



Colloquium

AQUARIUM OF THE FUTURE

First edition 2026

WHITE PAPER



Aquariums de France
Union des Conservateurs d'Aquariums

In partnership with

The first edition of the Aquarium of the Future colloquium took place at Nausicaá on the 18th of May 2026.

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Future of the aquarium

Editorial



Christophe Sirugue

General Manager of Nausicaá

In 2026, Nausicaá celebrates its 35th anniversary.

Since it opened in 1991, our centre has constantly evolved. What began as a place of discovery and wonder has, over the years, become a committed advocate for education, awareness-raising, research and conservation serving the ocean and life itself.

This anniversary is an opportunity to reflect on how far we have come, but more importantly to focus on the future.

This is because the challenges facing the ocean are growing. Society's expectations are changing. And more than ever, aquariums are being urged to play a vital role: to promote understanding, raise awareness, educate and take action to help preserve marine life.

This is precisely why Nausicaá and the French Union of Aquarium Curators organised the "Aquarium of the Future" colloquium.

In Boulogne-sur-Mer, aquarium managers, researchers, vets, teachers, outreach specialists and conservation experts from across France and several European countries came together to share their experiences and exchange views on the same question:

What role are aquariums set to play in the world of tomorrow?

These discussions have given rise to a firm conviction: in the face of the environmental, scientific and societal challenges that lie ahead, aquariums have a major role to play, which they must embrace with ambition.

This white paper is the culmination of this collective reflection. It reflects a shared commitment towards shaping the future of aquariums for the benefit of the ocean and future generations.



A snapshot of the colloquium

35 
years of
Nausicaä



13
organisations
represented

Lille Education Authority • French Association of Zoos (AFdPZ) • Liège University Aquarium and Museum • European Association of Zoos and Aquaria (EAZA) • French Institute for Ocean Science (Ifremer) • La Cité de la Mer • Nausicaä • Océanopolis • Planet Ocean Montpellier • Species360 • UCA • Amiens Zoo • ZooParc de Beauval



A day
of collective
reflection



100
participants
gathered in
Boulogne-sur-Mer



10
speakers

with backgrounds ranging from the world of aquariums, research, education, conservation and scientific outreach

3 main topics

- Animal welfare
- Conservation and scientific knowledge
- Ocean culture and civic engagement

The colloquium was hosted by David Lefort, a journalist specialising in environmental and scientific issues for France Télévisions.



Why hold a colloquium on the aquarium of the future?



Every year, aquariums attract nearly 500 million visitors worldwide. They are one of the leading venues where the public can connect with the marine world.

Having long been associated with discovery and wonder, these centres are now seeing their role evolve in a context characterised by a heightened focus on living organisms, biodiversity and ecosystems.

At the crossroads of experiential learning of living organisms, scientific culture and research, aquariums are now faced with new responsibilities. They contribute to international conservation programmes, the breeding of endangered species, the generation of scientific data relevant to research, and raising public awareness on major environmental and ocean-related issues.

This trend raises a number of questions.

How can aquariums make a greater contribution to our understanding and conservation of living organisms?

What role can they play in passing on knowledge of the ocean?

How can we turn that sense of wonder into a catalyst for learning, commitment and concrete action?

To fuel this discussion, Nausicaá and the Union of Aquarium Curators convened aquarium professionals, scientists, vets, scientific outreach specialists and conservationists in Boulogne-sur-Mer, all united by a common goal: to imagine the aquarium of the future.



Three topics to shape the future of aquariums

Through three round-table discussions involving experts from the worlds of aquariums and zoos, research, education, conservation and scientific outreach, the Aquarium of the Future colloquium explored the major transformations that are currently shaping the future of aquariums.

ANIMAL WELFARE AND CHANGES IN AQUARIUM PRACTICES

How do aquariums today incorporate advances in scientific knowledge and societal expectations in terms of animal welfare? What standards now guide the work of aquarium and veterinary teams? Speakers:



Dominique Barthélemy
President, Union of Aquarium Curators, and Curator of Océanopolis



Géraldine Lacave
Veterinarian, international expert in marine mammals



Nicolas Hirel
Curator, Planet Ocean Montpellier



Rodolphe Delord
President, French Association of Zoos and ZooParc de Beauval

CONSERVATION OF LIVING ORGANISMS AND PRODUCTION OF SCIENTIFIC KNOWLEDGE

Aquariums are the perfect places to observe and gain a better understanding of certain species. How can the knowledge generated within these centres contribute to scientific research and support conservation programmes?



Michael Scholl
Director, Liège University Aquarium and Museum



Nicolas Hirel
Curator, Planet Ocean Montpellier



Xavier Harlay
Director, Channel and North Sea Centre, Ifremer

EDUCATION AND CULTURE OF THE OCEANS: RAISING AWARENESS AMONGST THE CITIZENS OF TOMORROW

Faced with the changes affecting the ocean, how can we turn our sense of wonder for living things into a catalyst for learning, commitment and concrete action?



Christine Causse
Oceanographer, author and scientific adviser, Nausicaä



David Campagne
Inspector, Lille Education Authority



Guillaume Lheureux
International project officer, Nausicaä



Animal welfare and changes in aquarium practices

1 - Animal welfare: from a professional matter of course to a societal requirement

Animal welfare takes centre stage in the deliberations of aquariums and zoos. Society's expectations are changing, our knowledge and understanding are advancing, and these centres are being urged to be ever more accountable for their practices. And yet, for the professionals gathered at the colloquium in Nausicaä, this concern is nothing new.



Perhaps we haven't talked about it enough because, for us, it was a matter of course. It is our purpose.



Rodolphe Delord,

President, French Association of Zoos and ZooParc de Beauval

For several decades, it has been the very foundation of their commitment. Long before the concept became established in public debate, it was already guiding the day-to-day practices of aquarium teams, animal handlers and veterinary staff. What is changing today is not so much the reality of this commitment as the need to demonstrate it, to objectify it and to explain it.

Today, this requirement has become a matter of public concern. Visitors no longer simply wish to see species that are sometimes impossible to observe in their natural habitat. They also want to understand how these animals are taken in, cared for and looked after throughout their lives.

This shifting perspective on animals does not mean that these practices have only recently emerged. It is more a reflection of a growing expectation for transparency and education.



Animal welfare is something that everyone who works with animals has always strived to uphold. Today, there is also a public demand to understand what we do and why we do it.

Géraldine Lacave,

Veterinarian, international expert in marine mammals

This expectation for transparency is gradually transforming the relationship between aquariums and their visitors. Practices that have long remained behind the scenes (behavioural observation, enrichment, veterinary monitoring, treatment protocols and welfare assessments) are also becoming topics for public outreach and dissemination.

This means that aquariums and zoos find themselves at the crossroads of several responsibilities. Not only must they safeguard the best possible living conditions for the animals in their care, but they must also share the knowledge gained through their experience, observations and research.

This requirement is all the more compelling given that these centres are now one of the main points of contact between the public and the natural world. Their ability to raise awareness, explain and share knowledge contributes directly to changing perceptions of biodiversity and how to protect it.

Therefore, animal welfare cannot be regarded as merely one task among many. It forms the foundation upon which all the tasks carried out by aquariums and zoos are based: conservation, research, education and raising awareness.

26 million visitors every year

French zoos and aquariums welcome nearly 26 million visitors every year.

