

9-1-2012

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Anthony Perko, Case Note, Watershed Management: A Comparison between Efforts in the United States and the European Union, 16 U. Denv. Water L. Rev. 166 (2012).

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## CASE NOTE

# WATERSHED MANAGEMENT: A COMPARISON BETWEEN EFFORTS IN THE UNITED STATES AND THE EUROPEAN UNION

ANTHONY PERKO

Across the globe, the allocation and use of water, as either an economic resource or a human right, are marked by inefficiency and unwise governance. By 2025, water withdrawals are predicted to increase by fifty percent in developing countries and eighteen percent in developed countries.<sup>1</sup> In response to these projections, different groups have proposed plans to create new legal systems of governance. Integrated Water Resource Management (“IWRM”) is the most common of such strategies. IWRM takes into account variant goals, including equitable distribution, social policy, and environmental concerns.<sup>2</sup> However, some policymakers do not accept all IWRM principles, while others reject IWRM entirely. It is too soon to tell the political and social result of this failure to adapt, yet it seems unwise to continue with the current unworkable frameworks of water distribution and administration.

This Comment examines current water law frameworks, focusing on the challenges they face in a rapidly modernizing world. It also describes alternatives to the status quo and efforts to implement certain alternatives into law, comparing efforts in the United States to those of the European Union. Part I briefly explains why most nations’ current legal frameworks will be ill-equipped to face future challenges. Part II outlines the history and goals of IWRM. Part III compares the European Union’s and the United States’ attempts to implement IWRM, focusing on the European Union’s accomplishments and the United States’ failures. Part IV provides possible explanations for the differences of achievement in implementing IWRM in the two regions. It also examines whether efforts to implement IWRM in the United States in the future might meet with more success.

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1. See, e.g., RUSSELL ATHERTON ET AL., U.N. ENV’T PROGRAMME, GLOBAL ENVIRONMENT OUTLOOK: ENVIRONMENT FOR DEVELOPMENT (GEO-4) 115-56 (Peter Ashton ed., 2007), available at [http://www.unep.org/geo/GEO4/report/GEO-4\\_Report\\_Full\\_en.pdf](http://www.unep.org/geo/GEO4/report/GEO-4_Report_Full_en.pdf).

2. ANIL AGARWAL ET AL., GLOBAL WATER P’SHIP, TAC BACKGROUND PAPER NO. 4 at 9 (2000), available at [http://www.gwp.org/Global/GWP-CACENA\\_Files/en/pdf/tec04.pdf](http://www.gwp.org/Global/GWP-CACENA_Files/en/pdf/tec04.pdf) [hereinafter *Global Water P’ship*].

## I. IMPRACTICABILITY OF CURRENT WATER GOVERNANCE MODELS

Given current rates of population growth in the developed world, water resources are in increasingly short supply.<sup>3</sup> The intensifying demand is taxing the finite amount of fresh water available for human consumption.<sup>4</sup> Unlike in the past, when legal systems were able to reasonably manage water apportionment and to come to equitable solutions for interested parties, the future requires these legal systems to adapt to meet the needs of growing populations.<sup>5</sup>

Current administrative and regulatory systems will not be able to keep up with these future stresses on water supplies.<sup>6</sup> Irrigated agriculture makes up sixty-nine percent of water withdrawals worldwide, but comprises ninety-three percent of all consumptive water use, meaning water that is not returned to the stream after use and thus unavailable to downstream users.<sup>7</sup> The explosion of global population, particularly in developing nations, will require agriculture to feed more people and to use more water in decades to come.<sup>8</sup> Irrigative uses of water will create further tension between farmers and future megalopolises, which will also require water for municipal purposes.<sup>9</sup> Uninhibited urban sprawl and unregulated use of pesticides and other contaminants will cause greater pollution of groundwater and streams, resulting in destruction of plant and animal ecosystems.<sup>10</sup> For example, a study of the effect of urban growth south of Washington, D.C. found that new development caused increased sediment, as well as mercury, zinc, and lead in the city's water resources.<sup>11</sup> This growth also compounded the water shortage problem by decreasing the availability of groundwater.<sup>12</sup>

There are numerous reasons why current water governance structures are ill-suited to deal with future water issues. The most significant obstacle to efficiency and fairness in water management is the fact that water has unique characteristics that makes it difficult to regulate across borders and jurisdictional lines. Specifically, because "most water resource problems are trans-

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3. See SUSAN S. HUTSON ET AL., U.S. GEOLOGICAL SURVEY, ESTIMATED WATER USE IN THE UNITED STATES IN 2000 39-42 (2004), available at <http://pubs.usgs.gov/circ/2004/circ1268/pdf/circular1268.pdf>.

4. *Id.*

5. W. WATER POLICY REVIEW ADVISORY COMM'N, WATER IN THE WEST: CHALLENGE FOR THE NEXT CENTURY 1-1 to -6 (1998), available at [http://www.preventionweb.net/files/1785\\_VL102318.pdf](http://www.preventionweb.net/files/1785_VL102318.pdf).

6. *Id.*

7. FOOD & AGRIC. ORG. OF THE U.N., CROPS AND DROPS: MAKING THE BEST USE OF WATER FOR AGRICULTURE 2 (2012), available at <http://www.fao.org/docrep/005/y3918e/y3918e00.htm>.

8. *Id.*

9. *Id.*

10. See KAREN C. RICE, U.S. GEOLOGICAL SURVEY, EFFECTS OF URBAN SPRAWL ON THE WATER RESOURCES OF NORTHERN VIRGINIA (1999), available at [http://va.water.usgs.gov/GLOBAL/posters/urban\\_sprawl.pdf](http://va.water.usgs.gov/GLOBAL/posters/urban_sprawl.pdf).

11. *Id.*

12. *Id.*

boundary in nature (intermunicipal, interstate, or international),”<sup>13</sup> any dispute that arises concerning water usage potentially implicates diverse governing bodies and regulatory schemes.<sup>14</sup> Governing water resources implicates several pertinent regulatory issues, including administrative jurisdiction, hydrological features, and environmental management concerns, but various political entities handle each differently.<sup>15</sup> Additionally, scientists and policymakers understand the hydrological connection between surface and groundwater better today than when policymakers created the current political boundaries and legal frameworks.<sup>16</sup> The misalignment between political divisions and watershed boundaries creates uncertainty and, at times, contentious challenges.<sup>17</sup> For example, many allocation negotiations within the Colorado River Basin reflect the interests of the seven Colorado River Basin states, rather than recognizing the Basin as a unified hydrological system.<sup>18</sup>

Governments with high levels of resource regulation, such as the United States and the European Union, administer water resources in exceedingly complex ways. Within these systems, water management decisions often implicate the regulatory bodies of other fields, such as land use.<sup>19</sup> This forces any decision concerning a proposed water transfer to involve other considerations of associated social priorities.<sup>20</sup> For example, if a municipality proposes to build a hydroelectric dam in Colorado, it must obtain a preliminary permit from the Federal Energy Regulatory Commission (“FERC”).<sup>21</sup> However, this permit only satisfies FERC’s requirements, and the municipality will likely need permits from other governing bodies.<sup>22</sup> For instance, courts may consider water leaving the dam a “discharge” such that the state or interstate water pollution control agency must certify the discharge to comply with Section 401 of the Clean Water Act.<sup>23</sup> The United States Army Corps of Engineers may also subject the dam to conditions imposed by efficiency studies.<sup>24</sup> For other matters

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13. William Goldfarb, *Watershed Management: Slogan or Solution?*, 483 BOS. COLL. ENVTL. AFF. L. REV. 484, 484 (1994).

