



**WAZA**

*World Association  
of Zoos and Aquariums*



# **Protecting our Planet**

**Sustainability Strategy 2020 - 2030**





**Prof. Theo Pagel**  
WAZA President, 2019 - 2021

*"The World Association of Zoos and Aquariums Sustainability Strategy is an important step for the global zoo and aquarium community to sustain a world in which both our societies and nature can thrive together.*

*By playing an active role in the implementation of the United Nations Sustainable Developments Goals (SDGs), WAZA zoos and aquariums are not only leading organisations in animal welfare, conservation, education and research but are also paving the way for a more sustainable future in which animals, people and the health of the planet can thrive.*

*Therefore I am really happy that we have now an additional guidance which will hopefully not be used only by our members, but in other institutions as well. WAZA once more shows leadership and excellence. Thanks to all who were involved in preparing this strategy."*





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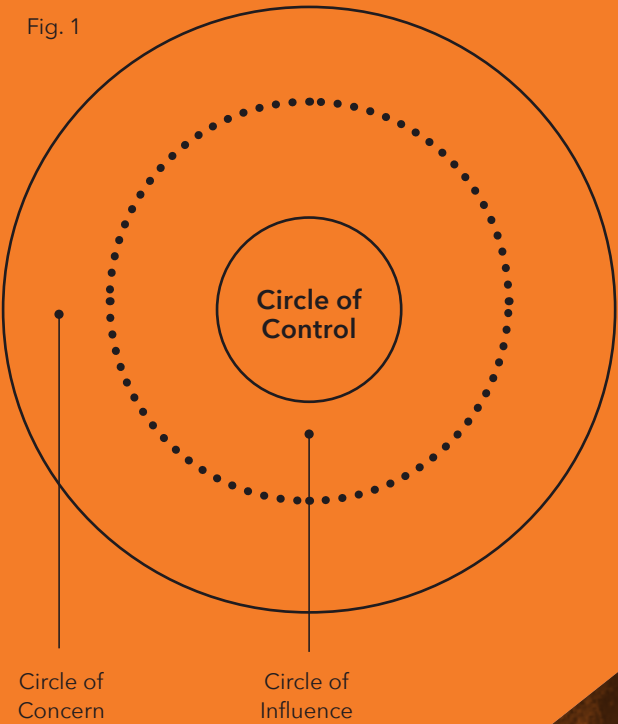
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Protecting Our Planet, WAZA Sustainability Strategy is a guide for WAZA members to help achieve sustainability outcomes crucial to progressive conservation organisations. Sustainability outcomes and conservation outcomes are complementary and by implementing recommendations in this strategy WAZA members can show behavioural leadership. Protecting Our Planet provides information to assist WAZA members in integrating sustainability into their strategies and throughout their operations.

The strategy uses a framework of addressing areas of the Sustainable Development Goals (SDGs) where our profession has the most influence through their onsite and offsite programmes. Recommendations are not made about actions that would require governments to implement. An example of this is human population growth. Human population growth controls are not within the circle of control (Fig. 1) or the circle of influence of most WAZA members even though some may choose to discuss this topic with their individual communities on site as issues like this may be part of their circle of concern.

Fig. 1



# Sustainable Development Goals

On 25 September 2015, the United Nations (UN) General Assembly adopted the 2030 Agenda for Sustainable Development (UN, 2015). This global framework to direct humanity towards a sustainable path was developed following the United Nations Conference on Sustainable Development (Rio+20) held in Rio de Janeiro, Brazil, in June 2012, and involved the UN Member States, national surveys engaging millions of people and thousands of stakeholders from all over the world.

At the core of the 2030 Agenda are 17 Sustainable Development Goals (SDGs). The 17 SDGs aim to secure a sustainable, peaceful, prosperous and equitable life on earth for everyone now and into the future.

The commitment of zoos and aquariums to the SDGs has the potential to significantly contribute to the global achievement of these goals. The SDGs provide aspirations for improving the world, and sustainability should be integral to how progressive zoos and aquariums lead, think and act. The SDGs are:

## **1 | No Poverty**

End poverty in all its forms everywhere.

## **2 | Zero Hunger**

End hunger, achieve food security and improved nutrition and promote sustainable agriculture.

## **3 | Good Health and Well-Being**

Ensure healthy lives and promote well-being for all at all ages.

## **4 | Quality Education**

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

## **5 | Gender Equality**

Achieve gender equality and empower all women and girls.

## **6 | Clean Water and Sanitation**

Ensure availability and sustainable management of water and sanitation for all.

## **7 | Affordable and Clean Energy**

Ensure access to affordable, reliable, sustainable and clean energy for all.

## **8 | Decent Work and Economic Growth**

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

## **9 | Industry, Innovation and Infrastructure**

Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.

## **10 | Reduced Inequalities**

Reduce inequality within and among countries.

## **11 | Sustainable Cities and Communities**

Make cities and human settlements inclusive, safe, resilient and sustainable.

## **12 | Responsible Consumption and Production**

Ensure sustainable consumption and production patterns.

## **13 | Climate Action**

Take urgent action to combat climate change and its impacts.

## **14 | Life Below Water**

Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

## **15 | Life On Land**

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

## **16 | Peace, Justice and Strong Institutions**

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

## **17 | Partnerships for the Goals**

Strengthen the means of implementation and revitalise the global partnership for sustainable development.

In this strategy each SDG is explained and guidelines are given on how zoos and aquariums can address each goal. These guidelines are not exhaustive, and other additional resources are included in the final chapter. The relevant WAZA MoUs with the Roundtable for Sustainable Palm Oil (RSPO), UN Environment (plastics reduction), and Forest Stewardship Council (FSC) are also reflected in this strategy.

The SDG framework allows zoos and aquariums to make strategic decisions to tackle one or more of the SDGs at any given time. While some SDGs seem more relevant to our profession, there are links across almost all of them if addressed holistically. All the SDGs are complementary and some actions may actually address a number of SDGs. This document does not approach the SDGs that way but members can in fact choose to do this within their own context. Creating more equitable conditions for people globally has immense spillover benefits for the environment and the wildlife and wild places we are tasked with protecting. More responsible consumption influences supply chains and promotes ethical purchasing. Certification for carbon neutrality and conservation efforts in zoos and aquariums create a better environment for animals and people and prepares us for the effects of climate change.

Using the language of the SDGs will help WAZA members to report progress using the framework and provides a standardised communication tool. WAZA will be able to track member action over the coming Decade of Action 2020-2030 and provide voluntary reporting to the UN of member contributions to the delivery of the SDGs.

By examining the SDGs as a whole, each zoo or aquarium can decide which of the 17 Goals are most applicable now and into the future for their contexts. WAZA is striving to enable its members to choose the SDGs that are most important to them. These may change over time, and WAZA members should evolve their SDG programme of work as they develop new organisational strategies and change their operations.

Each zoo or aquarium has a unique context which can create different challenges based on their current political, economic, social, cultural and environmental state. The SDGs framework allows zoos and aquariums to decide on the best course of action to take, tailored to their context.

The chapters have been developed as guides for WAZA members to use, and they provide examples of recommended actions. WAZA does not expect its members to achieve results in all 17 Goals, but to work towards better integration of sustainability across their organisational work.







**Sustainable Development Goal 1.**

# No Poverty

**Our commitment is to promote and support conservation activities that help to reduce poverty.**

Poverty is more than the lack of income and resources to ensure a sustainable livelihood. Its manifestations include hunger and malnutrition, limited access to education and other essential services, social discrimination and exclusion, as well as the lack of participation in decision-making.

Zoos and aquariums can be involved in programmes that provide income for local communities while also supporting conservation and education outcomes.

A link is often seen between low-income households and the lack of access to opportunities including those in education. Zoos and aquariums should be one of the catalysts to help these communities in need to reach their full potential.

## Key Facts and Figures

- Most people living below the poverty line belong to two regions: Southern Asia and sub-Saharan Africa.
- 783 million people live below the international poverty line of US\$1.90 a day.
- High poverty rates are often in small, fragile and conflict-affected countries.
- The height of one in four children under the age of five is inadequate for their respective age.

## Recommendations

1. Reduce or subsidise entrance fees for targeted schools and other disadvantaged groups.
2. Implement accessibility events for local communities.
3. Develop skills and train staff so that they can develop and grow professionally.
4. Support conservation programmes that provide economic development/income for developing countries and communities.

## Case Studies

**SERA Conservancy, Beads for wildlife Zoos  
South Australia**

<https://www.zoossa.com.au/conservation/how-you-can-help/beads-for-wildlife/>

**BEADworks**

<https://www.beadworksenya.com/>



Zoo and aquarium visitor engagement programmes can support individuals and families to build their own food gardens. This can be done through outreach programmes for small groups or entire communities or by programmes conducted on site.

The programmes can demonstrate how to use natural ways of repelling pests in the gardens, for example, using natural predators to fight crop-eating insects.

By cultivating a garden, a family can enjoy growing their own food and it allows interactions with neighbours and other home farmers. By giving away seeds, seedlings, ideas and advice, zoos and aquariums can encourage partnerships and collaboration within and between communities.

