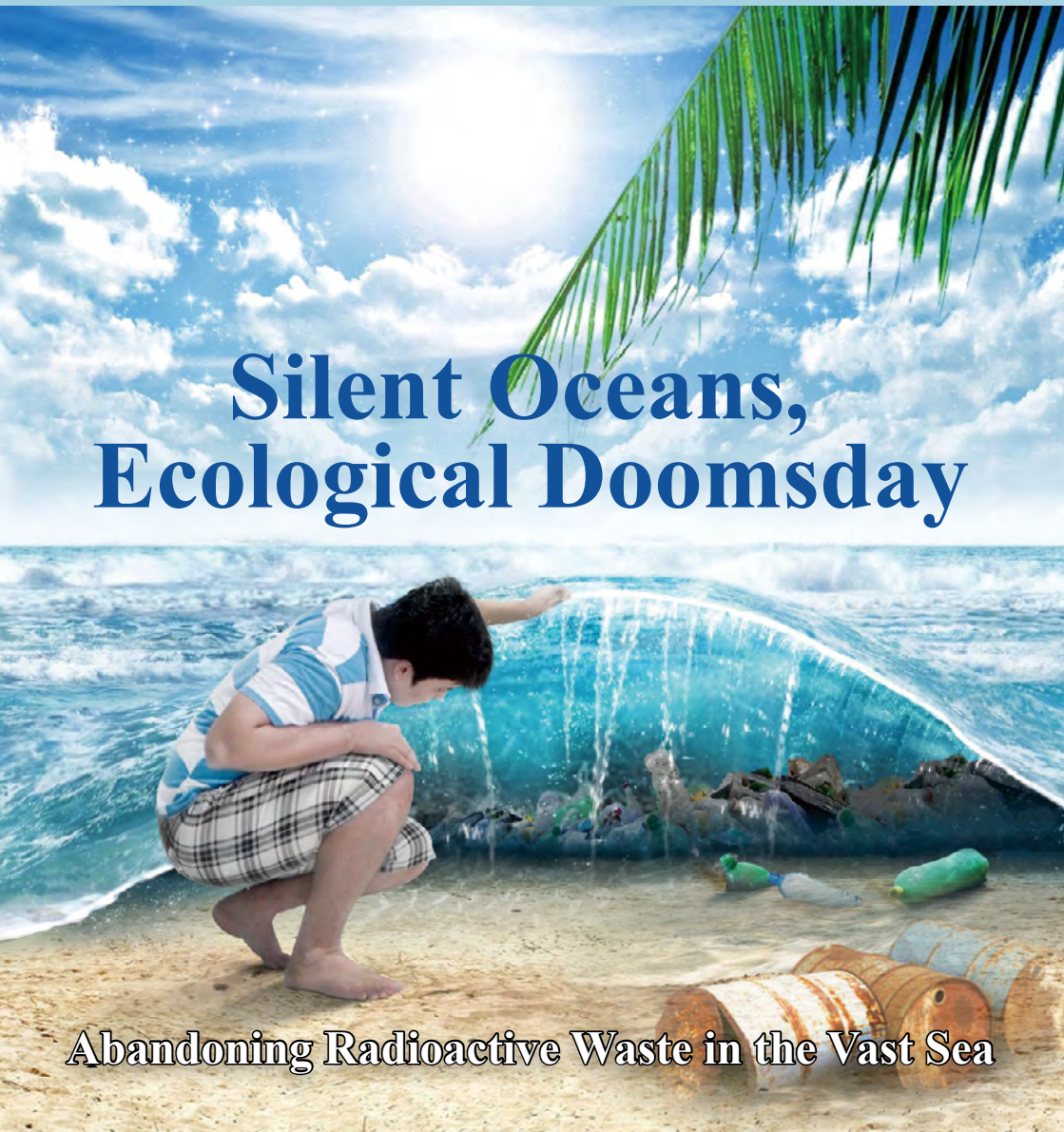


生命和平

5
/
6
雙月訊

Life & Peace Newsletter May.–Jun. 2022 No.06

Silent Oceans, Ecological Doomsday



Abandoning Radioactive Waste in the Vast Sea



生命和平大學

Planning: Preparatory Office of the University for Life and Peace
Published by: Lingjiu Mountain Buddhist Foundation
Editorial Office: 20th Floor, No. 2 Baosheng Road, Yonghe District, New Taipei City
Service Hotline: (02) 8231-5789
Copyright of images and text is owned by the Ling Jiou Mountain Buddhist Society.
This publication uses environmentally friendly ink and Doulton paper.

