

TECHNICAL ASPECTS OF DETERMINING AND REVEALING SHORE LINES IN REAL ESTATE CADASTER*

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Abstract

One of the major problems associated with running the register of land and buildings (the cadastre) is determining the course of the boundaries of parcels covered with surface flowing waters. The collected record data should be up-to-date and reliable. These requirements also apply to parcels under flowing waters or located in their immediate vicinity. Determining the course of such boundaries may be based on the provisions of the Regulation on the register of land and buildings (until the course of these boundaries has been determined pursuant to the Act – the Water Law).

This publication presents technical aspects of determining a shoreline. The author analyzed possible methods to carry out the adjustment of the course of the boundaries of parcels under flowing waters, as well as of the adjacent land.

Keywords: *Real estate cadastre, boundaries, lands under waters, shore line.*

Introduction

According to the Water Law (ACT, 2001), the land under water is the property of the owner of the water. Inland surface flowing water, and the land under this water, is owned by the State Treasury. Any changes to the boundaries of the flowing water result in the changes to ownership rights to the land. Changes to the course of the flowing water brings about changes to the legal relationships on the land adjacent to the water, and this change may be gradual, extending over a long period of time, and may remain unnoticeable to the owners of the land adjacent to the water. (BIEDA, PARZYCH, 2012). The actual change in the ownership rights does not result directly in the updating of the cadastral database or the data contained in the land and mortgage registers. An important issue is also specifying the range of the land under water, when the change to the coverage of the flowing water has already been identified. This applies both to the legal and technical aspects of such activities.

The methods for regulating the ownership of land under water has evolved in time (BIEDA et al., 2012). Currently, the Polish law allows to adjust the boundaries of land under water in two ways:

pursuant to the provisions of the Water Law (ACT, 2001),

pursuant to the Regulation on the register of land and buildings (REGULATION, 2001).

It should be noted, that the latter one is temporary and valid "until the shorelines of natural watercourses, lakes and other natural bodies of water have been determined, as set out in Art. 15 and Art. 15a of the Act of 18 July 2001. - the Water Law" (REGULATION, 2001). Therefore, it is to be assumed that the shorelines corresponding to the parcel boundaries defined pursuant to the Regulation on the register of land and buildings will be approved in the future under the Water Law.

The above regulations result in great ambiguity in the procedure of determining the shoreline. The problem has become significant also due to the fact that the land with the determined land use

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as flowing waters (Wp) has been exempted from civil law transactions (ACT, 2001). This greatly constrains, or even impedes, the exercising of ownership rights.

Land under flowing waters as a type of land use

Land under surface flowing waters, marked on cadastral maps as "Wp" is one of the types of land use defined in (REGULATION, 2001). This land use belongs to the "Land under water". Pursuant to Appendix 6 to the Regulation, this is land covered with flowing waters as set out in the Act – the Water Law (ACT, 2001). This Act recognizes the flowing water to be inland surface water:

- if it is in natural watercourses, canals, and springs from which streams originate,
- if it is in lakes and other natural bodies of water with a continuous or periodic natural inflow or outflow of surface waters,
- if it is in artificial bodies of water located on flowing waters.

The Regulation on the register of land and buildings (REGULATION, 2001) specifies that the contour of the land under surface flowing waters is defined by:

- the shorelines of natural water courses, lakes and other natural bodies of water,
- the outer edges of canals or artificial bodies of water situated on the flowing waters.

This regulation corresponds to the definition of the land under surface water specified in the Water Law, where such land means:

- the land forming the beds and banks of natural watercourses, lakes and other natural bodies of water, within a shoreline,
- the land included in the artificial bodies of water, barrages and barrier lakes, which is land covered with surface waters before the construction of damming up structures.

If a natural watercourse, lake, or other natural or artificial body of water or canal crosses the cadastral boundary, the contour of the land under surface flowing water is determined by this cadastral boundary (REGULATION, 2001).