## Key Facts and Figures

- Globally, one in nine people in the world today are undernourished.
- 66 million primary school-age children attend classes hungry across the developing world, with 23 million in Africa alone.
- 500 million small farms worldwide, most still rain-fed, provide up to 80% of food consumed in large parts of the developing world. Investing in smallholders is an important way to increase food security and nutrition for the poorest, as well as food production for local markets.
- Since the 1900s, some 75% of crop diversity has been lost from farmers' fields. Better use of agricultural biodiversity can contribute to more nutritious diets, enhance livelihoods for farming communities and ensure more resilient and sustainable farming systems.

## Recommendations

1. Develop programmes to teach visitors gardening skills.
2. Talk about healthy food and sustainable agriculture if your organisation has a farmyard area.
3. Sell seedlings, seeds and gardening equipment.
4. Cater using plant-based foodstuffs, and ensure animal products are sustainably sourced.

## Case Studies

### Zurich Zoo - Masoala Madagascar

<https://www.zoo.ch/en/conservation-animals/conservation-projects/masoala>

### Philadelphia Zoo Cropbox

<https://thephiladelphiacitizen.org/philadelphia-zoo-cropbox/>

### Zoo Heidelberg - Exposition about meat consumption

<https://www.zoo-heidelberg.de/zoo-erleben/entdeckerstationen/ausstellungen/>

(only in German - more information can be provided; Resources: <https://www.scientificamerican.com/article/meat-and-environment/> )

**Sustainable Development Goal 2.**

# Zero Hunger

**Our commitment is to promote and support actions that support sustainable agriculture.**

Photo: Tortoise eating lettuce grown at Philadelphia Zoo Cropbox | Philadelphia Zoo  
© Photo by Miana Jun and Anthony Lasala





**Sustainable Development Goal 3.**

# Good Health and Well-being

**Our commitment is to ensure healthy lives and promote well-being for all at all ages.**

Good health is a fundamental aspect of quality of life. It is also important to be aware of the indirect role good health plays in affecting the capacity of individuals to have a positive impact on the environment around them. Visiting a zoo or aquarium should add to the well-being of visitors.

Inequalities still persist both between and within countries, meaning that people are still suffering and dying needlessly from preventable diseases. Because of the excellent scope and outreach of WAZA Members we are able to play a part in addressing these inequalities and focusing on population groups and regions that have been neglected.

When an ecosystem goes into decline it loses its ability to mitigate the negative effects of pollution and often increases the incidences of pests and diseases. Furthermore, many modern medicines have their origins in biological products and many traditional medicines come from local biodiversity. Healthy ecosystems support healthy people.

## Key Facts and Figures

- At least 400 million people have no basic healthcare.
- Children of educated mothers - even mothers with only primary schooling - are more likely to survive than children of mothers with no education.
- There is a 31-year gap between the countries with the shortest and longest life expectancies.
- Unsafe drinking water, unsafe sanitation and lack of hygiene continue to be major contributors to global mortality, resulting in about 870,000 deaths in 2016.
- Seven million people die every year from exposure to fine particles in polluted air.

## Recommendations

1. Raise awareness in your institution about the importance of good health and healthy, sustainable lifestyles for staff and visitors.
2. Provide healthy, sustainable options in your catering offerings.
3. Instigate safety measures to reduce injuries and deaths at your organisation.
4. Support ecosystem restoration projects that have direct links to reducing air, water and soil pollution.

## Case Studies

**Thriving Together Margaret Pyke Trust**  
<https://thrivingtogether.global/supporters/>

**Two Oceans Aquarium Smart Living Outreach Program**  
<https://www.aquarium.co.za/content/page/outreach-smart-living>





**Sustainable Development Goal 4.**

# Quality Education

**Our commitment is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.**

Photo: The Warehouse Zoofari Programme | Wellington Zoo

Zoos and aquariums should strive to provide students, visitors and the broader community with quality learning experiences on-site and online. Zoos and aquariums should support educational initiatives as part of their conservation work. This includes the empowerment of women and girls, inclusive educational initiatives and policy and legal frameworks to support such educational work.

Zoos and aquariums offer education/learning programmes to a diverse range of audiences. Educational facilities in zoos and aquariums should be designed to enable access for all.

Topics about sustainable development can be creatively included in the curriculum of many education programmes or visitor experience messaging. Zoos and aquariums should design innovative visitor experiences and learning materials that can contribute to learning outcomes for the SDGs. Also, through the online learning opportunities offered by many organisations, these messages and learning opportunities can be widely disseminated.

Creative work opportunities, internships, and work-study opportunities will also provide students with access to quality education and prepare them for the workforce.

## Key Facts and Figures

- Worldwide 57 million children remain out of school.
- In 2016, only 34% of primary schools in the Least Developed Countries had electricity.
- In developing countries, one in four girls is not in school.
- 103 million youth worldwide lack basic literacy skills.

## Recommendations

1. Develop inclusive opportunities for all visitors, regardless of cognitive or physical ability or gender, social, cultural, ethnic or economic background.
2. Develop education programmes that can practically address issues of sustainability.
3. Develop partnerships with schools, universities and other institutions to enhance educational content, methodology, research and reach.
4. Evaluate the impact of your educational work against the SDGs.

## Case Studies

**Zoofari at New Zealand Zoos.** This programme is for underprivileged schools to visit Auckland Zoo, Hamilton Zoo, Wellington Zoo and Orana Wildlife Park in partnership with funding from The Warehouse.  
<https://wellingtonzoo.com/schools/the-warehouse-zoofari/>

**Buin Zoo- The Great Ecological Adventure**  
<https://www.buinzoo.cl/colegios/visitas-educativas/>

**Two Oceans Aquarium Young Biologists Program**  
<https://www.aquarium.co.za/blog/entry/amazing-young-biologist-course-sponsored-by-de-beers-marine-october-2018>





## Sustainable Development Goal 5.

# Gender Equality

**Our commitment is to support the empowerment of women and girls through business operations, conservation/social investment, education, community engagement and partnerships.**

Zoos and aquariums are in a unique position to influence visitors, staff and communities through proactively promoting and modelling diversity and gender equality in their practices.

With a higher proportion of women entering the zoo and aquarium profession, it is imperative that aquariums and zoos provide equal pay, protection and freedom of movement for their female employees.

Companies with better gender balance in top management perform better financially and are more likely to have engaged employees who believe in the company's mission and strategy. Zoos and aquariums have the opportunity to nurture and encourage women in leadership roles.

For conservation efforts to be long lasting and effective, the socio-economic situation for the communities should be considered and supported. Supporting programmes that empower women and girls not only help the conservation efforts, they also strengthen their community. Zoos and aquariums are in a strong position to encourage conservation programmes to include socio-economic aspects that empower women and girls.

## Key Facts and Figures

- Within the full-time workforce, on average, men earn about a third more than their female counterparts.
- Men comprise over 70% of the world's researchers.
- According to the World Economic Forum's Global Gender Gap report, it will take 108 years to close the gender gap at the current rate of progress, with the largest gaps in the areas of economic and political equality.
- Recent studies (*Credit Suisse 2016/McKinsey and Co*) have found that having women in leadership roles and on corporate boards has a positive impact on the company's financial performance.

## Recommendations

1. Embed gender equality and diversity in your organisation's values and strategic plan.
2. Ensure your organisation is a safe working place for women and girls.
3. Provide opportunities for women to effectively participate at all levels of decision-making and growth in the organisation.
4. Develop field conservation programmes that provide opportunities for women and girls to participate, offering employment and equal access to economic resources and information

## Case Studies

### Niassa Lion Project

<https://wildnet.org/wildlife-programs/lion-niassa/>

### Proyecto Titi

<https://www.proyectotiti.com/en-us/>

**Ocean Wise Ocean Literacy and Leadership- This program empowers women and youth to become ocean advocates**

<https://www.aquablog.ca/2019/07/ocean-literacy-and-leadership-camp-teaches-young-b-c-women-ocean-advocacy-activist-skills/>





## Sustainable Development Goal 6.

# Clean Water and Sanitation

**Our commitment is to actively promote actions and behaviours that help achieve affordable access to safe drinking water and sanitary for all.**

Human population growth, over consumption of resources and climate change are affecting all natural ecosystems, especially those dependent on fresh water where much of the planet's biodiversity is concentrated.

It should be a priority that all zoos and aquariums define their "water footprint". This indicator defines the total volume of freshwater used to produce the organisation's goods and services. The water footprint considers the consumption of water, according to its origin (surface, underground or rain) used in

the generation of products or services, and the volumes of water required to dilute the pollutants generated up to the point where the quality of the water reaches acceptable standards. As an indicator, it also allows for the incorporation of water management in all areas and operations of the zoo or aquarium. Once the water footprint has been defined, organisations should endeavor to maintain or reduce their use of fresh water.

Zoos and aquariums should demonstrate to visitors and communities how it is possible to manage water, guaranteeing its quality, availability and sustainable use through their own organisation's operations. They can promote new ways of sustainable consumption among visitors and communities that help promote water-friendly practices in people's homes and daily lives.

An important remit of zoos and aquariums should be providing tools and resources so that visitors and communities can adopt positive practices related to the consumption, use and discharge of water and waste products in their daily activities.

## Key Facts and Figures

- More than 80% of wastewater resulting from human activities is poured in the rivers and seas without any treatment, causing contamination of water sources and planet ecosystems.
- Around 2.4 billion people do not have access to basic sanitation services, such as toilets.
- Approximately 70% of all the water extracted from rivers, lakes and aquifers of the planet is used to irrigate crops.
- Water scarcity adversely affects the life quality of more than 40% of the world's population, a figure that is expected to increase in the coming years.