CONTENTS

02 Message from the Founder

Common Interests of Life

04 Feature article

Silent Ocean, Ecological Apocalypse

06 Key Facts

Revitalize the Ocean for a Sustainable Future

08 Focusing

Disposable Plastic Comes Back to Us

10 Earth-Centric Approach

Radiative waste sinks to the bottom of the sea.

12 Loving Earth Campaign at LJM Buddhist Society

Protecting the Oceans and Sustainable Aquatic Ecosystems

參考資料：

封面影像來源：Image par Andre Lira, Pixabay

Page 04-05

●《魚線的盡頭》查爾斯·克洛弗（Charles Clover）

●《沒有魚的海洋》菲利普·居里（Philippe Cury）

●行政院農業委員會漁業署漁業統計年報

Page 06-07

●UN World Oceans Day, 2022

●National Oceanic and Atmospheric Administration, U.S. Department of Commerce

Page 08-09

●Un gest pour la mer, foundation de la mer, France

●UN News, Lutte contre la pollution plastique (PNUE), 03, 2022

Page 10-11

●l'Agence nationale pour la gestion des déchets radioactifs (Andra), France

●Fil vert, les chroniques, Liberation, 2018

●自由時報引用自美國《科學》雜誌 (SCIENTIFIC AMERICAN), 2015



Message from the Founder

By Dharma Master Hsin Tao, founding abbot of Ling Jiou Mountain Buddhist Society

Common Interests of Life

In a globally connected world, we are part of a shared living community, a diverse and interdependent entity. It is crucial for us to comprehend this perspective.



In this age of advanced information, the entire world is like a vast network, akin to the cells in our bodies. Though they seem to be in different locations, they are interconnected, working together for the survival of the body. **Similarly, the Earth is a connected living organism, much like the cells in our body.**

Today, the world experiences the "butterfly effect," where an issue in one place can affect others. **We do not exist in isolation;**

we are diverse, symbiotic, and mutually dependent. Therefore, it is essential for us to understand how to appreciate one another, creating greater benefits for all. When people recognize the common interests, the shared benefits of life, harmony becomes our natural inclination.

The common interest of life lies in the diversity of symbiosis. Every event should be viewed through the lens of "interdependence." Even in competition,



we should strive for mutual coexistence because our society is a collective effort in symbiosis. By promoting the consensus of diverse symbiosis and mutual dependence, resonance and harmony can be achieved. With this consensus, we can communicate and coordinate, practicing humility and inclusiveness to attain the maximum common interests and values of mutual coexistence.

we should be each other's blessings, support, and well-being. Let us create a more complete connection in life, fostering better harvests, improved cycles, and wiser interactions. (Excerpt from Dharma Master Hsin Tao's website, dated August 9, 2018)

We are interdependent life systems, **and**

Silent Ocean, Ecological Apocalypse

Humans seeking health benefits turn to fish oil, and now, the trend extends to deep-sea fish oil for even better health. Does this reflect overfishing in conventional areas, forcing us to explore the depths for fish? The trendy health supplement, krill oil, comes from tiny red Antarctic krill, positioned at the bottom of the food chain. However, massive human harvesting, robbing other creatures of their food, raises concerns about potential imbalances in the Antarctic ecological food chain and the

overall marine ecosystem.

The unwritten rule about the ocean has always been its "sustainability" - a self-sustaining entity capable of continuous reproduction. This perspective sees the ocean's ecosystem as the most stable, generating algae and plankton with sunlight, sustaining small shrimp through microorganisms, leading to big fish consuming small fish and shrimp, ensuring a constant supply of marine resources.

