Chapter 8
Addressing Weak Legal Protection of Wilderness: Deliberate Choices and Drawing Lines on the Map

Kees Bastmeijer

Abstract Wilderness areas are characterized by a relatively high degree of naturalness, the absence of proof of modern human society (e.g. roads, buildings, bridges, motorized transportation) and a relatively large size (Dudley, N. (Ed.). (2008). *Guidelines for applying protected area management categories*. Gland: IUCN. Available at: http://data.iucn.org/dbtw-wpd/edocs/2008-028.pdf). Worldwide, wilderness areas are becoming more scarce and this chapter focuses on the role of law in protecting such areas. The discussion starts with an analysis of the historic human-nature attitude in Western society and how this attitude has influenced legal concepts regarding private property on land and territorial sovereignty. It will be shown that these concepts have stimulated active land transformation by humankind and that (as a consequence) wilderness protection is not embedded in our Western legal roots. Next, the discussion focuses on the response to the increasing awareness of the downside of modern human civilization: a changing human-nature attitude in the Nineteenth Century and the adoption of a large number of international nature protection conventions in the Twentieth Century. However, all this 'law making' has not resulted in comprehensive wilderness protection at the global or regional level, which may be explained by a number of important weaknesses in these conventions and their implementation. Probably, many of these weaknesses have much to do with weaknesses of humankind itself, such as the difficulty to accept limitations to our social and economic ambitions and our disability to deal with accumulative impacts. Against the background of these discussions, the final part of this chapter discusses options for strengthening wilderness protection with an emphasis on the importance of making deliberate policy choices to protect wilderness.

Keywords Wilderness • Civilisation • Exploitation • Private property • Romantic period • Nature protection conventions • European Union • Protected areas •

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8.1 Introduction

Twenty-five years ago, Philip Dearden stated that "[u]p to the late twentieth century, wilderness has been, by and large, a by-product" as it is "what has been left after the 'good' land has been taken for agriculture, forestry, mining, urbanization, industry and every other conceivable land-use" (Dearden 1989, p. 206). In most parts of the world, this has not changed much. Steve Carver explains that recent mapping work has shown patterns of wilderness to be strongly influenced by latitudinal and altitudinal gradients that place physical limits on agriculture and forestry as well as cultural and political gradients that place limits on human land use (Carver 2016). This might easily be explained by the fact that many forms of modern human land use have a strong tendency to affect one or more of the main qualities that characterize wilderness areas (Dudley 2008; Kuiters et al. 2012; Wild Europe Initiative 2013): (a) naturalness (native species and ecosystems and free functioning natural processes), (b) the absence of (and minimum distance from) roads, buildings, bridges, tracks, cables or other proof of modern human society, and (c) the relatively large size of the area. However, from a legal perspective, one might consider it quite remarkable that wilderness areas are indeed just 'left-overs' of human caused land transformation. Has the law not been able to prevent wilderness loss, and if this is true, how may this be explained? This is the major topic of this chapter.

The discussion starts with an analysis of the historic human-nature attitude in Western society and how – during the last centuries – this attitude has influenced legal concepts regarding private land property and territorial claims by states (Sect. 8.2). It will be shown that these concepts constitute stimuli for land transformation and that wilderness protection is not embedded in our Western legal roots. Next, the discussion focuses on the response to the increasing awareness of the downside of modern human civilization: a changing human-nature attitude in the nineteenth century and the adoption of a large number of international nature protection conventions in the twentieth century (Sect. 8.3). This discussion is followed by an identification of some important weaknesses of these conventions and their implementation to explain why intensive law making has not resulted in comprehensive wilderness protection at the global or regional level (Sect. 8.4). In the final part of this chapter, options for strengthening wilderness protection are discussed, with special attention for the importance of 'drawing lines on maps' and deliberate choices to protect wilderness (Sect. 8.5).

8.2 Tensions between Western Legal Roots and Wilderness Protection

In the Western world humankind has for centuries taken a dominant position over nature. Explanations for this attitude are diverse. Some go far back in time and claim that the split between people and nature coincided with the origin of

agriculture (Wells 2010) and the domestication of animals (roughly around 8000–4000 BC, depending on the geographical region) (DeMello 2012, chapter 4). Others refer to the ancient Greeks (Zweers 1995, p. 27–28; Passmore 1980). For instance, Paul Cliteur refers to a phrase in Aristotle's *Politica* (Cliteur 2005), where Aristotle states, in chapter VIII of the first book:

> It is evident that we may conclude of those things that are, that plants are created for the sake of animals, and animals for the sake of men; the tame for our use and provision; the wild, at least the greater part, for our provision also, or for some other advantageous purpose, as furnishing us with clothes, and the like (Aristotle Pol.).

