**Content draft for Naturalliance.org multilingual hub**

Cartoons:
Page 1. *aircraft pilot/gillet jaune*
Aircraft pilot (plane in background) saying to gillet jaune bearing placard 'No carbon taxes' – "Thank you. Our sightseeing to the ice-free arctic is booming."

Page 2. *Farmer leaning over fence to angler by river*
"Those conservation people just talk about it. They don't get their hands dirty."

Page 3. *deer/car(vegan,wolf)/hunter*
Driver leaning out of car driving rapidly towards deer and young on road leaning out of window to shout at hunter (covering eyes to not see coming collision), words are "Shooting deer is horrible!"

Page 4. *villager/official/militia/activist*
Villagers talking to government official, part surrounded by armed militia, figures with 'No poaching' signs in background (maybe a vehicle with logs on in distance); government official saying "You want to manage your wildlife? But then what work do we do!"

Page 5. *fishes/hook/fish predator*
Two fishes talking, (barbless) hook with worm in foreground, big (freshwater) predator in background: "They say if you grab that, the water gets cleaner."

Page 6. *save/study/breed/eat*
Poor villager facing group with placards: 'Save the animal'. 'Study the animal'. 'Breed the animal'. The first says to her – "You want to save it to eat it?"

**1. Home page** *(vision statement, click-through-to-local, paras on basics)*

*Mission*
Naturalliance is for guiding people to maintain or restore the riches and services of nature wherever they live.

Read these pages to understand why this is important or click here for information on where you live (*language-specific links to regional/national satellites)*.

**Earth's ecosystems and their resources.** *(Image: Earthrise, if not too expensive)*
Imagine the earth as a soccer ball held between your outstretched hands. The ecosphere, or layer which supports life above and below ground or water, is less than the thickness of a fingernail! That fragile ecosphere contains a beautiful mosaic of systems, composed of plants, animals and other organisms, with the ground, water and air that support them. We are a part of these ecosystems, which include forests, mountains, grasslands, wetlands, deserts and seas. We depend on the health and resources of the earth's ecosystems to sustain us.

Learn more about human use of ecosystems
(*internal link to www.naturalliance.org/page3)*

**Organisms within ecosystems** *(Image: Partridges)*
Now imagine a small population of organisms (plants, animals, fungi or other micro-organisms) in an ecosystem with abundant food and habitat, and little or no predation, disease or parasites, or other forms of mortality. Experiments show that such a population will grow. The time it takes to multiply varies with size of the organisms, doubling within minutes for bacteria but taking a decade or more for elephants, with populations of many small animals and plants able to increase several-fold in a year. Such populations eventually reach resource limits and crash through starvation. Mostly, however, populations of mature plants and animals do not grow like this. Accidents, predation and disease take the surplus of young that is available for growth, with a few starving. Fewer still reach 'old age'. The deaths provide sustenance for other organisms in ecosystems, including us.

Learn more about conserving organisms and ecosystems
(*internal link to www.naturalliance.org/page4)*
Learn more about partridges in farmland ecosystems
(*language-specific links to www.perdixnet.org)*

**Our impact on ecosystems.** *(Cartoon: aircraft pilot/gillet jaune)*
Humans lived as hunter-gatherers for many millennia before we learned to domesticate animals and grow crops. Agriculture became widespread following the last ice-age, producing a stable food supply which allowed human settlements to develop and flourish, leading in due course to cities. Human populations have grown dramatically, incurring much damage to ecosystems and climate. Disrupted beyond certain critical thresholds, ecosystems cease to function effectively, resulting in problematic impacts on human livelihoods as well as other biodiversity. In the countryside, our activities may result in the local overharvesting of wild species if systems are not managed properly. In cities we depend on farmed ecosystems elsewhere for intensive resource production. In the modern world, only a minority of citizens understand the processes involved, and laws made by an urban majority are often unpopular with communities in the countryside. With the human population now at unprecedented levels, it is difficult to avoid damaging impacts on ecosystem capacity without a concerted and informed approach, using both science and practical knowledge.

