



EUROPEAN TRIBUNAL IN DEFENSE OF AQUATIC ECOSYSTEMS
MEDITERRANEAN SEA VS. THE FRENCH STATE AND ALTEO GARDANNE

FINAL VERDICT

In the case of the Mediterranean Sea and the association ZEA (hereinafter "the plaintiffs") versus the French State and the company Alteo Gardanne (hereinafter "the defendants"), the European Tribunal in Defense of Aquatic Ecosystems (hereinafter "the Tribunal"), by virtue of the hearing held on May 29, 2021¹, renders the following verdict:

I. Law applicable to the European Tribunal in Defense of Aquatic Ecosystems

1. The Tribunal is established to promote universal respect for the rights set forth in the Universal Declaration of the Rights of Mother Earth (hereinafter "the Declaration") in order to foster harmonious coexistence between human beings and other entities of the community of life.
2. The Declaration was approved by the Peoples' Conference on Climate Change and the Rights of Mother Earth, which met in the city of Cochabamba, Bolivia, from 19 to 22 April 2010. At this conference, 142 countries were represented by official delegations, groups and social movements. This Declaration is the first international

¹ Review the Tribunal hearing: <https://fb.watch/7rvj5JReYe/>

civil society instrument to consider Nature as a subject of rights, thus going beyond the anthropocentric paradigm of environmental protection.

3. The Declaration recognises, in Article 2, that Mother Earth has the right to live, to be respected, to regenerate, to continue its life cycles and processes without human disturbance, to maintain its identity and integrity as a collective of distinct, self-regulating and interrelated beings, to have access to water as a source of life, to enjoy full health, to be free from contamination, pollution and toxic wastes, as well as the right to its full and prompt restoration.

4. The Tribunal has also considered whether ecocide has been committed in this case. In the absence of an actual satisfactory definition in French law², the Tribunal will apply the definition of the crime of ecocide as proposed by the legal expert of the association Wild Legal, who intervened during the hearing on May 21, 2021, namely:

"the fact of causing serious, lasting or widespread damage to the environment, which would be likely to endanger the balance of the natural environment in the long-term or likely to harm the state of conservation of an ecosystem is punishable by twenty years of criminal imprisonment and a fine of €10,000,000 or, in the case of a company, 20% of the total annual worldwide turnover of the previous financial year.

There is an intent to commit ecocide, within the meaning of this article, when a person intends to cause that consequence or is aware that it will occur in the normal course of events."

5. Additionally, the Tribunal considers the relevant European instruments for the protection of nature, environment and biodiversity, such as the Water Framework Directive (2000/60/EC), the Convention on Biological Diversity or the Barcelona Convention for the Protection of the Mediterranean Sea.

II. Competence

² The Climate Law adopted on July 20, 2021 adopted a definition of ecocide equivalent to the crime of pollution, in contradiction with all the existing legal trends.

6. The Tribunal shall have the competence to promote the respect and recognition of the rights established in the Universal Declaration of the Rights of Mother Earth, in order to promote harmonious coexistence between human beings and the rest of the living community within the European Union. This competence is based on Article 3 II B of the Universal Declaration of the Rights of Mother Earth, providing that “human beings, all States and all public and private institutions have the duty to recognize and promote the full and complete application of the rights and obligations set out in this Declaration ”.
7. To this end, it is the responsibility of this tribunal to investigate and adjudicate on any violation of the rights, or breach of the responsibilities established in the Declaration, whether committed by the State, private or public legal entities, and/or individuals.

III. Procedural context of the case

8. On the occasion of the call for applications for the European Tribunal for the Defence of Aquatic Ecosystems launched by the European Hub of the Global Alliance for the Rights of Nature at the end of 2019, the association ZEA filed an application relating to the case of red mud pollution in the Mediterranean Sea.
9. During the hearing process, the Tribunal listened to the allegations made by claimants on behalf of the Mediterranean Sea and its aquatic inhabitants. In particular, it heard about the devastating impacts of industrial discharges on the health of the marine ecosystem near Marseilles, over an area of approximately 2400km², as well as on the human beings that depend on (or have in the past depended on) this marine ecosystem for their livelihood.
10. On the basis of the evidence provided and in response to the request of the Complainants, the Tribunal has decided to accept the Mediterranean Sea case as a potential violation of the rights of aquatic ecosystems, as a potential case of ecocide, and as a contravention of the European requirements of the Water Framework Directive and other texts intended to protect Nature, committed by private and public persons.

11. On April 27, 2021, the Secretariat of the Tribunal (hereinafter referred to as the "Secretariat"), in communications addressed (see letter in appendix) to the company Alteo Gardanne, through its representative, Patrick Duchenne as well as to the The State, through the Prefect of Bouches du Rhône Christophe Mirmand, made this decision known and invited their representatives to participate in the Tribunal. Only the Prefect of Bouches du Rhône replied to this letter, however, declining the invitation (see letter in appendix).
12. The Tribunal, composed of Judges Lisa Mead, Valerie Cabanes, Cormac Cullinan and Tom Goldtooth, set a date for the hearing, which was held virtually due to the COVID 19 outbreak, on May 21, 2021.
13. During a hearing that lasted 3 hours, the Tribunal examined the oral and written evidence presented by Jean Ronan Le Pen, co-founder of the ZEA association, Marine Calmet, legal expert for the crime of ecocide, as well as Gérard Carrodano, fisherman, first prud'homme of the fishermen of La Ciotat, who intervened as a witness.

IV. The facts

14. The Mediterranean Sea is the cradle of many civilizations, a unique aquatic ecosystem thanks to which the European population has been able to live, prosper, travel and unite. In the "middle of the earth" of its Latin name, the Mediterranean basin covers an area of more than 2.5 million km². Surrounded by 46,000 km of coastline, this intercontinental sea is bordered by Europe, Africa and Asia. This aquatic reservoir is divided into two basins, the western one between the Strait of Gibraltar and Sicily, and the eastern one from Sicily to the Suez Canal. The Mediterranean coastline is made up of creeks. Among them, the canyon of Cassidaigne, which extends over an area of 30 km off the coast of Cassis. This territory, rich in cultural exchanges, influences and civilizational mixes, has evolved with the cohabitation of human and animal populations for centuries. And yet, the Mediterranean Sea and the life it carries are in danger.

15. The Mediterranean Sea is in danger today, facing over-exploitation by fishing and contamination from plastic and other pollutants created by human activities.
16. Although it represents less than 1% of the world's ocean surface, the Mediterranean Sea is home to up to 18% of the world's marine species. Its current state calls for major and urgent changes in production and consumption patterns in the Mediterranean region to move decisively towards inclusive and truly sustainable development, with a focus on climate change concerns, biodiversity protection and restoration, circular economy activities and the transition to a healthy economy for all beings.
17. In the case presented to the Tribunal, the claimants report facts of extreme gravity. For more than fifty years, the Gardanne Alteo plant has been authorized to discharge toxic "red mud" into the Mediterranean Sea. The volume of this pollution is at least 32 million tonnes of toxic waste loaded with heavy metals. This has been discharged to date through a discreet pipeline off the coast of the plant. Most of the sludge, which covers the seabed, is found at depths of between 150 and 500 metres over an area stretching from Fos to Hyères, a radius of 100 km. This represents deposits of around 20 metres thick, over an area of approximately 2,400 km².
18. Although since 2015, the company no longer has the right to discharge its red mud at sea, it continues to legally discharge a liquid part of its operating waste there and now stores the solid part of the red mud on land, causing health risks for the populations near the storage site, in the commune of Mange Garri. Today, it is estimated that the company stores 350,000 tons of solid waste on land per year.

