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33-23

Comprehensive Transboundary Water Quality Management Agreement

With Guidelines for Development
of a Management Plan, Standards,
and Criteria



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CONTENTS

PREFACE	ix
ACKNOWLEDGMENTS	xi
PREAMBLE	1
1 DECLARATION OF PURPOSES AND POLICIES	3
1.1 Purposes of Agreement	3
1.2 Joint Exercise by the Parties of a Community of Interest, Equitable and Reasonable Utilization, Participation, and Cooperation	3
1.3 Interrelationship of Water Resources	4
1.4 Severance or Material Breach (Optional)	4
1.5 Good Faith Implementation	4
1.6 Coordination and Cooperation	4
2 GENERAL PROVISIONS	5
2.1 General Obligations	5
2.1.1 Effective Date of Execution	5
2.1.2 Duration of Agreement	5
2.1.3 Amendments and Supplements	5
2.1.4 Withdrawal	5
2.1.5 Existing Agencies	5
2.1.6 No Precedence (Optional)	6
2.2 Definitions	6
2.2.1 _____ Basin	6
2.2.2 Beneficial Use	6
2.2.3 Commission	6
2.2.4 Comprehensive Transboundary Water Quality Management Plan	6
2.2.5 Consumptive Use	6
2.2.6 Cost.	7
2.2.7 Drought Conditions	7
2.2.8 Effluent Standards	7
2.2.9 Equitable	7
2.2.10 Flood Conditions.	7
2.2.11 Instream Use	7
2.2.12 International Watercourse	7
2.2.13 Minute	8
2.2.14 Multilateral Body	8
2.2.15 Nonpoint-Source (NPS) Pollution	8
2.2.16 Party or Parties.	8
2.2.17 Point Source	8
2.2.18 Project	8
2.2.19 Reasonable Use	8
2.2.20 Riparian Rights.	9
2.2.21 Standards and Criteria	9
2.2.22 Sustainable Water Use.	9
2.2.23 Total Maximum Daily Load (TMDL).	9
2.2.24 Transboundary Waters	9
2.2.25 Wasting.	9
2.2.26 Watercourse	9
2.2.27 Watercourse State	10
2.2.28 Waters of the _____ Basin.	10
2.2.29 Water Quality Monitoring	10
2.2.30 Zero Discharge.	10

3	ADMINISTRATION	11
3.1	Administrative Authority	11
3.1.1	Commission Created	11
3.1.2	Jurisdiction of the Commission	11
3.1.3	Commissioners	11
3.1.4	Commission Administration	11
3.2	Powers and Duties	12
3.2.1	General Powers and Duties	12
3.2.2	Powers and Duties Reserved to the Commission	12
3.2.3	Obligations of the Commission (Optional)	13
3.2.4	Regulations and Enforcement	13
3.2.5	Prohibited Activities	14
3.2.6	Referral and Review	14
3.2.7	Advisory Committees	14
3.2.8	Reports	14
3.2.9	Condemnation Proceedings	14
3.2.10	Meetings, Hearings, and Records	15
3.3	Intergovernmental Relations	15
3.3.1	Intergovernmental Coordination and Cooperation	15
3.3.2	Project Costs and Evaluation Standards	15
3.3.3	Projects of the Signatory Parties and their Subdivisions	16
3.3.4	Cooperative Services	16
4	TRANSBOUNDARY WATER QUALITY MANAGEMENT	17
4.1	Comprehensive Transboundary Water Quality Management Plan	17
4.2	Purpose and Objectives	17
4.3	Conditions of Comprehensive Plan	18
4.4	Water Allocation	18
4.5	Withdrawals and Diversions	19
4.6	Water Quality	20
5	FINANCING	23
5.1	Annual Current Expense and Capital Budgets	23
5.2	Capital Financing by Signatory Parties and Guaranties	23
5.3	Grants, Loans, or Payments	24
5.4	Rates and Charges	24
5.5	Borrowing Power	24
5.6	Credit Excluded	24
5.7	Indebtedness	24
5.8	Funding and Refunding	25
5.9	Remedies for Holders of Bonds	25
5.10	Annual Independent Audits	25
6	DISPUTE RESOLUTION	27
6.1	Alternative Dispute Resolution	27
6.2	Negotiations and Consultations	27
6.3	Conciliation and Mediation	27
6.4	Binding Arbitration	28
6.5	Arbitral Panel	28
6.6	Penal Sanction (Optional)	29
6.7	Tort Liability	29
7	IMPLEMENTATION	31
8	REFERENCES	33
8.1	Charters, Conventions, and Treaties	33
8.2	Learned Treatises	33
	Reference (Not Cited)	34