Learn more about helping to remove negative impacts of humans on ecosystems.
(*internal link to www.naturalliance.org/page5)*

**Commented [SMB1]:** Can likely be simulated with Photoshop.

**Commented [RK2]:** Informal definitions, as here of ecosystems, are used wherever possible to avoid seeming too technical. The aim of drafting was to keep text short and snappy in each section, to keep attention and understanding from 16 year-olds upwards and to aid translation.

**2. About Page**

This site is a product of the International Union for Conservation of Nature. IUCN was founded in 1948 and there are now 84 states as Members along with more than 1100 non-government organisations (NGOs). IUCN is the only International Observer organization in the UN General Assembly with specific expertise for biodiversity, nature conservation and sustainable natural resource use.

Read more about the International Union for Conservation of Nature
(*external link to www.iucn.org)*

The text of this site was agreed in English, and then translated, by the 500 experts for Sustainable Use and Management of Ecosystems in IUCN's Commission for Ecosystem Management, one of six such Commissions. [Knowledge was gathered with help of a sister group on Sustainable Use and Livelihoods, which belongs to Species Survival Commission (well known for its Red Lists) and Commission on Environmental Economic and Social Policy]. The satellite sites in our network of knowledge are run by IUCN experts in the regions and countries concerned.

**Commented [RK3]:** Part in [brackets] to be discussed with new SULi chair

Read more about IUCN's group on Sustainable Use and Management of Ecosystems
(*external link to http://sume.sycl.net)*
Read more about IUCN's group on Sustainable Use and Livelihoods
(*external link to www.iucn.org/SULi)*

*Cartoon: Farmer leaning over fence to angler by river*
We hope that reading this site will give you an understanding of the natural world and of the special contributions from the different groups of people that engage with wild creatures globally. We also link you in your own language to other sites that provide information and background to these subjects where you live. Please open your minds to the good news of conservation progress, so that ideas and efforts that have achieved many successes are spread ever more widely. Please take this knowledge, gained across the world, and apply it to your situation.

The themes on these pages aim to encourage:
Valuing and enhancing wild resources (*internal link to page 3*)
Protecting, restoring and enhancing nature, in cities and the countryside (*internal link to page 4*)
Helping nature's riches adapt to change (*internal link to page 5*)
Making laws that enable local people to engage and benefit (*internal link to page 6*)
Aiding ecosystem-safe action against disease and unwelcome species (*internal link, page 7*)

## 3. Benefits for people from earth's ecosystems

**Ecosystem benefits and threats** *(Image: diverse harvested food, including wild-sourced)*
Why do you value nature? Is it because you depend on nature for your livelihood, like many people in rural parts of some countries? Do you like to collect wild fruits and fungi or fish or hunt in various ways? In some countries where food mainly comes from shops, over a third of people have strong traditions for gathering food from nature. Maybe you simply like to watch wildlife, perhaps while relieving stress and getting some exercise? If so, you are making use of what are called the productive and cultural services of ecosystems. Wild-fires, floods and outbreaks of pests in crops or homes tend to be the product of ecosystems in which regulating services have been damaged. Everyone depends on ecosystem processes that support breathable air, clean water and tolerable climate.

**Commented [RK4]:** Sticking with the order 'Productive, Cultural, Regulating, Supporting', as in Millennium Ecosystem Assessment, also to result in ending the paragraph with the 'everyone' aspect.

Learn more about managing opportunities and threats from nature
(*internal link to www.naturalliance.org/page7)*

**Ecosystem impacts by humans** *(Image: beach plastics/smoking factory)*
When we modify ecosystems for our benefit there may be negative impacts. In fertile areas, grassland, forest and even wetland may be converted to farmland, with monocultures that remove vegetation important to many native species and with a resultant reduction in soil fertility. In areas unsuited to intensive farming, domestic animals may replace wildlife, with further changes through removal of predators and increased grazing pressure on vegetation. In least fertile or accessible areas, such as tundra, wetland and desert, increasing recreation may have negative impacts, leaving little true wilderness. Even without the deliberate impacts by local and visiting communities of humans, the global discharge of plastics, and of pollutants to air and water, reach even remote areas, not to mention global climate change. Other widespread problems occur from unwitting transmission of diseases and introduction of organisms which prove more robust than those present already. All these problems may reduce the services that ecosystems provide for humans and the organisms that share our world.

