

# International Freshwater Treaty Database

Transboundary Freshwater Dispute Database

A [searchable database](#) of summaries and/or the full text of more than 800 international, freshwater-related agreements, covering the years 1820 to 2007.

Codebook Updated: Jan 2023

**Notes for TFDD Manager:** The following list corresponds to the columns in the Master Treaty Database. Columns Treaty\_Metadata\_DocID, PrimaryDocID, TFDDID, and PrimaryTFDDID, are the older numbering system for the treaties; these still link to the pdf and paper copies of the treaties. To simplify for users, a new numbering and linkage system was created to avoid confusion. The Master sheet should have all the data, use the master sheet to update, then create a new spreadsheet for posting on the website with these columns removed. The acronyms in brackets should be who coded and created the column variable and data. Delete notes for the manager when posting to the website.

## Notes for Coding:

- For new agreements, we only include agreements that have provisions related to water as a scarce or consumable resource, a quantity to be managed, or an ecosystem to be improved or maintained are included. Most importantly, this means that agreements focused on navigation, border delineation, and fishing rights (as distinct from water as a provider of habitat for fish) and which did not also have an element related to water as a scarce or consumable resource are excluded from the database. If the agreement already had a partial entry in the database – such as if the text was missing and it was unclear as to whether it met the criteria – the entry will remain in the database for consistency and data transparency. However, the document's Meet TFDD Inclusion Criteria should be changed to N, does not meet the criteria. (Notes for Coding Team: If No, the descriptive codes should be completed (through Issue Area), however the water specific codes can be filled as N/A, N, or -1/0 as is appropriate for each code.)
- The only time an agreement should have '-1' or 'N.A.' codes is if the agreement already has an entry in the database, and, upon recoding, it is determined that the agreement does not meet inclusion criteria. Then you will follow the protocol in the preceding bullet point.
- When coding an agreement that is not completely about water or water is a minor issue – such as water as a consumable resource is only covered in a section or two of the agreement – only code the sections that refer to or are relevant for water as a consumable resource. For example, if coding for scientific cooperation and the agreement only discusses joint scientific projects on air pollution, then this would not count as scientific cooperation for the Treaty Database coding.
- For each treaty, there will be multiple rows in the dataset. The combination of rows is the Treaty Application Area (TAA) which is the set of *present-day* BCUs to which an agreement applies. Prior to coding, the basin country units to which the treaty applies need to be identified and a row added for each.
- The Allocation codes (Codes in Blue) have been changed as of 27 July 2020.
- As of July 2021, new groundwater only codes (Codes in Gold) have been added. All treaties will be coded for A.M. Groundwater. If this code is 1,2,3,4,5, or 6, then you will code the treaty for the groundwater only codes in columns AO. to BA. If the treaty is a -1 or 0 for A.M. Groundwater, then code the groundwater only codes in columns AO. to BA. as either -1 or N.A. See each code for explicit instructions.
- As of February 2022, a new code on wetlands (Codes in Purple) has been added. The previous RBO, Joint Management, Joint Management Article, and Commission Name have been consolidated into a new River Basin Organization Codes (Codes in Purple).

- As of Nov/Dec 2022, several new codes were added in green and pink - Meets Inclusion Criteria, Governance Level, Binding Nature, Doc Lineage, Water Quality Objectives, Water Quality Definition, Regulatory Threshold, Water Quality Text, Water Quality Article, Global Instruments, Global Instrument Article, International Water Law, IWL Article, IWRM, IWRM Article, Environmental Monitoring, Environmental Monitoring Article, Gender, Gender Article, Gender Text, Treaty Law, and Treaty Law Article, and revised – Issue Area, Environment, and Environmental Article,

## ***TFDD Basin and Spatial Information***

### **A. Entry ID (numerical)**

A unique code for identifying each entry in the database, or each basin country unit and treaty combination.

### **B. BCCODE (text)**

Basin Country code that is related to the treaty or agreement, e.g., AMZN\_BRA, AMZN is the four-letter code for the Amazon Basin, and BRA is the three-letter country code for Brazil. This code relates to the area to which the agreement applies. These BCCODEs for each treaty represent the Treaty Application Area (TAA). The TAA is defined as the set of *present-day* BCUs to which an agreement applies.

Global agreements not specific to a basin, such as U.N. Conventions, are coded as GNRL\_GNL. For regional agreements, such as the SADC Protocol, they are coded as GNRL\_Country Code. For bilateral or multilateral agreements where the basin area is not identifiable, but the countries the agreement applies to are, are coded as UNKN\_Country Code. If neither the basin area nor the countries the agreement applies to are identifiable, then they are coded as UNKN\_UNKN. Documents concerning groundwater that cannot be identified as being within an international basin are coded as Groundwater GRND\_Country Code.

### **C. BCODE (text)**

Four-digit TFDD Basin code for the basin. This code relates to the area to which the agreement applies. Global international agreements are coded as General (GNRL). If the agreement is a multi-lateral regional agreement, i.e., SADC Protocol, or a global level agreement, i.e., 1997 UNWC Convention, then General (GNRL) is used. Documents concerning groundwater that cannot be identified as being within an international basin are coded as Groundwater (GRND). Documents where the international basin is not identifiable, or the document is missing are coded as Unknown (UNKN). Unknown code is used when the agreement is a bilateral or multi-lateral agreement between states that is specific to shared waters between those riparians, by not identifiable.

### **D. Basin Name (text)**

TFDD Basin Name for the above BCODE. This code relates to the area to which the agreement applies. If a document addresses multiple TFDD basins, this column only lists the specific Basin name for the specific BCCODE of the entry. Global international agreements are coded as General (GNRL). If the agreement is a multi-lateral regional agreement, i.e., SADC Protocol, or a global level agreement, i.e., 1997 UNWC Convention, then General (GNRL) is used. Documents concerning groundwater that cannot be identified as being within an international basin are coded as Groundwater (GRND). Documents where the international basin is not identifiable, or the document is missing are coded as Unknown (UNKN). Unknown code is used when the agreement is a bilateral or multi-lateral agreement between states that is specific to shared waters between those riparians, by not identifiable. River names are separated by a

hyphen (-) for multiple rivers that drain to the same outlet, i.e., Ganges-Brahmaputra-Meghna. Rivers that are known by two or three common names or different spellings are separated by slashes (/), i.e., Congo/Zaire.

#### **E. CCODE (text)**

Three-digit TFDD country code of the Basin Country Unit. This code relates to the area to which the agreement applies. Documents where the international basin is not identifiable, or the document is missing are coded as Unknown (UKN). For global agreements that are not specific to a basin area, such as U.N. Conventions, General (GNL) is used. If the agreement applies to a country that does not have a TFDD country code (e.g., because it does not contain a transboundary basin), use the CCODE from the FAO Gaul data.

#### **F. Country (Country\_name; text)**

Name of the country associated with the CCODE. This code relates to the area to which the agreement applies. Documents where the international basin is not identifiable or the document is missing are coded as Unknown (UKN). For global agreements that are not specific to a basin area, such as U.N. Conventions, General (GNL) is used.

#### **G. 2016 Update ID (2016Update ID, numerical)**

A unique code for identifying each document in the database. **For Manager: Each documents' new I.D. number links to the other two older I.D. numbers for reference to the pdf and paper documents.**

#### **H. 2010\_Treaty\_DocID (numerical)**

A unique numerical code identifying each document in the database. Treaty # corresponds to the name of the electronic text for the document, if available (e.g., 188ENG.doc or 188ENG.pdf), and to the manila folder number in which the paper text of the document, if available, is filed. **For Manager: This column and codebook entry should be removed when posted to the website.**

#### **I. TFDD ID [TFDD] (TFDDID, numerical)**

A unique numerical code identifying each document in the database. Treaty # corresponds to the name of the electronic text for the document, if available (e.g., 188ENG.doc or 188ENG.pdf), and to the manila folder number in which the paper text of the document, if available, is filed. **For Manager: This column and codebook entry should be removed when posted to the website.**

#### **J. Unified Primary 2016 Treaty ID (based on 2016 Update ID, numerical) [2022 Revision]**

Identifies the Primary Document signed in a lineage of documents that is explicitly referenced in the document being coded. This column should not be left blank.

- List the 2016 Update ID number for the primary (or Mother) document that is referenced in the subsequent (or Child) document that is being coded.
- If the document being coded is the primary document (Coded a “1 – Primary Document” in **Lineage of Document**) then, list the 2016 Update ID number for the document itself.
- If the document references a Primary or Mother document that is not included in the treaties database, code as:
  - 00 – “name of the primary or mother document”

*Definitions:*

- Primary or Mother Document – The first document signed between the parties about a particular issue area. (Coded a “1 – Primary Document” in **Lineage of Document**)
- Subsequent or Child Document – Any document that is a replacement, amendment or protocol to the Primary/Mother. (Coded a “2 – Replacement, 3 – Amendment, or 4 - Protocol” in **Lineage of Document**)

**K. Primary2010\_Treaty\_DocID (based on 2010\_Treaty\_DocID, numerical)**

The original agreement to which a replacement, amendment or protocol refers. **For Manager: This is the I.D. of the original agreement using the 2010 Identification system. This column and codebook entry should be removed when posting on the website.**

**L. PrimaryTFDDID - Primary Agreement-number (based on TFDD ID) [IWMI] (numerical)**

The original agreement to which a replacement, amendment or protocol refers. **For Manager: This is the I.D. of the original agreement using the TFDDID Identification system. This column and codebook entry should be removed when posting on the website.**

**M. Document Name (text)**

The full formal name of the document or best approximation thereof. The place of signature is often included as part of the treaty name. For non-English language documents, the title is translated into English. Not all title translations are official. The title format is that the first letter of the treaty name is capitalized, along with all proper names. All other words are lowercase.

**N. Date signed (Date-Month/day/four-digit year) [IWMI]**

This field refers to the date on which the document was signed. If such information is unavailable, the next choice is the date of entry into force, followed by the date of ratification. If the document is a series of letters written on different dates, the latest date is used, and the range of dates included may be mentioned as part of the title of the document. Dates are represented in a month/day/year format. The year should be a four-digit year. **Note that excel has issues with dates earlier than 1900, so please double check those are entered correctly.**

**O. Signatories (text; multiple entries possible)**

List of the countries that signed the agreement. The country names used are the full country names, as found in the document.

**P. Meets Inclusion Criteria (numerical) [New 2022]**

Does the document meet the TFDD inclusion criteria, where water is dealt with as a consumable resource? This does not include agreements solely on navigation or fishing, unless these are managing volumes or quality of the water for those purposes.