APPENDIX A GUIDELINES FOR DEVELOPMENT OF A TRANSBOUNDARY WATER QUALITY MANAGEMENT PLAN	35
Preface	35
A.1 Steps Toward an Agreement.	35
A.1.1 Introduction	35
A.1.2 Geography of the Shared Water Body	35
A.1.3 General Approach to Developing Actions to Improve Water Quality	35
A.2 Regulatory Agencies	36
A.2.1 Agencies	36
A.2.2 Management Team.	36
A.2.3 Governmental Action Procedures	37
A.3 Agreement on Standards and Criteria	37
A.4 Plan to Improve Water Quality for Use Designations	38
A.4.1 Evaluating Current Pollution Sources	38
A.4.2 Negotiation of a Specific Plan to Reduce Pollution Sources	38
A.4.2.1 Water Body Traversing the Boundary.	38
A.4.2.2 Water Body Defining the Boundary.	38
A.4.3 Strategies to Control Pollution.	38
A.4.4 Cost Sharing	38
A.5 Implementation of Measures for Sustainable Use.	39
A.5.1 Water Quality Monitoring	39
A.5.2 Enforcement	39
A.6 Growth and Time	40
A.7 References	40
APPENDIX B GUIDELINES FOR THE DEVELOPMENT OF TRANSBOUNDARY WATER QUALITY STANDARDS AND CRITERIA.	41
Preface	41
B.1 The Process Leading to Establishment and Implementation of Transboundary Water Quality Standards and Criteria.	41
B.2 Factors Affecting Transboundary Water Quality Standards.	42
B.2.1 Water Quality Regulations.	42
B.2.2 Designated Use in Each Government	43
B.3 Types of Water Quality Regulatory Constraints and their Relative Domestic Importance.	43
B.3.1 Distinction between Water Quality Standards, Criteria, Goals, Objectives, and Others	43
B.3.2 Regulatory Constraints as a Functional Use.	43
B.3.3 Ranking in Terms of Domestic Importance.	43
B.3.4 Variance Allowed for Extreme Conditions	44
B.3.5 Negotiation of Standards or Criteria.	44
B.4 Mexico–US Transboundary Water Quality Standards.	44
B.5 References	44
INDEX.	47

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PREFACE

The purpose of the *Comprehensive Transboundary Water Quality Management Agreement with Guidelines for Development of a Management Plan, Standards, and Criteria* (the Agreement) is to provide a framework that riparian governments could adopt or modify for comprehensive water quality planning and management of shared water resources. This Agreement and its appendixes are based on the concept of shared access and use of transboundary water. It is appropriate only for those situations in which watercourse states, hereafter called Parties, are prepared to manage their portion of shared water resource together with their neighbors and when the Parties show an interest in improving the quality of the water resource.

The Agreement is extensive and considers many aspects of planning and management of water resources. Parties agree to encourage practices to the reasonable use of water and provide sufficient data to the other Parties to verify beneficial uses, including consumptive and non-consumptive uses. The Agreement suggests that information acquisition costs be apportioned so that data collection, environmental assessment, and inventories of basin water user efforts should be systemic and integrated across the basin.