Therefore, the shoreline plays a key role in determining the range of the land use denoted as "Wp", but it must be noted that shoreline, and therefore the boundary of "Wp", is not the same as the water line (hydrological shoreline). The land use "Wp" will also include the land forming the bank of the watercourse that does not need to be covered with water. It is worth noting that, although in most cases the shoreline will also be the plot boundary, it may happen that it will "merely" be a zoning boundary. This might be the case when flowing waters change their course and the water "takes" adjacent land from one bank and "returns" some land on the other bank. The "returned" land should be denoted according to the current zoning, in accordance with the provisions of geodetic and cartographic law, along with their classification, if required (KOWALSKI, MAJEWSKA, 2010). In such a case, the land may be part of the parcel together with the land use "Wp".

On the other hand, § 9 section 3a of the Regulation on the register of land and buildings, which came into force on 31 December 2013 (REGULATION, 2013), provides that "The land occupied by natural watercourse constitutes a separate cadastral parcel of land within the shoreline boundaries, regardless of whether the water in this watercourse flows in a natural or regulated riverbed". It seems, therefore, that at the moment cadastral parcel covering the flowing waters should be classified as "Wp" as a whole. Such provisions are justified if we consider no possibility of civil law transactions regarding parcels with the land use "Wp". The problem of determining the land use for the parcels under flowing waters has already been discussed in numerous publications, e.g. in (KOWALSKI, MAJEWSKA, 2010), but due to the complexity of the problem, this issue still needs to be clarified.

The rules for determining the shoreline

Regardless of the procedure adopted to determine the shoreline, the rules for determining it are the same. They are provided in Art. 15 of the Water Law (ACT, 2001). When determining the shoreline, it is necessary to identify whether the bank of the watercourse is regulated. In the case of regulated watercourses, the shoreline is the outer edge of the regulatory structures.

In the case of an unregulated bank, in order to determine the shoreline, it is essential to preserve a proper hierarchy, as contained in (ACT, 2001). The shoreline here will be as follows:

- the edge of the bank,
- the line of permanent grass growth,
- the line determined according to the average level of water of the period of at least the last 10 years.

It has been illustrated in Figure 1.

