

Stop water pollution



Take action to protect water!

Water, a precious treasure for our city

The different types of water in the city:

- **Rivers:** Carry water, shelter fish, play host to ducks and insects;
- **Lakes and ponds:** Refuges for frogs, dragonflies and aquatic plants, cool the air;
- **Groundwater:** Underground reserves providing drinking water.
- **Rainwater:** Fills rivers, lakes and feeds nature.

Why is water so important?

Water is essential to life, health and hygiene :

- It helps **trees** and **flowers grow**.
- It gives **animals** and **humans something to drink**.
- It cools the city on hot days.
- It **creates habitats for fish, birds, insects** and other living creatures.
- Water is a place where many animals reproduce,
- It allows us to **wash** and **prepare our meals**.

The dangers of water pollution

- **Chemicals:** Pesticides and fertilizers pollute water for a long time.
- **Oils and gasoline:** Carried by rain, these substances pollute city water. They are difficult to eliminate and pollute water for a very long time.
- **Waste:** Plastics and garbage take centuries to degrade.
- **Consequences:** poor-quality water has a direct impact on the health of fauna, flora and human beings.

Every actions counts: Protecting water means protecting all living beings!

A wilder city



Propose an action to promote and protect biodiversity in the city.

Biodiversity is all around us!

Biodiversity is all the life that surrounds us: plants, animals, insects, humans and micro-organisms (bacteria, fungi...). In the city, this diversity is essential to create a balance between all living beings.

Why do we need to protect biodiversity?

Protecting biodiversity improves life for everyone:

- ✓ **Cleaner air** thanks to plants;
- ✓ **Less heat** in summer, because trees provide shade;
- ✓ **Greater well-being**, because being surrounded by nature makes you happier;
- ✓ **Protecting biodiversity** also means promoting pollination and ecosystem balance;
- ✓ **A more beautiful and pleasant city to live in;**
- ✓ **A balance between all living beings**, including humans, animals and even the little microbes essential to life.

Why is it at risk?

With roads, buildings and pollution, nature has less and less room in the city. Climate change is also having a major impact on many plant and animal species.

Unfortunately, we are seeing :

- The disappearance of species such as bees and birds.
- Increased pollution (air, water, soil).
- More intense heat islands, as there are fewer trees to cool the air.
- An impact on health, as less nature means more stress and disease..

Nature has its place in the city ! We can create a city where all living beings live together in good health.



A wave of freshness



Propose an action to refresh streets or parks.

Heatwave: A danger for everyone

- What a heatwave is:
- **High temperatures** lasting several days, with no night-time dip.
- **Impact on health:** fatigue, sleep disorders, risks for the frail.
- **A threat to nature:** drought, stress on plants and animals, rapid evaporation of water.
- **Due to climate change,** heatwaves are becoming more frequent and more intense in Lyon..

Combating heat islands

Heat islands are places in cities where it gets much hotter. This happens because buildings, roads and concrete retain and reflect the sun's heat.

The benefits of cool islands

Cool islands are spaces with trees, shade and water that cool the air and make the environment more pleasant:

- Reduces urban heat.
- Improved air quality.
- Protection for animals and plants.
- Creation of rest and recreation areas.
- Water conservation and pollution reduction.
- Better sleep thanks to milder temperatures

Cool islands are essential to protect our health, biodiversity and resources.



Zero waste city

Propose an action to reduce waste and protect the environment



What is a zero-waste city?

A **zero-waste city** is one **that protects the planet** by avoiding excessive consumption, waste and pollution. To achieve this, we use solutions such as:

- **Sobriety:** think carefully about what we buy and how much we consume. The less we consume, the less waste we create;
- **Repairing and recycling:** Repairing, reusing objects that no longer work, recycling waste (paper, plastic, glass, etc.);
- **Composting:** Transforming food scraps and green waste into compost to nourish the soil.

What's wrong with waste?

- **Too much waste** pollutes the air, water and land.
- **Poor waste management** can encourage the proliferation of unwanted species and/or species with health concerns;
- **Animals can swallow plastic** or injure themselves.
- **The climate is impacted**, as manufacturing too many products consumes a lot of energy and resources.

What does a zero-waste city look like?

- A cleaner, more pleasant city.
- Healthier air and water for everyone.
- Better protection for animals and plants.
- Less waste and more recycling save resources.



Recycling, sorting and composting make our environment **cleaner, healthier** and more sustainable for everyone



Green spaces for all living beings



Propose an action to make green spaces conducive to the health of all living things.

Spaces with multiple functions!

Green spaces play an essential role in providing a habitat for animals and a place for residents to relax. It's important to maintain a balance between wildlife, residents and vegetation to preserve the health of all and guarantee a healthy environment.

What are they vulnerable to?

