WATER RESOURCE AGREEMENTS AMONG STATES AND PROVINCES OF FEDERAL COUNTRIES – A COMPARATIVE REVIEW

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1. INTRODUCTION

The diverse jurisdictions within a federal state and their respective array of regulations present challenges in producing a single and unified water management strategy that accommodates the exigencies of all concerned states. These differences also render controversies among the states or provinces difficult both to resolve and prevent.[2] Inter-state (and inter-provincial) water agreements are frequently resorted to by states and provinces of federal countries to address actual or also potential controversies regarding the management, development, conservation and use of water bodies that form the boundary line between states or provinces[3], or those that straddle such boundary lines[4].

Agreements facilitate the allocation and protection of water among states and provinces. They provide security and guarantee stability among parties, thereby improving the relationship between states. An inter-state agreement also provides principles and mechanisms of water resources management.[5] The collaboration, exchange of information, equitable and reasonable use of water, and protection among the parties, presented in most inter-state agreements, are the key to ensure the good husbanding of an increasingly scarce and valued natural resource.

Countries such as the United States (U.S.) resolve their inter-state water allocation conflicts through Congressional action and adjudication by the Supreme Court, in addition to interstate compacts.[6] However, the increase of water conflicts among states requires solutions for specific problems not anticipated in federal acts; also, agreements may leave room for differences of interpretation. Therefore, court decisions are also an important tool in the

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[2] *See* MUYS, Jerome C., SHERK, George W., and O'LEARY, Marilyn C (2006), "Utton Transboundary Resources Center model interstate water compact." The Utton Center Transboundary Resources.

[3] Watercourses forming the boundary between or among states are commonly referred to as "contiguous".

[4] Watercourses crossed by the boundary line between or among states are commonly referred to as "consecutive".

[5] *See* MANITOBA WATER STEWARDSHIP. Transboundary Water Agreements. Available at: http://www.gov.mb.ca/waterstewardship/water_info/transboundary/agreements.html

[6] *See* New York v. New Jersey, 256 U.S. 296, 313 (1921). The U.S. Supreme Court established that conflicts among states should be resolved through the compact clause of the U.S. Constitution: Article I, Section 10, Clause 3: "No state shall, without the consent of Congress, lay any duty of tonnage, keep troops, or ships of war in time of peace, enter into any agreement or compact with another state, or with a foreign power, or engage in war, unless actually invaded, or in such imminent danger ase will not admit of delay." The U.S Supreme Court specifically says: "We cannot withhold the suggestion, inspired by the consideration of this case, that the grave problem of sewage disposal presented by the large and growing populations living on the shores of New York Bay is one more likely to be wisely solved by co-operative study and by conference and mutual concession on the part of representatives of the states so vitally interested in it than by proceedings in any court however constituted."

resolution of water conflicts particularly in common law jurisdictions. The U.S. Supreme Court, for example, has produced jurisprudence on inter-state water allocation. In India disputes that cannot be settled by negotiation are brought before a Tribunal under the Indian Interstate Water Dispute Act 1956. An analysis of the relevant case law, however, is outside the remit of this paper.

This paper provides an overview of water resource agreements among states and provinces and provides a comparative review on selected features of such agreements. It focuses on agreements and the legal (or para-legal) instruments addressing the rivers, lakes, and groundwater, forming the boundary line between or among states or provinces, or straddling such boundary lines. For the purposes of this study, water allocation, water quality, river basin management, public participation, and groundwater provisions are examined in detail. Using these themes as a focus, the terms and arrangements contained in agreements in Argentina, Australia, Canada, Germany, India, Nigeria, Switzerland and the United States of America (U.S.) are drawn out, facilitating a comparative analysis and highlighting related issues and challenges. While international water agreements are beyond the scope of this paper, the inter-state nature of agreements between U.S. states and Canadian provinces make such instruments relevant for this analysis. Also, inter-state agreements related to flood control and navigation have not been included in this study.

2. COMPARATIVE ANALYSIS OF INTER-STATE AGREEMENTS

This section contains an analysis of selected provisions which commonly feature in inter-state or inter-province water agreements; those that contain provisions on water allocation, water quality, river basin management and public participation are examined closely. The treatment of groundwater in inter-state agreements is highlighted here primarily to address the degree to which specific regulations are made with respect to this resource. Inevitably groundwater management provisions contain regulations of aspects such as water quality and water allocation. Finally, an overview of other elements of inter-state agreements such as institutional arrangements and dispute resolution creates a fuller picture of what items can be found in such agreements.

2.1 Water Quantity Control and Allocation

Water allocation is one of the most relevant issues that inter-state agreements face today. Population growth and climate change affect water supply, thereby increasing the risk of conflicts among territories. Water allocation systems focus on evaluations of water resources, analyzing storage capacity, extractions and level of replenishment.[7]

Water quantity and water allocation are directly related. Most of the agreements with specific provisions for water quantity provide mechanisms to allocate water. However, there are agreements which address water quantity issues such as flow level of surface water bodies, evaporation, flow variability, level of groundwater tables, but do not establish any water allocation system. For example, the objective of the *Intergovernment Agreement for the Paroo River between New South Wales and Queensland July 2003*[8] (Australia) is the management of water quantity to guarantee the naturally variable flow regime, which is fundamental to the health of the aquatic ecosystems in the Paroo River Agreement Area. In its article 3.1(d), it states that "the water requirements for ecological processes, biodiversity and ecologically significant areas within the Paroo River Agreement Area should be maintained, especially by means of flow variability and seasonality."[9]

Water resources can be allocated through mechanisms such as fixed amount, percentage, and equitable apportionment. The *Kansas-Nebraska-Colorado Republican River Compact, 1943*[10] (U.S.), whose primary purpose is to provide for the most efficient use of the waters of the Republican River Basin, serves an example of fixed amount allocation. It specifically allocates water in acre-feet, made to each State and derived from the computed average annual virgin water supply. Another example is the *Memorandum of Agreement between Bombay, Hyderabad, Madhya Pradesh and Madras, 1951*[11] (India) which specifically sets the quantity of water available to the four States party to the agreement. Moreover, the agreement

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[7] Water allocation has been studied from different points of view. Kilgour and Dinar analyzed stable water-sharing agreements in international river basins showing how "flexible allocation agreements are more cost effective than those with fixed allocation schemes." *See* BENNETT, LYNNE LEWIS, HOWE, CHARLES W. AND SHOPE, JAMES (2000). The Interstate River Compact as a Water Allocation Mechanism: Efficiency Aspects. American Journal Agriculture and Economics 82(4) 1006-1015 November. *See* also, KILGOUR, D.M. AND DINAR A (1995). Are Stable Agreements for Sharing International River Waters Now Possible? Policy Research Working Paper 1474. Washington DC: World Bank.

[8] *See* INTERGOVERNMENT AGREEMENT FOR THE PAROO RIVER (2003), between New South Wales and Queensland. Available at: http://faolex.fao.org/docs/pdf/aus40700.pdf

[9] *See* Id at Art. 2.2 and 3.1 (d)

[10] *See* KANSAS-NEBRASKA-COLORADO REPUBLICAN RIVER COMPACT, 1943. Available at: http://www.ksda.gov/includes/statute_regulations/interstate_water_issues/Republican_River_Compact.pdf

[11] B.R. CHAUHAN (1992), Settlement of International and Inter-state water disputes in India. P.M. Bakshi ed., Indian Law Institute, N.M. Tripathi Bombay p. 262

establishes a correlation between quantity and use of water. "The allocation implied that each State would be entitled to utilise the quantity of water allotted to it."[12] In Australia, the *Murray-Darling Basin Agreement between the Commonwealth, New South Wales, Victoria and South Australia, June 2006*[13] focuses on the equitable efficient management and sustainable use of the water of the Murray-Darling Basin[14], setting specific water allocations between the upper basin states of New South Wales and Victoria, and between those states and the lower basin state of South Australia. [15] In India, the *Agreement between India, Haryana, Punjab and Rajasthan, 1981*[16] which centres on water allocation, fixes at 17.17 MAF (million acre-feet) the "surplus" available in the Ravi-Beas river system for allocation to the three states as fixed volumes of river water.[17] It also states that "in case of any variation in the figure of 17.17 MAF in any year, the shares shall be changed pro-rata of the above revised allocations subject to the condition that no change shall be made in the allocation of Jammu and Kashmir which shall remain fixed at 0.65 MAF as stipulated in the 1955 Agreement." This is a clear example of flexibility which allows parties to modify the amount of water allocated according to the level of flow.

Also focusing on water allocation in India, the *Agreement between Punjab, Rajasthan and Haryana, January 1955*[18], established that the availability of water for the purpose of allocation was based on the flow series of the rivers Ravi and Beas for the years 1921-1945. The allocation among Punjab, Kashmir and Rajasthan is in a fixed amount for each state. This amount would be subject to change in case of any variation in total supplies, on a pro-rata

[12] B.R. CHAUHAN (1992), Settlement of International and Inter-state water disputes in India. P.M. Bakshi ed., Indian Law Institute, N.M. Tripathi Bombay p. 262

[13] *See* MURRAY-DARLING BASIN AGREEMENT, (2006), between the Commonwealth New South Wales, Victoria and South Australia.
Available at: http://www.mdbc.gov.au/__data/page/44/Murray-Darling_Basin_Agreement_full.pdf
http://www.coag.gov.au/meetings/140706/docs/mdbasin_amending_agreement.pdf

[14] *See Id* at Article 1

[15] MURRAY-DARLING BASIN AGREEMENT, (2006), between the Commonwealth New South Wales, Victoria and South Australia. Article 111 p.51 Available at:
http://www.coag.gov.au/meetings/140706/docs/mdbasin_amending_agreement.pdf
Article 111 states: "...any quantity of water allocated to one of those States and in store in any of the upper River Murray storages or in transit in a specified part of the upper River Murray, may be exchanged for a quantity of water allocated to the other State and in store in another of the upper River Murray storages or in transit in another specified part of the upper River Murray, if such an exchange of water does not prejudice the entitlement of South Australia."

[16] *See* B.R. CHAUHAN (1992), Settlement of International and Inter-state water disputes in India. P.M. Bakshi ed., Indian Law Institute, N.M. Tripathi Bombay p. 297

[17] *See Id*.