V. Causes of damage

19. ZEA recalled in its written conclusions that the red mud pollution of the Mediterranean Sea was authorized by the French government, despite numerous mobilizations by residents and environmental associations. The story is old.
20. In 1893, the Gardanne plant was the first in the world to use the Bayer process to produce alumina. The alumina produced is used today in industrial and defense components and in electronic components found in the things we now use every

day, such as tiles, sandpaper, some fireproof materials, LCD TV screens and smartphones. At that time, many red mud dumps (piles of waste from a mine) were built on the factory grounds and tailings were buried around the site itself and in the surrounding area.

21. Two years after its creation, the initial company, Société française de l'alumine pure, was bought by PCAC (Produits chimiques d'Alais et de Camargue) which became the Pechiney group in 1921.
22. Despite the long history of the activity, the first independent studies on the impact of the plant's discharges into the Mediterranean Sea are relatively recent and surprisingly few. In the 1960s, in anticipation of the start of the discharge of sludge into the sea (which began in 1966), the famous commandant Cousteau, then commissioned by the industrialist, inspected the canyon and predicted that there would be "*no biological risk, no risk of sludge rising*" in it. This personality, known to the general public for his environmental awareness work, was nevertheless linked to Péchiney. His boat, the Calypso, had even participated in the sounding of the seabed for the construction of the industrialist's pipeline and he carried out spills of sludge into the sea, to demonstrate the supposed harmlessness of the sludge³.
23. Despite already strong opposition, the plant was allowed to discharge the red mud with the approval of the state, through a 55km pipeline built to connect the operation directly to the sea.
24. Nevertheless, on 16 February 1976, the Convention for the Protection of the Mediterranean Sea against Pollution was signed.
25. In 1995, a protocol concerning specially protected areas and biological diversity in the Mediterranean required the parties to prohibit the discharge of substances that may affect the integrity of specially protected areas such as the Calanques of Marseille.
26. In 1995, the company made a voluntary commitment to stop discharging into the sea in 2015. This commitment was formalized on February 1, 1996 by a prefectural decree,

³ Learn more: <https://marsactu.fr/des-boues-rouges-au-large-de-cassis-retour-sur-une-saga-industrielle/>

article 4 of which stipulates that the operator "*shall cease all discharges into the sea by December 31, 2015*".

27. In 2003, following the indebtedness of the group, it was bought by the Canadian Alcan. It was then bought by the Australian-British multinational Rio-Tinto in 2007.
28. In 2012, the Rio Tinto plants were sold to a diversified investment fund, HIG Capital, which created the company Alteo to manage the plants.
29. Numerous legal proceedings and media actions have tried to put an end to this pollution, but the industrialist, pointing out in particular the fact that the factory represents 400 jobs, has succeeded in continuing its activity, putting forward its efforts to reduce pollution at sea.
30. To this end, in 2007, the company equipped itself with filter presses to dewater the red sludge, an investment of thirty million euros, half of which was financed by subsidies from the Rhone-Mediterranean-Corsica Water Agency.
31. On April 18, 2012, the Calanques National Park was created by decree and it is in the heart of this national park that the company's pipeline is located 7.7 kilometers from the coast, in the waters of the Calanque de Port Miou. Article 22 of the decree creating the park reiterates the date of December 31, 2015 as the maximum date for ending discharges in the park.
32. However, only three days before the deadline, and at the request of the company, on December 28, 2015, Prefectural Order No. 2015-1229 authorized the company to continue discharging substances into the sea through the pipeline. The company can no longer discharge the solid portion of its discharges, which will have to be stored on land at the Mange-Garri site, but can continue to discharge a liquid effluent into the sea.
33. In addition, another prefectural order No. 166-2014A issued on the same day authorizes the company to deviate from national and European standards regarding the aluminum, iron, arsenic, pH, BOD (biological oxygen demand) and COD (chemical oxygen demand) content of its discharges into the sea.
34. These two prefectural decrees were challenged before the Administrative Court of

Marseille by various environmental associations, professional fishermen and individuals.

35. In 2016, the rupture of a pressurized soda and bauxite pipeline forced the prefectural authorities to issue an emergency warrant, forcing the company to suspend its discharges into the sea. The company then developed a new process for disposing of its solid waste, red mud, which is now stored on land at the storage site in Mange-Garri, a town a few kilometers away.
36. On July 20, 2018, the Marseille Administrative Court reformed Order No. 166-2014A to reduce the duration of the derogation granted for five substances to December 31, 2019 instead of December 31, 2021. It based its decision on technical uncertainties regarding the long-term environmental and health impact of substances discharged into the sea and the need to protect the interests mentioned in Articles L.511-1 and L.211-1 of the Environmental Code.
37. On January 25, 2019, the Marseille administrative court of appeal confirmed the court's first ruling by refusing to extend beyond December 31, 2019 the deadline for the exemption from environmental standards granted to the Alteo company in Gardanne.
38. In addition, on March 18, 2019, the Marseille public prosecutor's office announced the opening of a judicial inquiry into the discharges from the Alteo plant after eight plaintiffs, including the ZEA association, filed a complaint for endangering the lives of others and violation of environmental standards.
39. It was not until September 2020 that the company finally inaugurated its treatment plant, which brings the toxicity of liquid effluents below the legal limit. In total, at least 32 million tons of red mud were dumped into the Mediterranean Sea between 1966 and 2016.

VI. Legal framework applicable to this case

40. This Tribunal refers to what is written in the Universal Declaration of the Rights of Mother Earth, which is applicable to the protection of rivers and oceans impacted by

human activities, including industrial activities, in that it provides for the right of the entities that make up the community of Life to live and exist; the right to respect; and to the continuity of their cycles and vital processes, without human disturbance; the right to maintain their identity and integrity as distinct, self-regulating and interrelated beings; the right to water as a source of life; the right to full health; the right to be free from contamination, pollution and toxic waste; and the right to full and prompt redress for violations of the rights recognized in this Declaration resulting from human activities. The Declaration also imposes duties on all States, and all public and private institutions. These include the duties: to establish and apply effective norms and laws for the defense, protection and conservation of the rights of Mother Earth (Art. 3(2)(e)), to guarantee that the damages caused by human violations of the inherent rights recognized in this Declaration are rectified and that those responsible are held accountable for restoring the integrity and health of Mother Earth (Art. 3(2)(g)), and to establish precautionary and restrictive measures to prevent human activities from causing the destruction of ecosystems or the disruption of ecological cycles; (Art. 3(2) (i)).

41. The Water Framework Directive, a European reference text, will also be taken as a reference by the Tribunal in that it guarantees a high level of protection for aquatic ecosystems at the Community level. The Tribunal underlines what is established in its Preamble:

"(1) Water is not a commodity like any other but a heritage that must be protected, defended and treated as such.

(33) The objective of good water status should be pursued for each river basin, so that measures for surface water and groundwater belonging to the same ecological and hydrological system are coordinated.

(34) For the purposes of environmental protection, it is necessary to ensure greater integration of the qualitative and quantitative aspects of both surface water and groundwater, taking into account the natural conditions of water circulation in the hydrological cycle.

(40) As regards pollution prevention and control, Community water policy should be based on a combined approach aimed at reducing pollution at source by setting emission limit values and environmental quality standards.