## Recommendations

1. Ensure that the animals under human care have permanent access to clean drinking water.
2. Ensure that visitors and staff have access to potable water and appropriate spaces for personal hygiene.
3. Develop sustainable water management practices in all operations of the organisation, promoting smart consumption policies, water reuse and reduction of water pollution from the site.
4. Develop a water footprint for the organisation.

## Case Studies

### Sao Paulo Zoo, Brazil

The Sao Paulo zoo, which has received more than 90 million visitors since it opened, was the first zoo in Latin America to obtain the ISO 14001 certification, demonstrating its active concern to avoid and manage the environmental impact derived from its activities. The zoo's residual water treatment plant has a 400 thousand liter capacity per day, treating water from public toilets, administrative areas and other operations of the park. The institution also has a water treatment plant, operated in accordance with drinking water legislation, which is responsible for providing water for cleaning facilities and cleaning and filling animal tanks. Although the water reuse cycle is integrated, there are different steps for each use, thus guaranteeing the quality of the water supplied to the animals. The integral management of the system guarantees that the water of the lakes recirculates, avoiding the accumulation of sludge and the formation of algae. The dry sludge withdrawn from the treated water is sent to the composting station, with the compost being used in the food and forage production areas for the park's fauna. All this constitutes a virtuous cycle of sustainability that generates well-being for the fauna, the wetlands, the visitors, the collaborators and the operation of the park as a whole.

### Zoo Zurich - Masoala Madagascar

<https://www.zoo.ch/en/conservation-animals/conservation-projects/masoala>

### Cheyenne Mountain Zoo Water Neutrality

<https://coloradotu.org/blog/2020/2/cheyenne-mountain-zoo-becomes-water-neutral-with-tu-partnership>



## Sustainable Development **Goal 7.**

# Affordable and Clean Energy

**Our commitment is to ensure access to affordable, reliable, sustainable and modern energy for all.**



Energy has transformed the way people live. Even items traditionally thought to be natural such as food and drinking water have some sort of energy connection, be it pesticides, production, transportation or the packaging that protects and delivers it to the end user.

Most of the energy that people consume today is non-renewable and is derived from carbon-based fuels such as coal, oil and gas.

WAZA members should consider their use of energy and promote sustainable energy use on-site. By focussing on energy consumption WAZA members will save money, lead by example and reduce their carbon footprint.

## Key Facts and Figures

- The energy sector is the biggest principal source of global greenhouse gas emissions.
- 13% of the global population still lacks access to modern electricity.
- Nearly three billion people do not have access to clean cooking facilities, relying instead on biomass or coal as their primary cooking fuel.

## Recommendations

1. Acknowledge that using sustainable energy or reducing consumption of energy is crucial for a sustainable future.
2. Adopt renewable energy and use products that are carbon neutral where possible.
3. Inform visitors, members and the wider community of the benefits of switching to a sustainable energy.
4. Measure energy efficiency within the strategic planning for your organisation.

## Case Studies

### **Detroit Zoo power project**

<https://detroitzoo.org/press-release/detroit-zoo-to-meet-100-renewable-energy-goal/>



## Sustainable Development Goal 8.

# Decent Work and Economic Growth

**Our commitment is to ensure that our business and employment activities support the local economy and sustainable growth.**

The UN has set an economic growth rate target of seven percent for the least developed countries, with full decent employment for all women and men by 2030. Zoos and aquariums are active economic contributors to their communities and are in a unique position to support economic growth in the regions where they operate and those communities where they support conservation programmes.

Economic growth should be factored into a holistic operating and conservation action plan. Work offered within the organisation and as part of field conservation projects should be fair and decent, and the work environment should be safe and secure.

Zoos and aquariums are in an excellent position to lead by example where economic growth is in harmony with sustainable environmental resource use and protection of workers.

Photo: Matiu Somes Island Moko Kākāriki Wellington Green Gecko and Ngāhere Gecko monitoring | Wellington Zoo

## Key Facts and Figures

- According to the United Nations, the global Gross Domestic Product growth declined from 4.4% in 2000 to 3.0% in 2019 and expected to remain the same in 2020.
- More than 10% of the world population lives on less than \$2.00/day.
- The global unemployment rate is 5.5%, with over 192 million people unemployed in 2018.

## Recommendations

1. Ensure the organisation has fair work policies that are economically responsible.
2. Incorporate a strategy for youth employment into the organisation's business strategy.
3. Protect employee rights and promote a safe working environment for all.
4. Support conservation programmes that create decent work and sustainable economic development opportunities.

## Case Studies

### Parque das Aves, Brazil

The Parque das Aves procurement policy gives preference to local and organic products for animal feed and ingredients for its restaurants. Through their social inclusion programmes, they support projects to promote the well-being in the Guarani community: hospitals, schools and child nutrition centres. Other actions aimed to reduce internal inequalities include a comprehensive employee health plan, interest-free money loans for staff to cover needs and unforeseen events, employee meals for a symbolic payment of US\$3.6 per month and free access for all employees to English language courses.



Investment in infrastructure in such areas as transport, irrigation, energy, and information and communication technology are crucial to achieving sustainable development and empowering communities.

Zoos and aquariums can contribute to this goal by promoting sustainable transport, improving their organisation's energy efficiency, designing green-rated buildings, reducing carbon intensity and emissions, and supporting innovative technology.

As part of sustainable development, it is important to support the building of quality, sustainable, reliable and resilient infrastructure through innovation, making sure that as industrialisation progresses, no one gets left behind. In particular, on the research and technological front, the potential to support new developments is tremendous, not only using the organisation's site as a test platform but also cascading the benefits for the better management of wildlife conservation.

## Key Facts and Figures

- For many African countries, particularly the lower-income countries, infrastructure constraints reduce company productivity by around 40%.
- Manufacturing is a significant employer, accounting for around 470 million jobs worldwide in 2009 – or about 16% of the world's workforce of 2.9 billion. It is estimated that there were more than half a billion jobs in manufacturing in 2013.
- Industrialisation's job multiplication effect has a positive impact on society. Every job in manufacturing creates 2.2 jobs in other sectors.

## Recommendations

1. Support innovation by collaborating with research institutions to test new technologies within your zoo or aquarium and in conservation research.
2. Support and implement any circular economy initiatives in the local community and within your organisation.
3. Look into providing more sustainable transport options and other clean technologies.
4. For new construction, seek to comply with one of the sustainable building certificates.

## Case Studies

### Wildlife Reserves Singapore Rainforest Lumina

<https://rainforestlumina.wrs.com.sg/#main>

### Taronga Conservation Society Australia

<https://taronga.org.au/education/taronga-institute-of-science-and-learning>

### Ocean Wise, Vancouver Aquarium:

This movement started in 2006 when we built our first green building certified as LEED Gold and continued in 2009 when we made a commitment to certify our environmental program to the international standard ISO 14001. In doing so, Vancouver Aquarium became the first aquarium in the world to build a LEED® Gold building and achieve ISO 14001 certification for their environmental program

<https://www.vanaqua.org/about/sustainability>

## Sustainable Development Goal 9.

# Industry Innovation and Infrastructure

**Our commitment is to build infrastructure, promote inclusive and sustainable growth and foster innovation.**



Photo: Taronga Institute of Science and Learning | Taronga Zoo



**Sustainable Development Goal 10.**

# Reduction of Inequalities

**Our commitment is to reduce inequality within and among countries.**



Zoos and aquariums should act to promote and participate in the reduction of inequalities both globally and locally.

Inequalities based on the level of income, gender, age, disabilities, sexual orientation, race, social class, ethnicity, religion, and access to opportunities are persisting throughout the world. Sustainable development cannot be achieved if any part of the world's population is excluded.

Zoos and aquariums should be influential leaders for the reduction of inequalities. Zoos and aquariums should be concerned with identifying, knowing and understanding the critical issues related to the generation of inequalities in the local community.

Zoos and aquariums should be organisations characterised by transparent management systems that demonstrate a commitment to human rights, to complying with environmental, employment and tax laws, and the protection of social funds.

All conservation programmes should be an opportunity to rebuild the relationship between communities and nature, promoting better practices in local communities and helping to ensure the conditions and circumstances that make life viable in a territory.

Each zoo and aquarium should have internal policies that establish: clear objectives and procedures to ensure equal access to employment and the fair selection of employees; equal opportunities; equality in career development, training, wages and working conditions; fair work schedules; and harmony between work and family life. It is important to establish internal and transparent processes to prevent corrupt practices that could cause inequalities and to establish policies to ensure staff are paid a dignified living wage.

## Key Facts and Figures

- Up to 30% of income inequality is due to inequality within households between women and men. Women are more likely than men to live with a salary of up to 50% below the median income.
- On average, income inequality increased by 11% in developing countries between 1990 and 2010.
- The well-being and quality of life for migrant populations, persons with disabilities and other social groups with certain conditions is highly deteriorated by a lack of job opportunities.

## Recommendations

1. Adopt equality policies in the organisation to provide employment opportunities to all workers, regardless of any individual characteristic.
2. Establish a transparent internal process to prevent corrupt practices that directly impact on equality.
3. Establish inclusive pricing policies or accessibility initiatives for entrance into the zoo or aquarium.
4. Incorporate the social component in conservation programmes, increasing capacity in the local communities for their future well-being.