Dietary Shifts Threaten Extinction

However, changing human dietary habits pose a threat to marine ecosystems. For instance, as European and American countries adopt Japanese dietary habits for health and longevity, the demand for sushi increases, leading to extensive fishing of bluefin tuna for market supply. This not only puts the species at risk of extinction but also causes an abnormal increase in jellyfish. Global fishing yields have been steadily decreasing since 1996, and Taiwan's fishing yields, for example, decreased by an astonishing 80% from over 19,000 tons in 1994 to just over 4,000 tons in 2015. Marine biologists estimate that by 2050, there may be no fish left for consumption, rendering the ocean barren.

The most severe threat to ocean sustainability is "overfishing," causing a chain reaction that significantly reduces marine biodiversity, at a rate far more severe than on land. Additionally, industrial and agricultural water pollution has led to a twofold increase in dead zones in the ocean since 1990. Human waste, especially plastic, entering the ocean has formed "floating garbage patches" in five ocean

areas, with estimates suggesting the area doubles every decade. The garbage patch formed by the Northern Pacific Ocean current alone is equivalent to 38 times the size of Taiwan.

Reducing Carbon Emissions to Preserve Ecosystem Stability

Climate change is also affecting marine ecosystems as rising carbon dioxide (CO₂) concentrations acidify the sea, impacting the base-level organisms in the food chain unable to form shells due to a lack of essential carbonate. This disruption may trigger a chain reaction leading to mass extinctions.


True sustainable development not only meets the needs of our generation but also ensures the continued development to meet the future needs of generations to come. The importance of the ocean for sustainability is often underestimated, and it is crucial to study and monitor ocean changes, including temperature, acidity, and biodiversity indicators. This will enable us to take preventive measures and actions to address the challenges of deteriorating marine ecosystems in the critical decades ahead.

Revitalize the Ocean for a Sustainable Future

The ocean provides essential conditions for our survival and development. Philippe Cury, a prominent French marine biologist, highlighted in his book "The Ocean Without Fish" that Newfoundland, Canada, was once the world's richest cod fishing ground. Unfortunately, due to human overfishing and exploitation, the cod population has drastically declined. According to a report from the United Nations Food and Agriculture Organization, 80% of economically valuable fish species worldwide have been overexploited in the past fifty years.

For instance, global tuna consumption, at 2.4 million tons annually, far exceeds the sustainable fishing capacity by 8.7 times.

The ocean is Earth's life support system, inseparable from human survival and development. To ensure the Earth's sustainability, it's crucial to make the ocean sustainable. This World Oceans Day on June 8, 2022, let's unite under the theme "Revitalization – Collective Action for the Ocean." Join us in addressing marine challenges and collectively working towards restoring the vitality of our oceans.



**Please give
me back my
home.**



Food

More than 30% of the protein needed for life comes from the ocean. Not only does the ocean supply seafood, but it also provides some of the ingredients for peanut butter and soy milk, not to mention sea salt, which is essential for life.

Vast oceans supplying precious resources



Oxygen we breathe

Photosynthesizing organisms in the ocean produce more than 50% of the world's oxygen.

Stabilizing Climate

Occupying 70% of the Earth's surface area, the ocean stabilizes the weather through the exchange of hot and cold ocean currents during the four seasons.

Fresh water resources

Fresh water resources come from evaporation of sea water from the sea surface to the land cooling rainfall.

Important Transportation Role:

More than 80% of all trade and goods are transported through the ocean.



Medicines

The sea is the source of many medicines, including some for cancer, arthritis, Alzheimer's disease and heart disease.



A good partner for recreation

From fishing to whale-watching to the recently popular SUP (Stand Up Paddle), it is a very popular recreational activity.

Disposable Plastic Comes Back to Us

In 1997, marine scientist Charles Moore discovered a new plastic continent during a return journey at sea. He said, "As far as my eyes could see, there was plastic garbage. Crossing the subtropical waters for about a week, the sea was filled with plastic bottles, bottle caps, plastic packaging, plastic fragments, and more." The floating garbage patch in the North Pacific, according to measurements in 2018, is estimated to be larger than 38 Taiwan.