The Agreement is based on the elements of “Model Comprehensive Management Agreement Relating to the Shared Use of Transboundary Water Resources” in *Model Water Sharing Agreements for the Twenty-First Century* (Draper 2002), which is based on the Delaware River Basin Compact (DRBC 1961) and its amendments. The Delaware Compact has been successful in resolving interstate conflicts over the water rights and water quality management of the basin between and among the states of New York, Pennsylvania, New Jersey, and Delaware. Almost all the commentary in this Agreement is based on the *Comprehensive Transboundary International Water Quality Management Agreement*, ASCE/EWRI Standard

33-01, published in 2001 (ASCE 2001); and/or *Comprehensive Transboundary Water Quality Management Agreement with Guidelines for Development of a Management Plan, Standards, and Criteria*; ASCE/EWRI 33-09, published in 2009 (ASCE 2009). Some sentences within the commentary are new to or revised in this Agreement. Almost all of the material in Appendixes A and B was taken directly from ASCE (2009).

The intent of this Agreement is to be sufficiently flexible for use across borders of Parties in whose territory that part of a watercourse is situated. Article 2 lists general obligations and definitions for the document. Defining the terms avoids the need to include similar language at numerous points throughout the Agreement. Many definitions were taken from *Regulated Riparian Model Water Code* (ASCE 2003).

Blanks (_____) within the text are used to allow a reader to insert names or material appropriate for a particular set of Parties. Some subarticles are optional and have been labeled accordingly.

The ASCE/EWRI Border International Water Quality Standards Committee (BIWQ SC) is a committee within the Standards Development Council (SDC) of the Environmental and Water Resources Institute (EWRI) of the American Society of Civil Engineers (ASCE). Committee members who have attended one or more meetings and/or voted on one or more ballots regarding the Agreement are listed following in alphabetical order.

This BIWQ SC reports to the Environmental and Water Resources Institute’s Standards Development Council. The EWRI SDC and the ASCE Codes and Standards Committee have approved the balloting process according to the ASCE Rules for Standards Committees, which have been established in agreement with the American National Standards Institute.

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**AGREEMENT CONCERNING THE COMPREHENSIVE TRANSBOUNDARY
WATER QUALITY MANAGEMENT OF THE _____ RIVER BASIN
AND/OR AQUIFER BASIN**

PREAMBLE

The Parties to this Agreement, _____ and _____; Recognizing that the water and related resources of the _____ River Basin and/or Aquifer Basin (hereafter using _____ Basin) are regional assets, for which they have a joint responsibility, and that the reasonable and beneficial use of these water resources is necessary for the health and welfare of its respective peoples *and its environmental protection*;

Acknowledging that water and the related resources of the _____ Basin may be experiencing water quality problems to be addressed in order to promote sustainable development;

Recognizing the need to establish a transboundary organization to strengthen cooperation among interested Parties and to facilitate the financing, construction, operation, and maintenance for projects in the _____ Basin;

Convinced of the need to collaborate with governments and states, local communities, nongovernmental organizations, the private sector, and other members of the public in the effort to manage water quality in the _____ Basin;

Recognizing that the conservation, utilization, development, management, and control of the water and related resources of the _____ Basin and its tributaries, under a comprehensive multipurpose plan, will bring the greatest benefits to public welfare and environmental protection within the context of water resource sustainability;

Recognizing that Parties seek to provide effective flood damage reduction; conservation and development of underground and surface water supply for municipal, industrial, and agricultural uses; and watershed projects;

Recognizing that protection and aid to fisheries dependent upon water resources, development of hydroelectric power potentialities, improved navigation, control of the movement of saline water, abatement and control of water pollution, and regulation of surface flow are beneficial to the Parties; and

Affirming the desirability of encouraging increased investment for water quality management in the _____ Basin;

The governments of _____ and _____ hereby solemnly covenant and agree with each other to the following Agreement.

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CHAPTER 1

DECLARATION OF PURPOSES AND POLICIES

1.1 PURPOSES OF AGREEMENT

1.1.1. The waters of the _____ Basin are affected by local, national, and regional interests, and their planning, conservation, utilization, development, management, and control, under appropriate arrangements for intergovernmental cooperation, are public purposes for the respective signatory Parties.