## Case Studies

### Woodland Park Zoo, Seattle USA

The Woodland Park Zoo has established a personnel selection policy intended to ensure the composition of the staff represents the population of the city to which it belongs. It is a policy of equity that seeks to ensure that ethnic and cultural diversity represented in the collaborators of the organisation mirrors the official figures for Seattle.



## Sustainable Development Goal 11.

# Sustainable Cities and Communities

**Our commitment is to make cities and human settlements inclusive, safe, resilient and sustainable.**

Cities are hubs for ideas, commerce, culture, science, productivity, social development and much more. At their best, cities enable people to advance socially and economically. However, many challenges exist in maintaining cities in a way that continues to create jobs and prosperity while not straining land and resources.

Zoos and aquariums have a responsibility to protect biodiversity in their immediate vicinities as well as wild habitats. Housing a diverse range of species in their organisations allows zoos and aquariums to achieve this by undertaking wildlife conservation and research work, and to raise awareness of the importance of this work to urban communities.

Zoos and aquariums can contribute by being active champions and advocates of sustainable waste management in their local communities whilst 'walking the talk' in their own organisation's operations.

Most WAZA members have sprawling landscape and greenery within their sites to provide well-being spaces in their cities. Being an integral part of society, zoos and aquariums should be instrumental in building sustainable cities of the future.

## Key Facts and Figures

- Half of humanity - 3.5 billion people - lives in cities today. By 2030, almost 60% of the world's population will live in urban areas.
- 828 million people live in slums today, and the number keeps rising.
- The world's cities occupy just 2% of the earth's land but account for 60-80% of energy consumption and 75% of carbon emissions. Rapid urbanisation is exerting pressure on freshwater supplies, sewage, the living environment and public health. But the high density of cities can bring efficiency gains and technological innovation while reducing resource and energy consumption.
- In 2016, an estimated 4.2 million people died as a result of high levels of ambient air pollution.

## Recommendations

1. Take an active interest in the governance and management of your city related to sustainability outcomes.
2. Collaborate with the local community to protect the natural heritage in your city.
3. Encourage visitors to use sustainable transport options to zoos and aquariums.
4. Become a hub to showcase sustainable opportunities for your community.

## Case Studies

### Chester Palm Oil Project

<https://www.bbc.com/news/uk-england-merseyside-47482727>

### Ask for Choice

<https://www.stuff.co.nz/business/83148479/new-zealand-zoos-ask-for-choice-on-palm-oil-labelling>



## Sustainable Development Goal 12.

# Responsible Consumption and Production

**Our commitment is to do more, and better, with less by changing the way we produce and consume goods and natural resources.**

Zoos and aquariums should be responsible in the ways they operate through how they procure and dispose of goods and services and how they communicate this with staff, visitors and communities.

The value chain is the full life cycle of a product or service including procurement, production, consumption and disposal processes. Having a better understanding of zoos' and aquariums' value chains is a critical first step in understanding responsible consumption and production. A better understanding enables zoos and aquariums to share information with, and influence, suppliers and partners; to limit risk and to ensure products used are disposed of in the most environmentally friendly way. Zoos and aquariums should identify where an

intervention in the value chain can improve the environmental and social impact of the system.

Acknowledging the environmental and social impact of the palm oil and forestry industries, WAZA has sought to partner with organisations seeking to mitigate these impacts in their respective industries. WAZA has committed to partnerships with UN Environment (reduction of single use plastics in operations), RSPO (Roundtable on Sustainable Palm Oil) and FSC (Forest Stewardship Council) to encourage zoos and aquariums to eliminate single use plastics and seek products from RSPO or FSC certified suppliers. By buying certified products zoos and aquariums can ensure that the upstream processes in their value chain have already been mapped.







By purchasing FSC or RSPO certified products, zoos and aquariums can ensure they 'walk the talk' - that they use products that have been produced with less impact on wildlife and the habitats and communities that surround them. They should showcase to visitors and communities that they take the degradation of habitat seriously and that they are acting to prevent it by choosing responsibly sourced products.

The purchasing power of zoos and aquariums worldwide is significant, and by working together, we can positively influence suppliers of goods and services to adopt sustainable practices. Together with RSPO and FSC purchases zoos and aquariums could consider Marine Stewardship Council certified seafood, reducing meat consumption on site by hosting more vegetarian events or functions and building responsible consumption criteria into catering contracts.

## Key Facts and Figures

- If the world population reaches 9.6 billion by 2050, we will need three planets worth of resources to sustain our current lifestyles.
- By switching to energy efficient lightbulbs everywhere, the world would save US\$120 billion annually.
- Each year, an estimated third of all food produced is wasted - equivalent to 1.3 billion tons and worth around \$1 trillion USD.
- The food sector accounts for around 30% of the world's total energy consumption and around 22% of total Greenhouse Gas emissions, mainly from the conversion of forests to farmlands.
- Roughly half of annual plastic production is destined for single use products.
- Humans buy about one million bottles of water per minute worldwide.

## Recommendations

1. Create a sustainable procurement policy including consideration of the lifecycle and disposal of products. This policy should include environmental and social impacts of procurement.
2. By 2023, at least 50% of WAZA members should commit to using CSPO (certified sustainable palm oil) in retail, purchasing and consumption.
3. By 2023, at least 50% of WAZA members should source 70% of their wood and paper products via FSC (Forest Stewardship Council) certified producers.
4. By 2023, at least 50% of all WAZA members will have eliminated (or at least be in the process of eliminating) single-use plastic from their operations (UNEP MoU target).

<https://www.waza.org/wp-content/uploads/2020/02/WAZA-short-guide-final-online.pdf>

## Case Studies

### **Cheyenne Mountain Zoo Palm Oil Index**

<http://www.cmzoo.org/index.php/conservation-matters/palm-oil-crisis/>

### **Wellington Zoo FSC Project**

<https://fsc.org/en/news/sustainable-magic-wellington-zoo>

### **They're Calling on You Project (Zoos Victoria, Orana Wildlife Park and Taronga Conservation Society Australia)**

<https://www.zoo.org.au/theyre-calling-on-you-phones/>

### **Ocean Wise, Vancouver Aquarium:** Sustainable purchasing.

Over the last few years, we have reduced single use plastics and sourced new more environmentally friendly products.

<https://www.vanaqua.org/about/sustainability>



Climate change is increasingly becoming a key underlying factor influencing biodiversity and sustainable development. The majority of causes of climate change are human-induced and thus, zoos and aquariums with their multiple links to people, communities and governments, are ideally placed to make a difference.

The global growth rate of carbon dioxide has nearly quadrupled since the early 1960s and shows no sign of reducing; carbon dioxide levels in the atmosphere are now 40% higher than pre-industrial times.

The 2018 Intergovernmental Panel on Climate Change (IPCC) Report on Climate Change has projected that just 2°C of global warming will trigger 13% of the terrestrial land area to undergo a transformation of ecosystems from one type to another, and a loss of biodiversity in the range of 18% for insects, 16% for plants and 8% of vertebrates.

Zoos and aquariums have an important role to play - to influence behaviour change via their visitors but also as leading organisations in their communities. Zoos and aquariums also need to reduce their carbon emissions in their operations and make serious efforts to transition to renewable energy and other sustainable practices.

## Key Facts and Figures

- Analysis by the World Meteorological Organization shows that the five-year average global temperature from 2013 to 2017 was the highest on record.
- The World Meteorological Organization noted that the extent of global sea ice fell to a minimum of 4.14 million km<sup>2</sup> in 2016, the second lowest extent on record.
- The world continues to experience rising sea levels, extreme weather conditions (the North Atlantic hurricane season was the costliest ever recorded) and increasing concentrations of greenhouse gases.

## Recommendations

1. Work with your local authorities to set climate action targets.
2. Integrate climate change measures into your organisational policies, including greenhouse gas emissions reduction targets.
3. Raise awareness amongst visitors, community and staff about actions they can take towards climate mitigation, adaptation and impact reduction.
4. Raise awareness amongst your visitors, community and staff about what your zoo or aquarium is already doing, and plans to do, to help mitigate climate change.

