

## **Marinet Commentary.**

### **Is the new proposed High Seas Treaty up to the job?**

The new proposed United Nations' High Seas Treaty, see latest news reports [here](#) and [here](#), is to be greatly applauded as are the efforts of the delegates from countries and organisations around the world which are currently engaged in the formidable task of working out this new Treaty.

However will it work and, more fundamentally, does it have a perception of the problem confronting the oceans and how to solve this problem that is adequate to the task?

It is with some trepidation that Marinet dares to suggest that the answer to these questions is no. Trepidation because Marinet does not want to belittle the commitment or intellectual endeavour which many are now devoting to this task; and, trepidation because dissent in such an important matter and when so many well qualified people are committed to the task is likely to provoke anger.

However Marinet has to say what is necessary. To do otherwise is to let a project of such fundamental importance proceed when we know the design is flawed and simply will not deliver the outcome which is so urgently required; and most importantly, when there may not be a second chance before the world's marine ecosystem slips into a state of ecological meltdown from which it will be impossible to return to the form we now know.

Yes, trepidation because it is akin to a voice saying just before Apollo 11 was about to launch for the Moon and take Mankind onto its new leap in history that the vehicle on which the whole project is relying has a design flaw and is unfit for its purpose. However that is the reality we are now facing and unless we reconsider this project now it *will* fail – and failure is not to be countenanced, not if we want the world to avoid the ecological catastrophe that many now see rushing headlong towards us as our “technological brain” overrides our innate sense of wisdom and survival.

The problem is defined very easily. It is long-running unsustainable exploitation of the ocean. Contrary to the portrait of abundance that features in wildlife programmes such as the BBC's Blue Planet series the reality is that the overall ecology of the ocean is (perhaps arguably) approaching the brink of melt-down. The evidence for this belief

is not conjectural, nor is this statement a modern day jeremiad predicting the end of nature. On the contrary, it is a carefully considered appraisal. Let us consider certain facts.

In the case of whales which are at the pinnacle of the marine ecosystem, mankind has already hunted the various species of this mammal from a level of great abundance to near extinction. The International Whaling Commission has stopped this extinction event short of the brink, but even if whale populations could be rebuilt to their former abundance it is doubtful that this would now be possible because the global marine ecosystem probably no longer has sufficient food resources needed to sustain the populations that once existed.

Then there is the case of fish. In many ways fish personify the marine ecosystem, dominating in their presence and pervasive throughout the ocean. However the reality of their exploitation, based on current scientific measurements of catch levels, is that these populations are in serious decline. People who live in the countries of the North West Atlantic know this for a fact, having seen the world's premier cod fishery obliterated and unable to regenerate due to its over-exploitation. People who live in the countries of the North East Atlantic and are subject to the European Union's Common Fisheries Policy also know this for a fact. Catches from their seas can now feed them for just six months of every year, the supply for the remainder of the year having to be imported from elsewhere in the world. Staple white fish stocks are now almost commercially extinct and supplanted by a marine fish farming industry that in turn culls lower order species from the ocean in order to feed the fish in these farms.

The story for large predatory species of fish all around the world, which have been the focus of fishing vessels everywhere and which are a key element in the ocean's overall ecological structure, is that they have shrunk by two-thirds in terms of their biomass; in other words, it is likely that nearly all adults have been removed and the stocks are composed of juveniles; and in these stocks the only "adults", in sexually-reproductive terms, are really no more than "teenagers" who are fished from the ocean after only one or two years of sexual maturity.

As for fish stocks as a whole, the United Nations' official figures have reported that whereas 10% of commercial fish stocks were over-fished in 1974 (i.e. being fished beyond a limit where the stock can reproduce and regenerate itself safely) now in 2015 (latest data) the level of over-fished stocks is 33% with some further 60% of stocks being fully fished (i.e. up to the brink of where they can reproduce successfully). This leaves just 7% of stocks under-fished and so still displaying the physical features of a healthy stock (i.e. containing large, older adults and thus a robust breeding capacity). Meantime the actual method of fishing and the mesh size

of nets are removing from most commercially fished stocks all the older more fecund females who produce the most eggs, leaving the ability of these stocks to regenerate crippled.

This problem of long-running unsustainable exploitation has other dimensions too.

The methods and techniques of fishing have devastating side effects. Trawling the ocean floor, often repeatedly several times a year in the main fishing areas, lays waste to marine biodiversity on the seabed and the ecological structure which this seabed habitat supports. Trawling in mid (pelagic) and near surface waters nets turtles, dolphins and other hapless marine animals in their many tens of thousands every year. Nearly all die. Long-line fishing, where lines can stretch out for 100 km and which consist of a seemingly endless series of hooks, capture many unwanted fish and seabirds. It is estimated around 100,000 seabirds are likely to be dying every year due to this fishing practice and species such as the albatross and fulmar are now in serious decline.