Lynn White Jr. has stated in his much-debated *Science*-article (White 1967), that the Judeo-Christian tradition constitutes the main source of the dominant attitude of humans over nature (Minteer and Manning 2005). One could also refer to views expressed by lawyers and philosophers in the sixteenth and seventeenth centuries. For instance, Hugo Grotius states in his *Mare Liberum* (The Freedom of the Seas) that God created nature for mankind (Grotius 1609, p. 22). He believed that "God had not given all things to this individual or to that, but to the entire human race" (Grotius 1609, p. 24). John Locke (1632–1704) shared this view: "The earth and all that is therein is given to men for the support and comfort of their being" (Locke 1690, chapter 5, par. 25; Snyder 2007, p. 15). A possibly even stronger source of human dominance over nature is the 'mechanization of nature' in the theory of Descartes (1596–1650) (Verbeek 2007, p. 37).

Although in all these time periods contra-arguments have also been expressed (e.g. by Spinoza (1632–1677), the dominant view has been that nature was meant to serve humankind. This also implied that humans had the right to transform nature for their own benefit. According to Locke, the fact that nature was meant to benefit humankind constituted the fundament for acquiring components of nature as private property:

> The earth and all that is therein is given to men for the support and comfort of their being. And though all the fruits it naturally produces, and beasts it feeds, belong to mankind in common, as they are produced by the spontaneous hand of nature, and nobody has originally a private dominion exclusive of the rest of mankind in any of them, as they are thus in their natural stage, yet being given for the use of men, there must of necessity be a means appropriate them some way or other before they can be of any use, or at all beneficial, to any particular men (Locke 1690, chapter 5, par. 25; Snyder 2007, p. 15).

Before Locke, also Hugo Grotius had expressed the view that nature itself was the source for this extension of appropriation: food and drinks implicate a form of ownership because consumption is exclusive; it cannot be consumed by someone else at the same time, and according to Grotius this had constituted the fundament for a process of appropriation of nature into private property: Starting with food and drinks, followed by *"things of the second category, such as clothes and movables and some living things"* the subjects of private ownership were extended (Grotius 1609, p. 24). According to Grotius also the land would be divided into property (Schrijver and Prislan 2009, p. 172):

When that had come about, not even immovables, such, for instance, as fields, could remain unapportioned. For although their use does not consist merely in consumption, nevertheless it is bound up with subsequent consumption, as fields and plants are used to get food, and pastures to get clothing. There is, however, not enough fixed property to satisfy the use of everybody indiscriminately (Grotius 1609, p. 24–25).

Thus, nature was meant for mankind and could therefore be appropriated as private property to enable human use. The reverse was also true: in this time period (1600–1900) appropriation of nature (e.g., land) was only justified if the land would actually be exploited. This opinion may be found in the works of John Locke as well as in legal visions in the last centuries on the criteria for legal land claims under international law: a nation is not allowed to appropriate more land than it can populate, cultivate and govern. Thomas Willing Balch discussed this in detail in 1910 and quoted several jurists of the eighteenth and nineteenth century (Balch 1910), including the Swiss jurist De Vattel (*Le Droit des gens*, 1758; English translation 1867):

But it is questioned whether a nation can, by the bare act of taking possession, appropriate to itself countries which it does not really occupy, and thus engross a much greater extent of territory than it is able to people or cultivate. It is not difficult to determine that such a pretension would be an absolute infringement of the natural rights of men, and repugnant to the views of nature, which, having destined the whole earth to supply the wants of mankind in general, gives no nation a right to appropriate to itself a country, except for the purpose of making use of it, and not of hindering others from deriving advantage from it. (De Vattel 1758, p. 98–99)

It is clear that this process of appropriation of nature as private property and the claims of new land as state territory has resulted in a continuing process of cultivation of nature. As explained by George P. Marsh in 1867 in the preface of his famous "Man and Nature':

The extension of agricultural and pastoral industry involves an enlargement of the sphere of man's domain, by encroachment upon the forests which once covered the greater part of the earth's surface otherwise adapted to his occupation. [...]. Lands won from the woods must be both drained and irrigated; river banks and maritime coasts must be secured by means of artificial bulwarks against inundation by inland and by ocean floods; and the needs of commerce require the improvement of natural, and the construction of artificial channels of navigation (Marsh 1867).