14. *Id.*

15. *Id.* at 486.

16. *See, e.g.,* Collier v. Ariz. Dep’t of Water Res., 722 P.2d 363, 366 (Ariz. Ct. App. 1986) (discussing the bifurcation of Arizona water law into “groundwater” and “surface water” notwithstanding the fact that such a system ignores hydrological connections between the two).

17. *See* RICHARD W. HEALY ET AL., WATER BUDGETS: FOUNDATIONS FOR EFFECTIVE WATER-RESOURCES AND ENVIRONMENTAL MANAGEMENT, U.S. GEOLOGICAL SURVEY CIRCULAR 1308, at 60-65 (2008), available at [http://pubs.usgs.gov/circ/2007/1308/pdf/C1308\\_508.pdf](http://pubs.usgs.gov/circ/2007/1308/pdf/C1308_508.pdf).

18. *Id.* at 61-63.

19. GLOBAL WATER P’SHP, *supra* note 2, at 14.

20. *Id.*

21. 16 U.S.C. § 797(e) (2012).

22. Karl Kumli, Attorney, Dietze & Davis, P.C., Address at the University of Denver Sturm College of Law (Apr. 16, 2012).

23. *Compare* Nat’l Wildlife Fed’n v. Gorsuch, 693 F.2d 156, 171-76 (D.C. Cir. 1982) (changes in water quality caused by the operation of a dam, such as changes in dissolved oxygen levels, temperature, and supersaturation, are not discharges of pollutants), *with* S.C. Wildlife Fed’n v. Alexander, 457 F. Supp. 118, 125 (D.S.C. 1978) (low concentrations of dissolved oxygen created by impoundments of water constitute the addition of a pollutant).

24. 33 U.S.C. § 1341(a) (2012).

that might and often do arise, the municipality may need to consult with the Bureau of Reclamation, the US Forest Service, the Bureau of Land Management, the Colorado Water Control Board, the Water Quality Control Commission, Native American tribes, and the State Historic Preservation Officer.<sup>25</sup> In Colorado, the municipality will have to also obtain and adjudicate their water rights to ensure their rights are enforceable.<sup>26</sup>

Because water matters implicate such a variety of government regulations and third-party interests, it is clear that water management can become very complicated very quickly. As demonstrated above, the division of water administration into many different entities causes much of this complexity. The proposals discussed below represent attempts by individuals and groups to simplify the process in order to facilitate the supervision of water resources.

## II. INTEGRATED WATER RESOURCE MANAGEMENT: A ROADMAP

In recent years, scholars and lawmakers have dedicated time and energy to solving problems caused by the complexities of water management. Approaching IWRM as unified policy (as opposed to situation-specific conflict resolutions) is the exception rather than the rule.<sup>27</sup> Nevertheless, entities have formed certain broad principles that seem to conform to IWRM.<sup>28</sup>

In 1992, experts in water management, including engineers and legal authorities from various countries (though notably not lawmakers or governmental representatives), met at the International Conference on Water and the Environment (“Conference”) in Dublin to create a unified theory of water management.<sup>29</sup> Taking into account several factors, such as the increasing scarcity of water, the varied social stakes involved, and long-term solutions, the Conference developed “a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.”<sup>30</sup> The Conference formulated the four “Dublin Principles,” which represent the basic tenets of IWRM:<sup>31</sup>

- I. Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment;
- II. Water development and management should be based on a participatory approach, involving users, planners and policymakers at all levels;
- III. Women play a central part in the provision, management and safeguarding of water; and

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25. Kumli, *supra* note 22.

26. COLO. REV. STAT. § 37-92-304 (2012).

27. ELLI LOUKA, WATER LAW & POLICY: GOVERNANCE WITHOUT FRONTIERS 24 (2008).

28. *Id.*

29. *Id.*

30. GLOBAL WATER P'SHIP, *supra* note 2, at 22.

31. PATRICK MORIARTY ET AL., INTEGRATED WATER RESOURCES MANAGEMENT: THEMATIC OVERVIEW PAPER 4 (2004) (“[IWRM’s] conceptual backbone is provided by a set of four core principles, agreed upon by the Dublin Ministerial Conference.”).

IV. Water has an economic value in all its competing uses and should be recognized as an economic good.<sup>32</sup>

Under the Conference's design, IWRM encourages water governance according to watershed or basin boundaries, not artificial political or administrative divisions.<sup>33</sup> This is in contrast to many nations' current legal structures in which the laws governing a river's administration vary as it flows through multiple jurisdictions.<sup>34</sup> For example, the Missouri River divides Nebraska and Iowa.<sup>35</sup> However, the two states' laws have very little in common with regard to the water's legal status: Nebraska's Constitution enshrines the doctrine of prior appropriation,<sup>36</sup> while Iowa utilizes riparian water law.<sup>37</sup> Thus, when the states work together on a water project, like the Lewis and Clarke Regional Water System, they must take into account the differing legal structures, even though all parties reside in the Missouri Basin.<sup>38</sup> IWRM, by contrast, provides that waters of a flowing stream (as well as its hydrologically connected groundwater) should be managed along their geographic course, regardless of whether they cut across extant political boundaries.<sup>39</sup> Because "existing administrative divisions and regulatory conditions might discourage the [integrated] management of water," watershed management helps eliminate jurisdictional difficulties between authorities who would not otherwise work together.<sup>40</sup> This also applies on the international level, where different countries may work together for the goal of integrated watershed management, regardless of national boundaries.<sup>41</sup>

Political theorists Liesbet Hooghe and Gary Marks identified two governmental foundations of political control.<sup>42</sup> Under their theory, administrative units are characterized as either "Type I" or "Type II" government structures.<sup>43</sup> Type I government structures are constituency-based, multifunction entities, such as cities and states.<sup>44</sup> This is the current system in the United States, where governing authorities within a specific geographic unit handle all administrative and regulatory functions in that area.<sup>45</sup> Type II government structures are de-

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32. GLOBAL WATER P'SHIP, *supra* note 2, at 13-14.

33. *Id.* AT 24-26.

34. See Christine A. Klein, *The Constitutional Mythology of Western Water Law*, 14 VA. ENVTL. L. J. 343, 345-48 (1995) (providing a brief description of different states' contrasting water law systems).

35. TRUDY A. SUCHAN ET AL., U.S. CENSUS BUREAU, CENSUS ATLAS OF THE UNITED STATES 259 (2007), available at [http://www.census.gov/population/www/cen2000/censusatlas/pdf/15\\_Reference-Maps.pdf](http://www.census.gov/population/www/cen2000/censusatlas/pdf/15_Reference-Maps.pdf).

36. NEB. CONST. art. XV, § 6.

37. See *Kundel Farms v. Vir-Jo Farms, Inc.* 467 N.W.2d 291, 294 (Iowa Ct. App. 1991).

38. See LEWIS & CLARK REGIONAL WATER SYSTEM, <http://www.lcrws.org/index.php> (last visited Nov. 14, 2012).

39. GLOBAL WATER P'SHIP, *supra* note 2, at 47.

40. *Id.*

41. *Id.* at 48-49.