This decline in the health of the ocean ecosystem is not solely down to over-exploitation. Pollution is having a severe toll. It is estimated that virtually every seabird, mammal and probably most fish now contain waste plastic from anthropogenic sources in their gut and body. This is causing death due to starvation and poisoning. Waste plastic in the ocean is now like a plague. It is estimated that, at current discharge levels, by 2050 the weight of waste plastic in the ocean will equal the weight of all fish stocks.

However much pollution is not visible. 90% of the “excess heat” generated in the planet’s atmosphere by increased levels of CO<sub>2</sub> and other “warming gases” due to mankind’s use of fossil fuels has been absorbed by the ocean. The ocean is serving like a refrigerator in this regard and if the ocean had not absorbed this excess heat the Earth’s atmosphere would by now have warmed by 36°C (65°F) - IUCN data. This absorption of heat from the atmosphere is consequently resulting in a general warming of the ocean, estimated at 0.1°C every decade in near surface waters (regionally variable). This is an average figure which is greater in the polar regions and, elsewhere, warming oscillates like a hot/cold wave due to broader planetary physical phenomena e.g. via El Niño and La Niña events. The intensification of these extremes of temperature, particularly warmer, is often inimical and damaging to marine ecosystems e.g. widespread death of coral reefs.

This change which is being driven by the continued release of high levels of CO<sub>2</sub> has also had an impact on the chemistry of the sea. The ocean has absorbed around 30% of the excess CO<sub>2</sub> and this has been converted into carbonic acid which, in turn, has

reduced the natural level of alkalinity of sea water. Alkalinity governs the chemistry of the ocean and thus the ability of marine creatures, ranging from microscopic phytoplankton to crustacea and coral reefs, to utilise calcium carbonate in shells and structures essential for their survival. So a reduction in alkalinity (acidification) is a very serious matter. As a result of CO<sub>2</sub> absorption into sea water, the alkalinity of the ocean has declined by 0.1 pH units since 1800 (the scale is logarithmic and so a 0.1 pH reduction represents a decline of around 30%) and if CO<sub>2</sub> absorption continues at increasing rates in line with increasing atmospheric CO<sub>2</sub> releases, then a further decline in the alkalinity of the ocean by between 0.3 and 0.5 pH units is predicted by 2100. If this occurs, the melt-down in the ocean's ecological system will likely be irreversible.

Some marine authorities assert that cataloguing these facts is "crying wolf".

This charge has been laid at Marinet's door. However all the foregoing facts are true – that is to say, they are the facts collected via scientific studies, many of which have been conducted by the very same marine authorities who say that Marinet's conclusions are unfounded. So, who is right and who is wrong? In seeking the answer, let us follow the logic both of the facts themselves and of the interpretation of those facts.

Logic dictates that action needs to be taken to arrest the clearly documented decline in the health of the ocean and its ecosystem. To follow any other course would be to allow that decline to continue.

It could of course be argued that abundance is still so great that decline is merely relative and therefore current levels of exploitation can continue without risking any undue harm. It could also be argued that the facts are selective, driven by an apocalyptic agenda, and are therefore simply assembled to produce a distorted version of reality whereas more accurately, if this bias is eliminated, mankind's use of the ocean can continue to follow a "business as usual" agenda. Can either of these arguments be sustained?

The difficulty with sustaining these arguments is that the documented declines in species diversity and population levels do show what can be considered absolute decline rather than relative decline. There is nothing relative in the near extinction of whales. There is nothing relative in the absence of nearly all adult and older fish (the most sexually important in reproductive terms) from many commercial fish stocks worldwide nor relative about the fact that most of the populations of these stocks are now a pale image of their former size. There is nothing relative about the collapse in albatross and fulmar populations. There is nothing relative about the fact that nearly

all marine creatures' stomachs and bodies contain waste plastic (a wholly artificial material which contains toxins) and there is nothing relative about the change in mean ocean temperatures and levels of alkalinity except to observe that, when this has occurred in previous geological time, it has generally been linked with mass extinction events from which the ocean and marine life eventually recovered, albeit into a biological order with a totally new evolutionary signature.

Therefore logic would appear to suggest that the "business as usual" agenda is a high risk strategy. In a philosophical and empirical approach, logic would suggest that the "business as usual" approach to the marine world is akin to the approach of climate deniers who assert that there is no change taking place in the planet's atmosphere and weather systems and, if there is, it is not due to mankind's activities.

