope that we will realize some day that the way we are behaving it not right.

Proponents of deep ecology believe that the world does not exist as a resource to be freely exploited by humans. The ethics of deep ecology hold that the whole system is superior to any of its parts.

In practice, deep ecologists support **decentralization**, *the creation of* **ecoregions**, *the breakdown of* **industrialism** *in its current form, and an end to* **authoritarianism**.

Deep ecology is part of the **green movement**. Deep ecology has had a great influence on the green movement by providing an independent ethical platform for **Green parties**, **political ecologists** and **environmentalists**. The philosophy of deep ecology helped differentiate the modern **ecology movement** by and rejecting the idea of humans as authoritarian guardians of the environment.

To sum up, deep ecology is not a very well-known ecological philosophy because it is very modern but among the green movement it is becoming very popular and, in my opinion, in a few years we will be used to the concept of "deep ecology".



(*Arne Næss*)

Some Forest Friends News:

TREE NURSERY DEVELOPMENT

Peter Holzmann is starting a small tree nursery in Co. Waterford this year with John Haughton's collected Whitebeam seeds! Peter has also written a Research Masters on the importance of tree terminology in the language of the medieval Irish poets, the *filid* and the bards. He can be contacted by anyone interested in articles or talks on the subject. Contact details can be found at the end of this Newsletter.

FOR SCHOOLS PROJECTS

Contact Myriam or Renata at forest.friends@hotmail.com

NOTES ABOUT IRISH TREES

Common Alder=*Alnus glutinosa* (aulne glutineux)

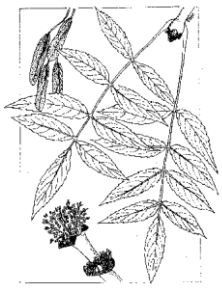
Habitat: Native to Europe and Western America, this species may escape from cultivation and naturalize in minimally managed areas

Distribution: Common throughout the British Isles

Landscape uses: street tree, difficult sites such as marshy areas

Conditions of culture: moist soils (by river), full sun to partial shade, prune in late winter, easily transplanted

Ash= *Fraxinus excelsior* (frêne commun)



Habitat: native to Europe, forms pure ash woodland on limestone in wetter regions and grows in mixed woods elsewhere. Often grows with oak in lowland areas

Distribution: Common throughout the British Isles

Landscape uses: shade tree, lawn tree, male plants are preferred for landscape purposes, excellent for parks and campuses

Conditions of culture: full sun, prefers moist, fertile deep soils but pH soil and salt tolerant easily transplanted and established

Aspen = *populus tremula* (peuplier tremble)

Habitat: Native to cool temperate regions of Europe (in particular British Isles) and Asia

Distribution: locally abundant in northern and west Scotland, less frequent in south east England

Landscape uses: hillsides, in rocky valley bottoms, on the edges of wooded areas, open woodlands, on sea cliffs, sometimes in mountains zones up to 1800 m

Conditions of culture: moist with neutral pH soil, full sun to partial shade, strong wind tolerant, long, cold winters and short summers tolerant

Beech=*Fagus sylvatica* (hetre)

Habitat: native to south East England, tree in cultivation for a long time, large woods on chalks and limestone hills

Distribution: Common throughout the British Isles

Landscape uses: lawn tree, large open spaces, naturalized areas, hedge with heavy pruning, very attractive tree

Conditions of culture: moist, well-drained, acidic but non excessively wet soil, shallow, wide root system, prune in early summer, transplanting during dormant season

European white Birch= *Betula pendula* (bouleau commun)

Habitat: native to Europe and Northern Asia, most common in high elevations

Distribution: common throughout the British Isles, especially in the South and East

Landscape uses: support ice and snow damage but short-lived

Conditions of culture: easy to grow, full sun, soil adaptable but prefers moist soils, no excessive summer heat, no pruning between February to July to prevent bleeding

Crab apple=*Malus sylvestris* (pommier sauvage)

Habitat: Native to southern Europe, Southwest Ireland, Northern Africa

Distribution: frequent everywhere except in the northern half of Scotland

Landscape uses: copses, hedgerows and woodlands

Conditions of culture: large variety of soils, fairly light, open position

Incense Cedar= *Calocedrus decurrens* (cedre a encens)

Habitat: Native to western mountains of America

Distribution: eastern Britain for its tolerance to cool summer climates, County Down in Ireland

Landscape uses: large areas and formal plantings, in tree strips for windbreaks, in mountains for erosion control

Conditions of culture: moist, well-drained, fertile soil, full sun or light shade, drought tolerance, not wind-swept and smoggy tolerant

Pencil Cedar= *Juniperus virginia* (génévrier de Virginie)

Habitat: native to east and central North America, often an early colonizer of ld far; fields, commonly found along interstate highway medians

Distribution: Locally abundant in South England, North England, North Wales, Scotland and in North and West Ireland

Landscape uses: screen, mass planting, windbreaks, foundation planting, difficult sites

Conditions of culture: easily transplanted, tolerant of most conditions, pH adaptable, full sun

Bird Cherry= *prunus padus* (merisier a grappe)

Habitat: Native to northern Europe and northern Asia

Distribution: Common throughout the British Isles

Landscape uses: scrubby woodland, thrives on urban sites.