Article 1

Object

The purpose of this Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater, which:

(a) prevent further degradation, preserve and enhance the condition of aquatic ecosystems and, with respect to their water needs, terrestrial ecosystems and wetlands directly dependent on them

(b) promote sustainable water use based on the long-term protection of available water resources;

(c) aims to enhance the protection of the aquatic environment and to improve it, including through specific measures designed to progressively reduce discharges, emissions and losses of priority substances, and the cessation or phasing out of discharges, emissions and losses of priority hazardous substances;

(d) ensure the gradual reduction of groundwater pollution and prevent its further pollution, and

(e) helps mitigate the effects of floods and droughts,

and thus contributes:

- to ensure an adequate supply of good quality surface water and groundwater for sustainable, balanced and equitable water use,

- to significantly reduce groundwater pollution,

- to protect territorial and marine waters,

- to achieve the objectives of relevant international agreements, including those aimed at the prevention and elimination of pollution of the marine environment by Community action under Article 16(3), to cease or phase out discharges, emissions and losses of priority hazardous substances posing an unacceptable risk to or via the aquatic environment, with the ultimate aim of achieving concentrations in the

marine environment which are close to background levels for naturally occurring substances and close to zero for man-made synthetic substances ”

42. Given that industrial waste has been discharged into coastal waters, it is important to refer to the SDAGE Méditerranée⁴ on coastal waters
43. In addition, the Tribunal also refers to Directive 2006/21/EC⁵ on waste from extractive industries. Indeed, because of this text, France must "*ensure that the operator takes all necessary measures to prevent or reduce as far as possible any adverse effects on the environment and human health*". In particular, under this directive, the industrialist must "*collect and treat contaminated water from the installation so that it reaches the required quality to be discharged*", which was not the case in this instance since the French State issued an authorization to derogate from the applicable discharge standards.
44. The Tribunal also raises the application of the European Directive 2010/75/EU on industrial emissions⁶. This directive requires that the "*best available techniques*" must be implemented, in particular in the treatment of liquid effluents in order to protect the environment. Given the late installation of the filter presses, which are supposed to separate solid from liquid substances, this directive may indeed be applicable.
45. In addition, the Tribunal will also mention the application of the Habitats Directive and Natura 2000, since 2012, with the creation of the Calanques National Park, the discharges into the sea affect a classified site intended for enhanced environmental protection, and recognized as "*of priority community interest*".
46. Finally, the Tribunal will also refer to the Barcelona Convention⁷ for the Protection of the Mediterranean Sea which provides that :

⁴ Read https://www.eaurmc.fr/jcms/vmr_6425/fr/le-sdage-rhone-mediterranee

⁵ See direct: <https://eur-lex.europa.eu/legal-content/FR/TXT/HTML/?uri=CELEX:32006L0021>

⁶ See the directive: <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:334:0017:0119:fr:PDF>

⁷ Read the Convention: <https://eur-lex.europa.eu/legal-content/FR/TXT/?uri=celex%3A21976A0216%2801%29>

"THE CONTRACTING PARTIES,

*AWARE of the economic, social and cultural value of the marine environment of
the Mediterranean Sea area and its importance for health,*

*FULLY AWARE that they have a responsibility to preserve this common heritage
for the benefit of present and future generations,*

*RECOGNIZING that pollution poses a threat to the marine environment, its
ecological balance, its resources and its legitimate uses*

*TAKING INTO ACCOUNT the special hydrographic and ecological characteristics
of the Mediterranean Sea area and its particular vulnerability to pollution*

*NOTING that, despite the progress made, the existing international conventions
on the subject do not apply to all aspects and sources of pollution of the
marine environment and do not fully meet the special needs of the
Mediterranean Sea area*

*FULLY APPRECIATING the need for close cooperation among the States and
international organizations concerned, within the framework of a
comprehensive set of concerted measures at the regional level, to protect
and enhance the marine environment of the Mediterranean Sea area*

HAVE AGREED AS FOLLOWS: [...]

Article 2

Definitions

For the purposes of this Agreement:

*(a) "Pollution" means the direct or indirect introduction by man of substances or
energy into the marine environment, where such introduction has
deleterious effects such as damage to living resources, hazards to human
health, interference with marine activities, including fishing, impairment of
the quality of seawater for its use, and degradation of amenity values; [...]*

Article 4

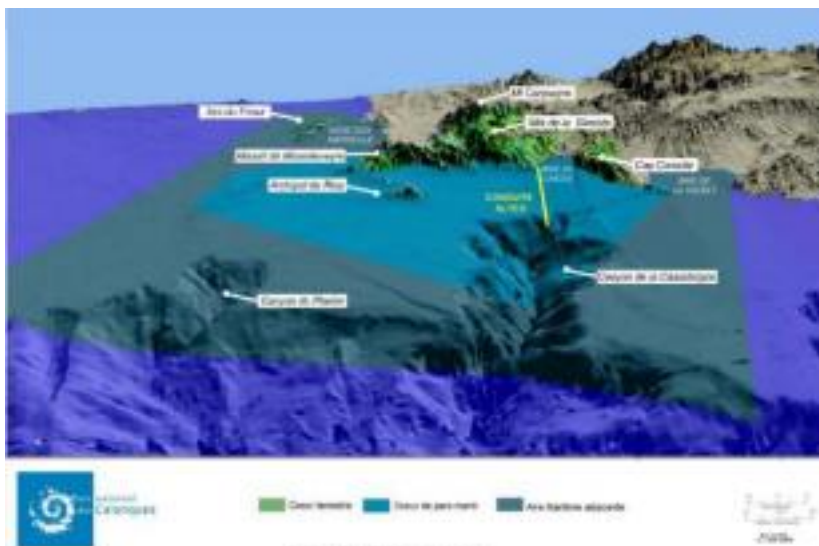
General commitments

1. The Contracting Parties shall individually or jointly take all appropriate

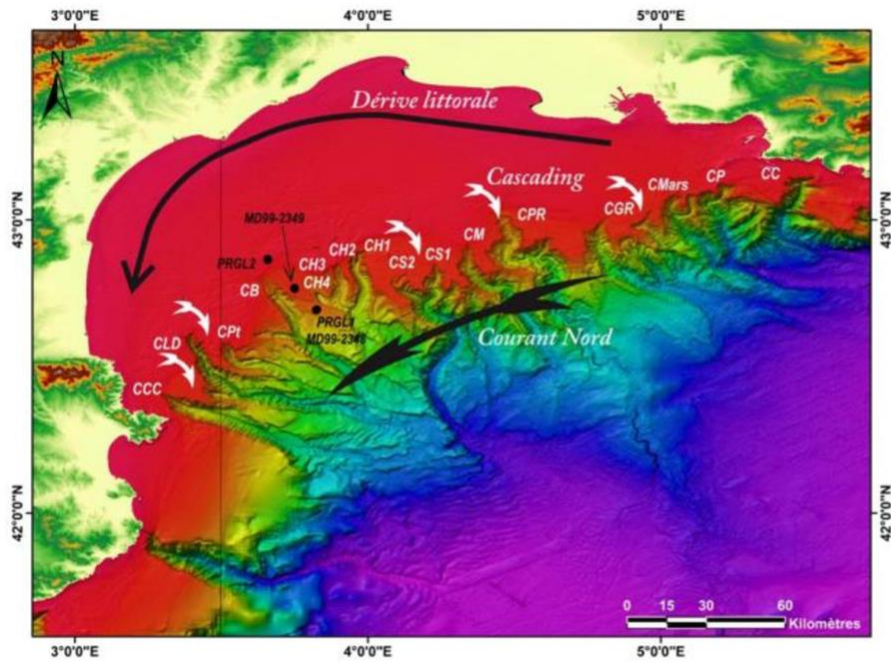
measures in accordance with the provisions of this Convention and the Protocols in force to which they are parties to prevent, reduce and control pollution in the Mediterranean Sea Area and to protect and enhance the marine environment in that Area."