This exceptional visitor turnout means that these centres have a special responsibility: to raise public awareness of the challenges involved in preserving biodiversity, whilst promoting a better understanding of living organisms and their needs.



2 - Animal welfare and humane practices: what are we talking about?

So, animal welfare is the central focus of discussions within aquariums and zoos. However, behind this widely used term lie realities that are sometimes quite different. One of the first points of clarification raised during the conference concerned precisely the distinction between animal welfare and humane treatment.

The two concepts are closely linked, but they are not the same thing.

Humane treatment refers to all the measures taken to address the needs of animals: facilities appropriate to the species, suitable feed, veterinary care, behavioural enrichment, daily observation and the management of social groups.

Meanwhile, welfare is the objective we are seeking to achieve. It is the outcome of all these actions.

A distinction must be made between animal welfare and the humane treatment of animals. Humane treatment encompasses all the measures we will put in place that will ultimately contribute to animal welfare.



Dominique Barthelemy,

Curator at Océanopolis and President of the Union of Aquarium Curators

It is vital to make this distinction. It serves as a reminder that simply putting good practices in place is not enough to guarantee an animal's welfare. It is also necessary to understand its needs and ensure that the measures taken actually produce the desired results.

However, these needs go far beyond the issue of health alone.

Advances in veterinary medicine, ethology and aquarium science have greatly deepened our understanding of the species living in aquariums and zoos. Water quality, diet and the absence of disease remain essential prerequisites. However, these factors alone are no longer sufficient to determine an animal's welfare.

When we talk about welfare, we can of course refer to medical aspects, because they are in good health. However, welfare is actually something much broader than that.



Géraldine Lacave,

Veterinarian, international expert in marine mammals

With this holistic approach, animals are no longer viewed solely in terms of their physiological needs, but also in terms of their experience of the environment in which they live. Animal welfare is not merely about meeting basic needs. It also depends on the ability of animals to express their natural behaviours, to interact with their own kind, to live in suitable social groups, and to benefit from an environment that is sufficiently stimulating to encourage their behavioural and cognitive abilities.

Stimulation, the variety of situations encountered, interactions with the environment and the choices available to animals are now aspects that are fully integrated into the assessment of their welfare.

This change in perspective is gradually transforming professional practices. Animal welfare is becoming a more ambitious endeavour, based on the ongoing pursuit of conditions in which animals can live, interact and thrive in an environment that is suited to their needs.

It is not a static state, but a balance that is constantly being built, fuelled by observation, scientific knowledge and the experience of the teams.



Animal welfare or humane treatment?

Humane treatment refers to the resources that are put in place:

- quality of the environment;
- water quality; appropriate diet;
- veterinary care;
- behavioural enrichment;
- daily observation;
- management of social groups.

Animal welfare is the desired outcome: a capacity for an animal to thrive in an environment that fulfils its physiological, behavioural and social needs.



3 • From observation to measurement: the objective assessment of animal welfare

Driven onward by scientific progress and the development of new assessment tools, aquariums and zoos have gradually enhanced their practices. The challenge is no longer simply to provide the best possible conditions for the animals, it is also to have tools available to assess the impact of these measures and to ensure that this approach forms part of a continuous improvement process.

For a long time, the assessment of animal welfare was based primarily on experience, observation and the knowledge gained through daily contact with the species.

However, over the years, societal expectations, scientific advances and the development of new assessment methods have led professionals to cross an additional threshold.

The tools developed over recent years are not intended to replace the expertise of the teams, but to complement it. These tools help to organise observations, standardise certain practices and provide common benchmarks against which changes in animal welfare can be monitored.

The objective measurement of welfare does not imply replacing human experience with indicators. On the contrary, it aims to strengthen the observation skills of teams, to share knowledge between centres and to provide common tools to support the continuous improvement of practices.





Checklists and assessments enable us to be more thorough. However, something that is slightly less objective is the *perspective of the handlers*, their skills and their expertise, which stem not only from their training but also from their experience within these structures.

Dominique Barthelemy,

Curator at Océanopolis and President of the Union of Aquarium Curators

In the aquatic world, this approach has required a great deal of adaptation. The criteria used to assess the welfare of a land mammal cannot be applied directly to a fish, a ray or a marine invertebrate.

This is the reason why several French aquariums have joined forces to develop tools specifically tailored to aquatic species.



It was essential to develop tools tailored to *aquatic species*. It is not possible to assess the welfare of a fish in the same way as that of a land mammal.

Dominique Mallevoy,

Director of Aquariology, Nausicaá

Beyond the actual assessment, this approach encourages centres to share their experiences and helps to advance knowledge collectively. It also makes it easier to identify areas for improvement which, without a structured framework for analysis, might otherwise go unnoticed.

Therefore, objectively measuring animal welfare does not reflect a lack of trust in the expertise of professionals.

On the contrary, it demonstrates a willingness to build on existing knowledge and to ensure that practices are continuously improved.

Thus, animal welfare is becoming a field of expertise in its own right, fuelled by real-world observation, the sharing of experience and the findings of scientific research.

An assessment checklist specifically tailored to aquatic species

Instigated by working groups within the French Association of Zoos (AFdPZ) comprising several French centres, including the Aquarium de La Rochelle, the Aquarium du Trocadéro and Nausicaá, a welfare assessment checklist specifically for fish and aquatic invertebrates has been developed to complement the tools already in place for other zoological groups.

The aim is not to standardise practices, but to establish a common framework that makes it possible to observe the animals in greater detail, share feedback and collectively advance our understanding of the welfare of aquatic species.

This approach illustrates the changing nature of a sector that is no longer content to rely solely on its experience, but is also seeking to develop shared assessment methods tailored to the specific characteristics of aquatic living organisms.



4 • The irreplaceable role of the handlers

As our knowledge and understanding grows and assessment tools become more sophisticated, one fact remains unchanged: animal welfare depends, above all, on day-to-day observation.

No protocol, no indicator and no assessment checklist can replace the knowledge gained through direct contact with animals.

This expertise is built up over time, through thousands of hours spent observing the behaviours, interactions and sometimes imperceptible changes that characterise each individual.

Because observing is not a preliminary stage of the work: it is the actual work in itself.



The handlers live with their animals from 8 in the morning until 6 in the evening. They know them well. When a handler tells us, "He's a bit out of sorts this morning", we, as vets, must listen to them.

Géraldine Lacave,

Veterinarian, international expert in marine mammals

In aquariums and zoos, this ability to observe is often the primary tool for prevention. A change in behaviour, a change in feeding habits, unusual interaction with other animals of the same species, or a decline in activity may be the first signs of a change that requires an adjustment to their care or monitoring.

This human expertise is one of the foundations of animal welfare. It not only enables certain situations to be identified more quickly, but also provides a better understanding of each individual's specific needs. After all, behind each species lie unique animals, each with their own history, temperament and habits.

Being so close to the animals on a daily basis also creates a special bond between the teams and the animals that they look after. Handlers sometimes look after the same animals for many years. They watch them as they grow up, grow old, change their behaviour and, sometimes, witness their final moments.

This means that animal welfare is inextricably linked to a human commitment that is often overlooked but essential to how aquariums and zoos operate.

Océanopolis
BREST

Caring for those who care

At Océanopolis, a support group modelled on hospital practices has been set up for the animal care teams. With the support of an occupational psychologist, handlers, aquarists and department managers can exchange views on the situations they encounter on a daily basis and share their experiences.