[18] *See* B.R. CHAUHAN (1992), Settlement of International and Inter-state water disputes in India. P.M. Bakshi ed., Indian Law Institute, N.M. Tripathi Bombay p. 281

basis "subject to the condition that no change be made in the allocation for Kashmir State which shall remain as 0.65 MAF."[19]

Water allocation based on percentage can be found in some U.S. compacts, such as the *Arkansas River Basin Compact (Arkansas-Oklahoma) 1970*[20] which focuses on pollution programs, the promotion of interstate comity, cooperation and the equitable apportionment of the waters of the Arkansas River.[21] It specifically states that "the State of Arkansas shall have the right to develop and use of the Spavinaw Creek [...] no more than fifty percent (50%). The State of Oklahoma in the Arkansas River Subbasin no more than sixty percent (60%). The State of Arkansas in the Lee Creek Subbasin equal to Oklahoma."[22]

The principle of equitable apportionment is also utilised in inter-state water agreements, providing generic guidance or as a precursor to specific determinations. For example, in the U.S., the main purposes of the *Alabama-Coosa-Tallapoosa River Compact, 1997*[23], include promoting interstate comity, removing causes of controversies, sharing data, and equitably apportioning the surface water.[24] It states that the "allocation formula" (which may be a table, chart, mathematical calculation or other expression allowed by the Commission[25]) shall be developed for the equitable apportionment of the surface waters of the basin among the states while protecting the ecology of the river basin.[26] Another example is in India, where the *Agreement between the States of Mahaarashtra, Madhya Pradesh and Andhra Pradesh, August 1978*[27] regulating water allocation, adopts equitable distribution as the mechanism to allocate water among the parties. In case of a dispute, they would have recourse to adjudication through the Indian Interstate Water Dispute Act, 1956.

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[19] *See Id*

[20] ARKANSAS RIVER BASIN COMPACT BETWEEN ARKANSAS AND OKLAHOMA, (1970). Available at: http://ssl.csg.org/compactlaws/arkansasoklahomariverbasin1970.html

[21] *See Id* at Article 1

[22] *See Id* at Article 4

[23] ALABAMA-COOSA-TALLAPOOSA RIVER BASIN COMPACT (1997) between Alabama, Georgia and U.S. Available at: http://commdocs.house.gov/committees/judiciary/hju55947.000/hju55947_0f.htm

[24] *See Id.* Article 1

[25] *See Id*. Article 9: "The "allocation formula" means the methodology, in whatever form, by which the Basin Commission determines and equitable apportionment of surface waters within the Basin among the two states, such formula may be represented by a table, chart, mathematical calculation or any other expression of the Commission's apportionment of waters pursuant to this compact."

[26] *See Id.* at Article 7.

[27] *See* B.R. CHAUHAN (1992), Settlement of International and Inter-state water disputes in India. P.M. Bakshi ed., Indian Law Institute, N.M. Tripathi Bombay p. 264

Inter-basin water transfer is another issue addressed under water allocation in some inter-state agreements. Water transfers outside the basin "can harm the long-term economic prosperity and quality of life of the basin of origin."[28] The harm depends on the quantity of water loss and on development of the basin.[29] In the U.S., the *Great Lakes-St. Lawrence River Basin Water Resources Compact between Illinois, Indiana, Michigan, New York, Ohio, Wisconsin and the Commonwealth of Pennsylvania, Decembe, 2005*[30] whose objective is "to protect, conserve, restore, improve and effectively manage the Waters and Water Dependent Natural Resources of the Basin."[31] It allows the transfer of water outside the Great Lakes basin only when that diversion is regulated by the Originating Party and all water so transferred is used solely for "Public Water Supply Purposes within the Straddling Community."[32] The agreement also allows intra-basin transfers of water only under specific circumstances such as when the proposed amount is less than 100,000 gallons per day average over any 90-day period.[33]

Also in the U.S., the *Oregon-California Goose Lake Interstate Compact*[34] focuses on the development, use, conservation and control of the water resources of Goose Lake Basin. It recognizes vested rights to the use of waters and specifically prohibits the export of water from Goose Lake Basin for use outside the basin without the consent of both legislatures. Another example in the U.S., the *Delaware River Basin Compact 1961*[35] ,which seeks to manage water resources and prevent controversy among the parties, establishes that any

[28] *See* DRAPER, STEPHEN E. (2005). Interbasin Transfer in Georgia and Basin of Origin Protection. Proceedings of the 2005 Georgia Water Resources Conference, held April 25-27, 2005, at the University of Georgia, Kathryn J. Hatcher, editor, Institute of Ecology, The University of Georgia, Athens, Georgia.
[29] *See Id.*
[30] *See* THE GREAT LAKES-ST. LAWRENCE RIVER BASIN WATER RESOURCES COMPACT (2005) between Illinois, Indiana, Michigan, New York, Ohio, Wisconsin and the Commonwealth of Pennsylvania. Available at: http://www.cglg.org/projects/water/docs/12-13-05/Great_Lakes-St_Lawrence_River_Basin_Water_Resources_Compact.pdf
[31] *See Id* at Article 2
[32] *See* THE GREAT LAKES-ST. LAWRENCE RIVER BASIN WATER RESOURCES COMPACT (2005) between Illinois, Indiana, Michigan, New York, Ohio, Wisconsin and the Commonwealth of Pennsylvania. Art.4 Section 4.9 Available at: http://www.cglg.org/projects/water/docs/12-13-05/Great_Lakes-St_Lawrence_River_Basin_Water_Resources_Compact.pdf
[33] *See Id.* at Section 4.9.2
[34] *See* OREGON-CALIFORNIA GOOSE LAKE INTERSTATE COMPACT (1963). Water Code Section 5950-5951. Article 3.
[35] *See* DELAWARE RIVER BASIN COMPACT (1961) between Delaware, New Jersey, Pennsylvania, New York and U.S. Article 3.3.c Available at: http://archives.delaware.gov/collections/guide/0000s/0901-000-002.shtml

transfer of water out-of-basin made by the commission would be invoked under the original jurisdiction of the United States Supreme Court when a Party deemed itself aggrieved.[36]

Finally, mention should be made of the *Intergovernmental Agreement on a National Water Initiative, 1994*[37] focusing on water management to guarantee efficiency of Australia's water use and to ensure the health of river and groundwater.[38] Among several other features, the agreement adopts trading of water rights as a method to allocate water, both within each state and between the states.[39] In particular, the parties agree to implement by 2007 "compatible institutional and regulatory arrangements that facilitate intra and interstate trade, manage differences in entitlement reliability, supply losses, supply source constraints, trading between systems, and cap requirements."[40] The Agreement is relevant to the discussion on water allocation in as far as the water trading provisions of the agreement apply also to the water resources of inter-state rivers and lakes, and to inter-state groundwater. The recourse to this unconventional and fairly controversial mechanism of water allocation intra-state is noteworthy.

2.2 Water Quality

Water quality is another important issue which is addressed in inter-state agreements, in isolation or, more commonly, in conjunction with other aspects of water resources management, notably allocation. The degree of attention paid to water quality protection in each agreement is directly related to its purpose. "Water quality management" is a broad concept which involves matters such as prevention and abatement of pollution, coordination and adoption of laws and regulations necessary for the protection of water resources, long-term planning, monitoring, and strengthening and developing institutions."[41] Most inter-state

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[36] *See Id.*

[37] INTERGOVERNMENTAL AGREEMENT ON A NATIONAL WATER INITIATIVE (1994), between the Commonwealth of Australia and the Government of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory.
Available at: http://www.nwc.gov.au/NWI/docs/iga_national_water_initiative.pdf

[38] *See Id* at Preambule 5

[39] *See Id* Article 58 "The States and Territories agree that their water market and trading arrangements will: facilitate the operation of efficient water markets and the opportunities for trading, within and between States and Territory, where water systems are physical shared or hydrologic connections and water supply considerations will permit water trading."

[40] *See Id* Article 60

[41] WATZIN, MARY C. (2006). The Role of law, science, and the public process: practical lessons from lake Champlain (US and Canada) and Lake Ohrid (Macedonia and Albania). 19 Pacific McGeorge Global Business & Development Law Journal 241.

agreements address water quality as a "concern for ecological processes and for advancing sustainable development of water resources."[42]

The Australian *Intergovernmental Agreement on a National Action Plan for Salinity and Water Quality*[43] has the purpose of "establishing arrangements between governments, in accordance with the National Action Plan on Salinity and Water Quality."[44] This agreement "will review existing cross-jurisdictional water sharing agreements [such as the Murray-Darling Basin][45] to ensure the consistency with this agreement".[46] Water is managed to ensure the right to a share of the water between states. It establishes that the environmental sustainability of shared water bodies should be protected.[47] The main goals are to "prevent, stabilise and reverse trends in salinity, particularly dryland salinity, affecting the sustainability of production, conservation of biological diversity and the viability of infrastructure, improving water quality and [to] secure reliable allocations for human uses industry an the environment."[48] To achieve these goals the parties agree to integrated catchment/regional natural resource management plans[49] "incorporating [among other mechanisms] strategies and actions [...] to improve salinity and water quality, outlining strategic approaches to stimulating changes in land and water resource management that will result in improved salinity an d water quality outcomes, identifying cost-effective actions to address areas of high hazard." [50] The parties in this agreement agreed "to develop standards on salinity, water quality and associated water flows"[51] within a specified period of time. The standards were designed to

[42] MUMME STEPHEN P. (2006). Developing treaty compatible watershed management reforms for the U.S.-Mexico Border: The case for strengthening the international boundary and water commission. 30 North Carolina Journal of International Law and Commercial Regulation Summer 2005 Reg. 929 section D.

[43] *See* INTERGOVERNMENTAL AGREEMENT ON A NATIONAL ACTION PLAN FOR SALINITY AND WATER QUALITY, between the Commonwealth of Australia, New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania, the Northern Territory, and the Australian Capital Territory. Available at: http://www.napswq.gov.au/publications/books/iga.html. The National Action Plan for Salinity and Water Quality was endorsed by the Council of Australian Governments on 3 November 2000. The Plan ceased on 30 June 2008 and has been replaced by "Caring for our country", whose goal is to have an environment that is healthy, better-protected, well-managed, resilient, and that provides essential ecosystem services in a changing climate."