VII. Considerations of the Tribunal regarding the Rights of Nature in relation to the facts presented

47. The Tribunal considers below whether there have been violations of the Rights of Nature in this case. In particular, the Tribunal focuses on the rights of all those animals, fish, crustaceans, molluscs, plants and other living beings that have no voice - the inhabitants of the affected area of the Mediterranean Sea, forming the living communities, whose rights may have been violated by decades of industrial toxic effluent being poured into their habitat.
48. From these facts it appears that the Mediterranean Sea, flora and fauna, have suffered a violation of their right to healthy water as a source of life and the right to full health and their right to be free from contamination, pollution and toxic waste.
49. Indeed, the Mediterranean Sea and more particularly the Cassidaigne pit have been impacted by the red mud discharges of the Alteo Gardanne company, an oceanic pit sheltering an exceptional fauna and flora, which is located at approximately 7 km from the Cassis coast.



50. As a reminder, the Mediterranean Sea is home to a very large and growing human population, which leads to a sprawl of urbanization along its coastline and also to increasingly important developments: port, tourist, industrial, refineries, etc., which are all sources of pollution that accumulate along the coastline.
51. Today, scientists note an increase in the destruction of natural habitats as well as a decrease in biodiversity due to this accumulation of damages linked to human activities on the entire Mediterranean coast.
52. Some species are emblematic of the Mediterranean because they are found only there; for example, the posidonia, these marine grasses on the coastline sometimes disappear completely under the effect of various anthropic stresses, that is to say of human origin. Some species even disappear completely.
53. It is necessary to place the red mud pollution of the Cassidaigne pit in this global context.
54. The Tribunal has heard the explanation of the impacts of the discharges presented by ZEA. The discharge of solid sludge into the sea spread over the ocean floor, covering all life in the canyon bed, in the same way that an avalanche covers the side of a mountain.
55. In addition, the canyon exhibits particular currents shown on the graph below. This canyon is the result of an important event. Six million years ago, the Mediterranean dried up completely. The African tectonic plate collided with the European tectonic plate, blocking the Gibraltar Channel which fed this area with oceanic water. The sea evaporated. The sea level went down by 1500m. However, the rivers continued to bring rainwater that evaporated as they went along, which cut into this continental shelf of canyons. Today, the sea has risen, but although the canyons surrounding the canyon of Cassidaigne are still fed with sediments by the rivers, the canyon of Cassidaigne is not. The only existing sedimentary contributions in this canyon are thus the red muds.



Sediment Deposit Map

56. Moreover this canyon had been classified ZNIEFF (natural zone of floristic and faunistic ecological interest) because it had very particular biodiversity to protect.

57. The circulation of water, i.e. the current that runs along the coast, is influenced by the wind, and especially when there is an east wind, water rising from the bottom to the surface can bring to the surface sludge that is deposited on the bottom. In mistral weather, the wind blows from the coast towards the open sea, the currents are downward, which means that surface water will move the sludge towards the bottom. The dispersal of sludge and liquid effluents is therefore very complex in reality and they spread in different areas of the canyon and over long distances.

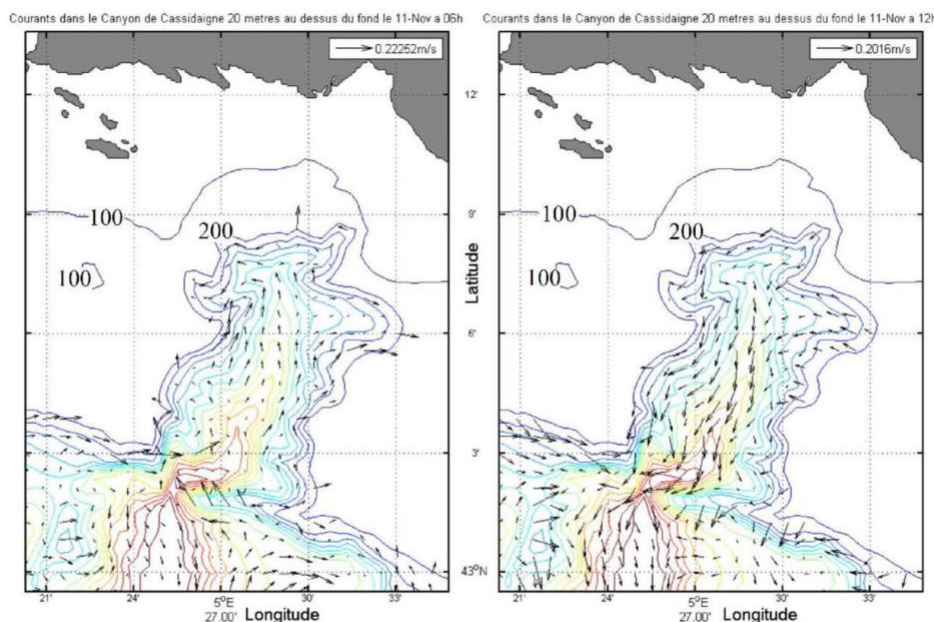


Figure 19 : Courants interpolés à 20 mètres au dessus du fond le 11 Novembre à 6 heures (gauche) et à 12 heures (gauche).

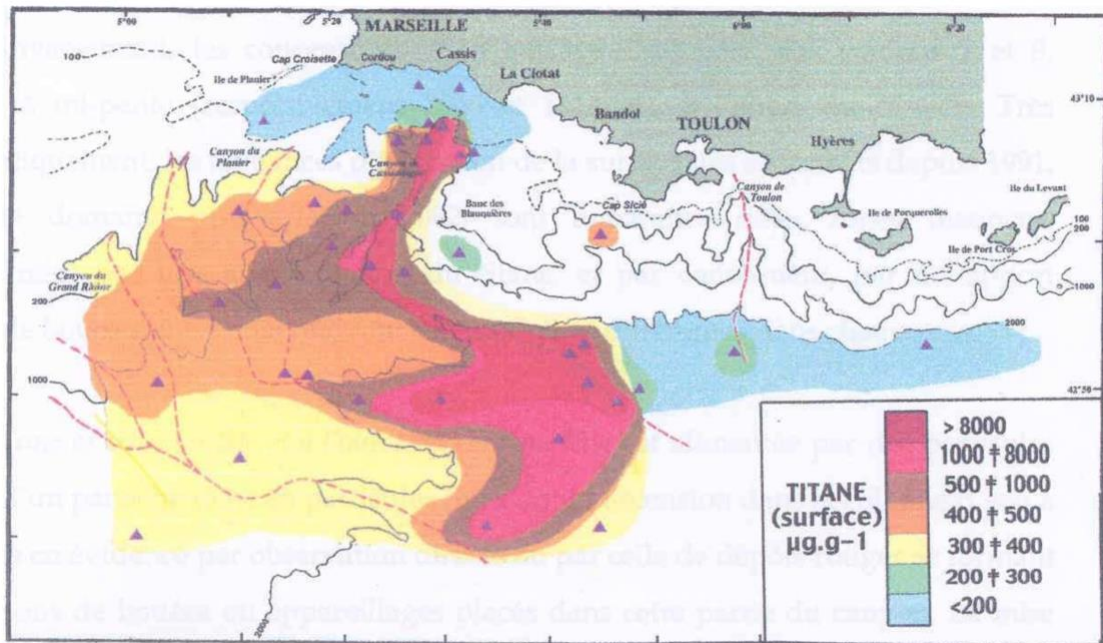
Map of marine currents

58. Moreover, the primary impact of the sludge was the burial and therefore the mechanical destruction of all the fauna in the Canyon, in the "talweg", i.e. in the axis of the canyon and in the deepest zone for 175 km. It should be noted that apart from in these exceptional circumstances, in this area, the sedimentary deposits are 40 cm per 1000 years. Due to the discharges of the Alteo company over 50 years, several metres of deposits have covered the canyon. The ecosystem obviously cannot withstand this.