1.1.2. The purposes of this Agreement are to promote comity; alleviate causes of present and future controversy; make secure and protect present developments within the governments of the _____ Basin; and encourage and provide for the planning, conservation, utilization, development, management, and control of the water resources of the _____ Basin.

1.1.3. The purposes include providing for cooperative planning, financing, and action by the signatory Parties with respect to water quality such that human health, ecosystems, and beneficial uses, including consumptive and nonconsumptive uses, are protected.

1.1.4. These policies seek to apply reasonable and nondiscriminatory treatment to all water users and to all users of related facilities without regard to established political boundaries.

1.1.5. A controlling Commission is to be established to carry out the operations within the _____ Basin.

Commentary: A key challenge for the Parties is to make more efficient and productive use of water and to reshape the institutions managing water to better suit the increase in water shortages (Postel 1996). The purpose statement is indefinite in order to allow flexibility in the planning and management of the shared water resource (ASCE 2001).

The Parties should carefully frame the extent of the water resources involved in the Agreement. They should identify the type and geographical extent of the waters of the _____ Basin subject to the Agreement. To be accurate, an analysis should examine factors that influence the availability of water, such as the following: the climatology, physiology, geology, and the interaction between underground and surface water resources. The analysis should also identify pollution sources and their impacts on basin water quality (ASCE 2001). The purposes and scope of the Agreement will affect this assessment, as they will delineate the Parties to be included and their responsibilities, as well as the structure of the Commission established to manage operations within the _____ Basin (ASCE 2009).

The geographic extent of the water resources to be covered by the Agreement should be equal to the water sharing problems to be addressed. The use of the terms “_____ Basin” or “Waters of the _____ Basin,” if objectionable for any reason by one or more Parties, may be changed to “region,” “area,” or “system,” or any word that accurately describes and

encompasses the entirety of the water resources subject to the Agreement (ASCE 2001).

Comprehensive basinwide management is established in recent international agreements, to include the Convention on Biological Diversity (1992); Convention on Wetlands of International Importance (1975); and Rio Declaration on the Environment and Development (1992). It has been noted that “integration of water quality and quantity programs is one aspect of, and is inseparable from, comprehensive, coordinated, multi-purpose, basin-wide water and related resource planning and management” (Goldfarb 1993).

Cross References: 1.6 (coordination and cooperation); 2.1.3 (amendments and supplements); 2.1.4 (withdrawal); 2.2.1 (_____ Basin defined); 2.2.2 (beneficial use defined); 2.2.16 (party or parties defined); 2.2.18 (project defined); 3.2 (powers and duties); 3.3 (intergovernmental relations); 5.3 (grants, loans, or payments); 5.5 (borrowing power).

1.2 JOINT EXERCISE BY THE PARTIES OF A COMMUNITY OF INTEREST, EQUITABLE AND REASONABLE UTILIZATION, PARTICIPATION, AND COOPERATION

The water quantity and quality of the _____ Basin are subject to the concept of “community of interest” and the principles of equitable and reasonable utilization, participation and cooperation among Parties of this treaty. This Agreement provides for the joint exercise of equitable and reasonable utilization, participation, and cooperation in the common interests of the people of the region.

Commentary: To be effective, any watercourse state directly affected by the shared use or having direct access to the surface or underground water should be identified and included in discussions.

Both governmental and private stakeholders may influence Agreement formulation, even if private water rights holders within the various jurisdictions will not participate as Parties to the Agreement (ASCE 2009).

Although the extent of consultation with private groups will depend on the political nature of each government, recognition of existing rights is required. For instance, in some situations a conflict could exist between demands for water for economic purposes and the needs of environmental protection. Water users may respond better to incentives to accept that some water is reserved for environmental and ecological protection. Additional incentives may also help users to maintain or improve water quality during or after use and before discharge in accordance with water quality standards or other compliance requirements.

