

# THE MANAGEMENT OF DREDGED MATERIALS: THE «LONG AND WINDING ROAD» FROM WASTE TO RESOURCE

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**Abstract** – The removal of material from the seabed and from the bottom of brackish bodies of water is necessary to maintain downflow conditions, to ensure navigability and port accessibility, to collect sands for coastal nourishment, to guarantee coastal protection, to help habitat development or enhancement, to pick contaminated sediments up, to promote land reclamation. And examples could go on.

However, both the dredging operations and the management of the resulting materials have the potential to cause relevant damages to the environment, especially in coastal and marine contexts, where ecosystems are fragile and vulnerable.

Dredged materials, in particular, have been considered for a very long time nothing more than a waste meant for disposal. Now the time has come to move from the ‘disposal approach’ to the ‘waste recovery’ or, even better, to the ‘waste can be a non-waste’ ones.

Unfortunately, the management of dredged materials reveals itself as committed to a congeries of rules, which build up a framework of law that appears plainly fragmentary and incoherent. The road is still long (and winding).

## 1. The management of dredged materials as waste

In principle, unless they can be considered by-products, dredged materials should be treated as special wastes, classified, according to the European List of Waste (LoW)<sup>1</sup>, under mirror entries 17 05 05\* (dredging spoil containing hazardous substances) and 17 05 06 (dredging spoil other than those mentioned in 17 05 05).

With those being mirror voice, according to the Directive 2008/98/EC (Waste Framework Directive), it will be necessary to classify the waste (i.e. to assign the appropriate codes for the waste class and the hazard category and those for the hazard listing) according to the Regulation (EC) 1272/2008 (CLP) on classification, labelling and packaging of substances and mixtures.

The existence of hazardous features or the presence of hazardous substances – and the consequent assignment of a hazard property code ranging between HP1 to HP15 – will therefore have to be evaluated according to the Annex III to Directive 2008/98/EC, as amended by Regulation (EU) 1357/2014 and by Regulation (EU) 2017/997 (as regards the hazardous property HP 14 Ecotoxic). The procedure is different for persistent organic pollutant (POPs), whose presence, according to the 2014/955/CE decision, should be verified

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<sup>1</sup> Commission Decision 2000/532/EC, as amended by Commission Decision 2014/955/EU, and Annex III to Directive 2008/98/EC

and quantified according to the Regulation (EU) 2019/1021, which recast Regulation (EC) 850/2004<sup>2</sup>.

One of the most relevant issues regarding mirror voices is the one regarding the range of compounds to be identified and quantified to ascertain the potential hazardousness of the waste. The selection of the range is especially complex for dredged materials, whose composition is not known *a priori*, by virtue of the origin and the nature of the material not being traceable to a specific activity or production process.

In fact, it is apparent that the only solution is to perform a physical and chemical analysis of the excavated material. Nevertheless, the analysis might not be conclusive since, for certain substances, the current analytical techniques only allow to detect and quantify the elements (e.g. metals) and certain chemical species (e.g. cations and anions) which are present in the material rather than providing direct information on the compounds which they form<sup>3</sup>.

Under the premise that, as the Commission notice (2018) (point 4.2.1 of Annex 4) states, the substances for each identified element should be determined according to the «least favourable realistic scenario», it becomes necessary to clarify whether, for the purposes of waste classification, it is necessary to verify the absence of any hazardous substance (the so-called *safety* or *presumed hazardousness* theory, based on the precautionary principle) or if the analytical characterisation could be limited to the substances which, with a high degree of probability, might be present in the waste (the so-called *probability* theory, based on the sustainable development principle).

The Commission notice (2018) already pointed out that «*those classifying the waste are expected to take all reasonable steps to determine the composition and hazardous properties of the waste*» (cf. point 3.2.1).

More recently, the Judgement of the Court of Justice (Tenth Chamber) of 28 March 2019 in Joined Cases C-487/17 to C-489/17 appears to have finally offered a decisive contribution, although the Italian doctrine still exhibits some uncertainties<sup>4</sup>.