42. Liesbet Hooghe & Gary Marks, *Unraveling the Central State, but How? Types of Multi-Level Governance*, 97 AM. POL. SCI. REV. 233, 233-43 (2003).

43. EDELLA SCHLAGER & WILLIAM BLOMQUIST, EMBRACING WATERSHED POLITICS 21 (2008).

44. *Id.*

45. Hooghe & Marks, *supra* note 42, at 233 (detailing how the organization of public transit in the San Francisco Bay Area is divided between seven different municipalities; this is in con-

fined by their function, such that their boundaries encompass as many constituencies as necessary to regulate the subject matter over which they hold control, rather than being confined to a single geographic area.<sup>46</sup> IWRM envisions water management bodies as Type II government structures.<sup>47</sup> These bodies would regulate all water-related functions within a certain geographic area, regardless of what state or other jurisdiction may share its borders.<sup>48</sup>

Establishing a Type II entity to govern a watershed has the advantage of simplifying problems that arise from disparate agencies and jurisdictions.<sup>49</sup> It can also lead to fairer allocation and more efficient use of water resources than under Type I government structures.<sup>50</sup> For example, the respective Type I systems in Texas and Oklahoma allow two landowners, one in Texas and one in Oklahoma, to follow their respective laws, yet still create an unjust result. In Texas, the common law *cujus* doctrine<sup>51</sup> ties mineral rights and the right to use groundwater to landownership.<sup>52</sup> For instance, under this doctrine, a Texan farmer could pump groundwater connected to a stream without limit so long as the farmer owned the land above the groundwater.<sup>53</sup> Given the “fugitive” nature of groundwater, such pumping could lower the water table.<sup>54</sup> In turn, this may render groundwater inaccessible to a farmer across the border in Oklahoma, who must apply for well permits limiting the farmer to a certain amount of water per year.<sup>55</sup> Alternatively, if the states regulated groundwater on a river basin level, the same laws would apply to both farmers, avoiding a potentially unjust result.

In contrast, Colorado organizes its water administration into seven water divisions according to the state’s the seven major river basins.<sup>56</sup> Within each division, a water court hears all disputes within that basin.<sup>57</sup> Therefore, if the two farmers in the example above lived in the same basin in Colorado, the water court for that basin would adjudicate their respective rights, and they

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trast to a Type-II structure that would cut across jurisdictional lines to provide the single service of public transportation for the entire area).

46. Schlager & Blomquist, *supra* note 43.

47. GLOBAL WATER P'SHIP, *supra* note 2, at 44-50.

48. *Id.*

49. *Id.* at 47.

50. *See id.* at 47-50.

51. “*Cujus est solum, ejus est usque ad coelum et ad inferos*”; this Latin phrase translates as “To whomsoever the soil belongs, he owns also to the sky and to the depths.” *See Bd. of Cnty. Comm’rs of Cnty. of Park v. Park Cnty. Sportsmen’s Ranch, L.L.C.* 45 P.3d 693, 700-01 (2002).

52. *See Sipriano v. Great Spring Waters of Am., Inc.*, 1 S.W.3d 75, 76-80 (Tex. 1999) (affirming the *cujus* doctrine, while noting that groundwater regulation was being considered by the legislature).

53. *Id.*

54. *See DANIEL L. BRENDLE, U.S. GEOLOGICAL SURVEY, EVALUATION OF POSSIBLE ALTERNATIVES TO LOWER THE HIGH WATER TABLE OF ST. CHARLES MESA, PUEBLO COUNTY, COLORADO* 8-10 (2002), available at <http://pubs.usgs.gov/wri/wri014190/pdf/wrir01-4190.pdf>.

55. OKLA. STAT. tit. 82, § 1020.2, 1020.7 (2012).

56. COLO. REV. STAT. § 37-92-201 (2012).

57. COLO. REV. STAT. § 37-92-203 (2012).

would receive equal treatment regarding who should receive well permits.<sup>58</sup> However, the Colorado water divisions cannot be considered true Type II entities under Hooghe and Marks' theory. For example, Colorado's water courts may only hear water matters that statutes delineate.<sup>59</sup> In addition, water matters concerning pollution discharges and dam construction still involve federal oversight in addition to the water courts' jurisdiction.<sup>60</sup> Furthermore, the water divisions, though aligned along river basins in the spirit of IWRM, have no authority outside Colorado's borders, thus leaving parts of some river basins under the jurisdiction of other states.<sup>61</sup> Nevertheless, the Colorado water divisions provide an illustration of a nascent Type II water administration structure within the United States, because river basins to some extent define the water divisions' authority and the divisions have control over many water matters within their bounds.

Admittedly, the concept of basin-wide management does not solve every problem related to water use. In many states, especially in the West, transbasin water diversions and other complexities create difficulties in deciding which body possesses authority over a dispute's subject matter.<sup>62</sup> Even if existing Type I government units agreed to use watersheds as the key administrative unit, they must still decide at what scale to define each watershed.<sup>63</sup> As a matter of geologic fact, most rivers are tributaries of other rivers.<sup>64</sup> For instance, administration could be based only along Cherry Creek that runs through Denver, or it could be absorbed into a larger South Platte River district.<sup>65</sup> Similarly, states sharing a river with Colorado may desire to base administration along the larger Missouri River Basin to better address their downstream needs.<sup>66</sup> Presumably, the difficulty in deciding the scale of water administration will put some localized interests into conflict with larger regional interests, depending on the priorities of the various parties involved. This discord could frustrate the pur-

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58. Provided that the farmers' groundwater is hydrologically connected in the same river basin (and thus the same water division) as in the manner discussed in the Texas-Oklahoma example. The situation becomes more complicated for groundwater that does not align with river basins, which is a matter beyond the scope of this example.

59. COLO. REV. STAT. § 37-92-203(1) (2012).

60. See, e.g., 16 U.S.C. § 797(e) (2012).

61. COLO. REV. STAT. § 37-92-201 (2012) (the jurisdiction of the water courts is expressly limited to "lands in the state of Colorado").

62. See Barbara Cosens, *Resolving Conflict in Non-Ideal, Complex Systems: Solutions for the Law-Science Breakdown in Environmental and Natural Resources Law*, 48 NAT. RES. J. 257, 259-65 (2008) (discussing "the complexity of the intersection between human and natural systems in legal disputes involving natural resources").

63. Schlager & Blomquist, *supra* note 43, at 24.

64. See, e.g., XIAODONG JIAN ET AL., U.S. GEOLOGICAL SURVEY, STREAMFLOW OF 2007—WATER YEAR SUMMARY 3 (2008), available at <http://pubs.usgs.gov/fs/2008/3042/FS-2008-3042.pdf>.

65. Colorado's water districts discussed above have "drawn the line" along seven major river basins: the South Platte, Arkansas, Rio Grande, Gunnison, Colorado, White/ Yampa, and San Juan. COLO. REV. STAT. § 37-92-201 (2012).

66. John H. Davidson, *Adapting to Climate Change: Transbasin Water Diversions and an Example from the Missouri River Valley*, 11 VT. J. ENVTL. L. 757, 760 (2010) ("The Missouri River Basin encompasses ten states, several Canadian provinces, twenty-five Indian tribes, and nearly the full range of human land uses.").



pose of establishing Type II watershed districts, and could lead to problems similar to those under current administrative divisions.

Nevertheless, proponents of IWRM principles believe that they are an improvement over existing legal structures, and that their implementation is a goal that governments should work toward.<sup>67</sup> As discussed below, both the United States and Europe have already made some such attempts, with different degrees of success.