The above discussion illustrates the strong belief in past centuries that the earth is meant for humankind and that the development of private property and territorial claims of states are only justified if the land would actually be exploited for the benefit of mankind. From the perspective of legal protection of wilderness, this is relevant as these strong roots in Western legal thinking were stimuli for transformation of the earth's surface and made wilderness, as defined and valued today, not logical or even problematic. As will be discussed below, attitudes have changed; however, these legal roots may still have their explicit or implicit influences and may still constitute a hurdle in legal protection of wilderness.

8.3 Downside of Civilisation and the Legal Response: The Development of International Nature Protection Conventions

Probably based on the above historic roots in combination with other factors, particularly human population growth, humankind in the Western world has proven to be very successful in using the natural resources of the earth to ensure plenty of food and materialistic wealth for at least a large part of the population. As explained by Crispin Tickell *"unlike other animals, we made a jump from being successful to being a runaway success […] because of our ability to adapt environments for our own uses in ways that no other animal can match"* (Tickell 1993, p. 219; Roberts 1996). However, particularly during the nineteenth century people in Western societies became increasingly aware of the downside of these developments. In scientific and more popular literature these views were refined: *"Doubts and hesitations had arisen about man's place in nature and his relationship to other species. […] A closer sense of affinity with the animal creation had weakened old assumptions about human uniqueness"* (Thomas 1983, p. 243). In this context, the works of Charles Darwin (1809–1882) (Darwin 1871) and his contemporaries such as Thomas Henry Huxley (1825–1895) (Huxley 1863) are of great importance (Cliteur 2001, p. 6). An important factor for increased appreciation for nature in this period was also the downside of life in the city: increasing air pollution, crime and diseases. Keith Thomas offers many splendid quotations and sources that show that the idealization of cities of earlier times had to give way to an increasing appreciation for country life and nature (Thomas 1983, p. 242–254).

However, increased appreciation of nature in the period of romanticism was not yet reflected in law making. Certainly, the downside of our own success in the form of over-exploitation of wild species of plants and animals was recognized, but resulted only in treaties that aimed at the protection of plants and animals that were useful to mankind. Examples of early treaties are the 'Convention for the Protection of Wild Animals, Birds and Fish in Africa' (Sands 1995, p. 27), signed in 1900 by the colonial authorities of Africa in London, and the European Convention to Protect Birds Useful to Agriculture of Paris, 1902 (Bowland 1989). As Bowland notes: *"they were concerned predominantly with direct and immediate human interests rather than motivated by any more elevated or altruistic ideals [and] they encouraged the destruction of certain creatures that were judged harmful to those interests"* (Bowland 1989, p. 487; Van Heijnsbergen 1997, p. 130. For other examples, see the Convention between the U.S. and Great Britain (for Canada), 16 August 1916 (39 Stat. 1702). The U.S. entered into similar agreements with Mexico (1936), Japan (1972) and the Soviet Union (1976). The United States already had an Act to protect birds: the Lacey Act (16 U.S.C. § 701, 25 May 1900)).

Changing appreciations of nature also applied more specifically to relatively untouched natural areas, particularly in North America: *"Wilderness had once been the antithesis of all that was orderly and good—it had been the darkness, one might say, on the far side of the garden wall—and yet now it was frequently likened to*

Eden itself" (Cronon 1995; Nash 2001). The strong advocacy by Thoreau, Muir and others to set aside untouched nature in North America is well known, although it would be a mistake to think that it was their intention to separate humans from nature: *"Though Muir like other romantics denied that the earth was made for man, it was for men's spiritual salvation that they sought to save wild nature […]"* (Lowenthal 2000). Also in Western Europe the special value of wilderness was emphasized in literature and other works of art as well as in legal and policy debates (Fisher 2016). For instance, in the Netherlands H.P Gorter, with reference to Frederik Willem van Eeden Sr. (1829–1901), explained in relation to the second half of the nineteenth century:

> It was at that time, that they, who looked further into the future, saw the signs that the wilderness, which at one time covered our land as far as the eye could see, would become a scarcity, and that it would become necessary to defend the 'right of the wilderness' (Gorter 1956, p. 11).

Only in North America, this development resulted in an international convention with explicit attention for wilderness protection. According to Article II of the 'Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere', that was adopted in 1940, *"[t]he Contracting Governments will explore at once the possibility of establishing in their territories national parks, national reserves, nature monuments, and strict wilderness reserves as defined in the preceding article."* Art. 1(4) defines 'strict wilderness reserves' as: *"A region under public control characterized by primitive conditions of flora, fauna, transportation and habitation wherein there is no provision for the passage of motorized transportation and all commercial developments are excluded."* Article IV states that "[t]he Contracting Governments agree to maintain the strict wilderness reserves inviolate, as far as practicable, except for duly authorized scientific investigations or government inspection, or such uses as are consistent with the purposes for which the area was established."