## Case Studies

**Zoos Victoria the world's first carbon neutral zoo.**  
<https://www.zoo.org.au/fighting-extinction/sustainability>

**Wellington Zoo the world's first carbonZero certified zoo.**  
<https://wellingtonzoo.com/news/wellington-zoo-leads-the-way-for-the-planet-with-carbonzero-certification-2/>

**Antwerp & Planckendael Zoos - Championing for the climate**  
<https://www.zooscience.be/en/stories/championing-for-the-climate/>

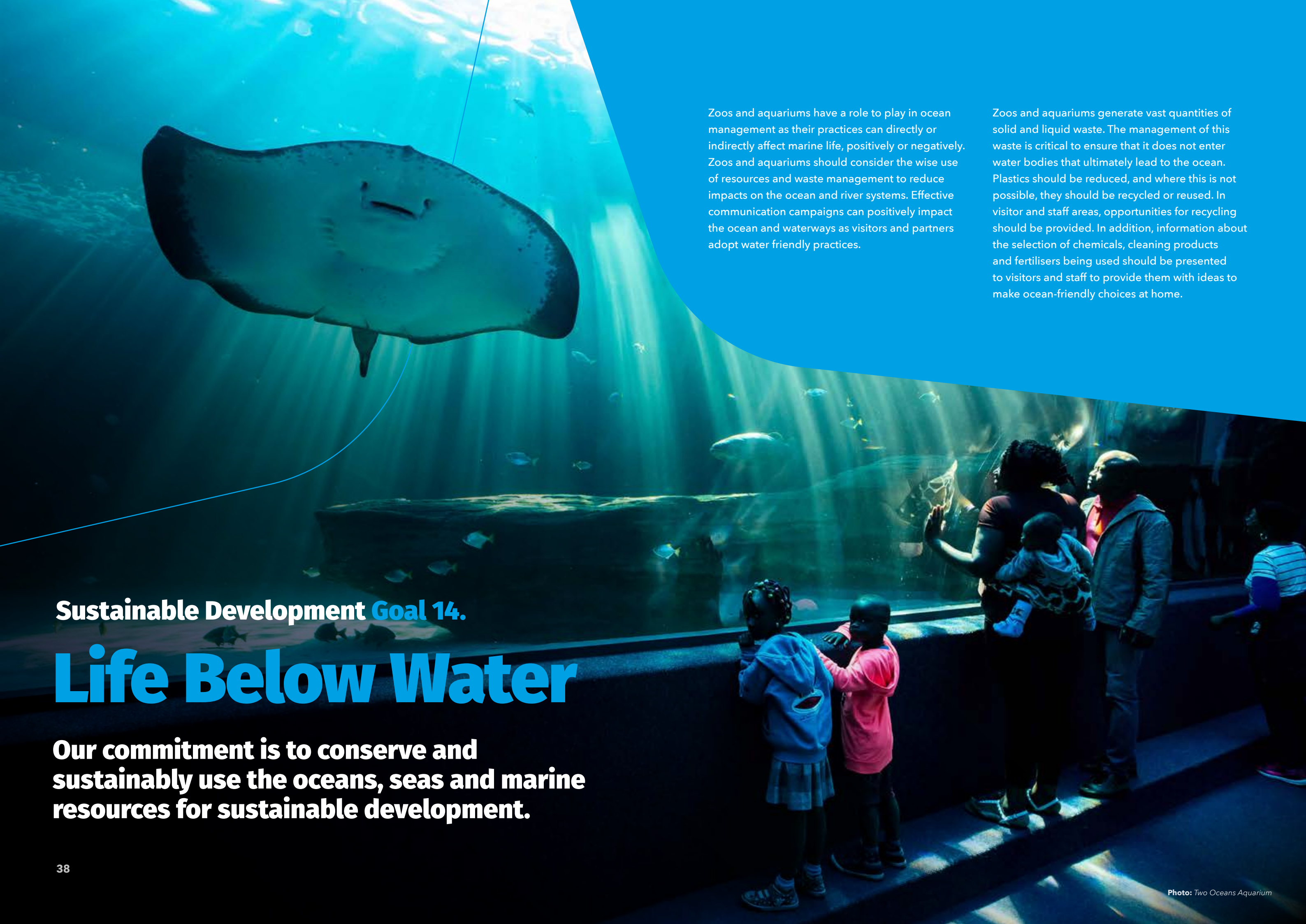
**Korkeasaari Zoo, Helsinki - Towards Carbon Neutral**  
<https://youtu.be/BVlpDfmbS7g>

**Sustainable Development Goal 13.**

# Climate Action

**Our commitment is to engage our visitors and lobby governments to take urgent action to combat climate change and its impacts.**





Zoos and aquariums have a role to play in ocean management as their practices can directly or indirectly affect marine life, positively or negatively. Zoos and aquariums should consider the wise use of resources and waste management to reduce impacts on the ocean and river systems. Effective communication campaigns can positively impact the ocean and waterways as visitors and partners adopt water friendly practices.

Zoos and aquariums generate vast quantities of solid and liquid waste. The management of this waste is critical to ensure that it does not enter water bodies that ultimately lead to the ocean. Plastics should be reduced, and where this is not possible, they should be recycled or reused. In visitor and staff areas, opportunities for recycling should be provided. In addition, information about the selection of chemicals, cleaning products and fertilisers being used should be presented to visitors and staff to provide them with ideas to make ocean-friendly choices at home.

**Sustainable Development Goal 14.**

# Life Below Water

**Our commitment is to conserve and sustainably use the oceans, seas and marine resources for sustainable development.**



Most zoos and aquariums procure some products that originate in the ocean. Examples include seafood for human or animal consumption, or animal feed derived from fish (such as pellets). The source of these products should be investigated, including the conservation status of the species, how the product was harvested and where the product originated. Where possible the use of eco-certification should guide product selection. If appropriate, locally sourced seafood should be used, if it is harvested sustainably.

Given the connections between freshwater and ocean ecosystems, it is clear that land-based practices can impact negatively on the ocean. For example, ocean acidification is directly related to the emission of CO<sup>2</sup>. Thus, by limiting the use of fossil fuels, zoos and aquariums can help to decrease acidification.

Zoos and aquariums can help by supporting organisations dedicated to marine conservation and government proposals for Marine Protected Areas (MPAs). Visitors and communities should be informed on the importance of MPAs in ocean conservation. In addition, there are multiple opportunities to provide visitors and communities with clear information about the challenges facing the ocean and about how these can be addressed through responsible choices. The ocean is also a source of wonder, mysterious but loved by many. This attribute can be the catalyst in communications that emphasise the wonder of the oceans, inspiring people to care while giving them the tools to take positive actions.

Unless action is taken now, humanity runs the risk of seriously compromising life on earth, through the destruction of the ocean systems that make life as we know it possible. The single most important action of a zoo or aquarium concerning SDG14 is to spread the realisation that everyone is connected to the ocean, and that their choices can help or harm marine life.

## Key Facts and Figures

- The ocean covers 70% of the earth's surface. 97% of all water on earth is found in the oceans.
- Tiny plants in the ocean produce more than half of the oxygen that we breathe.
- The oceans absorb about 30% of human's CO<sup>2</sup> emissions, helping to mitigate climate change.
- The oceans drive our climate and weather patterns and regulate temperatures.
- Food from the oceans provides over one billion people with their primary source of protein.
- Over three billion people depend on marine and coastal biodiversity for their livelihood.
- The market value of marine and coastal resources and industries is estimated at \$3 trillion USD per year.
- The oceans are home to a remarkable diversity of life – almost 200,000 species have been identified.
- Over 70% of the world's fisheries are either fully or over-exploited.
- 90% of the large predatory fish in the ocean have been caught.
- Between 70 -100 million sharks are killed EACH year in the world's oceans.
- About 9 million tonnes of plastic pollution enters the ocean each year.
- About 20% of the world's coral reefs are dying.
- Sea-level is rising at about 3mm per year since 1900.
- Ocean acidification is negatively impacting marine species directly and indirectly, and often in ways that we do not yet understand.

## Recommendations

1. Ensure that all products originating from the ocean are harvested sustainably using techniques that have the least impact on the environment.
2. Make use of eco-certification such as Marine Stewardship Council on seafood consumer campaigns to guide purchases.
3. Communicate to visitors and communities the importance of protecting the ocean and freshwater water ecosystems and the commitment to purchasing sustainable ocean products.
4. Support partnerships with marine-based organisations and publicly support the establishment of Marine Protected Areas.

## Case Studies

### Monterey Bay Aquarium Seafood Watch

<https://www.seafoodwatch.org/>

### SAAMBR Penguin Promises

<https://www.saambr.org.za/#conservation-penguin>

### Edinburgh Zoo Scottish Beavers project

<https://www.rzss.org.uk/conservation/our-projects/project-search/field-work/scottish-beavers-project/>

### Ocean Wise, Vancouver Aquarium Research projects

<https://research.ocean.org>





**Sustainable Development Goal 15.**

# Life on Land

**Our commitment is to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat deforestation, and halt and reverse land degradation and halt biodiversity loss.**

All species depend on healthy ecosystems for their survival, but the planet is fast reaching a tipping point where the natural environment and its biodiversity will irreversibly decline.

Habitat loss is the number one threat to terrestrial species that rely on forests, wetlands, savannahs and freshwater systems. The assessment and monitoring of wild populations of vertebrate species by respected indices such as the International Union for Conservation (IUCN) Red List of Threatened Species and World Wildlife Fund's (WWF) Living Planet Index (LPI) demonstrate that over the last forty years vertebrate species have declined by 58%. These indices can be regarded as a fair reflection on the current state of the world's ecosystems and support other studies' findings that the most common threat to declining populations is from the loss and degradation of habitat due to unsustainable agriculture and logging.



Zoos and aquariums significantly contribute to *in situ* and *ex situ* conservation programmes around the world and there will more than likely be the need for a united global 'one plan approach' to ensure the preservation of species. That approach should consider several aspects from species selection, the conservation of existing habitats, to the collective lobbying and advocacy for the development of new habitats to accommodate the effects of climate change. A common aspect that zoos and aquariums share is the maintenance of wild animals in human care and the husbandry expertise that supports their welfare. Zoos and aquariums mostly work together from a regional perspective coordinating species planning and the population management of species to maintain viable bloodlines.

Species and biodiversity are being lost at an alarming rate and will continue to do so until humanity redefines its relationship with the natural environment by moving away from unsustainable behaviours and practices to models that consider and value the natural environment. There will need to be a prioritisation of conservation efforts to best affect habitats and species, and the considerations of translocating and rehabilitation of stranded species that have no chance of adaptation to more suitable environments.