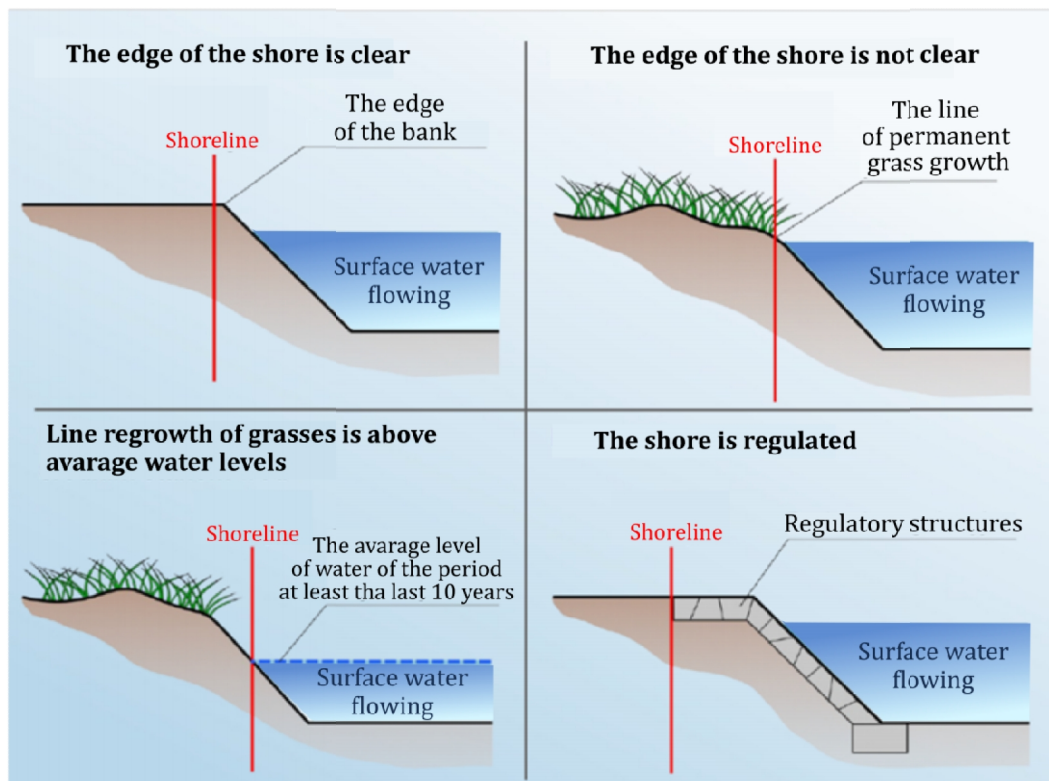


Fig. 1. The shoreline pursuant to Art. 15 of the Water Law. Source: (KOWALSKI, 2015).

The procedure for determining the shoreline under the Water Law

Determining the shoreline under the provisions of the Water Law (ACT, 2001) takes the form of administrative proceedings initiated at the request of a person having a legal or factual interest. In the case of carrying out the modernization of the cadastre, the decision to establish a shoreline is issued ex officio. Depending on the type of the water, the decision is issued by:

- the appropriate local maritime authority – for the waters of the territorial sea, internal marine waters together with internal waters of the Gulf of Gdansk;
- the competent Marshal of the province – for the boundary waters and inland waterways;
- the competent governor pursuing the task of the government administration - for other waters.

The basis for determining the shoreline is a draft project of delimitation of the land covered by water and the adjacent land, supplied by the applicant, which includes:

- 1) a description taking into account the identification of the applicant, indicating their registered seat and address, the adopted method of determining the proposed shoreline, the determination of the legal status of the real estate covered by the project, with the identified owners including an indication of their registered seat and address, as well as the status of hydrographic conditions on the land adjacent to the proposed shoreline;
- 2) a map of the as-built inventory of regulatory structures, or an updated copy of the base map at a scale in which draft regulation of inland waters is drawn up, or at a scale of 1:500, 1:1000, 1:2.000 or 1:5.000, demonstrating:
 - a) the fixed points of the horizontal control tied to the national network,
 - b) the line of permanent grass growth,
 - c) the edges of banks, shores, alluvium, fluvial deposits and islands,
 - d) the proposed shoreline.

It should be noted that, due to the nature of the flowing waters, it will be necessary to carry out delimitation procedures again for the land covered by water and the adjacent land. In the case of a change to the shoreline, a decision regarding its determination can be changed in the manner and on the basis relevant to its issuance.

In the initial stage of the procedure, the role of a surveyor is limited to technical activities related to the updating of the base map and the preparation of the map for the purpose of drafting a plan for land delimitation. Following the decision of the competent authority approving the shorelines, the surveyor prepares technical documentation which is the basis for updating the cadastre.

The procedure for determining a shoreline pursuant to the regulations on the register of land and buildings

The amendment to the regulation on the register of land and buildings (REGULATION, 2013), which entered into force on 31 December 2013, referred to the issues related to the determination of a shoreline. Section 82a clause 11 of the *"transitional and final provisions" of the act stated that "Until the shoreline of natural watercourses, lakes and other natural bodies of water has been determined pursuant to Art. 15 and Art. 15a of the Act of 18 July 2001 - Water Law (Journal of Laws of 2015. item 469, 1590 and 1642), the course of the boundaries of the cadastral parcels between the land forming the bottoms and edges of these watercourses, lakes and bodies of water, and the land adjacent to them, is entered into the register using the data based on the results of topographic surveys, which identified the course of this boundary under the provisions of Art. 15 sections 1, 5 and 6 of the Act of 18 July 2001 - Water Law"*.

This provision, due to its brevity and lack of precision, raises numerous doubts. The first one was the applicability of this paragraph. Because it was placed in the final and transitional provisions together with the modernization of the cadastre, some interpretations suggested that it could be used with this procedure exclusively. This matter was clarified by the Surveyor General of Poland in a letter dated February 28, 2014 (LETTER, 2014): *"Neither from the content of the above-mentioned provision, nor from its placement in the «Transitional and Final Provisions», does it follow that its use is limited to the modernization mode of the cadastre. This provision also applies to the updating of the land register survey"*.