### III. ATTEMPTS TO IMPLEMENT IWRM

Governments resist breaking down existing jurisdictional and administrative barriers and replacing them with geographic ones.<sup>68</sup> Nevertheless, both the United States and the European Union have attempted to implement water administration along the lines of IWRM. As discussed below, at this stage, it seems that the European Union's endeavors to implement IWRM have proven more successful than corresponding attempts in the United States. To predict where the IWRM movement will lead both regions, it is important to examine these efforts and analyze the reasons for their relative success or failure.

#### A. IWRM IN THE EUROPEAN UNION

The European Union ("EU") has made a systemic effort to create a unified water resources policy. In 2000, the European Parliament and Council passed the Water Framework Directive 2000 ("WFD"), summarizing and implementing these policies.<sup>69</sup> Fully embracing the principles of IWRM (though not explicitly endorsing it), the WFD is a directive<sup>70</sup> towards the EU member-states, which "requires that all partners in a given river basin manage their waters in close cooperation, irrespective of administrative borders, according to clear environmental objectives."<sup>71</sup> Given its ambitious goal of establishing a common framework and implantation process for all member-states, commentators consider the WFD to be one of the most important pieces of legislation issued by the EU in the last decade.<sup>72</sup> Conforming to IWRM principles, the WFD requires member-states to describe their geography in terms of river basins for administrative purposes.<sup>73</sup> The WFD primarily focuses on environmental concerns, as the majority of the legislation relates to improving

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67. GLOBAL WATER P'SHIP, *supra* note 2, at 47-50.

68. See Hooghe & Marks, *supra* note 42, at 237.

69. Directive 2000/60/EC of the European Parliament and of the Council Establishing a Framework for Community Action in the Field of Water Policy, 2000 O.J. (L 327) [hereinafter WFD].

70. A directive is a legislative act of the European Union which requires member states to achieve a particular result while at the same time not declaring which means are to be taken to achieve that result. Treaty on the Functioning of the European Union, art. 288, 1992 O.J. (C 191).

71. SUSTAINABLE MANAGEMENT OF WATER RESOURCES: AN INTEGRATED APPROACH 9 (Carlo Giupponi et al. eds., 2006).

72. *Id.* at 47.

73. WFD, *supra* note 69, at art. 3.

water quality and eliminating pollutants.<sup>74</sup> However, it also references integrating water concerns into energy, tourism, transportation, and other areas.<sup>75</sup> Despite this relatively narrow focus, the WFD is a large step forward for IWRM.

The WFD seeks to consolidate the disparate water management systems of EU member-states to establish coherent regional water policy.<sup>76</sup> It directs EU countries to create plans and administrative policies to govern water, while individual member-states remain responsible for implementation.<sup>77</sup> Though the plans must meet certain broad WFD standards, this method allows for localized responses to problems, as opposed to EU-directed policies. In order to provide a legal basis to do so, member-states were to “transpose” the WFD into their own national law by 2003.<sup>78</sup>

To abide by the “transposal” mandate, member-states must first identify the watersheds within their borders and assign them into river basin districts.<sup>79</sup> Nations can consolidate smaller rivers into larger basins at their discretion.<sup>80</sup> If a watershed crosses international lines (for example, the Danube, which encompasses much of Central Europe<sup>81</sup>), member-states should work together to create an international river basin district.<sup>82</sup> However, conflicting national goals can render such international coordination very difficult. Though the WFD empowers the European Commission (“Commission”) to facilitate efforts of member-states to reach agreements concerning international watersheds,<sup>83</sup> member-states often organized watershed districts according to their own national interest.<sup>84</sup> For example, in Germany, “the main challenge with regard to the implementation of the WFD was seen in the communication between the Federal States, especially between the new and the old ones . . . bi-national contacts with the Czech Republic on the other side were considered as minor.”<sup>85</sup> In situations where watersheds cross EU boundaries, the WFD encourages member-states to cooperate with outside countries, though conflicting national interests might limit these efforts.<sup>86</sup> Nevertheless, member-states have made progress with non-EU members by forming bodies such as the International Commission for the Protection of the Danube River,<sup>87</sup> wherein even

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74. *Id.* at art. 4.

75. *Id.*

76. *Id.* at art. 3.

77. *Id.* at art. 4.

78. *Id.* at art. 24.

79. *Id.* at art. 3.

80. *Id.*

81. See Philip Weller & Igor Liska, *A River Basin Management Plan for the Danube River*, 1 WATER RES. & MGMT. 1, 1 (2011).

82. WFD, *supra* note 69, at art. 5.

83. *Id.* at art. 12.

84. TUTECH INNOVATION GMBH, THE ROLE OF THE WFD FOR RIVER BASIN PLANNING TO ACHIEVE SUSTAINABLE USE OF WATERCOURSES 2 (2005), available at [http://www.watersketch.net/WP2\\_Case\\_Studies/Germany/Hamburg\\_Workshop\\_050630/Minutes\\_WG\\_1\\_3\\_.pdf](http://www.watersketch.net/WP2_Case_Studies/Germany/Hamburg_Workshop_050630/Minutes_WG_1_3_.pdf).

85. *Id.*

86. WFD, *supra* note 69, at art. 3.

87. See Weller & Liska, *supra* note 81, at 1-6.

states that are not members of the EU have committed to implement WFD throughout the entire basin.<sup>88</sup>

After authorities assign watersheds into mutually agreed-upon districts, member-states (or international river basin districts) must produce River Basin Management Plans (“RBMPs”) for the Commission.<sup>89</sup> RBMPs include goals and methods for abatement of pollution, comprehensive mapping of waters, a summary of significant pressures and impacts in a river basin, economic analyses of water use, and a summary of the consultation process with stakeholders and the public.<sup>90</sup> Though the WFD called for member-states to submit the first of these RBMPs by 2009, many member-states have not yet completed them.<sup>91</sup> The WFD also instructs river basin authorities to make updated reports every three years to assess member-states’ progress in implementing their respective national plans, transforming RBMPs from planning into accountability instruments.<sup>92</sup> As Table 1 demonstrates, the WFD has numerous deadlines for member-states to keep improvement of the continent’s waters on track.<sup>93</sup>

2000	Directive entered into force
2003	Transposition in national legislation Identification of River Basin Districts and Authorities
2004	Characterization of river basin: pressures, impacts, and economic analysis
2006	Establishment of monitoring network Start public consultation (at the latest)
2008	Present draft river basin management plan to the public
2009	Finalize river basin management plan including program of measures
2010	Introduce pricing policies
2012	Make operational programs of measures
2015	Meet environmental objectives First management cycle ends
2021	Second management cycle ends
2027	Third management cycle ends, final deadline for meeting objectives

*Table 1: Timeline of Implementation of WFD in EU Member-States<sup>94</sup>*

88. *Id.*

89. WFD, *supra* note 69, at art. 13.

90. *Id.* at Annex 7.

91. *Accompanying Document to the Communication from the Commission to the European Parliament and the Council ‘Toward Sustainable Water Management in the European Union,’ First Stage in the Implementation of the Water Framework Directive 2000/60/EC*, at 21-22, SEC (2007) 362 final (Mar. 22, 2007), available at [http://ec.europa.eu/environment/water/water-framework/implrep2007/pdf/sec\\_2007\\_0362\\_en.pdf](http://ec.europa.eu/environment/water/water-framework/implrep2007/pdf/sec_2007_0362_en.pdf) [hereinafter 2007 Report].