After World War II, attention for the negative 'externalities' of human exploitation at the global level intensified. The foundation of the World Conservation Union (IUCN) in 1948 and the organisation of the UN 'Conference on the Conservation and Utilisation of Resources' in 1947 (17 August–6 September 1949, Lake Success, New York) are among the important events of the previous century (Sands 1995, p. 31–32; Goodrich 1951). Nico Schrijver states that during the latter conference concerns were raised with regard to the irresponsible exploitation of natural resources, but then refers to a passage in the report of the conference that shows that most experts thought that with the right use of technologies and the prevention of squandering it should be possible to offer a higher standard of life to a bigger world population (Schrijver 2008, p. 37–38). Scarcity should be dealt with partially by technological developments. This confidence in technological solutions was strong in this time period:

> The past was blamed; the present was smarter. […] With few exceptions optimism prevailed. Many showed extreme complacency in the face of threats that now seem evident. Humans were thought incapable of significantly changing global climate; nuclear-fission

> wastes were wholly benign; wise management would rebuild impoverished soils. Why worry about nuclear by-products; past fears of technology had always come to naught. In sum, environmental impacts scared only scientific idiots and crackpots (Lowenthal 2000, p. 8).

However, during the second part of the twentieth century *"environmental impacts are increasingly seen as global and interrelated, complex and unknowable, long-lasting and perhaps irreversible"* (Lowenthal 2000, p. 10). In 1969, the American National Research Council emphasized that humankind is in an extreme time period, characterized by a disbalance between development and available natural resources:

> It now appears that the period of rapid population and industrial growth that has prevailed during the last few centuries, instead of being the normal order of things and capable of continuance into the indefinite future, is actually one of the most abnormal phases of human history (King Hubbert 1969, p. 238).

A few years later, at the occasion of the United Nations Stockholm Conference on the Human Environment (1972), the international community explicitly stressed the need for fundamental change:

> A point has been reached in history when we must shape our actions throughout the world with a more prudent care for their environmental consequences. Through ignorance or indifference we can do massive and irreversible harm to the earthly environment on which our life and wellbeing depend (Stockholm declaration 1972, preamble, para. 6).

This acknowledgement has resulted in several decades of law-making in respect of many environmental concerns. In relation to the natural world, many international conventions, regional binding instruments and domestic laws have been adopted, particularly since the early 1970s, to protect the variety of life forms (species of plants and animals), habitats and ecosystems (biological diversity, hereinafter: biodiversity) (Birnie et al. 2009, p. 588). Important conventions include the Convention on Wetlands of International Importance (Ramsar Convention), the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention), and the Convention on Biological Diversity (CBD). As most of these conventions have been signed and ratified by more than 175 states, this international nature protection law may be considered as 'global law'. In addition, much nature protection law has been developed at the regional and domestic level. In the European Union the Bird Directive and Habitat Directive constitute a system of fairly strict protection of wild species, habitats and important natural sites (Natura 2000 sites). And even for 'far away-places' such as Antarctica much law has been developed to protect the natural environment. For instance, with the Protocol on Environmental Protection to the Antarctic Treaty, the whole region south of 60° south latitude has been designated as "natural reserve, devoted to peace and science" (Antartic Treaty protocol 1991, art. 2).

8.4 The Role of Law in Protecting Wilderness: Some Fundamental Weaknesses

It is correct to say that *"[m]ost likely the global situation state of wetlands, properties of outstanding universal value, endangered species of wild fauna and flora, migratory species of wild animals and biodiversity as such would have been considerably worse without the existence of the conventions"* (Koester 2012, p. 70); however, the great number of monitoring reports and effectiveness studies obliges us to acknowledge the limited effectiveness of these agreements. *"It is well established that losses in biodiversity are occurring globally at all levels, from ecosystems through species, population, and genes"* (World Resources Institute 2005, p. 834; CBD 2010, p. 9), and *"[t]he five principal pressures directly driving biodiversity loss (habitat change, overexploitation, pollution, invasive alien species and climate change) are either constant or increasing in intensity"* (CBD 2010, executive summary).

These and other causes have also resulted in the current situation in which only about 30 % of the earth's land surface can still be qualified as relatively untouched by humans ('wilderness') (Kormos and Locke 2008). The causes for this limited effectiveness of nature conservation law are multiple (Baakman 2011; Caddell 2005; Morgera and Tsioumani 2011); however, four more fundamental characteristic weaknesses may be identified that make legal wilderness protection particularly problematic.