Much in brief, in the opinion of the judges «*the chemical analysis of waste must enable the holder to gain sufficient knowledge of the composition of that waste in order to determine whether the waste has one or more of the hazardous properties [...]. However, no provision of the EU legislation [...] may be interpreted to the effect that the purpose of that analysis is to determine the absence of any hazardous substance in the waste at issue [...]*» (par.45).

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<sup>2</sup> It must be noted that, as recently underlined in the Commission notice on technical guidance on the classification of waste (2018/C 124/01, point 2.1.8), as established in the List of Waste, point 2, third hyphen, the POPs to be considered are the so-called «old POPs» (such as dibenzo-p-dioxins, polychlorinated dibenzofurans, DDT, chlordane, dieldrin, heptachlor, aldrin, etc.); it follows that the hazardousness of the other POPs should be evaluated by applying the concentration limits described in the Annex III to Directive 2008/98/EC.

<sup>3</sup> Refer to point 4.2.2 of Annex 4 to Commission notice (2018), which – in certain conditions – excludes further speculation for some elements.

<sup>4</sup> The Italian *Corte di Cassazione* (Court of Cassation), after referring to the Court of Justice of the EU for a preliminary ruling, has delivered three judgments (Cass. Pen., *sez. III*, 9 ottobre 2019, nn.47288, 47289, 47290). On different positions of commentators – *safety* theory, *probability* theory, ‘intermediate’ theories (*scientific safety* or *mitigated certainty*) – see most recently Losengo R. (2020), *Rifiuti con codici “a specchio”: dopo il vademecum della Cassazione sulla pronuncia pregiudiziale della Corte di Giustizia continua la “guerra d’opinione” sulla classificazione (e si rischia di dimenticare il diritto penale, in RGAonline, (11), 1-8.*

In substance, reading further into the sentence, «*the EU legislature, in the specific area of waste management, intended to strike a balance between, on the one hand, the precautionary principle and, on the other, technical feasibility and economic viability, such that waste holders are not required to ensure that the waste in question is devoid of any hazardous substance, but may confine themselves to ascertaining the substances which may reasonably be found in that waste and assessing its hazardous properties on the basis of calculations or through tests relating to those substances*» (par.59) (emphasis added).

Furthermore, while it's true that waste holders can't be imposed «*unreasonable obligations, both from a technical and from an economic point of view*» – as establishing that there are no hazardous substances in the waste would certainly be – they are nevertheless «*required to look for hazardous substances which may reasonably be found in that waste, and thus, in that respect, [they have] no discretion*» ( par.46)<sup>5</sup>.

In application, this time, of the precautionary principle, it follows that, should an assessment of the risks «*as complete as possible having regard to the particular circumstances of the case*» demonstrate that «*it is impossible, in practical terms, for a holder of waste which may be classified under mirror codes to determine the presence of hazardous substances or to assess the hazardous property of that waste*», it should have to «*be classified as hazardous waste*» (par.62).

## **2. Disposal at sea and in contiguous environments of materials resulting from the excavation of the bottoms of marine or brackish bodies of water (article 109 of Lg.D. n.152/2006 and article 21 of Law n.179/2002)**

Article 109 of Lg.D. n.152/2006, with a far from ideal formulation, allows the «*intentional immersion into the sea [...] or in contiguous areas, such as beaches, lagoons and brackish basin beds and coastal embankments*» of, inter alia, «*materials excavated from the bottoms of marine and brackish bodies of water*» (par.1, lett.a).

Article 21 of L. n.179/2002, allows, in turn, beach nourishment operations, as well as the immersion of dredged materials from seabeds or from the bottoms of bodies of brackish water into confined coastal disposal facilities.

First of all, it seems useful to spend some words trying to deepen the definitional framework, particularly with respect to *seabeds* and *brackish basin beds*.