92. WFD, *supra* note 69, at art. 15.

93. 2007 Report, *supra* note 91, at 6.

94. *Id.*

Unfortunately, WFD's implementation has not been as successful as the Commission hoped. The drafters of the WFD designed the deadlines to be realistic, providing member-states with ample time to meet their obligations.<sup>95</sup> Yet, just a few years into the implementation period, many member-states fell short of the timetable and disagreed about the proper implementation course.<sup>96</sup> For example, by 2007, the EU member-states of Lithuania, Latvia, Estonia, and Poland were not cooperating with the non-EU nations of Russia, Belarus, and the Ukraine concerning attempts to demarcate the proper scale for river basin administration.<sup>97</sup>

Additionally, before becoming fully legally binding, the WFD directs member-states to transcribe the WFD mandates into their national legislation, providing a statutory basis for action on the national level.<sup>98</sup> This transposition allows member-states to bring laws, regulations, and administrative provisions into force to comply with the WFD's environmental and regulatory goals.<sup>99</sup> However, when the Commission conducted its First Implementation Report in 2007, it revealed "significant and widespread shortcomings in the transposition."<sup>100</sup> Though all member-states that had recently joined the EU in 2004 and 2007 transposed the directive as required, most of the "EU15"<sup>101</sup> countries had not.<sup>102</sup> Consequently, under the supremacy doctrine in EU law, the Commission launched legal infringement cases against eleven EU countries.<sup>103</sup> The Commission submitted five of these cases (Belgium, Luxembourg, Germany, Italy, and Portugal) to the Court of Justice of the European Union, which ruled against the member-states.<sup>104</sup> Further, of the member-states that have transposed the law, many have done so only partially or in a non-uniform manner. According to the Commission's assessment, only three countries (Austria, Malta, and Portugal) possessed satisfactory transpositions such that the member-states properly made the WFD's goals of environmental protection, public participation, and conferring of rights on the public part of the

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95. *Id.* at 5.

96. *Id.* at 10, 22, 36, 47-48.

97. *Id.* at 20.

98. WFD, *supra* note 69, at art. 24.

99. *Id.*

100. 2007 Report, *supra* note 91, at 11.

101. The "EU15" countries are those that were members of the EU as of Jan. 1, 1995 and comprise most of Western Europe. See *Europe Without Frontiers*, EURO. UNION, [http://europa.eu/about-eu/eu-history/1990-1999/index\\_en.htm](http://europa.eu/about-eu/eu-history/1990-1999/index_en.htm) (last visited Dec. 27, 2012).

102. 2007 Report, *supra* note 91, at 10.

103. *Id.* Under the Treaty on the Functioning of the European Union and the Euratom Treaty, the Commission is responsible for ensuring that member-states apply EU law; where a member-state fails to properly transcribe EU law, the Commission may bring an action for non-compliance to bring the "infringement" to an end. See *Application of EU Law*, EURO. COMM'N, [http://ec.europa.eu/eu\\_law/infringements/infringements\\_en.htm](http://ec.europa.eu/eu_law/infringements/infringements_en.htm) (last updated June 19, 2012).

104. 2007 Report, *supra* note 91, at 10. When member-states fail to meet their obligations under the WFD, the Court of Justice of the European Union relies upon the member-states' highest courts to strike down nonconforming laws. See, e.g., Case C-85/07, *Comm'n of the European Cmty. v. It.*, 2007 E.C.R. 194.

member-state's national laws.<sup>105</sup> Though this data is discouraging, the Commission is considering ways to facilitate a common implementation strategy for member-states, either bi-laterally with each nonconforming member-state or in group discussions between EU and implicated nations.<sup>106</sup>

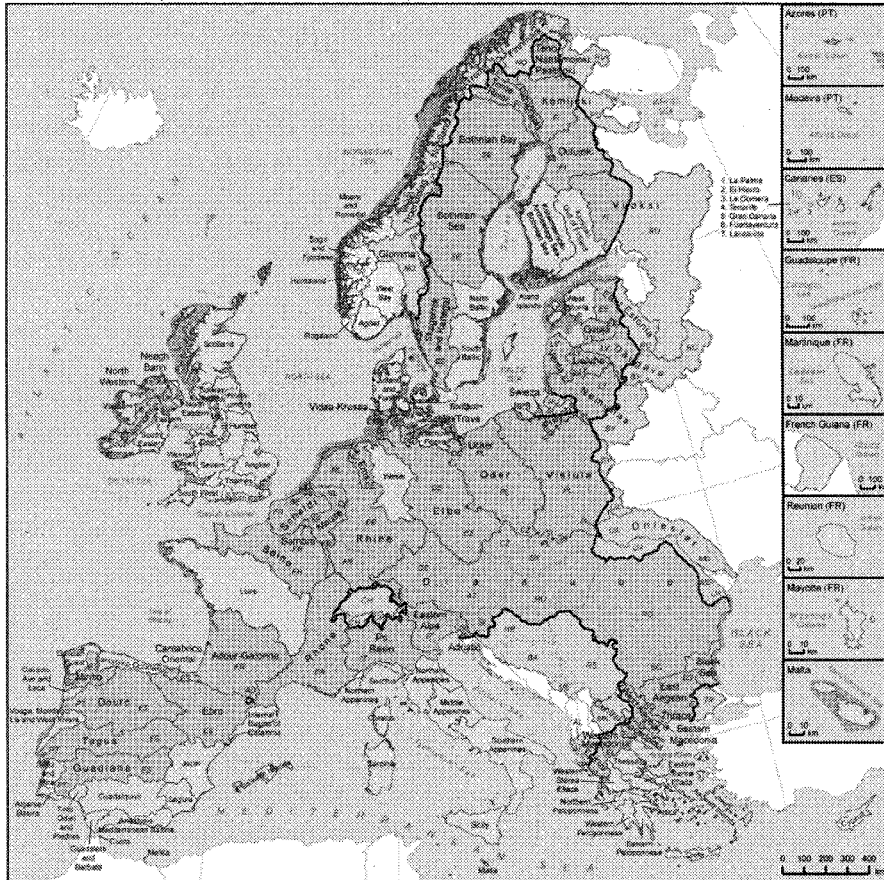


Figure 1: National and International River Basin Districts<sup>107</sup>

The creation of “administrative regions” creates another problem for the WFD implementation. As Figure 1 demonstrates, the WFD directs member-states to submit plans for the creation of various administrative authorities (based on respective watersheds), called “river basin districts” (“RBDs”).<sup>108</sup> While all nations have submitted RBDs, there is lack of uniformity as to the size and scope of the administration of various river basins and sub-basins.<sup>109</sup> Therefore, the Commission found many deficiencies in different member-

105. 2007 Report, *supra* note 91, at 11.

106. *Id.* at 13.

107. *The EU Water Framework Directive--Integrated River Basin Management for Europe*, EURO. COMM'N, [http://ec.europa.eu/environment/water/water-framework/facts\\_figures/pdf/River%20Basin%20Districts-2012.pdf](http://ec.europa.eu/environment/water/water-framework/facts_figures/pdf/River%20Basin%20Districts-2012.pdf) (last visited Dec. 27, 2012).