[44] *See Id*. at Article 5

[45] *See Id*. at Ariticle 14

[46] *See Id*. at Article 13

[47] *See Id*. at Article 2

[48] *See Id.* at Article 5

[49] *See Id*. at Article 12

[50] *See Id*. at Article 14

[51] *See Id*. at Article 20

achieve the purpose of this Agreement.[52] Moreover, the parties agreed on the need for best practices relating to land and water management policy.[53]

Also in Australia, the *Murrary-Darling Basin Agreement 2006*[54] establishes the sustainable use of the water as one of its main purposes. [55] The parties agree to establish works or measures for the conservation and regulation of river water, for the protection and improvement of the quality of river water, for the conservation, protection and management of aquatic and riverine environments; and the control and management of groundwater which may affect the quality of river water. This agreement also establishes monitoring procedures, measurements of water quality, environmental assessment and water quality objectives.[56] These functions are assigned to the Commission who is tasked with formulating "water quality objectives for the River Murray and mak[ing] recommendations with respect thereto to the Ministerial Council."[57]

Similarly in the U.S., the *New England Interstate Water Pollution Control Compact* among Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont [58] identifies a major concern: the "growth of population and the development of the territory of the New England states has resulted in serious pollution of certain interstate streams, ponds and lakes, and of tidal waters ebbing and flowing past the boundaries of two or more states."[59] This agreement aims to protect interstate waters in the New England area[60] and establishes water quality standards for the waters of the Parties. The agreement stipulates that "[t]he commission shall establish reasonable physical, chemical and bacteriological standards of water quality satisfactory for various classifications of use."[61] Under this agreement the commission will exercise management and control over water quality.[62] Each signatory state

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[52] *See Id.*
[53] *See Id*. at Article 25
[54] MURRAY-DARLING BASIN AGREEMENT, (2006), between the Commonwealth New South Wales, Victoria and South Australia. Available at: http://www.coag.gov.au/meetings/140706/docs/mdbasin_amending_agreement.pdf
[55] *See Id* at Article 1
[56] *See Id* at Article 40, 41, 44, and 47
[57] *See Id* . The role of inter-state and inter-province institutions in general will be addressed in section XX..
[58] NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMPACT (1996). Available at: http://www.cga.ct.gov/2005/pub/Chap446g.htm
[59] *See Id*. at preamble
[60] *See Id.*
[61] NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMPACT (1996). Article 5 Available at: http://www.cga.ct.gov/2005/pub/Chap446g.htm
[62] *See Id.* at Article 4

is required to classify its water based on present use and a forecast of highest use. The agreement requires technical experts to analyze waters affecting two or more states.[63] Moreover, under this agreement the commission will establish rules and regulations for water quality management and control.[64]

In Canada, the *Agreement between the Government of Quebec and the government of New Brunswick on Transboundary Environmental Impact, January 2002*[65] promotes "mutual understanding and cooperation on transboundary environmental issues including surface and groundwater management, [as well as] monitoring and reduction of pollution in rivers, lakes and waterways."[66] The parties agree "to establish, in compliance with the laws, regulations and procedures of Quebec and of New Brunswick, information exchange and joint cooperation mechanisms."[67]

Also in Canada, the *Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem June, 2007*[68] was established "to restore, protect and conserve the Great Lakes Basin Ecosystem in order to assist in achieving the vision of a healthy, prosperous and sustainable Basis Ecosystem for present and future generations."[69] The agreement addresses the restoration and protection of environmental quality and beneficial uses by "reducing municipal wastewater and stormwater pollution, encouraging beneficial management practices to reduce pollution, developing contaminated sediment management strategies, restoring and protecting fish and wildlife habitats and populations, fostering community participation, increasing knowledge through research, monitoring and reporting and communicating progress."[70] This agreement lays down specific biological, chemical and physical standards in order to achieve environmental restoration in the basin.[71]

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[63] NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMPACT (1996). Article 5 Available at: http://www.cga.ct.gov/2005/pub/Chap446g.htm
[64] *See Id.* at Article 4
[65] AGREEMENT BETWEEN THE GOUVERNMENT DU QUEBEC AND THE GOVERNMENT OF NEW BRUNSWICK TRANSBOUNDARY ENVIRONMENT IMPACT (2002),
Available at: http://www.gnb.ca/0009/0001-e.pdf
[66] *See Id* at Article 1
[67] *See Id* at Article 2
[68] CANADA-ONTARIO AGREEMENT RESPECTING THE GREAT LAKES BASIN ECOSYSTEM (2007), Available at: http://www.ene.gov.on.ca/
[69] CANADA-ONTARIO AGREEMENT RESPECTING THE GREAT LAKES BASIN ECOSYSTEM (2007), Available Article 2 at: http://www.ene.gov.on.ca/en/water/greatlakes/coa/index.php
[70] *See Id* at Article 14 and Annex
[71] See Id at Annex Results

In Switzerland, the *Convention between the Cantons of Bern, Vaud, Fribourg, and Neuchatel, February 1982*[72] stipulates the need for cooperation to prevent water pollution resulting from hydrocarbons and other dangerous products. It also directs the cantons to jointly develop regulations to protect the water resources.[73] The Convention also establishes specific procedures of cooperation where pollution accidents have occurred in one of the cantons .[74]

Although, groundwater management is addressed in detail below, the *Border Groundwaters Agreement 1985 between State of South Australia and State of Victoria*[75] is relevant at this juncture as it lays down the permissible level of salinity, ie "such level of salinity as results in electro-conductivity not in excess of so many microsiemens per centimetre at twenty-five degrees Celsius as may be agreed up by the Minister of each Contracting Government for any zone pursuant to clause 28(6), or in relation to a particular one, such other level as has been agreed upon by the Minister of each Contracting Governement under clause 28(4)."[76] Periodic reports of the salinity levels should be prepared by each contracting Government in relation to the zones within its respective jurisdiction.[77]

In the U.S., the *Alabama-Coosa-Tallapoosa River Basin Compact, 1997*[78] between Alabama, Georgia and the U.S. with over-arching objectives that inlcude "promoting interstate comity, removing causes of present and future controversies, equitable apportioning of water, engaging in water planning, and developing and sharing common data bases."[79] directs in article 17 "the continuing support of each state in active water pollution control programs."[80] Additionally, Alabama and Georgia are required to cooperate in maintaining the quality of the waters of the River Basin.[81] Similarly, the *Memorandum of Understanding between Idaho*

[72] *See* CONVENTION DE LUTTE CONTRE LES DÉGATS CAUSÉS PAR LES HYDROCARBURES, FEBRUARY (1982), between the cantons of de Berne, Fribourg, Vaud and Neuchatel. Available at: http://faolex.org/
[73] *See Id* at article 3
[74] *See Id* at Article 5
[75] *See* BORDER GROUNDWATERS AGREEMENT (1985), between State of South Australia and State of Victoria. Available at: http://faolex.fao.org/docs/texts/sa44224.doc
[76] *See Id* at Part I
[77] *See Id* at Article 27
[78] ALABAMA-COOSA-TALLAPOOSA RIVER BASIN COMPACT (1997) between Alabama, Georgia and U.S. Alabama Code Section 33-18-1 Available at: http://law.justia.com/alabama/codes/23586/33-18-1.html
[79] *See Id*. at Article 1
[80] Id at Article 17
[81] ALABAMA-COOSA-TALLAPOOSA RIVER BASIN COMPACT (1997) between Alabama, Georgia and U.S. Alabama Code Section 33-18-1 Article 17 "The appropriate state agencies will cooperate in the investigation, abatement, and control of sources of alleged interstate pollution within the River Basin."

Department of Environmental Quality and British Columbia Ministry of Water, Land and Air Protection, September 2003[82] establishes that its purpose is "to ensure the protection, conservation and enhancement of our shared environment for the benefit of current and future generations."[83] This Memorandum of Understanding sets as a main goal water quality responsibilities and environmental monitoring programs.

The Arkansas River Basin Compact between Arkansas and Oklahoma, 1970[84](U.S.) encourages "the maintenance of an active pollution abatement program in each of the two states and […] the further reduction of both natural and man-made pollution in the waters of the Arkansas River Basin."[85] In addition to an active pollution abatement program, the Parties agree to investigate and prevent causes of pollution through their state agencies and to participate in joint programs to control sources of pollution. Notably, the Agreement directs "that neither state may require the other to provide water for the purpose of water quality control as a substitute for adequate waste treatment."[86] This agreement recognizes the water quality standards set out in the Federal Water Pollution Control Act.[87]

Another example of collaboration between state agencies is in the Conejos river basin which is a tributary of the Rio Grande. The Conejos River Basin is located between Colorado and New Mexico. The San Antonio River and Los Pinos River are tributaries of the Conejos River. These two rivers originate in New Mexico. San Antonio River entirely flows in the State of Mexico while the Los Pinos River, which is a main tributary, crosses the Colorado border and flows along the State of Colorado. The impairment situation of these two watersheds would damage the water quality in the Conejos River. The collaboration and development of projects between states and federal agencies is the key factor in the protection of the Conejos Basin. "The Wetland Action Plan for the Conejos Watershed" was presented by the New Mexico Environmental Department Surface Water Quality Bureau at the Wetland Partnerships across the Colorado and New Mexico Border in Alamosa, Colorado October 16-17, 2007. One of the issues addressed in this plan was the implementation of water quality standards among the two states to protect and to guarantee the water uses in the basin. Agreements with landowners to carry out projects to implement quality standards are one of the most relevant factors to protect the quality of the Basin.