Unless the governmental entities involved in formulating the

Agreement consider the interests of the various user groups, the effectiveness of the Agreement may be reduced (ASCE 2001).

Many agreements reserve the sovereign right of each signatory to exploit its own resources (e.g., Convention on Long-Range Transboundary Air Pollution 1979, Convention on Environmental Impact Assessment in a Transboundary Context 1991). However, some recent agreements refer to joint development of shared water resources (Trolldalen 1992), and joint development presupposes sovereign equality. Examples include the Delaware River Basin Compact (DRBC 1961), the Susquehanna River Basin Compact (SRBC 1970), the Act Regarding Navigation and Economic Development between the States of the Niger Basin (1963), Convention Establishing the Organization for the Development of the Senegal River (OMVS, Organization pour la Mise en Valeur du Fleuve Senegal) (1974), Convention and Statute Relating to the Development of the Chad Basin (1964), and the Agreement on the Action Plan for the Environmentally Sound Management of the Common Zambezi River System (1987).

Cross References: 2.1.4 (withdrawal); 2.2.16 (party or parties defined); 3.2.2 (powers and duties reserved to the commission); 3.2.9 (condemnation proceedings).

1.3 INTERRELATIONSHIP OF WATER RESOURCES

The Waters of the _____ Basin are functionally inter-related, and the uses of these resources are interdependent. Joint planning, management, and coordination of projects and policies within the Basin are essential to effective and efficient use of the water resource.

Commentary: This provision expands the purpose statement by expressing the intent of the Parties to seek effective water management (ASCE 2001). Similar provisions are included in the Report of the United Nations Conference on Environment and Development, reprinted in Agenda 21 (1993), which proposed a program of integrated water resource development and management.

Cross References: 1.6 (coordination and cooperation); 2.2.1 (_____ Basin defined); 2.2.16 (party or parties defined); 2.2.18 (project defined); 2.2.28 (waters of the _____ Basin defined).

1.4 SEVERANCE OR MATERIAL BREACH (OPTIONAL)

- 1. Parties consider this Agreement to be a whole. Each recommendation and provision of this Agreement is considered material to the entire Agreement, and failure to implement or adhere to any recommendation or provision may be considered a material breach.**
- 2. Tribunal Parties of competent jurisdiction may hold any part of this Agreement to be void or unenforceable; all other severable provisions shall continue in full force and effect.**

Commentary: The drafters of an Agreement should consider whether they wish to include these clauses. If any part is found to be void or unenforceable, a severance clause avoids the possibility of having the entire Agreement become null and void. These provisions are standard to most agreements, indicating that all provisions of an Agreement are interrelated and that breach of any provision by one Party may jeopardize an Agreement (ASCE 2001).

Cross References: 2.1.3 (amendments and supplements); 2.2.16 (party or parties defined); 3.2.2 (powers and duties

reserved to the commission); 3.3.4 (cooperative services); 6.3 (conciliation and mediation).

1.5 GOOD FAITH IMPLEMENTATION

Each of the Parties pledges to support implementation of all provisions of this Agreement and covenants that its officers and agencies will not hinder, impair, or prevent any other Party from carrying out any provision or recommendation of this Agreement.

Commentary: A government normally enters into any transboundary Agreement with a position of self-interest. In the negotiations, each Party seeks the rights and authorities critical to certain political, economic, or social objectives while ceding less critical rights and authorities to joint decisions. While accepting this fact, all Parties have a duty to cooperate and negotiate in good faith (ASCE 2001). This principle is the foundation of international law, and it applies in all relations among watercourse states.

Similar provisions are found in the following references: Declaration on Principles of International Law Concerning Friendly Relations and Cooperation among States in Accordance with the Charter of the United Nations (1970), Charter of Economic Rights and Duties of States (1975), Helsinki Rules on the Uses of the Waters of International Rivers (1966), and Stockholm Declaration of the United Nations Conference on the Human Environment (1972).