Conditions of culture: full sun to partial shade, most soil conditions tolerant, frost resistant

Diversity: the sickly almond scented flowers attract many insects such as bees and flies and the rich in tannin small cherries are eaten by birds such as robins, thrushes, starlings and pigeons

Elder=*Sambucus nigra* (sureau noir)

Habitat: Ireland and Europe, has been naturalized in the United States

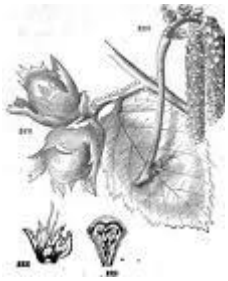
Distribution: common throughout the British Isles except in North Scotland

Landscape uses: scrub, open woods, hedgerows

Conditions of culture: moist, shady place and among underbrush

Biodiversity: the berries are a good food resource for many birds, the branches provide nest chambers for bumble bee larvae and shelter for hibernating insects.

Hazel= *Corylus avellana* (noisetier)



Habitat: famous to be a very older species in Ireland, native to Europe, West Asia and North Africa

Distribution: Common throughout the British Isles

Landscape uses: hedgerow, in mixed or pure woods as understorey, scrubland, alongside burns

Conditions of culture: easily grows, moist, free-draining, alkaline soil, partial shade for hazelsnuts

Biodiversity: hazelnuts are important for the survival of the native dormouse

Holly= *Ilex aquifolium* (houx commun)

Habitat: Native to western and southern Europe, northwest Africa and southwest Asia

Distribution: Common throughout the British Isles

Landscape uses: old woodland, very seldom pure holly woods, dislikes open areas because of cold winter winds or excessively hot summer sun

Conditions of culture: shade tolerant, well-drained, slightly acid, fertile soil

Biodiversity: berries are an important source of food for birds during winter

European Hornbeam=C*arpinus betulus Betulaceae* (charme commun)

Habitat: native to Europe and Asia Minor

Distribution: Common in South England, frequently planted elsewhere

Landscape uses: shade tree, specimen, can be pleached or pruned into a large hedge, urban plantings, upright selection most suitable

Conditions of culture: all soil if it is well-drained, pollution tolerant, long-lived tree, difficult to transplant as large tree

European Larch=*Larix deciduas* (mélezes d''Europe)

Habitat: native to central Europe

Distribution: Common in England and Ireland, frequent in Wales and Scotland

Landscape uses: screen, specimen, plantation or ornamental tree (like in park)

Conditions of culture: full sun, well-drained, slightly acidic to neutral soil, poorly-drained soils and air pollution and wind tolerant, easily transplanted when dormant

Lime=*Tilia cordata* (tilleul des bois)

Habitat: native to Europe, long time in cultivation

Distribution: Frequent throughout the British Isles

Landscape uses: shade tree, lawn tree, urban locations, as a large hedge, city mall and plantings, for formal habit, regularity and symmetry

Conditions of culture: easily transplanted, prefers moist, fertile, deep, well-drained soils, tolerant to difficult growing sites and soils, urban and pollution tolerant, pH adaptable

David Maple=*Acer davidii* (erable a peau de serpent, de David)

Habitat: Native to Central China

Distribution: much less common than the other and native maples (English maple, sycamore= great maple)

Landscape uses: small specimen, hedges or screens, grouping or mini-groves

Conditions of culture: prefers acidic, moist soil, best in regions with cool, mild climates, full sun or partial shade, easily transplanted

Paperback Maple= *Acer griseum* (érable cannelle, a écorce de papier)

Habitat: Native to China

Distribution: much less common than other and native maples

Landscape uses: advice for gardens and any commercial, institutional or residential landscape because of its wonderful bark and unusual leaves

Conditions of culture: slow-growing, full sun to partial shade, moist, well-drained soil but no drought tolerant

Oak= *Quercus patraea* (chêne sessile)

Habitat: Native to most of Europe and Anatolia

Distribution: rather in the north and west of the British Isles (conversely Pedunculate oak is more typical in the southern and east)

Landscape uses: in semi-natural forests, dominant in upland oak woodlands (while in scrubs, plantations and hedgerows the pedunculate oak is more frequent)

Conditions of culture: clay or sandy soils loam but upland acid with plenty of humus, on shallow

Biodiversity: Habitat for an enormous variety of insects, birds and mammals, whole range of mosses, flowerings plants and grasses under it

Rowan or European moutain ash= *Sorbus aucuparia* (sorbier des oiseaux)

Habitat: native to Northern Europe and Asia

Distribution: Common throughout the British Isles

Landscape uses: smaller shade tree, specimen, woods, scrubs and on mountains up to 1000 m, attractive by fruits to birds, good performer in cold climate

Conditions of culture: well-drained, loamy acidic soils, full sun, no high pH, hot, dry, compacted soils, no pollution

Strawberry tree = *arbutus unedo* (arbre a fraise, arbousier)

Habitat: Native to Mediterranean region and Western Europe (France and Ireland)

Distribution: Common throughout the British Isles, only native in counties Cork, Kerry and Sligo

Landscape uses: woodland gardens, shrubs borders, informal hedge or screen

Conditions of culture: shallow, limy, well-drained soil, salt tolerant, full sun but wet summers adaptable, dislikes being transplanted

OTHER TREES OF THE BOTANIC GARDEN OF GLASNEVIN

Cercidiphyllum Japonicum

Its common name is Katsura tree. It is from the Cercidiphyllaceae family. It is a deciuous tree that needs neutral to acid soil. It comes from Japan and China and its normal size is 20m x 15m.