Marinet is not prepared to follow such lines of "mistaken reasoning" because we believe that the evidence of ecological imbalance due to mankind's poor stewardship of the ocean is now too strong.

So we proceed to the next stage in the logical assessment of the reality confronting the ocean. Namely, what is the remedy?

The remedy that is being advanced at the present time by the United Nations, having accepted that its once ground-breaking Law of the Sea no longer has sufficient effect, is a new High Seas Treaty.

There is no draft of this new Treaty at the present time. Just a series of meetings that have agreed that it has a clean slate and that proposals are welcome, thus supposedly enabling the serious business to begin when future meetings convene.

It is in this context that various conservation organisations, most notably the submission by Greenpeace (Germany) in conjunction with Edinburgh, York and Oxford Universities (UK) and featured in the link at the opening of this commentary, have suggested that at least 30% of the ocean needs to be designated as marine protected areas (mpa), with such proposals being advanced on the basis that scientific techniques have analysed the biodiversity/ecological hotspots and made these a feature of their percentage recommendations.

Allied to these recommendations is the belief supported by documented evidence that marine protected areas, if they exclude fishing and other commercial activity, are capable of restoring high levels of abundance and diversity to damaged marine ecosystems within the protected area's boundaries, along with a belief that adequate administration of these areas and enforcement of their conservation status can be

delivered by a supra-national body. The nature of this supra-national body is not defined in the proposals to date.

There is obvious merit in this approach. Marine protected areas are proven vehicles for conservation and ecological restoration. A figure of 30% coverage, possibly higher, is not an insignificant figure. In short, such proposals have *prima facie* credibility.

Notwithstanding the virtue of this approach, there are also significant weaknesses. To begin with, the current 30% mpa approach by Greenpeace and associated universities has identified areas of the ocean that largely do not interfere with fishing, thus the one commercial marine activity of mankind which is having the most significant impact remains unrestrained. Next, the range of marine ecosystems covered by this 30% mpa designation is limited. It is restricted to those marine ecosystems that are considered, scientifically, to be the most significant; and, it would be necessary as the authors of the proposal point out to designate at least 40% of the area of the ocean in order to cover 30% of the ocean's ecosystems. Thus under this 30% mpa proposal over 70% of the ocean's marine ecosystems would be outside the mpa boundaries and without their protection.

There are further problems too with this approach.

Firstly, the existing international organisations already established by the United Nations with respect to the High Seas or, outside of the UN, established by groups of countries to regulate activities regionally in the High Seas, would all still function.

In the case of fisheries, there are the Regional Fisheries Management Organisations (RFMOs). These are international bodies established by a group of countries with a particular interest in the fisheries within a particular region of the high seas. The purpose of RFMOs is to manage and conserve a particular stock or species (e.g. tuna) or a broader spread of species. There are 17 RFMOs at the present time, 5 of which are concerned with tuna. Collectively, they cover 91% of the ocean. Most of the RFMOs concentrate on commercially valuable species rather than the broader needs of the region's marine ecosystem. In theory they have responsibilities for conservation but, in practice, they concern themselves more with exploitation. If not reformed by or made subordinate to the High Seas Treaty, RFMOs would continue to promote exploitation rather than conservation. Present thinking within the High Seas Treaty, such as the Greenpeace and associated universities 30% mpa proposal, does not address the existence or implications of RFMOs.

In the case of whales, the International Whaling Commission protects cetaceans (whales, dolphins and porpoises). The Commission was established in 1946 primarily

to bring a permanent halt to whaling, but it is a voluntary international organisation and it is not backed up by a treaty. Therefore the Commission has substantial practical limitations on its authority and a number of countries (Japan, Russia, Norway and Iceland) all continue whaling to a greater or lesser degree. Any member country can opt out of a Commission regulation and the Commission has no ability to enforce any of its decisions through penalties. It therefore exists on the basis of goodwill and, in the case of the incidental deaths of dolphins and porpoises due to fishing, the Commission is powerless. The new High Seas Treaty would need to address these issues (no proposals exist at present) and the Greenpeace and associated universities 30% mpa proposal does not address them.

In the case of the International Seabed Authority, there is now an international authority with a brief to facilitate the mining of the deep ocean for minerals. It is an intergovernmental body established to organise, regulate and control mining of the seabed beyond national marine boundaries (i.e. the high seas). It has been established by the United Nations under the UN Convention on the Law of the Sea. The focus is on the extensive areas of the deep ocean seabed in the middle of the Pacific, Indian and Atlantic Oceans where tectonic plates meet and consequential volcanic activity leads to the formation on the surface of the seabed of small nuggets rich in metals, created in a manner similar to the way a pearl is formed in an oyster. These deep ocean realms (4000 to 6000 metres deep) are largely unexplored but their marine ecosystems have been revealed as unique and unexpectedly rich in biodiversity. They currently have no protection. The Greenpeace and associated universities 30% mpa proposal suggests that deep sea mining should be subject to a moratorium but, in terms of the proposed UN High Seas Treaty, this seems unlikely when it is the UN itself which has recently established the International Seabed Authority with the specific brief to promote exploitation.