Available at: http://law.justia.com/alabama/codes/23586/33-18-1.html

[82] MEMORANDUM OF UNDERSTANDING BETWEEN IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY AND BRITISH COLUMBIA MINISTRY OF WATER, LAND AND AIR PROTECTION, September 2003. Available at: http://www.deq.state.id.us/rules/mous/all_bc_idaho_2004_285_286_287.pdf

[83] MEMORANDUM OF UNDERSTANDING BETWEEN IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY AND BRITISH COLUMBIA MINISTRY OF WATER, LAND AND AIR PROTECTION, September 2003. Article 1 Available at: http://www.deq.state.id.us/rules/mous/all_bc_idaho_2004_285_286_287.pdf

[84] *See* ARKANSAS RIVER BASIN COMPACT BETWEEN ARKANSAS AND OKLAHOMA, (1970). Available at: http://ssl.csg.org/compactlaws/arkansasoklahomariverbasin1970.html

[85] *See Id*. at Article 1

[86] *See Id*. at Article 7

[87] *See Id.*

In Germany, the *Agreement on the respective areas of responsibility of the river police on the Elbe, January 1974*[88] between the Länder Niedersachsen and Schleswig-Holstein provides for law enforcement arrangements. In particular, the Länder Niedersachsen and Schleswig-Holstein agreed on the transfer of river policing responsibilities for the Elbe River to the Lander Hamburg. This is a rather uncommon agreement in that it addresses the delicate, yet critical, function of law enforcement in specific relation to the management of an inter-state river. The *Water Charter for Sustainable and Equitable Management of the Hadejia-Jama'are-Komadugu-Yobe Basin* made by the Nigerian states of Bauchi, Borno, Jigawa, Kano, Plateau, and Yobe, and by the Federal Government of Nigeria, elevates the 'polluter pays' principle from the level of domestic regulation to the level of inter-state relations, which ensures the costs of pollution prevention, control and reduction measures are borne by the polluter.[89]

2.3 River Basin Management

A river (or lake) basin approach to addressing the management and development of inter-state or inter-province water resources can be a distinctive feature of agreements. For example, the *Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem, 2007*[90] defines the term 'basin' as "the five Great Lakes and the St. Lawrence River, to the Ontario and Quebec border, and includes the lands and surrounding waters which drain into them."[91] The agreement addresses basin management by setting "common priorities, goals, and results for the restoration, protection and conservation of the Basin Ecosystem."[92] Article 3(1)(f) of this Agreement defines 'ecosystem approach' as "making decisions that recognize the interdependence of land air, water and living organisms, including humans, and seeking to maximize benefits to the entire Basin Ecosystem."[93] In the *Arkansas River Basin Compact between Arkansas and Oklahoma, 1970*[94] (U.S.) the term 'basin' refers to the specific portion of the river between Arkansas and Oklahoma. The "Arkansas-Oklahoma Arkansas River

[88] AGREEMENT ON THE RESPECTIVE AREAS OF RESPONSIBILITY OF THE RIVER POLICE ON THE ELBE (1974) between Hamburg, Niedersachsen, and Schleswig-Holstein. Available at: http://faolex.fao.org/
[89] *See* WATER CHARTER, Article 14
[90] *See* CANADA-ONTARIO AGREEMENT RESPECTING THE GREAT LAKES BASIN ECOSYSTEM (2007). Available at: http://www.on.ec.gc.ca/coa/
[91] *See Id* at Article 1
[92] *See Id* at Article 2.3.d
[93] *See* CANADA-ONTARIO AGREEMENT RESPECTING THE GREAT LAKES BASIN ECOSYSTEM (2007). Article 3.1.f Available at: http://www.on.ec.gc.ca/coa/
[94] *See* ARKANSAS RIVER BASIN COMPACT BETWEEN ARKANSAS AND OKLAHOMA, (1970). Available at: http://ssl.csg.org/compactlaws/arkansasoklahomariverbasin1970.html

Basin" explicitly excludes certain areas such as the portion of the drainage basin of the Canadian River below Eufaula Dam.[95] Under this arrangement, each Party "may construct, own and operate for its needs water storage reservoirs in the other state, [as well as] have the free and unrestricted right to utilize the natural channel of any stream within the Arkansas River Basin for conveyance through the other state."[96] The agreement also establishes the Arkansas-Oklahoma Arkansas River Compact Commission which among its duties shall "establish, maintain and operate such stream, reservoir or other gauging stations as may be necessary for the proper administration of this Compact."[97]

The *Delaware River Basin Compact 1961*[98] between Delaware, New Jersey, New York, Pennsylvania and the U.S. for the "conservation, utilization, development, management, and control of the water and related resources of the Delaware River Basin"[99] defines 'basin' as "the area of drainage into the Delaware River and its tributaries, including Delaware Bay." The mandate of the Commission created to administer the terms of the agreement encompasses "watershed management in the basin, including projects and facilities to retard runoff and waterflow, promot[ing] forestry practices, prevent[ing] soil erosion and facilities for the improvement of fish and wildlife habitats related to the water resources of the basin."[100]

Argentina's *Federal Water Agreement between the Nation, the Provinces, and the Autonomous City of Buenos Aires, 2003*[101] provides for a river basin approach for the management of inter-provincial waters that is inclusive of different activities in a basin which can affect water quality, aquatic ecosystems and water uses, in particular, land use.[102]. The agreement provides that each province is responsible for the management of water resources located in its territory, and that it should collaborate with other Provinces when the water

[95] See Id at Article 2.C. which sets: "The term "Arkansas River Basin" means all the drainage basin of the Arkansas River and its tributaries from a point immediately below the confluence of the Grand-Neosho River with the Arkansas River near Muskogee, Oklahoma, to a point immediately below the confluence of Lee Creek with the Arkansas River near Van Buren, Arkansas, together with the drainage basin of Spavinaw Creek in Arkansas, but excluding that portion of the drainage basin of the Canadian River below Eufaula Dam."
[96] *See Id* at Article 6
[97] *See Id* at Article 5.B
[98] *See* DELAWARE RIVER BASIN COMPACT (1961) between Delaware, New Jersey, Pennsylvania, New York and U.S. Available at: http://archives.delaware.gov/collections/guide/0000s/0901-000-002.shtml
[99] *See Id* at Part I
[100] *See Id*. at Article 7
[101] *See* ACUERDO FEDERAL DEL AGUA (2003), between la Nación, Las Provincias y de la Ciudad Autónoma de Buenos Aires.
Available at: http://www.lapampa.gov.ar/Publicaciones/BolOficial/Bof2004/bof2600a.htm
[102] *See Id*. at Article 5

resources are "shared" (i.e., inter-provincial).[103] "Basin organizations" are mandated to coordinate and manage such water resources for the entire basin. To this end, these organizations are to cooperate with the water authority of the relevant Provinces in charge of water resources planning.[104] The Agreement also requires the implementation of sustainable practices to protect the water resources of each basin, including inter-provincial basins. This coordination between different levels of government and the decentralization of the river basin management provide a framework to allow the participation of "community organizations" in the management of the basin.[105] Public participation is an important aspect in the management of inter-state and inter-province water resources and is addressed below.

2.4 Public Participation

Public participation is a recurrent feature of most agreements on inter-state and inter-province water resources. The input of the public in the decision-making process ensures support for water management decisions from both sides of the inter-state or inter-province border, and ultimately, to improving the quality of governmental decision-making.

In the U.S., the *Alabama-Coosa-Tallapoosa River Basin Compact 1997*[106] between Alabama, Georgia and the U.S. establishes that "all meetings of the Commission (created by the compact) shall be open to the public."[107] This provision clearly allows individuals and groups to participate in the basin's management. In Australia, the *Lake Eyre Basin Intergovernmental Agreement 2000*[108] between the Commonwealth, the State of Queensland and the State of South Australia seeks to develop policies and strategies to avoid adverse cross-border impacts in the Lake Eyre Basin.[109] This agreement requires the Ministerial Forum to ensure "satisfactory access to community advice in relation to matters relevant to the Agreement."[110] It also requires there to be appropriate representation of different social and economic groups

[103] *See Id* at Article 16
[104] *See Id.* at Article 24 and 25
[105] See Id. at Article 16
Another example which would be mentioned in this study is the case of Spain and the water management
[106] ALABAMA-COOSA-TALLAPOOSA RIVER BASIN COMPACT (1997) between Alabama, Georgia and U.S. Available at:
[107] See Id. at Article 6 (f).
[108] LAKE EYRE BASIN INTERGOVERNMENTAL AGREEMENT (2000), between the Commonwealth, State of Queensland and State of South Australia. Available at: http://faolex.fao.org/docs/texts/aus25173.doc
[109] See Id at 2.1
[110] *See Id* at 5.9

such as: aboriginal, pastoral, agricultural mining and petroleum, conservation, and tourism.[111] The twin goals of this social representation are to elucidate the respective interests of each sector - "the seeking out of community views relevant to matters covered by this Agreement and the communication of those views to the Ministerial Forum"[112] – and also the communication of decisions and initiatives by the Ministerial Forum to the representative groups.[113]

Similarly, public participation in the decision-making process features prominently in Nigeria's *Water Charter for Sustainable and Equitable Management of the Hadejia-Jama'are-Komadugu-Yobe Basin*[114], which provides that each basin state shall "ensure that the public, and in particular those communities living within the River Basin shall participate at the appropriate level, including participation in the procedure for assessing the environmental impacts of projects."[115] Moreover, it allows for the submission of oral or written representations before a final decision.[116]

The *Memorandum of Understanding between the Idaho Department of Environmental Quality and the British Columbia Ministry of Water, Land and Air Protection*, September 2003[117], geared towards the identification, coordination and promotion of mutual efforts for water conservation also promotes sharing of information and communications among different members on issues with cross-border impacts. It mandates in article 3 "processes for public review and comment"[118] implying public participation and the ability to communicate concerns or views.