Cross References: 2.2.16 (party or parties defined); 3.1.4 (commission administration); 3.2 (powers and duties); 3.3.2 (project costs and evaluation standards); 6.1 (alternative dispute resolution).

1.6 COORDINATION AND COOPERATION

The Parties shall at all times endeavor to agree on the interpretation and application of this Agreement and shall make every attempt through cooperation and consultations to arrive at a mutually satisfactory resolution of any matter that might affect its operation.

Commentary: This provision recognizes the inherent need for coordination and cooperation in the joint management of the basin. This provision appears in international treaties, including Declaration on Principles of International Law Concerning Friendly Relations and Cooperation among States in Accordance with the Charter of the United Nations (1970), Stockholm Declaration of the United Nations Conference on the Human Environment (1972), Charter of Economic Rights and Duties of States (1975), Treaty for Amazonian Cooperation (1978), Convention on Long-Range Transboundary Air Pollution (1979), Vienna Convention for the Protection of the Ozone Layer (1985), Convention on Environmental Impact Assessment in a Transboundary Context (1991), the North American Free Trade Agreement (NAFTA) (1993), and Agreement between the Government of the United States of America and the Government of the United Mexican States Concerning the Establishment of a Border Environment Cooperation Commission and a North American Development Bank (1993).

Cross References: 1.1 (purposes of agreement); 1.3 (interrelationship of water resources); 2.2.14 (multilateral body defined); 2.2.16 (party or parties defined); 3.2.1 (general powers and duties); 3.2.10 (meetings, hearings, and records); 3.3.1 (intergovernmental coordination and cooperation).

CHAPTER 2

GENERAL PROVISIONS

2.1 GENERAL OBLIGATIONS

2.1.1 Effective Date of Execution This Agreement shall become binding and effective (____) days after the enactment of concurring legislation by the signatory Parties. The Agreement shall be signed and sealed in (____) duplicate original copies by the respective chief executives of the signatory Parties. One such copy shall be filed with the Secretary of State of each of the signatory Parties or in accordance with the laws of the country or nation in which the filing is made, and one copy shall be filed and retained in the archives of the Commission.

Commentary: This provision is administrative in nature. It describes when the Agreement becomes enforceable and the administrative steps necessary to ensure that all Parties are so informed (ASCE 2001).

Cross References: 2.1.2 (duration of agreement); 2.2.16 (party or parties defined); 4.4 (water allocation).

2.1.2 Duration of Agreement

1. The Parties intend that the duration of this Agreement shall be for an initial period of (____) years from its effective date. If none of the signatory Parties notifies the Commission of intention to terminate, the Agreement shall be continued for additional periods of (____) years.
2. In the event that this Agreement should be terminated by operation of the previous paragraph, the Commission shall be dissolved, its assets and liabilities transferred, and its corporate affairs discontinued, in such manner as may be provided by agreement of the signatory Parties.

Commentary: Setting duration for an extended period allows for predictability of water management. This provision allows sufficient time to recover capital costs in the financing of projects. Establishing duration ensures that the Parties reconsider the Agreement only after a sufficient hydrologic record is established (ASCE 2001).

Cross References: 2.1.1 (effective date of execution); 2.2.16 (party or parties defined); 3.1.1 (commission created); 4.2 (purpose and objectives); 4.5 (withdrawals and diversions).

2.1.3 Amendments and Supplements

1. Amendments and supplements to this Agreement to implement the purposes thereof may be proposed by any of the signatory Parties. The amendments and supplements shall become incorporated in the Agreement if approved by all Parties.
2. In the event that any Party is substantially hindered or prevented from performing any obligation or implementing any provision under this Agreement by reason of circumstances beyond the control of the Party

(including natural disasters, labor disputes, judicial decrees, armed intervention, and/or action of national legislative bodies), the Parties agree to meet and negotiate an appropriate modification of the applicable provisions of the Agreement. Such modifications may include extensions of applicable schedules and timetables, or agreements on substitute actions to fulfill the objectives and spirit of this Agreement.