## Key Facts and Figures

- Over the last 5,000 years, 50% of global forests have been lost.
- Forests only cover 30% of our terrestrial land mass.
- 80% of all terrestrial species of animals, plants and insects are dependent on remaining forests.
- Around 1.6 billion people depend on remaining forests for their livelihood.
- Almost 75% of the world's poor are directly affected by land degradation.
- Large scale commercial agriculture is the most prevalent driver of deforestation.
- 22% of known terrestrial animal species are at risk of extinction.
- Despite concerted conservation efforts the poaching and trafficking of wildlife continue to contribute to species decline.
- Biodiversity underpins global ecosystem services which deliver multiple benefits and well-being to humanity.
- Insects and other pollen carriers are estimated to be worth more than US\$200 billion per year to the global food economy.

## Recommendations

1. Support terrestrial and freshwater ecosystems by aligning conservation activities with projects that deliver multiple benefits; social, environmental and ecological.
2. Provide city oases habitats for native invertebrates, including pollinators and pest control species, by planting suitable food and shelter species or providing nesting infrastructure for pollinators such as native bees.

3. Promote relationships and collaborate with other conservation organisations by undertaking joint activities and sharing knowledge resources.
4. Undertake applied *ex-situ* research to inform field conservation initiatives.

## Case Studies

**Zoos South Australia - Red tailed Black cockatoo**  
<https://www.zoossa.com.au/conservation-programs/red-tailed-black-cockatoo/>

**ZSL - Look After Garden Wildlife**  
<https://www.zsl.org/conservation/get-involved/look-after-garden-wildlife>

**WRS - Javan Gibbons**  
<https://www.wrs.com.sg/en/conservation/our-work/conserving-javan-gibbons-habitats.html>

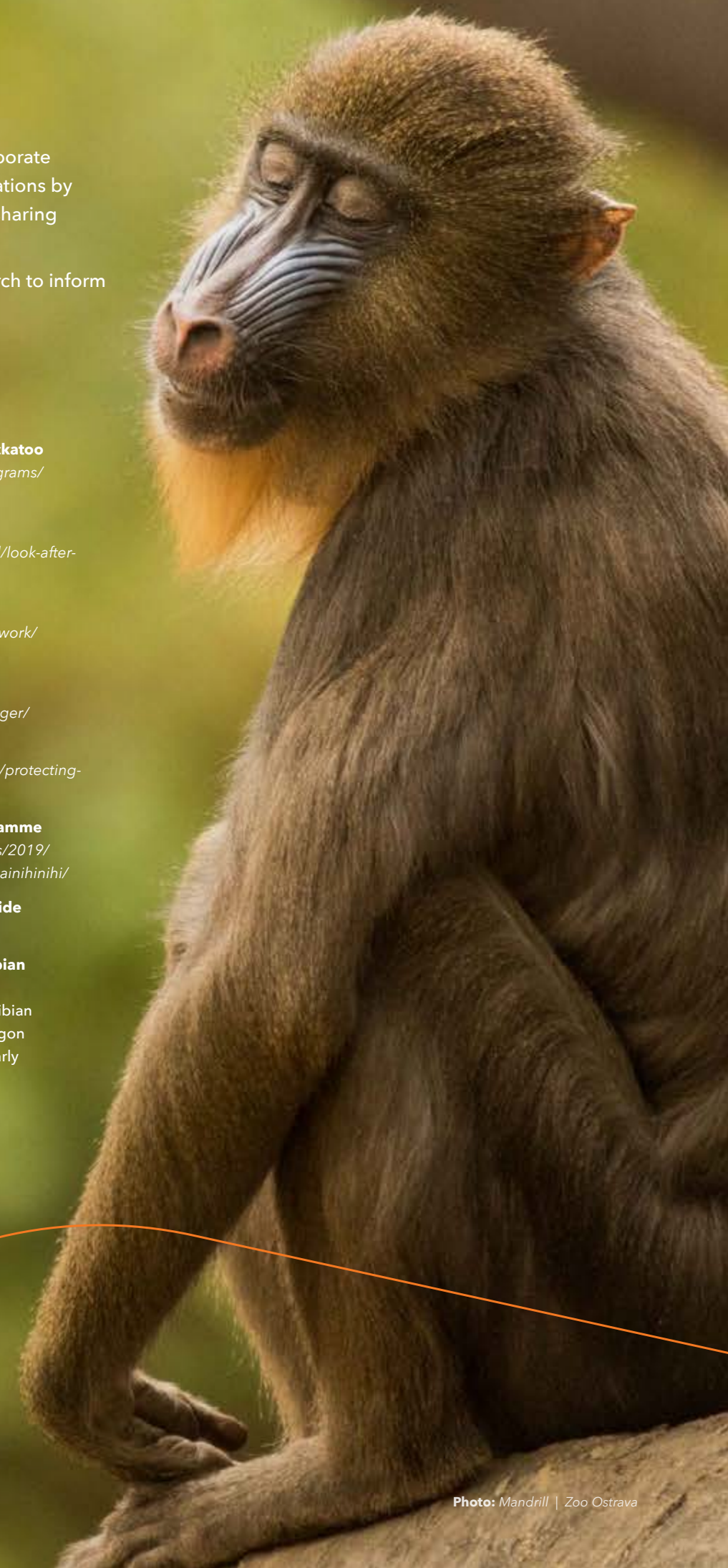
**Nordens Ark - Amur Tiger**  
<https://en.nordensark.se/conservation/amur-tiger/>

**ZSL - Kelola Sendang**  
<https://www.zsl.org/conservation/regions/asia/protecting-sumatran-tiger-habitat---kelola-sendang>

**Orana Wildlife Park - Whio Recovery Programme**  
<https://www.doc.govt.nz/news/media-releases/2019/endangered-whio-gain-more-ground-at-big-wainihinihi/>

**WAPCA as a joint initiative of zoos worldwide**  
<https://www.wapca.org/>

**Ocean Wise, Vancouver Aquarium- Amphibian conservation project**  
In partnership with local governmental amphibian recovery teams, we release around 1400 Oregon spotted frogs and Northern leopard frogs yearly back into designated release sites.  
<https://www.aquablog.ca/2019/04/28355/>







## Sustainable Development Goal 16.

# Peace, Justice and Strong Institutions

**Our commitment is to build effective, accountable and inclusive institutions at all levels.**

For sustainable development to occur there needs to be stability, equal human rights, peace and effective governance. Some of the regions in which zoos and aquariums operate enjoy peace and stability of government. However, this is not true of all territories in which WAZA members operate which can lead to insecure operating environments, corruption and bribery.

Relevant to the UN's SDG 16 and WAZA members is the control of illegal trade in wildlife. Zoos and aquariums have a duty of care to ensure that they do everything they can to ensure they are operating transparently and ethically in regards to animals coming into, or leaving, their organisations.

As part of a global organisation, WAZA members are well placed to help stop the illegal wildlife trade. Zoos and aquariums should ensure they know the lineage of animals they bring into the collection as well as advocating that visitors and communities do not participate in illegal wildlife trade activities. Zoos and aquariums should inform and motivate government policy interventions against the illegal wildlife trade and support relevant international policies.

WAZA members must ensure we abide by Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) trade regulations and any relevant national or international laws relating to the movement or trade of wildlife. Zoos and aquariums should also support, through monetary contributions and/or visitor advocacy, anti-illegal wildlife trade organisations like TRAFFIC and Monitor and others who are fighting to halt the illegal trade of animals globally.

WAZA members need to make sure WAZA is a transparent and well-governed organisation. All members should actively participate in the democratic processes of WAZA including voting for representatives and participating in the AGMs or sending proxies to ensure their voice is heard. Nominating and voting for representatives can also ensure an inclusive WAZA Council, including increased representation from developing countries alongside those from developed countries.

It is important that zoos and aquariums operate under the ethos of 'do no harm' to the animals in their care, to the natural environment and individuals and communities. Zoos and aquariums can make a difference by ensuring that they are inclusive, reflect their communities and are welcoming to all. Zoos and aquariums should make sure they abide by trade regulations and don't perpetuate the illegal wildlife trade by only sourcing animals from reputable organisations. They should also ensure a transparent and well-governed membership body by participating in our democratic processes and holding WAZA to account.





## Key Facts and Figures

- In 2016 the estimated annual value of illegal wildlife trade was USD\$7-23billion.
- In 2018, just 17% of WAZA member zoos and aquariums were run by women.
- Almost one in five firms worldwide reported receiving at least one bribery payment request when engaged in regulatory or utility transactions.

## Recommendations

1. Broaden and strengthen the participation of institutions from developing countries in WAZA membership and governance.
2. Actively participate in the reduction of illegal animal trafficking across the world by ensuring all new animals into collections have traceable lineage.
3. Advocate when local or international laws need strengthening, eg animal welfare and animal trafficking laws.
4. Promote honesty and transparency in decision-making and actively participate in WAZA's democratic processes.

## Case Studies

### Wildlife Witness App

<http://www.wildlifewitness.net/>

### NZ Department of Conservation for reporting offences against native wildlife

<https://blog.doc.govt.nz/2018/12/16/the-dos-and-donts-of-interacting-with-nzs-native-wildlife/>

### Buin Zoo- First zoo in the world to be B Corp Certified

<https://bcorporation.net/directory.buinzoo-sa>





**Sustainable Development Goal 17.**

# Partnership for the Goals

**Our commitment is to strengthen the implementation of the SDGs by working together to affect positive change.**

The fundamental core of good partnerships is their ability to bring together diverse resources in ways that can collectively achieve more: more impact, greater sustainability and increased value to all. We can achieve more, together.