It follows from the content of section 82a (REGULATION, 2001) that results of a topographic survey may form the sole basis for the introduction of new plots to the register, or be the basis for changing the course of boundaries. A topographic survey drawn up pursuant to the provisions of (REGULATION, 2011) should include, inter alia:

- documentation presenting the findings related to the processing of the measurement results of the control, including lists of the control coordinates and inspection maps,
- documentation containing the results of processing the measurement results of the cadastral objects, including lists and rankings,
- field sketches and survey logs,
- technical report,
- documents containing measurement results, including copies of maps for legal purposes, copies of maps for design purposes, and topographic descriptions of control points,
- data files generated from a working database,
- record of changes in the cadastral data,
- other documents or certified true copies obtained and used by the surveyor,
- list of documents of the survey report.

A surveyor with the level 1 professional qualifications: "detailed, setting-out and as-built measurements" can prepare such documentation, whereas previously most of the work related to the change of ownership rights was performed by a surveyor carrying out activities related to the level 2 qualifications: "delimitation and subdivision of real estate (land), and the preparation of documentation for legal purposes". This issue is a controversial one, considering its importance. Determining the extent of property rights and the course of boundaries in a proper way has a key influence on the data collected in the cadastre (BENDUCH, 2016).

The technical aspects of changes in the boundaries of land under flowing waters

The manner of the introduction of changes to the register of land and buildings (the cadastre) resulting from the determination of a shoreline has not been contained in any legal act. Lack of any regulations in this respect means that, from a technical point of view, the determination of a shoreline may be carried out in two ways:

- determination of a shoreline as a process associated with surveying subdivision,
- determination of a shoreline as a process related to the "adjustment" of the boundaries.

A similar distinction in the procedure for determining a shoreline was presented in (KWARTNIK-PRUC, 2014). When determining a shoreline based on the provisions of the Water Law (ACT, 2001), adjustment of the course of boundaries is carried out in a manner similar to the procedure for real estate subdivision (KWARTNIK-PRUC, HANUS, 2014). The subdivision procedure here is a tool to regulate and approve the current legal status (BIEDA A., HANUS P., 2014). A part of land occupied by flowing water is parceled out and, by virtue of law, it becomes the property of the owner of the water. The project regarding delimitation of the land under water should include parceling out

of the plot and a record of changes in the cadastral data. This procedure, although it resembles the real estate subdivision performed pursuant to the Real Estate Management Act (ACT, 1997), is in fact a different procedure, which is performed pursuant to the provisions of Art. 15 of the Water Law (ACT, 2001). This is confirmed by (JUDGMENT, 2007) stating that *"the real estate subdivision carried out under the provisions of Chapter 1 Section III of the Real Estate Management Act, as well as pursuant to Art. 17 section 1 of the Act of 18 July 2001 the Water Law, is unacceptable in the case of the seizure of the land which does not constitute the property of the owner of the water, by surface flowing waters in a permanent and natural manner. This land becomes ex lege the property of the owner of the water. In the case of parceling out a part of the real estate, the ownership or perpetual usufruct of which were acquired by virtue of law, no decision on the real estate subdivision is issued"*.

As a result of the subdivision approved by the staroste's decision on the delimitation of the land under water, there is a change to the boundaries and spatial structure of parcels. Basing on the prepared documentation, it is possible to introduce changes to the cadastre and to issue a decision on compensation.

It should be noted, that there is no clarification in the legislation as to the point at which the change of the owner of the land occupied by flowing water is confirmed by a decision. In practice, it depends on the authority issuing the decision, as they can confirm the transfer of ownership rights in the decision determining a shoreline, or in the decision on compensation.

Figure 1 illustrates a fragment of the cadastral map together with the shoreline (in blue). In the case of determining a shoreline, which is the process using real property subdivision to determine the extent of ownership rights, the plots occupied by water would be parceled out of the cadastral parcels (Figure 2). For the parcels 101/2, 102/2, 103/2, 104/2 and 105/2, their use would change to "Wp" - flowing water, and the plots would become the ownership of the State Treasury. Other plots (with the denominator 1) would be owned by the existing owners.