The *Great Lake-St. Lawrence River Basin Water Resources Compact between Illinois, Indiana, Michigan, New York, Ohio and Wisconsin and the Commonwealth of Pennsylvania, December 2005*[119] establishes specific provisions for public participation. It directs the

[111] *See Id* at 5.11
[112] *See Id* at 5.11.2 (b)
[113] *See Id* at 5.11.2
[114] Made by the states of Bauchi, Borno, Jigawa, Kano, Plateau, and Yobe, and by the Federal Government
[115] *See Id*. at Article 12. a
[116] *See Id.* at Article 12. b
[117] MEMORANDUM OF UNDERSTANDING BETWEEN IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY AND BRITISH COLUMBIA MINISTRY OF WATER, LAND AND AIR PROTECTION, SEPTEMBER (2003). Available at: http://www.deq.state.id.us/rules/mous/all_bc_idaho_2004_285_286_287.pdf
[118] *See Id* at Article 3
[119] *See* GREAT LAKES-ST. LAWRENCE RIVER BASIN WATER RESOURCES COMPACT DECEMBER 13th, (2005) between Illinois, Indiana, Michigan, New York, Ohio, Wisconsin and the Commonwealth of

Regional Body, which is composed by the members of the Council and the Premiers of Ontario and Québec[120], to provide notice to the public of a proposal undergoing Regional Review. The notice should indicate that the public has an opportunity to comment in writing to the Regional Body. Moreover, in order to receive public comment on the issue, the Regional Body shall hold public meetings in the State or Province of the Originating Party. The comments are to be analyzed and forwarded by the Regional Body to the Originating Party.[121]

The U.S., *The Susquehanna River Basin Compact May 1972*[122], between Pennsylvania, Maryland, New York, and the U.S. contains various clauses promoting public participation. "All meetings of the commission shall be open to public;"[123] moreover, public hearings should be conducted by the Commission each state prior to the adoption of the initial comprehensive plan. Where a hearing is required, it "shall be held upon not less than twenty days' public notice given by posting at the offices of the commission, and published at least once in a newspaper or newspaper of general circulation in the area or areas affected."[124] The minutes of the commission are to be made accessible to the public.[125]

Also, the *California-Nevada Intestate Compact, 1990*[126] (U.S.) providing a framework for water resource control and protection, and guaranteeing equitable apportionment between the states mandates public hearings for plans relating to reservoirs. The owners of reservoirs are afforded the opportunity of participating in the preparation, review, or revision of such plans.

2.5 Groundwater

Groundwater rarely is the sole target of inter-state or inter-province agreements. One example to the contrary is the *Idaho-Washington Interagency Agreement in the Matter of the*

Pennsylvania. Available at: http://www.cglg.org/projects/water/docs/12-13-05/Great_Lakes-St_Lawrence_River_Basin_Water_Resources_Compact.pdf

[120] *See Id* at Article 1

[121] *See Id* at Article 3

[122] *See* SUSQUEHANNA RIVER BASIN COMPACT (1972) between Pennsylvania, Maryland, New York, and U.S. Available at: http://www.srbc.net/about/srbc_compact.pdf

[123] *See Id* at Article 15.4 a

[124] *See Id* at Article 15.4 b

[125] *See Id* at Article 15.4 c

[126] *See* CALIFORNIA-NEVADA INTERSTATE COMPACT (1990). Water Code Section 5975-5976

Coordinated Management of the Pullman-Moscow Ground Water Aquifer, April 1992[127] (U.S.). Concerns for the Pullman Moscow Groundwater Aquifer resulting from continued declines in ground water levels, led to the establishment of the Pullman Moscow Water Resources Committee.[128] The agreement adopted a coordinated management strategy to develop action plans and to improve general management of the Pullman Moscow aquifer.[129] The *Border Groundwater Agreement, 1985 between State of South Australia and State of Victoria*[130] is another which focuses exclusively on groundwater resources adjacent to the border of the two Australian states. This agreement also provides for the cooperation, management, and equitable sharing of groundwater, and for safeguarding against undue depletion or degradation of the groundwater resources.[131] It addresses two important issues: "permissible annual volume" which refers to the annual volume of extraction specified for each zone, and "permissible level of salinity". It also makes reference to the "permissible rate of potentiometric surface lowering" which means an average annual rate of potentiometric surface lowering of 0.05 meters.[132]

More often, groundwater is dealt with alongside surface waters, as demonstrated by the *Delaware River Basin Compact 1961*[133] between Pennsylvania, Maryland, New York and the U.S., one of its main purposes being "the regulation of flows and supplies of surface and ground waters of the basin"[134]. This agreement manages surface and groundwater for the protection of public health, improvement of fisheries, recreation, stream quality control, prevention of salinity, and control of pollution.[135] In similar fashion, the *Great Lakes-St. Lawrence River Basin Sustainable Water Resources Compact, December 2005*[136] for the protection, conservation and restoration of the waters of the Great Lakes-St. Lawrence River

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[127] IDAHO-WASHINGTON INTERAGENCY AGREEMENT IN THE MATTER OF THE COODINATED MANAGEMENT OF THE PULLMAN-MOSCOW GROUND WATER AQUIFER, April 1992. Available at: http://www.fao.org/docrep/008/y5739e/y5739e0b.htm
[128] *See Id*
[129] *See Id*
[130] BORDER GROUNDWATER AGREEMENT, 1985 between State of South Australia and State of Victoria. Available at: http://faolex.fao.org/docs/html/vic1684.htm
[131] *See Id* at Preambule
[132] See Id at Part I and Part IV. 27
[133] DELAWARE RIVER BASIN COMPACT (1961) between Pennsulvania, Maryland, New York and the U.S. Available at: http://archives.delaware.gov/collections/guide/0000s/0901-000-002.shtml
[134] DELAWARE RIVER BASIN COMPACT (1961) between Pennsulvania, Maryland, New York and the U.S. Article 4 Available at: http://archives.delaware.gov/collections/guide/0000s/0901-000-002.shtml
[135] *See Id.*
[136] *See* THE GREAT LAKES-ST. LAWRENCE RIVER BASIN SUSTAINABLE WATER RESOURCES AGREEMENT (2005) between States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Commonwealth of Pennsylvania, Wisconsin, the Province of Ontario and the Government of Québec. Article 207.5 Available at: http://www.cglg.org/

Basin,[137] stipulates that "waters of the Basin or Basin Water means the Great Lakes and all streams, rivers, lakes, connecting channels and other bodies of water, including tributary groundwater, within the Basin." (emphasis added)[138] Notably, this agreement lays down limits to groundwater withdrawals.[139] Insofar as groundwater is addressed alongside surface water resources, these two agreements reflect an integrated approach to the management of inter-state water resources. This approach takes on different connotations in other agreements, in response to greater awareness of the inter-connectedness of groundwater and surface water systems, and its effect on the interests of the parties. These interests may relate to the allocation of water quantities, as the *California-Nevada Interstate Compact, 1990*[140] demonstrates through the special attention given to the impact of groundwater and springwater withdrawals on allocated surface waters. In particular, this compact provides that "that development and use of ground water in one state shall not reduce the amount of water of the other state."[141] It establishes that "wells or other methods of collecting groundwater water [should] assure that water will not be drawn directly from allocated surface water."[142] In default, the Compact establishes that "wells drilled within 500 feet from any perennial streams which are not sealed from the surface to a depth of at least 50 feet shall be deemed prima facie to draw directly from allocated surface water."[143] In general, groundwater management and its allocation fall within the remit of the bi-lateral Commission created to administer the compact.[144]

The link between groundwater and surface water is also reflected in the *Murray-Darling Basin Agreement 2006*[145] between the Commonwealth of Australia, New South Wales, Victoria and South Australia where article 39 (d) directs Parties to control and manage

[137] *See Id* at Chapter 1 Article 100
[138] *See* THE GREAT LAKES-ST. LAWRENCE RIVER BASIN SUSTAINABLE WATER RESOURCES AGREEMENT (2005) between States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Commonwealth of Pennsylvania, Wisconsin, the Province of Ontario and the Government of Québec. Available at: http://www.cglg.org/
[139] THE GREAT LAKES-ST. LAWRENCE RIVER BASIN SUSTAINABLE WATER RESOURCES AGREEMENT (2005) between States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Commonwealth of Pennsylvania, Wisconsin, the Province of Ontario and the Government of Québec. Available at: http://www.cglg.org/ Article 207
[140] CALIFORNIA-NEVADA INTERSTATE COMPACT, 1990. Water Code Section 5975-5976
[141] CALIFORNIA-NEVADA INTERSTATE COMPACT, 1990. Water Code Section 5975-5976 Art. 9.1
[142] *See Id* at Article 9.2
[143] CALIFORNIA-NEVADA INTERSTATE COMPACT, 1990. Water Code Section 5975-5976 Art. 9.2
[144] *See id*
[145] MURRAY-DARLING BASIN AGREEMENT, (2006).
Available at: http://www.mdbc.gov.au/__data/page/44/Murray-Darling_Basin_Agreement_full.pdf

groundwater which may affect the quality or quantity of river water.[146] Also in Australia, under the *Lake Eyre Basin Intergovernmental Agreement between the Commonwealth and the states of Queensland and South Australia, 2001*, the parties have agreed to, inter alia, the principle of integrated management of water resources in the Lake catchments including, in particular, treatment of the storage and use of surface water and associated groundwater as a whole. The principles and objectives of the Agreement will translate into policies and strategies to be developed and agreed by the Parties. These may include water quality and river flow objectives for the Basin watercourse; management objectives for water and related natural resources management; catchment management strategies, instrumental to achieving the agreed water quality and river flow objectives; and policies to deal with existing water entitlements under state law. [147]

Other agreements seem to go further in the direction of the conjunctive use of groundwater and surface water. In Australia, the *Intergovernmental Agreement on a National Water Initiative, 1994*[148] between the Commonwealth of Australia and the Governments of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory sets out as a purpose, the regulation of groundwater resources connected with surface water "managing surface and groundwater resources for rural and urban use."[149] This agreement manages water resources to ensure the right to a share of the water between states.[150] Other objectives identified in the Agreement are securing water access entitlements, improving environmental and other public benefit outcomes, managing environmentally-sustainable levels of extraction and recognising "the connectivity between surface and groundwater resources and connected systems managed as a single resource."[151]

[146] See Id at Article 39
[147] LAKE EYRE BASIN INTERGOVERNMENTAL AGREEMENT, sections 3.1, 8.4. Available at: http://faolex.fao.org/docs/texts/aus25173.doc
[148] INTERGOVERNMENTAL AGREEMENT ON A NATIONAL WATER INITIATIVE (1994), between the Commonwealth of Australia and the Government of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory.
Available at: http://www.nwc.gov.au/NWI/docs/iga_national_water_initiative.pdf
[149] INTERGOVERNMENTAL AGREEMENT ON A NATIONAL WATER INITIATIVE (1994), between the Commonwealth of Australia and the Government of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory. Objectives Article 23 p.3
Available at: http://www.nwc.gov.au/NWI/docs/iga_national_water_initiative.pdf
[150] *See Id*. at Article 2
[151] *See Id.* at Article 23

Similarly, Argentina's *Federal Water Agreement between the Nation, the Provinces, and the Autonomous City of Buenos Aires,, 2003*[152] mandates collaboration among provinces that share any water resource.[153] Article 2 states that surface and groundwater are connected and should be used and protected as one source. It recognizes the hydrologic system as one where all water sources are in connection and that the pollution and withdrawal of one source will affect another.