This initiative highlights a reality that is often overlooked: the quality of care afforded to animals also depends on the support given to the men and women who are responsible for them.



5 • Treat, observe and stimulate: a comprehensive approach to animal welfare

Animal care has undergone profound changes over recent decades. Whereas it was long focused on treating illnesses as they arose, it is now part of a more comprehensive approach that incorporates prevention, behavioural observation, environmental enrichment and individualised monitoring of animals.

This trend goes hand in hand with the increase in the life expectancy of species living in aquariums and zoos, as well as with the significant advances in scientific knowledge and understanding of their physiological, behavioural and social needs.

Against this backdrop, the role of the vet has also changed significantly. Whereas they were previously only called upon as and when needed, they are now fully integrated into teams and play a part in the day-to-day care of the animals. This change has helped to give rise to a branch of veterinary medicine specialising in aquatic species, one that is closely attuned to the animals' needs and real-world conditions.

As the first full-time salaried veterinarian at an aquarium in France, at Nausicaá, Sasha Le Bohec has been instrumental in this change and the development of veterinary expertise specialising in marine species.



In the past, aquariums used to call upon fish-farming vets. Today, we are seeing the emergence of a new generation of specialist vets who work directly within these organisations.

Sasha Le Bohec,

Veterinarian, Nausicaá Centre National de la Mer

The aim is no longer simply to treat animals when a problem arises, but to anticipate, prevent and detect as early as possible any factors that might affect their welfare.

However, animal welfare is not limited to health. Aquariums are now focusing on how animals interact with their environment, how they utilise



their physical and cognitive abilities, and how they express behaviours that are specific to their species.

The concept of stimulation is of particular importance in marine mammals.



William Gournay,
Director of Marine Mammals, Nausicaá

Working with marine mammals requires a detailed understanding of their *behaviour* and the introduction of appropriate stimuli to prevent the development of stereotyped behaviour.

Behavioural enrichment takes various forms: changes in the layout of their living space, interactions with handlers, cooperative exercises and even diversification of feeding methods.

Feeding, incidentally, is a valuable tool for observing and managing social behaviour.

By *separating* feeding points, we can ensure that each species knows where and when to feed.



Nicolas Hirel,
Curator, Planet Ocean Montpellier

The diversity of feeding points, variations in feeding patterns and the associated enrichment measures help to stimulate the animals whilst encouraging the expression of natural behaviours.

Caring for, observing and stimulating the animals are now all part of the same approach: to gain a better understanding of the animals in order to provide them with an environment that is increasingly well suited to their needs.

Sea lions: care through cooperation

For over twenty-five years, the sea lions at Nausicaá have received training based on **voluntary cooperation** with their handlers.

With this approach, a wide range of medical examinations can be carried out under better conditions, including endoscopies without general anaesthesia, thanks to the animals' gradual acclimatisation and the relationship of trust built up with the teams.

The animals also receive individually tailored care throughout their lives. Complementary approaches, such as osteopathy, may be used to manage certain age-related mobility problems.

These training sessions have also evolved alongside the presentations offered to the public at many centres. Whilst certain formats elsewhere may have relied more heavily on demonstrations, Nausicaá has always opted for an educational approach, without any spectacle or show. The aim is to help visitors understand the natural behaviour of the animals, the care they receive, their environment and the challenges involved in conserving their species.

In this way, they exemplify an approach to aquarium practices that combines care, enrichment, education and voluntary cooperation within the same overall approach to animal welfare.



6 • The aquarium of the future as a biological reserve

The aquarium of the future is part of a profound transformation in the role of such centres in understanding, conserving and passing on knowledge about living organisms. Long regarded as places of discovery, aquariums are increasingly becoming genuine conservatories of life, capable of preserving species, managing their reproduction and helping to safeguard genetic heritage that is sometimes under threat.

This shift is largely due to advances in our understanding of biological cycles. For a long time, the available knowledge meant that breeding in captivity was limited to a small number of species. Today, aquariums have the capacity to support the life cycle of a growing number of marine organisms.



I believe we need to aim toward having 100% of the animals on display being born in zoos and aquariums.

Rodolphe Delord,

President, French Association of Zoos and ZooParc de Beauval

As our knowledge and understanding grows, the aim is to reduce reliance on taking specimens from the wild by favouring populations derived from controlled breeding programmes.

In the marine environment, this remains a major scientific challenge. Understanding breeding mechanisms, the conditions under which larvae develop, and the interactions between species constitutes a field of research in its own right.

For a long time, controlling biological cycles in aquariums remained a major challenge. In the space of a few decades, we have made remarkable progress: from a few dozen reef species whose cycles were understood, we have moved on to several hundred. By 2023, 468 species of fish associated with coral reefs had already been successfully bred in aquariums.



Dominique Barthelemy,

Curator at Océanopolis and President of the Union of Aquarium Curators

This progress reflects a major development. Breeding in aquariums is no longer a matter of isolated successes, but a genuine field of applied research that contributes to our understanding of species and their conservation.

Today, aquariums play a part in generating knowledge about life cycles and breeding conditions. By gradually gaining a better understanding of the biological cycles of an increasing number of species, they also help to preserve genetic heritage that is sometimes under threat in the wild.

This capability opens up new prospects for conservation: contributing to the recovery of threatened populations, supporting reintroduction programmes, gaining a better understanding of the mechanisms that enable species to adapt to environmental change, and preserving genetic resources that may prove crucial in the future.

Aquariums and zoos: key players in global conservation

In France, aquariums and zoos are involved in more than 335 research and conservation programmes across more than 70 countries, representing an investment of nearly **5 million Euros** each year.

This commitment is also reflected in the sheltering and monitoring of particularly endangered species. Today, more than a third of the animals living in aquariums and zoos belong to species listed on the IUCN Red List. This reality illustrates the growing role played by these centres in international biodiversity conservation strategies, through the preservation of populations, the acquisition of scientific knowledge and support for conservation programmes carried out in the wild.



Colloquium
18th May 2026

AQUARIUM OF THE FUTURE

Welcome!

This is just
the beginning

Aquatic
invertebrate
fish

Nausicaä
Let's make aquariums places
where people can learn and
pass on knowledge, rather than
just being places of wonder!!



- CHRISTOPHE SIRUGUE -
"Captain of the Crew"

ADAPT OUR
MESSAGES and
OUR ACTIONS



FOCUS
on the future
together



Assessment Checklist
approved by the French
association of Zoos (AFDPZ)

if we're not providing
the right conditions for
animal welfare, we're
PUNISHED straight away

listen to what
the teams have to
say and support
them



- DOMINIQUE BARTHÉLÉMY -

RECENT

Veterinarians
specializing in
aquarium medicine



Welfare
CHECKLISTS

The Viewpoint of
Handlers/Carers is
less easily quantified

ANIMAL

Looking at Aquariums
is also work...

WELFARE &

Certifications
exist and are
highlighted



- DAVID LEFORT -

THE AQUARIUM
of the FUTURE?

Breeding Challenges
Reintroduce certain
species (Géraldine)

I'm not
a pilot fish!

Re-imagine the
Role of Aquariums
in the face of the
challenges facing
living organisms

The Importance of HANDLERS

#WELFARE

90% of Coral reefs
will have disappeared
by the end of the
century...

Collect
specimens
to learn more
about them
(Such as fish live
on coral reefs)

She looks
after my
flipper fins

I've got an
appointment with
my osteopath at
3 pm!