Regarding *seabeds*, it can be useful to recall article 2 of Lg. D. n.190/2010, which, implementing Directive 2008/56/EC (*Marine Strategy Framework Directive*), offers a definition of *marine waters* as «*waters, the seabed and subsoil on the seaward side of the baseline from which the extent of territorial waters is measured extending to the outmost reach of the area where the State has and/or exercises jurisdictional rights, in accordance with the International law of the sea such as the territorial sea, the exclusive economic zone, protected fisheries areas, the continental shelf and, where established, ecological protection zones*».

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<sup>5</sup> As the Commission notice (2018) points out at point 4.2.1 of Annex IV (with the comment appearing well suited to the characterisation of dredged materials), the «*reasonably*» may for example lead to rule out the presence of certain substances because of their physical and chemical properties.

As for *brackish basin beds* («fondali salmastri»), their identification is undoubtedly more complex.

Without a specific definition in terms of regulations, it must be assumed that they are the bottoms of the so-called *transitional waters*, namely, according to Directive 2000/60/EC, «bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows» (see also article 54, par.1, and article 74, par.2, of Lg.D. n.152/2006).

This very generic definition has been better specified at point A.4 of Annex 3 to Part III of the Lg. D. n.152/2006, which, after distinguishing between *river mouths* («foci fluviali») and *coastal lagoons* («lagune costiere»), based on the geomorphological characteristics of the waters, designates, according to the different descriptors that may be used (tidal excursion, surface area, salinity), a host of types and subtypes<sup>6</sup>. While the issue would require much deeper consideration, it may still be useful to remind that *brackish coastal lakes* («laghi costieri salmastri»), which fall into the type of the so-called *not-tidal lagoons* («lagune costiere non tidali»), fully belong to the category; on the other hand, *coastal salt ponds* («stagni costieri»), which «owing to intense and prevailing evaporation exhibit greater values of salinity than the neighbouring sea» have been included by virtue of an «operational» – that is, based on conventional and with application in mind – definition of body of transitional water (see point A.4.1).

That said, in implementation of the above mentioned article 109 of the Lg.D. n.152/2006 and article 21 of the Law n.179/2002, the M.D. (Ministerial Decree) n.173/2016 has:

- a) regulated the authorization procedures for the intentional immersion of dredged materials at sea, which fall within the competence of the Regions, with the exception of the immersion inside marine protected areas, reserved to the competence of the Ministry of the Environment, Land and Sea, id est MATTM);
- b) introduced standard criteria with which every Region, with its own rules, should comply in regulating the other authorization procedures; however, no criteria have been established for, inter alia, beach restoration operations («ripristino degli arenili»)<sup>7</sup> and the movements of dredged materials within a port («spostamenti in ambito portuale»)<sup>8</sup>, which are, in any case, reserved to the competence of Regions.

Dredging activities can be carried out for several purposes. The M.D. expressly mentions the following, although with respect to *seabed* sediments only: maintaining, improving or restoring navigability and port accessibility; reopening of totally or partially obstructed river mouths; realization of infrastructures within port or coastal areas; collecting sand for coastal nourishment (article 2, par.1, lett.e).

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<sup>6</sup> This without prejudice to the possibility, for Regions, to add additional subtypes.

<sup>7</sup> The activities in question are those which are carried out within a given site following a seasonal pattern or in any case, following sea swells that caused the accumulation of materials and which consist of the levelling of surfaces via the spreading and redistribution of the accumulated sediments across the site itself (article 2, par.1, lett.g).

<sup>8</sup> That is, the movement of sediments within port areas for the activities of seabed remodelling, so as to ensure the viability of the mooring points, the safety of berthing operations and the restoration of the navigability, in such a way that no sediments are dispersed outside the site of the operations (article 2, par.1, lett.f).

Especially in regard to port areas, it should be recalled that M.D. n.173/2016 expressly encompasses into its application field the management of dredging materials excavated in port areas which are not included in remediation Sites of National Interest (SIN) and of materials which come from a SIN as result of dredging operations within port and marine-coastal areas and are intended to be managed outside the SIN itself (art.1; cf. also article 1 of M.D. n.172/2016, on which see *infra*).