Learn more about protecting and restoring organisms and ecosystems
(*internal link to www.naturalliance.org/page4)*

**Managing human impacts on ecosystems** *(Image: cartoon - deer/car(vegan,wolf)/hunter)*
When problems occur, local communities often discover them and try to address them through cost-effective restoration. A range of skills are needed to manage ecosystem services, including the practical efforts of local farmers, foresters, fishers, hunters, wildlife-watchers, gatherers and gardeners, aided by scientists and often funded by governments. The natural richness of ecosystems can be restored to some extent, given adequate time and favourable conditions. Some facets, such as vegetation and small organisms such as insects and other small animals, can be restored rather quickly in many cases; however, mature forests take decades to regenerate, and fertile topsoil may take centuries to replenish. For guiding and enabling such work, scientists and governments need to understand how to encourage and help the efforts of local people. Local people can be encouraged to contribute to conservation and share their knowledge in return for limited and sustainable use of the resources which are enhanced.

Learn more about the need for humans to govern their use of natural resources
(*internal link to www.naturalliance.org/page6)*
Read principles and guidelines for sustainable use
(*link to AAPG)*

## 4. Protecting, restoring and enhancing wild resources

**Protecting nature** *(Image: diagram of farmed, ranched, hunted, wilderness)*
Protection and management of natural areas and processes is important when pressure on nature is great. Refuge areas are essential for species easily lost from ecosystems, so that there is stock for restoration. The wealth of species in remaining pristine areas of some tropical countries is already high and can be preserved need for restoration. Beyond such areas, an ideal for protecting organisms and their ecosystems is a conservation continuum, where zones of protection are edged and linked by zones or corridors of natural habitat with reduced use by humans, forming a mosaic. If nature reserves become islands in a sea of intensive use, they risk spill-over of pollutants or loss of water and they are less able to retain populations of rare species. Zoning also enables communities to engage widely in local conservation rather than pay for travel and entry to nature-rich areas. In Namibia, South Africa and Zimbabwe, more land and larger wildlife populations are managed outside National Parks than in them, through hunting as well as watching them. Such zoning is especially appropriate for species which local communities tolerate only if any damage they cause can be offset by benefits from hunting or other uses. What pays, stays.

Learn more about managing opportunities and threats from nature
(*internal link to www.naturalliance.org/page7)*

**Restoring and enhancing nature** *(Image:landscape, forest restoration/planting mangrove)*
Despite achieving some protection for about 15% of land globally, ecosystems used by humans continue to be degraded and species are widely lost locally through intensified human demand for food and materials. Problems from human infrastructure, such as roads, dams, powerlines and wind-turbines can often be reduced if appropriate knowledge is applied. If habitat loss is the problem, quite small changes in land management, which sometimes actually benefit farming, forestry and gardening, can have dramatic effects on the riches of nature. Nest boxes, 'beetle banks', buffer strips and land-use diversification are all good examples. Far more work is needed on this 'reconciliation ecology' and its seamless integration into management of land (including cities) and infra-structure.

Learn more about benefits of reconciliation ecology in farmland ecosystems
(*language-specific links to www.perdixnet.org)*

*(Cartoon: villager/official/militia/activist)*
If harvest of wild foods departs from previously sustainable levels, especially of meat for markets in growing towns, it is essential to agree protective measures with communities, based on modern science and traditional knowledge. Widespread adoption of community conservation has been delayed by a reluctance to devolve responsibility for ecosystem management to the lowest appropriate level (the 'ecosystem approach'), and through a belief that it is better to oppose development than to compensate for its effects through management and restoration. Although restoration is widely mentioned in official strategy, implementation is poor. Governments and other bodies need to cooperate better for restoration, both with local communities and with communities of all those interested in land and wild species. Communities of interest can have special roles, as when falconers develop bird-safe power-lines and bird-watchers seek careful placement of wind-farms.