Note, that if the document does not deal with water as a consumable resource and already had a partial entry in the database – such as if the text was missing and it was unclear as to whether it met the criteria – the entry will remain in the database for consistency and data transparency. This code should be updated to ‘No - does not meet the criteria’. Newly located documents that do not meet the criteria are not included in the database. **(Notes for Coding Team: If No, the descriptive codes should be completed (through Issue Area), however the water specific codes can be filled as N/A, N, or -1/0 as is appropriate for each code.)**

-1 – Not Coded (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

1 – Yes, meets TFDD inclusion criteria

2 – No, does not meet TFDD inclusion criteria

#### **Q. Governance Level (numerical; multiple entries possible) [New 2022]**

Identify the level of governance between the signatory parties of the document.

-1 – Not Coded (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

1 – Signed between national governments

2 – Signed between national government(s) and subnational government body(s)

3 – Signed between subnational government bodies

4 – Signed between national government(s) and nonstate actor(s)

5 – Signed between subnational government body(s) and nonstate actor(s)

6 – Other

#### **R. Binding Nature of Document (numerical) [New 2022]**

Identify whether the document is binding.

-1 – Not Coded (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

1 – Yes, the document is binding. For this code, the document is binding if it is defined as a treaty according to the [Vienna Convention](#). A treaty is “an international agreement concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation.” ([Vienna Convention](#) Article 2). Or, if the document explicitly states it is binding between the signatories.

(Note for Coding Team: if the document calls itself a treaty, agreement or convention and is convened between national governments then it is considered binding).

2 – No, the document is not binding. For this code, a document is considered non-binding if it does not meet the above criteria, or if the document explicitly states that is non-binding.

(Note for Coding Team: if the document calls itself an MOU, MOA, or declaration it can be assumed to be non-binding unless explicitly stated. If a document is signed by nonstate actors, does not meet the criteria for a treaty under the Vienna Convention, and does not explicitly state it is binding, then it can be assumed to be non-binding)

#### **S. Lineage of Documents (numerical; multiple entries possible only for Draft) [New 2022]**

Identifies the lineage and relationship between documents. Use this code in conjunction with **Unified Primary 2016 Treaty ID** to identify all the related documents within a ‘treaty’ as defined in the [Vienna Convention](#).

-1 – Not Coded: (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

1 – Primary Document: This is the first (primary) document signed between the parties about a particular issue area. If an annex is signed on the same day as the original document, then TFDD convention is to include it the original document and code as one.

2 – Replacement of a Primary Document: This completely replaces a previously signed document on the same issue area.

3 – Amendment to a Primary Document: This document amends provisions within the original document on the same issue areas. If an annex to document is signed at a date later than the original document, then TFDD convention is to code as an amendment.

4 – Protocol to a Primary Document: This document adds additional aspects, supplementary provisions, and/or expands the rights and obligations of the document. (Note: That the use of the word Protocol in the title of the document does not automatically indicate it as a Protocol to a Primary Document as defined here.)

5 - Draft Document: A primary document, replacement, amendment, or protocol that has not been signed by the parties. It has no legal standing, since the agreement is strictly a draft. Notes: If draft, coders should include 5 as well as the other type of document. This is the only code that can have multiple entries. In the additional comments' column, also add a note that this is a draft document.

#### **T. Format (text; multiple entries possible) [IWMI]**

Identifies the format of the treaties (e.g., Electronic, Partial Text, Missing, Paper) Format can also list the language of the treaty. If we have a pdf, word file, or scan of the agreement put Electronic, if not in English, add the language.

#### **U. Source (text)[IWMI]**

When known, identifies the source of the treaty or agreement.

#### **V. Notes (text) [IWMI]**

Provides a short summary of the document, if applicable.

#### **W. Location Signed (text) [IWMI]**

Identifies where the treaty was signed. N.A., if not applicable or blank.

#### **X. Region\_Continent (text) [IWMI]**

Continent of the document; General, if the document is not region specific, such as a global convention. For coders: spell out the name of the continent, and if multiple, put in alphabetical order.

#### **Y. Primary Country Sub-Region (text)**

Name of sub-region, e.g., Central Asia, Western Europe. To standardize the names of the sub-regions, we use the list of geographic regions compiled by the UN Statistics Division. These regions are: Northern Africa, Eastern Africa, Middle Africa, Southern Africa, Western Africa, Caribbean, Central America, South America, Northern America, Central Asia, Eastern Asia, South-eastern Asia, Southern Asia, Western Asia, Eastern Europe, Northern Europe, Southern Europe, Western Europe, Australia and New Zealand, Melanesia, Micronesia, and Polynesia. For coders: please reference the full list of UN geographic regions [here](#), if uncertain about which region a country falls under. If a treaty is global in scope, put “general” for the sub-region.

**Z. Treaty Basin(s) (text, multiple entries possible) [TFDD]**

Identifies the international basins or sub-basins specifically mentioned in the document. If the document applies to all basins shared between the signatories, but no basin is mentioned, specifically, the code is “frontier or shared waters.” For frontier or shared waters, the TFDD Basin field will include all the basins shared between those signatories. If no basin or sub-basin is identified, code as N.A. For Groundwater agreements, put the name of the aquifer as listed in the agreement. If possible, also include the name or code that is associated with the aquifer in the IGRAC Database. Be sure to note which code is the IGRAC code.

**AA. TFDD Basin(s) (text, multiple entries possible) [TFDD]**

Identifies which international basin or basins the document concerns. Basins are defined according to the TFDD Geographical Information System (GIS) (Wolf, Natharius et al. 1999). Basins are identified by name and by a four-letter code, which is used to link the documents to the GIS of basins. The name of the TFDD basin is coded into this column; the four-digit Basin Code is in a different column. Multiple basins can be listed in this column separated by a comma. Global international agreements are coded as General (GNRL), as are agreements in which no basins are specified (e.g., E.U. agreement concerning atomic pollution of river systems). Documents concerning groundwater that cannot be identified as being within an international basin are coded as Groundwater (GRND). Documents that are between countries that do not share a basin (e.g., Turkey and Serbia) are coded as Unknown (UNKN).

In cases of multiple spellings or names for the same river system, a “/” separates the names (e.g., Duero/Duro), and the names are listed alphabetically. In cases where the basin represents the confluence of a set of major rivers, a “-” is used to separate the names of the different river systems (e.g., Ganges-Brahmaputra-Meghna). In instances where two basins have the same name, the continent of the basin, enclosed in parentheses, follows the river name (e.g., St. John (North America)).

**AB. Number of Parties (numerical)**

- Blank – Not coded
- 1 – Bilateral
- 2 – Multilateral

**AC. Additional Comments (text)**

This field provides additional information of interest with regards to the document (e.g., list unusual provisions, note whether a joint committee was created, if it is a draft document, comments on the document type, etc.).

**AD. Minor Agreement-Y/N/N.A. [IWMI]**

An agreement with components related to water as a resource but whose water component is believed insignificant and with little relation to international water management issues (e.g., a clause allowing border guards to access drinking water on adjacent territory). Essentially, the agreement’s focus, subjectively, is not or has little to do with water.

- Y – Yes
- N – No
- N.A. – Not applicable

**AE. Reference to Precedence [IWMI] (numerical; Multiple entries possible, separated by comma)**

0 – Not Available/Not Coded (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

1 - None

2 – Specific water agreement signed between riparians: Agreement refers to an earlier basin or sub-basin agreement directly related to current signatories

3 – Specific general agreement signed between riparians: Agreement refers to an earlier non-water agreement directly related to current signatories.

4 – Specific regional or global environmental agreement: Agreement refers to a regional or global environmental agreement

5 – International law in general or particular international treaty: Agreement refers to international law in general or a particular international treaty

**AF. Agreement Purpose [IWMI] (Multiple entries possible, separated by comma)**

0 – Not Available/Not Coded (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

1 – Regulatory: sets rules to proscribe or prescribe action (e.g., on water allocation, pollution discharge).

2 – Procedural: develops procedures according to which decisions will be reached (e.g., establishment and meeting of river basin authorities)

3 – Programmatic: leads to the pooling or generation of resources to achieve a common program or goal (e.g., dam construction)

4 – Generative: Generates new principles or norms for cooperation in transboundary water management (e.g., The 1997 U.N. Conventions principle of “no significant harm”).

**AG. Geographic Scope (GeoScope - numerical) [IWMI]**

0 – Not Available/Not Coded (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

1 – Global: an agreement potentially open to any country but without reference to specific basins (e.g., 1997 U.N. Convention)

2 – Regional: an agreement potentially open to any country in a defined region but without reference to specific basins (e.g., SADC Protocol)

3 - All waters of two or more countries: an agreement covering all waters shared between two or more contiguous states but generally without reference to specific basins (e.g., U.S./Canada Boundary Waters Treaty)

4 - Entire named basin(s): an agreement covering the entire hydrologic area of one or more specifically named basins.

5 - Sub-basin(s) or other specified area(s): an agreement covering only a part of one or more specifically named or implied basins (e.g., a treaty on the Syr Darya within the Aral Basin), for example, often only



the boundary parts of basins, or an activity confined to only part of a specifically named or implied basin (e.g., some hydropower treaty).

**6 – No transboundary basin exists between the countries:** an agreement between two or more countries that may not share land borders and do not share river basins. For example, an agreement between Turkey and Serbia or between the USA and Italy. Typically these agreements will be about exchanging information/cooperating on issues such as water quality monitoring and flood management and hence are relevant for our coding purposes. **Note: the TFDD basin in this case would be Unknown and the BCODE would be UNKN. The if the CCODE is not listed in the Listof312Basins.xlsx, use the three-letter FAO country code found in the GAUL Country Shapefile.**

#### **AH. Issue Area (Text) [TFDD, W.B., Revised 2022] (Multiple entries, separated by comma)**

Issue area identifies the main topical, content, and/or sectoral issues addressed by the treaty. This code is consistent across the three – Treaty, RBO, and Event – databases. The issue area covers what topical area is the focus of the agreement and does not include the procedure or how the treaty addresses the issue area. More than one issue area can be listed, separated by commas. For example, if the treaty mentions the allocation of a specific quantity of water for irrigation means, the issue type will be Water Quantity & Irrigation. This should not be an exhaustive list of all issues addressed but include the main few areas specified.

The issue area identification for treaties should go beyond the preamble and cover the main issues addressed in the content of the agreement or be explicitly stated as the purpose of the agreement, which is typically expressed in a specific article. If something is ONLY mentioned in the preamble, it does NOT count as an issue area. Coder needs to check the text where it talks explicitly about water to identify the primary area when coding an agreement where water is not the main focus. All treaties will have at least one issue area unless the text is missing or is not in English.