It has tiny red flowers that are borned in early spring, before the leaves. Male flowers are produced in different plants than female flowers. It has opposite, rounded leaves and they are mid-green. They turn pale yellow in autumn. It has brown shaggy pealing bark. Sow seed in containers in an open frame as soon as ripe and basal cutting have to been taken in late spring and semi-ripe cuttings in mid-summer.

Rhus silvestris

It is from the ***Anacardiaceae*** family. It Grows 10' to 15' tall and colonizes via runners. It is a good plant for dry areas and locations with poor soils because it is very drought resistant and tolerates heat. Its red fruits attract birds.

It has odd **pinnately compound** leaves with 11 to 13 leaflets. Leaflets have entire margins and are pubescent on the veins and rachis. When the autumn comes the leaves turn red and yellow. It is in flower from May to June, and the seeds ripen from August to October. The flowers are dioecious (individual flowers that are either male or female, but only one sex is found on any one plant) and are pollinated by bees.

Prunus serrulota

It is also called **Hill Cherry**, **Oriental Cherry** or **East Asian Cherry**. It is a species of **cherry** native to **Japan, Korea** and **China**. It is a small **deciduous** tree with a short single and smooth trunk. It grows to heights of 8-12 m.

The **leaves** are arranged alternately and are almost oval, 5-13 cm long. At the end of autumn, the green leaves turn yellow, red or crimson.

The **flowers** *are produced in* ***racemose*** *clusters of two to five together at nodes on short spurs in spring at the same time as the new leaves appear*; they are white to pink, with five petals.

Amelanchier canadensis

It is a species of **Amelanchier** *native to eastern* America *in* **Canada** *from* **Nova Scotia** *west to southern* **Ontario**, *and in the* **United States** *from* **Maine** *south to* **Alabama**. It's a perennial tree.

It is grown mostly in wet locations, particularly on the **Atlantic Coastal Plain**, growing at altitudes from sea level up to 200 m. It is a **deciduous shrub** or small **tree** that grows up to 0.5–8 m tall. It has many stems and a narrow crown.

The **leaves** are alternate, simple, ovate, 1–5.5 cm long. They have a rounded ápex. The **flowers** are produced in early spring in loose **racemes** 4–6 cm long at the ends of the branches; each raceme has four to ten flowers. The flower has five white petals. The **fruit** is a **pome**, dark purple when ripe; it is edible and sweet.

This species can be rooted from early spring hardwood cuttings or softwood cutting taken in the summer. Sow untreated seeds in fall or cold-stratified seed in spring. Fruits have to be collected as soon as they ripen and seeds have to be cleaned immediately to prevent fermentation. The seeds have to be store in sealed, refrigerated containers for up to five years. The seeds have to be in the containers at least 90-120 days.

Tilia platyphyllos

It is a deciduous tree native located mostly in Europe, including southwestern Great Britain, growing on lime-rich soils. The English-speaking world, except in Britain, calls commonly the Tilia platyphyllos "Large-leaved Linden". *It is frequently planted as an ornamental tree in parks, or as a shade tree or a lawn tree.*

It is a narrowly domed tree with a moderate growth rate, and can eventually attain a height of 40 m. It has reddish-brown young stems that later develop dark gray bark with fine fissure. The branches spread upwards at wide angles. The twigs are reddish-green and slightly pubescent.

The leaves are simple and are arranged alternately. They are ovate, mid to dark green above and below it has white hairs, particularly along the veins. In the autumn the leaves goes from green to yellow.

It has small, fragrant and yellowish-white flowers that are arranged in clusters in groups of 3 to 4. The fruit is a small, round and cream-colored.

The seeds must be ripen in October and germination takes place 18 months later, normally in spring.

Cercis siliquastrum

It is commonly known as Judas Tree. It is a small **deciduous** tree from **Southern Europe** and **Western Asia**. *It is recognised easily because its prolific display of deep-pink flowers in spring.*

This species forms a small tree up to 12 metres in height and 10 metres in width. The deep pink flowers are produced on year-old. The leaves appear shortly after the first flowers emerge. *These are heart-shaped with a blunt apex, which occasionally has a shallow notch at the tip.*

It is in flower in May, and the seeds are ripen in September. *Sow 1/4 inch deep, tamp the soil, mulch the seed bed, and remove mulch upon germination*

Gleditsia triacanthos

It is from the *Fabaceae*/*Leguminosae* family. It is a

deciduous tree native to eastern **North_America**. It is mostly found in the soil of river valleys ranging from southeastern **South Dakota** to **New Orleans** and central **Texas**, and as far east as **Massachusetts**.

It is also called "Honey locust" and can reach a height of 20–30 m (66–100 ft), with fast growth, and is relatively short-lived; only about 120 years, some of them can live up to 150. They are also prone to losing large branches in windstorms.

The **leaves** are pinnately compound on older trees but **bipinnately** compound on vigorous young trees. The leaflets are bright green. They turn yellow in the fall. Leafs are out relatively late in spring. It has a black bark.

It has cream-colored **flowers** that appear in late spring, in clusters emerging from the base of the leaf axils.

The **fruit** of the Honey locust is a flat **legume** (pod) that matures between September and October.

The seeds are dispersed by grazing **herbivores** *such as* **cattle** *and* **horses**, *which eat the pod pulp and excrete the seeds in droppings; the animal's digestive system assists in breaking down the hard seed coat, making germination easier.*

Honey locusts commonly have **thorns** 10–20 cm long growing out of the branches; these may be single, or branched into several points, and commonly form dense clusters. The thorns are fairly soft and green when young, but over time they turn hard and red.

