

D1.1.2 - REPORT ON ITALIAN LEGISLATION

WP1 – Activity 1.1 - State of the art of the Italian and Croatian legislation
on waste management

Partner in Charge: University of Padova

Partners involved: All

Status: Final Version

Distribution: Public

Date: 30/07/2024

SUMMARY

1	INTRODUCTION – WHAT IS THE MARINE LITTER.....	3
1.1	The Problem of Marine Litter	3
2	THE ITALIAN REGULATION REGARDING MARINE LITTER	4
2.1	Overview of all the Italian Regulations before the Marpol Convention.....	5
2.1.1	1942. Royal Decree 03/30/1942 No. 327.	5
2.1.2	1952. Presidential Decree of the Republic 02/15/1952 No. 328.....	5
2.1.3	1961. Law 02/23/1961 No. 238.	6
2.2	Italian Legislation following the Marpol Convention.....	6
2.2.1	1980. Law 09/29/1980 No. 662	6
2.2.2	1982. Law 12/31/1982 No. 979	6
2.2.3	1986. Law 07/08/1986 No. 349	7
2.2.4	1992. Law 02/28/1992 No. 220	8
2.2.5	1995. Law 12/28/1995 No 549	8
2.2.6	2005. Legislative Decree 07/18/2005 No. 171.....	9
2.2.7	2006. Legislative Decree 04/03/2006 No. 152.....	9
2.2.8	2010. Legislative Decree 12/03/2010 No. 205.....	12
2.2.9	2020. Legislative Decree 09/03/2020 No. 116.....	12
2.2.10	2021. Legislative Decree 11/08/2021 No. 196.....	13
2.2.11	2021. Legislative Decree 11/08/2021 No. 197.....	14
2.2.12	2022. Law 05/17/2022 No. 60.....	15
3	LOCAL REGULATIONS OF ITALIAN REGIONS RELEVANT TO FISHNOWASTE	16
3.1	Veneto Region.....	17
3.1.1	2000. Regional Law 01/21/2000 No. 3.....	17
3.1.2	2012. Regional Law 12/31/2012 No. 52	18
3.1.3	2014. Regional Law 03/11/2014 No. 288	19
3.1.4	2022 Deliberation of the Regional Council 08/09/2022 No. 988	19
3.1.5	Collection and Management Plan for ship-generated waste and cargo residues.....	20
3.2	Emilia Romagna Region.....	21
3.2.1	1994. Regional Law 07/12/1994 No. Nr 27	21
3.2.2	1996. Regional Law 08/19/1996 No.31	22
3.2.3	1999. Regional Law 09/06/1999 No. Nr 25.....	22
3.2.4	2004. Regional Law 04/14/2004 No.7	23
3.2.5	2015. Regional Law 10/05/2015 No.16	23



3.2.6	2019. Resolution of the regional government 11/11/ 2019 No. 2000	24
3.2.7	2021. Regional Council Resolution 05/03/2021 No. 643.	25
3.2.8	Collection and Management Plan for ship-generated waste and cargo residues.....	26
4	DISCUSSION	29
5	REFERENCES	32



1 INTRODUCTION – WHAT IS THE MARINE LITTER

All kinds of human activity are influenced by the production and use of goods and consumables, most of which are made of plastic. Some of these are made to be durable, others to serve ephemeral, time-limited uses. What distinguishes all these products, however, is their persistence in the environment once their life cycle is over, when they acquire the name of 'waste'.

In Article 183 of Italy's Legislative Decree April 03, 2006 No. 152, the so-called Unique Environmental Text defines waste as “any substance or object which the holder discards or intends or is required to discard”. When a product is no longer useful for the function for which it was made, can no longer be used for a similar purpose, nor can it be directed to the recycling chain, it becomes waste.

Therefore, every type of human activity involves the development of waste in every sector. This is increased by the worldwide increase in population, the greater demand for goods and services, and changes in lifestyle. At two opposed poles are the rise in consumption and the depletion of natural resources.

All kinds of waste are released daily on land, in cities, in the countryside, on beaches, and in every waterway; waterways are fast lanes for the transport of land-based waste to the sea. It is estimated that 19-23 million tonnes of waste enter into aquatic environments each year and this volume is expected to increase to 54 million tonnes by 2030 unless urgent action is taken (Cordis, EC, February 2024). If we consider that twenty major rivers flow only into the Adriatic Sea, it is easy to understand how this sea is extremely vulnerable and in need of protection.

The United Nations Environment Programme (UNEP) defines marine litter as 'any persistent solid material, whether manufactured or processed, discarded, disposed of or abandoned in the marine and coastal environment'.

Marine waste therefore consists of all materials produced and used that are not sent to a second life or that, at the end of their life, are discarded, lost, or abandoned on land, in rivers, on beaches, and directly into the sea or that reach the sea at a later date.

Below is a summary of the problem, the main causes, and an overview of Italian legislation that has addressed and proposed solutions to curb this thorny difficulty. As far as international legislation is concerned, the relevant text is not repeated here since it is already dealt with in the project deliverable 'D.1.1 Report on Croatian Legislation' prepared by the Institute of Oceanography and Fisheries (IOR).

1.1 *The Problem of Marine Litter*

Of all the waste that reaches the marine environment, plastic, including bags, bottles, and fishing equipment, constitutes the predominant part. Along with synthetic rubber, plastic is one of the most persistent materials. With time, however, this type of waste tends to deteriorate until it decomposes into small fragments by the action of both the ultraviolet component of the sun and the mechanical action of waves. When these micro fragments are less than 5 millimeters in diameter, they are termed “microplastics”; if smaller, on the order of a thousandth of a millimeter, they are termed “nanoplastics”; both pose a threat to the environment and human health globally.

Microplastics can be primary when they are released, in the form of small particles, directly into the environment: the main sources are tire abrasion during driving, washing of synthetic clothes, or



presence in body care products (e.g. scrubs); the percentage of these particles in the ocean is estimated at between 15 and 31%. In addition to these, secondary microplastics, account for between 61% and 81% of the plastic particles in the ocean and are produced by the breakdown of larger plastic objects, bottles, or fishing nets, directly at sea.

On the one hand, these fragments are therefore ingested by marine animals and, via the food chain, are also ingested by end consumers (in larger quantities), thus also by human populations; on the other hand, larger plastics (envelopes, nets, packaging) lead to the death of many marine animals and protected species, creating obstructions in the digestive tract when ingested, or death traps when entangled in them. Large litter is also a problem for human activities such as fisheries and transportation, since nets and cooling systems can be clogged by litter and propellers can be entangled too.

ISPRA data show that on Italian coasts in 2022 the median amount of total marine litter was 303 litter per 100 m, a slight increase compared to the previous year (median 273/100 m); of this, the most common litter was single-use plastics, which accounted for 29% of the total. These numbers are much higher than the threshold value set at the European level as a requirement for achieving GES (Good Environmental Status) of 20 waste items per 100 meters.

2 THE ITALIAN REGULATION REGARDING MARINE LITTER

Although marine litter has been known for years, only in the last twenty years it is starting to be considered as a real problem, to the point of reaching current levels of knowledge and awareness. In 2008 an important milestone was achieved with Directive 2008/56/EC, the "Marine Strategy Framework Directive", which aims to protect the marine ecosystem by achieving Good Environmental Status, through 11 descriptors, one of which is entirely dedicated to marine litter (D10: The properties and quantities of marine litter do not cause damage to the coastal and marine environment).

This directive, together with other European directives such as the Habitats Directive (92/43/EEC), Wild Birds Directive (2009/147/EC), and Water Directive (2000/60/EC) as well as legislation such as the CFP (EU Common Fisheries Policy 1380/2013), forms a shield to help protect the Mediterranean Sea. Beyond this, the Biodiversity Strategy for 2030, a key part of the European Green Deal, aims to restore the health of the oceans through a target of protecting 30% of the EU's seas by 2030, of which 10% under strict protection. By this date, the goal of the EU Mission "Restore our Ocean and Waters" is to reduce both plastic waste into the sea by at least 50% and microplastics released into the marine environment by 30% by 2030, in line with the EU Zero Pollution Action Plan.

At the Italian level, a long journey that began in 1942 has seen a succession of laws, decrees, and regulations issued by the government on environmental matters to help protect the environment and reduce waste. Initially, bans were read aimed at objectives strongly aimed at utility; over the years, adapting to increasingly pressing needs and problems over time, we read an evolution more and more aimed at pure environmental issues, both about the abandonment of waste and also limiting the production of plastic products, passing through an important change in considering the occasionality in the phenomenon of waste transport, thus allowing the possibility of collecting floating waste without incurring the offense of illegal transport.

Below is a summary of the problem, the main causes, and an overview of the main Italian legislation that has addressed and proposed solutions to contain this difficult issue.



Subsequently, the focus is on the local level, addressing the regulations of the Italian Regions and ports involved in the project or included in the legislative and port overview by Adriatic importance: the Veneto Region and the Port of Chioggia (with the inclusion also of Venice) and the Emilia Romagna Region with the Port of Rimini (with the inclusion also of Porto Garibaldi).

2.1 Overview of all the Italian Regulations before the Marpol Convention

2.1.1 1942. Royal Decree 03/30/1942 No. 327.

Approval of the final text of the Navigation Code.

1331 Articles. In force since 04/21/1942.

This Decree, enacted by King Vittorio Emanuele III, regulates maritime, inland, and aerial navigation. Article 71, states that is “forbidden to throw any kind of materials in the harbors”; in the same article, however, is specified that “the captain of the department determines the other areas to which this prohibition shall be extended due to the needs of the transit and stopping of ships, or for other traffic and fishing needs.” Therefore, the prohibition is specified for port areas and others where there is an extended ban. Although it is a good starting point, the focus is on areas where human activities are more frequent, mainly for maritime traffic purposes and not so much on environmental issues. Finally, Articles 72 and 77 draw attention to the obligation to remove merchandise or other materials in the event of submergence in ports, roadsteads, and canals, with the obligation to restore them in the event of submergence, at the expense of the person concerned. This draws attention to the environmental component in areas a little further away from ports (later articles also provide for punishment with penalties for such non-compliance). Finally, an important note (Art. 77), an obligation is laid down for canal and waterway frontages for good bank maintenance and a ban on silting.

2.1.2 1952. Presidential Decree of the Republic 02/15/1952 No. 328

Approval of the Regulation for the Implementation of the Navigation Code (Maritime Navigation).