Secondly, a further host of problems confront the 30% mpa approach and similar proposals. These lie in the chemical and physical changes overtaking the ocean as a result of mankind's wider activities.

Creating a limited mpa network is always going to struggle to overcome the perceived threat of a collapse in biodiversity and marine populations. Especially if the physical and chemical conditions which support the overall marine ecosystem are being undermined by such changes as a rise in ocean temperatures (which may also lead to possible changes in the dynamics driving the ocean's system of currents) and a reduction in the alkalinity of sea water. These aspects are pillars in the overall architectural structure of the marine ecosystem and, as indicated earlier, whenever such profound changes have occurred in past geological time they have, whatever their original cause, been accompanied by mass extinction events where significant

levels of marine species (around 95% in the worst of all the extinction events) disappeared never to return.

So, if all the expertise and good intentions of scientists and environmental campaigners currently engaged in contributing to the formulation of a new UN High Seas Treaty are likely to be as ineffectual as a popgun on a nuclear battlefield, to where do we turn? In short, is there a remedy or is reality already reflecting back an image of apocalypse now?

Marinet believes there is a remedy.

It is a remedy that comes in two parts. It is a remedy which requires a high level of integrity and a genuine spirit of honesty, both intellectually and practically, at all levels of society, from heads of state to those who are living excluded from all political power and wealth. In other words it is a solution that has to be embraced consensually by everyone, both from the top down and from the bottom up.

This solution requires what learned folk call a paradigm shift. To you and me, a complete reversal in the way things are perceived and acted upon.

Firstly, we have to make the entire ocean a marine protected area.

Not 30% or 50%, but 100%.

Only when we grant this unlimited protected status; only when we cede this degree of sovereignty to the integrity of the marine ecosystem and the creatures that live there; only when we subordinate our needs to the physical, chemical, biological and climatic systems centred on the ocean and on which life on Earth depends - only then and, we emphasise, only then will we have taken the first step in mastering the solution upon which our survival and the ocean's survival, in the form that we know it, depends.

Thus when we talk about a new High Seas Treaty we have to create a new law, a universally supported Protocol, whereby the paramount concern is no longer ourselves and no longer our harvesting or exploitation of the ocean, but rather a state of affairs where we and our needs are *subordinate* to the needs of the ocean. In other words the needs of the ocean, its integrity in every sense and dimension, come first, second and last before us.

This is not to say that we cannot harvest the ocean, nor that we cannot draw upon its resources in order to sustain our needs. We can, we must and that is a wholly



legitimate expectation. However we have to do so only and always only in a manner that does not violate the ocean's integrity. Preservation of the ocean's overall ecosystem, which we now recognise as fundamental and essential to our survival, comes before all else.

This is the paradigm shift.

Man's needs are now subordinate to the ocean's needs. Man is now the rule taker, rather than the rule maker – having surrendered sovereignty to the ocean itself.

It means that the ocean has Natural Rights. Rights that are, at a minimum, equivalent to our own; and where there is conflict between the two, the ocean's Natural Rights are superior. In short, Natural Law is superior to Human Law and the integrity of the ocean is 100% protected – a marine protected area which embraces the ocean in its entirety.

Thus, the new High Seas Treaty creates a new legal default status of universal protection for the ocean. Built on this principle and invested with administrative, enforcement and judicial authority that tolerates no grounds for exemption this new High Seas Treaty can and will be able to halt the degradation of the ocean, launching it everywhere onto a path of regeneration and providing the means of escape from the apocalypse which is, if we are genuinely honest, rapidly approaching.

This fundamental change and how it is to be delivered has been set out in the Marinet publication [Conserving The Great Blue](#), author Deborah Wright, who will shortly have it published in an expanded form by Chicago University Press.

However this paradigm shift has to incorporate an additional dimension. Armed with stringent administrative (licensing) and judicial (enforcement) powers, the 100% mpa legal status of the ocean solves the problem of arresting and taming mankind's unrestrained exploitation of the ocean's biological and mineral resources; but it does not solve the problem of arresting and reversing the impact of mankind's impact on the physical and chemical nature of the ocean.