Speedy
Sea lion

Expertise in
Biological cycles

Do you eat during the first or second service?



Access to food varies according to dominance

Different feeding points at different times



- NICOLAS HIREL -

Medical procedures carried out without coercion

Open your mouth, please



?! SURPRISE The Animals... (and our visitors too)

From curative medicine to preventive medicine

for example quick endoscopy

Keep up with the times and make use of modern tools

- Social group
- Needs
- Breeding
- Food

A SUITABLE diet!!



- GÉRALDINE LACAVE -

Well-being is CONTAGIOUS!!

Animal & Handler's Public

Follow positively those at the END of line

listen to the handlers

AQUARIUM PRACTICES

Animals need to be kept busy and stimulated, they need it

they respond to interactions with the public

SHOWS?

Educational activities

[Commercial Shows are abolished and banned]

Animal Welfare We didn't talk about it because, for us, it's just a matter of course



it is our PURPOSE!

All our animals were born in our facilities!

the best for TREATMENT FACILITIES



- RODOLPHE DELORD -

PARADOX there has never been so much animal cruelty in France (dogs, cats, etc...)

How in the world can restaurants serve LIVE eel fish?!



Amusement Park



nausicaä BOULOGNE-SUR-MER

morgan.mazym@gmail.com

Conservation of living organisms and generation of scientific knowledge

1 • From exhibition venues to research platforms

The image of an aquarium is instinctively associated with wonder. However, behind the tanks viewed by the public, another reality has been unfolding for several years: that of centres actively contributing to the generation of scientific knowledge.

By hosting researchers, doctoral students, and experimental programs, aquariums are gradually establishing themselves as fully-fledged research platforms. This transformation is strengthening their contribution to our understanding of living organisms and the preservation of marine ecosystems.

This transformation is driven by a growing collaboration between aquariums, universities, research institutes and conservation organisations. Aquariums are offering their facilities, collections of living organisms and technical expertise to support projects that go far beyond their traditional role of showcasing living organisms.

This means that the tanks become ideal spaces for observation and experimentation. They enable species to be studied over the long term, protocols to be tested, equipment to be validated and technologies to be trialled before they are deployed in the natural environment.





“Our aquariums are virtually ideal settings for conducting trial experiments that will later be carried out in the field, thousands of kilometres away, at great depths or in extremely remote locations.”

Nicolas Hirel,

Curator, Planet Ocean Montpellier

In addition to their facilities, these centres are also becoming hubs for collaboration, bringing together researchers, students, PhD scholars, nature area managers and conservation practitioners.

The projects developed in these establishments increasingly rely on partnerships involving laboratories, universities, public bodies and specialist organisations.

“Aquariums are no longer merely venues for displaying living organisms. They now help to build the knowledge that will enable us to better understand and conserve them. Our facilities can serve as venues for research work by students and PhD scholars.”



Michael Scholl

Director of Liège University Aquarium and Museum

So, aquariums are no longer simply places where biodiversity is displayed. They are becoming places where the knowledge needed to understand and preserve it is being acquired.



“Through technical partnerships, aquariums afford scientists unique opportunities to observe living organisms, conduct experiments and gain insights that would often be impossible to obtain directly in the real world. They are now a valuable tool for gaining a better understanding of how marine ecosystems work and the effects of global change.”

Xavier Harlay,

Director of the Ifremer Channel and North Sea Centre



When the aquarium turns into a life-size laboratory

Aquariums provide researchers with a controlled environment in which they can test methods, technologies and equipment before using them in real-world conditions.

At Planet Ocean Montpellier, several projects are exploiting artificial intelligence to automatically identify certain species or analyse behaviours observed underwater.

In Boulogne-sur-Mer, research conducted in collaboration with Nausicaä and Ifremer is focusing in particular on the development of herring eggs and larvae under conditions expected as a result of climate change, such as rising water temperatures and ocean acidification.

In 2022, Océanopolis hosted the ARDECO research programme, conducted in collaboration with Ifremer and several scientific partners. The aim was to study the ability of cold-water corals to adapt to global warming and ocean acidification.



2 - Conservation as a shared vision

Long regarded as two distinct approaches, ex situ conservation and in situ conservation are now increasingly seen as complementary. By developing programmes to breed, reproduce and monitor species, aquariums are contributing to a broader strategy aimed at strengthening the capacity to preserve living organisms in their natural habitats.

As biodiversity continues to decline, conservation can no longer be limited to the protection of natural habitats.

It now relies on a whole range of complementary measures, ranging from the restoration of habitats to the preservation of threatened genetic resources.

In this context, aquariums have a special role to play. By keeping certain species in controlled conditions, they contribute to ex situ conservation. This approach is not a substitute for in situ conservation, which takes place directly within the original ecosystems, but serves to reinforce it.

“The aim today is to develop programmes that are connected to the natural environment, combining ex situ and in situ approaches with a shared objective: to conserve populations. Aquariums also play a role in maintaining healthy and genetically viable insurance populations.”



Renaud Herbert,

Coordinator of the blackchin guitarfish conservation programme,
Deputy Director of Aquariology – Nausicaá

The concept of an “insurance population” reflects this shift. It is no longer simply a matter of protecting individual animals, but of preserving genetic diversity and the capacity for action that could prove crucial in the future in supporting the recovery of vulnerable populations. One of the main objectives of the conservation programme is to maintain a genetically healthy population within the zoos and aquariums that host them.

This complementary approach combining ex situ and in situ conservation is already yielding tangible results. In Wallonia, a European tree frog reintroduction programme led by the Liège Aquarium-Museum has gradually restored populations at several sites where the species had completely disappeared. This project, which was carried out simultaneously with extensive habitat restoration work, illustrates how breeding, scientific monitoring and management of habitats can be harnessed to achieve a single objective: to recreate the conditions necessary for a species to return sustainably to its natural environment.



“Because we have ecosystems inside our own facilities, we can support research and conservation projects that extend far beyond our own territories, including those involving species or habitats that are very distant from us.”

Florence Blond,

Deputy Managing Director, Nausicaá

This responsibility takes on a particularly meaningful dimension when it comes to coral reefs, which are among the ecosystems most vulnerable to climate change and pressure from human activity.

More than 40% of coral reefs have already disappeared. By preserving certain species in aquariums, we are also preserving a genetic heritage that we may need in the future.

Dominique Mallevooy,
Director of Aquariology – Nausicaá



Thus, preserving living organisms is no longer simply a matter of protecting what exists today. It also entails conserving the biological resources, knowledge and genetic heritage that will enable us to restore vulnerable populations or ecosystems in the future.



The guitarfish: a symbol of networked conservation

Classified as critically endangered by the IUCN, the Blackchin guitarfish (*Glaucostegus cemiculus*) is the focus of a European programme that currently involves 85 individuals spread across 29 partner zoos and aquariums.

At Nausicaá, the species has been monitored since 2006. The first birth, which took place in 2009, was a world first in an aquarium and marked a major step forward in our understanding of how the species reproduces. Since then, more than 50 individuals have been born at the centre.

Every birth is recorded in an international register. The programme coordinator then ensures that the young animals are distributed between the partner facilities in order to promote genetic diversity and maintain a healthy and viable population in the long term.

Coral propagation through cuttings: contributing to reef restoration

In response to the rapid decline of coral reefs, several European institutions, including the Oceanographic Museum of Monaco, Océanopolis and Nausicaá, are participating in the World Coral Conservatory. This initiative aims to preserve strains of reef-building corals and to establish backup populations capable of safeguarding a genetic heritage that is currently under threat in the natural environment.