543 Articles. In force since 05/06/1952

With this decree the boundaries of the prohibitions are widened: in fact, in Article 43 it is forbidden to deposit inflammable or explosive substances together with other goods within or outside the boundaries of the maritime state property; this is only possible “subject to authorization”: this possibility is granted in the case of being authorized (e.g. coastal establishments or warehouses). Article 57 envisages the collection of materials abandoned on the seabed (materials and inert materials) but under concession, employing a special request, from those who may have an interest. Although a goal with positive environmental feedback can thus be achieved, the aim is not directly related to possible environmental causes for the removal of submerged materials. Finally, Article 77 prohibits keeping waste accumulated on board and discarding it in the land or water areas of the port or the open sea: however this prohibition is only valid at a distance less than that established by the master of the port. Far from the coast, instead, discharges are still possible, along with the washing of cattle holds to be carried out in the open sea, as the same article continues. Still, in the same decree (Art. 82 and 89) attention is paid to the water surfaces and quays, as well as ports, roadsteads, and canals: at the end of loading and unloading operations, in these areas cleaning is



foreseen at the expense of the person who carried out the operations, as well as the removal of submerged materials within 48 hours of submergence.

2.1.3 1961. Law 02/23/1961 No. 238.

Acceptance and execution of the International Convention for the Prevention of Pollution of Marine Waters by Oil, signed in London on May 12, 1954.

3 Articles and the Convention are in the attachment. ("GU", General Series, No. 96 of 04/18/1961).
In force since 05/03/1961

The importance of this Convention is recognized in the Marpol Convention of which this Convention is the forerunner and by which it will later be superseded; it is the first instrument with the essential objective of environmental protection. It applies to all ships registered in any of the territories of a Contracting Government, except for certain categories such as naval auxiliary ships during their term of service (thereafter the exception will no longer specify the limitation to the period of service), ships whose tonnage is less than 500 tonnes, ships used in the whaling industry.

2.2 Italian Legislation following the Marpol Convention

2.2.1 1980. Law 09/29/1980 No. 662

Ratification and execution of the International Convention for the Prevention of Pollution from Ships and the Protocol relating to Intervention on the High Seas in Cases of Pollution by Substances Other than Oil, with annexes, adopted in London on November 2, 1973. (GU General Series No. 292 of 10/23/1980 - Ordinary Supplement)

The Marpol Convention, ratified by this Act, also applies to all ships but has exceptions to its application: warships, auxiliary ships, or ships belonging to a state and operated for governmental and non-commercial purposes.

These years mark a historic turning point, in which awareness of environmental protection and the marine environment in particular is growing: the parties to the Convention are aware of this need.

2.2.2 1982. Law 12/31/1982 No. 979

Provisions for the Defence of the Sea

43 Articles, 4 Annexes

In force since 02/02/1983

As in a funnel, the scope of provisions in this law is considerably narrow being only focused on the defense of the sea and not on the protection of the environment in general.

In Article 1 states that "The Minister for the Merchant Navy shall implement the policy for the protection of the marine environment and the prevention of harmful effects on the resources of the sea, providing for the formation, in agreement with the Regions, of the general plan for the defense of the sea and the marine coasts from pollution and the protection of the marine environment, valid for the entire national territory, taking into account state and regional programs also in related matters, community guidelines and international commitments" This law, enjoys the benefits of the



73rd and 78th Conventions, which acted as a sort of watershed directing attention to the protection of the marine environment as an end in itself.

To fulfill these tasks, the law provides that the aforementioned Ministry shall organize an observation network of the quality of the marine environment and an appropriate surveillance system of coastal activities; beyond that, provide for the establishment of a marine environment protection service, coastal surveillance, and intervention service to prevent and control pollution at sea, and also establish, together with the Ministry of Defence, a surveillance service on maritime and economic activities, including fisheries.

In Article 25 there is a fundamental awareness: in fact, it is stated that "Marine nature reserves consist of marine environments, given by the waters, seabed and stretches of coastline facing them, which are of significant interest due to their natural, geomorphological, physical and biochemical characteristics, with particular regard to marine and coastal flora and fauna, and due to their scientific, ecological, cultural, educational and economic importance". Of great importance, the next article emphasizes the importance of marine areas for which it seems appropriate to subject them to protection, i.e. marine reserves, established by the Ministry of the Merchant Navy, and identified in the number of 20 in the Mediterranean. This is a fundamental step towards the recognition of the environmental value of the sea ecosystem and therefore also of ecosystem services.

2.2.3 1986. Law 07/08/1986 No. 349

Establishment of the Ministry of the Environment and regulations on environmental damage
19 Articles, 2 Annexes. In force since 07/30/1986

The first Article, Paragraph 1, is short, incisive, a step forward of considerable importance: "The Ministry of the Environment is established".

Paragraph 2 sets out its tasks: It is the task of the Ministry to ensure, within an organic framework, the promotion, preservation, and recovery of environmental conditions following the fundamental interests of the community and the quality of life, as well as the conservation and enhancement of the national natural heritage and the protection of natural resources from pollution. Thus, a state organ is born that is in step with the needs of an environment that is gradually deteriorating under the weight of the pressure of human activities, an organ whose function is solely devoted to environmental well-being. In subsequent articles, words of fundamental importance often appear: "in concert with". The awareness therefore of the need for a systems approach to environmental management, the knowledge that goals can only be achieved with the contribution of every public body working towards the same goal, just as every orchestra needs the work of all the instruments. Teamwork is therefore envisaged with the Ministry of the Merchant Navy for the plans for the constraint of marine reserves and with the Ministry of Health for the "setting of maximum acceptable concentration limits and maximum exposure limits for chemical, physical and biological pollution, and noise emissions". Again (Art. 4) teamwork with the maritime department emphasizes the authorization of discharges in the area of competence of the port of departure of the ship. Thus, specific scientific, educational, and nature protection objectives are set, no longer aimed merely at human and commercial interests, but with the clear objective that the environment is more "useful" if healthy. The Ministry of the Environment, in addition to the Nature Conservation Service, also envisaged services of Environmental Impact Assessment and information to citizens and for



reporting on the state of the environment (Article 10) through a Scientific Committee and the establishment of the National Council for the Environment.

2.2.4 1992. Law 02/28/1992 No. 220

Interventions for the defense of the sea

8 Articles. In force since 03/29/1992

This law deals with the delicate subject of the treatment of ships' ballast water and washing water, no longer to be carried out in the open sea, but in ports authorized to treat the same substances, including through the use of specialized ships; the importance of setting up a consortium to carry out these operations should be emphasized (Article 3). Even, about the purposes of this law (Article 4), the Central Institute for Scientific and Technological Research Applied to Fisheries (ICRAP) changed its name to Central Institute for Scientific and Technological Research Applied to the Sea (ICRAM), extending its range of application and study for the protection of the entire marine environment. The circle of the Marine Environment Management Unit is widening more and more and is now made up of research institutes, scientific and university institutes, information systems of administrations and services specialized in marine sciences, and public and private companies, for the development of forecasting and prevention models that follow the evolution of marine pollution, of potential risks from water degradation phenomena. This also includes setting up a Crisis Unit with various tasks, including monitoring the seabed, the water column, and the sea surface.

2.2.5 1995. Law 12/28/1995 No 549

Measures for the rationalization of public finance

3 Articles, 4 Annexes Effective from 01/01/1996

This law does not provide for a specific field of application on waste, but it is indirectly related, as some of the measures envisaged for the rationalization of public finance, in Article 3 (paragraphs 24-41) concern this very topic.

To encourage both less waste production and the recovery of raw materials and energy from waste, this law establishes a special tax for landfilling and incineration plants without energy recovery of solid waste and is payable to the regions. Part of this tax is earmarked for the places where the landfills or incineration plants are located, as compensation for the inconvenience caused by the plants, for measures to improve, monitor, and control the environment, and for the health and hygiene protection of residents. Part of the tax is then allocated to the recovery of raw materials and energy, with priority being given to alternative disposal systems to landfills, the reclamation of degraded areas, and the remediation of polluted soils. Failure to register or improper registration of landfill operations results in administrative sanctions, as provided for those who abandon, dump, or make uncontrolled deposits of waste, with the obligation to restore the area.

As much as levies are generally frowned upon, this is purposely provided for the total benefit of the environment and consequently also for the benefit of human health. Unfortunately, it is not always possible to control the area thoroughly, and illegal abandonment inevitably leads to restoration costs in the case of a lack of flagrancy.



2.2.6 2005. Legislative Decree 07/18/2005 No. 171

Implementation of Directive 2003/44/EC; Following Art. 6 L. 07/08/2003 No. 172

Recreational Boating Code

67 Articles, 16 Annexes, In force since 09/15/2005.

This decree applies to that portion of boating carried out, both in marine and inland waters, for recreational or sporting purposes only, i.e. not for profit or commercial purposes. It does not fall into the category of Decrees or Laws aimed at protecting the marine environment, but it is worth mentioning that Article 52 is dedicated exclusively to spreading the protection of the sea, through the recognition of the 'National Day of the Sea', 11 April each year. During this day, each school can promote initiatives aimed at spreading knowledge of the sea, highlighting the sea's contribution to the social, economic, and cultural development of the national territory. Provision is also made for the teaching of sea culture and maritime education to be included in the curriculum of each school. In addition, Article 55 bis provides for sanctions for damage or danger of damage to the environment. This decree considerably broadens the scope of application in terms of environmental protection, also involving the increasing number of people who use the sea for recreational purposes, and thus contributing to the increasing concrete awareness of the need to protect the marine environment on the part of all types of users and stakeholders.

2.2.7 2006. Legislative Decree 04/03/2006 No. 152

Unique Environmental Text

Transposition and implementation of: Dir 2001/42/EC; Dir 2014/52/EU; Dir 2008/1/EC. Part IV: Implementation of Directive 2008/98/EC; Directive 2018/851 EU

318 Articles, 51 Annexes. In force since 04/29/2006 (GU No. 88 of 04/14/2006, Ordinary Supplement No. 96).

This is followed by some additions and corrections in Legislative Decree 11/08/2006 No. 284, Corrective and Integrative Provisions of Legislative Decree 04/03/2006 No. 152, on Environmental Regulations. 2 Articles. In force since 11/25/2006.

This law, which is a fundamentally important text on environmental matters in Italy, embraces all the different fields of environmental protection: from Strategic Environmental Assessment and Environmental Impact Assessment to soil protection, water protection from pollution and water resource management, waste management, and reclamation of contaminated sites (Part IV), air protection and reduction of emissions into the atmosphere, and compensation for environmental damage.

This UET, in implementation of Law 12/15/2004 No. 308 (Delegation to the Government for the reorganization, coordination and integration of environmental legislation and measures of direct application) supersedes the previous Legislative Decree 02/05/1997 No. 22, Implementation of Directives: 91/156/EC on waste; 91/689/EEC on hazardous waste; 94/62/EC on packaging and packaging waste (58 Articles, 9 Annexes. In force since 04/29/2006).