- **Pollinator collapse:** The disappearance of bees and butterflies due to pesticides and the loss of plant diversity threatens plant reproduction.
- **Waterproofed soils:** earthworms and other essential micro-organisms are destroyed by concreted soils, damaging fertility.
- **Global warming:** in a green space poor in biodiversity and resources (soil, water, etc.), plants will not survive the heat.
- **Accumulation of animal droppings:** Soil that receives too many droppings will become acidified and dry, and thus affect plant health.

Green spaces, a source of life for all living things

- Biodiversity finds natural shelter and food.
- Biodiversity develops and enriches the ecosystem (e.g., bees and butterflies help produce fruit and seeds to feed wildlife).
- The development of plant roots stabilizes the soil and prevents erosion.
- Human contact with nature reduces stress and improves mental and physical health.
- Trees prevent heat islands and the soil absorbs water, reducing the risk of flooding.
- Plants absorb CO₂ and limit climate disruption.

By cultivating harmonious green spaces, we sow the seeds of a healthier, more balanced and livelier future for all.



Stop soil pollution



Propose an action to help soil health!

A natural balance...

Soil is an ecosystem made up of plants, animals (such as earthworms and insects) and tiny living beings (such as bacteria and fungi) known as micro-organisms, which work together to ensure its good health.

...but delicate.

Soil pollution occurs when harmful substances (such as chemicals, waste, etc.) accumulate in the soil. This disrupts the natural balance of the soil, making its ecosystem less healthy:

- Polluted soil contains fewer nutrients, making it harder for plants to grow and reducing their quality.
- The many animals that live in the soil, such as earthworms, insects and micro-organisms, are directly affected by pollution. Their disappearance can lead to imbalances in the soil, making it **even sicker and more vulnerable**.
- Soil pollution can **contaminate groundwater**, which can affect the quality of the water we drink.

Healthy soil is a major asset:

- If the soil is healthy, plants can grow stronger, more resistant and of higher quality. They are therefore less likely to be invaded by pests or affected by disease. **The result is healthier, more nutritious harvests.**
- Healthy soil supports a wide variety of organisms, creating a more stable ecosystem. This helps maintain a wide diversity of plants, animals and insects.
- Healthy soils play an important role **in combating climate change**. They absorb carbon dioxide from the atmosphere.

By protecting the soil, we take care of our planet, plants, animals and ourselves!





Propose an action to improve air quality in the city.

The breath of life

Air is essential to human, animal and plant life. It is composed mainly of nitrogen (78%) and oxygen (21%), along with a few other gases. These elements are essential to life and atmospheric processes.

Atmospheric processes such as clouds, rain and wind regulate the climate. They also influence the weather and the quality of the air we breathe.

Air pollution: various causes, serious effects

- **Automobile pollution:** Exhaust fumes release fine particles that degrade air quality.
- **Pollen:** Natural but annoying for allergy sufferers, it causes reactions such as sneezing and itching.
- **Biodiversity under threat:** Air pollution by pesticides, for example, destroys living organisms, causing species to flee or become extinct.
- **Indoor air pollution:** Some household products and furniture release substances that are harmful to living organisms, even in buildings.
- **Human health:** Polluted air can cause or aggravate illnesses such as asthma and allergies.
- **Climate disruption:** Air pollution, particularly greenhouse gases, accentuates global warming and disrupts the seasons.

Take a deep breath!

- **Better health:** Good air makes it easier to breathe, practice sports and limit illnesses such as asthma.
- **More nature:** Plants and animals are healthier if the air is unpolluted.
- **Healthy plants purify the air,** absorbing carbon dioxide and at the same time releasing oxygen, which is healthy for humans and animals alike.
- **Pleasant environment:** healthy air contributes to a healthier city, pleasant for all living beings.

Let's take action to improve air quality, and protect the health of humans, animals and plants, while preserving the ecological balance of our city.



Urban agriculture

Propose an action to develop sustainable urban agriculture



What is urban agriculture?

This is when plants, fruit and vegetables are grown in the city. This can be done on rooftops, balconies, in schoolyards, in shared gardens... This allows residents to eat fresh, healthy food grown close to home, while making the city greener and more pleasant!

What's the problem(s)?

- **Food travels too far:** it comes from very far away, and modes of transport pollute a lot.
- **The fertilizers and pesticides** used in certain types of agriculture impact on several element :
- They pollute the soil and water, and destroy biodiversity (especially pollinating insects).
- The food they produce makes us sicker and more vulnerable.
- **Industrial agriculture** contributes to global warming with its large-scale machinery, factories and transport.
- **Less diversity:** Monoculture is unfavorable to the development of biodiversity, making nature more fragile and vulnerable to climatic hazards and their consequences.
- **In cities, some soils are polluted,** so we need to be careful not to plant edible plants on polluted soils, and to adapt cultivation (favoring shrubs and flowers).