The issue areas are as follows:

<b>Code</b>	<b>Description</b>
N.A.	Not coded because the treaty text is missing or not in English
0	Not Coded – <b>DO NOT USE</b>
Water Quality	Main area of focus on water quality concerns, including diverse sources and types of contaminants and pollutants.
Water Quantity	Main area of focus is on water quantity, including allocation.
Fisheries	Main area of focus is on fisheries as an economic and/or subsistence activity.
Hydropower	Main area of focus is on hydropower and hydroelectric dams and related facilities
Domestic/Municipal Water	Main area of focus is on domestic and/or municipal water, which can include urban and rural water supplies and drinking water.
Navigation	Main area of focus is on navigation, shipping, and water transportation.
Agriculture	Main area of focus is on agriculture, which can include issues related to both water quality and quantity, such as irrigation, agricultural runoff, and other agricultural uses.
Forestry and Timber	Main area of focus is on forestry and timber as an economic activity.
Infrastructure	Main area of focus is on the planning, development, construction, operation, and/or maintenance of water-related infrastructure.
Climate Change	Main area of focus or area of explicit commitment is on climate change.
Environment	Main area of focus is on environmental issues, this is broadly understood and can include biodiversity, invasive species, fish species and habitat, ecosystem protection, ecosystem restoration, forest protection, erosion, etc.

Flood Management	Main area of focus is on the management of floods or high flow periods. This can include forecasting, warning, preparation, control measures, flood response, and flood relief.
Drought Management	Main area of focus is on the management of drought or low flow/precipitation periods. This can include drought prediction, warning, drought control/mitigation measures, responses, and drought relief.
Socioeconomic Development	Main area of focus is on broader aspects of social and economic development or for the purposes of social and economic development. This can include efforts towards social and economic progress, poverty eradication, industrial development, trade, non-water transportation and telecommunication development, non-hydropower energy, mining, and tourism.
Funding and Financing	Main area of focus is on financial arrangements or issues. Includes both funding and financing arrangements. <ul style="list-style-type: none"> <li>• Funding is defined as monetary support not needing repayment.</li> <li>• Financing is defined as monetary support needing repayment.</li> </ul>
Territorial and Border Issues	Main area of focus is on the borders and/or territorial issues, including rivers as contiguous borders and territorial area claims within a shared water body (river island) or due to a changing border watercourse (meander).

#### **AI. River Basin Organization (RBO) (numerical, multiple entries possible) [Revised 2022]**

An RBO is a joint management institution that is defined as an institutionalized form of cooperation that is based on international agreements (these may or may not be binding) that cover a geographically defined area or an international river or lake basin or an international aquifer that is characterized by principles, norms, rules and governance mechanisms (adapted from Schmeier, Gerlak & Blumstein, 2015). An RBO is an umbrella term that includes different types of organizations, such as a committee, commission, or authority; the functional scope of an RBO can also range from a single issue to many.

Does the agreement establish, modify, or replace a River Basin Organization (RBO)?

-1 – Not Coded (Note: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 – None: The agreement does not establish, modify, or replace an RBO.

1 – Establish: the agreement establishes a new RBO.

2 – Modify: The agreement modifies or refines an existing RBO.

3 – Replace: The agreement replaces an existing RBO.

#### **AJ. River Basin Organization Article (RBO Article) (text, multiple entries possible) [Revised 2022]**

Number or location of text establishing, modifying, or replacing the RBO as defined in code River Basin Organization.

#### **AK. RBO Name (RBO Name) (Text, multiple entries possible) [New 2022]**

The name of the RBO or joint management body formed, modified, or replaced by the agreement.

#### **AL. Infrastructure – Y/N/N.A.**

An agreement with the major purpose of constructing some form of infrastructure, i.e., barrages, canals, dykes, etc.

Y – Yes  
N – No  
N.A. – Not applicable

## ***Content Related to Water as a Resource***

### ***Groundwater***

#### **AM. Groundwater (Groundwater) (numerical, one entry only) [Updated 2021]**

Agreement that mentions groundwater to varying degrees. Parts of this code were adapted from Lautze *et al.* (2018). Lautze, Jonathan, Bunyod Holmatov, Davison Saruchera, and Karen G. Villholth. “Conjunctive Management of Surface and Groundwater in Transboundary Watercourses: A First Assessment.” *Water Policy*, vol. 20, 2018, pp. 1-20. doi:10.2166/wp.2018.033. **If Document Does Not Meet TFDD Inclusion Criteria, please still code this code.**

If an agreement is coded as 1, 2, 3, 4, 5, or 6 below, also code the agreement with the codes in the groundwater-specific section of the codebook. **If this is coded as 0, code the groundwater-specific codes (Columns AL. to AX.) as N.A.**

-1 – Not Coded (Note: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 – Surface water only: Agreement only addresses surface water without explicit mention or coverage of groundwater. Surface water is the primary focus of the agreement.

1 – Mention only: Groundwater is mentioned, but not given significant treatment. Surface water is not mentioned; groundwater is mentioned but is not the focus of the agreement. An agreement fitting within this code is a minor agreement (i.e. an agreement not focused on water as a consumable resource).

*Agreements mentioning both surface and groundwater as ancillary topics should be coded as 6 – Light reference.*

2 – Groundwater only: Agreement applies exclusively to groundwater with no mention of surface water. Groundwater is the primary focus of the agreement.

3 – Substantive coverage of groundwater and surface water: Both surface water and groundwater are addressed; there is specificity provided on how each of the sources will be managed.

*This code is adapted from the first subcategory of conjunctive treaties in Lautze et al. (2018): Treaties that give substantive coverage to groundwater and surface water (Heavy Groundwater-Heavy Surface Water).*

4 – Primarily surface water: Agreement specifies how surface water will be managed, but similar specificity is not provided for groundwater.

*This code will often apply when groundwater is explicitly mentioned, but not given the same attention paid to surface water. This code captures surface water-focused agreements that mention groundwater writ large; for example, agreements focusing on surface water that reference “groundwater” as a concept in the preamble, with no treatment of groundwater elsewhere, fit this code. This also includes implicit mentions of groundwaters, such as implication of hydrologically connected groundwaters. For*

*example, using the definition of “watercourse” as defined by the 1997 UN Watercourses Convention, which defines hydrologically connected groundwater as within a “watercourse”.*

*Agreements with a more substantial focus on management of both surface and groundwater should instead be coded as 3 – Substantive coverage of groundwater and surface water.*

*This code is adapted from the second subcategory of conjunctive treaties in Lautze et al. (2018): Treaties that focus overwhelmingly on surface water and provide only vague, often singular reference to groundwater (Light Groundwater-Heavy Surface Water).*

**5 – Primarily groundwater:** Agreement specifies how groundwater will be managed, but similar specificity is not provided for surface water.

*This code will often apply when surface water is explicitly mentioned, but not given the same attention paid to groundwater. Agreements with a more substantial focus on management of both surface and groundwater should instead be coded as 3 – Substantive coverage of groundwater and surface water.*

*This code is adapted from the third subcategory of conjunctive treaties in Lautze et al. (2018): Treaties that focus overwhelmingly on groundwater and provide only vague, often singular reference to surface water (Heavy Groundwater-Light Surface Water).*

**6 – Light reference:** Agreement references both surface water and groundwater but lacks specificity on how either will be managed. Both may be referenced only in passing or in reference to larger topics within the agreement.

*This code is adapted from the fourth subcategory of conjunctive treaties in Lautze et al. (2018): Treaties that provide light reference to both ground and surface water (Light Groundwater-Light Surface Water).*

#### **AN. Groundwater Article (Groundwater\_Article) (text, multiple entries possible) [New 2021]**

Number or location of text discussing groundwater in the document. Enter “Entire agreement” if the agreement only addresses groundwater.

#### **AO. IGRAC Aquifer or Groundwater Body (text, multiple entries possible) [New 2021]**

***Only code an agreement with this code if the agreement is coded as 1, 2, 3, 4, 5 or 6 in AM. Groundwater. If coded as 0 in AM. Groundwater, code this as N.A. If Document Does Not Meet TFDD Inclusion, then code as 0.***

This field links the treaty or agreement to an aquifer or groundwater body identified through the International Groundwater Resources Assessment Centre (IGRAC). Place the exact name, as listed in the [2020 or 2015 IGRAC Map of Transboundary Aquifers](#); see Excel table Listof310Basins.xlsx for reference. If the aquifer(s) is not able to be associated with an IGRAC body, then code as “99” and include the name of the aquifer (if a name is given in the agreement). e.g., “99-aquifer name”. If no specific groundwater body or aquifer is mentioned or can not be identified code as 0.

**(For Coding Team: The 2015 Map of Transboundary Aquifers is more complete than the 2020 Map. Therefore, check both maps/list of aquifers to identify the correct name as there are differences between the two. Unknown at the moment why there are these differences.)**

#### **AP. Aquifer Description (numerical, multiple entries possible) [New 2021]**

*Only code an agreement with this code if the agreement is coded as 1, 2, 3, 4, 5 or 6 in AM. Groundwater. If coded as 0 in AM. Groundwater, code this as N.A. If Document Does Not Meet TFDD Inclusion, then code as 0.*

N.A. – Not Applicable: Treaty does not address groundwater. Only use if A.J. Groundwater is coded 0.

-1 – Not Coded (Note: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 – Not mentioned: Agreement doesn't address characteristics of the aquifer or groundwater to be managed.

1 – Modeling: Agreement specifies that a model, such as a conceptual, analytical, and/or numerical model, will be used in managing the aquifer. This model may already exist or may be called for by the agreement.

*“Model” here is taken broadly and can include any type of tool — conceptual, analytical, numerical — for aiding decision-making, management, predictions, etc. based on data.*

*Data collection and sharing not related to a model is captured in the Information Exchange code.*

2 – Efforts to characterise an aquifer: Agreement references exploration, joint studies, project financing, or similar efforts to determine aquifer characteristics (e.g. recharge and discharge zones, direction and velocity of flow, hydrologic connectivity, storage capacity, etc.). This exploration may have already occurred or may be called for by the agreement.

3 – Description of hydrogeology: Agreement recognizes and explicitly mentions the hydrogeology of the aquifer, specific aquifer characteristics, or other technical information pertaining to the groundwater resources discussed in the agreement. Such information is already known and is used or referenced in the agreement. This could include the type of aquifer, (e.g., fossil, confined, unconfined), aquifer characteristics (e.g. recharge and discharge zones, direction and velocity of flow, hydrologic connectivity, storage capacity, etc.), or other technical information.

#### **AQ. Aquifer Description Article (text) [New 2021]**

Location in the document where characteristics of the aquifer are discussed.