108. WFD, *supra* note 69, at art. 3.

109. 2007 Report, *supra* note 91, at 15-17.

states' approaches to river basin district administration.<sup>110</sup> The Commission noted that member-states established one-hundred and ten RBDs across the continent.<sup>111</sup> However, some member-states established one competent authority per river basin district, others established one authority for several districts, and others established several authorities for one district.<sup>112</sup> This is in contrast to the basic IWRM principle that a single Type II structure should aim to oversee water management within each district.<sup>113</sup> Further, with regard to international watersheds, the Commission noted differences between member-states in the ambition, approach, and mechanisms of international commissions.<sup>114</sup> At the time the Commission issued the 2007 Report, no member-state had designated an international body as a competent, ministerial authority for the implementation of the WFD.<sup>115</sup> The multi-jurisdictional problems inherent in Type I watershed management systems are thus still present, if to a lesser degree.<sup>116</sup>

Notwithstanding the aforementioned difficulties, member-states have successfully implemented WFD's international cooperation requirement.<sup>117</sup> Member-states have widely accepted the EU's Common Implementation Strategy ("CIS") for shared planning information exchange among member-states.<sup>118</sup> The CIS's main goals are to promote communication between member-states, promote information sharing, develop guidance on technical issues, inform data management, test and validate pilot river basin programs, and raise public awareness.<sup>119</sup> The CIS led to an "inspiring and encouraging" trend in which member-states and non-member states are working together for the progressive implementation of the WFD via international bodies.<sup>120</sup> Weighing the costs and benefits of the WFD, the Commission concluded that, though the implementation and planning processes are behind, they are conclusively progressing.<sup>121</sup> Though member-states have not begun enforcement beyond the planning stage, the WFD as a guidepost to implementing IWRM is proving effective, at least at the organization stage.<sup>122</sup> The trend of EU member-states to cooperate with their neighbors under the guidance of the Commission for the

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110. Louka, *supra* note 27, at 89-90.

111. 2007 Report, *supra* note 91, at 15.

112. *Id.* at 15-16.

113. GLOBAL WATER P'SHIP, *supra* note 2, at 24-26.

114. Louka, *supra* note 27, at 90.

115. 2007 Report, *supra* note 91, at 17.

116. *Id.* at 16 (noting that in some member-states, in particular those with a federal structure, water management falls at least partially under the competence of sub-national or regional authorities); see, e.g., GRUNDGESETZ FÜR DIE BUNDESREPUBLIK DEUTSCHLAND [CONSTITUTION] May 23, 1949, art. 74 (Ger.) (giving concurrent authority over water to both the national government and to the federal states).

117. 2007 Report, *supra* note 91, at 43-45.

118. *Id.* at 43-44.

119. *Id.* at 44. At the time of the first report, the CIS had created a network of over one-thousand experts from over thirty countries to provide input regarding implementation of the WFD. *Id.*

120. 2007 Report, *supra* note 91, at 47.

121. *Id.* at 47-48.

122. *Id.* at 47.

purpose of joint watershed management has thus, in the opinion of the Commission, taken a large step towards the realization of IWRM principles in the EU.<sup>123</sup>

## B. IWRM IN THE UNITED STATES

IWRM's notion of organizing water administration along hydrological boundaries is not a new concept in the United States.<sup>124</sup> John Wesley Powell wrote in 1878 that lawmakers should administer water resources (particularly in the arid Western United States) based on hydrographic basins.<sup>125</sup> In his mind, river basins in such an administration "would be virtually self-governing and hence able to negotiate with other similar basins, as well as to control their own watersheds clear to the drainage divides."<sup>126</sup> Indeed, authorities in the United States have repeatedly emphasized basin-wide administration in nearly every major attempt at river control in the twentieth century.<sup>127</sup> Some of these projects have been successful, most famously with large-scale projects involving dam construction, electricity production, and flood control, such as the Tennessee Valley Authority.<sup>128</sup> Nevertheless, over the course of the twentieth century, the United States has rejected broad reorganization of water entities along watershed lines, instead favoring piecemeal litigation<sup>129</sup> and interstate compacts.<sup>130</sup>

The history of attempts at river basin-wide management in the United States spans several eras. Each era represents a grafting of new strategies and practices onto the practices of previous eras.<sup>131</sup> During the New Deal Era, the federal government actively constructed large public works.<sup>132</sup> The national government spent funds on numerous projects designed for the improvement of navigation, providing water for irrigation, flood control, and hydroelectric power.<sup>133</sup> These projects were located on the main stems of rivers, with little focus on tributaries.<sup>134</sup> Consequently, the government did not create plans for comprehensive river basin development and made no attempt to organize watershed-level administration.<sup>135</sup> Thus, during subsequent decades, the government felt "concern about the need for more comprehensive planning" in

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123. *Id.*

124. WALLACE STEGNER, *BEYOND THE HUNDREDTH MERIDIAN: JOHN WESLEY POWELL AND THE SECOND OPENING OF THE WEST* 322 (1954).

125. *Id.*

126. *Id.*; see also generally JOHN WESLEY POWELL, *REPORT ON THE LANDS OF THE ARID REGION OF THE UNITED STATES, WITH A MORE DETAILED ACCOUNT OF THE LANDS OF UTAH* (1879).

127. Schlager & Blomquist, *supra* note 43, at 28.

128. *Id.* at 24.

129. See *Kansas v. Colorado*, 206 U.S. 46 (1907); *New Jersey v. New York*, 283 U.S. 51 (1931).

130. See, e.g., *The Colorado River Compact*, COLO. REV. STAT. § 37-61-101 (2012).

131. Schlager & Blomquist, *supra* note 43, at 29.

132. *Id.*

133. *Id.*

134. *Id.*

135. Schlager & Blomquist, *supra* note 43, at 28-30.

water resources.<sup>136</sup> This concern led Congress to pass the Water Resources Planning Act of 1965,<sup>137</sup> which encouraged state, local, and regional governments to work together for integrated water resource management.<sup>138</sup> However, the Act had little long-term effect.<sup>139</sup> Its language was primarily limited to upcoming governmental projects, not overall water administration.<sup>140</sup> Further, it was ineffective even in regard to those ventures, as the government had already authorized many large-scale projects, and “proponent states had enough political clout to move them through Congress.”<sup>141</sup>

In the late 1970s and early 1980s, the federal government largely removed itself from large-scale involvement in water planning.<sup>142</sup> As a result, in recent decades, many state and local interests filled the void.<sup>143</sup> These local and regional citizen groups are now stakeholders in most water disputes.<sup>144</sup> There are as many as six hundred citizen groups in the country that include water-related affairs among their main missions.<sup>145</sup> These groups are typically public-consensus-based citizen groups with particularized agendas.<sup>146</sup> For example, a concerned-citizen group may be dedicated to the preservation of the habitat of certain fish in a stream or it may be a landowners’ association opposed to the construction of a specific dam.<sup>147</sup> Given the narrow focus of these ad hoc responses, most eschew any watershed planning on the scale of IWRM.<sup>148</sup>

Because IWRM focuses on multiple water-related issues on a relatively large scale (typically the watershed), a concerned-citizen group that is only interested in one or two issues on a small stretch of river is largely detached from watershed-management principles.<sup>149</sup> Further, given IWRM’s focus on administrative structures, the lack of government involvement (particularly the federal government, when dealing with watersheds covering multiple states) indicates IWRM is at odds with the current political climate in the United States. Similarly, though in recent decades Congress proposed some measures to manage large drainage basins on a hydrological basis, “with few exceptions, the states

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136. A. DAN TARLOCK ET AL., WATER RESOURCE MANAGEMENT 799 (2009).