2.6 Overview of other common features in inter-state water agreements

This sub-section highlights other aspects of inter-state water agreements that are frequently included in these agreements in order to create a more comprehensive representation of what can be found in such agreements.

2.6.1 Federal Role

A distinct role for the federal government is present in many inter-state agreements. This is evidenced through provisions on federal funding of water projects or more commonly through the facilitation of inter-state or inter-province cooperation. The latter role is aptly illustrated by the cooperation arrangements created progressively since the mid-1950's by the Argentine Provinces sharing the Colorado and the Atuel river systems, which see an increasingly prominent profile assumed by the federal government. Although earlier cooperation arrangements had excluded the federal government, it became a member of the Colorado River Inter-provincial Committee (known as COIRCO) through the 1976 agreement among the concerned Provinces, to which it was a party.[154] In this capacity, the federal government subsequently helped broker further inter-provincial agreements regarding the two river systems.[155]

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[152] ACUERDO FEDERAL DEL AGUA (2003), between la Nación, Las Provincias y de la Ciudad Autónoma de Buenos Aires. Available at: http://www.lapampa.gov.ar/Publicaciones/BolOficial/Bof2004/bof2600a.htm

[153] *See Id* at Article 16

[154] Agreement of 26 October 1976 between the Provinces of Buenos Aires, La Pampa, Mendoza, Neuquén and Rio Negro (in M. Valls, (COMPLETE)

[155] The latest such agreement was made on 7 August 2008, whereby the federal government and the Provinces of Mendoza and La Pampa agreed to carry out water conservation works mainly in the upstream part of the Atuel River, in Mendoza Province, for distribution of the augmented river flows to both Provinces, in equal halves (text of the agreement on file with the author).

The federal government is given a pro-active role in the *Master Agreement on Apportionment, 1969*[156] between Canada, Alberta, Saskatchewan, and Manitoba, which allocates water and manages water quality among the parties.[157] In article 7, the federal government is required to compile and publish water quality and quantity data necessary for the implementation and maintenance of the provisions of the agreement. Similarly, in Argentina, article 27 of the *Federal Water Agreement between the Nation, the Provinces, and the Autonomous City of Buenos Aires,*[158] sets out the duty of the federal government to develop an integrated approach to the management of the nation's water resources, including in particular those of an inter-provincial nature.

The federal government may also take on an explicit role of overseer of the national interests. Under the *Water Charter for Sustainable and Equitable Management of the Hadejia-Jama'are-Komadugu-Yobe Basin*[159] (Nigeria), the federal government is to safeguard and accommodate matters of national interest. Further, it is tasked with monitoring "the activities of the states throughout the Basin to ensure Nigeria meets its international obligations [such as] the Nigeria-Niger Joint Commission Agreement as well as Lake Chad Basin Convention, and the Ramsar Convention."[160]

Finally, the federal government may also take on the role of arbitrator of inter-state disputes as demonstrated by the *Agreement between India, Haryana, Punjab and Rajasthan, 1981*[161] (India), which declares that where there is dispute over water allocation, the parties will refer to the Government of India if the parties can not arrive at an agreement.[162]

2.6.2 Management institutions

[156] *See* MASTER AGREEMENT ON APPORTIONMENT (1969), between Canada, Alberta, Saskatchewan, and Manitoba. Article 7 Available at: http://www.mb.ec.gc.ca/water/fb01/fb00s04.en.html
[157] *See Id*. at Articles 6 and 7
[158] *See* ACUERDO FEDERAL DEL AGUA (2003), between la Nación, Las Provincias y de la Ciudad Autónoma de Buenos Aires.
Available at: http://www.lapampa.gov.ar/Publicaciones/BolOficial/Bof2004/bof2600a.htm
[159] *See* WATER CHARTER FOR SUSTAINABLE AND EQUITABLE MANAGEMENT OF THE HADEJA-JAMA'ARE-KOMADUGU-YOBE BASIN
[160] *See Id* at Article 6
[161] *See* B.R. CHAUHAN (1992), Settlement of International and Inter-state water disputes in India. P.M. Bakshi ed., Indian Law Institute, N.M. Tripathi Bombay p. 297
[162] *See Id.*

Most of the inter-state agreements analyzed have a management body to administer the agreement; the functions, internal organization and membership of such entities vary from agreement to agreement.

In Australia, the *Murray-Darlin Basin Agreement between the Commonwealth, New South Wales, Victoria and South Australia*[163] establishes a Commission whose membership comprises inter alia representatives of water, land and environmental resource management and a separate Ministerial Council, with three representatives from each contracting state. The Commission's roles include providing advice to the Ministerial Council and assisting the latter's functions for the equitable, efficient and sustainable use of water; co-ordinating the implementation of measures; and giving effect to policy and management decisions of the Council.[164]

The *Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem, 2007*[165] creates a Management Committee with broad representation that is responsible for: setting priorities; making annual assessments of the administration and implementation of the agreement; facilitating the free exchange of information; addressing the implications of changes or adjustments to government policy; overseeing the development and amendment of Annexes as necessary; overseeing the delivery of other communications; cooperation with Great Lakes community; and joint planning between Canada and the U.S.[166]

In Argentina, the *Federal Water Agreement between the Nation, the Provinces, and the Autonomous City of Buenos Aires, 2003*[167] provides for a Federal Water Committee to oversee the implementation of basic hydrologic principles in Argentina.[168] In particular, the Committee will address inter-provincial water-related issues and devise strategies to guarantee the sustainable development of the water resources in Argentina. In India, the

[163] MURRAY-DARLING BASIN AGREEMENT, (2006), between the Commonwealth, New South Wales, Victoria and South Australia. Art. 17
Available at: http://www.coag.gov.au/meetings/140706/docs/mdbasin_amending_agreement.pdf
[164] *See Id.*
[165] CANADA-ONTARIO AGREEMENT RESPECTING THE GREAT LAKES BASIN ECOSYSTEM (2007), Available at: http://www.on.ec.gc.ca/coa/
[166] See Id at Article 6
[167] ACUERDO FEDERAL DEL AGUA (2003), available at: http://www.lapampa.gov.ar/Publicaciones/BolOficial/Bof2004/bof2600a.htm
[168] ACUERDO FEDERAL DEL AGUA (2003), Article 30. Available at: http://www.lapampa.gov.ar/Publicaciones/BolOficial/Bof2004/bof2600a.htm

Agreement between India, Haryana, Punjab and Rajasthan, 1981[169] established the Bhakra and Beas Management Board which "shall be permitted to take all necessary measures for carrying out measurements and for ensuring delivery of supplies to all the concerned States in accordance with their entitlements such as rating the gauge discharge curves, installation of self-recording gauges, taking observations without any hindrance of the discharge measurements."[170]

2.6.3 Monitoring Programs

Monitoring of water quality and quantity conditions in inter-state and inter-province rivers, lakes, and groundwater reserves plays an important role in the management of inter-state water resources. As a result, monitoring provisions and programmes are a frequent feature of inter-state and inter-province agreements.

The *Master Agreement on Apportionment, 1969*[171] between the Governments of Canada, Alberta, Saskatchewan and Manitoba (Schedule E, Agreement on Water Quality) requires an annual written report from the Board to the parties to implement water quality standards. Also, additional reports or information should be provided as requested by all of the parties to this Agreement.[172] The *Lake Eyre Basin Intergovernmental Agreement, 2000*[173] between the Commonwealth of Australia, the State of Queensland and the State of South Australia, sets among its objectives the promotion of research and monitoring programs to improve understanding and support informed decision-making in the areas covered by the agreement.[174] Also in Australia, the *New South Wales-Queensland and Border Rivers Agreement, 1946*[175] which focuses on water conservation, water supply and irrigation,

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[169] *See* B.R. CHAUHAN (1992), Settlement of International and Inter-state water disputes in India. P.M. Bakshi ed., Indian Law Institute, N.M. Tripathi Bombay p. 297

[170] *See* B.R. CHAUHAN (1992), Settlement of International and Inter-state water disputes in India. P.M. Bakshi ed., Indian Law Institute, N.M. Tripathi Bombay p. 297

[171] *See* MASTER AGREEMENT ON APPORTIONMENT (1969), between the Governments of Canada, Alberta, Saskatchewan and Manitoba. Available at: http://www.mb.ec.gc.ca/water/fb01/fb00s04.en.html

[172] *See Id* at Article 8

[173] *See* LAKE EYRE BASIN INTERGOVERNMENTAL AGREEMENT (2000) between the Commonwealth of Australia, the State of Queensland and the State of South Australia.
Available at: http://www.environment.gov.au/water/publications/environmental/rivers/lake-eyre/agreement.html

[174] *See* LAKE EYRE BASIN INTERGOVERNMENTAL AGREEMENT (2000) between the Commonwealth of Australia, the State of Queensland and the State of South Australia. Article 2.2
Available at: http://www.environment.gov.au/water/publications/environmental/rivers/lake-eyre/agreement.html

[175] *See* NEW SOUTH WALES-QUEENSLAND AND BORDER RIVERS AGREEMENT (1946), between New South Wales, and Queensland.
Available at: http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/N/NewSoWQBorRiA46.pdf

mandates the inter-state Commission created under the agreement to implement an effective system of making and recording continuous gaugings for water monitoring purposes.[176]

Finally, in the U.S., the *Idaho-Washington Interagency Agreement in the Matter of the Coordinated Management of the Pullman-Moscow Ground Water Aquifer April 1992*[177] established a computer-simulated modelling study to detect declines in ground water level.[178]

2.6.7 Dispute Resolution

Dispute resolution refers to the specific mechanisms, procedures, institutions and guidelines established in an inter-state agreement to solve conflicts between the signatories. The mechanisms and procedures to solve disputes vary from agreement to agreement. Some agreements set as a goal: "removing the causes of present and future controversies," without including formal dispute-resolution mechanisms.[179]

The *Alabama-Coosa-Tallapoosa River Basin Compact between Alabama, Georgia, and the U.S.*[180] has developed specific procedures to resolve conflicts and thus provides security to the parties.[181] A notice of claim it to be filed with the commission established pursuant to the compact. The notice shall provide a written statement which enumerates the salient aspects of

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[176] *See Id* at Article 14

[177] *See* IDAHO-WASHINGTON INTERAGENCY AGREEMENT IN THE MATTER OF THE COODINATED MANAGEMENT OF THE PULLMAN-MOSCOW GROUND WATER AQUIFER, April 1992.
Available at: http://www.fao.org/docrep/008/y5739e/y5739e0b.htm

[178] *See* IDAHO-WASHINGTON INTERAGENCY AGREEMENT IN THE MATTER OF THE COODINATED MANAGEMENT OF THE PULLMAN-MOSCOW GROUND WATER AQUIFER, April 1992. Preamble
Available at: http://www.fao.org/docrep/008/y5739e/y5739e0b.htm

[179] *See* HANSEN, Karen M (2006). "The evolution of interstate water disputes into regional cooperative management regimes: Launching a new model compact for interstate water issues." Eastern Water Law & Policy Reporter, May.