#### **AR. Aquifer Description Summary (text) [New 2021]**

Notes or comments on aquifer description text. For example, what kind of model is called for or developed, if any?

#### **AS. Consideration of Future Conditions (numerical, multiple entries possible) [New 2021]**

*Only code an agreement with this code if the agreement is coded as 1, 2, 3, 4, 5 or 6 in AM. Groundwater. If coded as 0 in AM. Groundwater, code this as N.A. If Document Does Not Meet TFDD Inclusion, then code as 0.*

Describes any explicit recognition of change in future supply or demand of groundwater or aquifer resources. This code is anticipatory and aims to capture transboundary agreements that reference future changes to groundwater.

N.A. - Not Applicable: Treaty does not address groundwater. Only use if AJ. Groundwater is coded 0.

-1 – Not Coded (Note: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 – Not mentioned: Agreement does not mention change occurring in future demand or supply of groundwater

1 – Future demand: Agreement mentions change in future demand or uncertainty in demand for groundwater, such as future need for increased withdrawals or abstractions

2 – Future supply: Agreement mentions change in future available supply or uncertainty in future supply of groundwater, such as through recharge, losses to a fossil aquifer, or changes in storage

3 – Managed and artificial recharge: Agreement mentions use, or the possibility for use, of managed and/or artificial recharge to manage future groundwater supplies

4 – Surface-groundwater connection: Agreement addresses the connection between freshwater usage and groundwater supply (e.g. the agreement recognizes that use of surface water may impact groundwater supplies and vice versa)

#### **AT. Consideration of Future Conditions Article (text) [New 2021]**

Location in the document where consideration of future conditions is discussed.

#### **AU. Sustainable Use (numerical, multiple entries possible) [New 2021]**

***Only code an agreement with this code if the agreement is coded as 1, 2, 3, 4, 5 or 6 in AM. Groundwater. If coded as 0 in AM. Groundwater, code this as N.A. If Document Does Not Meet TFDD Inclusion, then code as 0.***

Describes in what ways sustainability and sustainable practices are manifested in agreements mentioning groundwater. Sustainability may also be referenced by “safe yield” or similar terms addressing the same concept.

N.A. - Not Applicable: Treaty does not address groundwater. Only use if AJ. Groundwater is coded 0.

-1 – Not Coded: (Note: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 – Not mentioned: Agreement makes no reference to sustainability, sustainable practices, preservation of groundwater stored in an aquifer, and/or the preservation of storage properties of an aquifer

1 – General statement of sustainability: Agreement generally calls for sustainable management and practices

*Note: This code is also captured in BL. Equity or Sustainability. General mentions of sustainability are mentioned here because of the increased importance of sustainability in groundwater management as compared to surface water management.*

2 – Sustainable management: Agreement specifies certain actions to be taken or methodologies to be followed in order to ensure sustainable use of groundwater, as defined in the agreement

3 – Prohibits action: Agreement prohibits certain actions in order to ensure sustainable use of groundwater or to prevent damage to groundwater or aquifer resources (e.g. prohibition of drilling wells in a certain area, preventing abstraction above predetermined amounts)

4 – Specifies a definition for “sustainable”: Agreement specifies a definition of sustainability, sustainable use, safe yield, or similar concept

#### **AV. Sustainable Use Article (text) [New 2021]**

Location in the document where Sustainable Use with respect to groundwater is discussed.

#### **AW. Statement on Groundwater Pollution and Water Quality (numerical, multiple entries possible) – [New 2021]**

*Only code an agreement with this code if the agreement is coded as 1, 2, 3, 4, 5 or 6 in AM. Groundwater. If coded as 0 in AM. Groundwater, code this as N.A. If Document Does Not Meet TFDD Inclusion, then code as 0.*

Describes how an agreement makes statements about pollution or water quality as they relate to groundwater.

N.A. - Not Applicable: Treaty does not address groundwater. Only use if AJ. Groundwater is coded 0.

-1 – Not Coded: (Note: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 – Not mentioned: Agreement makes no statement referencing groundwater pollution or groundwater quality

1 – Mentions pollution: Agreement references pollution of groundwater or harm to groundwater quality generally (i.e., a general statement about the prevention of damage to a groundwater body from pollution or water quality concerns more broadly)

2 – Prohibits pollution: Agreement specifically prohibits pollution of groundwater, such as prohibiting any injection of materials into a groundwater body

3 – Limits allowable pollution: Agreement sets allowable limits for pollution, such as an allowable injection of materials into a groundwater body

4 – Other: Agreement makes reference to groundwater pollution or quality in a way not captured by the above codes

#### **AX. Statement on Groundwater Pollution and Water Quality Article (text) [New 2021]**

Location in the document where groundwater pollution or quality is discussed.

#### **AY. Sovereignty (numerical, multiple entries possible) [New 2021]**

*Only code an agreement with this code if the agreement is coded as 1, 2, 3, 4, 5 or 6 in AM. Groundwater. If coded as 0 in AM. Groundwater, code this as N.A. If Document Does Not Meet TFDD Inclusion, then code as 0.*

Describes how sovereignty of signatories is treated in agreements concerning groundwater. Signatories can include both state and non-state actors; other entities can sign agreements, and some may have sovereignty for



the purpose of the agreement. For example, the Convention on the Protection, Utilisation, Recharge and Monitoring of the Franco-Swiss Genevois Aquifer (2008) is signed by two sub-national actors.

N.A. - Not Applicable: Treaty does not address groundwater. Only use if AJ. Groundwater is coded 0.

-1 – Not Coded (Note: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 – Not mentioned: Agreement makes no reference to sovereignty

1 – General statement on sovereignty of parties: Agreement generally references that each signatory is a sovereign entity for the sake of the agreement (i.e. has the power to sign the agreement without deferral to a higher authority). This refers to the political sovereignty of parties signing the agreement, not any claim to sovereignty over the resources at hand. **For Coding Team: For example, a treaty might say signatories shall operate, inter alia, on the basis of "sovereign equality."**

2 – Specific statement of sovereignty over aquifers: Agreement explicitly states that each riparian or sovereign entity has sovereignty over the portion of the aquifer within its territory or other territories, as defined in the agreement. This code is drawn from Article 3 of the Draft Articles on the Law of Transboundary Aquifers (2008), which states in part that “Each aquifer State has sovereignty over the portion of a transboundary aquifer or aquifer system located within its territory.” **For Coding Team: This is not likely going to be coded frequently. An example is from the Guarani Agreement where the parties are sovereign nations and reserve sovereignty ("sovereign territorial control") over the aquifer underlying their territory in accordance with international law.**

3 – Statement of limited sovereignty: Agreement explicitly states that each riparian has limited sovereignty over the portion of the aquifer within its territory, such as in the case of recognizing limited or restricted territorial sovereignty to enable cooperation. Riparians are not forfeiting all claims to the resources; rather, they acknowledge in some way that they do not have absolute sovereignty (i.e., unqualified control) over the resources. This includes, for example, statements affirming the obligation not to cause significant harm to other parties.

4 – Other: Agreement references sovereignty in a way not captured by the above codes. For example, if the agreement mentions that they will cooperate with “territorial integrity.”

#### **AZ. Sovereignty Article (text) [New 2021]**

Location in the document where sovereignty is discussed.

#### **BA. Sovereignty Summary (text, multiple entries possible) [New 2021]**

Notes or comments on sovereignty text.

#### **BB. Groundwater Quantity Allocation (GWQuantity\_Allocation) (Numerical, can have multiple entries separated by comma) [New 2021]**

This is a two-part code that identifies the legal mechanism(s) for how groundwater is allocated and the purpose/context of the allocation. Essentially, it answers the questions: how is groundwater physically allocated, divided, or distributed between the riparian signatories (Part I)? And, why is the groundwater allocated using the mechanism (Part II)?



**Note for Coding Team:** For each mechanism present in a treaty, at least one from each category needs to be identified. For example, if a treaty has a fixed volume for domestic purposes, the code would be 1M. Multiple codes can be separated by commas, such as 1M, 3G. The number and letter pairs link the how's with the why's creating a complete picture of the allocation mechanism. If there are two how's for one purpose, then the why is listed twice. For example, if there is a fixed quantity allocated on a monthly schedule for domestic needs, then the coding is 1M, 5M. **Note for coding – these are different order than the original allocation codes, so be sure to read carefully as the numbers refer to different things. If Document Does Not Meet TFDD Inclusion then code as 0.**

#### *Part I – How Groundwater is Allocated*

- 1. Not Coded (Note: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)
0. None: There is no mechanism for groundwater allocation in the text.
1. Fixed quantities: A set volume of water to each riparian; could be once, annually, or at other defined intervals
2. Fixed quantities to only a subset of the riparians: A set volume of water is allocated to only some of the riparians, and the undefined quantity of the remainder is allocated to other parties
3. Percentage of flow: Percentages of flow are allocated to riparian states
4. Equal Division: Water is divided equally between the parties, equal division could be in fixed quantities, percentage, by time, etc. or undefined.
5. Variable by water availability: The allocation is dependent on the availability of water, includes inter- and intra-annual variability, i.e., allocations for low or high flow, drought or flood
6. Variable according to time of the year: The allocation is dependent on the time of year, e.g., a monthly or seasonal schedule
7. Water loans: This covers allocations that are recoupable in later periods if not met – such as when a riparian is unable to meet a delivery, it can be delivered at a later period – and allocations that are able to be borrowed from another riparian and paid back at a later time.
8. Allocation of entire/partial aquifers: Allocation is based on sole use e.g., States are allocated sole use of an aquifer or sole use of segments/portions of an aquifer within their territory
9. Prioritization of uses: Allocation is divided based on the priority of use e.g., domestic use first, hydropower second.
10. Allocating time: Flow is allocated to a riparian for a defined period of time
11. Benefits sharing: The benefits of the allocated water are shared between parties, e.g., hydropower, flood control, or other benefits that could be given a monetary value, which is shared. This is not an exchange of water with a non-water linkage (this is captured in a separate code: CE. Non-Water Linkages).
12. Historical or existing uses: Allocation mechanism is based on the prior, historical, or existing uses of the riparian(s)
13. Equitable use: Allocation mechanism is defined using the principle of equitable and reasonable use
14. Sustainable use: Allocation mechanism defines sustainable use for the aquifer or groundwater resource, or allocates water based on the principles of sustainable use