Cercis racemosa

It is a species of the subfamily **Caesalpinioideae** of the pea family **Fabaceae**. It is native to warm-**temperate** regions. *They are small* **deciduous trees** *or large* **shrubs**, *characterised by simple, rounded to heart-shaped* **leaves** *and pinkish-red* **flowers** *borne in the early spring on bare leafless shoots.*

Cercis racemosa seeds will usually germinate in 30-90 days. Even under good conditions germination may be erratic. The sowing must take place in fall and it's better to sow seeds about 1mm deep in a well drained seed sowing mix at about 22°C.

Robinia luxurians

It's from the *Leguminosae* family. It is common in North America and New Mexico. It is found in banks of mountain streams to elevation of 2100 metres.

It is a deciduous tree growing to 8m and it is in flower from July to August. The flowers are hermaphrodite.

The plant prefers acid, neutral and basic (alkaline) soils. It can grow in semi-shade (light woodland) or no shade. It requires dry or moist soil and can tolerate drought.

It's better to sow the seed in late winter in a cold frame. A short stratification improves germination rates and time. Then prick out the seedlings into individual pots when they are large enough to handle and grow them on in the greenhouse for their first winter. After that winter, plant them out into their permanent positions in the following summer. The seed stores for over 10 years.

Quercus robur

It is from the *Fagaceae* family. It is commonly known as the **Pedunculate Oak** or **English oak**. It is native to most of **Europe** and to **Asia Minor** to the **Caucasus**, and also to parts of **North Africa**.

A close relative is the **Sessile Oak**, which shares much of its range. It is distinguished from this species by its leaves because it only has a very short stalk 3–8 mm long, and because it has **pendunculate** acorns.

It is a large **deciduous** tree *25–35 m tall (exceptionally to 50 m), with lobed and nearly sessile (very short-stalked) leaves 7–14 cm long.*

It is in flower from April to May, and they are **monoecious** (individual flowers which are either male or female but both sexes can be found on the same tree). The seeds ripen from September to October. Its fruit, called acorns, ripen by the following autumn. *The acorns are 2–2.5 cm long, pedunculate with one to four acorns on each* ***peduncle****.*

It is a long-lived tree, with a large wide spreading crown of rugged branches.

The seeds can be stored moist and cool overwinter but is best sown as soon as it is ripe in an outdoor seed bed, though it must be protected from mice, squirrels etc. Trees should not be left in a nursery bed for more than 2 growing seasons without being moved or they will transplant very badly.

It has a lot of ecological importance because it is valued for its importance to insects and other wildlife. Numerous insects live on the leaves, buds, and in the acorns. The acorns form a valuable food resource for several small mammals and some birds.

POINT OF DETAIL ON THE ROWAN TREE

Rowan adds colour to woodland throughout Ireland, especially in the hills where it will grow at high altitude even on rocky ground: its other common name is Mountain Ash.

Always a small tree, rarely exceeding 6 metres in height, it is widely planted in suburban gardens for its lovely blossom and berries, linked with manageable size and little need for pruning.

Interesting facts about the Rowan...

Typical growth is to form clumps of flowers near the ends of branches that develop into 100 or so berries. The birds love the berries which are quickly eaten distributing the seeds in their droppings.

The creamy flowers ripen into scarlet berries which colour early in the season and provide food for thrushes through the winter. A mistle thrush will defend a rowan tree or holly as its territory, not for nesting, but through the winter as its feeding territory.

The berries from the Rowan were processed for jams, pies, and bittersweet wines. They also made a tea to treat urinary tract problems, haemorrhoids and diarrhea. The fresh juice of the berries is a mild laxative, and helps to soothe inflamed mucous membranes as a gargle. Containing high concentrations of Vitamin C, the berries were also ingested to cure scurvy - a Vitamin C deficiency disease.

Even today, one of the sugars in the fruit is sometimes given intravenously to reduce pressure in an eyeball with glaucoma.

Caution, however, must be taken when using the berries. They are reported to contain a cancer-causing compound, parasorbic acid. The poisonous elements are neutralized by cooking the berries though.

Collection

Collect from native woods or from isolated upland areas, such as the small glens in the Sperrins. The berries are best collected from the tree itself, before the birds eat them. Macerate the berries and then wash the pulp and skin from the seed. Al this stage the viable seed will sink to the bottom of the container whereas non-viable seed will rise to the surface along with the pulp and skin.

Stratification/Sowing

If you extract the seed from the berry by macerating or fermenting and then ash the seed, removing all the red pigment, it may be planted in the first spring. Experience has shown that total extraction of rowan seed does speed up the germination process. If you want to sow in the first spring and maximise your chances of germination it is important to gathers the fruits early, just as they are beginning to turn scarlet. Germination inhibitors are presents in the red pigment. Stratification should begin immediately and they will germinate in the first spring.

If you gather late, dormancy is enhanced and the percentage of seeds germinating in the first springs decreases. Sow the seed that has been treated as above in March in the first spring.

Rowan can also be stratifies whole and planted out 18 months later at the beginning of the second spring – this gives the most successful even germination.