Learn more about the need for humans to govern their use of natural resources
(*internal link to www.naturalliance.org/page6)*
Learn about the 'ecosystem approach'
(*link to Malawi principles)*

**Urban ecosystems** *(Image: urban ecosystems with green areas connected nature land)*
Preserving and rebuilding the riches of nature should embrace not only rural but also urban areas, because everyone depends on nature for food, fresh water, breathable air and stable climate. Gardens, parks, 'green lungs' and 'emerald necklaces' to block urban sprawl can all bring benefits because management of services for human and other life is needed

**Commented [SMB5]:** How many languages are these available in? Do they need to be translated into all languages?

**Commented [RK6R5]:** Good point. Translation of these and AAPG would be good, maybe as the ‚Charter Principles' combination.

**Commented [SMB7R5]:** Agree.

everywhere. Moreover, people living in towns often return to the countryside, and need to understand nature if they are to contribute usefully to locally communities.

Read more about scope to enhance urban ecosystems
(*link to multilingual source if possible)*

## 5. Helping nature's riches to adapt to change

**An 'ecosystem approach'** *(fishes/hook/fish predator)*
An ecosystem approach accepts that change in ecosystems and their species is inevitable due to natural processes, which may be fast or slow. For example, shallow lakes fill with sediment from mountains. Humans change ecosystems deliberately, for example from forest to farmland, and unwittingly when intensively farmed land erodes to desert or degrades to heathland. Some human impacts inadvertently accelerate natural changes, such as through climate change. Human impacts on ecosystems can sometimes be reduced relatively easily, given pressure from those who use products of these ecosystems. Thus, anglers favour fish-ladders at dams and duck-hunters restore wetlands. Damage to nature can be rectified quickly if central knowledge helps to develop local skills and there are enough funds to leverage efforts of local communities, guided by communities of interest.

Learn about the 'ecosystem approach'
(*link to Malawi principles)*
Learn about hunters helping manage species in ways that conserve ecosystems
*(http://www.biodiversitymanifesto.com)*

**Adaptation of wild species to change** *(Image: migratory sp. responding: RK swallow?)*
The speed of change of ecosystems is shown by their component species. Outside the tropics, flowers bloom and insects emerge earlier each year due to rising temperature. In the tropics, change of rainfall affects vegetation. Both these trends may be seen in the timing and settling of migratory birds, with some moving steadily northward for breeding. Less mobile species sometimes adapt well, but often cannot disperse fast into new areas, especially if confined by coasts or on isolated mountains. Each organism eats and is eaten, so local extinction of one species affects others in that ecosystem too. Everyone needs to become aware of the most obvious changes occurring in their planet, and what it may mean for them and their families. Is your local school or workplace a center for such records?

*(are there links to education sites encouraging phenology records in different languages?)*

**Adaptation by humans** *(Image: forest and livestock activities/ local people interact with officials for restoration)*
Even city-dwellers depend on ecosystems for food, water and air, so change affects all of us. Arable farmers need weather to be reasonably predictable to grow food crops each year. There is a little more flexibility in terms of how grass for livestock grows, on wet meadows or dry hillsides, with scope for storage to offset temporary poor growth. However, long absence of rain is a problem for both crops and livestock, and for keeping forests free of fire during many years of growth for timber. Fortunately, forestry can help retain soil moisture, as well as lock up carbon, and humans eating less farmed meat will reduce emissions of greenhouse gas from livestock. However, eating meat may be the most sustainable use of soils and terrains which are unsuitable for growing crops. Harvesting wild species can also be more economic than livestock on such land, as found in African areas where the cost of disease prevention in livestock is high, with similar potential in 'rewilded' areas elsewhere. The richer nature on such land may increase resilience of livelihoods as climate changes. It is especially important to preserve traditional knowledge for managing such areas, which has often been lost because land has been modified to best suit agricultural machinery.

Learn more about managing opportunities and threats from nature
(*internal link to www.naturalliance.org/page7)*

**Commented [SMB8]:** likely in Scandinavia.

**Commented [RK9R8]:** Let's do as many as we can through a search across relevant groups

## 6. Governance for natural resources

Governance is how human society manages its affairs. Except in dictatorships, governance needs popular consent, which should be informed with knowledge based on science and/or experience. 'Traditional Knowledge' develops through prolonged observations of nature being turned into governance practices by people managing areas for centuries with empathy for local motivations. This holistic knowledge is hard to replicate and therefore a valuable resource. 'Modern Science' which compares observations across areas and does experiments can gain more rapid evidence, which is important in times of change. Adaptive management can help to inform decisions by learning from what works and does not work in a structured manner.