137. 42 U.S.C. § 1962 (2012) (the congressional statement of policy notes the purpose of the Act was to encourage water resources planning: “[O]n a comprehensive and coordinated basis by the Federal Government, States, localities, and private enterprise with the cooperation of all affected Federal agencies, States, local governments, individuals, corporations, business enterprises, and others concerned”).

138. Tarlock et al., *supra* note 136.

139. *Id.*

140. 42 U.S.C. § 1962b-3 (2012).

141. Tarlock et al., *supra* note 136.

142. See generally David H. Getches, *The Metamorphosis of Western Water Policy: Have Federal Laws and Local Decisions Eclipsed the States’ Role?*, 20 STAN. ENVTL. L. J. 3, 10-13 (2000) (providing a history of the rise and then decline in the federal government’s involvement in large public works for waterways throughout the twentieth century).

143. *Id.*

144. *Id.* at 45.

145. Schlager & Blomquist, *supra* note 43, at 50.

146. Getches, *supra* note 142, at 45-47.

147. *Id.*

148. See *id.* at 42.

149. See *id.* at 42, 45-47.



and local water users successfully opposed these efforts.<sup>150</sup> Consequently, with the contemporary focus on local interests, there is currently no nationwide WFD-style watershed management program in the United States.<sup>151</sup> However, compacts between states demonstrate that such planning is nevertheless possible.

US states have entered into twenty-six different water apportionment compacts, most over fifty years ago.<sup>152</sup> Interstate water compacts are, essentially, constitutions for water—states concede some control over their water (for example, they must regulate citizens' diversions to meet requirements of compact, not to meet requirements of state water laws), and the compact becomes both state and federal law.<sup>153</sup> Though congressional consent is required to approve interstate compacts,<sup>154</sup> the process offers flexibility for states to both work together and pursue local interests.<sup>155</sup> Such attention to particularized regional problems might not be available by distant congressional action (in the mode of a WFD-style "top-down" directive) or judicial decree.<sup>156</sup> Disputes between states over water often concern matters of allocation, and most compacts address this problem.<sup>157</sup> But a few interstate compacts also allow for joint management of a watershed along the lines of IWRM.

Following numerous disputes before the United States Supreme Court,<sup>158</sup> the states of Delaware, New Jersey, New York, and Pennsylvania formed the Delaware River Basin Compact in 1961.<sup>159</sup> Unlike previous interstate compacts, which focused exclusively on allocation between states,<sup>160</sup> the Delaware River Basin Compact charges the Delaware River Commission, which governs the Delaware River Basin in multiple states (see Figure 2.0), with creating comprehensive plans over the watershed.<sup>161</sup>

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150. Tarlock, *supra* note 136, at 938.

151. See Getches, *supra* note 142, at 42.

152. Jerome C. Muys et al., *Utton Transboundary Resources Center Model Interstate Water Compact*, 47 NAT. RES. J. 17, 21 (2007).

153. *People ex rel. Simpson v. Highland Irrigation Co.*, 917 P.2d 1242, 1249 (Colo. 1996); *Frontier Ditch Co. v. Se. Colo. Water Conservancy Dist.*, 761 P.2d 1117, 1123 (Colo. 1988).

154. U.S. CONST. art. I, § 10, cl. 3.

155. Schlager & Blomquist, *supra* note 43, at 155.

156. *New York v. New Jersey*, 256 U.S. 296, 313 (1921).

157. See Muys et al., *supra* note 152.

158. *E.g.* *New Jersey v. New York*, 283 U.S. 336, 336 (1931); *New Jersey v. Delaware*, 291 U.S. 361, 361 (1934).

159. DEL. CODE ANN. tit. 7, § 6501 (2012).

160. See, *e.g.*, *The Colorado River Compact*, COLO. REV. STAT. § 37-61-101 (2012).

161. DEL. CODE ANN. tit. 7, § 6501 (2012).

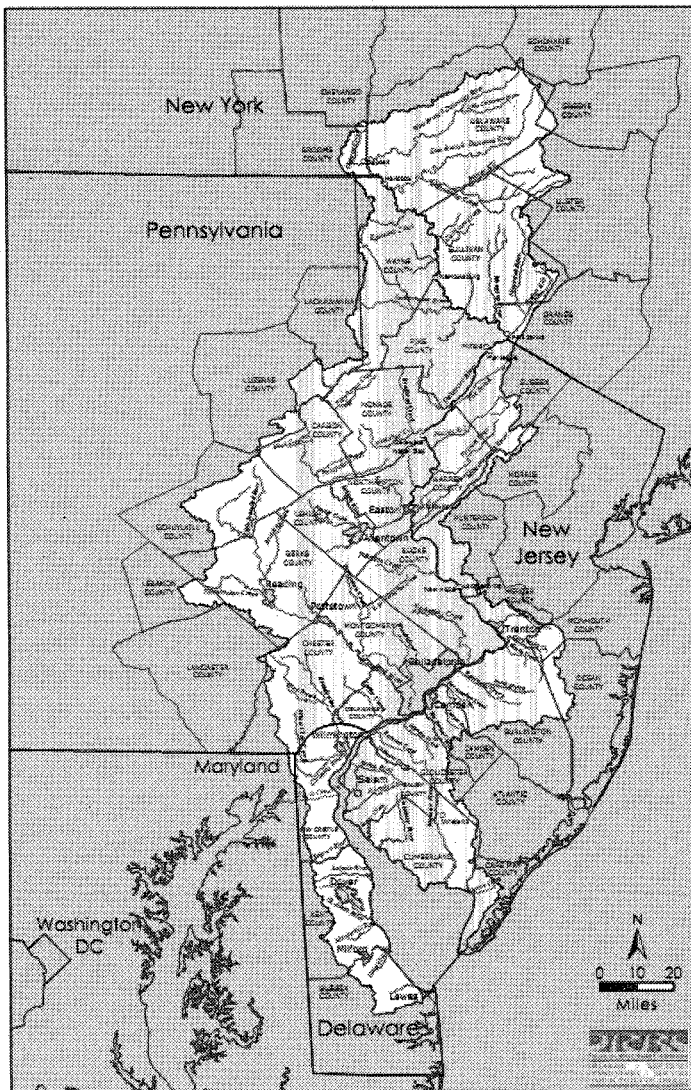


Figure 2: Delaware River Basin with County Boundaries<sup>162</sup>

Because the Delaware River Commission has considerable managerial authority over governing water quality, allocation, usage, and river projects, the Delaware River Basin Compact is akin to the WFD.<sup>163</sup> Like the river basin districts of the WFD, the Delaware River Commission works with state governments to equitably distribute the river's resources.<sup>164</sup> Further, by involving the federal government, "national concerns may be aired, obviating the need

162. *Delaware River Basin with County Boundaries*, DEL. RIVER BASIN COMM'N (Nov. 27, 2012), <http://www.state.nj.us/drbc/library/documents/counties.pdf>.