59. There is also a chemical impact due to the deposit of enormous quantities - in tonnes - of mercury, cadmium, chromium and arsenic, some of which will remain trapped in the sediments and some of which will be remobilized by the currents and put back into suspension. The impacts of this contamination are difficult to measure. As long as these contaminated sediments are accessible to *biota*, to life, they will be contaminating.

60. In addition, the red mud particles, loaded with toxic heavy metals (titanium, chromium, mercury, vanadium, copper, lead...) contain a naturally high radioactivity. They contaminate and destroy the habitat of sedentary species such as oysters, mussels, sea urchins, and have an impact on their reproduction. Over the years,

researchers and fishermen have observed an undeniable impact on the presence of fish in the area.⁸



Map of titanium measurements, marker of red mud presence, 1990-2000

61. An independent expert, Yves Lancelot, produced a note in 1991-1992. In 1993, the company carried out an impact study on its sludge discharges into the Calanques, called the CREOCEAN report. Although the CREOCEAN report (financed by the company) does not call into question the discharge activity, or offer any conclusions, the observations made during the study in 1991-1992 and also annotated by Yves Lancelot in 1993 showed a proven mechanical effect on the entire sedimentary cover of red mud, i.e. at least 680 km² if one does not take into account dispersion due to marine currents. The dense mud cover (density $d = 2.5$ in water) prevents the relationship between the sandy-muddy bottom and the water from 1cm of deposit, and thus leads to a total absence of deep-sea life on the deposit cover. In 2015, Ifremer (Institut Français de Recherche pour l'Exploitation de la Mer) confirmed the absence of benthic life in the canyon⁹.

⁸ See the [testimony](#) of fisherman Gerard Carrodano, dated February 2016.

⁹ CREOCEAN, *Summary analysis of the report "Rejet des effluents de l'usine de Gardanne dans le Canyon de Cassidaigne"*, 1993

62. Experiments also showed in 1993 that no restocking was possible in the present state of these deposits. An increase in turbidity was also observed by acoustic measurements, contributing to an increase in the dispersion of particles offshore.
63. The two studies from 1993 and 2014-2016 conducted biological monitoring and attempted to quantify the impact that heavy metals could have on various mobile (pelagic fish such as sea bream, other sprats, dogfish, etc.) and static (sea urchins, oysters, mussels) marine species.
64. Although in 1993 no evidence of contamination could be found in situ, laboratory experiments showed that industrial effluents caused significant deformities and abnormalities in embryonic development and spermiogenesis in sea urchins and oysters in particular.
65. It took another 20 years and a change in the operator's discharge method for the first real independent study to be requested by Ségolène Royal from the Ministry of Ecology. This study was conducted jointly by IFREMER and ANSES (National Agency for Food Safety) between 2014 and 2016. ANSES also produced 2 supporting notes (in December 2015 and July 2016) and a final opinion regarding the contamination of marine species.
66. In 2015, despite a very short exposure time and during a period that was not very favourable to diffusion in the water, metal levels above the health safety thresholds were found in these filtering organisms, especially towards the west of the canyon where the Liguro-Provençal current predominates.
67. In parallel with these analyses carried out by IFREMER on filtering organisms, ANSES evaluated the concentration of metals in fish, which are also likely to contaminate humans at the end of the food chain¹⁰. To do this, it conducted its own fishing campaign in collaboration with IFREMER according to a stricter and more rigorous

¹⁰ ANSES, Note d'appui scientifique et technique relatif à l'état de contamination chimique des produits de la mer en Méditerranée en lien avec les activités de transformation de minerai de bauxite de l'usine d'Alteo, 2015 and ANSES, Note d'appui scientifique et technique relatif à l'impact potentiel sur la santé humaine du rejet en Méditerranée d'effluents issus des activités de transformation de minerai de bauxite, 2016.

protocol than those carried out in the context of the studies conducted by Alteo (surveys of larger and more abundant fish species and comparison with a reference area). On this occasion, comparisons were made with data provided by Alteo during its studies with different accessible and generic data sources (CALIPSO, DGAL, RETROMED). This data has thus allowed a more complete analysis both geographically (contamination data are thus compared with data from the Atlantic and the Channel) and in terms of the pollutants analyzed.

68. In Note 1 of the ANSES study, chemical laboratory analyses could be performed correctly for 11 elements (Al, As, Cd, Co, Cr, Hg, Mn, Ni, Pb, Ti and V). It appears that out of 220 tests performed between the reference site and the discharge site, a statistically significant difference in the concentration of a metal was observed for 48 of them. Of these 48 significant tests, 35 are in the direction of the impact of the discharge, which means that of all the contamination anomalies between the impact area and the reference area, 73% (35/48) come from the impact area. If we stick to the "tracer" metals of the releases (Al, V and Ti), this figure rises to 94% (17/18)!

69. In its 2016 Note 2, Anses notes that the toxicological reference thresholds for average exposures to arsenic (which could not be established in the previous protocol), as well as chromium, mercury, and dioxins/furans/PCB-DL were exceeded, but mentions that these exposures are not likely to cause health problems and/or are not higher than those highlighted by other studies in other locations.

70. It should be noted that these studies, whether carried out by the industry or ANSES, have not succeeded in establishing sufficiently elaborate quantification protocols to quantify the extent of the impact of pollutants in the Mediterranean Sea ("only" 48 significant tests out of 220), and therefore do not allow alarming conclusions to be drawn. Although this restraint is scientifically responsible, it should not be forgotten that the absence of evidence is not proof of the absence of pollution. Quantifying the pollution of highly dispersive elements in a reservoir supposedly infinite in the scale of the discharge (in this case the sea) is technically very complicated, not to say impossible, and therefore measuring the pollution of discharges on this criterion