Within this network, corals are maintained, propagated and monitored over the long term in order to preserve genetic diversity which could, in the future, contribute to reef restoration programmes. The aquarium teams primarily rely on propagation through cuttings, a technique they have mastered over several decades, which enables them to produce new colonies without having to take further samples from the natural environment. Once fully established, the World Coral Conservatory could be home to up to 1,000 species, representing nearly two-thirds of the world's known coral species.



3 • Science in the public sphere: fostering dialogue between research, outreach and society

Generating knowledge is only part of the story. It must also be made understandable, accessible and useful. Through their exhibitions, scientific outreach specialists, events and collaborations with researchers, aquariums now play a vital role in the dissemination of knowledge and in the dialogue between science and society.

Scientific research is often seen as a world reserved for specialists. Yet the major challenges relating to biodiversity, climate change and the conservation of the oceans affect society as a whole.

In order to be understood and taken on board, the knowledge produced by researchers must be translated, explained and presented in a way that tells a story.

Aquariums occupy a special place in this chain of knowledge transfer. They welcome millions of visitors every year and offer a unique advantage: direct contact with living creatures. Behind every tank, every species and every exhibition lie years of observation, research and scientific collaboration, which the outreach teams strive to make accessible.



Generating knowledge is one thing; sharing it is quite another. Scientists are not always best placed to engage with the general public. The challenge lies in making sometimes complex subjects accessible without distorting their content.

Michael Scholl

Director of Liège University Aquarium and Museum

This mission goes far beyond the mere transmission of information. It is no longer simply a matter of explaining scientific findings, but of creating the conditions to bring together those who generate knowledge and those who seek to understand it.

In this approach, scientific outreach specialists play a vital role. Working directly with visitors, they turn curiosity into questions and help to explore sometimes complex topics through hands-on experiences.

Our role is to engage the public, spark their curiosity and bridge the gap between the world of research and the world visitors live in. Scientific outreach helps to make science more tangible and relevant to everyday life.

Pierre Rigo,

Science communicator at the University Aquarium and Museum of Liège



This development reflects a more profound shift in the way we view the dissemination of knowledge. Long regarded as a phase that follows after

research, knowledge transfer is now integrated right from the design stage of scientific projects.



Outreach can be planned from the outset, at the stage when the key issues, the questions to be discussed and the target audiences are identified.

Christine Causse,

Oceanographer, author and scientific adviser at Nausicaá

In response to this approach, aquariums are developing new ways of engaging with the public: meetings with researchers, documentaries, talks, immersive exhibitions and educational programmes linked to research projects. The aim is no longer simply to impart knowledge, but to enable the public to understand how that knowledge is constructed.

Scientific projects are also moving in this direction. Funded doctoral theses now incorporate initiatives to engage with and foster dialogue with society. Researchers are encouraged to share their work beyond specialist publications and to consider the various forms this dissemination might take.

This requirement addresses a broader issue: to strengthen confidence in the scientific process at a time when environmental issues are playing an increasingly prominent role in public debate. This means that making science visible, understandable and accessible is becoming an essential prerequisite for its social utility.

Therefore, the aquarium is no longer merely a place where we observe living creatures. It is also becoming a place where lasting bonds are forged between science and society, which is essential if we are to gain a better understanding of the challenges facing the oceans and take collective action to protect them.

When research steps out of the laboratory

At Nausicaá, this ambition is manifested in particular through support for doctoral research. With the opening of the "Tropical Getaway" exhibition in 2025, the Centre national de la mer is supporting Caroline Bonpain's research, conducted in partnership with CRIOBE. This doctoral thesis explores the role of biodiversity in the resilience of coral reefs by combining field observations in French Polynesia with experiments conducted at Nausicaá's facilities.

At Océanopolis, the Océanolab programme, developed in collaboration with the European Institute for Marine Studies (IUEM) and the University of Western Brittany (UBO), has one aim: to showcase "science in the making". Researchers, engineers and technicians present their work to the public, who can learn about the methods, questions and experiments being carried out on topics such as climate change, pollution and the decline of biodiversity.



18 MAY 2026

We can still do better when it comes to collaborating

No one is worse at communicating than a Scientist!

Work with RESEARCHERS on a day-to-day basis



- MICHAËL SCHOLL -

Aquariums were actually created by Scientists

What is the ROLE of the palette surgeonfish in the Coral Reef

I can see what lies ahead for us over the next 35 years

Species identification: digitally identify marine species

Ideal places for testing and experimentation



- NICOLAS HIREL -

Conservation initiatives supported by RESEARCH and vice versa

CONSERVATION OF LIVING ORGANISMS

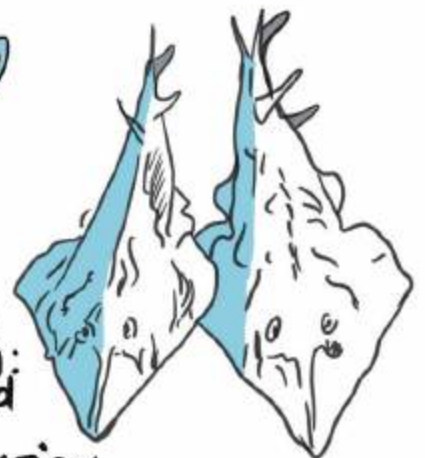
LA "NUIT ARDENTE"
Documentary on fish conservation(?!)

Build stronger links + public education and awareness

Nausicaä CONTINUOUS MONITORING over the long term

Nausicaä's INVOLVEMENT in the presentation of the OCEAN

GUJARFISH



Guitarfish: ex situ and in situ CONSERVATION PROGRAMME

Re-INTRODUCTION Objective

A PERMANENT LINK with Science

I am optimistic
about strengthening
our relations

nausicaà / IFREMER

The Exhibition on
the Abyss helps us
to scientifically
validate

A way of spreading
the word about our
RESEARCH
activities

THALASSA
exposition
(IFREMER
BOAT)

To Promote
and simplify
SCIENTIFIC
DISCOURSE

Focus on the Scientist
providing validation and expertise

Technical
opportunities
offered by Aquariums
(Nausicaà, Oceanopolis...)

And not
just the tropics

SHOW
THEIR
TERRITORY
as well and
what we
cannot see



- XAVIER HARLAV -

SMS & SCIENTIFIC KNOWLEDGE

SEEK OUT
Ways to fund
PHD theses
(CIFRE (Industrial
Research Training
Convention)
funding)

3 PHD THESES
currently
underway
at Nausicaà



Washing
machine

Herring
larvae...



Special
incubator
for PH and
temperature
control

See how the
HATCHINGS
are coming
along

FISHING
Quota forecasts

Even with
researchers who
are far away
(One in Polynesia)

**AQUARIUM
OF
THE FUTURE**



meropen.marjine@gmail.com

Education and culture of the oceans: raising awareness amongst the citizens of tomorrow

1 - Ocean culture: a new horizon in education

The ocean covers more than 70% of the Earth's surface, regulates the climate, is home to exceptional biodiversity and plays a vital role in the balance of our societies. Despite this, we still know very little about it. With the environmental challenges we face today, the development of a genuine ocean culture now appears to be essential to gaining a better understanding of the issues surrounding the ocean and the threats it faces.