*Image -if not too expensive: "Inuit traditional knowledge assisted in solving the mystery of Franklin's ill-fated Arctic expedition"*

IUCN has a globally-accepted process for defining species status, based on population sizes and rates of decline. If there is no consistent evidence of decline based on good data, a species is of 'Least Concern', whereas a species whose mature population halves rapidly compared with its lifespan (typically within two decades for birds) is 'Endangered'. If methods can be found to reverse the reasons for decline, populations of all but the largest species can quite rapidly double again and may grow still more. Two methods have been found by authorities to reverse declines in species populations: punishments and rewards.

Discover the Red List created by IUCN to measure the conservation status of species *(https://www.iucnredlist.org)*

**Protection and punishment** *(Image: DNA forensics activities in wildlife control)*
IUCN also has categories of protected area, varying from land where most human activities are permitted to areas in which access is restricted. Protection of species also varies in strength, from that applied only during breeding to forbidding killing with no exceptions; 'animal rights' interests even aspire to ban any keeping of animals. Protection laws succeed if they have public support and breaches are easily detected, for example with DNA forensics. Protection is less effective if species cause notable damage to local communities, especially if breaches are easily concealed. Draconian restrictions and punishment, which do not deter offenders if risk of detection is low, may alienate local communities.

Learn more about the work of IUCN's World Commission on Protected Areas *(https://www.iucn.org/theme/protected-areas/our-work/world-database-protected-areas)*

**Rewards and restoration** *(Image: for certificate/prize being given/huntable species)*
Where animals cause problems, allowing some management wins support of local people. Maintaining and restoring ecosystems requires local efforts over long periods. Laws cannot compel the effort required and restrictions on management can deter this effort. However, if wild species have value, and can be used sustainably 'to meet the needs and aspirations of present and future generations', communities will conserve them unless fencing and farming pay better. For preserving very problematic species, rewards work better than coercion. Obtaining meat and selling valuable hunting rights can be a strong reward, as can wildlife watching where tourism can give local value without damaging ecosystems. Other rewards for conservation are state payment for stewardship and prizes for best-practice. It's also good to use natural products with certificates showing that their use is sustainable. The most recent major international agreement for nature conservation, the Convention on Biological Diversity, mentions sustainable use five times more than it mentions protection.

Find more information about the Convention on Biological Diversity *(https://www.cbd.int)*

**Adaptive governance** *(Cartoon: save/study/breed/eat)*

Good governance should adapt to changes in circumstances and evidence. For example, a species abundant enough to be used sustainably may become rare and need protection, but only until its abundance is restored, so that a return to the benefits from sustainable use can motivate conservation of its ecosystems again. People elsewhere may oppose renewed use if the species has become an icon for protection or tourism, or money is made by meeting demand through domestic breeding. There may be demands for restrictions and detailed monitoring which local people cannot meet without assistance. Nonetheless, those who cherish and manage the land where they live typically have more practical ability to conserve 'their' nature, if guided carefully, than those who wish to protect other people's wildlife. Good governance then involves making laws which can promote conservation through best practices and enable local people to benefit again sustainably. The Council of Europe has adopted charters invoking these principles; the Convention on Conservation of Migratory Species has worked to apply them.

Read about the Council of Europe's guidelines on collecting fungi and other charter work *(http://www.naturalliance.eu/topic_government_best_practice_bqxmpxf_yrxcqwp_zrxciqwp_xqqczrp.aspx and all other languages NB naturalliance.eu is in 23)*
See the Convention on Conservation of Migratory Species cooperate with other bodies *(www.sakerfalcon.org)*

## 7. Solving problems

Experience may teach people that democracy is a better form of governance than autocracy, and then to avoid politicians that promote conflict or are economically selfish or incompetent; so too should people learn about how best to conserve the riches of nature. As in all human affairs, balance and tolerance is likely to work better than extremism. With most of the earth now managed to some extent by humans, the riches of nature seem likely to survive best if their benefits are widely appreciated, not just by eating plants and watching nature films but also by enjoying the company of other animals and, where practical, foraging like them too. It also seems wise for people to understand how complex it can be, both socially and ecologically, to manage nature's riches at the same time as growing crops, and for this understanding to spread to communities everywhere.