Uses

Rowans are excellent small ornamental trees for parks, gardens and wildlife areas. Several of the Chinese species, such as White-fruited rowan (Sorbus glabrescens) are popular for their unusual berry colour, and Sargent's rowan (Sorbus sargentiana) for its exceptionally large clusters of fruit. Numerous cultivars have also been selected for garden use, several of them, such as the yellow-fruited Sorbus 'Joseph Rock', of hybrid origin. They are very attractive to fruit-eating birds, which is reflected in the old name “bird catcher”.

The wood is dense and used for carving and turning and for tool handles and walking sticks. Rowan berries are a traditional source of tannins for mordanting vegetable dyes.

Myths and magic around the rowan. Faeries and Witches.

Although the Rowan was considered by some as protection from faeries, others say that faeries love the tree and will go out of their way to seek it out. Some even say that anyone harming a Rowan tree runs the risk of faeries seeking revenge by causing illness. In Sligo, Ireland, a legend tells of the "Forest of Dooros" where the faeries who dwelt there loved to eat Rowan berries brought over from Fairyland. One of the berries fell to the ground, and out of this grew a huge Rowan tree. It was said that eating one of this tree's berries, which tasted of sweet honey, would make a person drunk. Eating two berries would ensure that the person would live to be a hundred years old. Eating three would make the person thirty years old again, to stay that way for a hundred years. To protect their magic, the faeries asked a giant named Sharvan who lived in the forest to guard the Rowan tree, so those few who attempted to take advantage of the Rowan's magic were usually never heard of again.

Rowan trees were said to guard against the evil effects of "black" witchcraft. Berries were sometimes strung like beads and hung as a necklace around the neck of a supposed victim of sorcery. Some believed that one way to protect your soul from the devil was to touch a witch with a branch from a Rowan tree. Then, if the devil came

demanding a soul, the witch would be taken instead. A cross carved from Rowan was sometimes placed above a child's cradle to protect it from bewitchment or from being stolen by faeries. These crosses were traditionally renewed each May Day. It was believed that the power of the Rowan was particularly potent if the person making the charm had never seen the tree before cutting the wood.

POINT OF DETAIL ON THE ELM

Elms are **deciduous** and **semi-deciduous trees** comprising the genus **Ulmus**, family **Ulmaceae**. Elms first appeared in the **Miocene** period about 40 million years ago. Originating in what is now central **Asia**, The tree flourished and established itself over most of the **Northern Hemisphere**, traversing the **Equator** in **Indonesia**. During the 19th and early 20th centuries, many species and cultivars were planted as ornamentals in **Europe**, **North America**, and parts of the **Southern Hemisphere**.

Elm **leaves** are alternate, with simple, single- or, most commonly, **doubly-serrate** margins, usually **asymmetric** at the base and **acuminate** at the **apex**. The genus is **hermaphroditic**, having **perfect flowers** which, being wind-pollinated, are **apetalous**. The fruit is a round wind-dispersed **samara**. All species are tolerant of a wide range of soils and **pH** levels but, with few exceptions, demand good drainage.

Species, varieties and hybrids

There are approximately 30 to 40 species of elm; the ambiguity in number is a result of difficulty in delineating species, owing to the ease of hybridization between them and the development of local seed-sterile vegetative-propagated micro species in some areas, mainly in the field elm group. Rackham describes *Ulmus* as the most difficult critical genus in the entire British flora. Eight species are endemic to North America, and a smaller number to Europe; the greatest diversity is found in China.

The classification adopted for Elm species, varieties, cultivars and hybrids is largely based on that established by Brummitt. A large number of synonyms have accumulated over the last three centuries, their names can be found on Wikipedia under ***Elm Synonyms and Accepted Names***.

Cultivation and uses

Elm **wood** was valued for its interlocking grain, and consequent resistance to splitting, with significant uses in **wheels**, **chair** seats and **coffins**. The density of the wood varies due to differences between species, but averages around 560kg per cubic meter. The wood is also resistant to decay when permanently wet and hollowed trunks were widely used as water pipes during the medieval period in **Europe**. However this resistance to decay in water does not extend to ground contact. Elms also have a long history of cultivation for **fodder**, with the leafy branches cut for **livestock**. **Elm bark**, cut into strips and boiled, sustained much of the rural population of **Norway** during the great famine of 1812.

From the 18th century to the early 20th century, elms were among the most widely planted ornamental tree in both Europe and **North America**. They were particularly popular as a street tree in **avenue plantings** in towns and cities, creating high-tunneled effects. In **North America** the species most commonly planted was the American Elm **Ulmus Americana**, which had unique properties that made it ideal for such use: rapid growth, adaptation to a broad range of **climates** and soils, strong wood, resistance to wind damage, and vase-like growth habit requiring minimal **pruning**; to this day, 'Elm Street' remains the most common road name in the USA. In England, it was the **English Elm** *Ulmus procera* which came to dominate the landscape. Most commonly planted in hedgerows, the English Elm sometimes occurred in densities of over 1000 per square kilometer; indeed such was its ubiquity it almost always featured in the landscape paintings of **John Constable**.

(*John Constable:* Study if the trunk of an Elm tree. *Image taken from the Royal & Albert website*)

Dutch elm disease

Dutch elm disease devastated elms throughout Europe and North America in the second half of the 20th century. It is caused by a micro-**fungus** transmitted by two species of **Scolytus** elm-bark **beetle** which act as **vectors**. The disease affects all species of elm native to North America and Europe, but many Asiatic species have anti-fungal genes and are resistant. Fungal spores, introduced into wounds in the tree caused by the beetles, invade the **xylem** or vascular system. The tree responds by producing **tyloses**, effectively blocking the flow from roots to leaves. Woodland trees in North America are not quite as susceptible to the disease because they usually lack the root-grafting of the urban elms and are somewhat more isolated from each other. In France, inoculation of over three hundred clones of the European species with the fungus failed to find a single variety possessed of any significant resistance.