8.4.1 Strong Focus on Sustainability and Biodiversity Conservation

From the perspective of protecting wilderness, an essential weakness of most international nature conservation conventions is that these legal instruments focus strongly on two main objectives: 'sustainable development' and the protection of 'biological diversity' (biodiversity). Both concepts are in part interrelated and appear to focus on establishing an acceptable balance between economic, social and ecological needs (IUCN 2004, p. 5). The discussion under the CBD emphasizes this, and also other international nature protection agreements are built upon this 'balancing of interest approach'. For instance, a central instrument of the Wetland Convention (Ramsar Convention) is the obligation to ensure the 'wise use' of important wetlands.

The notion of balancing of interests is inherent to sustainable development, but often it is not fully clear what natural values or interests should be taken into account. In view of the CBD and other nature protection conventions, the conservation of the world's diversity of plants and animals, habitats and ecosystems clearly is a central aim of international nature conservation law; however, it is unclear to what extent these conventions also aim to protect relatively undisturbed wilderness areas, their characteristic qualities and related values. The strong emphasis on

biodiversity conservation may have resulted in narrowing the scope of legal nature protection:

> The greatest push for conserving protected areas has come with the recognition that biodiversity is also crucial for human survival. […] Along with this concept came a change in the view of what should comprise a protected area. Instead of untouched wilderness, current protected areas are frequently made up of areas of supervised human activity (Jeffery 2004, p. 14).

This strong focus on biodiversity conservation has also resulted in an approach that is characterized by protecting 'special' species, habitats and ecosystems only (Doremus 1999). And being 'special' is generally not a good thing as it often means 'being threatened'. The legal protection in the early conventions mentioned above and in domestic laws was particularly attributed to those species that were almost extinct (Birnie et al. 2009). In the literature this type of nature conservation is referred to as 'deathbed conservation' (Trouwborst 2008). The more modern conventions clearly have a broader purpose and scope; however, many of the more strict prohibitions and requirements in the conventions apply only to 'special' species and particular types of ecosystems that have been listed (Bonn Convention, Bern Convention, Ramsar Convention). On the one hand this approach is logical as particularly threatened natural values require a priority in protection and there are quite a number of success stories of such focused approaches (Deinet et al. 2013). On the other hand however, this strong biodiversity approach in combination with the focus on 'special values' may constitute a weakness in legal protection of areas with high wilderness qualities: legal protection of such wilderness areas depends heavily on the question whether the areas meet the specific criteria for designation and protection under the relevant legal regime.

For instance, important natural areas in the European Union must be designated and protected as Natura 2000-sites; however, areas only qualify if they are the "most suitable territories in number and size" (article 4(1) Bird Directive) for birds listed in Annex I of the Bird Directive or if they host "natural habitat types" listed in Annex I and/or "species" listed in Annex II of the Habitat Directive (article 4(1) Habitat Directive). Consequently, wilderness areas that have no relevance for such listed species and habitat types do not have to be designated and protected under this EU system. Research on mapping wilderness in respect of the extent of overlap between wilderness qualities in Europe and Natura 2000-status is ongoing, but the currently available knowledge indicates that in Europe "many areas of *de facto* wilderness are still going without protection" (Carver 2016).

Furthermore, if wilderness areas do also qualify as a Natura 2000-site and have been designated accordingly, protection of the wilderness qualities of these areas is not automatically guaranteed. Article 6 of the Habitat Directive contains a strict regime of protection; however, the aim of this regime is to prevent significant effects on the site "in view of the site's conservation objectives." As these objectives are likely to focus on the habitat types and species for which the site has been designated, adverse effects on the wilderness qualities of the site may only be considered as 'significant' if these effects are also adverse for the conservation or recovery of

the relevant habitat types and species. As stated by the Advocate General of the Court of Justice of the EU in the Waddensea case, *"[a]dverse effects, which are not obvious in view of the site's conservation objectives, may be disregarded"* (Case C-127/02, Opinion AG Kokott, para. 72). For instance, establishing permanent infrastructure in a Natura 2000-site will limit the wilderness qualities of the site, but may not be considered significant under the Natura 2000-regime if such infrastructure is not causing negative effects in view of the conservation objectives of the site. As explained by Advocate General Mazak in a case relating to wind turbines: *"the referring court, the applicant companies and the Commission correctly state that the classification of a zone as a site of Community importance or special protection area forming part of the ecological network Natura 2000 does not result in all construction therein being banned in accordance with the Birds and Habitats Directives"* (Case C-2/10, opinion AG Mazak, para. 30). Another example relates to the upgrade of a road in lynx habitat in Spain: the road was fenced over 9300 m on both sides of the road and although this project limits the wilderness qualities of the site, the Court concluded that significant effects for the lynx were prevented particularly because of this fencing (Case C-308-08, para. 47).