According to M.D. n.173/2016, the disposal routes of the dredged materials are defined after the materials have been characterized by the assignment of a Quality Class (ranging between A and E), resulting from the weighted integration of the ecotoxicological and physico-chemical classifications (cf. point 2.7 of Technical Annex to M.D.). The Quality Class will serve as a basis to define the management operations, which may consist of (cf. point 2.8 and figure 7 of the Technical Annex):

- a) *intentional immersion at sea*, that is (article 2, par.1, lett.b, of the M.D.) at a distance from the coast greater than 3 nautical miles or beyond the bathymetry of 200 meters; it is important to notice that, according to article 4, par.3, of the M.D., this option should be permitted only if beach nourishment or immersion into confined disposal facilities are not viable;
- b) *beach nourishment operations*, that is addition of excavation materials on emerged and/or submerged beach, with priority given to areas subjected to coastal erosion phenomena (article.2, par.1, lett.d);
- c) *immersion into confined disposal facilities* with varying degrees of permeability, both in marine-coastal and port areas, including disposal through capping.

Should none of the aforementioned options be viable because of the quality of dredged materials (Class E), it may be necessary to safely remove the sediments from the marine environment, after a risk assessment has been carried out.

### **3. Management of materials dredged within remediation Sites of National Interest (article 5-bis of Law n.84/1994)**

Unlike dredged materials which originate from within a SIN and are intended to be managed outside the site itself, which as seen above are regulated by M.D. n.173/2016, the management of any other dredged materials within a SIN is specifically regulated by Article 5-*bis* of Law n.84/1994<sup>9</sup> and its implementing decree, M.D. n.172/2016.

Article 5-*bis* and M.D. n.172/2016 (esp. point 5 of Annex A) regulate the management of the aforementioned materials by providing a set of potential destinations, possibly after recovery operation. These materials may, once characterized (article 2, par.1, of the M.D.):

- a) be dumped or poured into water bodies which they come from; be used for submerged or emerged beach nourishment; be used to shape coastal landscapes; be used to improve the condition of the bottoms via capping, provided that their physical, chemical and microbiological characteristics are analogous to those of the natural background for the site; these conditions may also be met following treatments for the removal (but not for the sole immobilisations) of the pollutants;

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<sup>9</sup> Introduced by Decree Law (D.L.) n.1/2012, converted into Law n.27/2012.

- b) be used on land, provided that their levels of contamination do not exceed those reported in Columns A and B of Table 1 of Annex 5 to Part IV of Lg.D. n.152/2006 (so-called Threshold Concentrations of Contaminants, *Concentrazioni Soglia di Contaminazione*, CSC), with regard to the land-use destination of the site of usage and after a leaching test to assess the conformity of the eluate to the parameters set by M.D. February 5<sup>th</sup> 1998 (cf. Annex 3)<sup>10</sup>; as for the CSC, it is worth noting that in addition to the aforementioned thresholds of Table 1 (public and private green plots and residential for Column A, commercial and industrial for Column B) M.D. n.46/2019 introduced CSC for agriculture areas, filling an obvious gap; it is therefore reasonable to consider that the reference contained in M.D. n.172/2016 should include them as well; conclusively, the environmental performance of the materials may be assessed directly or after treatments having the sole purpose of reducing the salinity of the material or removing (but, again, not immobilising) any pollutants;
- c) be poured into *confined disposal facilities*, provided that they are non-hazardous as they are or as a consequence of treatments for the removal (again, not the sole immobilisation) of pollutants; in this case, the disposal facilities will still have to meet certain requirements in terms of permeability.

#### **4. The movement of sediments into bodies of transitional water according to article 185, par.3, of the Lg.D. n.152/2006**

The M.D. n.173/2016 explicitly regulates the excavation activities from *seabeds* with the purpose of reopening partially or fully obstructed river mouths.

Nothing is said with regard to analogous activities concerning the bottoms of bodies of *brackish waters* (mouths of rivers and lagoons, intended as types of transitional waters), which should therefore be regulated, in accordance to article 2 of Directive 2008/98/EC, by article 185, par.3, of Lg.D. n.152/2006 (introduced by article 13 of Lg.D. n.205/2010).