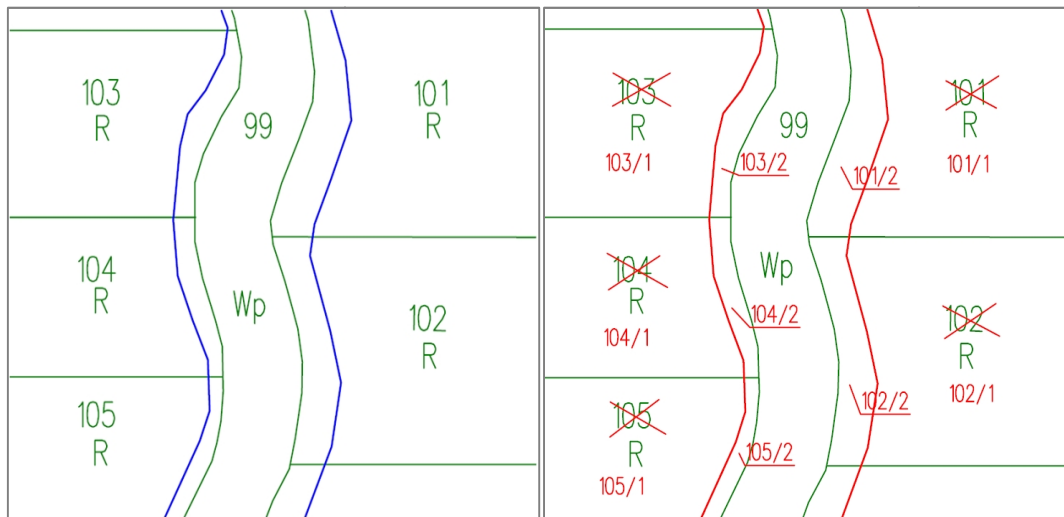


Fig. 2. Fragment of the cadastral map with a shoreline and the proposed real estate subdivision. *Source: own study.*

The main advantage of such a solution is the visualization and parceling out of a specific part of the real property occupied by flowing water, which forms the basis for the payment of compensation. However, unfavorable spatial structure of parcels occurs (a lot of parcels of small areas), and the changed number of the cadastral parcel will result in a number of administrative and legal obligations to be dealt with by the owner.

The second possibility to change the ownership rights is to adjust the boundaries, associated with the change in the configuration of the plots. This is a procedure which, in technical terms, is similar to real property delimitation (PEŠKA, 2014). The real properties are not subdivided, only the course of the boundary is changed. Then, new surface areas of the parcels are calculated. This procedure is used to adjust boundaries of the land under flowing waters, under the provisions of the regulation on the register of land and buildings (REGULATION, 2001). Figure 3 illustrates the simplest example of such a situation.