It is important to emphasize that the above discussion does not exclude effective wilderness protection through existing nature protection conventions and regional systems, such as the EU Natura 2000-regime. If there is a political will to protect wilderness, the existing systems certainly provide excellent opportunities. Wilderness protection may well go hand-in-hand with wetland protection or with the protection of certain species listed in the Bonn or Bern Convention. World heritage sites may also include areas with outstanding wilderness qualities, such as the Tasmanian wilderness. And also the Natura 2000-regime certainly leaves space for wilderness protection (EC Wilderness Guidelines 2013). For instance, in relation to the above mentioned wind turbine case, the Court of Justice of the EU explicitly concluded *"that the Birds and Habitats Directives, in particular Article 6(3) of the Habitats Directive, do not preclude a more stringent national protective measure which imposes an absolute prohibition on the construction of wind turbines […] within areas forming part of the Natura 2000 network […]"* (Case C-2/10, para. 58). The weakness discussed above is that generally such protection of wilderness areas is not the main focus of most current international and regional legal regimes and that the protective provisions of these regimes do not specifically require attention for wilderness qualities.

8.4.2 Procedural and Vague Obligations Leave Space for Prioritizing Short-Term Interests

Many provisions and obligations in nature conservation law have a procedural character. Examples include obligations to develop policy plans, to disclose certain activities, to cooperate with other parties, to assess environmental impacts of plans and projects and to monitor change. These obligations have several advantages, but

do not contain clear standards of what activities and related influences on natural values are to be considered acceptable. Furthermore, those provisions in nature conservation law that do include more substantial standards are often characterized by vague formulations. This approach makes it possible to reach consensus among a large group of state governments (Birnie et al. 2009, p. 617) and it supports the 'living document'-idea behind many conventions in the sense that the interpretation of the provisions may be adjusted to new challenges and circumstances; however, a major weakness that is directly connected to these advantages is that legal obligations and prohibitions leave so much room for interpretation that in practice, short term economic interests are often prioritized over natural values. In other words, in balancing interests, governments may decide to sacrifice natural values to economic plans and projects without clear violations of the relevant legal instruments. This is in fact also the weak side of the ideal of sustainable development. Balancing interests is in the center of this ideal, however, in practice it also leaves space for prioritization, and often, safeguarding natural values are in a weak position compared to short-term economic interests. Often this results in weak sustainability approaches (Pearce et al. 1989) in which the limitation of adverse impacts on nature ('doing less bad') is considered sufficient for labeling the plan or project as 'sustainable'. This weakness is particularly relevant for wilderness protection because protecting wilderness qualities may often require a more stringent system of prohibiting human activities. For instance, building a hotel in a wetland with high wilderness qualities may under certain conditions (e.g., use of green energy, green waste management, etc.) still be considered within the boundaries of 'wise use', even though the wilderness qualities are likely to be affected.

8.4.3 Individual Rights to Develop and Non-use of Nature as the Big Taboo

The previous characteristic is even more problematic because particularly in many Western states the process of modernization and liberalization of the last 200 years has resulted in a great emphasis on the right of the individual to 'develop' and to accumulate wealth through continued appropriation of private property (Linklater 2013). This development is complex and has its roots in many legal, philosophical and economic theories, including those discussed in Sect. 8.2. For instance, the right to appropriate natural components by mixing it with your labour was acknowledge by Locke "as much as any one can make use of to any advantage of life before it spoils" (Locke 1690, para. 31). Consequently, taking more than a person would use, would be spoilage and against the will of God; however, as explained by MacPherson, Locke considered this 'spoil-limitation' for acquisition not relevant anymore after the introduction of money:

> Gold and Silver do not spoil; a man may therefore rightfully accumulate unlimited amounts of it, 'the exceeding of the bounds of his just Property not lying in the largeness of his

> Possession, but the perishing of anything uselessly in it (MacPherson 1962, p. 204; Bell et al. 2004).