Zoos and aquariums can be instrumental in ensuring sustainable progress for WAZA and in their communities. SDG 17 recognises multi-stakeholder partnerships as important vehicles for mobilising and sharing knowledge, expertise, technologies and financial resources to support the achievement of the sustainable development goals in all countries. Within the WAZA membership, there are already many global and local partnerships which can be built upon to expand future sustainable prosperity.

Partnerships should form only where a partnerships approach can be demonstrated to generate significant added value to deliver greater impact and deliver net benefit to all partners. Benefit should not be limited to financial outcomes; environmental or societal benefit should also be included.

It is virtually impossible to have any success incorporating the SDG framework into an organisation without partnerships to help achieve targets. These could be partnerships for zoos and aquariums with external suppliers, conservation partnerships, universities, or key governmental stakeholders.

## Key Facts and Figures

- Official development assistance stood at \$146.6 USD billion in 2017. This represents a decrease of 0.6% in real terms over 2016.

## Recommendations

1. Enhance international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, through improved coordination among WAZA members.
2. Enhance international support for implementing effective and targeted capacity-building in WAZA members to support the implementation of all the sustainable development goals.
3. Enhance the global partnerships for sustainable development, complemented by multi-stakeholder partnerships that share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries.
4. Encourage and promote effective partnerships with like-minded organisations.

## Case Studies

### Smithsonian - Myanmar Biodiversity

<https://www.smithsonianmag.com/blogs/conservation-commons/2018/11/29/smithsonian-scientists-help-put-endangered-myanmar-species-map/>

### Madagascar Fauna and Flora Group

<https://www.madagascarfaunaflora.org/>



# Checklists

The checklists are prompts related to the recommendations for each SDG. They are there to assist you with ideas related to the recommendations. The checklists are not exhaustive.

## Sustainable Development Goal 1.

### No Poverty

- ☐ Do you meet with each staff member, discussing possible career development and future plans?
- ☐ Do you have accessibility initiatives for disadvantaged communities?
- ☐ Do your conservation programmes include economic development initiatives?

## Sustainable Development Goal 2.

### Zero Hunger

- ☐ Do you have gardening courses at your zoo or aquarium for different levels or different techniques?
- ☐ Can you set up a vegetable garden to show visitors how to 'grow their own'?
- ☐ Do you showcase the best animal practices and welfare in your Zoo or Aquarium by demonstrating how to properly care for domestic animals that provide us with food?

## Sustainable Development Goal 3.

### Good Health and Well-being

- ☐ Do you encourage sustainable food choices and low carbon footprint diets in your catering offerings?
- ☐ Do you have robust health and safety policies and procedures?
- ☐ Do you have policies that allow for flexible working opportunities?
- ☐ Is your organisation family friendly?

## Sustainable Development Goal 4.

### Quality Education

- ☐ Do you have education and visitor learning outlined in your mission statement and business plans?
- ☐ Do your education programmes and visitor messages address issues of sustainable development?
- ☐ Do your education programmes offer programmes to a diverse range of audiences?
- ☐ Does your organisation provide opportunities for life-long learning on and off-site?
- ☐ Do you include education programmes in field conservation projects?

## Sustainable Development Goal 5.

### Gender Equality

- ☐ Do you have a diversity policy for your organisation to ensure equal legal rights and advancement for women?
- ☐ Do your education and visitor learning programmes support the empowerment of girls and encourage their participation in STEAM subjects? (STEAM fields are science, technology, engineering, art, and mathematics, or applied mathematics)
- ☐ Do your organisation's policies and procedures clearly define jobs and career ladders?
- ☐ Do your conservation programmes consider gender equality within their range countries?

## Sustainable Development Goal 6.

### Clean Water and Sanitation

- ☐ Does your animal housing have potable water permanently?
- ☐ Is the water used in the operation of the zoo or aquarium is recycled or recirculated?
- ☐ Do you have goals of water consumption reduction have been established in the zoo or aquarium for the next five years?
- ☐ Is the theme of sustainable water use integrated into the visitor experience, community engagement and educational programmes?
- ☐ Do you have a preventive maintenance plan for the zoo or aquarium's water supply and management system?
- ☐ Do visitors have access to drinking water for free and in different places in the zoo or aquarium?



#### Sustainable Development Goal 7.

## Affordable and Clean Energy

- ☐ Are renewable energy options considered in strategic and business planning?
- ☐ Do you have an energy management plan?
- ☐ Do you measure your energy footprint inputs and outputs?
- ☐ Have you taken actions to inform visitors about renewable energy options in their daily lives?

#### Sustainable Development Goal 8.

## Decent Work and Economic Growth

- ☐ Does your organisation provide a safe and secure working environment for all employees, as well as a safe and secure environment for its visitors and animals?
- ☐ Do your organisation's policies and procedures clearly define jobs and career ladders so that decent work is available to all and fairly distributed?
- ☐ Do your conservation programmes consider the socio-economic issues within range countries and build into the conservation programmes economic growth and decent work for all?

#### Sustainable Development Goal 9.

## Industry Innovation and Infrastructure

- ☐ Do you include sustainability specifications in design projects?
- ☐ Do you use life-cycle costing and assessment to make purchasing decisions?
- ☐ Do you have low carbon transport options to and within the organisations?
- ☐ Do you have collaboration with any local partners and/or institutions for research into new technologies?

#### Sustainable Development Goal 10.

## Reduction of Inequalities

- ☐ Do you have work development plans for the lowest paid employees (training, grants, family support)?
- ☐ Do you have an organisational employment inclusion policy or programme?
- ☐ In budgets allocated to conservation actions, what percentage is invested in improving the quality of life and well-being of local communities?
- ☐ Do the organisational values and policies incorporate a commitment to the reduction of inequalities?
- ☐ What percentage of workers receive remuneration above the minimum wage established by the Government? (in those countries where this is applicable)
- ☐ Do you have established controls that ensure administrative management that avoids practices of corruption and evasion of fiscal obligations?
- ☐ Do you have inclusive pricing policies or accessibility initiatives for the entrance to the zoo or aquarium?

#### Sustainable Development Goal 11.

## Sustainable Cities and Communities

- ☐ Do you have universal design access in the organisation?
- ☐ Do you work with the local community and municipality to create a sustainable community?
- ☐ Do you have public areas that are freely accessible for the local community?
- ☐ Do you have visitor programmes that talk about sustainable living?
- ☐ Does your conservation advocacy plan include messaging on consumer behaviours?
- ☐ What percentage of the supplies for the operation come from local producers or suppliers?



**Sustainable Development Goal 12.**

## Responsible Consumption and Production

- ☐ Do you have a sustainable procurement policy in place to meet the WAZA targets for FSC, CSPO and plastics reduction?
- ☐ Have you mapped your value chain for one, or a number, of the services and goods you provide or purchase?
- ☐ If you have an external catering supplier, have you set clear expectations with them around the use of single-use plastics and acceptable levels of food waste?
- ☐ Do you work to influence suppliers to be more sustainable?
- ☐ Do you consider how you will dispose of items before they are purchased?
- ☐ Do you evaluate food waste generated through your operations including through catering and animal feed?

**Sustainable Development Goal 13.**

## Climate Action

- ☐ Do you know how your institution can contribute to your local or national government policy/plan on climate change?
- ☐ Do you use your visitor programmes to talk about climate impacts on species in your zoo or aquarium?
- ☐ Are you supporting habitat maintenance/restoration projects that have the potential to play a dual function in acting as a buffer against extreme weather as well as protecting biodiversity?
- ☐ Have you identified how you can lower greenhouse gas emissions in your operations?

**Sustainable Development Goal 14.**

## Life Below Water

- ☐ Have you checked the supply chains for all products originating from the ocean?
- ☐ Do you manage waste appropriately?
- ☐ Have you undertaken a Single Use Plastic audit and implemented plans to reduce?
- ☐ Do you include protection of waterways messages in your education and visitor programmes?

**Sustainable Development Goal 15.**

## Life on Land

- ☐ Are you active in advocacy and action for species and their habitats?
- ☐ Do your educational and visitor experience programmes champion the environment and habitats?
- ☐ Do you contribute to co-benefit conservations programmes that consider species and other aspects such as habitat and social welfare?
- ☐ Are you involved in field conservation projects to support life on land?
- ☐ Do you have dedicated staff for conservation projects?

**Sustainable Development Goal 16.**

## Peace, Justice and Strong Institutions

- ☐ Do you ensure you abide by CITES regulations when moving animals in and out of your organisation?
- ☐ Can you effectively trace the lineage of all animals currently in the zoo or aquarium, and those you plan to move into your zoo or aquarium?
- ☐ How do you ensure you operate a bribery and corruption free organisation?
- ☐ Do you actively participate in WAZA ensuring your voice is heard?
- ☐ Do you ensure that your organisation has a stance to 'do no harm'?

**Sustainable Development Goal 17.**

## Partnership for the Goals

- ☐ Do you have a partnerships programme at your organisation?
- ☐ Do you have field conservation partnerships locally and globally?
- ☐ Do you work with the local community and municipality for sustainable outcomes?
- ☐ Are the SDGs integrated into your project planning and organisation's strategy?