Commentary: This provides a mechanism for the Parties to agree and develop extensions to the Agreement when the need arises. It also provides a remedy for unintentional breaches of the Agreement that may occur because of certain unforeseen or changed conditions (ASCE 2009). Similar provisions may be found in many agreements (Convention on Environmental Impact Assessment in a Transboundary Context 1991; Vienna Convention for the Protection of the Ozone Layer 1985). One example is the concept of a “Minute” mechanism within the 1944 Mexico–US transboundary water Treaty Respecting Utilization of Waters of Colorado and Tijuana Rivers and of the Rio Grande (US Government Printing Office 1946).

Cross References: 1.1 (purposes of agreement); 1.4 [severance or material breach (optional)]; 2.2.16 (party or parties defined).

2.1.4 Withdrawal Any Party has the power and right to withdraw from this Agreement. Notification of withdrawal to all Parties shall be made (____) months in advance of the prospective withdrawal.

Commentary: This provision acknowledges the advance notification of withdrawal by any individual Party and recognizes that the Parties shall cooperate on sovereign equality for the purposes of this Agreement.

Cross References: 1.1 (purposes of agreement); 1.2 (joint exercise by the parties of a community of interest, equitable and reasonable utilization, participation, and cooperation); 2.2.16 (party or parties defined).

2.1.5 Existing Agencies The Parties shall preserve and utilize the functions, powers, and duties of existing offices and agencies to the extent consistent with the Agreement. The institution established to enforce this Agreement is authorized and directed to utilize and employ such offices and agencies for the purpose of this Agreement to the extent it finds feasible and advantageous.

Commentary: The use of existing offices and agencies prevents duplication associated with costs of data collection and management of the water quantity and quality subject to the Agreement (ASCE 2001).

Cross References: 2.2.16 (party or parties defined); 3.2.2 (powers and duties reserved to the commission); 3.2.3 (authority

committees); 3.3.1 (intergovernmental coordination and cooperation); 3.3.4 (cooperative services); 4.3 (conditions of comprehensive plan).

2.1.6 No Precedence (Optional) The physical and other conditions pertinent to the _____ Basin constitute the basis for this Agreement, and its provisions are applicable only to the _____ Basin.

Commentary: The Agreement reflects the circumstances and compromises reached in its formulation. The Parties may not wish to make this Agreement apply to other basins. This clause may avoid later claims that other rivers and basins or other bodies of water should be dealt with in a similar manner (ASCE 2001).

Cross References: 2.2.1 (_____ Basin defined); 2.2.16 (party or parties defined).

2.2 DEFINITIONS

2.2.1 _____ Basin “_____ Basin” means the area of drainage into the _____ River and its tributaries, aquifers underlying the drainage, or the aquifers themselves.

Commentary: The Agreement could include the total surface area of drainage throughout the _____ Basin and contain aquifers underlying the surface drainage. Some tributaries can be connected to the underlying aquifers holding the underground water. Some of the aquifers could be connected to more than one surface water basin. The geographic scope of the Agreement should be defined to ensure that there are no future disagreements about what lands are or are not covered by the Agreement. A map may be incorporated, but care should be taken that the map is cartographically accurate. Because the map is likely to be at a scale too small for precise delineation of boundaries, it should be made clear that it is for general reference only. In the event of a dispute over land being within the defined _____ River and its tributaries, the actual limits of the watershed as determined on the ground should be controlling (Draper 2002, ASCE 2001).

Cross References: 1.1 (purposes of agreement); 1.3 (interrelationship of water resources); 2.1.6 [no precedence (optional)]; 2.2.3 (commission defined); 2.2.24 (transboundary waters defined); 2.2.28 (waters of the _____ Basin defined); 3.1.1 (commission created); 3.1.2 (jurisdiction of the commission); 3.2.1 (general powers and duties); 3.2.2 (powers and duties reserved to the commission); 3.2.3 [obligations of the commission (optional)]; 3.2.6 (referral and review); 3.3.3 (projects of the signatory parties and their subdivisions); 3.3.4 (cooperative services); 4 (transboundary water quality management).