Read about successful development in human societies during the last century.
*(Link to Hans Rosling's 'Factfullness')*

**Unwelcome species** *(Image: an EC-FACE conference poster on swine fever)*
Species are sometimes introduced, either on purpose or by mistake, to areas they had not colonised naturally. These aliens are difficult to manage if they spread fast and undetected (e.g. water-born species, including plants). If they damage ecosystems, they should be removed. Great expertise for this has developed in Oceania. Local people, notably hunters and anglers, can contribute observer-time and organisation on the ground which is of value in removal campaigns. For such campaigns to be socially sustainable, the public needs to see benefits immediately and know that introduced species are removed in a humane way.

*(Links, if available, to grey/red squirrel work in UK, and for IUCN Invasive Species SG?)*

**Managing predators and pests** *(Image: Pest species. RK: rat?)*
The same social constraints apply to the management of predators and pests. Management is sometimes needed to preserve human lives and property, and livelihoods in ecosystems where humans are competing with other species to eat crops or use wildlife sustainably. A number of societies across the world continue traditional ways to manage the riches of nature, through tolerance of problem species and cultural engagement that allows them to persist. Elsewhere, modification may tilt ecosystems heavily in favour of generalist predators, creating extinction-risk for rare prey such as ground-nesting birds unless the predation is managed. Even where species are not tolerated, the preferred management will be, for humane and economic reasons, to exclude and deter predators and pests. The alternative, of reducing predator and pest populations, often attracts opposition from those who prioritise protecting individual animals. In such circumstances, it is very important for any management to be based on robust science and for some protection to be retained, for example by zoning to conserve populations of the species concerned in areas where they do not cause problems. Complete removal of species (except pathogens) is generally unacceptable in modern societies and is increasingly reversed by reintroductions, resulting in a need to manage populations again.

**Nature-Based Solutions** *(Image: _Figure 4 schematic from NbS)*
Nature-Based Solutions are an approach for preserving, sustainably managing and restoring natural and modified ecosystems in ways that provide human well-being and biodiversity benefits. For example, the cost of restoring the health of wetland ecosystems can be less than paying to clean the water from degraded systems, especially when benefits like the recreational value of the restored systems are considered. Solutions can vary in size from very large and long-term, such as the roles of re-afforestation for storing carbon and reducing flooding, to very small and short-term, such as planting strips of vegetation for predatory insects next to crops which the prey of those insects would eat. Solutions

**Commented [EC10]:** See this link https://portals.iucn.org/library/sites/library/files/documents/2016-036.pdf

involve methods that benefit ecosystems rather than individual organisms or even populations. For example, using nematodes instead of toxic pesticides to remove slugs avoids not only the poisoning of animals that eat slugs, but also the contamination of water which creates costs for water companies.

A mini-ecosystem created to clean agricultural water
*(link to http://www.naturalliance.eu/topic_aquaculture_best_practice in each language)*
Read more about Nature-based Solutions
*(ask CEM NBS* for *link to multilingual source)*
EN: https://portals.iucn.org/library/sites/library/files/documents/2016-036.pdf
ES: https://www.iucn.org/node/28778
FR: https://uicn.fr/solutions-fondees-sur-la-nature/

**Commented [EC11]:** Here are a few more links on NbS:
In French:
https://uicn.fr/solutions-fondees-sur-la-nature/
https://www.iddri.org/fr/publications-et-evenements/solutions-fondees-sur-la-nature
https://reliefweb.int/report/world/les-solutions-fond-es-sur-la-nature-pour-la-gestion-de-l-eau

In Spanish:
https://www.iucn.org/node/28778
https://www.iucn.org/es/regiones/am%C3%A9rica-del-sur/nuestro-trabajo/soluciones-basadas-en-la-naturaleza-para-hacer-frente-los-retos-de-la-sociedad

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