15. Consultation and/or Prior Approval: Riparians consult or seek prior approval/consent of other riparians to determine allocations, make changes to allocations already defined, or for short notice/temporary changes to allocations, such as if one party requires a higher water use than usual because of the construction of an irrigation system.
16. RBO, Commission, and/or Committee: allocation mechanism is to be determined by a river basin organization, commission and/or committee. This could include an existing body or a newly established body with a broad mandate, as well as an existing or newly established body for the specific purpose of establishing and managing allocations.
17. Cap, limit, or no allocation allowed: Clearly defined cap or limit on the allocation allowed for the resource, and/or the text explicitly does not allow for any diversions from the resource.
18. Market-based: Allocation mechanism uses a market instrument, such as a water market, to allocate water
19. Unclear: Allocation mechanism exists, but it is not clearly defined.
20. Pumping rates: allocation mechanism specifies particular rates for abstraction from wells
21. Water table impact: allocation mechanisms refer to or are limited by the groundwater table height. e.g., abstractions are prohibited if the water table falls below a certain level in monitoring wells.
22. Spring outflow: allocation mechanism is related to the spring outflow, for example, the volume of allocation is dependent on the level of spring outflow
23. Aquifer: allocation mechanism is related to or addresses the pore space and/or storage capacity of the aquifer, not the groundwater itself

## *Part II – Why? Purpose and Context of Allocation*

- A. Minimum flow: not specified/undefined purpose
- B. Minimum flow: navigation
- C. Minimum flow: environmental needs
- D. Minimum flow: hydropower
- E. Minimum flow: tourism/recreation
- F. Environmental/In-stream Flow
- G. Aesthetic/Tourism/Recreation
- H. Intrinsic/Cultural/Spiritual
- I. Hydropower
- J. Agriculture/Irrigation
- K. Navigation
- L. Support of Fish Habitat and Stocks/Fishing Rights
- M. Domestic and/or Municipal Uses
- N. Border/Territory Maintenance
- O. Pollution, such as a specific volume for dilution purposes
- P. Undefined Purpose
- Z. Other, if other the purpose is described in detail in the Allocation Summary Code

## **BC. Groundwater Allocation Article (GW\_Alloc\_Article) (text, multiple entries possible) [New 2021]**

Number or location of text discussing groundwater allocation in the document

## ***Surface Water***

**BD. Surface Water Quantity Allocation (SWQuantity\_Allocation) (Numerical and alphabetical, can have multiple entries separated by comma) [New 2020]**

This is a two-part code that identifies the legal mechanism(s) for how surface water is allocated and the purpose/context of the allocation. Essentially, it answers the questions: how is surface water physically allocated, divided, or distributed between the riparian signatories (Part I)? And, why is the surface water allocated using the mechanism (Part II)?

**Note for Coding Team:** For each mechanism present in a treaty, at least one from each category needs to be identified. For example, if a treaty has a fixed volume for domestic purposes, the code would be 1M. Multiple codes can be separated by commas, such as 1M, 3G. The number and letter pairs link the how's with the why's creating a complete picture of the allocation mechanism. If there are two how's for one purpose, then the why is listed twice. For example, if there is a fixed quantity allocated on a monthly schedule for domestic needs, then the coding is 1M, 5M. **Note for coding – these are different order than the original allocation codes, so be sure to read carefully as the numbers refer to different things. If Document Does Not Meet TFDD Inclusion then code as 0.**

*Part I – How Surface Water is Allocated*

- 1. Not coded (Note: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)
0. None: There is no mechanism for surface water allocation in the text.
1. Fixed quantities: A set volume of water to each riparian; could be once, annually, or at other defined intervals
2. Fixed quantities to only a subset of the riparians: A set volume of water is allocated to only some of the riparians, and the undefined quantity of the remainder is allocated to other parties
3. Percentage of flow: Percentages of flow are allocated to riparian states
4. Equal Division: Water is divided equally between the parties, equal division could be in fixed quantities, percentage, by time, etc. or undefined.
5. Variable by water availability: The allocation is dependent on the availability of water, includes inter- and intra-annual variability, i.e., allocations for low or high flow, drought or flood
6. Variable according to time of the year: The allocation is dependent on the time of year, e.g., a monthly or seasonal schedule
7. Water loans: This covers allocations that are recoupable in later periods if not met – such as when a riparian is unable to meet a delivery, it can be delivered at a later period – and allocations that are able to be borrowed from another riparian and paid back at a later time.
8. Allocation of entire/partial rivers: Allocation is based on sole use e.g., riparians are allocated sole use of tributaries or sole use of segments of tributaries, irrigation canals, or other distributions mechanisms within their territory
9. Prioritization of uses: Allocation is divided based on the priority of use e.g., domestic use first, hydropower second.
10. Allocating time: Flow is allocated to a riparian for a defined period of time

11. Benefits sharing: The benefits of the allocated water are shared between parties, e.g., hydropower, flood control, or other benefits that could be given a monetary value, which is shared. This is not an exchange of water with a non-water linkage (this is captured in a separate code: B.P. Non-Water Linkages).
12. Historical or existing uses: Allocation mechanism is based on the prior, historical, or existing uses of the riparian(s)
13. Equitable use: Allocation mechanism is defined using the principle of equitable and reasonable use
14. Sustainable use: Allocation mechanism defines sustainable use for the water resource, or allocates water based on the principles of sustainable use
15. Consultation and/or Prior Approval: Riparians consult or seek prior approval/consent of other riparians to determine allocations, make changes to allocations already defined, or for short notice/temporary changes to allocations, such as if one party requires a higher water use than usual because of the construction of an irrigation system.
16. RBO, Commission, and/or Committee: allocation mechanism is to be determined by a river basin organization, commission and/or committee. This could include an existing body or a newly established body with a broad mandate, as well as an existing or newly established body for the specific purpose of establishing and managing allocations.
17. Cap, limit, or no allocation allowed: Clearly defined cap or limit on the allocation allowed for the resource, and/or the text explicitly does not allow for any diversions from the resource.
18. Market-based: Allocation mechanism uses a market instrument, such as water markets, to allocate water
19. Unclear: Allocation mechanism exists, but it is not clearly defined.

*Part II – Why? Purpose and Context of Allocation*

- A. Minimum flow: not specified/undefined purpose
- B. Minimum flow: navigation
- C. Minimum flow: environmental needs
- D. Minimum flow: hydropower
- E. Minimum flow: tourism/recreation
- F. Environmental/In-stream Flow
- G. Aesthetic/Tourism/Recreation
- H. Intrinsic/Cultural/Spiritual
- I. Hydropower
- J. Agriculture/Irrigation
- K. Navigation
- L. Support of Fish Habitat and Stocks/Fishing Rights
- M. Domestic and/or Municipal Uses
- N. Border/Territory Maintenance
- O. Water quality, such as a specific volume for dilution purposes
- P. Undefined Purpose
- Z. Other, if other the purpose is described in detail in the Allocation Summary Code

**BE. Surface Water Allocation Article (SWAlloc\_Article) (text, multiple entries possible) [New 2020]**

Number or location of text discussing surface water allocation in the document

**BF. Combined Surface and Groundwater Allocation Summary (CombinedAlloc\_Summary) (text, multiple entries possible) [New 2020]**

Provides a summary of the methodology and details of the allocation mechanisms for both S.W. and G.W., if present. It offers more detail about the how and the why of the allocation mechanism, as well as the link between the two. It is a summary and description of the mechanism, not the exact text.

**Notes for Coding Team: Provide a summary, not a copy of the exact text. Note the link between each 'how' code with the 'why' code. This combines the previous Allocation Text and the Method for Water Division Code. Be sure to provide any additional details about the mechanism. For those coded with Z for 'Other,' describe the purpose or context of the mechanism accurately.**

**BG. Hydropower - Y/N [IWMI] (Hydropower)**

An agreement which mentions hydropower

Y – Yes

N – No

0/N.A. – Not applicable (Something to fix in the future go through later and make consistent with either 0 or N.A. – might need to double check that they have been coded or not as well. I think the code should also be changed from not applicable to not coded for clarity). If the treaty is a doc type 3, then code as N.

**BH. Hydropower Benefit Division (Hydro\_BenefitDiv) (Numerical, can have multiple entries separated by comma) [New 2021]**

This code identifies the legal mechanism for how benefits are shared and/or divided from hydropower.

Division/allocation of water for hydropower is captured in Surface Water Quantity Allocation code. **If the Document Does Not Meet TFDD Inclusion, then code as 0.**

-1 - Not Coded: (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 - Not applicable: there is no mention of hydropower

1 - None: Only generally describes a hydropower project and does not detail any benefits-shared/allocated, e.g., power, money

2 - Fixed quantities of power: generated from hydropower project

3 - Variable quantities of power: generated from hydropower project may vary due to water availability, time, etc.

4 - Percentage of assessed value of electricity generated: such as an assessed value determined by market pricing mechanism

5 - Percentage of power generated

6 - Fixed value of electricity generated: determined by an agreed upon pricing mechanism, such as market pricing

7 - Consultation: states must consult with other parties to determine or change the division of benefits from a hydropower project

8 - Other: States use a different mechanism than listed above. If other, this will be specified in the Hydropower text code below.

**BI. Hydropower Article (Hydro\_Article) (text, multiple entries possible)**

Number or location of text discussing hydropower in the document

Note for Coding Team: include the article of the mention hydropower and the article that identifies the benefits sharing allocation

**BJ. Hydropower Text (Hydropower\_Text) (text, multiple entries possible)**

Summary of the hydropower text and the benefits division for hydropower

Note for Coding Team: include in the summary the mention of hydropower and the benefits sharing division

**BK. Irrigation-Y/N [IWMI]**

An agreement that mentions irrigation.

Y – Yes

N – No

N.A. – Not applicable

**BL. Irrigation Article (text, multiple entries possible)**

Number or location of text discussing irrigation in the document

**BM. Wetlands (numerical, multiple entries possible) [New 2022]**

Agreement mentions wetlands. Other common words for and types of wetlands include: marsh, fen, bog, pond, mire, moor, delta, mangrove, peatland, swamp. According to the 1971 Ramsar Convention, wetlands can be defined as, "...areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters" (Ramsar Convention Bureau, 2001). Note for Coding Team: We recommend that you "keyword search" the treaty for wetland keywords, such as: wetland, marsh, swamp, fen, bog, pond, mire, moor, delta, mangrove, peatland, morass, slough, muskeg.