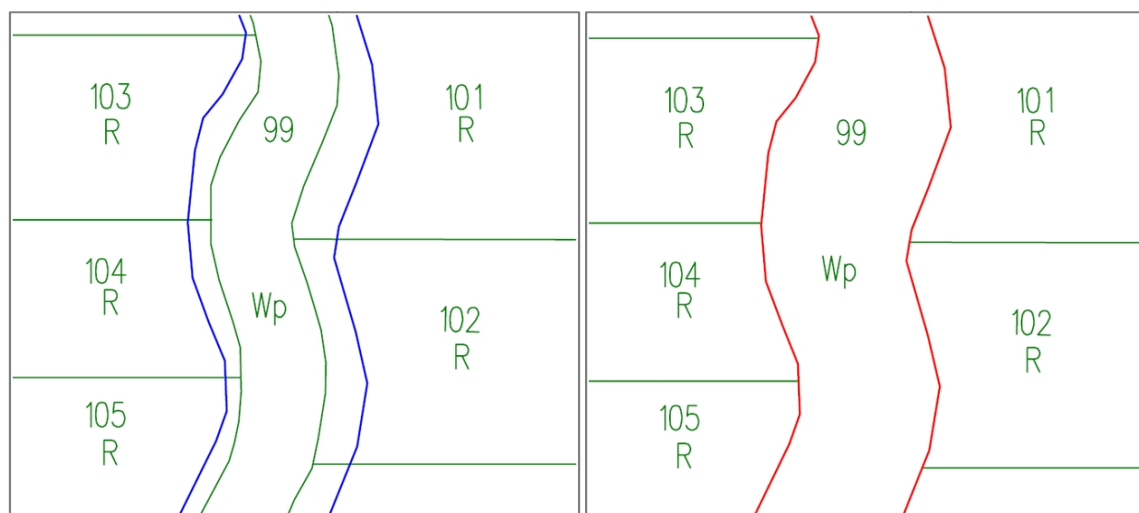


Fig. 3. Fragment of the cadastral map with a marked shoreline and the suggested adjustment of the course of the boundaries. *Source: own study.*

Such a procedure allows to adjust boundaries of plots without a necessity to parcel out plots occupied by water. The advantage here is no change in the numbers of the cadastral parcels and avoiding fragmentation of the structure of the plots. A disadvantage is the lack of transparency of the occurring changes.

In the case of a significant change in the course of the flowing water, both the first and the second methods are becoming much more complicated. The change in the course of the flowing water demonstrated in Figure 4 (red line) brings on additional technical complications regarding the preparation of the map of the delimitation of the land under water.

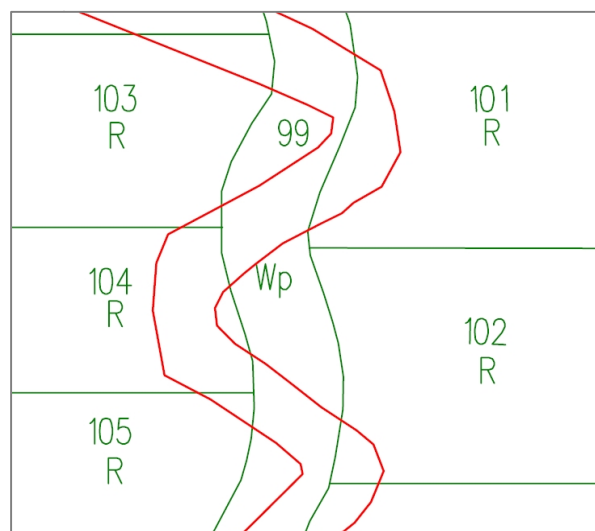


Fig. 4. The case of a significant change in the course of the flowing water. *Source: own study.*

Figure 5 demonstrates a case if the method based on parceling out of the land occupied by flowing water was chosen. Taking into account the definition providing that the land occupied by a natural watercourse is a separate cadastral parcel within the boundaries of a shoreline, it would be necessary to carry out the subdivision of the parcel no. 99. The cadastral parcels numbered from 99/1 to 99/7 and 101/2, 102/2, 103/2, 103/3, 104/2, 104/3 and 105/2 would become a property of the State Treasury. The parcels 101/1, 102/1, 103/1, 104/1 and 105/1 would remain the property of the current owner. The consolidation of the subdivided parcels numbered 103/2, 99/2, 101/2, 104/2, 105/2, 99/6 and 102/2 would allow to obtain a separate cadastral parcel occupied by the watercourse.