The first, less aggressive strain of the disease fungus, **Ophiostoma ulmi**, appeared in Europe in 1910 and had spread to North America by 1928, but declined in the 1940s. The second, far more virulent strain of the disease **Ophiostoma novo-ulmi** was identified in Europe in the late 1960s, and within a decade had killed over 20 million trees (approximately 75%) in the UK alone. Approximately three times more deadly, the origin of the new strain remains a mystery; earlier believed to have been endemic to China, surveys there in 1986 found no trace of it, although **bark beetles** were common. The most popular hypothesis is that it arose from a hybrid between the original *O. ulmi* and another strain endemic to the Himalayas, **Ophiostoma himal-ulmi**.

While there is no sign of the current pandemic waning, there is some hope in the susceptibility of the fungus to a disease of its own caused by d-factors: naturally occurring virus-like agents that can severely debilitate it and reduce its sporulation.

Owing to its geographical isolation and effective quarantine enforcement, **Australia** has so far been unaffected by Dutch Elm Disease, and as such retains many stands of **English Elms**; the long avenues of Royal Parade and **St Kilda Road** in **Melbourne**, and Grattan Street in **Carlton, Victoria**, are three examples.

The provinces of **Alberta** and **British Columbia** in **western Canada** are also free of Dutch Elm disease. Aggressive means are being taken to prevent any occurrences of the disease in these two provinces. In fact, Alberta has the world's largest stands of elms unaffected by the disease, and many streets and parks in **Edmonton** and **Calgary** are still lined with large numbers of healthy mature trees.

Resistant trees

Efforts to develop resistant **cultivars** began in the Netherlands in 1928 and continued, uninterrupted by **World War II**, until 1992. Similar programmes were initiated in North America (1937), Italy (1978), and Spain (1990s). Research has followed two paths:

1. Hybrid cultivars

Owing to their innate resistance to Dutch elm disease, Asiatic species have been crossed with European species, or with other Asiatic elms, to produce trees highly resistant to disease *and* tolerant of native climates. After a number of false dawns in the 1970s, this approach has produced a range of fine cultivars now commercially available in North America and Europe. However, some of these trees, notably those with the Siberian Elm *U. pumila* in their ancestry, will probably have a comparatively small mature size and lack the forms for which the iconic American Elm and English Elm were prized. Moreover, several of these trees exported to northwestern Europe have proven unsuited to the **maritime climate** conditions, notably because of their intolerance of ponding on poorly-drained soils in winter. Dutch hybridizations invariably included the **Himalayan Elm** *U. wallichiana* as a source of anti-fungal genes and have proven more tolerant of wet ground; they should also ultimately reach a greater size. A number of highly-resistant cultivars have been released since 2000, notably **'Nanguen' (Lutèce)**.

2. Species and species cultivars

In North America, careful selection has produced a number of trees not only resistant to disease, but also the droughts and extremely cold winters afflicting the continent. Research in the USA has concentrated on the **American Elm** *U. Americana*, resulting in the release of highly resistant clones, notably '**Valley Forge**'. Much work has also been done into the selection of Asiatic species and cultivars. In Europe, it is the unique example of the **European White Elm Ulmus laevis** which has received the most attention. Whilst this elm has little innate resistance to Dutch elm disease, it is not favoured by the vector bark beetles and thus only becomes colonized and infected when there are no other choices, a rare situation in western Europe. Research in Spain has suggested that it may be the presence of a **triterpene, alnulin**, which makes the tree bark unattractive to the beetle species that spread the disease. However this has not been conclusively proved.

Disclaimer

Elms take many decades to grow to maturity, and as the introduction of these cultivars is relatively recent, their long-term performance and ultimate size cannot be predicted with certainty. However, the **National Elm Trial** has been underway since 2005 as a large-scale scientific effort to assess strengths and weaknesses of the leading cultivars over a 10-year period.

Notable elm trees

- **Sherwood Forest** — the "Langton Elm" was a large tree that "was for a long time so

remarkable as to have a special keeper", according to a book published in 1881.

- **Oxford** — "Joe Pullen's Tree" was planted in about 1700 by the Rev. Josiah Pullen, vice president of Magdalen Hall. Josiah Pullen "used to Walk to that place every day, sometimes twice a day", according to diarist Thomas Hearne. The famous essayist **Richard Steele** (1672–1729) said his regular walks as an undergraduate to the elm with Pullen helped him to reach a "florid old age". The elm became famous at Oxford and its fame grew with its age. In November 1795, **Gentleman's Magazine** reported that "Joe Pullen, the famous elm, upon heading ton hills, had one of its large branches torn off and carried to a great distance." When new parliamentary district boundaries were drawn after the **Reform Act 1832**, the tree was named as a landmark helping to mark the boundary of the Parliamentary Borough of Oxford. In early 1847, the owner of the property arranged to have the tree torn down, and work started on it before protests put an end to the plan. By 1892, however, rot had set in, and the tree was torn down to its (large and tall) "stump". Early in the morning of October 13, 1909, vandals set fire to the stump. A plaque was soon after installed on the side wall of Davenport House in Cuckoo Lane, marking the spot. It reads: Near this spot stood the famous elm planted by the Rev. Josiah Pullen about 1680 and known as Jo Pullen's Tree. Destroyed by fire on 13 October 1909.
- "Herbie", New England's oldest and tallest elm

"Herbie" in **Yarmouth, Maine**, has been standing by East Main Street (**Route 88**) since 1775. At 110 feet in height, it is believed to be, as of 1997, the oldest and tallest of its kind in **New England**. The tree, which stands partially in the front yard of a private residence, also has a 19-foot circumference and (until mid-2008) a 93-foot crown spread. As of 2003, only twenty of Yarmouth's original 739 elms had survived Dutch elm disease. In August 2009 it was revealed that, after battling fifteen bouts of Dutch elm disease, the tree will be cut down in early 2010.