-1: Not Coded: (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 – None: Wetlands are not mentioned

1 – General wetlands: an agreement which mentions wetlands (for example, in a definition, but with no specific stipulations)

2 – Specific wetlands: an agreement which stipulates in a general manner that the parties consider wetland issues, or that they will in the future

3 – Resource extraction: an agreement that explicitly mentions material resources being harvested from wetlands (ex- food, fibers, fuel)

4 – Environmental services: an agreement that explicitly mentions environmental services that wetlands provide (ex- flood control, climate regulation, water purification)

5 – Environmental flows: an agreement that explicitly allocates water to sustain wetlands (if this is coded then there should also be a code for environmental flows in the BA. Surface Water Quantity Allocation column)

6 – Protection: an agreement that explicitly mentions the protection, conservation, preservation, restoration, or creation of wetlands

7 – Destruction: an agreement that explicitly mentions the destruction, draining, or conversion of wetlands.

**BN. Wetlands Article (text, multiple entries possible)**

Number or location of text discussing wetlands in the document.

**BO. Environment (numerical, multiple entries possible separated by a comma) [Revised 2022]**

-1 - Not Coded (Note for coding team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation).

0 - None: The environment is not mentioned

1 - General environment: an agreement which stipulates in a general manner that the parties will consider environmental issues in the future

2 - Environmental protection: An agreement that explicitly mentions environmental protection.

3 - Ecosystem services: An agreement that explicitly mentions ecosystem services.

**BP. Environment Article (text, multiple entries possible)**

Number or location of text discussing environment in the document

**BQ. Water Quality Objectives (numerical, multiple entries possible separated by a comma) [New 2022]**

What is the goal/objectives of the document in addressing water quality/pollution?

-1 - Not Coded: (Note: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 - Not Mentioned: The agreement makes no reference to water quality or pollution

1 - Mentions water quality: The agreement references water quality, pollution, or harm to water quality generally (i.e., a general comment about maintaining “good” water quality or preventing damage)

2 - Prohibits pollution: The agreement specifically prohibits water quality pollution or downstream harm

3 - Limits allowable pollution: The agreement sets allowable limits for water quality or pollution, such as discharge limits, instream water quality requirements, or minimum flow requirements specifically for water quality

4 - Sets mitigation measures: The agreement does not prohibit or limit allowable pollution but establishes measures to improve water quality

**BR. Programmatic Water Quality Measures (numerical, multiple entries possible separated by a comma) [New 2022]**

What programmatic measures on water quality are included in the treaty?

-1 - Not Coded: (Note: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 - Not Mentioned: The agreement makes no reference to water quality or pollution

1 - General Mention: The treaty makes a general non-specific reference to water quality or pollution or references outside of the below codes

2 - Infrastructure: The treaty establishes an infrastructure/joint infrastructure project that will be implemented to address/treat water quality or mitigate pollution (e.g., a treatment plant or dam with releases to dilute water contaminants)

3 - Early-warning: The treaty establishes or requires early-warning of pollution events

4 - Joint monitoring programs: The treaty establishes joint water quality monitoring programs

5 - Defined monitoring requirements: The treaty establishes required provisions or mandates their establishment for monitoring (e.g., locations, frequency, parameters, and methods) of water quality

6 - Financial responsibility: The treaty establishes financial responsibility and/or mentions cost recovery plans to address water quality

**BS. Definitions/categories of water quality or pollution (numerical, multiple entries possible separated by a comma) [New 2022]\***

How is water quality/pollution defined?

-1 - Not Coded: (Note: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 - No definition: Water quality/pollution is not defined

1 - Chemical: Water quality/pollution addressed is chemical in nature, e.g., nitrogen, phosphorus, arsenic, pharmaceuticals, PFAS, persistent organic pollutants (POP), etc.

2 - Biological: Water quality/pollution addressed is biological in nature, e.g., E. Coli, algal blooms, etc.

3 - Physical: Water quality/pollution addressed is physical in nature, e.g., turbidity, thermal, color, etc.

4 - Use: Water quality/pollution is defined by the ability to utilize water for a specific purpose(s), e.g., recreation, health of a regional sea, drinking water, fishery protection.

5 - Source: Water quality/pollution is defined by source (e.g., point sources, non-point sources) or originating sector (e.g., agriculture, energy production, municipal wastewater)

\* Example categories of pollutants are detailed in the [attached excel document](#). Pollutants can be referenced based on broader chemical families (e.g., heavy metals, persistent organic pollutants) or as detailed chemicals (e.g., arsenic). Both categories are included in the [attached table](#).

**BT. Regulatory Thresholds (numerical, multiple entries possible separated by a comma) [New 2022]**

Are contaminant standards defined, established, mandated or other?



-1 - Not Coded: (Note: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 - None: No standards or thresholds are listed

1 - State-specific: States are obligated to establish thresholds to meet treaty objectives

2 - Quantified: Standards for discharges or instream targets are quantified

3 - RBO, Commission, and/or Committee: The responsibility for establishing joint standards or thresholds (in general or within parameters established by the treaty) is delegated to an RBO, commission, and/or committee (existing or established by the treaty)

4 - Other: Regulatory thresholds or standards are established by other means than listed above

**BU. Water Quality or Pollution Definition (text) [New 2022]**

Summarize or copy the text used to define water quality, including, if applicable, for what purpose water quality is addressed (e.g., human health, environmental protection, drinking water).

**BV. Water Quality/Pollution Article (text, multiple entries possible)**

Number or location of text discussing water quality or pollution in the document.

**BW. Equity or Sustainability-Y/N/N.A. [IWMI]**

An agreement in which the parties refer to some general principle, such as equity, sustainability, rationale etc., which should overarch their cooperative endeavors.

Y – Yes

N – No

N.A. – Not applicable

**BX. Equity or Sustainability Article (Equity\_Article) (text, multiple entries possible)**

Number or location of text discussing equity or sustainability in the document.

**BY. Equity or Sustainability Text (text, multiple entries possible)**

Notes or comments on equity or sustainability text.

**BZ. Local Needs-Y/N/N.A. [IWMI]**

An agreement which explicitly states that the needs of the local population living in border areas should be considered.

Y – Yes

N – No

N.A. – Not applicable

**CA. Local Needs Article [IWMI] (text, multiple entries possible)**

Number or location of text discussing local needs in the document.

**CB. Right to Construct Y/N/N.A. (Construct\_Right) [IWMI]**

An agreement giving one or a number of signatories the right to construct particular infrastructure, such as dams.

Y – Yes  
N – No  
N.A. – Not applicable

**CC. Right to Construct Article (Construct\_Article) (text, multiple entries possible)**

Number or location of text discussing construction rights in the document.

**CD. Ban on Particular Constructions (Construct\_Ban) Y/N/N.A. [IWMI]**

An agreement that bans the construction of particular infrastructure in certain areas or in general by one or more signatories.

Y – Yes  
N – No  
N.A. – Not applicable

**CE. Ban on Construction Article (ConstructBan\_Article) (text, multiple entries possible)**

Number or location of text discussing construction bans in the document

**CF. Prior Notification (PriorNotification) [IWMI] (numerical, multiple entries possible)**

An agreement requiring signatories to communicate with each other before planned measures, such as if they want to use additional water resources or construct infrastructure such as dams or diversion channels.

**If Document Does Not Meet TFDD Inclusion, then code as 1.**

-1 – Not Coded: (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

1 - None/not mentioned

2 - Prior notification: One riparian has to notify the other about any planned measures

3 - Prior consultations: The riparians are required to consult with each other any planned measures

4 - Prior agreement/consent: The other riparians have to agree to the plans before any action can be undertaken

**CG. Prior Notification (PriorNotif\_Article) (text, multiple entries possible)**

Number or location of text discussing prior notification in the document.

***Content Not Related to Water as a Resource***

**CH. Navigation-Y/N/N.A. [IWMI]**

The agreement mentions navigation as an issue.

Y – Yes  
N – No  
N.A. – Not applicable

**CI. Navigation Article (Nav\_Article) (text, multiple entries possible)**

Number or location of text discussing navigation in the document.

**CJ. Fishing - Y/N/N.A. [IWMI]**

The agreement mentions fishing as an issue.

Y – Yes  
N – No  
N.A. – Not applicable

**CK. Fishing Article (Fish\_Article) (text, multiple entries possible)**

Number or location of text discussing fishing in the document.

**CL. Border Issues-Y/N/N.A. [IWMI]**

The agreement delineates, adjusts or reaffirms the border between two or more countries.

Y – Yes  
N – No  
N.A. – Not applicable

**CM. Border Issues Article (Border\_Article) (text, multiple entries possible)**

Number or location of text discussing border issues in the document.

**CN. Territorial Issues-Y/N/N.A. [IWMI]**

The agreement (re)divides or affirms territorial sovereign rights.

Y – Yes  
N – No  
N.A. – Not applicable

**CO. Territorial Issues Article (Territorial\_Article)**

Number or location of text discussing territorial issues in the document,

**CP. Non-Water Linkages (text, multiple entries possible)**

An agreement which requires at least one party to provide another with compensation (e.g., exchange of land or money for water; trade concessions in exchange for water rights, financial, gas, oil, timber, etc.) in exchange for water rights or access.

None – Not mentioned  
Examples: Capital, Energy, Land, Political Concessions, Other

**CQ. Non-Water Linkages Article (NonWater\_Article) (text, multiple entries possible)**

Number or location of text discussing non-water linkages in the document.

**CR. Non-Water Linkages Comments (NonWaterLink\_Comments) (text, multiple entries possible)**

Notes or comments on non-water linkages in text.

**CS. Embedded in a larger Non-Water Context - Y/N/N.A. (NonWater\_Embed) [IWMI]**

An agreement in which water as a consumable resource is only one issue in a larger overall agreement, for example as related to peace, navigation, or territorial delimitations.

Y – Yes  
N – No  
N.A. – Not applicable

***Content Related to Uncertainty Management***

## CT. Uncertainty Explicit (numerical) [IWMII] (multiple entries possible, separated by comma)

The treaty explicitly mentions some form of uncertainty in its text. **If Document Does Not Meet TFDD Inclusion, then code as 0.**

-1 – Not Available (Something to fix in the future – the not coded and the not addressed should be separated.) (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 – None

1 – Flow variability: floods and/or droughts are mentioned

2 – Environmental: the treaty mentions more general environmental hazards

3 - Treaty implementation: the treaty refers to uncertainties whether one or all of the parties will actually implement the treaty.

4 – Political: such as war or political crisis

5 – Data: uncertainty about the validity of the data gathered by one or all of the parties for whatever reason.

6 – Financial: Uncertainty about the financial costs of an agreement and/or whether and/or how they will be met.

7 - Effectiveness of treaty regime: uncertainty about whether the goals of the treaties will be met with the help of the measures installed in the treaty

8 – Scientific: incomplete scientific knowledge mentioned leading to uncertainty of particular outcomes

9 – Infrastructural: Uncertainty about whether the work constructed under the treaty regime or other relevant infrastructure could collapse, leak, etc.