This line of reasoning has been strengthened by economic theories, such as the 'invisible hand'-theory of Adam Smith (Smith 1759, p. 203, Van Heerikhuizen 2012). If individuals in a society act in the benefit of their own interests, this will also be best for society: *"By pursuing his own interest he [a person] frequently promotes that of the society more effectually than when he really intends to promote it"* (Smith 1776, p. 562). Such legal and economic theories are further strengthened by social-psychological theories. For instance, Veblen explained at the end of the nineteenth century that the concept of private property results in a competition within society that is based on comparison and imitation: *"The motive that lies at the root of ownership is emulation. […] The possession of wealth confers honour; it is an invidious distinction"* (Veblen 1899, chapter 2). Over time, private property has increasingly been viewed *"as evidence of the prepotence of the possessor of these goods over other individuals within the community. The invidious comparison now becomes primarily a comparison of the owner with the other members of the group"* (Veblen 1899, chapter 2). Veblen explains that, as a consequence, in Western societies accumulation of wealth even becomes a necessity:

> With the growth of settled industry, therefore, the possession of wealth gains in relative importance and effectiveness as a customary basis of repute and esteem. […] It therefore becomes the conventional basis of esteem. Its possession in some amount becomes necessary in order to [achieve] any reputable standing in the community. It becomes indispensable to accumulate, to acquire property, in order to retain one's good name (Veblen 1899, chapter 2).

This theory relates very well with recent socio-psychological research that shows that selfish behaviour of individuals in society is not so much motivated by selfishness, but rather by the desire of the individual to prevent a weak position in society (De Dreu 2010, p. 11).

Although this discussion is of course far from complete, such historic views and theories, the strong belief in a liberal market economy and the related views on a limited role of government will at least in part explain why today many governments appear to have difficulties with saying 'no' to plans and projects for reasons of nature conservation. In discussions on the acceptability of human plans and projects there appears to be a general starting point that any person may conduct any activity at any time and place, without firm requirements to prove the importance of the initiative for society. The government often has the burden of proof to demonstrate why a private initiative should not take place and it appears that nature conservation (and probably particularly wilderness protection) is often too weak to overcome that burden. Moreover, also within governments, for instance in processes of developing policy and taking decisions on permit applications, short-term interests are often prioritized. Certainly, anno 2016, the intensifying environmental concerns have made it acceptable that activities are subjected to procedural requirements (e.g. environmental impact assessment) and to certain conditions to limit adverse impacts on the environment, but denying authorization still appears to be a taboo.

This weakness, that generally limits the effectiveness of nature conservation, is particularly problematic for wilderness protection, as wilderness requires not just a balancing of interests, but rather a strict prohibition of human activities that would affect the wilderness qualities.

8.4.4 No Answer to the Question of Accumulation of Adverse Impacts

The above discussed focus on biodiversity and sustainability in international and regional nature conservation law, the substantial space within these systems to balance interests and the government's difficulty to say 'no' to private initiatives, jointly result in a situation in which many human activities are considered to be acceptable or which are explicitly authorized, while they still have a certain adverse impact on nature. Certainly, due to environmental legislation such impacts are subjected to prior assessments and may have been minimized by permit conditions and regulations; however, it often is the accumulation of all these smaller impacts that causes the greatest concerns. Vöneky refers to Francioni, who has stated that *"most environmental damage is caused by lawful acts that have had adverse effects on the environment"* (Vöneky 2008, p. 176–177; Francioni 1994, p. 223) and this problem has become even more apparent over the last two decades. Most of the serious concerns for nature are caused by accumulative impacts of 'lawful' activities, activities that also grow in number, intensity and geographical scope. At the global scale we may refer to climate change and the over-exploitation of certain minerals and at the regional level examples include overexploitation of fish and fresh water stress. These examples may also be relevant at the domestic or even local level, in parallel to many other examples of accumulative problems, such as nitrate deposition or even the scarcity of space. The international conventions and implementing legislation appear to leave much space for allowing individual activities with low levels of adverse effects, while in the end the accumulative impacts are serious hurdles for reaching the conservation objectives.

An example of this weakness, directly relevant for wilderness protection, relates to the establishment of research stations and logistic infrastructure in Antarctica (Bastmeijer 2009). The Protocol on Environmental Protection to the Antarctic Treaty is one of the very few international treaties that provide wilderness values an explicit recognition. Article 3(1) of the Protocol provides an overview of all values that must be taken into account when planning and conducting human activities in the Antarctic and among these values are also the "intrinsic value of Antarctica, including its wilderness and aesthetic values." One of the consequences of this provision is that wilderness values must be taken into account when making an environmental impact assessment in accordance with Article 8 and Annex I to the Protocol. In practice, however, these values are often not receiving serious attention, even by the state governments that are Contracting Party to the Protocol. This may

be illustrated by the discussion in the Committee for Environmental Protection (CEP, an advisory body of the Parties to the Treaty and the Protocol) in 2004 on the draft-comprehensive environmental evaluation (Bastmeijer and Roura 2008) for the Czech Republic research station, referred to above:

> New Zealand suggested that, with respect to wilderness values, there are alternatives to building a base on an island where there is no base. [...] The Czech Republic advised that they acknowledge the impacts that the base would likely have on wilderness values, but in following the Madrid Protocol they focused on the impact on measurable factors, and contend that on this basis the likely environmental effects of the project are acceptable. They noted that the concept of wilderness values is very philosophical and difficult to quantify objectively, and possibly of greater relevance to the consideration of tourism activities (CEP 2004, para. 53).