Penn and Indians with treaty under the elm

- The "Treaty Elm" — In what is now **Penn Treaty Park**, the founder of **Pennsylvania, William Penn**, is said to have entered into a treaty of peace with native Indians under a picturesque elm tree immortalized in a painting by **Benjamin West.** West made the tree, already a local landmark, famous by incorporating it into his painting after hearing legends (of unknown veracity) about the tree being the location of the treaty. No documentary evidence exists of any treaty Penn signed beneath a particular tree. On March 6, 1810 a great storm blew the tree down. Measurements taken at the time showed it to have a circumference of 24 feet (7.3 m), and its age was estimated to be 280 years. Wood from the tree was made into furniture, canes, walking sticks and various trinkets that Philadelphians kept as relics.
- **Cambridge, Massachusetts** — **George Washington** is said to have taken command of the American Continental Army under "the Washington Elm" in Cambridge on **July 3,**
- **1775**. The tree survived until the 1920s and "was thought to be a survivor of the primeval forest". In 1872, a large branch fell from it and was used to construct a pulpit for a nearby church. The tree, an American White Elm, became a celebrated attraction, with its own plaque, a fence constructed around it and a road moved in order to help preserve it. The tree was cut down (or fell — sources differ) in October 1920 after an expert determined it was dead. The city of Cambridge had plans for it to be "carefully cut up and a piece sent to each state of the country and to the District of Columbia and Alaska," according to **The Harvard Crimson**. As late as the early 1930s, garden shops advertised that they had cuttings of the tree for sale, although the accuracy of the claims has been doubted. A Harvard "professor of plant anatomy" examined the tree rings days after the tree was felled and pronounced it between 204 and 210 years old, making it at most 62 years old when Washington took command of the troops at Cambridge. The tree would have been a bit more than two feet in diameter (at 30 inches above ground) in 1773. In 1896, an alumnus of the **University of Washington**, obtained a rooted cutting of the Cambridge tree and sent it to Professor Edmund Meany at the university. The cutting was planted, cuttings were then taken from it, including one planted on **February 18, 1932**, the 200th anniversary of the birth of George Washington, for whom Washington state is named. That tree remains on the campus of the Washington State Capitol. Just to the west of the tree is a small elm from a cutting made in 1979.
- Washington, D.C. — George Washington supposedly had a favorite spot under an elm tree near the United States Capitol Building from which he would watch construction of the building. The elm stood near the Senate wing of the Capitol building until 1948.
- **Brown University** — "Elmo", a large elm which "once defined the Thayer Street entrance to Brown's new Watson Institute for International Studies" on the campus of the **Providence, Rhode Island** school, contracted Dutch Elm disease and was torn down in December 2003, according to a campus news

release. The tree "was thought to have been between 80 and 100 years old. Wood from the tree, one of the largest on campus, was used in various student art projects.

- **Association Island** — the **General Electric** think tank organization, the Elfun Society, founded in 1928 at Association Island in the Thousand Islands area of northern New York state, is named after a "famous" elm tree on the 65 acre isle. The tree died in the 1970s, but it survives in the elm tree logo still used by Elfun.
- Philipsburg Elm - 280 year old 30 meter elm in **Philipsburg, Quebec**, dubbed "the king of elms", which was cut down in March 2009 after death from Dutch elm disease.

Collection/Sowing

Seeds may be collected as soon as they ripen and begin to fall, in May/ early June. They should be sown immediately, the same day if possible, watered into place before covering lightly with soil, and then kept moist. They germinate very quickly and make significant growth in their first year.

Time of flowers

March/April

Propagate cuttings

Possible by suckers and some cuttings do strike.

Contributors to this issue

Lierni
Theresa
Maria
Caroline
John Healy
John Haughton
Peter Holzmann

Layout by Peter Holzmann and John Haughton

Petition to Minister for Agriculture, Fisheries and Food Brendan Smith Smith T.D

To Minister for Agriculture, Fisheries and Food
Brendan Smith Smith T.D
Dáil Éireann,
Kildare St.,
Dublin

Dear Minister, I wish to support the following campaigns of Forest Friends/Cáirde na Coille:

1. To reverse the present Irish Government's forestry policy of planting mainly a monoculture of
Sitka Spruce in favour of planting Irish native trees. This is justifiable on economic, environmental
and social equity bases. It is the only forestry strategy which is sustainable in the context of a national biodiversity approach based on the principles enunciated at the Earth Summit Conference
in Rio in 1992.

2. To ensure that the forests of the Irish People, (at present managed by Coillte) are not privatized.
This would be contrary to the national interest, to the principles of conservation and would create
serious problems of public assess, such as are at present enjoyed by the people of Ireland.