To achieve this change and thus a full paradigm shift in the management of mankind's impact on the ocean, an additional measure is required.

This is The Ecocide Law.

The provision for [The Crime of Ecocide](#) was established in the original formulation of the Rome Statute. The Rome Statute is an international law, drafted in 1998 and

operative from 2002. The Statute establishes the International Criminal Court and recognises 5 Crimes Against Peace : The Crime of Genocide, Crimes Against Humanity, War Crimes, The Crime of Aggression and The Crime of Ecocide. The first four were brought into effect from 2002 and have since been operative, whilst The Crime of Ecocide was held back “to be added” because certain nations opposed its implementation.

Ecocide is the extensive destruction of ecosystems and under The Crime of Ecocide the law would result in the protection of ecology (non-human inhabitants of a territory or ocean). The perpetrators at both national and international level of those actions or processes which result in the destruction of ecosystems would thus become culpable and liable. Decision-makers, both corporate and individual, shown to be the originators of degradation in the physical and chemical nature of the ocean would henceforth be accountable.

The Rome Statute is, under its Articles, capable of taking up and adding in The Crime of Ecocide. It simply requires the Rome Statute’s signatory countries to do so.

Therefore a UN High Seas Treaty can, if we wish, travel the whole distance.

To be clear, two essential steps are required.

One: the Treaty must, with 100% mpa status, give sovereignty to the ocean throughout its realm and so to all its creatures, thus ensuring that the ecological processes which sustain and feed us can be harvested by us on a sustainable basis for as long as mankind endures on this planet. If we do not create this 100% mpa protection, all is in doubt.

Two: the Treaty must seek to embrace the Rome Statute and, thereby, to incentivise its reform to add in The Crime of Ecocide. If this is done, then the strategy for the present ecology of Earth and our place within this ecology is secured.

Half steps are not sufficient. They are only half measures and will inevitably fail at a time when failure is no longer a viable option. This is a fundamental message of this Marinet commentary.

An equally fundamental message is that we have the tools, intellectually and practically, to respond to this challenge. These tools are up to the mark and can deliver the required result: survival for the ocean and survival for ourselves.

The only missing ingredient, from the perspective of the High Seas Treaty, is the will power to do this.

Let us be clear, will power is not the product of an academic or environmental analysis. It is a political act. It is a conscious decision to make the laws which will provide the solution.

Marinet does not mince words on this. At present, environmental and scientific organisations are not stepping up to the mark. They are timorously treading forward, making proposals which they know in their own hearts are half measures because they fear being accused of being too extreme by the political world. Meanwhile the politicians will not act because they are locked into an economic model which they believe secures progress and greater wealth for mankind when they know, also in their hearts, that they are lying to all of us as well as themselves.

So let us confront the truth. We are no longer dealing with a world of causes where, in political terms, we are able to select the solution from a multiple of choices. The world characterised and governed by conventional politics is now obsolete.

Instead, the truth has changed. We are now living in the Age of Consequences. This is a world where causes are now redundant in terms of political action because what has happened is now irreversible. We have gone beyond cause. We are now living with the consequences of those causes. We cannot wind back global warming and climate change. The point of no return has already been passed. We can only live with the consequences and seek to adapt and not to intensify those consequences. We cannot undo the warming of the ocean or the decline in its alkalinity, we can only modify our future actions and seek to apply a brake wherever possible.

Living in the Age of Consequences means we have passed across the threshold of no return (or very minimal return). We have slipped from one place into another, like from youth into middle age and the world is no longer the same and never can be again.

The advent of the Age of Consequences means we are now living in a new paradigm. Not by choice, but by fact. Our only way forward is no longer to argue, as if we still had choices available to us. There are no alternative options. Choice belonged to a paradigm of political activity which is no longer available. The only options we have are to respond to living with the consequences and to use our good sense - which means: take each and every action that does not make things worse and trust in healing; or, perish.

So for the ocean in the Age of Consequences we need a new paradigm for the governance of our activities. We need not 30% mpas, but the whole ocean as a mpa. That is: 100% with the ecology of the ocean once again sovereign. We need also a system of law where the crime of ecocide is on the statute book and all, corporate and individual, are accountable under this law.

We need a High Seas Treaty built on nothing less.

We need this as the Treaty's agenda and as the principles governing its future meetings.

We need the UN and its member nations to recognise that politics has changed. No longer are we living in the age of capitalism or communism or any version in between. We are living now in the age of consequences where political economy is governed by ecology.

This is the truth we have to awaken to. This is the truth that the High Seas Treaty has to express.

All else is meaningless. All other courses are redundant.

We have no choices, other that to embrace this new world along with its new paradigm.

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