The Académie de la Mer: fostering a shared maritime culture

Established in 2026 within the Lille academic region, the Académie de la Mer (Academy of the Sea) aims to promote the sea as a catalyst for training, knowledge transfer and regional development. It draws on the region's maritime identity, underpinned by its coastline, its strategic ports and its sectors of excellence.

This initiative aims to bring together stakeholders from the fields of education, research, the maritime sector and businesses in order to strengthen maritime culture, promote maritime careers and training, and raise awareness amongst young people of the major environmental and economic challenges associated with the ocean.

This momentum is fostering the development of educational projects, meetings with professionals and collaboration between stakeholders who, until now, often operated independently. The aim is clear: to make the sea a project for the future, one that embodies excellence and the transmission of knowledge to future generations.





Christophe Sirugue
General Manager of Nausicaá

“We are cultural centres dedicated to the ocean. Through the diversity of our professions, our skills and our approaches, we have the ability to connect people with the ocean. To bring it closer to them, to make it more tangible, and to enable everyone to have a better understanding of the bonds that connect them to the marine world.”

Even though the ocean has a direct influence on our food supply, our climate, our economy and our quality of life, it still occupies only a relatively minor place in the public consciousness. For many, it remains a distant, sometimes abstract realm, with mechanisms and interdependencies that remain difficult to grasp. This lack of understanding poses a major challenge at a time when issues relating to marine biodiversity, climate change and the sustainable management of marine resources are becoming increasingly important.

Ocean culture is specifically aimed at bridging this gap. It is about more than simply passing on scientific knowledge about the seas and oceans. It helps us to understand the close ties that bind human societies to the marine world and to recognise the mutual influence exerted by the ocean and human activities.

“The ocean is not just another topic. It lies at the heart of the planet's major ecological balances. Developing a culture centred on the ocean means giving everyone the opportunity to understand these connections and to appreciate the impact of their decisions on the marine world.”

Christine Causse,
Oceanographer, author and scientific adviser at Nausicaá



In this endeavour, aquariums play a special role. Every year, they welcome millions of visitors and are often one of the first places where people come into contact with the marine world. This close encounter with living creatures gives them a unique ability to convey sometimes complex phenomena in a tangible way and to spark curiosity that goes far beyond simply discovering different species.

Their role is now part of a broader ambition: to help foster a genuine culture of the ocean, accessible to all audiences throughout their lifetime. This mission is achieved through exhibitions as well as educational programmes, partnerships with schools and initiatives carried out in collaboration with stakeholders in the maritime sector.



David Campagne,
Inspector, Lille Education Authority

“The ocean features in many educational subjects, but often in a fragmented way. One of the challenges today is to bring this knowledge together so that pupils can grasp the full extent of its role in our daily lives and in our future.”

The ocean features in school curricula through subjects such as science, geography, history, economics and climate issues. However, this knowledge is often presented in a somewhat fragmented way. Aquariums, on the other hand, offer a cross-curricular approach that bridges the gap between these different subjects and enables pupils to understand the ocean as a global system at the intersection of environmental, economic and societal issues. Thus, they act as a link between knowledge that is sometimes fragmented and a tangible reality that pupils can observe, question and understand.

Through this mission, aquariums are increasingly emerging as bridges between the scientific community, educational institutions and society. They are places where we can discover living organisms, but also where a shared understanding of the vital role that the ocean plays in our lives is gradually taking shape.



2 - From awe to purpose

In aquariums, coming face to face with living creatures is often the starting point for a much deeper journey. The emotional response triggered by the discovery of a species or an ecosystem sparks curiosity, opens the door to learning, and can then lead to a sense of commitment. Taking an interest, broadening one's horizons, getting involved: this progression reflects a fundamental change. The acquisition of knowledge is no longer

merely an end in itself; it becomes a catalyst for action, ranging from everyday decisions to career choices that can shape the course of one's life.

A sense of wonder and knowledge are now seen as two complementary dimensions: one nourishes the other and helps to build a more lasting and intimate relationship with the ocean.

When we see a seahorse or a young cuttlefish, our first reaction is one of wonder. Then the questions arise: where does it live? What does it eat? What role does it play in its ecosystem? It is from this curiosity that understanding can grow.



Christine Causse,

Oceanographer, author and scientific adviser at Nausicaá

Today, this approach underpins many of the educational initiatives developed by aquariums. The aim is no longer simply to convey information, but to create the conditions for a gradual acquisition of knowledge.

The educational resources are designed as comprehensive learning journeys. The visit itself is often just one stage of this journey. Teachers, mediators and educational teams work to prepare for the visit in advance and to extend the learning experience after the visit, so that what has been learnt is consolidated over the long term.



The visit is just one step in the process. Our role is to support teachers and pupils before, during and after their visit, so that what they learn has a lasting impact.

Katy Masset,

Manager of the science outreach department at Nausicaá

This approach helps to put real-life experience firmly at the heart of learning. Observing an animal, discovering an ecosystem or understanding the interactions that shape it helps to give meaning to concepts that can sometimes seem abstract when approached solely from a theoretical perspective. In this way, the ocean becomes a fantastic resource for exploring issues as diverse as biodiversity, climate, natural resources and the relationship between human activities and living organisms.

At Nausicaá, more than 32,000 pupils benefited from the support of a science outreach specialist in 2025. This figure reflects the growing role played by aquariums in educational programmes and in promoting an ocean culture that is accessible to everyone.

This initiative extends far beyond the scope of a single centre. Across the network of aquariums in France and Belgium, hundreds of students are hosted, supported or trained each year alongside the scientific and educational teams.

“ Aquariums in France and Belgium now attract 10.5 million visitors, not to mention 500,000 school pupils and students who take part in educational programmes. Every year, 450 students from GCSE to PhD level are guided through these programmes. These figures demonstrate just how much our facilities have become centres for training, work placements and opportunities to discover careers linked to the ocean. ”

Olivier Briard,

Manager of the aquariums at the Cité de la Mer in Cherbourg



Therefore, a sense of wonder is not merely a fleeting emotion. It is often the first step on a deeper journey, one that can transform the way we perceive the ocean, foster a lasting interest in the issues affecting it and, sometimes, shape the course of a person's life.

When a visit inspires a life's work

Adrien Poquet first discovered Nausicaá on a school trip whilst in primary school. A few years later, a school trip to the seaside and his participation in the Images de Mer Festival further fuelled his interest in the marine world. What began as nothing more than a child's curiosity gradually grew into a passion.

This early encounter with the ocean inspired him to study marine biology, and subsequently to undertake a PhD on coral reefs. Today, he has chosen to bring science to life through images by means of his own audiovisual production company, with the aim of telling stories and raising awareness of the challenges facing the marine world.