According to the aforementioned article 185, par.3, sediments relocated inside surface waters or within the area of hydraulic appurtenances «for the purpose of managing waters and waterways or of preventing floods or mitigating the effects of floods and droughts or land reclamation» are excluded from the application field of waste regulations, as long as it has been proven that they are «non-hazardous» according to the norms concerning the classification of waste and, in any case, «without prejudice to obligations under other relevant Community legislation»,

Some remarks and a few perplexities on the aforementioned point.

The norm introduces a teleological element which clearly restricts its scope of application, since it is only applied for the following purposes:

- a) management of waters and waterways;
- b) prevention of floods;
- c) mitigation of the effects of floods and droughts;
- d) land reclamation.

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<sup>10</sup> Should dredged materials be used in areas with naturally saline groundwater, sulphate and chloride concentration levels in the eluate could be allowed to exceed the parameters set by M.D. of 1998.

As for what concerns the destination of the sediments, it is not clear whether with «surface waters» the lawmaker intended to refer generically to the same «water body» or to the same «significant water body». In any case, the zoning scope that is determined by the norm has an imperative nature for land-based activities as well (e.g. land reclamation), which are necessarily contained inside the hydraulic appurtenances, that is, according to article 115 of Lg. D. n.152/2006, the «zone which is immediately adjacent to water bodies» («rivers, lakes, ponds, lagoons») which is «at least 10 meters [in width] from the bank» and subject to specific regional regulations<sup>11</sup>.

Again: the movement of sediments is subjected to the assessment of their non-hazardousness according to the appropriate norms regarding waste characterization; should the waste result hazardous, it should be managed as special, obviously hazardous waste.

Finally, once the non-hazardousness of the sediments has been ascertained, their release downstream will be subjected – according to what the article 185, par.3, explicitly states – to the respect of any «*obligations under other relevant Community legislation*». However, article 185, par.3, does not specify what the specific Community legislation is. Nevertheless, it can be reasonably assumed that it refers to regulations intended to protect the environment, with special attention to aquatic ecosystems.

## **5. The management of dredged materials as *end of waste* according to art.184-*quater* of Lg. D. n.152/2006**

Article 184-*quater* of Lg.D. 152/2006, introduced by D.L. n.91/2014, converted to Law n.116/2014, building on the general provisions of art.184-*ter*, regulates the end of the classification as waste of the dredged materials that have been subjected to a recovery (so-called *end of waste*).

The norm applies to any dredged materials that have been classified as waste, regardless of their origin, therefore including those within our purview, coming from the dredging of the bottoms of marine and brackish bodies of water. However, in my opinion, it does not apply to the recovery of materials dredged within remediation Sites of National Interest, which fall into the field of application of special regulation of article 5-*bis* of Law n.84/1994 and M.D. n.172/2016.

Art. 184-*quater* dictates that the dredged material cease to be waste if, once the recovery operation (which may also consist of selection and sorting operations) is concluded, certain requirements are met and they are used according to certain conditions.

In particular, in addition to the fact that the producer and the holder of the materials will have to report the type and the amount of the materials that have been used, any recovery operations that have been performed, the destination site and the mode of use for the recovered materials, they may be used provided that:

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<sup>11</sup> Law n.164/2014, which converted D.L. n.133/2014, introduced in article 185, par.3, the referral to hydraulic appurtenances, that is not included in article 2 of Directive 2008/98/EC. With respect to the former text of article 185, par.3, Peres et al correctly pointed out that, as for the reuse of sediments for the purpose of «land reclamation», this could imply uncertainty on the extent of the same context, which should have anyway included «at least the portion of shoreline near the body of water». Cf. Peres F., Kiniger A., Lops C. (2013), *Dredged sediments management in Italy: legal aspects*, at [www.buttiandpartners.com](http://www.buttiandpartners.com).