Plastic fragments, degraded by the forces of nature and smaller than 5 millimeters in diameter (smaller than the diameter of a hair), have been found in the stomachs of fish, even in mussels in both California and Indonesia. This is a global phenomenon, discovered in the stomachs of over 200 different marine species from the Arctic to



the Antarctic. When we consume seafood, we are essentially ingesting the discarded plastic, completing a cycle where waste comes back into our bodies.



All five of the world's oceans have floating garbage patches.

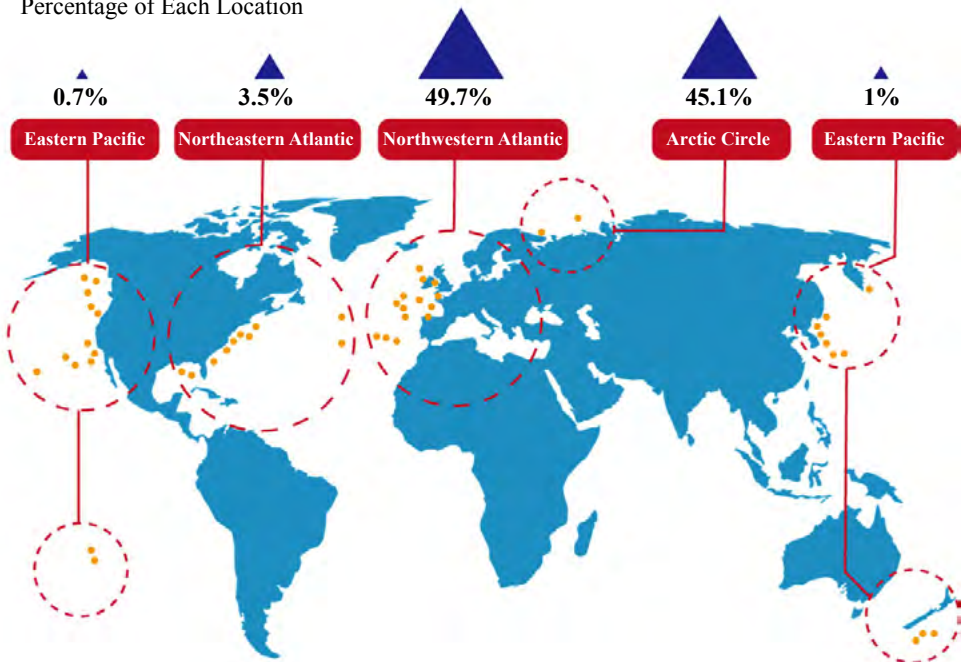
- Every minute, 18 tons of plastic waste flow into the ocean, equivalent to one garbage truck dumping waste into the sea every minute.
- From 1980 to the present, the amount of plastic waste in the ocean has increased tenfold. According to research estimates, from now until 2030, the total amount of plastic waste in the ocean will double from the current 50 million tons.

Radiative waste sinks to the bottom of the sea.

For 47 years, major European and American countries have been disposing of radioactive waste, including nuclear waste, into the world's oceans! This practice only stopped after the

signing of the international treaty banning ocean dumping from 1946 to 1993. The radioactive waste barrels submerged in the sea, whether wet or dry, contain flammable components. According to estimates, up to