The primary objective of the decree is (Art. 2) the promotion of quality levels of human life to be achieved by safeguarding and improving the condition of the environment and the prudent and rational use of natural resources. The quality of human life therefore depends on environmental conditions and the rational use of natural resources. Article 3 is fundamental: "The protection of the



environment and natural ecosystems and the cultural heritage must be guaranteed by all public and private bodies and natural and legal public or private persons, through appropriate action that is informed by the principles of precaution, preventive action, correction, as a priority at source, of the damage caused to the environment, as well as by the “polluter pays” principle”. All human activities (private and Public Administration) must therefore comply with the principle of sustainable development and subsidiarity.

This regulation addresses Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA), i.e. plans and programs that may have significant impacts on the environment and cultural heritage (although with some exceptions such as forest management plans, plant protection, financial or budgetary programs). There is now a deep-rooted and widespread concern for the environment, resulting in a well-structured organization for its protection in every aspect.

Part Three identifies the competencies of the various bodies and introduces responsibilities and tasks for the achievement of the purposes envisaged in the act in terms of environmental protection, to which the Regions, the Provinces, the Municipalities, the mountain communities, and the Land Reclamation Consortia contribute in addition to the State. In particular, the National Association of Italian Municipalities (ANCI) also contributes to the implementation of initiatives aimed at protecting the territory, including the integrated waste cycle. In addition, provisions are made for the protection of surface, sea, and groundwater to prevent and reduce pollution by improving the state of water. Over the years, both the awareness of environmental fragility under the influence of anthropic pressure and the environmental knowledge and skills have increased, and an essential decentralization of tasks is increasingly observed so that institutions in contact with local stakeholders and contexts and closer to the problem can contribute to its integrated management. In the same third part of the Decree, sensitive areas are identified, meeting certain criteria (i.e. such as coastal waters with low water exchange) among which the coastal waters of the northern Adriatic are enumerated.

Part IV is entirely dedicated to the rules on waste management and remediation of polluted sites, managed without causing risks to water, air, soil and fauna and flora, by the principles of precaution, prevention, sustainability, and proportionality, also to enhance re-use, prevention, recycling, and recovery of waste. Extended Producer Responsibility schemes are established to provide for appropriate measures to encourage the design of products and their components that can reduce environmental impacts and the development of waste both during the production and subsequent use of products; encourage their separate collection and ensure their recovery and disposal once they have become waste. This part is of fundamental importance: an APAT report (2006) shows that urban waste is continuously increasing, reaching a total of 31.7 million tonnes in 2005. Involving producers so that they can also encourage the introduction of products with less waste can certainly be as successful as limiting waste abandonment in nature. Some articles or parts thereof will subsequently be repealed by Legislative Decree 09/03/2020 No. 116.

A management hierarchy is thus defined in waste management, which envisages the phases of prevention, preparation for re-use, recycling, other types of recovery (e.g. energy), and finally disposal; establishing the National Waste Prevention Programme that can encourage durable, decomposable, repairable, reusable and upgradable products that are as far as possible obtained from waste for their production. It also sets prevention targets with reduced percentages of municipal and special waste production (hazardous and non-hazardous) by 2020. The Programme would be adopted in 2013 with the Directorial Decree of the Ministry of the Environment and Land and Sea Protection of 10/07/2013 “Adoption and approval of the National Waste Prevention



Programme” (G.U. 10/18/2013 N, 245). Provision is also made for Municipalities to identify special spaces at collection centers for exchanges between private individuals of goods for reuse.

The definition of waste ("any substance or object which the holder discards or intends or is required to discard" but which ceases to be waste when it undergoes a recovery operation) is accompanied by classifications of the different types of waste: hazardous, non-hazardous, urban (Article 183). Within this category of urban waste, diversified into the household, used oil, etc., there is also waste accidentally fished, "(as well as that)) "voluntarily collected, also through cleaning campaigns, at sea, in lakes, rivers, and lagoons. Waste produced in the course of fishing activities (together with agricultural, agro-industrial, and forestry activities) is, however, to be classified as special in the next article (No. 184).

The establishment of the Waste Register, under Law 11/09/1988 No. 475, provides for the communication to the competent Chambers of Commerce of the quantities and qualitative characteristics of the waste by anyone who carries out waste collection and transport activities on a professional basis (e.g. traders, companies). However, exemptions are provided for agricultural entrepreneurs with a low annual turnover (less than EUR 8,000), businesses that collect and transport their non-hazardous waste, and businesses and initial producer entities that do not have more than ten employees (for non-hazardous waste only).

Article 192, very explicitly, declares the prohibition of the abandonment, uncontrolled deposit, and dumping of waste of any kind on and in the soil and surface waters and groundwater; whoever violates these prohibitions is obliged to remove, recover, and dispose of it with the restoration of the state of the place.

Very important are Article 217 et seq., which expresses itself on the prevention and reduction of the impact on the environment of packaging (expected to be more durable and able to withstand more journeys) and the reduction of the use of plastic bags. The problems caused by the latter are well known, especially to the detriment of wildlife and sea turtles in particular: the European INDICIT Project identifies *Caretta caretta* turtles as indicators for determining the impact of Marine Litter in the Mediterranean. The impact of both plastic and oxo-degradable bags on the environment is then reaffirmed by supporting the use of biodegradable and compostable bags, which must be provided with identification labeling that certifies their marketability. However, it is stipulated that products lacking these requirements and already placed on the market or labeled as of January 1st, 2022 can be marketed until stocks are exhausted.

The management of tires also deserves a mention: both tire manufacturers and importers are obliged to manage, at least annually, the quantities of end-of-life tires equal to those placed on the market by them and intended for sale.

Finally, Articles 232-bis and three deal with an issue that has never been addressed, namely that of the collection of cigarette butts, for which abandonment is forbidden, and special receptacles and campaigns are planned to raise awareness of the harmful consequences of abandonment on the environment. In addition, there is a ban on the abandonment of very small waste such as chewing gum, paper handkerchiefs, and receipts on the ground and drains.

Finally, penalties for littering range from one thousand to ten thousand euros. For abandonment of very small waste, from euro 30 to euro 150, for abandonment of smoking products, increased by up to twice as much.

Now a point that while on the one hand has tried to prevent illegal waste traffic, on the other hand, has created reticence in the collection of floating waste at sea (Article 256): Whoever carries out an activity of collection, transport, recovery, disposal, trade, and intermediation of waste without



authorization, is punished: with arrest or fine more or less severe depending on whether the waste is hazardous or not. Could the collection of floating waste at sea create problems? We will have to wait for the Salvamare Law to see this misunderstanding clarified.

The annexes to Part IV include disposal operations (including deposit on or in the soil), deep injection, lagooning, submergence, and burial in the marine subsoil; examples of preventive measures, including the development of effective and meaningful indicators of environmental pressures associated with waste generation; list of waste generating activities (not specified fishing activities at sea).

This law is followed by additions in Legislative Decree 11/08/2006 No 284, Corrective and Integrative Provisions of Legislative Decree 04/03/2006 No 152, on Environmental Regulations. 2 Articles. In force since 11/25/2006.

2.2.8 2010. Legislative Decree 12/03/2010 No. 205

Provisions implementing Directive 2008/98/EC of the European Parliament and of the Council of 11/19/2008 on waste and repealing certain Directives

39 Articles, 5 Annexes. In force since 12/25/2010.

The initial intention of this decree is excellent (Article 1): waste shall be managed without endangering human health and without using processes or methods that could harm the environment, particularly without causing risks to water, air, soil, fauna, and flora. The waste management principles are then reaffirmed: precaution, prevention, sustainability, proportionality empowerment, and cooperation of all stakeholders. Public administrations should then promote (Article 6) initiatives to encourage the re-use of products.

Reaffirming the extended responsibility of the producer in publicizing the extent to which the product is reusable and recyclable, in designing products to reduce their environmental impacts, and in reducing waste, the regional waste management plans are dealt with, which foresee, among other things, the measures to be taken to improve the environmental effectiveness of the various management operations. This decree is a sort of continuation of the Unique Environmental Text of which it modifies certain parts in some articles. In the annexes, the disposal operations referred to in the previous decree remain listed and include: deposition on and in the soil, deep injection, lagooning, submergence including burial in the marine subsoil, and incineration on land. Finally, examples of waste prevention measures are listed, including the efficient use of resources, the development of effective indicators of environmental pressures associated with waste generation, and the dissemination of information on prevention techniques.

2.2.9 2020. Legislative Decree 09/03/2020 No. 116

Implementation of Directive (EU) 2018/851 amending Directive 2008/98/EC on waste and Implementation of Directive (EU) 2018/852 amending Directive 1994/62/EC on packaging and packaging waste.

9 Article. In force since 09/26/2020

This Decree is followed by additions in Legislative Decree 12/23/2022 No 213

Supplementary and corrective provisions to Legislative Decree 3/09/2020 No. 116 implementing Directive 2018/851 EU (Waste) and 2018/852/EU (Packaging)

11 Articles. In force from 06/16/2023



In addition to some changes to Decree 04/03/2006 no. 152, fundamental concepts are taken up and emphasized here. Extended Producer Responsibility schemes include measures to provide products and components that are durable, repairable, and aimed at reducing environmental impacts and waste generation also during subsequent use, ensuring correct information to users; The Ministry for the Environment and Protection of Land and Sea (now MASE) exercises control over these obligations. The National Waste Prevention Program includes measures to promote sustainable production and consumption patterns of efficient products by identifying products that are sources of waste dispersion, particularly in terrestrial and aquatic environments, and taking measures to prevent waste dispersion. An objective is also to end the dispersion of waste in the aquatic environment as a contribution to the UN Sustainable Development Goal. In keeping with the aims of the Decree and moving towards a circular economy, the competent authorities shall take measures so that the preparation for re-use and recycling of municipal waste will be increased by 55% by weight by 2025, by 60% by 2030, and by 65% by 2035. Paragraph 9 defines municipal waste in detail as household waste, including bulky waste, or waste lying on roads, public areas, or on maritime beaches, lakes, and the banks of watercourses.

Turning to the integrated management of packaging waste, these must contain consumer-oriented information on collection and recovery systems, the meaning of marks on packaging, and significant elements of management programs; economic operators shall take measures to ensure an increase in the percentage of reusable packaging placed on the market. The decree ends with the long list of wastes (including now those from fishing) to supplement Annex D of Legislative Decree 04/03/2006 No.152.