- a) in the case of *direct usage* (e.g. for landscape remodelling) the destination site must be known with certainty and the materials must not exceed the aforementioned Threshold Concentration of Contamination (CSC), referred to the site of destination in terms of urban planning (refer to what was said earlier regarding the CSC for the usage of the recovered materials on agricultural sites); the usage must not entail risks for the environmental matrix, with special regard for groundwater and surface waters (with exceptions for the limits of chlorides and sulphates should the dredged materials be placed in areas adjacent to the shoreline and should they be compatible with the levels of salinity of the local soil and aquifer);
- b) in the case of *usage in a productive process*, the materials must comply with the technical requirements for the specific purposes and with the regulations and standards applicable to the products and the raw materials; in particular, the usage of the materials must not entail greater or altogether qualitatively different levels of pollution from those deriving from the usage of the products and raw materials for which the production plant has been licenced.

A final remark on the point, although constrained by brevity. According to what article 184-*ter* dictates that, for the purpose of the authorisation of the recovery operation, any activity of waste recovery – including those involving dredged materials – should satisfy the criteria – adopted for each category of waste by the European Community or by Decree of the MATTM – concerning the admissible waste, the allowed treatment processes and techniques and the criteria regulating the quality of the resulting material, including the limit values for pollutants.

Considering the lasting absence of *ad hoc* regulations coming from the Ministry or from the European Community, the authorisation procedures for the recovery of dredged materials have risked being ‘frozen’ as a consequence of the well-known sentence of the Council of State, *sez.IV, 28 febbraio 2018 n.1229*, which subjected the release of regional authorisations to the entrance in force of the aforementioned ministerial decrees; the matter was addressed by the D.L. n.32/2019 (conv. into Law n.55/2019) in a blatantly inadequate fashion and eventually solved with Law n.128/2019 (article14-*bis*), which allowed Regions to grant the authorisations themselves, by fixing the criteria for the recovery operations in the very authorisations<sup>12</sup>.

## **6. The applicability of the norms regarding excavation soil and rocks to dredged materials as by-products (d.P.R. n.120/2017)**

The d.P.R. n.120/2017 is the regulation (of delegification) which disciplines the management of soil and rocks resulting as by-products of excavations, that is (art.4):

- a) for the realization of backfills and embankments, for the improvement of roads and foundations, for land remodelling, environmental recovery or other forms of environmental restoration or improvement;
- b) as a replacement for quarry materials in productive processes.

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<sup>12</sup> Refer to Muratori A. (2020), *L'irrituale riscrittura dell'art. 184-ter del TUA e le linee guida SNPA riaprono all'EoW accertata dalle Regioni*, Ambiente & Sviluppo, (3), 189 -197.

Some clarifications are required regarding the applicability of the discipline to the material resulting from the excavation of the floor of the sea and of bodies of transitional water.

The d.P.R. n.120/2017 introduced a definition of «excavation soil and rocks» which does not fully overlap the one offered by its predecessor norm, the M.D. n.161/2012, which had been expressly abrogated (article 31).

In fact, the 2012 decree included in the definition of «excavation materials» (article 1, par.1, lett.b) also «lithoid materials in general and anyway all the other possible granulometric fractions coming from excavations made in beds of both surface water bodies and the drainage hydraulic network, in flood plains, beaches, lake-bottoms and sea-bed»<sup>13</sup>.

In the new definition of «excavation soil and rocks» assumed by the d.P.R. n.120/2017 the aforementioned category is no longer featured. Hence the doubt regarding the applicability of the new discipline to marine and brackish sediments.

The considerations featured in the Nota 20/2/2018 prot.2697<sup>14</sup> by the MATTM – which were recently embraced in the textbook *Linee guida sull'applicazione della disciplina per l'utilizzo delle terre e rocce da scavo* (delib. n.59/2019 approved by the SNPA on the day 9/5/2019<sup>15</sup>) – come to the rescue by affirming the applicability.