10 – Demand Uncertainty

11 – Economic

## CU. Uncertainty Explicit Article (UncertExplicit\_Article) (text, multiple entries possible)

Number or location of text discussing explicit uncertainty in the document.

## CV. Variability Management (VarMgmt) (numerical)

The document needs to talk specifically about an EXTREME EVENT. **If Document Does Not Meet TFDD Inclusion, then code as 0**

-1 – Not Available/Not Coded (Something to fix in the future – the not coded and the not addressed should be separated.) (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 - None

1 - Flood control: an agreement which refers to the control of flooding

2 - Dry season control: an agreement which refers to water management to offset low season flow reductions

3 – Both: an agreement which refers to both flood and dry season control

**CW. Variability Management Article (VarMgmt\_Article) (text, multiple entries possible)**

Number or location of text discussing variability management in the document.

**CX. Variability in Water/Hydro needs -Y/N/N.A. (NeedsVariability) [IWMI]**

The variability of the parties' needs for water and/or hydropower in the text and/or accounted for.

Y – Yes

N – No

N.A. – Not applicable

**CY. Needs Variability Article (NeedsVar\_Article) (text, multiple entries possible)**

Number or location of text discussing needs variability in the document

**CZ. Alternative Scenarios-Y/N/N.A. (AltScenarios) [IWMI]**

The treaty mentions at least one situation in which a different development can occur and alternative modes of action are stipulated.

Y – Yes

N – No

N.A. – Not applicable

**DA. Alternative Scenarios Article (AltScen\_Article) (text, multiple entries possible)**

Number or location of text discussing alternative scenarios in the document.

**DB. Prediction Modeling (PredictionModel) - Y/N/N.A. [IWMI]**

The treaty develops or mentions available mechanisms for predicting particular aspects about the future, such as for example, the occurrence of floods.

Y – Yes

N – No

N.A. – Not applicable

**DC. Prediction Model Article (PredictionModel\_Article) (text, multiple entries possible)**

Number or location of text discussing prediction modelling in the document.

***Content Related to International Water Law***

**DD. Reference to Global Water Instruments (GlobInstru) (numerical, multiple entries possible) [New 2022]**

What global water instruments are referenced in the document? **If Document Does Not Meet TFDD Inclusion, then code as 0.**

-1 – Not Coded (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 – No reference to global instruments

1 – Reference to UN Watercourses Convention - 1997 Convention on the Law of the Non-Navigational Uses of International Watercourses

2 – Reference to UNECE Water Convention - 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes

3 – Reference to the Ramsar Convention – 1971 Convention on Wetlands of International Importance especially as Waterfowl Habitat

4 – Reference to Draft Groundwater Law – 2008 Draft Articles on the Law of Transboundary Aquifers

5 – Other *global* water instruments (e.g., 1999 Protocol on Water and Health, 2003 Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters, Helsinki, Berlin, Seoul Rules)

**DE. Reference to Global Instruments Article (GlobInstru\_Article) (text, multiple entries possible) [New 2022]**

Number or location of text that refers to global instruments in the document.

**DF. Reference to Water Law Principles (IWL) (numerical, multiple entries possible) [New 2022]**

What water law principles are explicitly referenced in the document? **If Document Does Not Meet TFDD Inclusion, then code as 0.**

-1 – Not Coded (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 – No reference to water law principles

1 – Equitable and reasonable use: Document refers to the equitable and reasonable use principle. It entitles a watercourse State to an equitable and reasonable share of the uses and benefits of the particular watercourse, and also creates the reciprocal obligation not to deprive other States of their respective rights in this regard. (UN Watercourse Convention, Articles 5 & 6; UNECE Water Convention Article 2.2c and 2.5c) It is different from the Equity or Sustainability code, which includes any mention of equitable or sustainable use regardless of whether the principle is derived from water law. **Note: May be written as fair or rational use. If agreement uses slightly different language than equitable and reasonable, please note the exact words in the source column.**

2 – Sustainable use/development: Document refers to the principle of sustainability, sustainable use or sustainable development. According to the United Nations World Commission on Environment and Development, sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Similarly, sustainable use is “use of resources in a way and at a rate that does not lead to the long-term degradation of the environment, thereby maintaining its potential to meet the needs and aspirations of present and future generations.” **Note: this goes beyond the general mention of sustainable use/development in the preamble. The document must mention in the body of the text that sustainable use or development is a principle they will abide by and/or strive for**

3 – No significant harm: Document refers to the principle of no significant harm. No State along an international watercourse is allowed to use the watercourse in its territory in such a way as to cause significant harm to other watercourse States or to their environment (UN Watercourse Convention Article 7; UNECE Water Convention Article 2.1).

4 – Prior notification, consultation, and/or agreement/consent: Document refers to the principles of notification, consultation, and/or agreement/consent, which are defined below. This is captured in detail in code **Prior Notification**.

- Notification: In the event that a planned measure will adversely impact other watercourse States, a State has to provide the States that will be impacted with timely notification prior to implementation (UN Watercourse Convention Article 12).
- Consultation: Deals with circumstances in which there has been a communication containing a finding by the notified state that implementation of the planned measures would be incommensurable with the principles of equitable and reasonable use and no significant harm. The notifying state can enter into consultations and, if necessary, negotiations with the state making such communication ‘with a view to arriving at an equitable resolution of the situation.’ (UN Watercourses Convention, Article 17)
- Agreement/consent: In the event of a planned measure, watercourse States agree to implement the planned measure only with the prior informed consent of the other affected watercourse States. (Mekong Art 5)

5 – Obligation to cooperate: Document refers to the obligation to cooperate. On the basis of the general obligation to cooperate, States are obliged to cooperate on the basis of sovereign equality, territorial integrity, mutual benefit, and/or sustainable development for the objectives of optimal utilization and/or adequate protection (UN Watercourses Convention Article 8; UNECE Water Convention Article 2.6).

6 – Polluter pays principle: Document refers to the polluter-pays principle, which is that the costs of pollution prevention, control, and reduction measures shall be borne by the polluter (UNECE Water Convention Article 2.5b; Water Framework Directive Article 9).

7 – User pays principle: Document refers to the user-pays principle, which is when a resource user is obligated to pay the cost of running down natural resource capital (Water Framework Directive Article 9).

8 – Precautionary principle: Document refers to the precautionary principle, which is when action to avoid the potential transboundary impact of the release of hazardous substances shall not be postponed on the ground that scientific research has not fully proved a causal link between those substances, on the one hand, and the potential transboundary impact, on the other hand (UNECE Water Convention Article 2.5a).

9 – Community of Interest: Document has an explicit reference to a community of interest, which is also known as a ‘riparian community’, which recognizes that water is common property and is shared by the community (or watercourse States).

10 – Obligation to resolve disputes peacefully: Document references the States’ obligation to peacefully resolve disputes in good faith (UN Watercourse Convention Article 33; UNECE Water Convention Articles 22; UN Charter Article 1.1, 2.3, & 33)

11 – Freedom of navigation: Document references the States’ freedom to navigation on international rivers (Barcelona Convention and Statue on the Regime of Navigable Waterways of International Concern 1921).

#### **DG. Reference to Water Law Principles Article (IWL\_Article) (text, multiple entries possible) [New 2022]**

Number or location of text discussing International Water Law principles in the document. **Note: For equitable and reasonable use, language may be written as fair or rational use. If agreement uses slightly different language than equitable and reasonable, please note the exact words in the source column.**

#### ***Content Related to Procedural Rules***

#### **DH. Technical or Financial Cooperation or Assistance-Y/N/N.A. (TechCoop) [IWMI]**

The parties agree to cooperate with each other or to assist each other in technical and/or financial matters

Y – Yes

N – No

N.A. – Not applicable

**DI. Technical or Financial Cooperation Article (TechCoop\_Article) (text, multiple entries possible)**

Number or location of text discussing Technical or Financial Cooperation or Assistance in the document

**DJ. Information Exchange - Y/N/N.A. (InfoExchange) [IWMI & TFDD]**

The parties agree to exchange data about flows, etc. A yes/no variable as to whether the document contains provisions concerning the exchange of water-related information. If not available, code as “Not Available”.

Y – Yes

N – No

N.A. – Not applicable

**DK. Information Exchange Article (InfoExchange\_Article) (text, multiple entries possible)**

Number or location of text discussing Information Exchange in the document

**DL. Integrated Water Resources Management -Y/N/N.A. (IWRM) [New 2022]**

Does the document mention that water management will be guided by the principle of IWRM?

IWRM refers to the coordinated development and management of land and water resources to maximize economic and social welfare in an equitable manner without compromising the sustainability of ecosystems ([Global Water Partnership 2011](#)).

Y – Yes

N – No

N.A. – Not applicable

**DM. Integrated Water Resources Management Article (IWRM\_Article) (text, multiple entries possible) [New 2022]**

Number or location of text discussing IWRM in the document

**DN. Monitoring-Y/N/N.A. [IWMI & TFDD]**

The parties create mechanisms to monitor treaty compliance, to supervise the construction of works, or the financial terms of an agreement, etc.

Y – Yes

N – No

N.A. – Not applicable

**DO. Monitoring Article (Monitoring\_Article) (text, multiple entries possible)**

Number or location of text discussing monitoring in the document

**DP. Environmental Monitoring – Y/N/N.A. (Enviro\_Monitoring)**

Agreement includes mechanisms for monitoring environmental aspects such as water quantity and quality.



Y – Yes  
N – No  
N.A. – Not applicable

**DQ. Environmental Monitoring Article (EnviroMonitoring\_Article) [New 2022]**

Number or location of text discussing environmental monitoring in the document

**DR. Conflict Resolution Mechanism [multiple possible separated by commas] [IWMI] [Updated 2022]**

The mechanism(s) specified in the document to address disagreements among the signatories. **If**

**Document Does Not Meet TFDD Inclusion, then code as -1**

**-1 – Not Available/Not Coded:** (Something to fix in the future – the not coded and the not addressed should be separated.) (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

**0 – None:** No mechanism is the agreement

**1 – Commission:** an installed commission or one created for that purpose composed exclusively of representatives from the parties concerned is supposed to deal with disputes.