2.2.10 2021. Legislative Decree 11/08/2021 No. 196

Implementation of Directive (EU) 2019/904, of the European Parliament and of the Council of 06/05/2019 on reducing the impact of certain plastic products on the environment
17 Articles, 1 Annex. In force since 01/14/2022

The objective of this Decree focuses and concentrates, in the first Article, on the issue of plastic, which we know represents the preponderant percentage (around 80%) of the total amount of waste found that ends up in the sea. The Decree is aimed at preventing and reducing the incidence of plastic products on the environment, particularly aquatic, and human health, by promoting responsible behavior concerning the proper management of such waste. The article ends with: "this decree also contains measures to promote the use of recycled plastic suitable for direct food contact in beverage bottles". The use of recycled plastic in beverage bottles is certainly in the right direction towards a second life for plastic subtracted from the environment, although this piece of policy does not take steps towards a much-needed drastic reduction in the release of plastic into the environment. Very important, however, is the application target set out in the next article, namely single-use plastics, oxo-degradable plastic products, and, finally, fishing gear containing plastic.

Subsequently, within the definitions of tobacco product, plastic, plastic product, and plastic oxo-degradable, there is also the definition of fishing gear waste, "the fishing gear that falls under the definition of waste as per Article 183, paragraph 1, a) of L.D 152/2006 including all components, substances or materials that were part of or attached to the fishing gear when it was discarded, even if abandoned or lost". Article 4 is oriented toward possible methods for reducing the consumption of plastic products, resuming needs already expressed like implementation and development of



production and distribution processes and technologies suitable for preventing or reducing the production of waste from plastic products. Now two incisive proposals appear: the promotion, with experimentation at the territorial level, of the use of water and drinks on tap, and, a sort of return to basics, the delivery and collection service for reusable products. Article 5 enunciates the prohibition of placing on the market disposable plastic products (e.g. tableware, listed in the annex at the end of the decree) and oxo-degradable products, except biodegradable and compostable products. Biodegradable plastic, however, to be defined as such should degrade in the environment within 6 months for at least 90 % of its mass, under certain physical conditions (sun, bacteria, natural physical agents), without counting CO₂ emissions involved in the life-cycle processes of the plastic itself. Therefore, it still has a persistence time in the environment. Of the compostable waste, the total amount treated in composting plants (293 operating in 2020 nationwide) was 4 million tonnes in 2022, an increase of 46 million tonnes compared to 2020 (ISPRA, 2022). Regarding disposable products, manufacturers ensure that the costs of waste disposal of such products are proportional to the weight of the plastic component concerning the weight of the whole product. Disposable plastic products can also only be placed on the market if the caps and lids remain attached to the containers. On the one hand, one might think that detachable caps could, if released into the environment, cause the death of so many wild animals, so this is a good policy choice; on the other hand, there is still the need for hope in the end consumer, in whom, unfortunately, the good practice of avoiding release into the environment maybe not yet sufficiently ingrained, and the cap anyway could be removed. Producers of fishing gear containing plastic shall also cover, by 12/31/2024, the costs of separate collection of this waste when it is discarded and delivered to port collection facilities by the provisions transposing European legislation (Dir. EU 883/2019 of 04/17/2019).

Proceeding in the reading of this interesting text, one can read an incisiveness on the incentive to adopt responsible behavior at every level, through a series of information: on the availability of alternatives to reusable disposable, impact on the environment, especially marine, of dispersion and improper disposal, the environmental impact of bad practices, also in schools through the 'Regeneration School' plan that foresees the realization of educational activities aimed at the knowledge and awareness of these issues.

2.2.11 2021. Legislative Decree 11/08/2021 No. 197

Transposition of Directive (EU) 04/17/2019 No. 883, of the European Parliament and the Council amending Directive 2010/65/EU and repealing Directive 2000/59/EC.

Port reception facilities for the delivery of ship waste
19 Articles, 6 Annexes. In force since 12/15/2021

This Decree aims to protect the marine environment from the negative effects of ship waste discharges and also to improve the availability and use of adequate port waste reception facilities and deliver the same to such facilities. In this direction, it therefore updates Legislative Decree 06/24/2003 No. 182, Implementation of Directive 2000/59/EC on port reception facilities for ship-generated waste and cargo residues (16 Articles, 4 Annexes), which is thus repealed.

This Decree is further supplemented by Legislative Decree 03/08/2024 No. 46

Supplementary and corrective provisions to Legislative Decree No 197 of 11/08/2021
5 Articles. In force since 04/23/2024.



Ship waste is therefore all waste, (Article 2, paragraph 1, c, d,) including cargo residues and bilge water, generated during service, loading and unloading, and cleaning operations, as well as accidentally caught waste, i.e. waste collected from nets during fishing operations (not mentioning here those collected voluntarily). The same Article, paragraph 2, states that ship waste is considered special waste under Article 184, paragraph 3, of Legislative Decree 04/03/2006 No. 152 (which defines it as waste from fishing activities), except waste produced by passengers and crew and accidentally fished waste, which is considered urban waste (Art. 183 of Legislative Decree 04/03/2006 No. 152). Simplifying, two types of waste produced during a day's fishing are distinguished: municipal, if derived from the working personnel, and special, if derived from the boat and fishing activities at sea, thus including nets in the water.

A port reception facility is defined as any fixed, floating, or mobile facility capable of providing a ship's waste collection service. The Decree applies to all ships, except military, warships, and auxiliary ships, owned or operated by the State for non-commercial purposes.

The Decree provides (Article IV) that the port is equipped with facilities and services for the collection of ship's waste (i.e. excluding crew and passenger waste), adequate to meet these needs, guaranteeing safety standards for the environment and human health. Within twelve months from the entry into force of this Decree, the competent Authorities (Maritime Authority if competent authority, in agreement with the Region) shall implement the Waste Collection and Management Plan. In the event of failure to prepare the waste collection plan within the time limits, the competent region, after a warning to comply within sixty days, appoints an ad acta commissioner to prepare and approve it. The Plan, drawn up by the size of the port and the type of ships calling at it, constitutes a supplement to the Regional Waste Management Plan, from which small non-commercial ports (with little and sporadic recreational boat traffic) are exempt if their port facilities are integrated into the municipal waste management system.

Instead, the ship's Captain must notify the waste at least 24 hours in advance of arrival at the port of call or as soon as this is known. Vessels of less than 300 GT are exempt from these provisions, but the information contained in the document must be available on board. Before leaving the port of call all waste on board must be delivered to a port reception facility (especially if the next port of landing is not known), unless the landing time is short and the ship has sufficient storage capacity until the next port of call, with proper receipt. Non-compliance is punished with an administrative fine and a report to the Maritime Authority; if the storage capacity is insufficient, the ship may not proceed to the next port of call. The costs of the facilities are recovered by charging fees (more favorable in the case of recreational or fishing vessels approved for up to 12 persons) to vessels. Paragraph 2 of Article 8 enunciates a fundamental statement, in that the collection and treatment of accidentally fished waste is not subject to this fee: this thus allows for the freedom and possibility of collecting and delivering such 'floating' materials without incurring penalties, thus contributing to removing mostly plastic material from the marine environment.

2.2.12 2022. Law 05/17/2022 No. 60

Provisions for the recovery of waste at sea and in inland waters and for the promotion of the circular economy (Salvamare Law)

16 Articles. In force since 06/25/2022

This law already shows by its name, unfortunately, a situation of danger and urgency.



From the first article, it is immediately clear that the fundamental objectives are to contribute to the restoration of the sea ecosystem and the “raising of public awareness for the dissemination of virtuous behavioral models aimed at preventing the abandonment of waste at sea, in lakes, rivers and lagoons and the proper management of such waste”.

Clear definitions are given of: accidentally caught waste, whether collected at sea (or rivers, lagoons) by nets during fishing operations or collected occasionally by any means and being equal to ship's waste, must be delivered separately (Article 2); voluntarily collected waste is waste recovered using special catching systems, while the clean-up campaign is the specific initiative aimed at carrying out clean-up operations. Accidentally caught waste shall, in a small non-commercial port, be delivered to the port collection facilities integrated into the municipal system, free of charge and after weighing. The free-of-charge nature of the delivery, as already seen, promotes collection, but still has to be covered: the coverage of these costs is added to the waste tax, for everyone. This is a concept that could lend itself well to an awareness-raising campaign.

Therefore, to reduce the impact of marine pollution from rivers (which presupposes an urban origin of the waste found), experimental measures in watercourses aimed at capturing floating waste are foreseen within the planning of the Basin Authorities, and in addition, a three-year experimental program by the Ministry of Ecological Transition, aimed at the recovery of plastics in the rivers most affected. For these activities, for each of the years of the three years 2022-2024, an allocation of two million euros is envisaged. In short, waste costs, and costs a lot. What would be important for the community to take on board, would be to come to the understanding that any behavior which forgets about environmental protection has a cost that makes people buy the same product twice (or even more): to buy it and to pay for our incorrect disposal of it.

For fishermen (Article 8), awareness-raising campaigns are foreseen on the correct disposal of accidentally caught as well as voluntarily collected waste also through technical protocols ensuring the mapping and publicity of collection areas.

Of great importance is the focus on schools, to which the entirety of Article 9 is dedicated, aimed at implementing activities to make schoolchildren aware of the importance of preserving the environment and especially the sea and inland waters, of proper disposal, reduction in the use of plastic, reuse and civic education. The weak point of all this is that, once the lesson is over, they are still able to buy water in public establishments in plastic bottles.

Article 11: the important fight to support good practices identifies environmental awards for fish entrepreneurs who use low-impact products, and participate in clean-up campaigns, and, an award also envisaged for those who own boats for non-professional use, dispose of accidentally caught waste. Unfortunately, the message that runs the risk of being received is that such actions are carried out voluntarily and/or for the sake of recognition and not because they are a moral duty and for the common good, even of those who carry them out.

3 LOCAL REGULATIONS OF ITALIAN REGIONS RELEVANT TO FISHNOWASTE

At local levels, Italian Regions are generally called upon to participate and intervene at different levels in the waste management chain. Article 105 of Legislative Decree no. 112/98 conferred to the Regions and local authorities all the functions not expressly reserved to the State and not attributed to the port authorities by Law no. 84/1994.



The Regions, among the functions and tasks incumbent on them, including the adoption of the Water Protection Plan - which deals with the measures necessary to safeguard the quality of the inland water system - and the formulation of programs for the drafting of studies relating to hydrographic districts, also have the task of taking all necessary initiatives concerning the conservation and defense of the territory, soil, subsoil, and water protection in the hydrographic basins under their jurisdiction. They also prepare, by the Law 152/2006, the Regional Waste Management Plans: these also contain the section including data on ship-generated waste and cargo residues, which are broken down by port, type, and relative and absolute quantities in kg for each type, in all survey years. There is also a Waste Collection Plan for each port.

Regional policies on the subject of plastics are part of the context defined in the EU, in particular with the "European Strategy for Plastics in the Circular Economy", developed in the framework of the "European Union Action Plan for the Circular Economy" (COM/2018/028 final) and the Directive (EU) 2019/904 on reducing the impact of certain plastic products on the environment.

The European Union calls on member states and local stakeholders to contribute to the project through actions to be implemented on territories according to specific contexts and local realities.