Such views result in a practice in which wilderness values receive little weight in balancing interests and in the decision making process. Although wilderness values receive explicit acknowledgement in this legal system, there is clearly sufficient space for balancing interests and, eventually, for considering the project and its adverse impacts "acceptable". As has been shown by Summerson, Tin and others, this has resulted in a substantial accumulation of over 100 research stations (COMNAP 2013) and over 620 'items of infrastructure' in Antarctica, including airstrips, transport facilities and storage facilities (Summerson 2012, p. 89; Tin and Summerson 2009; Carver and Tin 2013).

8.5 Conclusion: The Importance of Deliberate Choices and Drawing Lines on Maps

The strong belief in past centuries in the Western world that the earth is meant for humankind and the legal doctrines that appropriation of nature as private property and territorial land claims of states were only justified in case of actual occupation and use, may be considered as stimuli for the transformation of the earth surface and makes clear that wilderness protection is not embedded in our Western legal roots (Macnab 2009). While this transformation process continued to intensify due to population growth, labour division, technological development, and other factors, the downside of economic development became increasingly clear. Particularly since the nineteenth century attitudes towards nature have been changing and much law has been developed to protect nature; however, there are several weaknesses in global legal systems that substantially limit the role of law in protecting nature, and particularly in protecting wilderness.

We may try to address these weaknesses through small adjustments in the legal system; however, the main message of the previous section is that, most likely, the weaknesses have much more to do with weaknesses of humankind itself, such as the difficulty to accept limitations to our social and economic ambitions and our disability to deal with accumulative impacts. These problems are also clearly reflected in quite some other global environmental problems, such as marine litter, biodiversity loss and climate change. If we think there should be wild places left in

this world for present and future generations of humankind and other species, it is important to make the explicit decision to ensure this. As concluded by Dearden, *"[i]f wilderness remains on this planet one hundred years from now it will be because, for the first time in the history of man, we have deliberately chosen that it should be so as a positive benefit rather than an industrial remnantn* (Dearden 1989, p. 206). Without such an explicit decision, the above-described weaknesses make a further decline of wilderness most likely.

For making such deliberate choices, it is important to map existing wilderness and to 'draw lines on maps': identify and designate areas for wilderness protection. To implement such deliberate choices, it is also important to have a clear picture of the overlap between such areas with high wilderness qualities and areas that are already protected under legal systems. For those wilderness areas that already have a protected status, it is important to understand to what extent this protection is also aimed at protecting wilderness qualities. This is important as wilderness qualities are often not among the criteria for selection, designation and protection under existing conventions. Along these lines it may be necessary to broaden existing legal protection to ensure wilderness protection, as well as designating wilderness areas that currently do not have any legally protected status.

To ensure long term effects at the regional and global scale, this approach could best be worked out in clear, legally binding agreements between states. This could be done within the frameworks of existing international nature conservation conventions. Even though wilderness protection is not an explicit policy objective under most of these conventions, protecting wildernesses may go hand-in-hand or may even be crucial for achieving other targets. As it is uncertain whether the international community is capable of making such deliberate choices, state governments may also make such policy choices at the domestic level. Such initiatives may be built on best practices in other countries. For instance, in 2014 the 50th anniversary of the U.S. Wilderness Act 1964 will be celebrated and there are many other inspiring examples in other regions (Kormos and Locke 2008). Under these domestic regimes various wild, relatively undisturbed areas within the territory of these states have been designated and protected by law to ensure that these areas do not lose their wilderness characteristics due to human activities.

Would this result in separating humans from nature, a criticism that has often been expressed in the past in relation to wilderness protection (Cronon 1995)? Not necessarily. Drawing lines on maps is something different than fencing geographical areas to keep people out. Human activities that do not cause adverse impacts on the wilderness qualities of the area may well be allowed. Enjoyment of these wilderness qualities by people is often even an explicit aim of existing domestic wilderness legislation. The real separation of humans and nature takes place due to the fast global process of urbanisation, and access to nature in and around cities, as well as in wild places, is important for our understanding and appreciation of nature.

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