Sustainable urban agriculture is good for everyone!

- We eat fresh, healthy food grown close to home (in unpolluted soil).
- We learn to respect and care for nature.
- The city becomes prettier, greener and more pleasant to live in.
- Plants attract birds, butterflies and bees, which helps nature.
- Gardening together creates bonds between neighbors, friends and families.
- The planet breathes better: there's less pollution.

Sowing the seeds of well-being: let's grow in the city!



Animal-friendly city



Propose actions to protect animals.

The city is full of animals

The city is home to a **wide variety of animals**, including pets such as cats, dogs and new pets (NACs); wild animals such as bats, herons, coypu and fish; small animals (insects, earthworms, etc.); liminal animals (free-living species that live in close proximity to humans) such as rats, pigeons and foxes; and captive animals housed or bred by humans, such as zoo animals, chickens and farm animals.

The challenges of animal life in the city :

- **Reduced space:** Urbanization limits natural habitats, complicating reproduction and survival.
- **Pollution and risks:** Polluted air, soil, water and urban waste threaten animal health.
- **Unsuitable food:** Human food can be harmful and disrupt their behavior.
- **Threatened species:** Some species, such as swallows, are vulnerable to urban hazards (traps, cars, etc.).
- **Noise and stress:** Constant noise alters their well-being and behavior.
- **Stray animals:** Homeless dogs and cats suffer injury, disease and malnutrition.
- **Pet welfare:** there are few suitable or stimulating places for pets to thrive.

A healthy cohabitation that benefits everyone!

- **Protect biodiversity:** Preserving habitats and endangered species maintains healthy ecosystems.
- **Encouraging pollination:** Protecting bees and insects promotes the production of fruit, vegetables and plants.
- **All species have their role to play:** Pigeons, rats and foxes contribute to ecological balance (seed dispersal, natural sewer cleaning, population regulation).
- **The health and well-being of animals** in the city contribute to the balance of nature.

Protecting urban wildlife means guaranteeing
a healthy environment for all!



Stop light pollution



Propose actions to protect local flora and fauna from light pollution

What's the link between light levels and species' biological cycles?

The change of light between day and night affects the behavior and physiology of living beings:

- Plants take advantage of natural light for their development
- Some animals are active (eating, reproducing, pollinating, etc.) during the day, while others prefer to do it all at night.
- In humans, we call this the circadian cycle: It's an internal clock of about 24 hours that influences our biological mechanisms such as sleep, eating and so on.

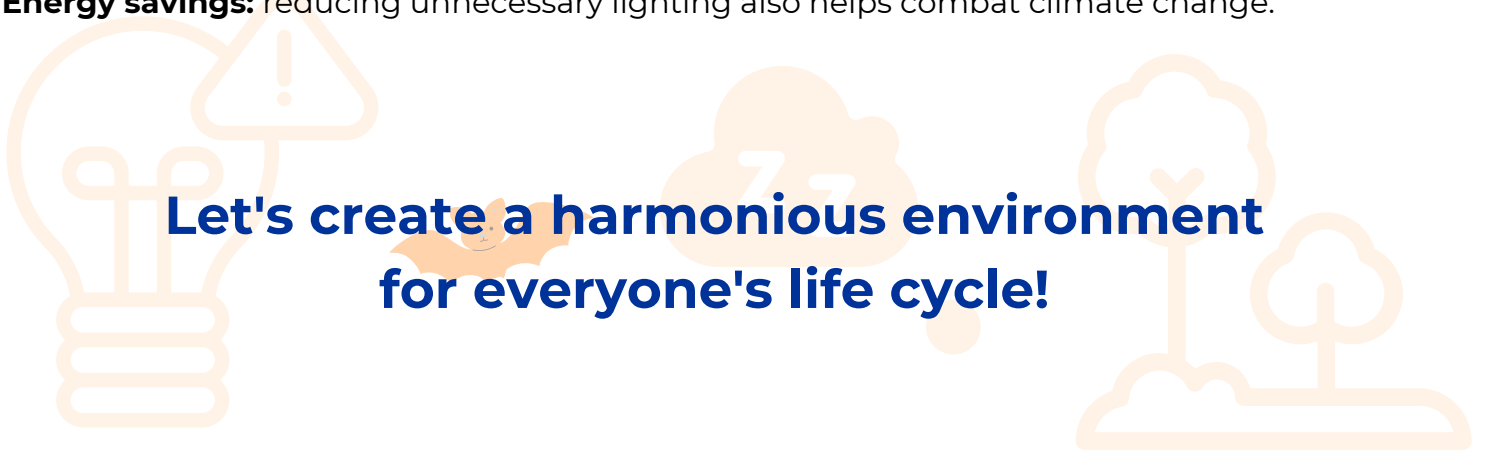
What happens with artificial light?