[180] *See* ALABAMA-COOSA-TALLAPOOSA RIVER BASIN COMPACT (1997) between Alabama, Georgia and U.S. Available at: http://commdocs.house.gov/committees/judiciary/hju55947.000/hju55947_0f.htm

[181] *See Id* at Article 13, which sets: "In the event of a dispute between the voting members of this compact involving a claim relating to compliance with the allocation formula adopted by the commission under this compact, the following procedures shall govern: (1) Notice of claim shall be filed with the commission by a voting member of this compact and served upon each member of the commission. The notice shall provide a written statement of the claim, including a brief narrative of the relevant matters supporting the claimant's position. (2) Within twenty (20) days of the commission's receipt of a written statement of a claim, the party or parties to the compact against whom the complaint is made may prepare a brief narrative of the relevant matters and file it with the commission and serve it upon each member of the commission (...)"

the dispute, to which the responding party has twenty days to submit a response. A brief of the relevant matters will be presented to the commission which will address each case.

In contrast, the *Murray-Darling Basin Agreement, 2006*[182] between the Commonwealth, New South Wales, Victoria and South Australia provides loose guidance to deal with conflict situations. If a dispute arises arising from the transfer of water entitlements and allocations "the parties must seek, in good faith, to resolve the dispute expeditiously by negotiations between them."[183]

India has had a long history of inter-state water disputes. Under the Interstate Water Dispute Act, 1959 negotiation and eventual agreement are the preferred avenue to conflict resolution. The Act however stipulates that disputes that cannot be settled by negotiation will be brought before a Tribunal.[184] The *Memorandum of Agreement of December, 1975*[185], among the Indian states of Maharashtra, Andhra Pradesh, Madhya Pradesh, Orissa, and Karnataka concerning the partial allocation of the waters of the River Godavari and its tributaries, illustrates the use of an agreement to settle conflicts. This agreement primarily concerns water allocation and establishes specific amounts of water for each of the parties as a final dispute resolution measure.

2.6.8 Duration

Inter-state agreements can be subject to a term of duration which varies considerably. In the U.S., the *Susquehanna River Basin Compact between Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, and the U.S., 1972*[186] is valid "for an initial period of 100 years [...], and it shall be continued for additional periods of 100 years." The *Canada-Ontario*

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[182] *See* *See* MURRAY-DARLING BASIN AGREEMENT, (2006), between the Commonwealth, New South Wales, Victoria and South Australia. Schedule E Transferring Water Entitlements and Allocations. Available at: http://www.coag.gov.au/meetings/140706/docs/mdbasin_amending_agreement.pdf

[183] *See Id* Article 19

[184] This is the case with the Agreement between the *States of Maharashtra, Madhya Pradesh and Andhra Pradesh, August 1978*[184], *the Agreement concluded by Chief Ministers of Madhya Pradesh, Maharashtra and Rajasthan and Advisor to the Governor of Gujarat July, 1974*[184], and *the Memorandum of Agreement of 1951 between Bombay, Hyderabad, Madhya Pradesh and Madras*[184].

[185] *See* B.R. CHAUHAN (1992), Settlement of International and Inter-state water disputes in India. P.M. Bakshi ed., Indian Law Institute, N.M. Tripathi Bombay p. 263

[186] *See* SUSQUEHANNA RIVER BASIN COMPACT (1972) between Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and U.S. Available at: http://www.srbc.net/about/srbc_compact.pdf

Agreement Respecting the Great Lakes Basin Ecosystem, 2007[187] ties the length of the agreement to the time to achieve the agreement's goals, i.e by 2011.

3. CONCLUSIONS

This paper has canvassed what should constitute a representative sample of the numerous agreements and legally binding arrangements made in recent decades by member states and provinces of federal jurisdictions. Occasionally, non-binding instruments have also been reviewed. The wide-ranging scope of the agreements under discussion attests to their utility in addressing the numerous exigencies of State parties, and to accommodate their respective interests to mutual satisfaction. The flexible and malleable nature of agreements to reflect the needs of the parties render them a preferable option to arbitration or eventual adjudication of inter-state and inter-province interests by the highest federal courts. At this stage the positions of the parties have generally hardened into formal disputes and the room for manoeuvre has narrowed. Herein lies a distinctive trait of treaty-making among member states and provinces of federal jurisdictions as compared to treaties between sovereign states operating in an international context. Recourse to adjudication is not available on fully comparable terms in the international context,[188] and may act as an incentive or as a disincentive to treaty-making in a federal context. India's highly litigious record may provide an illustration of the latter possible scenario, with inter-state negotiations almost always breaking down on the conviction that the courts would succeed where negotiators have failed. Another distinctive trait, as demonstrated by this paper, is the facilitating role played by federal governments which has only a distant parallel in the role which international lending and technical assistance institutions may discharge in transboundary (or "shared") water resources agreements.[189]

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[187] *See* CANADA-ONTARIO AGREEMENT RESPECTING THE GREAT LAKES BASIN ECOSYSTEM (2007), Available at: http://www.on.ec.gc.ca/coa/

[188] Disputes between sovereign states can be referred for adjudication to the International Court of Justice (ICJ). However, the prior agreement of the parties to the dispute to seek adjudication by the Court is a pre-requisite for the Court to be seized of, and to rule on, a dispute. This is not a pre-requisite in most federal jurisdictions.

[189] The World Bank was directly instrumental in brokering the Indus Waters Treaty between India and Pakistan (1960). The United Nations Development Programme (UNDP) has, since the 1950's, nudged cooperation among Cambodia, Laos, Thailand and Vietnam on the Mekong River. It also helped set the stage for cooperation among the Senegal River Basin states of Mali, Mauritania, and Senegal, eventually resulting in the *Organisation pour la mise en valeur du fleuve Sénégal (OMVS)* (1972). The Food and Agriculture Organization of the United Nations (FAO) facilitated agreement among Algeria, Libya and Tunisia on arrangements for cooperation in the management of the non-renewable North-Western Sahara Aquifer, shared by those countries (2007). Unlike the federal government in inter-state and inter-province agreements, however, international financial and technical assistance institutions are not a party to the agreements and arrangements above-mentioned made by sovereign

In view of the enormous variety in the scope and level of detail of agreements, conclusions can be drawn only at a high level of generalization. Allocation of available river flows, exceptionally through inter-basin transfer, and prevention and abatement of pollution of surface waters and of groundwater rank most prominently among the concerns prompting agreement. *Allocation mechanisms* range from the aspirational goals – notably, the principle of equitable apportionment and of reasonable use – to the precise apportionment water quantities and river flows by fixed amounts, by percentages or by complex mathematical formulae. *Pollution prevention and abatement* of inter-state and inter-province water resources tend to be consistently approached via joint monitoring and data exchange obligations, and generic or specific pollution control programme obligations (including, in particular, the articulation and implementation of water quality standards). Opportunities for *public participation* in governmental decision-making on both sides of an inter-state or inter-province border is a recurrent feature of much contemporary treaty-making in federal jurisdictions. *Groundwater* is attracting growing attention, particularly in situations of limited availability of surface water resources, and of actual or potential contamination. Inter-state and inter-province groundwater-specific agreements are still a clear minority, with a majority canvassing groundwater alongside surface water, as a reflection of the inter-connectedness of the hydrologic cycle and in pursuit of integrated water resources management goals, if only by implication. Integration goals are also implied in the agreements covering an entire *river or lake basin*, or groundwater aquifer , or parts of it. Clearly, several among the agreements reviewed in this paper subscribe to a river or lake basin (or groundwater aquifer) approach to dealing with inter-state or inter-province water resources. This approach is also reflected in the remit of the institutions created to administer the terms of the agreement. Whereas this approach cannot be said to amount to a distinctive trend, there is evidence of a systematic attempt to fashion the mutual rights and obligations of states and provinces on both sides of the border in consonance with hydrologic – and hydro-geologic – lines of demarcation. One final observation is that joint *monitoring* of water conditions, and relevant *data exchange* programmes, which are the “bread and butter” of cooperation in relation to water resources across inter-state and inter-province lines of federal jurisdictions (and equally of relations among sovereign states in the international context), are provided for in a vast majority of the agreements reviewed in this paper.

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states with regard to the management and development of the water resources they share with other sovereign states.

How the agreements reviewed in this paper actually fare on the ground is obviously quite a separate matter, which is outside the scope of this paper. However, a systematic investigation of the administration of inter-state and inter-province agreements, and of their effectiveness on the ground, would constitute a valued complement to buttress – or to qualify - the legal analysis contained in this paper, and to enrich the conclusions offered.

REFERENCES

BENNETT, Lynne Lewis, HOWE, Charles W. and SHOPE, James (2000). "The Interstate River Compact as a Water Allocation Mechanism: Efficiency Aspects." American Journal Agriculture and Economics 82(4) 1006-1015 November.