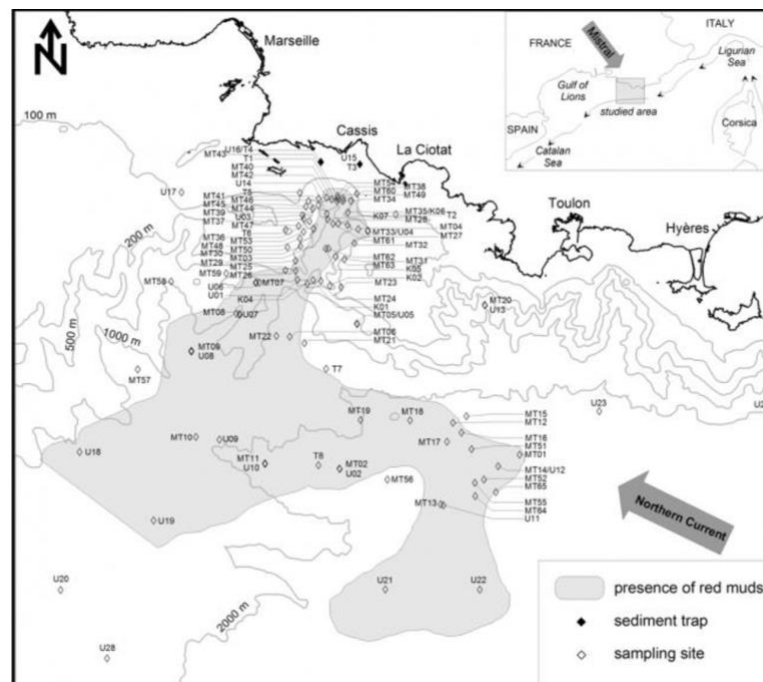
alone is a methodological bias. Laboratory experiments are there to shed another light on the harmfulness of discharges on marine species, in a restricted environment. Both approaches have their limitations but are complementary.

71. In parallel to the above, an association specializing in the assessment of risks related to radioactivity (CRIIRAD) has conducted a study on the radioactivity of land deposits (2014).

72. In addition to these large-scale studies, various summary analyses were produced by Analytika Laboratory in 2014, 2016, and 2017.

73. With respect to particulate matter, scientific knowledge is still too weak to establish with certainty the impacts on marine habitats. Even today, the fine particles that make up the sludge are easily resuspended and continue to spread with ocean currents. The effect on Nature in the short- and long-term remains a "*threatening unknown*" for the scientific community.

74. Although since 2015 sludge is no longer dumped into the canyon and only liquid effluent is released, the millions of tonnes already present remain intact, and heavy metal pollution has not been stopped because the liquid effluent still contains heavy metal particles.



Map of the presents of red mud in the Cassidaigne canyon

VIII. The Tribunal finds Violations of the Rights of the Mediterranean Sea

75. Based on the above findings, in applying the Universal Declaration of the Rights of Mother Earth, it appears that the facts constitute a violation of the rights of the Mediterranean Sea to water as a source of life, the right to full health and the right to be free from contamination, pollution and toxic waste. This is also a serious infringement of the rights to all entities that make up the sea to maintain their identity and integrity as distinct, self-regulating and intimately linked entities.
76. In summary, the ecosystem of the Cassidaigne canyon and the Mediterranean Sea has suffered for decades from pollution that is still ongoing. As the facts outlined above have shown, the effects of the discharges into the sea have resulted in the violation of the Mediterranean Sea's right to be uncontaminated. Furthermore, as the data on mechanical destruction of the seabed and toxic pollution indicate, these discharges have resulted in the affected area of the Mediterranean Sea no longer being able to regenerate and restore its natural life cycles, as provided for in the Declaration of the Rights of Mother Earth.
77. The Mediterranean Sea has the right to exist and to function according to the natural cycles of the aquatic system, which have ensured the sustenance of the sea since time immemorial.
78. Furthermore, it appears to be scientifically impossible to reconstitute the initial state of this ecosystem because of the millions of tonnes of sludge dumped in the Mediterranean, which is very likely to be dispersed over hundreds of km².
79. It appears from these facts that the Mediterranean Sea, along with its flora and fauna, have been contaminated by pollution related to human industrial activities and are thus victims of a violation to their right to full and prompt reparation for damages resulting from human activities, given that the State has not acted to prevent the degradation of this ecosystem.
80. The violation of all these rights recognized in Article 2 of the Universal Declaration of the Rights of Mother Earth therefore implies, on the part of the French State, the

urgent need for effective action to prevent any future pollution.

81. Furthermore, the Tribunal finds violations of the Barcelona Convention, the Water Framework Directive, the Natura 2000 Habitat Directive, and the various directives relating to compliance with environmental standards for industrial activities, such as Directive 2006/21/EC on waste from the extractive industries and Directive 2010/75/EU on industrial emissions. These violations will not be explored in detail by this Tribunal as our focus is on the Rights of Mother Earth and the Law of Ecocide.

IX. Considerations of the Tribunal on the Allegations of the Crime of Ecocide

82. The Tribunal intends to rule on the crimes of ecocide mentioned by the convicts. In the absence of a satisfactory definition in French law, the Tribunal will retain the definition of the crime of ecocide as proposed by the legal expert from the NGO Wild Legal, who spoke during the hearing on May 21, 2021, namely:

"The fact of causing serious, lasting or extensive damage to the environment which is liable to endanger the long-term balance of the natural environment or liable to harm the state of conservation of an ecosystem is punishable by twenty years of criminal imprisonment and a fine of € 10,000,000 or, in the case of a company, 20% of the total worldwide annual turnover for the previous financial year.

There is an intention to take an ecocide, within the meaning of this article, when a person intends to cause this consequence or is aware that it will occur in the normal course of events "

83. Ecocide thus makes it possible to punish attacks on the fundamental interests of the Nation, protected in article 410-1 of the Criminal Code, according to which *"the fundamental interests of the Nation are [...] its independence, the integrity of its territory, its security [...], the balance of its natural environment and its surroundings [...]"*. The incrimination of ecocide thus makes it possible to fight against the attacks on the ecological balance and the environment (as

recommended by the report, Justice for the Environment¹¹).

84. Since January 31, 2020, the protection of the environment, "*common heritage of human beings*", constitutes an objective with constitutional value (Constitutional Council, DC 2019-823 QPC of January 31, 2020, "Union des industries de la protection des plantes"¹²). Despite this anthropocentric definition, it is thus reaffirmed that the protection of Nature is guaranteed by the highest French standards.

85. According to the jurisprudence of the Constitutional Council, everyone is bound by an obligation of vigilance with regard to environmental damage that might result from their activities (Constitutional Council, DC n°2011-116 QPC of April 8, 2011, M. Michel Z. and others [Neighborhood disturbances and the environment]). Alteo, as a legal entity under private law, is therefore subject to this obligation, in the same way as the public authorities. As such, its behavior is criminally reprehensible.

86. For ecocide to be characterized, the offending act must result in serious, lasting or widespread damage to the environment [...] of such a nature as to endanger in the long-term the balance of the natural environment or likely to harm the state of conservation of an ecosystem.

87. In this case, the environmental impacts of red mud and the physical destruction of the habitats of various species has been amply demonstrated as well as its negative impact on the reproduction of sea urchins and oysters. The particles have also been shown to be genotoxic, with an alteration in embryonic development being transmitted from one generation of urchins to the next. In addition, there is a total absence of benthic life in the canyon bed, although in principle many species should be living there: for example, corals, mosses and algae, which are essential to the ecosystem. This population is however normally present outside of the discharge area. The density of the sludge has a direct harmful effect on the

¹¹ Read the report: <https://www.vie-publique.fr/rapport/273078-une-justice-pour-l-environnement>

¹² Union of plant protection industries

fauna and flora. The disappearance of rays, scampi, anglerfish, megrims and white mosquitoes has been observed.