Since the two regions of Veneto and Emilia Romagna are involved in the FishNoWaste Project, the relevant regulations found for both regions have also been included.

Both regions are adjacent to and cover the Po Delta Regional Park, and can boast protected marine areas (Tegnue di Chioggia and Ramsar area "Valle di Gorino"), as well as ZSC-ZPS IT4060005 of 1500 ha (Sacca di Goro, Po di Goro, Valle Dindona, Foce del Po di Volano), established with DM 07/13/81 (GU No. 203 of 07/25/1981) and also a marine Site of Community Interest (SCI IT 4060018) The Po Delta Park was recognized as a Biosphere Reserve under the UNESCO MaB Programme in 2015.

For this reason, any plan insisting on such territories is subject to an impact assessment as provided for by Presidential Decree 357/1997.

It is therefore understandable how the territory is to be protected in every aspect, even more so as it impacts on a sea whose peculiarities and characteristics of scarce exchange, shallow waters, and extreme closure make it particularly vulnerable: precisely because of their peculiar characteristics, coastal waters of the Northern Adriatic are enumerated among the sensitive areas in the Legislative Decree 152/2006.

3.1 Veneto Region

The Veneto Region comprises nine fishing ports (Chioggia, Caorle, Venice, Jesolo, Pellestrina, Burano, Scardovari, Porto Levante, and Porto Tolle) and about 57 berths: among the most important Adriatic ports are Venice, developed mainly in the maritime area and minor berths for passenger activities (cruise, hydrofoils, yachts), Marghera with commercial, industrial and logistical activities, and Chioggia, Italy's main fishing port (together with Mazara del Vallo in Sicily).

3.1.1 2000. Regional Law 01/21/2000 No. 3

New regulations on waste management.

(Official Gazette 3rd Special Series - Regions No.24 of June 17, 2000)

61 Articles.



The law lays down rules on waste management in compliance with the principles of cost-effectiveness and efficiency, ensuring maximum guarantees of environmental and health protection and safeguarding natural and landscape values and the planet's resources.

The main objectives are: reducing the quantity and hazardousness of waste produced at the source; encouraging the use of waste as an energy source, and regional self-sufficiency for waste disposal. The Region also promotes and coordinates communication and information campaigns for citizens, which are a fundamental starting point to create an awareness of environmental protection on the part of each end consumer; for their part, Provinces and Municipalities take care of the dissemination of information material in schools and local communities. User advisory committees are also envisaged to foster the conscious participation of users in waste collection activities.

The law highlights both the establishment of the Regional Waste Observatory (at ARPAV) with various tasks including the collection and processing of data on urban and special waste management, and the competencies of the provinces and municipalities in this area.

It then deals with the Regional Municipal Waste Management Plan, which, following adoption, is announced in daily newspapers and the official regional bulletin, highlighting its aims, including: identifying initiatives to limit the quantity of waste by favoring its reuse; evaluation (by the Provinces) of areas suitable for the location of plants; the management of hazardous waste and the reclamation of polluted sites. It consists of various documents including a report on the state of implementation of the plan itself, criteria for the organization of the system of energy recovery from urban waste, and an overview of regulations.

As far as non-compliance is concerned, penalties are envisaged in the event of a flagrant offense, while information campaigns are also planned with tradesmen and artisans and activities in offices to stimulate the reduction of waste production.

The law is extremely articulate in its management rules as well as in being proactive and widespread in terms of information.

3.1.2 2012. Regional Law 12/31/2012 No. 52

New provisions for the organization of the integrated urban waste management service and implementation of Article 2, paragraph 186 bis of Law 12/23/2009 No. 191 "Provisions for the formation of the annual and multi-year State budget (2010 Financial Law)

Since 2008, the Region has been called upon to make decisions about the Optimal Territorial Domains for the integrated management of urban waste, establishing the Regional Basin Committee (to which the governance of the regional ambit is entrusted) and provincial-territorial basins that exercise, in associated form through the basin councils, functions of organization and control of the integrated management service of urban waste. The Veneto Region has identified the entire regional territory as the optimal territorial area. The basin councils identify and implement strategies to organize services for the collection, transport, and recovery of urban waste, achieving the objectives set by European, national, and regional legislation, and determining tariff taxation levels. The Regions then, after consulting the Provinces, the Municipalities, and the Area Authorities, prepare and adopt Regional Waste Management Plans, which are communicated to the Ministry of the Environment and whose approval or adaptation is also a requirement to access national funding.

The plans provide an analysis of waste management in the geographical area of interest, as well as the type, quantity, and source, setting separate collection targets to be achieved at the regional level.



In each optimal territorial ambit, a separate collection equal to a defined minimum percentage (65% by 2012) must be ensured; employing a special law and in agreement with the Ministry of the Environment, the regions may increase these targets for both recycling and recovery. The regional waste management plan also promotes the reduction of waste volumes and hazardousness, identifies initiatives to limit the quantity of waste by promoting recycling and recovery, sets the criteria for the provinces to identify areas suitable or unsuitable for the location of disposal facilities, and estimates the costs of recovery and disposal operations.

3.1.3 2014. Regional Law 03/11/2014 No. 288

DELIBERATION OF THE REGIONAL COUNCIL no. 288 of March 11, 2014

Payment of the special landfill tax at a reduced rate for municipalities that achieve specific separate collection targets under Article 39, paragraphs 4 and 4-bis, of Regional Law 3/2000. New procedure and calculation method for the annual certification of the percentage of separate collections for ecotax purposes according to the changes introduced by art. 44, R.L. 04/05/2013 no. 3. DGR No. 162/CR of December 10, 2013

This Resolution emphasizes the establishment of the special tax for the delivery of waste to landfills in compliance with Law 549/95, and Article 39 of Regional Law 3/2000, which lists the criteria to be adopted for the reduction of the eco-tax for municipalities that have distinguished themselves by delivering certain percentages of differentiated collection.

The new definition of “separate collection” is implemented as one in which a waste stream is kept separate according to the type and nature of the waste, to facilitate its specific treatment. Thus, bulky waste, sweeping waste, and other waste sent for recovery net of waste are also collected.

We highlight below the amount of the reductions recognized on the achievement of separate municipal waste collection targets: payment of 65% of the tax for municipalities that have achieved 50% separate collection and 30% tax for those that have achieved 65% separate collection (this percentage of separate collection is increased proportionally to the incidence of tourism for those municipalities subject to significant tourist flows).

Based on what was shown for separate collection, it is highlighted that this discipline has contributed decisively to incentivizing and supporting urban waste management based on recovery, highlighting that these reductions are granted to municipal administrations. This strongly incentivizing policy could be a basis for dissemination and awareness-raising themes aimed at all end consumers.

3.1.4 2022 Deliberation of the Regional Council 08/09/2022 No. 988

Approval of Update of the Regional Plan for the management of urban and special waste following the conclusion of the procedures for the verification of subjection to Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (VINCA). Decree no. 69/CR of 07/05/2022.

The Regional SEA Commission having expressed in its reasoned opinion No. 125 of 05/30/2022 that the update of the Regional Waste Management Plan is not subject to SEA because it does not have significant effects on the environment, this resolution proceeds with its approval by the Regional Council.

The Plan consists of five documents: Plan Regulations, Urban Waste, Special Waste, Programs and Guidelines, Plan for the Remediation of Polluted Areas, and Annexes. The main objectives are to



reduce waste production, promote material recovery at all levels and other forms of recovery, to minimize the use of landfills, to promote awareness, training, as well as knowledge, and research. It also promotes legality, environmental protection, and public health. A very ambitious plan, therefore, which underlines how it has made the region particularly virtuous.

The 2020 update (Monitor-Waste 2020 Veneto) identifies 22 different waste collection service managers with an average catchment area of approximately 183 thousand inhabitants. In 2018 Veneto treated 2 million tonnes of waste, an increase (+1.21%) compared to the previous year, registering a per capita figure lower than the national average (-3.60%); it is the Italian region with the highest percentage of separate waste collection (73%), having 75 waste management plants.

3.1.5 Collection and Management Plan for ship-generated waste and cargo residues

As we have seen, Legislative Decree 183/2003 has been repealed by Legislative Decree 197/2021, and concerns transposition relating to port facilities for the collection of ship-generated waste. In State ports, the competent Authorities prepare, approve, and make operational the Plan for collecting ship-generated waste and cargo residues, which is promptly communicated to the territorially competent Region. In ports where the competent Authority is the Maritime Authority, the latter, in agreement with the competent Region, issues its ordinance which itself constitutes a waste management collection plan.

In the Veneto Region there is only one Port Authority, Venice, flanked by the three Maritime Authorities of Chioggia, Caorle, and Jesolo.

Port of Venice. Revision 3 of the Plan, (2016) is drafted by the Environment Area of the Venice Port Authority, which, with reasoned opinion nr 109 of 07/13/2017, the Regional Commission of, Strategic Environmental Assessment (SEA), that is the Environmental Authority for the Strategic Environmental Assessment of the Veneto Region, expressed the opinion not to subject it to the SEA procedure.

Among the solid waste delivered in the five years 2011-2015, unsorted municipal waste was the highest percentage of delivered type, followed by biodegradable waste from kitchens and canteens, glass and wood packaging, iron and steel as well as paper and cardboard. Over the five years, there has been an increase in the different fractions of sorted waste: this trend is the result of the implementation of a waste management system increasingly based on procedures and methods aimed at facilitating the sorting of waste.

The plan then describes in detail the procedures for the collection and treatment of ship waste. The collection, storage, and disposal service under the plan is entrusted until 2030 to two companies in such a way that all sewage, bilge, and ship-generated waste services (Type A and B following Annexes I and IV of Marpol 73/78), which were previously handled as separate, are now combined.

Collection procedures of ship-generated waste are governed by the regulations of the Ordinances issued by the Harbour Master's Office of the Port of Venice: all ships, fishing vessels, and pleasure craft, before entering port, are obliged to communicate the quantities of waste and cargo residues they intend to deliver to the facilities, retain on board, or which will be produced until the next port of call. Food waste must be delivered daily for stays in port of more than 24 hours: the transshipment of waste money is the responsibility of the ship and the shipowner will be subject to sanctions if waste falls overboard.

The Venice port also has a service for the removal of liquid waste, to be arranged 24 hours in advance: the collection methods for each type of waste envisage the use of both nautical and land vehicles. Of the urban waste component, unsorted waste, which constitutes the preponderant part of ship waste



(46% in 2016), is destined for CSS (Solid Secondary Fuel) production plants, while sorted waste is sent for recovery or disposal.

The plan then goes on to describe the plants for the purification and recovery of bilge water.