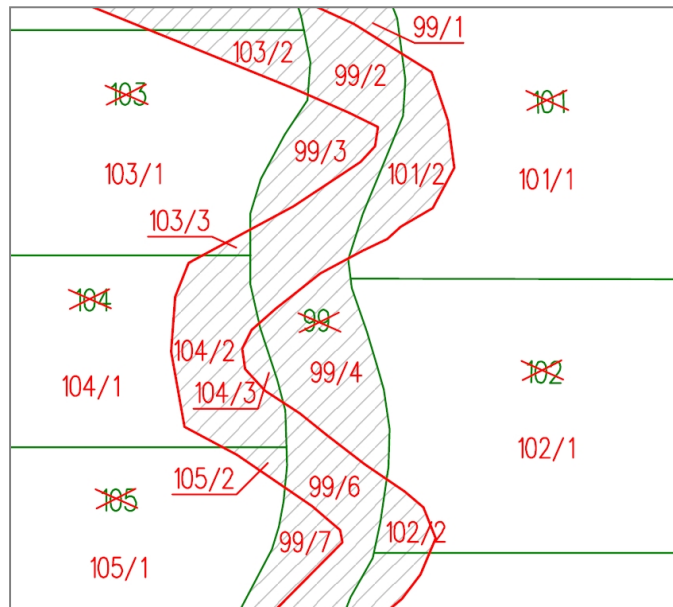


Fig. 5. Fragment of the cadastral map with a marked shoreline and the proposed real estate subdivisions. *Source: own study.*

When applying the method based on the adjustment of the boundaries, the cadastral map reflecting the changes would look like the one in Figure 6. Parcel no. 99 with the flowing water would be adjusted in accordance with the actual state measured in the field. The parcels numbered from 762 to 764, which are not the land under flowing water, would be new parcels. It would be necessary to determine their land use.

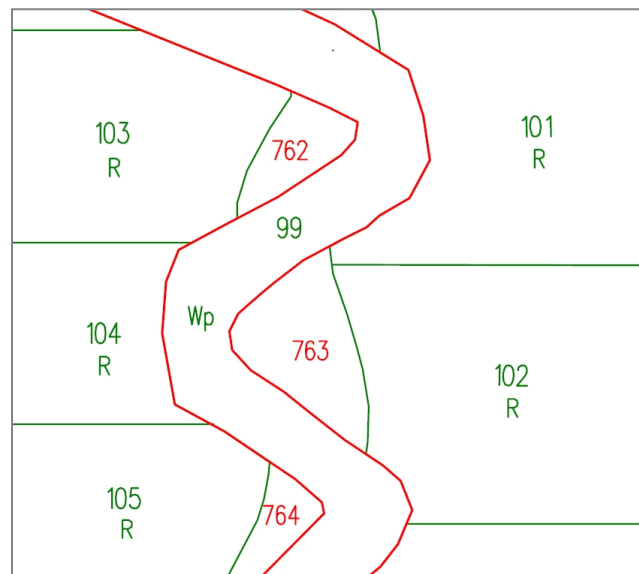


Fig. 6. Fragment of the cadastral map with a marked shoreline and the suggested adjustment of the course of the boundaries. *Source: own study.*

Conclusions

Determination of a shoreline can be based on the provisions of the Water Law (ACT, 2001) or on the provisions of the Regulation on the register of land and buildings (REGULATION, 2001). Determination of the shoreline subject to the Water Law is carried out in administrative proceedings, instituted at the request of the party, and finished with an administrative decision. Adjustment of the land under water, performed subject to the regulation on the register of land and buildings, is brought down to topographic measurements and a change to the course of the boundaries. It is a kind of a second-rate solution, which remains in force until the shoreline has been determined under the provisions of the Water Law.

Both of these regulations are ambiguous and lacking in the description of the required technical steps necessary to introduce changes to the register of land and buildings. These ambiguities gave rise to two possible solutions to the same problem, but in different ways. The regulation of the legal status of the land occupied by flowing water can be carried out by parceling out these parts of the real property which, by the virtue of law, have become state-owned. The disadvantage of this solution is fragmentation of the plot structure and their numbers being changed. The advantage is a direct identification of the area eligible for compensation. Application of the method adjusting the existing boundaries results in no change to the numbers of the parcels, but there is no precise definition of the surface area eligible for the payment of compensation.

The problem of zoning also raises numerous questions. Pursuant to the provisions of the current legislation, the area occupied by a natural watercourse forms a separate cadastral parcel within the boundaries of a shoreline. This means that it is unacceptable to denote land uses other than "Wp". However, in many cases, besides the land use "Wp", parcels comprising the land under flowing waters are also denoted as other land uses, such as wooded areas, shrubs, or wasteland. Pursuant to the above-mentioned definition, this land should be parceled out as separate cadastral parcels. This issue needs to be legally clarified.

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