88. Thus, the damage caused by Alteo to the environment is serious.

89. Because of the potentially irreversible Nature of the red mud pollution, the Tribunal also considers the damage to be lasting. Although Alteo's reports attempted to show that certain species have reappeared since the red mud was stopped being dumped at sea, the independent reports show, on the contrary, that certain areas can never be restored: the fauna and flora are destroyed for thousands of years. Once the sludge has stabilized, the bottom has not been recolonized. It is therefore certain that the azoic character of the environment will continue, as well as its negative impact on benthic-demersal fish resources due to their dependence on the health of the sea floor.

90. Thus, the damage caused to the environment by Alteo is lasting.

91. Moreover, the Tribunal has considered the extensive nature of the damage. According to the International Committee of the Red Cross¹³, the adjective "extensive" refers to damage "*that extends over an area of several hundred square kilometers*".

92. In this case, 20 million tons of red mud were dumped into the seabed over an area of 2,400 km², i.e., ten times the area of Marseille. Already in 1993, the Créocéan report had revealed the impacts of the discharge of red mud at sea, but Alteo continued its discharge activities. According to this report, the effects extend over vast areas. On the one hand, close to the point of discharge and up to 60 km away and 2200 metres deep, scientists noted a massive deposit of at least 15 to 20 million m³: the discharges do not therefore stagnate at the precise location of the discharge. At the head of the canyon, the effluent spreads out greatly. This effluent extends down the canyon bed to the abyssal plain. On the other hand, over an area of 230 km, there are stabilized deposits on the abyssal plain but unstable deposits on the canyon slopes. There is an accumulation of 12 to 26 cm of red mud

¹³ See the recommendations: https://ihl-databases.icrc.org/customary-ihl/fre/docs/v1_rul_rule45

at a depth of 300 meters. The sea current flowing from west to east transports the red mud and moves it.

93. Moreover, the ascent of fine particles to the surface shows that the dispersion is much more extensive than the deposit itself and can affect all depths. The range of the pollution from these fine particles, which are highly toxic, remain unknown. However, the study states that they are distributed over large distances to the west. In other words, the red mud does not stay at the bottom of the Canyon: extremely toxic particles rise to the surface. Finally, the area of impact of the red mud components extends over 150 km² west of the submarine valley. Indeed, outside the affected areas, towards the West, the Ligurian-Provençal drift carries chemical contaminants in particulate form, from the red mud, over at least 150 km².

94. In conclusion, this damage is not local but extends over an area of several hundred kilometres. The Tribunal will therefore hold that the damage caused by Alteo to the environment is therefore serious, lasting and extensive.

95. Moreover, according to the definition of ecocide applied, the Tribunal has assessed the impact of the incriminating acts, which must be "*of such a nature as to endanger in the long-term the equilibrium of the natural environment or likely to harm the state of conservation of an ecosystem*". Thus, it is not only an anthropocentric vision of ecocide that applies here: the endangerment can concern the natural environment or the ecosystem without the need for any danger to human beings.

96. The notion of the balance of the natural environment is present in Article 410-1 of the Criminal Code, relating to the fundamental interests of the Nation, and in Article L210-1 of the Environmental Code, under which the Criminal Division has recalled that "*the protection of the aquatic environment and that of the fish heritage are of general interest because of their economic and social impact*" (Crim. 8 March 1995, Gilles Mathe, no. 93-85.409). Generally speaking, the balance of the natural environment refers to the protection of the health, stability and

habitability of ecosystems. When the balance of the natural environment is undermined, the conditions of life on Earth are endangered.

97. In the present case, the endangerment is noted. The damage caused to the environment by Alteo affects the biodiversity of the Calanques National Park and has important consequences on the balance of the natural environment of the Cassidaigne pit. Alteo's activities harm the state of conservation of an entire ecosystem. In addition, the substances released by the company were such a vast quantity that they have permanently affected the balance of the ecosystem, polluted it for thousands of years, and without possibility of restoration.

98. The Tribunal will recall that no administrative authorization can validly permit such a major destruction of Nature. The fact that the French administration may have tolerated or even encouraged the activity of the company Alteo is in no way a reason for immunity from the justice rendered by the Tribunal.

99. Therefore, the company Alteo and the French State, as an accomplice, are responsible for the crime of ecocide against the Mediterranean Sea and in particular the Cassidaigne canyon, whose fundamental rights provided by the Declaration of the Rights of Mother Earth have been violated.

XI. Considerations of the Tribunal on the conduct of the State in relation to the facts presented

100. If the fault can be charged to the company directly responsible for the pollution, the French State must also be held responsible in this case. The Tribunal finds that the French State has failed to fulfil several duties which the Declaration imposes on States, including the duties: to establish and apply effective norms and laws for the defense, protection and conservation of the rights of Mother Earth, to guarantee that the damages caused by human violations of the inherent rights recognized in the Declaration are rectified and that those responsible are held accountable for restoring the integrity and health of Mother Earth, and to establish precautionary and restrictive measures to prevent human activities from causing the destruction

of ecosystems or the disruption of ecological cycles (see Article 3(2)(e)m (i) and (g) of the Declaration).

101. Indeed, the French State has not known how to prevent the damage or to protect the Mediterranean Sea and the canyon of Cassidaigne. In doing so, it has allowed damage to be caused to this ecosystem.

102. The State has continuously permitted the company's activities through administrative authorizations, even though they violated French and European standards on industrial polluting discharges. The decision taken in 2015 by the Prefect to authorize the company to continue discharging substances into the sea through the pipeline, while deviating from national and European standards concerning the content of aluminum, iron, arsenic, pH, BOD (biological oxygen demand) and COD (chemical oxygen demand) contained in the discharges, demonstrates that the French State has knowingly flouted the applicable standards and made itself an accomplice to the criminal actions of the Alteo Gardanne company.

103. These administrative authorizations were the subject of multiple appeals by numerous individuals and environmental organizations. In its July 20, 2018 ruling, the Marseille Administrative Court ruled against the State, in that it had authorized the derogation granted for five substances until December 31, 2021. It reduced this deadline for authorization of derogation to December 31, 2019. In this case, the judge pointed out the technical uncertainties concerning the long-term environmental and health impact of substances discharged into the sea and the need to protect the interests mentioned in articles L.511-1 and L.211-1 of the Environmental Code. The French courts have therefore recognized the State's shortcomings in analyzing the impacts of authorized industrial pollution on Nature.

104. This violation of the rights of the Mediterranean Sea must no longer be allowed and the applicants strongly oppose the policy pursued by the State, which demonstrates its failure to protect Nature.

105. This is why the applicant association raises the responsibility of the State in the fight

against the pollution affecting the Mediterranean Sea. In charge of the protection of Nature, health and safety on its territory, it has not been able to contain this ecological crisis.

106. In fact, the French government is aware of the pollution of the Mediterranean Sea. It has scientific analyses showing the contamination of the fish and their unfit nature for human consumption. However, the French State was the only one able to put an immediate end to this situation.

107. According to the doctrine of the Rights of Nature and in the case before the Tribunal, this means protecting the integrity of aquatic ecosystems, not only for their own sake, but also for the benefit of all living organisms in the area - not only for human beings. The functioning of the water cycle implies that the pollution affecting the Mediterranean Sea has a direct impact on all the terrestrial and aquatic environments depending on it.

108. The violation of all the rights recognized in article 2 of the Universal Declaration of the Rights of Mother Earth therefore implies, on the part of the French State, effective action to put a definitive stop to pollution affecting aquatic ecosystems.