- **Nocturnal pollinators disrupted:** attracted by light, their efficiency declines, hindering pollination and plant reproduction.
- **Ecosystem imbalance:** species interactions are deregulated, the food chain is affected and biodiversity diminishes.
- **Disrupted reproduction:** in some species, artificial light alters the time of reproduction.
- **Migratory birds disoriented:** attracted by lights, they become lost, exhausted or collide with structures.
- **Altered plant cycles:** flowering, fruiting and leaf fall are delayed, disrupting relationships with pollinators and herbivores.
- **Impact on humans:** night-time light interferes with sleep, causing fatigue, stress and irritability.

A peaceful night for all!

- **Less light** = more nature: insects, birds and mammals return to their natural rhythms.
- **Wildlife flourishes:** animals can move, feed, migrate and reproduce without being disoriented.
- **Nocturnal pollinators protected:** without night-time light, they perform their role more effectively, improving pollination and plant health.
- **Plants in harmony:** they follow their normal cycle (flowering, fruiting, leafing), promoting good interactions with pollinators and herbivores.
- **Preserved human sleep:** less light at night improves rest and mental and physical health.
- **Energy savings:** reducing unnecessary lighting also helps combat climate change.

**Let's create a harmonious environment
for everyone's life cycle!**





Propose an action to help rain penetrate our city's soil.

A natural balance

Soil is a veritable living ecosystem, made up of plants, animals (such as earthworms and insects) and micro-organisms (bacteria, fungi) that work together to keep it healthy.

Water and soil are inseparable: the soil needs water to feed itself, and in return, it filters and purifies it. Soil plays a key role in the water cycle, storing and regulating water.

What are the consequences of impermeable soil?

- **Impermeable soil:** concrete and asphalt prevent water from infiltrating, rainwater goes straight down the drain or into watercourses; it is neither stored nor cleaned.
- **Plants and trees in difficulty:** less space to grow, damaged roots, weakened trees, risk of falling or dying.
- **Destruction of soil life:** earthworms and insects can no longer survive, soil becomes sterile.
- **Mosquito proliferation:** non-permeable soils (such as concrete or asphalt) prevent water infiltration, creating surfaces where moisture persists, as in cracked sidewalks or poorly drained areas. These conditions encourage mosquito breeding by providing spaces for water stagnation.

Permeability for everyone!

- **Biodiversity thrives:** Permeable soil becomes a habitat for earthworms, insects, roots and fungi.
- **Water-storing soil:** In times of drought, it helps maintain humidity.
- **A fresher, more beautiful city:** If plants and trees are healthier because the soil is more fertile, they offer shade, freshness and beautify the city.
- **Natural water filtration:** Soil purifies water, improving its quality for rivers and aquatic fauna.
- **Controlled infiltration:** Water infiltrates slowly, preventing sewers from overflowing and keeping streets dry.
- **Less flooding:** Water seeps into the ground, reducing the risk of flooding and keeping streets safer.



Let's promote healthy soil, for pure water and preserved health.



Vector-borne diseases and zoonoses



Propose an action to reduce the risk of disease transmission while protecting the environment.

But what are we talking about?

- **What is a zoonosis ?** It's a disease that has been transmitted from animals to humans (like COVID 19).
- **What is a vector-borne disease ?** A disease transmitted by vectors, essentially insects that feed on blood (such as mosquitoes and ticks, etc.).

Urbanization and health risks

- **Spread of disease:** Urbanization, deforestation and the animal trade encourage the transmission of zoonoses and vector-borne diseases.
- **Species encounters:** Urban sprawl creates cross-breeding zones between humans and wild animals, facilitating disease transmission.
- **Management measures not optimized for everyone's health:** Today, in the absence of suitable natural solutions, certain actions against the emergence of disease are detrimental to biodiversity and animal welfare.
- **Urban microclimates:** Urbanization creates environments conducive to the development of unwanted species and/or species with health concerns (mosquitoes, ticks, rats). The greater their presence, the greater the risk of disease transmission.

Prevention is better than cure!

- **The health of animals**, preserved by a healthy environment and protected by good habits (taking care of animals in town) reduces the risk of zoonoses.
- When wild animals live in **protected natural habitats**, they evolve freely, limiting contact with humans and the spread of disease.
- **Trusting nature allows it to regulate itself**, thus controlling the development of species that can impact health.
- **Urban planning** that takes these principles into account helps to limit the areas conducive to the development of certain species that can transmit vector-borne diseases.



Let's build urban spaces where people, animals and nature live together in harmony.