Name……

Signature……

Address……

Phone no……

Email.....
NB Please cut out and send the above request to:
Minister for Agriculture, Fisheries and Food
Brendan Smith Smith T.D.
Dail Eireann,
Kildare
Street,
Dublin

THE DUBLIN FOOD CO-OP: A SUCCESS TO REPRODUCE?

Near to St Patrick Cathedral is a very pleasant place to enjoy good food: the Food Co-op in Newmarket. Here are found every Thursday and Saturday a market of organic produces. On Saturday it is more than fifteen producers that come to provide fresh food, cooked food or crafts for the 400-500 members that pass by. To organise and manage all the people, a coordinating body, a team of staff and one of volunteers. And it works! Just come at this point on Saturday noon and you will see that the Food Co-op seems to be a very busy hive. The most of the people coming here are members of the Co-op of whom 80% live in Dublin.

The Food Co-op is more and more known, principally by the mouth ear. But the ads in the media have also lured here a large number of now members. However increase the numbers of members is not the main purpose of the Co-op. On the contrary the leaders do not want that the place is flooded by consumers. Because the will of the Co-op is precisely here: create a pleasant, peaceful place for the members and develop a spirit of community where all people know each other. Usability is the key word and what the members are getting is not only food (of very good quality which is more) but also contacts with the farmers or with the other customers, information about the way of producing, the organic side of the produces or the life of the farmers.

We wonder then, if such a Co-op is the paradise for the shoppers, why is it the only one in Dublin? Why is this phenomenon no more frequent in Ireland? The answers that we can advance are such a place is not born of the desire to enrich a brand, it was born of a desire to promote Irish organic produces and to gather people who have heart healthy and local agriculture. Many members claim their support for the system and are committed to the idea of membership. Behind the shop there are a lot of objectives: environmental, economically viable. Unfortunately this kind of cooperative does not create with money but with time and volunteer organisers; that could be a brake in the development of the coops. We need more people involved and with ideas of innovation. In the same time the supermarkets are well obviously concurrent.

Upcoming EVENTS:

The following field trips on the **second Sunday of each month** will be facilitated by John Healy.

Mar 14th St. Annes Park for photographic competition.

Apr 11th Howth Hill walk (downhill), starting at the Summit Inn at 11.30

May 9th Tree identification walk in the Millennium Arboretum, **St. Anne's Park**, Raheny, Dublin. Meet outside the cafe in the park at 11.00. Duration two hours approx.

Please contact John in advance of the events to confirm details:
Contact:

john healy (johnx.healy@hotmail.com)

PH: 0868144396

The following Field Trips on the **third Sunday of each month** will be facilitated by John Haughton:

Feb 21th Tree identification at **Newbridge House**, Donabate, Fingal, North Dublin. Starts at 11.00 from the public car park – Duration two hours/approx

Mar. 21th The biodiversity of the **National Botanic Gardens**, Glasnevin, Dublin. Meet outside the main entrance at 11.00. - Duration two hours approx.

April 18th Tree identification walk in the Millennium Arboretum, **St. Anne's Park**, Raheny, Dublin. Meet outside the cafe in the park at 11.00. Duration two hours approx.

May 16th Walk in the **National Park, Glendalough**, Co. Wicklow and Clara Vale. Meet at the steps of the Custom House, Liffey side at 11.00 or outside the inteprative centre in Glendalough at 12.15- Duration two hours approx.

Contact: John Haughton forest.friends@topmail.ie 0876198265 or 01 4302591

Note: Bring walking boots, rain gear and refreshments for all events.

Finally, some forest friends meet informally, at 12.00 Saturdays weekly, weather permitting, at the coffee shop in St Anne's Park Raheny, Dublin for a self-conducted walk and tree identification in the Millennium Arboretum. non-members are also welcome. Please bring tree identification books to aid identification.

Forest Friends CONTACTS:

Forest Friends e-mail: forest.friends@hotmail.com

John Haughton: jjhaughton@hotmail.com Ph: 087 6198265

Dermot Deering: dermotdeering@gmail.com Ph: 01 4549902

William Maher: wjmaher@iol.ie Ph: 087 7987576

Peter Holzmann: pkholzmann@gmail.com Ph: 087 1323196

MEMBERSHIP APPLICATION FORM

Forest Friends Ireland, P.O. Box 7814, Dublin 1. Ireland
FEES: Individual…€ 30 Family...€ 60 Schools...€ 60 Student /Unwaged/Senior Citizen...€ 15
(Please Tick one of above)
NAME: ……
ADDRESS: ……..
TELEPHONE: ……EMAIL:
CHEQUE/POSTAL ORDER

For the appropriate amount made payable to "**Forest Friends Ireland**" at the above address
OR BANKER'S ORDER
I/We authorize you to pay ……annual payments of € …, commencing on the Day……
Month…..Year……
To the account of :

Forest Friends Ireland Ltd.
Bank of Ireland
2 College Green
Dublin 2
Account no: 33721955 Sort Code : 900017
To the Manager (your bank)
Bank's Postal Address ……
……
Name of Account ……
Account Number ……
Date ……
Signature(s) ……

NNB Please return to: Forest Friends Ireland, P.O. Box 7814, Dublin 1. Ireland

Further information at www.cairdenacoille.com

Telephone: (01) 8325415 Email: jjhaughton@gmail.com or wjmaher@iol.ie

Forest Friends Ireland, P.O. Box 7814, Dublin 1. Ireland