# Resources

This section provides a recommended resources, please be aware that this is not an exhaustive list but rather recommendations that the authors of this document have found useful:

## General SDGs topics

- 1. The Atlas of Sustainable Development Goals 2018**  
Maps, charts, stories related to the 17 SDGs, trends, comparisons, and measurement issues using accessible and shareable data visualizations.  
<http://datatopics.worldbank.org/sdgatlas/index.html>
- 2. Resource Library of the United Nations Sustainable Development Knowledge Platform**  
Outcomes and frameworks, conferences, partnerships, events calendar and others.  
<https://sustainabledevelopment.un.org/resourcelibrary>
- 3. The Global Goals for Sustainable Development**  
Brand assets and guidelines, icons for the goals, films and pictures.  
<https://www.globalgoals.org/resources>
- 4. Sustainable Development Goals Communications Materials**  
Guidelines for the use of logos, color wheel and 17 SDGs icon.  
<https://www.un.org/sustainabledevelopment/news/communications-material/>
- 5. The Sustainable Development Goals Report 2018**  
Available in 6 languages.  
<https://unstats.un.org/sdgs/report/2018>
- 6. SDGs tracker: Ensure healthy lives and promote well-being for all at all ages**  
Free, open-access publication that tracks global progress towards the SDGs and allows people around the world to hold their governments accountable to achieving the agreed goals.  
<https://sdg-tracker.org/>

- 7. SDGs Fund Online Library**  
Online platform for publications with accessible content related to the SDGs.  
<http://www.sdgfund.org/library>
- 8. Sustainable Developments Goals Student Resources**  
Materials for youth.  
<https://www.un.org/sustainabledevelopment/student-resources/>
- 9. How Your Company Can Advance Each of the SDGs**  
Ideas for companies engagements for each SDG.  
<https://www.unglobalcompact.org/sdgs/17-global-goals>
- 10. How can the development goals be achieved?**  
Article at the World Economic Forum.  
<https://www.weforum.org/agenda/2015/09/how-achievable-are-the-sustainable-development-goals/>

## Biodiversity

- 11. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)**  
Media release: Biodiversity and Nature's contributions continue dangerous decline, scientists warn.  
<https://www.ipbes.net/news/media-release-biodiversity-nature%E2%80%99s-contributions-continue-%C2%A0dangerous-decline-scientists-warn>
- 12. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)**  
Media release - UPDATED: Biodiversity and Nature's contributions continue dangerous decline, scientists warn.  
<https://www.ipbes.net/news/media-release-updated-biodiversity-nature's-contributions-continue-dangerous-decline-scientists>
- 13. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)**  
Media release: Worsening worldwide land degradation now 'critical', undermining well-being of 3.2 billion people.  
<https://www.ipbes.net/news/media-release-worsening-worldwide-land-degradation-now-%E2%80%98critical%E2%80%99-undermining-well-being-32>
- 14. Biodiversity and the 2030 agenda for sustainable development**  
Biodiversity and ecosystems feature prominently across many of the Sustainable Development Goals (SDGs) and associated targets. This document highlights the relevant targets.  
<https://www.cbd.int/development/doc/biodiversity-2030-agenda-technical-note-en.pdf>



# Partnerships

- 15.** The Partnership Culture Navigator: Organisational cultures and cross-sector partnerships  
Practical guide to help users navigate the challenges of dealing with different organisational cultures when working in cross-sector partnerships.  
<https://www.thepartneringinitiative.org/wp-content/uploads/2016/03/PC-Navigator-v1.0.3.pdf>
- 16.** Designing Comprehensive Partnering Agreements: An Introduction to the Partnering Agreement Scorecard  
Guide on partnering good practice that addresses a key factor in the creation of successful partnership: the purpose and content of partnership agreements.  
[https://thepartneringinitiative.org/wp-content/uploads/2014/11/Designing-Comprehensive-Partnering-Agreements\\_booklet-2014\\_FINAL.pdf](https://thepartneringinitiative.org/wp-content/uploads/2014/11/Designing-Comprehensive-Partnering-Agreements_booklet-2014_FINAL.pdf)
- 17.** Tools and resources for the 17 Sustainable Development Goals  
Curated collection of tools and resources to understand the SDGs from a whole-systems perspective, and to assist in making them part organisations.  
<http://17goals.org/tools-and-resources/>

# Climate change

- 18.** American Meteorological Society, State of the Climate in 2017  
Special Supplement to the Bulletin of the American Meteorological Society.  
[https://www.ametsoc.net/sotc2017/StateoftheClimate2017\\_lowres.pdf](https://www.ametsoc.net/sotc2017/StateoftheClimate2017_lowres.pdf)
- 19.** 2020 Climate turning Point, Potsdam Institute for Climate Research  
Joint analysis done by a number of organisations on action needed.  
<https://mission2020.global/wp-content/uploads/2020-The-Climate-Turning-Point.pdf>
- 20.** Commonwealth Scientific and Industrial Research Organisation (CSIRO), Climate Change in Australia  
Information about Australia's past, current and future climate helps industries, governments and communities plan for and adapt to a variable and changing climate.  
<https://www.csiro.au/en/Research/OandA/Areas/Oceans-and-climate/Climate-change-information>
- 21.** Intergovernmental Panel on Climate Change (IPCC), Special Report 2018  
Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.  
[https://report.ipcc.ch/sr15/pdf/sr15\\_spm\\_final.pdf](https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf)

- 22.** United Nations Climate Change Secretariat, Climate Action Now, Summary for Policy 2015.  
Highlights key messages for policymakers including a brief overview of the current global state of play of climate change, good practice policies, international organisations and cooperative initiatives, among other topics.  
<https://unfccc.int/resource/climateaction2020/media/1173/21789-spm-unfccc-lowres.pdf>
- 23.** National Oceanographic and Atmosphere Administration (NOAA), Trends in Atmospheric CO<sup>2</sup> Concentration  
Current data of monthly mean carbon dioxide measured at Mauna Loa Observatory, Hawaii.  
<https://www.esrl.noaa.gov/gmd/ccgg/trends/>
- 24.** How Do We Get to Zero Greenhouse Gas Emissions?  
Infographic by informationisbeautiful.net  
<https://www.informationisbeautifulawards.com/showcase/4451-how-do-we-get-to-zero-greenhouse-gas-emissions>
- 25.** Climate Action Now: 2018 Summary for policymakers  
Summary for Policymakers (SPM) with information from the technical expert meetings focusing on mitigation and adaptation policies, technologies, initiatives and actions, and highlights other related new developments.  
<http://unfccc.int/resource/climateaction2020/spm/introduction/index.html>
- 26.** Migratory Species and Climate change Impacts of a Changing Environment on Wild Animals  
The Convention on the Conservation of Migratory Species of Wild Animals is an international agreement that aims to conserve migratory species within their migratory ranges. The report  
<https://www.cms.int/en/document/migratory-species-and-climate-change-impacts-changing-environment-wild-animals-english-only>
- 27.** Scientific American (American popular science magazine)  
Article - Climate Change Is Becoming a Top Threat to Biodiversity  
<https://www.scientificamerican.com/article/climate-change-is-becoming-a-top-threat-to-biodiversity/>



## Energy

- 28.** World Energy Council  
A global and inclusive forum for thought-leadership and tangible engagement, its mission is 'To promote the sustainable supply and use of energy for the greatest benefit of all people'.  
<https://www.worldenergy.org/>
- 29.** United Nations Development Programme (UNDP), Delivering Sustainable Energy in a Changing Climate 2017-2021 Strategy to articulate the UNDP's role, approach and focus related to sustainable energy for the period 2017-2021.  
<http://www.un-expo.org/wp-content/uploads/2017/05/UNDP-Energy-Strategy-2017-2021.pdf>
- International Energy Agency, World Energy Outlook 2018
- 30.** The World Energy Outlook (WEO) is the gold standard of long-term energy analysis. The 2018 edition provides updated analysis to show what the latest data, technology trends and policy announcements might mean for the energy sector to 2040.  
<https://www.iea.org/reports/world-energy-outlook-2018>

## Health

- 31.** UNDP: Good health and Well-being  
UNDP's website with detailed information on SDG goal 3  
<https://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-3-good-health-and-well-being.html>
- 32.** Good health and well-being: Why it matters  
Two pages brochure  
<https://www.un.org/sustainabledevelopment/wp-content/uploads/2018/09/Goal-3.pdf>
- 33.** World Health Organisation (WHO)  
The World Health Organization (WHO) is a specialized agency of the United Nations that is concerned with international public health.  
<https://www.who.int/en/>
- 34.** Our World in Data: Research and data to make progress against the world's largest problems  
Burden of Disease report  
<https://ourworldindata.org/burden-of-disease>

## Miscellaneous

- 35.** Age of Awareness: Stories providing creative, innovative, and sustainable changes to the education system  
Article - A systems approach to the SDGs & the need to reframe SDG8  
<https://medium.com/@designforsustainability/a-systems-approach-to-the-sdgs-the-need-to-reframe-sdg8-6c4853118f82>
- 36.** Our World in Data: Research and data to make progress against the world's largest problems  
Child and Infant Mortality report  
<https://ourworldindata.org/child-mortality>
- 37.** World population review  
Dynamic website with extensive data of world population  
<http://worldpopulationreview.com/countries/life-expectancy/>

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