BURCHI, Stefano and MECHLEM, Kerstin, "Groundwater in international law – Compilation of treaties and other international legal instruments", FAO, Legislative Study No.86, Rome, 2005. This publication carries also a few inter-state and inter-province agreements concluded in federal countries.

CHAUHAN, B.R., (1992). "Settlement of International and Inter-state water disputes in India." P.M. Bakshi ed., Indian Law Institute, N.M. Tripathi Bombay.

DE LUCIA VITO (Lead Author); Richard Reibstein (Topic Editor). 2008. "Polluter pays principle." In: Encyclopedia of Earth. Eds. Cutler J. Cleveland (Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment). [First published in the Encyclopedia of Earth January 28, 2007; Last revised August 22, 2008; Retrieved August 28, 2008]. <http://www.eoearth.org/article/Polluter_pays_principle>

DEL CASTILLO, Lilian (2007), "La Gestión del Agua en Argentina." Ciudad Argentina, Buenos Aires – Madrid.

ENCYCLOPEDIA OF EARTH (2008) http://www.eoearth.org/article/Surface_water_management

HANSEN, Karen M (2006). "The evolution of interstate water disputes into regional cooperative management regimes: Launching a new model compact for interstate water issues." Eastern Water Law & Policy Reporter, May.

KILGOUR, D.M. and DINAR A. "Are Stable Agreements for Sharing International River Waters Now Possible?" Policy Research Working Paper 1474. Washington DC: World Bank, June 1995.

MUYS, Jeromy C., SHERK, GEORGE William, O'LEARY, Marilyn C. (2006). "Utton Transboundary Resources Center Model Interestate Water Compact." The Utton Transboundary Resources Center. University of New Mexico School of Law. November.

WATZIN, MARY C. (2006). The Role of law, science, and the public process: practical lessons from lake Champlain (US and Canada) and Lake Ohrid (Macedonia and Albania). 19 Pacific McGeorge Global Business & Development Law Journal 241.

LIST OF AGREEMENTS ANALYZED

Argentina

FEDERAL WATER AGREEMENT (2003), between the Nation, the Provin ces, and the Autonomous City of Buenos Aires.
Available at: http://www.lapampa.gov.ar/Publicaciones/BolOficial/Bof2004/bof2600a.htm

AGREEMENT BETWEEN LA PAMPA AND MENDOZA on the ATUEL RIVER (7 August 2008), on file with the author. See also, DEL CASTILLO, Lilian (2007), "La Gestión del Agua en Argentina." Ciudad Argentina, Buenos Aires – Madrid.

Australia

BORDER GROUNDWATERS AGREEMENT (1985), between State of South Australia and State of Victoria. Available at: http://faolex.fao.org/docs/texts/sa44224.doc

LAKE EYRE BASIN INTERGOVERNMENTAL AGREEMENT (2000), between the Commonwealth, State of Queensland and State of South Australia. Available at: http://faolex.fao.org/docs/texts/aus25173.doc

INTERGOVERNMENT AGREEMENT FOR THE PAROO RIVER (2003), between New South Wales and Queensland. Available at: http://faolex.fao.org/docs/pdf/aus40700.pdf

INTERGOVERNMENTAL AGREEMENT ON A NATIONAL ACTION PLAN FOR SALINITY AND WATER QUALITY, between the Commonwealth of Australia, New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania, the Northern Territory, and the Australian Capital Territory. Available at: http://www.napswq.gov.au/publications/books/iga.html (YEAR?)

INTERGOVERNMENTAL AGREEMENT ON A NATIONAL WATER INITIATIVE (1994), between the Commonwealth of Australia and the Government of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory.
Available at: http://www.nwc.gov.au/NWI/docs/iga_national_water_initiative.pdf

MURRAY-DARLING BASIN AGREEMENT, (2006), between the Commonwealth, New South Wales, Victoria and South Australia. Available at: http://www.mdbc.gov.au/__data/page/44/Murray-Darling_Basin_Agreement_full.pdf

NEW SOUTH WALES-QUEENSLAND AND BORDER RIVERS AGREEMENT (1946), between New South Wales, and Queensland. Available at: http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/N/NewSoWQBorRiA46.pdf

Canada

AGREEMENT BETWEEN THE GOVERNMENT OF QUEBEC AND THE GOVERNMENT OF NEW BRUNSWICK ON TRANSBOUNDARY ENVIRONMENT IMPACT (2002), Available at: http://www.gnb.ca/0009/0001-e.pdf

CANADA-ONTARIO AGREEMENT RESPECTING THE GREAT LAKES BASIN ECOSYSTEM (2007), Available at: http://www.on.ec.gc.ca/coa/

MASTER AGREEMENT ON APPORTIONMENT BETWEEN CANADA, ALBERTA, MANITOBA AND SASKATCHEWAN (1969), Available at: http://www.mb.ec.gc.ca/water/fb01/fb00s04.en.html

Germany

AGREEMENT ON THE RESPECTIVE AREAS OF RESPONSIBILITY OF THE RIVER POLICE ON THE ELBE BETWEEN THE LANDER NIEDERSACHSEN AND SCHLESWIG-HOLSTEIN, JANUARY (1974). Available at: http://faolex.org/

India

AGREEMENT OF JULY 12th, 1974 between Madhya Pradesh, Maharashtra, Rajasthan and Gujarat. Available at: B.R. CHAUHAN (1992), Settlement of International and Inter-state water disputes in India. P.M. Bakshi ed., Indian Law Institute, N.M. Tripathi Bombay p. 252

AGREEMENT OF AUGUST 7th 1978 between the States of Maharashtra, Madhya Pradesh and Andhra Pradesh. Available at: B.R. CHAUHAN (1992), *op.cit., p*. 264

MEMORANDUM OF AGREEMENT (1951) between Bombay, Hyderabad, Madhya Pradesh and Madras. Available at: B.R. CHAUHAN (1992), *op.cit.* p.262

MEMORANDUM OF AGREEMENT OF DECEMBER 19th 1975 between Karnataka, Andhra Pradesh, Maharashtra, Madhya Pradesh and Orissa. Available at: B.R. CHAUHAN (1992), *op.cit, p*. 263

AGREEMENT ON JANUARY 29th 1955 between ??? Available at: B.R. CHAUHAN (1992), *op.cit. p*. 281

AGREEMENT BETWEEN INDIA, HARYANA, PUNJAB AND RAJASTHAN (1981). Available at: B.R. CHAUHAN (1992), *op.cit. p*. 297

Nigeria

WATER CHARTER FOR SUSTAINABLE AND EQUITABLE MANAGEMENT OF THE HADEJA-JAMA'ARE-KOMADUGU-YOBE BASIN (2007), made by the states of Bauchi, Borno, Jigawa, Kano, Plateau, and Yobe, and the Federal Government of Nigeria (copy on file with the author).

United States

KANSAS-NEBRASKA-COLORADO REPUBLICAN RIVER COMPACT (1943). Available at: http://www.ksda.gov/includes/statute_regulations/interstate_water_issues/Republican_River_Compact.pdf

OREGON-CALIFORNIA GOOSE LAKE INTERSTATE COMPACT (1963). California Water Code Section 5950-5951

NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMPACT (1969), between Maine, Massachusetts, New Hampshire, Rhode Island and Vermont, U.S. Available at: http://www.cga.ct.gov/2005/pub/Chap446g.htm

SUSQUEHANNA RIVER BASIN COMPACT (1972) between Pennsylvania, Maryland, New York, and U.S.
Available at: http://www.srbc.net/about/srbc_compact.pdf

ARKANSAS RIVER BASIN COMPACT between Arkansas and Oklahoma (1970).
Available at: http://ssl.csg.org/compactlaws/arkansasoklahomariverbasin1970.html

ALABAMA-COOSA-TALLAPOOSA RIVER BASIN COMPACT (1997) between Alabama, Georgia and U.S. Available at: http://commdocs.house.gov/committees/judiciary/hju55947.000/hju55947_0f.htm

CALIFORNIA-NEVADA INTERSTATE COMPACT (1990). California Water Code Section 5975-5976

DELAWARE RIVER BASIN COMPACT (1961) between Delaware, New Jersey, Pennsylvania, New York and U.S.
Available at: http://archives.delaware.gov/collections/guide/0000s/0901-000-002.shtml

IDAHO-WASHINGTON INTERAGENCY AGREEMENT IN THE MATTER OF THE COORDINATED MANAGEMENT OF THE PULLMAN-MOSCOW GROUND WATER AQUIFER (1992). Available at: http://www.fao.org/docrep/008/y5739e/y5739e0b.htm

GREAT LAKES-ST. LAWRENCE RIVER BASIN WATER RESOURCES COMPACT DECEMBER 13th, (2005) between Illinois, Indiana, Michigan, New York, Ohio, Wisconsin and the Commonwealth of Pennsylvania. Available at: http://www.cglg.org/projects/water/docs/12-13-05/Great_Lakes-St_Lawrence_River_Basin_Water_Resources_Compact.pdf

United States/Canada

GREAT LAKES-ST. LAWRENCE RIVER BASIN SUSTAINABLE WATER RESOURCES AGREEMENT, DECEMBER 13th 2005, between States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Commonwealth of Pennsylvania, Wisconsin, the Province of Ontario and the Government of Québec.

MEMORANDUM OF UNDERSTANDING BETWEEN IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY AND BRITISH COLUMBIA MINISTRY OF WATER, LAND AND AIR PROTECTION, SEPTEMBER (2003). Available at: http://www.deq.state.id.us/rules/mous/all_bc_idaho_2004_285_286_287.pdf

ENVIRONMENTAL COOPERATION AGREEMENT BETWEEN BRITISH COLUMBIA AND WASHINGTON, MAY (1992). Available at:http://www.coastsalishgathering.com/04resources/docs/ECCAgreement.pdf

Switzerland

AGREEMENT BETWEEN THE CANTONS OF BERN, FRIBOURG, VAUD AND NEUCHATEL AGAINST THE DAMAGES CAUSED BY HYDROCARBONS, February 1982 Available at: http://faolex.org/