109. But the French State also has a responsibility to take preventive action regarding future threats.

110. To do this, France must adopt strong laws for the protection of aquatic ecosystems and it must respect them. The Tribunal considers that the government, in adopting a definition of ecocide that places it at the level of a simple pollution offence and that limits its scope of application to acts not covered by administrative authorizations, has not adopted sufficiently strong legislation. In the present case, this legislation does not allow the prosecution of the actions of the company Alteo Gardanne in the case before the Tribunal. It is therefore not sufficiently restrictive in view of the seriousness of the acts of which the company is accused.

111. Faced with this observation, it is indisputable that the laws and the means should have been and must now be reinforced, to face the damage caused by pollution and that the State is indeed in a situation of deficiency.

XII. Considerations on the behavior of the company Alteo Gardanne in relation to facts presented

112. The main aggressor in this case is the company Alteo Gardanne, which has directly damaged the Mediterranean Sea by its industrial activities.
113. As detailed by the Applicant, there are numerous threats to the integrity of the Mediterranean ecosystem. In the present case, the causal link is obvious: Alteo has directly discharged its red mud into the sea through a pipeline thereby discharging these toxic substances into the Mediterranean Sea. In the absence of such conduct, the damage caused to the Mediterranean Sea would not have existed. The causal link between Alteo's behavior and the damage caused to the environment is certain and direct. This is confirmed by several studies.
114. Moreover, the Tribunal, in view of the written conclusions and the legal expert opinions delivered by the interveners in the trial, establishes that the company Alteo was guilty of ecocide in an intentional manner. Indeed, the company was aware that the damage would occur in the normal course of events. Thus, the intention can be deduced from the knowledge of the result, i.e. the damage that could be caused to the environment.
115. Thus, where the serious environmental harm is an unavoidable consequence of the perpetrator's conduct and the perpetrator knew or was not unaware that widespread, serious or lasting harm would result from his or her conduct, the perpetrator's intent is established.
116. Indeed, the company was aware of the risks of environmental damage that could result from its actions "*in the normal course of events*", i.e. that its behaviour would endanger the balance of the natural environment or risk harming the state of conservation of an ecosystem.
117. In the present case, Alteo could not ignore the impact of the toxic substances discharged into the sea because these effects have been described in numerous impact studies, reports by the Inspection des Installations classées pour la protection

de l'environnement (ICPE) and scientific reports that have been published and are accessible to the public. Moreover, through its self-monitoring measures, the company itself noted the harmful effects of its own actions. In addition, its commitment in 1995 to cease its discharges into the sea following the amendment of the Barcelona Convention for the Protection of the Mediterranean Sea and the establishment of the Site Monitoring Commission, proves perfectly that it was aware of the effects of its behavior on the environment and the potential risks of harm to ecosystems.

118. Secondly, the company Alteo had the will to maintain itself in an unlawful situation and to continue its actions despite the awareness that it had of the risks. This willingness reflects an indifference to the criminal law and a determination to remain in an infringing situation.

119. In this case, despite its knowledge of the risks and possible endangerment of the balance of the natural environment and ecosystems, Alteo has persisted in its behaviour and has voluntarily continued to discharge toxic products into the sea, for essentially economic reasons. Alteo sought to make a profit with total disregard for the harmful effects on the environment. Moreover, in 2015, although Alteo had committed to stop these discharges, the company requested a new exemption.

120. However, it is important to remember that, according to established case law, motives are irrelevant in criminal law (Crim. 21 Oct. 1998, no. 97-80.981). Thus, it does not matter what economic and financial reasons Alteo invoked in order to carry out these discharges at sea and to damage the environment.

121. Moreover, the offence of ecocide is not conditional on proof of an intention to destroy the environment: it is sufficient that the perpetrator is aware that this consequence will occur. In this respect, it should be noted that the company has benefited from more than 50 years to develop a technique to avoid the discharge of red mud into the sea and to modernize its installation to reduce its environmental impact. However, the studies of the reconversion of the site to maintain employment on other activities have not been as seriously studied, as it should have been.

122. In conclusion, the Tribunal declares that Alteo is guilty of the crime of ecocide and of the violation of the rights of the Mediterranean Sea as provided for in Article 2 of the Declaration of the Rights of Mother Earth.

XIII. DECISION

123. The Tribunal rules on behalf of all those animals, fish, crustaceans, molluscs and plants that have no voice, being the inhabitants, or former inhabitants, of the Mediterranean Sea and specifically the Cassidaigne canyon, and also for the human population whose livelihoods depend on, or formerly depended on, this area of the Sea, together forming the living communities of the Sea, whose rights have been violated by the pollution caused by the industrial activities of the company Alteo Gardanne, as permitted by the French State over the last five decades.

124. The Tribunal states that in the Mediterranean Sea vs. the French State and Alteo Gardanne case there is a clear violation of the Rights of Nature.

125. With regard to this pollution, the Tribunal concludes that the French State is liable for wrongful failure to act.

126. The Tribunal therefore directs the French State to adopt the following measures:

1. The recognition of the rights of the Mediterranean Sea in accordance with the Universal Declaration of the Rights of Mother Earth, as a subject of rights, with the right to protection, conservation, maintenance and restoration, the right to life, to the continuity of their cycles and vital processes, without suffering from pollution of human origin. The State will have the responsibility to establish a legal status guaranteeing its intrinsic rights.
2. The strengthening of Nature protection laws, in particular the penal code and the provisions applicable to ecocide, so that the latter is not considered as mere marine pollution, but is listed as a crime against the Rights of Nature, so that other polluting activities cannot threaten the rights of the Sea in the future.

3. That the French State compensates the human communities that have been affected by the above-mentioned activities and guarantees them the right to be fully involved in the protection of the rights of the Mediterranean Sea, by creating a Council of Guardians of the Sea in order to allow for the representation in court of the Sea's fundamental interests by the concerned residents.
4. That the French State provides the means for a sufficient monitoring of the health of the Mediterranean Sea, in particular of the Cassidaigne canyon, with adequate tests of the pollutants, also at depth, in order to take account of all the measures needed to establish the right conditions for the flourishing of the fauna and the flora that would normally thrive in the canyon. It will be necessary to define, with competent scientists, all the measures necessary to restore the damaged aquatic ecosystems in order to allow for their good health in the future.
5. That the French State puts a definitive end to all discharges into the sea from the Alteo plant that would harm the integrity of marine ecosystems.

127. The Tribunal enjoins the company Alteo Gardanne to adopt the following measures:

1. Immediately stop all ocean discharges that could affect the integrity of marine ecosystems.
2. Convert the Alteo factory to undertake activities that do not involve the destruction of life.
3. Implement an environmental impact analysis program, with a follow-up period of at least 50 years.
4. To implement and finance a program to raise awareness and protect the marine ecosystems of the Mediterranean Sea to the extent of the damage suffered. In order to set the budget that the Tribunal considers fair for this program, more elements will be taken into account. As an indication, the association Wild Legal recommends a financial penalty of 20% of the annual turnover of Alteo. In 2020, the company had an annual turnover of

€190,532,600.00, which would amount to a penalty of €38 million. The Tribunal also refers to the annual budget of the Calanques National Park, in order to estimate the sums necessary to protect the marine ecosystem. This was €6.5 million in 2021. However, the area covered by the red mud is at least two to three times larger than that of the Calanques National Park. It therefore appears fair to the Tribunal to enjoin the company Alteo Gardanne to invest at least €6 million per year for a period of at least 6 years for a program of awareness and action for the protection of the rights of the Mediterranean Sea and the Cassidaigne canyon.

This decision is certified by:

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