“ Looking back, I realise that it all began at a very early age. A school trip, a coastal class, a few memorable encounters... These experiences fuelled my curiosity and gradually steered me towards a career in marine science. ”

Adrien Poquet,

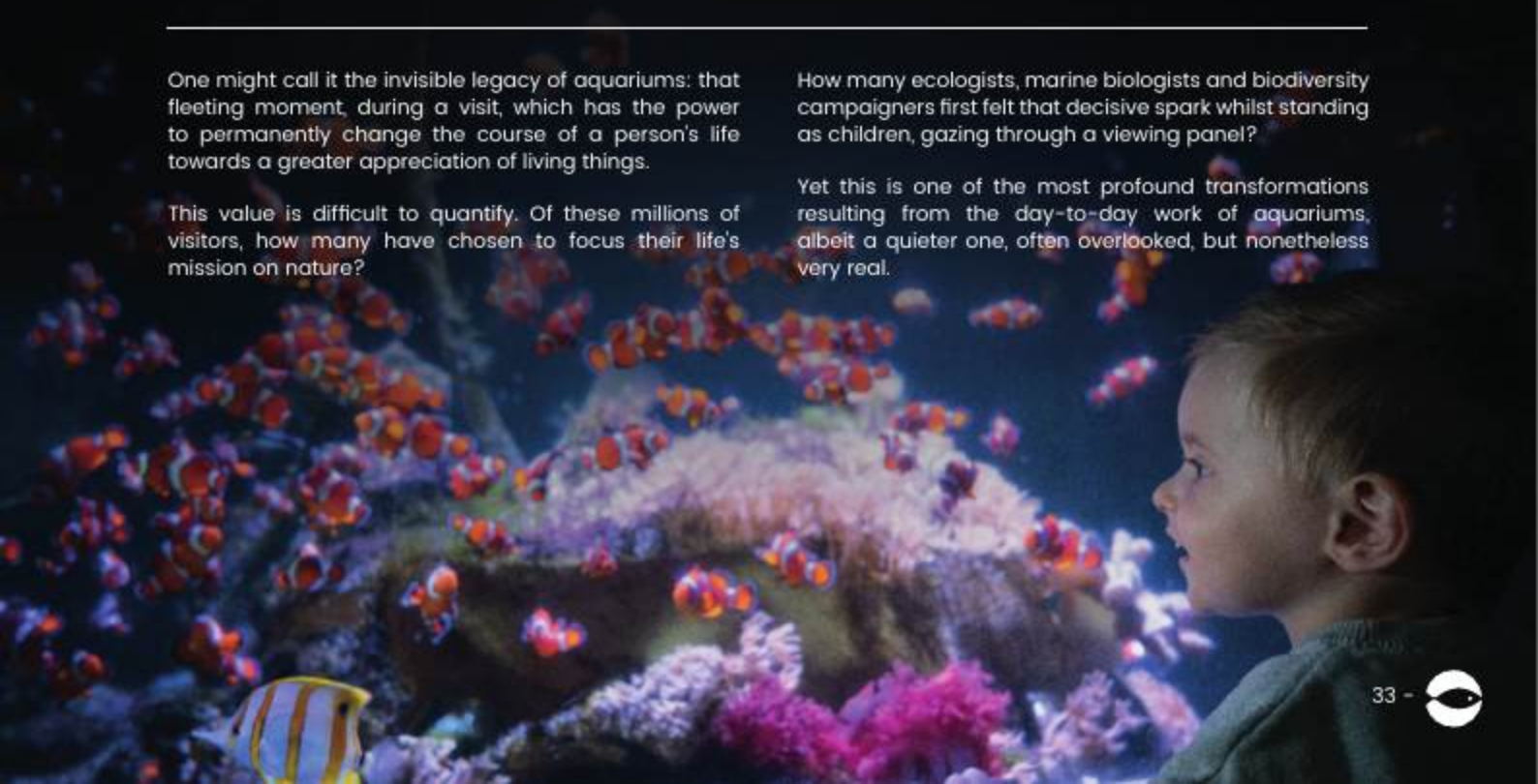
Doctor of Marine Biology and film director

One might call it the invisible legacy of aquariums: that fleeting moment, during a visit, which has the power to permanently change the course of a person's life towards a greater appreciation of living things.

This value is difficult to quantify. Of these millions of visitors, how many have chosen to focus their life's mission on nature?

How many ecologists, marine biologists and biodiversity campaigners first felt that decisive spark whilst standing as children, gazing through a viewing panel?

Yet this is one of the most profound transformations resulting from the day-to-day work of aquariums, albeit a quieter one, often overlooked, but nonetheless very real.



3 - From knowledge to commitment

Understanding the ocean is an essential step. However, ocean culture only truly comes into its own when it empowers people to take action. When faced with today's environmental challenges, the aim is no longer simply to raise awareness, but to encourage everyone to feel that this issue concerns them, that they have a legitimate role to play, and that they are capable of taking action.



We must act as *ambassadors for science*. But we must also reach out beyond our own walls, explore new formats and strengthen our connections with scientific institutions, international organisations, associations and local communities.

Christine Causse,

Oceanographer, author and scientific adviser at Nausicaá

This vision sketches out the contours of a new chapter for aquariums. Their mission is no longer limited to disseminating knowledge: it also involves building bridges between science, the public and the forums where decisions are made. Documentaries, conferences, festivals, educational resources, collaborative projects and international initiatives now extend their reach far beyond the confines of their visitor centres.

This outreach is accompanied by increasing collaboration with schools, universities, associations, scientific institutions and international organisations.

By expanding these partnerships, aquariums are helping to foster a shared ocean culture and to bring maritime issues into the public debate. However, this shift also applies to individuals. Beyond simply raising awareness, aquariums are gradually becoming places where people can engage, speak out and participate as citizens. They offer young students with projects or members of organisations the opportunity to develop their critical thinking skills, construct a case and defend proposals based on knowledge.

The aim is not simply to provide information. It is to help young people understand that they have a *role to play* and that they can contribute, in their own way, to the *solutions* of tomorrow. Aquariums have a duty to be fully integrated into society, acting as a bridge between the public, science and pressing maritime issues.



Guillaume Lheureux,

International project officer - Nausicaá

Forums, public consultations, simulated international negotiations and support programmes now offer many young people the opportunity to familiarise themselves with the challenges of ocean governance and to gain practical experience of dialogue, advocacy and collective action.

For some, these experiences represent a first step towards a career in research or voluntary work. For others, they simply provide the tools needed to understand ocean-related issues and take part in the debates that will shape the future of the marine world.

Therefore, educating the citizens of tomorrow is not simply a matter of imparting knowledge. It is about encouraging everyone to develop an informed perspective on the ocean, to understand its role in the planet's wider ecological balance, and to feel empowered to contribute to the collective decisions that shape its future.

The aquarium of the future is not judged solely on its ability to help people understand the marine world. It is also judged on its ability to foster a community of citizens, scientists, educators and stakeholders who are committed to the future of the ocean.

Marine educational areas: the first steps towards engagement

A Marine Education Area is a small area of natural environment managed on a participatory basis by pupils at a primary school, lower secondary school or upper secondary school, as part of a scheme supported by the French Office for Biodiversity (OFB).

With the support of their teachers, the OFB and local stakeholders, the young people observe their environment, identify the issues affecting it and collectively decide on the actions to be taken to learn more about it or to preserve it.

By giving pupils practical responsibility for their local area, Marine Education Areas encourage them to discover at a very early age what it means to act collectively for the benefit of the ocean.



YOUTH4OCEAN: learning to speak up for the ocean

In March 2025, Nausicaá hosted the Citizens of the Ocean Summit, bringing together 50 young people aged between 18 and 30 from all over the world: students, young professionals, scientists, artists, activists and members of coastal communities.

Supported by experts in marine science and advocacy, they drafted a collective advocacy statement that was presented a few months later at the 3rd United Nations Ocean Conference in Nice.

Beyond raising awareness, this initiative is shaping a new generation capable of speaking out, championing proposals and participating in major international debates on the future of the ocean.