Port of Chioggia. The Decree of the President of the Regional Council No. 111 of 06/17/2009 acknowledges the "Plan for the collection and management of ship-generated waste and cargo residues in the Port of Chioggia" - Legislative Decree no. 182/2003 "Implementation of Directive 2000/59/EC on port reception facilities for ship-generated waste and cargo residues" - art. 5. Issuing of the regional agreement under paragraph 4 of Article 5 of Legislative Decree.

In 2005, the Port Authority of Chioggia forwarded to the Veneto Region the aforementioned Plan for the collection and management of ship-generated waste and cargo residues, for which it was subsequently deemed necessary to draw up an environmental impact study concerning the port area, type, and size of facilities reserved for waste collection and management. The Plan aims to "lead to the provision of a service that deals with the entire waste management cycle, from waste collection to transport and subsequent treatment, recovery/disposal, to avoid the dispersion of said waste into the sea" within the maritime State property. This consists of areas intended for the reception of merchant vessels, fishing units, and recreational units, totaling more than a thousand units.

For the collection of ship-generated waste, licensed companies ensure the collection of bilge water and other waste (municipal, iron, plastic packaging, paper and cardboard, biodegradables, wood, oil filters, and batteries); the companies have available floats and vessels equipped with watertight bins, containers, and differentiated waste bins, ensuring the delivery requirements for recreational boating.

The Plan goes on to describe the waste collection procedures, which are differentiated according to the type of waste between: assimilable to urban and other special waste, bilge water, washing water, sludge, and black water. In the latter case, a further different methodology is applied in cases where ships cannot discharge waste by their means. The Plan ends with a summary of management costs and a description of how the quantities of waste produced are recorded.

3.2 Emilia Romagna Region

The Emilia-Romagna Region includes fifteen ports used for working, fishing, and pleasure boating on the Adriatic Sea: five of these are regional ports (Goro, Porto Garibaldi, Cesenatico, Rimini, Cattolica), four are municipal ports (Gorino, Cervia, Bellaria-Igea Marina, Riccione). The remaining ports are maritime and inland ports and marinas (Volano, Casalborsetti, Marina Romea, Marina di Ravenna, Porto Verde) and some marinas. The Port of Ravenna is the only port of call for trade with Eastern Mediterranean and Black Sea markets.

3.2.1 1994. Regional Law 07/12/1994 No. Nr 27

Regulation of waste disposal

41 Articles

Also for Emilia Romagna, the law opens with (Article 3) the elaboration of programs of training, information, and demonstration activities to increase social awareness of waste reduction, recovery, and reuse.

Some articles are repealed by Regional Law 04/21/1999 No. 3, which deals with the reform of the regional and local system: this law is therefore not included here in full as it does not deal specifically



with the subject of waste but with the reform of the regional system from an administrative point of view. This law therefore deals with planning in waste management, identifying the Regional Territorial Plan, the Provincial Territorial Coordination Plans, and the Provincial Waste Management Plans as instruments of this planning. It identifies the general guidelines for waste management in the Territorial Plan. This Plan also supports recovery and recycling activities, defines qualitative and quantitative collection targets, and aims for efficiency, economy, and effectiveness in management. The Region exercises the functions of the management of water property and, with local authorities, those of coastal defense; with the Provinces, it establishes the Coordination Committee of the Po River sub-basins.

Returning to Law 27/94, the purposes of separate collection are identified, including encouraging the production of compost and reducing the hazardousness of waste to be sent for disposal by ensuring greater guarantees of environmental protection. Therefore, the organization of these collection services is expected to pursue a positive cost-benefit ratio: the improvement of local environmental conditions is also evaluated in the assessment of benefits. There is therefore a strong focus not only on the economic issue (in fact, let us remember that the waste chain has high costs that increase due to incorrect disposal) but above all on the negative effects that this chain can have on the territory, inland and marine waters, from an environmental point of view.

Significant importance is attached to the dissemination of the results obtained, both quantitative and economic, from separate collection, and, as part of the environmental information system, the Regional Waste Register (urban, special and toxic-harmful) is established.

Interestingly, the last article is a declaration of the urgency of this law, scheduled to enter into force the day after its publication in the Official Bulletin of the Region.

3.2.2 1996. Regional Law 08/19/1996 No.31

Regulation of the special tax for the landfilling of solid waste
14 Articles.

This law does not provide directives on the management of the different links in the waste chain, but it is indirectly related in that it regulates the application of the tax for landfilling solid waste and for disposal in incineration plants without energy recovery. Of this tax, paid to the Regions, 10% is reserved for the Provinces, which will allocate it to the protection of the territory, and to interventions aimed at minimizing the consumption of resources and the environmental impact on the production of goods and services.

The amount of the special tax is determined by multiplying the quantity of waste delivered, in kg, by fixed amounts identified for each category of waste delivered: for example, 19 euros per 1000 kg for municipal waste eligible for landfilling for non-hazardous and hazardous waste.

3.2.3 1999. Regional Law 09/06/1999 No. Nr 25

Delimitation of optimal territorial domains and regulation of forms of cooperation between local authorities for the organization of the integrated water service and urban waste management service
27 Articles

The part dedicated to the organization of the municipal solid waste management service is part IV, of which some articles are modified and integrated by Regional Law 01/28/2003 No. 1 (Amendments



and integrations to Regional Law 09/06/1999, no. 25 (delimitation of the optimal territorial ambit and regulation of the forms of cooperation between the local authorities for the organization of the integrated water service and the urban waste management service, 30 Articles, Official Gazette 3rd Special Series - Regions no. 25 of June, 21/2003) or repealed by Regional Law 12/23/2011 No. 23, Rules for the territorial organization of functions relating to local environmental public services, (27 Articles), which do not deal specifically with waste management and are not examined in full here. Part IV of Regional Law 25/1999 therefore deals with the issue of setting, in the agreements for the entrusting of services, the performance and quality standards that the managers of the collection service, including differentiated collection, must ensure in their activities, as well as the penalties envisaged in the event of failure to achieve the percentage of differentiated collection envisaged by the regulations in force. At the regional level, there is therefore a diversification of Plans in the different roles assumed by the competent Authorities, which express themselves about the management of urban and inland waste, and separately for the management of the same specifically for the port and maritime areas of competence.

3.2.4 2004. Regional Law 04/14/2004 No.7

Provisions on environmental matters.

Amendments and additions to regional laws. (Official Gazette 3rd Special Series - Regions n.29 of July 24, 2004). 52 Articles.

The Veneto and Emilia Romagna regions are both included in the context of the Po Delta Park, a protected area within the Natura 2000 Network, which includes Special Areas of Conservation (SAC), Special Protection Areas (SPA), and Sites of Community Interest (SCI). At the marine level, therefore, there is also a SCI area, with a surface area of more than 31 thousand hectares established for the Emilia Romagna Region and identified as more than 22 thousand for the Veneto Region to protect the presence of two marine protected species (sea turtle *Caretta caretta* and dolphin *Tursiops truncatus*).

This law, therefore, lays down precise provisions for the adoption of measures to preserve biodiversity through the conservation of natural habitats; the Region issues directives in this direction and the Provinces adopt conservation measures by approving specific Management Plans. Both institutions express their assessments on the incidence of a plan on a site of Community importance: the Regional Council, after acquiring the Province's proposals, prepares, in the case of the reclamation and environmental restoration of polluted sites, the program of interventions based on the risk analysis relation to the Legislative Decree 02/05/1997 No. 22 (subsequently repealed by Legislative Decree 04/03/2006 No. 152, Unique Environmental Text).

3.2.5 2015. Regional Law 10/05/2015 No.16

Provisions in support of the circular economy, the reduction of urban waste production, the reuse of end-of-life goods, differentiated collection, and amendments to Regional Law 08/19/1996 No. 31 (Discipline of the special tax for the landfilling of solid waste)
11 Articles.

The purpose of this law is to implement the general program of EU environmental actions up to 2020 expressed in Decision 1386/2013/EU of the European Parliament and of the Council ("Living well



within the limits of our planet"); as far as waste management is concerned, the objective is to ensure compliance with the hierarchy (prevention, preparation for re-use, recycling, other recovery, disposal) already highlighted in the Italian legislation and compliance with Directive 2008/98 EC of the European Parliament and the Council.

The Region assumes the principle of circular economy provided for in Decision 1386/2013/EU, which promotes the sustainable management of waste that is expected to re-enter the production cycle after its recovery, thus saving new resources. To achieve this objective, regional planning provides for various measures including economic incentives for municipalities that distinguish themselves in minimizing the per capita production of urban waste, favoring reuse projects, encouraging maximum waste differentiation, and promoting research to change the production of non-recyclable goods. This implementation is envisaged through actions such as facilitating companies to prevent waste production, promoting the purchase and use of reusable materials in public catering, and promoting home and community composting.

The region also promotes municipal reuse centers as facilities where to take goods that can still have a useful life: the reduction of waste not sent for recycling is the main criterion for assessing waste management efficiency. The Emilia Romagna Region website (<https://ambiente.regione.emilia-romagna.it/it/rifiuti/temi/rifiuti/economia-circolare/centri-del-riuso/elenco-centri-comunali-del-riuso>, accessed on 16/07/2024) shows that there are as many as thirty municipal reuse centers in the region, located in eight provinces. Perhaps more emphasis could be placed on this initiative: very often this service is carried out at a private level with the sale and purchase system, and generally, at a local level it is a well-known and used reality.

The law then goes on to analyze the criteria for applying the punctual fee; this is implemented by: measuring waste utilizing predefined volume containers, by counting standard bags, by measuring volume, or finally by measuring weight. This methodology could, when applied to the collection of waste at sea, assist and encourage the collection.

3.2.6 2019. Resolution of the regional government 11/11/ 2019 No. 2000

Approval of the Regional strategy for reducing the impact of plastics on the environment.
Official Bulletin of the Emilia Romagna Region No. 387 of November 27, 2019.

This Resolution approves the strategy called Plastic-freeER, for the implementation of which it is envisaged that it will be necessary to foster integration between the public, private, and associations through the definition of partnerships (in line with Goal 17 of Agenda 2030), as well as to implement specific monitoring of the effects of the actions covered by the strategy.

The document, which is essential within the current scenario, emphasizes that reversing the processes caused by the use of plastic by reducing its negative effects is a duty of civilization that the Region intends to assume towards future generations. It therefore fits in with Goals 12 and 14 of the UN 2030 agenda (aimed respectively at ensuring sustainable patterns of production and conserving and sustainably using the oceans, seas, and marine resources for sustainable development).

The Strategy consists of several actions aimed at reducing the pressures of plastic products on the environment with a focus on the most vulnerable systems such as marine and coastal areas, waterways, and protected areas. Here are the key points.