2.2.2 Beneficial Use “Beneficial use” includes that use by which the water supply of a drainage basin or aquifer is consumed or stored, when usefully employed by human activities, and also includes water lost by evaporation and other natural causes from streams, canals, ditches, irrigated areas, and reservoirs. The term includes instream use for aesthetics, ecological and environmental maintenance, and protection, recreation, minimum flow maintenance, or any other purpose agreed by the Parties to be for the general benefit of the public and the environment.

Commentary: “Beneficial use” has long been a criterion for the validity of water rights under the appropriative rights doctrine, which is sometimes described as first in time of a water use, first in precedence as a water right. In that setting, the concept of beneficial use serves both to define the proper purposes for which a water right might be acquired and to limit or measure the quantity of water lawfully appropriated for the intended purpose (Dellapenna 2007). For example, if the Parties use surface water for groundwater recharge for water supply conservation, aquifer

use could be pertinent. An example is recharge on Long Island, New York, established under New York Environmental Conservation Law Section ECC 27-07-04 (1983) and related rules and regulations. In this case, aquifer recharge could affect the types of development allowed and pollutant discharge guidelines for the designated areas (ASCE 2019).

At present, not all jurisdictions agree that “instream” uses are beneficial, but the trend is to recognize and provide for such uses. Requirements of instream use maintenance should be addressed; if not, future requirements may result in disruption of allocation or other provisions contained in the Agreement (ASCE 2001). The Parties may wish to modify or refine this definition further, depending on the particular goals included in the Agreement.

Cross References: 1.1 (purposes of agreement); 2.2.3 (commission defined); 2.2.11 (instream use defined); 2.2.16 (party or parties defined); 2.2.22 (sustainable water use defined); 4.2 (purpose and objectives); 4.4 (water allocation).

2.2.3 Commission “Commission” means the _____ Basin Commission created and constituted by this Agreement.

Commentary: A Commission may be constituted from personnel from the Parties (ASCE 2009). Further information about the Commission is covered in Article 3 of this standard and the previous iterations of this standard.

Cross References: 2.2.1 (_____ Basin defined); 2.2.2 (beneficial use defined); 3 (administration); 4 (transboundary water quality management); 5 (financing); 6 (dispute resolution).

2.2.4 Comprehensive Transboundary Water Quality Management Plan “Comprehensive Transboundary Water Quality Management Plan” means a plan that considers the interrelationship of transboundary water resources, describes current and prospective water uses, identifies water supplies, and matches these supplies to water uses. It also identifies water-related management measures, facility needs, and costs; addresses environmental concerns; and offers program and policy recommendations to better manage the Basin’s water resources and water quality. A plan may seek to produce high-quality, efficient use of water resources for the greatest benefit to the public and the environment.

Commentary: Comprehensive water management plans are guides for the orderly development and management of water resources. Such a plan could span a decades-long horizon and consider population growth, development and availability of new water supplies, water transfers from one basin to another, data sources and methodologies, cost of water, regional or subregional plans, regulatory issues, economic development, specific projects, health and public safety issues, specific long-term benefits of conserving water quantity and quality in the Basin, and other concerns. The Parties should negotiate the time horizon and the schedule for revising the plan (ASCE 2009). An example is the Texas water plan, *Water for Texas, 2007* (Texas Water Development Board 2007). Appendix A of this standard provides Guidelines for the Development of a Transboundary Water Quality Management Plan.

Cross References: 3.3.3 (projects of the signatory parties and their subdivisions); 4 (transboundary water quality management).

2.2.5 Consumptive Use “Consumptive use” means water consumed or not returned to the _____ Basin.

Commentary: A consumptive use is one that diminishes the quantity of water in a water source. Excessive consumptive use impedes the sustainable development of a water source. While water rights can be perfected for both consumptive and nonconsumptive uses, the effects of the two forms of use are so different