AQUARIUM OF THE FUTURE COLLOQUIUM



KNOWN only
in fragments...

Restore our
connection with
the OCEAN

Ecosystem
services

links to droughts
and fires

An ADVOCACY
ROLE for us ALL
to play TOGETHER



- CHRISTINE CAUSSE -

Restore this
CONNECTION
for the public

2003: The first
OCEAN & CLIMATE
exhibition

We are
Pioneers!!

1,3 million young
people around
the World

We also have
the opportunity
to consult the public...

42 Consultations
at the United Nations

The Society's major
Stakeholders may
include Aquariums

OUTREACH

Very few people have
had the chance to
swimming



OCEANIC CULTURAL EDUCATION, SHAW

I took the
pass with
my heart

The power of education,
imagery and engagement



- ADRIEN POQUET -
Key Witness

25 years ago,
first steps at Nausicaä
Primary School...
Blue Class

2025
390,000
People
impacted!!

How to
treat
anxiety



The guy who
films marine
biologists

70 to 75%
Female
audience!?

Youth
Forum
International
Conferences



- GUILLAUME LHEUREUX -

Master's Degree,
preferably in science

Juliette
brought them
all to tears...



They are taught
about the
INSTITUTIONS

MARINE
BIOLOGIST
at Nausicaä

COOPERATE

The problem
with young people...
is that they don't
stay young...

37,000 pupils
in 2025

(primary school pupils,
but not only...)

Nausicaä outreach
= bridging the gap with
the National Education system

**COLLABORATIVE
PROGRAMMES**
with teachers

Toolmaking

93% of human activities
are absorbed by the ocean !!!



Going beyond a
sense of Wonder...

The Academy becomes an
ACADEMY OF THE SEA!!

Helping teachers
understand why
it is in their interests
to come to Nausicaä

May they come and...
may they come back...
regularly

Marine educational
Areas: We give pupils
marine alerts to manage



- DAVID CAMPAGNE -

We're going to run a
TRAINING COURSE
on animal welfare!
⇒ my **MOMENT OF
REALISATION**
this morning

A special teaching approach,
"the children choose"
Katy

Empowering the CITIZENS OF TOMORROW

Media Partnerships
with the press



Immersive
expeditions...

TRAINING on
marine products

Think
OCEAN

EXPERIENTIAL...
Practice, seeing things
from someone else's
perspective...

→ INSPIRE

"PLANET OCEAN"
MONTPELLIER
Partnerships with
teachers and families
Lindsay

**SO MUCH MORE
THAN JUST AN
AQUARIUM!**



18 MAY 2026

morgam, morgam@gmail.com



Appeal from Boulogne-sur-Mer

Let's reinvent our connections with the natural world

To mark Nausicaä's 35th anniversary, the Centre national de la Mer, representatives from aquariums, zoological institutions, research organisations and conservation organisations gathered in Boulogne-sur-Mer for the "Aquarium of the Future" colloquium, where they expressed a shared conviction: in the face of the environmental challenges of the 21st century, our institutions have a vital role to play in strengthening the bonds between the public, science and the natural world.

What will the aquariums and zoos of the future look like? This question goes far beyond the scope of our own centres. It touches on our collective ability to maintain a meaningful, scientific and cultural connection with the living world in societies that are becoming increasingly detached from nature.

We believe that a sense of wonder remains a vital entry point.

Every year, hundreds of millions of visitors set foot in aquariums and zoos around the world. These encounters with living creatures continue to spark curiosity, evoke emotion and inspire a desire to understand.

However, we also believe that our responsibility now extends far beyond discovery.

Our institutions, long associated with discovery, are now being urged to play an increasingly important role in species conservation, the generation of scientific knowledge, animal welfare and the promotion of a scientific culture that is accessible to all.

We believe in centres that actively contribute to the conservation of biodiversity, support research programmes, help to advance our understanding of ecosystems, and develop partnerships to benefit living organisms, both in France and around the world.

We believe in conservation that combines the work carried out within our organisations with work carried out directly in the field, as close as possible to the ecosystems. We believe in open, shared and meaningful science that helps us understand the major environmental challenges of our time.

We also believe that knowledge only comes into its own when it is shared.

Every year, more than a million schoolchildren visit French aquariums. These visits serve a vital purpose: to give younger generations the opportunity to gain a better understanding of the ocean, living organisms and the vital balances on which our shared future depends.

We believe in institutions that can foster dialogue between researchers, teachers, outreach specialists, citizens, artists, associations and decision-makers. Places where not only knowledge is cultivated, but also a culture of life, a critical mindset and a capacity for engagement.

We believe in organisations that are open to society, which reach out beyond their own walls to explore new formats, support younger generations, encourage citizens to get involved, and ensure that the voice of the ocean is heard in major contemporary debates.

Finally, we believe that the future will be built through cooperation.

No single stakeholder can tackle the challenges posed by the decline in biodiversity, climate change or the conservation of the oceans on their own. These issues require new alliances between scientific institutions, organisations working with living organisms, the education sector, local authorities, associations and international organisations.

This is why we are calling for these partnerships to be strengthened, for initiatives that bring science and society closer together to be supported, and for the role that aquariums and zoological institutions can play in building a more sustainable future to be fully recognised.

Because protecting the oceans and all living things in the long term requires not only a better understanding of them, but it also implies maintaining a meaningful, informed and sustainable connection with them. We are committed to pursuing this transformation together.

Union of Aquarium Curators (UCA) | French Association of Zoological Parks (AFdPZ) | Nausicaä – Centre National de la Mer | Océanopolis | Planet Ocean Montpellier | Liège University Aquarium and Museum | Ifremer – Channel and North Sea Centre | La Cité de la Mer | ZooParc de Beauval | Amiens Zoo | Lille Education Authority | European Association of Zoos and Aquariums (EAZA) | Species360



Acknowledgements

Nausicaä would like to thank all the speakers, partners and participants who contributed to the "Aquarium of the Future" colloquium organised to mark its 35th anniversary.

We would like to extend our special thanks to the experts, scientists, professionals from aquariums and zoos, and those working in education, conservation and science outreach who have shared their experiences and contributed to the ideas presented in this white paper.

We would also like to thank David Lefort, an environment and science journalist at France Télévisions, for facilitating the discussions and for his contribution to the quality of the debates.

Nausicaä would like to thank Morgan Marzin for providing graphic facilitation for the colloquium; his work helped to summarise the discussions and illustrate key ideas.

Last but not least, we would like to thank all the passionate professionals within our organisations who work every day to strengthen the bonds between science, conservation, education and civic engagement for the benefit of the ocean and all living things.

***“We love what has filled us with wonder,
and we protect what we love.”***

Jacques-Yves Cousteau



Lundi 18 m

À Na





mai 2026 de 1

usicaá, ogne-sur-M

CERTIFICATE OF APPRECIATION 2024

François Châtelet

13 MAI 2026

Rôle du Médiateur (Arbitrage) dans le Méd. Global

Distribution Identifier numériquement les espèces de mer

2025 390 000 espèces éteintes

Médiation

Culture Océanique

VIVANT

Rôle du Médiateur (Arbitrage) dans le Méd. Global

2025 390 000 espèces éteintes

Médiation

Culture Océanique

VIVANT

Rôle du Médiateur (Arbitrage) dans le Méd. Global

2025 390 000 espèces éteintes

Médiation

Culture Océanique

VIVANT

Join us



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