- Establishment of a Steering Committee to develop the strategy by bringing together the stakeholders involved;



- Progressive replacement of plastic products and disposable bottles in the Administration and regional offices also in vending machines and for use during events with the preparation of awareness-raising actions;
- Granting patronage and logos only to public events that declare that they do not use single-use plastic products, working to extend this to other territorial administrations;
- Promoting the replacement of single-use plastic tableware in collective catering (hospitals, schools, and company canteens), tending to discourage the consumption of bottled water through the provision of dispensing points;
- Adoption of measures to reduce the serving of food in plastic containers at beaches, protected areas, and during public or private events and festivals supported by public funding, by annually monitoring the number of festivals abandoning single-use plastic products starting from the year 2020;
- Promotion of plastic-free sports events;
- Implementation of bulk sales in the retail sector
- Education initiatives aimed at citizens to make them more responsible by informing them about the use of alternative products to plastic;
- Initiatives to encourage the collection of plastic waste in the marine environment through clean-up days (on World Oceans Day, 8 June). In this respect, the possibility of a specific agricultural-like agreement for fishermen's and fish farmers' associations will be evaluated to introduce forms of simplification in the management of their waste;
- Initiatives to promote the collection of plastic waste in rivers and public spaces;
- Funding and economic contributions aimed at supporting plastic reduction actions and research and development projects for sustainable and plastic-free technologies;
- Monitoring of waste reduction actions through the "Prevention Portal" to collect and disseminate the initiatives carried out.

This strategy proves to be of fundamental importance: attention to a component of waste that is so harmful to the environment, to wildlife species, even protected ones, and to human health should be given more space from the point of view of dissemination and, above all, implementation at all levels, especially those of every end consumer and user of products.

3.2.7 2021. Regional Council Resolution 05/03/2021 No. 643.

Regional Waste Management Plan and Remediation of Polluted Areas

The policy document containing strategic choices and objectives and the general choices of the new Regional Waste Management and Polluted Area Remediation Plan (PRRB) for the five years 2022-2027, was presented to the Legislative Assembly with this Regional Council Resolution (Session No. 22).

The Management Plan was approved by the Region's Legislative Assembly with Assembly Resolution No. 87 of 0712/2022. The new regional plan sets important objectives in terms of waste, including separate waste collection at 80% on a regional basis and recycling at 70% for urban waste; special waste, on the other hand, prevention in the production of this sector by increasing the by-product market with incentives for conversion and reduction of the 10% to be sent for disposal in landfills. Within the section on waste planning, important issues are addressed: for the new Plan, the cornerstone concept of waste planning is the reduction in terms of production, which consequently



also reduces the environmental impact due to waste management, which, to be effective, must be applied to the entire life cycle of resources. An important issue is being addressed: that all policies addressed must be accompanied by a cultural change in citizens as well. From the legislative overview addressed so far directives have emerged, proactive organizational and even punitive actions, but in all this, the question is: what do citizens do? They are called upon here to play their part, through a more sustainable lifestyle that produces less waste and enables them to manage it better.

The Plan, while showing a slight decrease concerning total municipal waste production for 2019, nevertheless highlights a distance from reaching the targets set for 2020 on this front, as well as in terms of recycling and undifferentiated urban waste sent for disposal; on the other hand, the importance of punctual pricing is confirmed as a strategic choice for the future as well. Full self-sufficiency in the disposal of urban waste is also highlighted (although this has not yet been achieved for special waste). In the area of separate waste collection, on the other hand, the highlighted results make it possible to raise this objective from 73% to 80% on a regional basis; the recycling objective is set at 70% by 2027.

As emphasized, the update of the current Plan will have to consider the contents proposed by the circular economy directives, such as raising the recycling target for municipal waste, prevention of waste dispersal (a key issue), food waste prevention programs, and reducing the incidence of plastics in the environment.

Planned strategic actions include analyses to identify critical issues to define possible corrective instruments and, above all, those planned to achieve the objectives of the Regional Plastics Strategy. Further planned actions include that waste that can be sent for recycling should not be disposed of in landfills and that waste should be managed in the places closest to its production to minimize environmental impacts.

The document ends with planning in terms of the reclamation of polluted areas through the identification of sites and the definition of intervention priorities employing a comparative risk assessment, through the Regional Register of Sites to be Reclaimed, including the management of waste produced by these interventions.

3.2.8 Collection and Management Plan for ship-generated waste and cargo residues

Based on the Legislative Decree 197/2021, the Emilia Romagna Region assesses the coherence with the Waste collection plan 2022-2027 or agrees on the collection and management plans of ship-generated waste and cargo residues implemented by the Port System Authorities and Maritime Authorities for the ports present in the regional territory.

As far as Emilia Romagna is concerned, among the ports hosting fishing and recreational activities, Ravenna's is the Maritime Compartmental Office (Compamare), Port System Authority. Among other things, the Port Authority recently announced (06/26/2024) a large allocation, as part of the Green Ports program, for replacing equipment currently operating at the docks with new equipment with a lower environmental impact.

In this overview, in addition to the Port Plan of Rimini that is included in the FishNoWaste Project, the Port of Porto Garibaldi was also included, given the importance of its fishing fleet. The fishing fleet of Porto Garibaldi has 208 units that are regularly allocated between trawl, flying, gill net, and shellfish/mussel farming, all with a tonnage ≤ 50 T.S.L.; in addition, there are six traffic units used for passenger transport and ferry service and five yachting associations and clubs with 210 and 380 places for pleasure boats respectively.



Port of Porto Garibaldi. The competent authority for Porto Garibaldi, Goro, and Gorino, is the Maritime Authority, identified in the Harbour Master's Office of Porto Garibaldi (Ufficio Circondariale Marittimo, Circomare) whose Commander is responsible for supervising the proper implementation of the Collection and Management plan for ship-generated waste and cargo residues. Following the entry into force of Legislative Decree 197/2021, it became necessary to update the Collection Plan, which was therefore submitted by the Harbour Master's Office of Porto Garibaldi on 05/22/2023. Although a request for an opinion on the application of the Strategic Environmental Assessment (SEA) screening procedure was submitted, the verification procedure was not deemed necessary. Although assessing an increase in the amount of waste produced in the three ports, but remaining of the same type concerning the plan approved with DGR 411/2017, the Plan, in line with the provisions of the urban plans, does not make any changes that produce environmental effects that differ from those already assessed or that affect Sites belonging to the Natura 2000 Network. Resolution No. 1265 of 25/07/2023 approved the Plan, which constitutes an integration and whose actions are aimed both at limiting the deliberate or accidental release of waste into the sea and at recovering those already present, contributing to maintaining a good environmental status of the waters.

The port structure of Porto Garibaldi is mainly a fishing and pleasure port, as it has no significant commercial traffic. In fact, given that the activities of maritime operators produce different types of waste daily, making use of even potentially hazardous materials such as oils, filters, and batteries, it is necessary that, in addition to incentivizing separate waste collection, each port be equipped with suitable collection services, to be able to guarantee adequate protection of the sea. The objectives of the Plan are:

- the provision of a service covering the management cycle of waste assimilable to urban, special hazardous, and non-hazardous waste (collection, transport, treatment) to discourage illegal dumping;
- a service that allows ease of access and cost-effectiveness, through a concessionary entity;
- implementation of the separate collection;
- adequate control to monitor compliance with service quality standards.

Generally speaking, port waste comes from fishing and fishing boats, pleasure boats, motor vessels, and passenger transport, and from ships occasionally stationed for special services; specifically, it consists of oils, sludges, and slops (liquid cargo residues), sewage, and household waste including plastic, packaging and textiles, paper, metals, ash, and food waste. In the Plan, it is emphasized that the different types of waste require different management about their delivery, which consists of a series of bins in port areas (in which waste collected at sea can also be delivered), ecological islands with opening and closing schedules set by the operator (for oils, batteries, filters), collection directly on board by tanker truck (black and grey water). Accidentally fished waste, on the other hand, must be weighed on arrival at the port and placed in separate bins dedicated exclusively to these deliveries. However, "due to the strong intermingling in the port area between port and city activities, the manager - in agreement with the Maritime District Office - will have to identify an optimal configuration of the service that allows, also by modifying the location of containers, a net division of the waste cycle, excluding ship-generated waste from the city circuit and vice versa, for the correct allocation of costs and in compliance with the relevant competences". Therefore, the port waste management bins will be supplemented by a mobile collection center system several days a week, due to the difficulty of placing a fixed structure due to a lack of space on the port quays. The management will be set up as an incentive for delivery to prevent abandonment.



The plan is applied to all ships, including pleasure craft, calling at ports of jurisdiction, except, as per regulations, warships and auxiliary ships, and state-owned ships, if used for state and non-commercial purposes.

The plan goes on and ends with references to the tariff regime as per regulations and to measures for monitoring waste flows.

Port of Rimini. The Maritime Authority identified in the Port Authority of Rimini is the competent authority for the ports of Rimini, Cattolica, Riccione, and Bellaria-Igea Marina. On 04/07/2023, a request for an opinion was submitted to the Emilia Romagna Region regarding the application of the SEA verification procedure (procedure not deemed necessary), which presented the Plan for the collection and management of ship-generated waste relative to the above-mentioned ports, together with an analysis of the modifications concerning the previous Plan. Among the Region's evaluations, it is highlighted that the same type of waste is planned and that, among other things, this type of waste has decreased compared to the previous Plan (approved by resolution 421/2015).

Resolution No. 1219 of 07/17/2023 approved the Plan, which provides for actions to limit the deliberate or accidental dumping of waste at sea, recovering waste already present, and maintaining the GES in marine waters. The Plan applies to all ships except those used for port services, military, warships, civil, auxiliary, or other Police Forces owned by the State or operated for non-commercial purposes.

The analysis of waste production and the identification and evaluation of services, utilization of facilities, and monitoring are among the tools identified by the Plan to achieve its objectives.

Under Article 4, paragraph 1d) of Law no. 84 of 01/28/1994, the Port of Rimini is classified as a Port of regional and interregional importance (category II-class III) with commercial functions, but mainly fishing, tourism, and pleasure craft; the port's requirements therefore include:

- fishing vessels, 12 of which are used for clam harvesting, 28 for trawling, 21 with gill gear, one seiner, and 5 used for mussel farming facilities
- pleasure craft, with a total of 842 vessels at four mooring points
- passenger motor vessels with two stationary units, one floating unit, and some for summer passenger transport;
- ships used for occasional special services.

The Plan shows that at the time of its approval, the waste collection and pick-up service is not active and disposal is through municipal waste disposal. Only for accidentally fished waste two bins have been set up by the municipality in a yard, but these fall under municipal waste disposal. Special waste is instead disposed of directly by users through specialized companies.