Both the Nota by the MATTM and the *Linee guida* (cf. in part. § 2.2) state that the fact that the aforementioned materials are not explicitly mentioned in the definition of excavation soil and rocks does not actually prevent them from being included in the scope of application the d.P.R. 120/2017. The deciding factor is that article 3 in the decree, titled *Esclusioni dal campo di applicazione (Exclusions from the field of application)*, would explicitly refer, for what concerns us, to the sole hypotheses regulated by the art.109 of the d.lgs.152/2006 – that is, to the dumping at sea or in contiguous environments of material resulting from the excavation marine or brackish beds; therefore, for all hypotheses that are not explicitly excluded from the aforesaid article 3 and are not otherwise regulated (such as the extraction of lithoid materials regulated by paid mining concessions, as both the Nota by the MATTM and the *Linee Guida* remark) the application of the (general) norm described in the d.P.R. n.120/2017 should be unimpeded.

The remarks in question are certainly acceptable, in that they allow to fill interpretatively what would otherwise strike as a veritable legislative gap – with it being a circumstance not regulated in any other way – and, moreover, one which appears to stem from nothing more than an 'oversight' of the 2017 lawmaker.

As previously mentioned, the second issue pertains to the possibility of applying the regulations on excavation soil and rocks as by-products to the cases in which the removal of the material is justified by needs related to *hydraulic safety*. In this case, given the purpose of the activity, it would likely be impossible to prove that the action is in accordance with what is stated by art.4, 2° comma, lett.a, (which builds on art.184-*bis*, comma 1, lett.a), by virtue of which, to be classified as a by-product, a material must derive from a production process of which it constitutes an essential part but (here is the key issue) whose primary purpose is not the production of the material itself.

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<sup>13</sup> On the applicability of M.D. n.161/2012 to sediments, wherever dredged. cf. Cf. F. Peres, A. Kiniger, C. Lops, *Dredged sediments management in Italy*, cit.

<sup>14</sup> [http://www.arpa.marche.it/images/pdf/rifiuti/terre%20rocce%20da%20scavo/2018-02-20\\_2697\\_MATTM-alvei.pdf](http://www.arpa.marche.it/images/pdf/rifiuti/terre%20rocce%20da%20scavo/2018-02-20_2697_MATTM-alvei.pdf)

<sup>15</sup> <https://www.snambiente.it/wp-content/uploads/2019/05/Delibera-54-LLGG-Terre-Rocce-da-scavo.pdf>

The answer must be affirmative in this case as well, but only for excavation materials coming from transitional bodies of water and not for those coming from the seabed.

According to article 39, par. 13, of L.g.D. n.205/2010, in fact, article 184-*bis* must also be applied to «the material removed, solely for hydraulic security reasons, from the bed of rivers, lakes and creeks» This is an *ope legis* extension of the application field of art.184-*bis* regarding the situations in which the excavation is required by reasons of hydraulic safety, regardless of any evidence of the condition described in art.184-*bis*, comma 1, lett.a, by being satisfied; conversely, the aforementioned condition will have to be met should the material be removed for reasons other than hydraulic safety.

With the regulations on the treatment of excavation soil and rocks being applicable in the case of sediments removed from marine or brackish environments (again for reasons of hydraulic safety in the latter case), it will therefore be necessary to ascertain that the excavated material meets the requirements of environmental quality described in article 4 and Annex 4 to d.P.R. n.120/2017.

The conditions to be met are the respect of the aforesaid Threshold Concentrations of Contaminants (CSC) referred to the appropriate intended use according to urban planning (again, refer to what previously said regarding the CSC for agricultural areas), all while considering the extant values for the natural background (article 11) and the limits of acceptability for excavation material (article 4, par.3).

It may be beneficial to remember that the Annex 4 to d.P.R. n.120/2017 states that the set of analytical parameters to be measured – save for the minimum analytical set – must be defined «according to the possible substances which may be linked to human activities that are or have been carried out on the site or in its vicinities, to the characteristic parameters of possible predating contaminations, to possible anomalies in the natural background and to the potential spread pollution, as well as to any possible contribution coming from the excavation itself».

## 7. References

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