Radioactive Waste Disposal Sites Percentage of Each Location



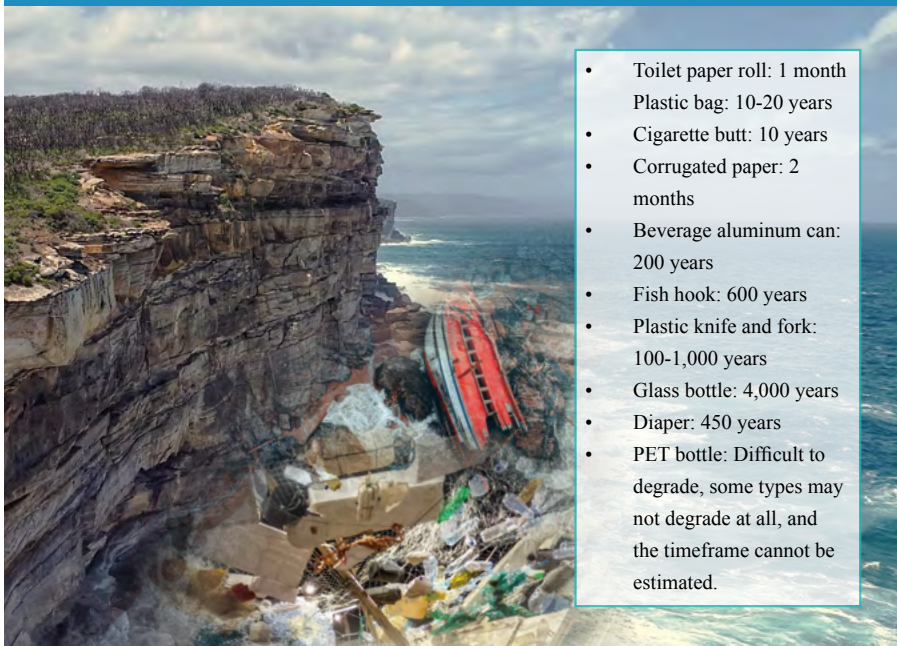
85,000 terabecquerels of radioactive waste have leaked into the seabed and continue to erode.

According to Reuters, many sunken or missing ships, possibly intentionally, have used the Mediterranean as a dumping ground for cargo ships carrying nuclear waste. Of course, there are also instances of accidental sinking of ships containing radioactive waste, such as the sinking of

the Russian Kursk nuclear submarine in 2000. Although some radioactive material was salvaged, there is currently no tracking of the leakage and no initiation of any cleanup and preventive plans for the radioactive waste on the seabed.

- Note: Becquerel (Bq) is the international unit of radioactivity named after the French physicist Henri Becquerel (1852-1908). It is defined as the activity of a quantity of radioactive material in which one nucleus decays per second. The natural radiation exposure for the average person is about 8,000 Bq.

How long does it take to degrade after flowing into the ocean?



- Toilet paper roll: 1 month
- Plastic bag: 10-20 years
- Cigarette butt: 10 years
- Corrugated paper: 2 months
- Beverage aluminum can: 200 years
- Fish hook: 600 years
- Plastic knife and fork: 100-1,000 years
- Glass bottle: 4,000 years
- Diaper: 450 years
- PET bottle: Difficult to degrade, some types may not degrade at all, and the timeframe cannot be estimated.

Protecting the Oceans and Sustainable Aquatic Ecosystems

The Lazy's Guide to Saving the World" - Stay at home and enjoy su

1. Care

Learn about the ocean ecology and the global environment, like, subscribe, track or share.



2. Reduce

Green consumption and support the purchase of plastic-reduced products.



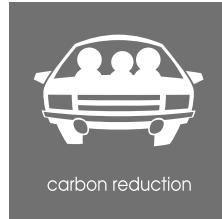
3. Think twice

Before you check out, remind yourself that some of your waste will still enter the ocean; think about whether you need or want to buy something.





Loving Earth Campaign at Ling Jiou Mountain Buddhist Society



carbon reduction

Carbon reduction: Reduce carbon emissions in daily life to minimize the impact of climate change on the environment.

Responding to the United Nations Sustainable Development Goals (SDGs)



DGs Goal 14 Sustainable Marine Resources Life Below Water

Conserve and sustain marine ecosystems to maintain biodiversity and prevent degradation of the marine environment.

Sustainable oceans with your cell phone!

4. Choose

Choose seafood with sustainable fishing practices and principles, or choose fish that are abundant and common, such as sardines and swordfish.



5. Support

Help spread the word or participate in initiatives and actions to reduce marine pollution.



6. Reduce personal carbon emissions

Disconnect electrical appliances completely when not in use. Stop using paper bills and adopt digital payment.