Concerning the identification of quantities and types of waste to be managed through port collection facilities and services, the plan points out that only the port of Rimini could be affected by the docking of cruise ships or cargo ships, therefore it is not considered necessary to provide facilities for the reception of liquid substances; it will be the manager's obligation to provide suitable means and equipment for this purpose. The ports of the maritime domain of Rimini area, also due to the characteristics of the outer breakwater structures that do not have depths suitable for mooring large ships, have almost total absence of merchant traffic. The Plan then goes into more detail on the collection methods for the remaining types of waste (rubbish, hazardous waste, and accidentally fished or voluntarily collected waste) for which, however, it is not possible to provide a detailed and diversified picture.

However, the waste that could be handled by the Plan is identified as: cargo residues, sludge, bilge water, oils, food residues, packaging, sanitary waste, paints, batteries, and fishing gear. Regarding



the collection service, the municipality has set up special shieldings (fenced islands), available to the port facility manager; the same manager, who provides the ship's command with suitable containers and information material on how to sort waste, will also have to provide the service if it becomes necessary to increase the number of skips (which will also be set up along the quays for the delivery of accidentally fished or voluntarily collected waste).

The plan continues with a description of the different methods of delivery, which provide, for example, the collection of ship waste separately, to promote recycling, and for the collection of the various types of waste, with charges to be borne by the vessels (such as the advance notification of waste, which, however, as per regulations, does not apply to ships of less than 300 GT). It also states that as per legislation (Legislative Decree 197/2021), there is an exemption from delivery if certain conditions are met at the same time, including "the exemption does not adversely affect maritime safety, health, living, and working conditions on board or the marine environment".

The tariff system and management costs are dealt with in the Plan, as is the information and monitoring system for implementing and applying the Plan. Of great importance is the presence of a paragraph on the information and awareness-raising system; to promote the system for the collection of ship-generated waste, it is envisaged that the service manager will provide users with an information document on the organization of management, the location of the port collection points and the procedures for reporting any inefficiencies; this allows them to be in contact with the port reality and to improve the quality of the services offered. In addition to this, this Plan ends with indications on ship inspections and sanctioning provisions, and with the annexed forms provided for conferring and reporting.

A separate plan is dedicated only to recreational units in the Rimini tourist port, for which, given the seasonal nature of attendance which limits the amount of waste, bins for differentiated solid waste service are planned along the quays and ecological islands for boat waste. In this regard, an interesting information and awareness-raising initiative is planned with the delivery to users of an information document summarising the organization of waste management, the port location of collection points, and the procedure for reporting any inefficiencies.

4 DISCUSSION

We are now more than aware that the problem of waste production from all human activities has become serious and difficult to contain globally. In addition to being a heavy burden from an economic point of view, it is also a heavy burden from an environmental and health point of view. From the legislation analyzed, it is immediately clear that awareness of the problem is relatively recent: since the first half of the 1900s, an awareness of environmental protection had not yet been established, not least because the amount of waste released into the environment was not of today's magnitude and type. A different economy and standard of living also led to greater recycling and reuse of materials. It was not until 1907 that the first synthetic thermosetting resin was obtained by condensation between phenol and formaldehyde, which was patented three years later as Bakelite (<https://www.corepla.it/storia-della-plastica>). The plastic problem is still far away, the land and the open sea are tanks of the end products of our activities. It was in the period following the Second World War that the newborn PVC, cellophane, nylon, and, after the 1950s, polyethylene and polypropylene explosively imposed themselves on our markets, advertised to improve and simplify



our lives, until the 1970s with the appearance of PET bottles. By now, everything is governed by plastic, which wraps around almost our every product.

But what was initially seen as an advantage, slowly turned out to also be the problem that plagues us today: persistence in the environment.

Thus, one gradually observes, also from the regulatory point of view, a pressing parallelism between knowledge of the problem and an increase in awareness and environmental protection; at first, attention is turned, from above, to the attempt to reduce the amount of waste in the environment, with the discovery of waste as an energy resource, then finally the need to decentralize control for a more capillary solution to the problem creeps in. The legislation follows an interesting evolution by focusing its efforts on shifting the spotlight from human activities to environmental quality, not only seen as fundamental to maintaining the ecosystem services that humans can enjoy but also as an end in itself.

Decree 171/2005 recognizes the Day of the Sea to increase knowledge and at the same time combating the dumping of waste at sea.

Also, regulations such as the Unique Environmental Text and, sixteen years later, the Salvamare Law begin a change of course opening a way to stop not only the advance of waste into the environment but also the reduction of waste already present.

Part IV of the Unique Environmental Text sets out the different competencies in the management of the chain between product use and waste (Article 195 et seq.): it is up to the State, among all the different tasks, to identify initiatives and measures to prevent and limit waste production and reduce its hazardousness, to define a national plan for environmental communication and knowledge. The Regions are responsible for the preparation and adoption of regional waste management plans, the regulation of separate collection, and reclamation plans, incentives to reduce the production and recovery of waste, and the integrated management of waste. The Provinces, on the other hand, are assigned administrative functions concerning the planning and organization of waste recovery and disposal at the provincial level, the periodic control of waste management and trade activities; also the identification of suitable areas for the location of waste disposal plants. The Municipalities, on the other hand, are responsible for regulating urban waste with specific regulations that establish the measures to ensure hygienic and sanitary protection in all phases of urban waste management, the modalities of the collection and transport service, and the methods of delivery.

In addition, the Ministry of the Environment and Protection of Land and Sea prepares the National Programme for Waste Management, with the support of ISPRA; together with the Ministry of Economy and Finance, it adopts a regulation that establishes the criteria and the level of incentives (also of a fiscal nature) for the purchase of products that use recycled materials or those deriving from the recovery of waste, including those from separate waste collection (Article 206quinquies).

Recycling and sorting are increasingly important issues and limits are set by Decree 205/2010 to increase reuse by 70% within a decade; to increase the recycling of mixed plastics and (non-hazardous) waste during the industrial production, processing, and recovery processes of municipal solid waste, and to reduce the environmental impact of packaging and the waste it produces, In Article 1, paragraphs 73-76 of the "State Budget Law" (Law 12/30/2018 No. 145 19 Articles, 8 annexes In force between 12/31/2018 and 01/01/2019) are dedicated to the recognition - for the years 2019 and 2020 - of a tax credit to the extent of 36% of the expenses incurred and documented, for eligible businesses that have purchased products made with materials from separate waste collection.

This is taken up in the very recent Decree of 02 April 2024 published in the Italian Official Gazette General Series No. 117 of 05/21/2024 with the subject "Criteria and modalities for the application and



use of the tax credit as well as technical requirements and certifications certifying the eco-sustainable nature of products and packaging by current European Union and national legislation". It grants a contribution in the form of a tax credit to all eligible companies that have purchased products made from materials from the separate collection of plastic packaging, i.e. biodegradable and compostable packaging following current European legislation, paper and cardboard packaging, non-impregnated wood packaging, or packaging derived from a separate collection of paper, aluminum, and glass.

Unfortunately, the crisis caused by the 2020 pandemic has increased Italy's municipal waste production by 3% to 502 kg per inhabitant in 2021, but many milestones have been achieved by the implementation of legislation, especially over the years, including the increase in separate waste collection, which reach 64% of national production in 2021, but 'the process of implementing the local governance models required by the legislation in several regions is still incomplete' (Green Book, 2023). Decree 196/2021 proposed draught shops, which could, by being located throughout the territory or in supermarkets, considerably reduce plastic in the environment, just as the replacement of some single-use cutlery in certain catering areas has already achieved a very good result. Despite integrated waste management and cooperation at all levels, the waste problem has become of global proportions. What is not working? Here there is a non-exhaustive list of hypotheses, which will be better explored in the rest of the FishNoWaste project:

- There is so much litter already in our seas accumulated over decades that to see results we must also clean them, for example through Fishing For Litter;
- The timing between the presentation of laws and decrees and their implementation could be slow and ineffective. It is possible that 'already produced' products will be left on the market until stocks run out, which means that, for years, we will continue to produce tonnes of materials from which waste is generated, unfit to be housed, and problematic to dispose of. Yet the EU Action Plan: Protecting and Restoring Marine Ecosystems for sustainable and resilient fisheries sets us a deadline of 2030;
- Controls on the territory are not always possible, but more implementation effort in this direction would help deter illegal dumping;
- There is a need for implementation of re-use centers, support of public and private activities in this direction;
- There is a need for implementation, from a legislative point of view, of the use of fishing nets made from recycled material;
- There is a need for implementation of port plans to all ports: convenient, fast, and easy access to disposal must be ensured through the implementation of facilities for disposal;
- Need to strengthen the implementation of incentives for virtuous behavior at all levels.
- All of this without forgetting that what is managed from above cannot work if it is not also managed from below: awareness-raising campaigns have helped to improve the situation, but it is necessary to insist on this direction, implementing measures to increase environmental awareness. Every person must be made aware of the problem and be a fundamental part of the solution, through training courses, widespread and territorial dissemination.



5 REFERENCES

- Chamber of Deputies Study Service XVIII Legislature, 2019. Documentation for the examination of Draft Laws. Provisions for the recovery of waste at sea and in inland waters and for the promotion of the circular economy ("Salvamare Law"). A.C. 1939-A and abb. Dossier No. 176/1- Elements for consideration in the Assembly. 11/11/2019.
- European Commission, 2024. CORDIS Result Pack on ocean plastic pollution. A thematic collection of innovative EU-funded research results. Tackling marine litter from source to sea. Research and innovation. February 2024.
- Green Book, 2023. Data on Urban Waste Management in Italy. Utilitatis Foundation & Utilities Federation (water, environment, energy) Utilitalia
- ISPRA Municipal waste report. Edition 2023. Reports 393/2023.
- Monitor - Rifiuti 2020 Veneto European Social Development Fund Governance and institutional capacity 2014/2020- Agency for territorial cohesion
- Official Bulletin of the Veneto Region Bur. No. 8 of 01/26/2000.
- Official Bulletin of the Veneto Region Bur. No. 55 of 07/07/2009.
- Official Bulletin of the Veneto Region Bur. No. 110 of 12/31/2012.
- Official Bulletin of the Veneto Region Bur. No. 34 of 03/28/2014.
- Official Bulletin of the Veneto Region Bur. No. 107 of 09/02/2022.
- Official Bulletin of the Veneto Region Bur. No. 164 of 12/19/2023.
- Official Bulletin of the Emilia Romagna Region No. 387 of November 27, 2019 periodical (Part Two).
- Official Gazette (Gazzetta Ufficiale) 3rd Special Series - Regions No. 24 of June 17, 2000
- Official Gazette (Gazzetta Ufficiale) 3rd Special Series - Regions No. 29 of July 24, 2004
- Official Gazette (Gazzetta Ufficiale) 3rd General Series - Regions No. 117 of May 21, 2024.
- Senate of the Republic Chamber of Deputies XVIII Legislature. Documents for consideration of Government Acts. Reducing the impact of certain plastic products on the environment. Government Act 291.