163. Emily Jeffers, *Creating Flexibility in Interstate Compacts*, 36 *ECOLOGY L.Q.* 209, 228 (2009).

164. *Id.* at 227-28.

for Congressional statutory preemption.<sup>165</sup> Such managerial authority vested jointly in these parties is precisely the sort of Type II governmental structure envisioned by IWRM, and the Delaware River Basin Compact is proof that the United States' constitutional framework is capable of supporting watershed-based water management schemes.<sup>166</sup>

Given the success of the Delaware River Commission, the Delaware River Basin Compact should be a model for future interstate agreements in the United States.<sup>167</sup> While Congress has not yet attempted to implement a WFD-style approach to watershed administration, interstate compacts could go a long way toward achieving the same end. Other states have begun to work together to establish river commissions with broad regulatory powers, and a group of experts created a "Model Compact" as a guideline for future cooperation.<sup>168</sup> Such agreements are attractive to states, given the flexibility of joint regulatory entities combined with the absence of sacrifice of state sovereignty to the federal government.<sup>169</sup> Thus, it seems that the modern trend in United States interstate water compacts is toward the establishment of a joint managerial authority similar to the Delaware River Basin Compact.<sup>170</sup> However, as with all interstate compacts, progress remains slow, and the IWRM-derived goal of nationwide comprehensive watershed management remains a distant goal in the United States.<sup>171</sup>

#### IV. DIFFERENCES BETWEEN THE EU AND THE UNITED STATES IN IMPLEMENTING WATERSHED DISTRICT MANAGEMENT

The European Union successfully issued broad legislation from a centralized government forcing member-states to work together to implement IWRM principles.<sup>171</sup> Conversely, the United States has favored localized initiatives, causing watershed management (if present at all) to be based upon interstate compacts.<sup>172</sup> The question is, therefore, should the United States continue on its state-centered approach to establishing IWRM, or should the federal government act to bring about a nationwide system on par with the WFD in the European Union.

Many commentators agree that, "unless overriding national interests dictate otherwise, watershed management should be a flexible, responsive, 'bottom-up' consensus-building process rather than a universal, standardized, 'top-

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165. JOSEPH F. ZIMMERMAN, INTERSTATE DISPUTES: THE SUPREME COURT'S ORIGINAL JURISDICTION 167 (2006) (quoting Joseph Girardot, *Toward a Rational Scheme of Interstate Water Compact Adjudication*, 23 U. MICH. J.L. REFORM 151, 152 (1989)).

166. Jeffers, *supra* note 163, at 229-30.

167. *Id.* at 230.

168. Muys et al., *supra* note 152, at 24.

169. Compacts are attractive in the sense that states choose to surrender any regulatory that the federal government may assume, either on its own or in partnership with the party states, as with the Delaware River Basin Compact's allowance of the federal government as a partner in the Delaware River Commission's regulatory function. See Jeffers, *supra* note 163.

170. *Id.* at 229.

169. See Getches, *supra* note 142, at 42.

171. WFD, *supra* note 69, at art. 3.

172. Getches, *supra* note 142, at 45-47; Jeffers, *supra* note 163, at 230.

down' product."<sup>173</sup> Practically speaking, it seems Congressional will to enact WFD-level legislation for national watershed management is lacking. Elected representatives introduced few such ambitious watershed bills in Congress, but those died quickly.<sup>174</sup> Similarly, the US Supreme Court avoids interfering in state water law and allocation when it can, as it instead encourages states to enter into interstate compacts.<sup>175</sup> Realistically, it seems that a WFD-style "top-down" directive is not forthcoming in the United States, though this does not foreclose the possibility that it could happen.

The EU government is not necessarily better positioned to issue "top-down" directives than is the US government. Twin rulings by the European Court of Justice firmly established the supremacy of EU law over member-states and eliminated questions as to whether the European Commission is empowered to enact the WFD.<sup>176</sup> Though the pace of transposition is slow, the mere fact that some member-states implemented the WFD as national law contributes to its validity and likely success. But similarly, in the United States the Supreme Court has upheld congressional power to regulate water under the commerce<sup>177</sup> and property<sup>178</sup> clauses, as well as the spending<sup>179</sup> and defense powers.<sup>180</sup> This demonstrates that, notwithstanding federalism concerns, Congress is not constitutionally prohibited from implementing at least some degree of watershed management on the national level.<sup>181</sup> In instances where federal authority conflicts with states, the Supremacy Clause of the US Constitution overrides state opposition.<sup>182</sup> The question then becomes in what fields Congress intended to preempt state law in implementing an administrative scheme over water matters.<sup>183</sup> The courts could allow some degree of preemption of state regulation, but might be less receptive to schemes that are not sufficiently focused.<sup>184</sup>

Because watershed-based regulation will affect multiple states' regulatory schemes, the validity of a federally-created administrative system depends upon its subject matter. For example, a scheme that confines itself to the environmental protection of waters is constitutional.<sup>185</sup> But because water matters involve a variety of distinct fields (for example, agriculture, land use, mining,

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173. Goldfarb, *supra* note 13, at 498.

174. See, e.g., Cooperative Watershed Management Act, S. 3085 110th Cong. (2008), available at <http://www.govtrack.us/congress/bills/110/s3085>.

175. See *New York v. New Jersey*, 256 U.S. 296, 313 (1921).

176. Case 26/62, *Van Gend en Loos v. Nederlandse Administratie der Berlastigen*, 1963 E.C.R. I; Case 6/64, *Flaminio Costa v. ENEL*, 1964 E.C.R. 585. For the purposes of this Comment, these cases demonstrate that the central EU government is legally capable of establishing "top-down" systems, such as the WFD.

177. *United States v. Appalachian Elec. Power Co.*, 311 U.S. 377, 404-05 (1940).

178. *Kansas v. Colorado*, 206 U.S. 46, 85-87 (1907).

179. *United States v. Gerlach Lieve Stock Co.*, 339 U.S. 725, 737-38 (1950).

180. *Ashwander v. Tenn. Valley Auth.*, 297 U.S. 288, 326-30 (1936).

181. 43 U.S.C. § 617 (2012); *Arizona v. California*, 373 U.S. 546, 564-65 (1963).

182. U.S. CONST. art. VI, cl. 2; *McCulloch v. Maryland*, 17 U.S. 316, 326-27 (1819).

183. See Robert W. Adler, *Addressing Barriers to Watershed Protection*, 25 ENVTL. L. 973, 1003-88 (1995).

184. *Id.*

185. 33 U.S.C. § 1251 (2012).

recreation, and others), it should be noted there are many water-related areas where Congress has never attempted to regulate.<sup>185</sup> Were Congress to attempt such a wide-ranging scheme, it could raise serious concerns affecting state and individual rights and could place the federal government in control of regulation formerly in states' hands.<sup>186</sup> For the time being, the question of whether Congress could preempt the entirety of water management is an open one, because Congress has thus far chosen not to regulate certain areas that are nevertheless affected by water decisions.<sup>187</sup>

## V. CONCLUSION

Because states' rights might limit congressional power, interstate compacts are the most promising method by which to implement IWRM-related policies in the United States. Nevertheless, it seems that a top-down, WFD-style approach would be a faster means of bringing about the same result, though implementation in the EU has had certain problems. The compacts-based process that is dominant in the United States and the EU's top-down directives are examples of the differences that exist between the regions' respective approaches to government. The progressions of the EU toward concentrated central government and of the United States toward localized concerns might be demonstrations of inherent cultural and political differences between the two regions. But it is clear IWRM, which this Comment argues will be necessary to solve water-related problems in the future, shows promise in both areas.

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185. Goldfarb, *supra* note 13, at 490-97.

186. *Id.* at 485.

187. *Id.* at 494.