**2 – Diplomatic Channels:** The parties agree to solve disputes in consultations through diplomatic channels

**3 – Third party:** Third parties help to facilitate consultations between the parties, but they have no power to confer any judgments, e.g., mediation, good offices, political external support, external fact-finding. It would not include an external actor selecting a panelist for an arbitration panel. Note: Referring to a judicial body is not counted as a third party for this code. (Note for Team: this has switched with arbitration – please confirm with the codebook that you have the correct number)

**4 – Arbitration:** an independent arbitral tribunal is supposed to decide about disputes, the decisions may be final and binding. (Note for Team: this has switched with third party – please confirm with the codebook that you have the correct number)

**5 – Permanent Judicial Organ:** referring to Permanent Judicial Organ to settle international disputes, such as the International Court of Justice

**DS. External Actor Involvement in CRM (Ext\_Actor\_CRM) (Y/N/N.A.) – Updated 2022**

Is an external actor (non-party) involved in the conflict resolution mechanism? This code includes all references to external actors, including an actor (such as the president of the ICJ or African Union), selecting a member of an arbitration panel. This does not include judicial bodies, as these are coded separately in the above code.

Y – Yes, an external actor is involved in the conflict resolution mechanism

N – No (however, there is a conflict resolution mechanism) **Note for Team: only use if CO. Conflict Resolution Mechanism is 1, 2, 3, 4, or 5**

N.A. – Not applicable (there is no conflict resolution mechanism) **Note for Team: only use this if CO. Conflict Resolution Mechanism is -1 or 0**

**DT. Binding Explicit (Binding\_explicit) (Y/N/N.A.) – New 2020**

Binding (e.g., final and binding, or a synonym) is explicitly mentioned in the conflict resolution mechanism.

Y – Yes

N – No (however, there is a conflict resolution mechanism) **Note for Team: only use if CO. Conflict Resolution Mechanism is 1, 2, 3, 4, or 5**

N.A. – Not applicable (there is no conflict resolution mechanism) **Note for Team: only use this if CO. Conflict Resolution Mechanism is –1 or 0**

Unknown – There is a conflict resolution mechanism, but it is not in English and therefore unable to determine if there is a binding clause.

**DU. Summary of Conflict Resolution Mechanism (ConflictRes\_Sum) (text) [Updated 2020]**

A brief description of the dispute settlement or conflict resolution mechanism in the agreement.

**DV. Conflict Resolution Mechanism Article (ConflictRes\_Article) (text, multiple entries possible) – Updated 2020**

Number or location of text discussing Conflict Resolution Mechanism in the document

**DW. Agreement Finance-Y/N/N.A. (AgreeFinance) [IWMI]**

Does the treaty stipulate how the provisions made in the treaty will be financed or funded?

Y – Yes

N – No

N.A. – Not applicable

**DX. Agreement Finance Article (AgreeFinance Article) (text, multiple entries possible)**

Number or location of text discussing Agreement Finance in the document

**DY. Stakeholder Participation-Y/N/N.A. (StakeholderParticip) [IWMI]**

Is some form of stakeholder participation mentioned in the treaty?

Y – Yes

N – No

N.A. – Not applicable

**DZ. Stakeholder Participation Article (Stakeholder\_Article) (text, multiple entries possible)**

Number or location of text discussing Stakeholder Participation in the document

**EA. Gender Mainstreaming Reference (numerical, multiple entries possible) [New 2022]**

How does the agreement mention gender? **If Document Does Not Meet TFDD Inclusion, code as 0.**

According to the Global Water Partnership, gender as related to water, “...refers to the socially constructed attributes (roles, activities, responsibilities, needs, and opportunities) associated with women and men, boys and girls, non-binary, transgender, and intersex people, in a given society at a given time, in designing, planning, managing, implementing, monitoring, decision-making, and evaluating the use and exploitation of water resources” (GWP and UNEP-DHI, 2021. Advancing towards gender mainstreaming in water resources management. Global Water Partnership and UNEP-DHI Centre on Water and Environment. Available at: <https://www.gwp.org/en/sdg6support/gender/>)

Note for Coding Team: List of terms to keyword search for includes: women, girls, gender, inclusivity, diversity, marginalized, disadvantaged, vulnerable, equality, and empowerment. *Read the text to make sure it is in reference to gender.*

-1 – Not Coded (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 – Not mentioned: No reference to gender in the document.

1 – Broad Reference: Document contains broad reference(s) to marginalized, vulnerable or disadvantaged groups (without specifying gender)

2 – Mentions Gender: Document mentions gender in a broad sense, such as in reference to representation of women, gender equality and/or differences in needs, uses and practices, access to resources, vulnerabilities and adaptation capacity of men, women, and/or non-binary individuals

3 – Mentions Specific Gender Commitments: The document mentions specific tasks or commitments in reference to representation of women, gender equality and/or differences in needs, uses and practices, access to resources, vulnerabilities and adaptation capacity of men, women, and/or non-binary individuals

4 – Action Plan/Strategy: Document creates and/or mandates the creation of an action plan or strategy for any areas 2-3

5 – Funding Plan: Document creates and/or mandates the creation of a funding plan for any areas 2-3

6 – Monitoring Plan: Document creates and/or mandates the creation of a monitoring plan/protocol for any areas 2-3

**EB. Gender Article (text, multiple entries possible) [New 2022]**

Number or location of text discussing gender in the document.

**EC. Gender Reference (text, multiple entries possible) [New 2022]**

A brief description of how gender is referenced in the agreement.

**ED. Consultations-Y/N/N.A. [IWMI]**

Does the treaty provide for the parties' direct and regular consultations on water issues through diplomatic channels?

Y – Yes

N – No

N.A. – Not applicable

**EE. Consultations Article (text, multiple entries possible)**

Number or location of text discussing consultations in the document

**EF. Compensation-Y/N/N.A. [IWMI]**

Does the treaty provide for any form of compensation in case one of the parties is harmed?

Y – Yes

N – No

N.A. – Not applicable

**EG. Compensations Article (text, multiple entries possible)**

Number or location of text discussing Compensation in the document

**EH. National Programs or Laws - Y/N/N.A. (National\_Prog\_Laws) [IWMI]**

Does the treaty oblige the parties to adopt national laws or develop national programs in order to meet treaty provisions?

Y – Yes

N – No

N.A. – Not applicable

**EI. National Programs or Laws Article (NationalLaws\_Article) (text, multiple entries possible)**

Number or location of text discussing National Programs or Laws in the document

**EJ. Interests of Non-Signatory Riparians - Y/N/N.A. (NonSig\_Riparians) [IWMI]**

Does the treaty mention that non-signatory riparians could have an interest in issues discussed in the agreement?

Y – Yes

N – No

N.A. – Not applicable

**EK. Interests of Non-Signatory Riparians Article (NonSigInterests\_Article) (text, multiple entries possible)**

Number or location of text discussing Interests of Non-Signatory Riparians in the document

**EL. Interests of People Mentioned-Y/N/N.A. (People\_Interests) [IWMI]**

Is it mentioned that the treaty has been signed in the interest of the populations or that some measures were taken for that purpose?

Y – Yes

N – No

N.A. – Not applicable

**EM. Interests of People Mentioned Article (PeopleInterests\_Article) (text, multiple entries possible)**

Number or location of text discussing Interests of People in the document

***Law of Treaties Codes***

**EN. Law of Treaties Components (TreatyLaw) (numerical, multiple entries possible) [New 2022]**

Does the document contain provisions for any of the following? **If Document Does Not Meet TFDD Inclusion, code as 0.**

-1 – Not Coded (Note for Coding Team: This is only to be used if the treaty text is missing or in a language not able to be coded and awaiting translation)

0 – Does not contain any law of treaties provisions, such as those below defined in the Vienna Convention on the Law of Treaties

1 – Ratification/Entry into Force: The document includes provisions on the process for ratification, acceptance, or approval for the document to enter into force.

2 – Accession: Document includes provisions for states to accede to the agreement after it has been negotiated, signed, and/or in force.

3 - Amendment: Document includes provisions for states to formally amend the agreement's provisions for all parties.

4 - Withdrawal: Document includes provisions on withdrawal or denunciation of a party from the agreement. Withdrawal/denunciation is the unilateral act by which a nation that is currently party to a treaty ends its membership.

5 - Termination: Document includes provisions for termination of the agreement, which concludes the agreement for all parties.

6 - Renewal: Document includes provisions for the renewal of the agreements.

7 - Other: Any other provisions a document might include related to the Law of Treaties.

**EO. Treaty Law Article (TreatyLaw\_Article) (text, multiple entries possible) [New 2022]**

Number or location of text discussing treaty law

**EP. Not Establishes Precedence - Y/N/N.A. (Precedent\_NotEst) [IWMI]**

Does the treaty explicitly mention that the agreement reached in this concrete case does not represent a precedent for any other issues which might arise?

Y – Yes

N – No

N.A. – Not applicable

**EQ. Not Establishes Precedent Article (PrecedentNotEst\_Article) (text, multiple entries possible)**

Number or location of text discussing Not Establishes Precedent in the document

**ER. Establishes Precedent-Y/N/N.A. (Precedent\_Est) [IWMI]**

Does the treaty explicitly state that it establishes a precedent for other similar issues which could arise in the future?

Y – Yes

N – No

N.A. – Not applicable

**ES. Establishes Precedent Article (PrecedentEst\_Article) [IWMI] (text, multiple entries possible)**

Number or location of text discussing Establishes Precedent in the document

**ET. Enforcement- Y/N/N.A. [ WB]**

A yes/no variable as to whether the document contains provisions concerned with the enforcement of the provisions of the document. If not available, code as "Not Available."

Y – Yes

N – No

N.A. – Not applicable

**EU. Enforcement Mechanism – text (EnforceMech) (text, multiple entries possible)**

What is the general mechanism for the enforcement provision?

**EV. Basin Name (text, Same as Column D)**

TFDD Basin Name. If a document addresses multiple TFDD basins, this column only lists the specific Basin name for the specific BCCODE of the entry. Global international agreements are coded as General (GNRL), as are agreements in which no basins are specified. Documents concerning groundwater that cannot be identified as being within an international basin are coded as Groundwater (GRND). Documents where the international basin is not identifiable, or the document is missing are coded as Unknown (UNKN).

**EW. PDF Filename (File Name) (text)**

The name of the file that contains the treaty text, saved as a pdf. The file naming convention for all newly added agreements is *Treaty#Language\_2016BasinCode*, i.e., 658ENG\_2016NILE.pdf. (the 2016 is to note that the treaty id is the 2016 I.D. system). If the file is missing, the cell will read 'none'.

If the treaty addresses multiple basins, only one BCODE is used in the title. There can be multiple files listed here if there are separate files of the same treaty in multiple languages. The file name will differ in the language abbreviation for the respective language the file is in. The language abbreviation is the first three letters of the language. i.e., English is ENG, Spanish is SPA.

Note to Coders: Please check the file name in this cell when fixing coding in the Master. Many will say 'none' and will need to be updated with the new file name. Confirm it matches with the name of the file and update to the new coding system, as needed.