

Hydrography Data Model - DRAFT

Geodatabase Hydrography.mdb
Date generated Tuesday, April 27, 2004

Geodatabase Summary

- Table: **HydroIDTable**
- Table: **LayerKeyTable**

Hydrography Feature Dataset

- Relationship class: **WaterwayJunction2Waterbody** (One to many)
- Relationship class: **WaterwayJunction2Watershed** (One to many)
- Polygon feature class: **Waterbody**
- Polygon feature class: **Watershed**
- Complex edge feature class: **Waterway**
- Simple junction feature class: **WaterwayJunction**
- Geometric network: **WaterwayNetwork**
- Simple junction feature class: **WaterwayNetwork_Junctions**

UniqueID Table Details

HydroID is used in key relationships in the ArcHydro data model. DrainID, JunctionID, NextDownID, FeatureID, FromNodeID, and ToNodeID attributes all contain the HydroID of relevant feature class. All established relationship classes within ArcHydro use the HydroID (ESRI).

This table is used to assign unique IDs to the relevant features.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length
OBJECTID	Object ID						
LayerKey	String	Yes					50
HydroID	Long integer	Yes				0	

This table is used to relate the unique ID tables to the relevant feature class.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length
OBJECTID	Object ID						
LayerName	String	Yes					50
LayerKey	String	Yes					50

Hydrography Feature Dataset Details

WaterwayNetwork Geometric Network Details

Complex edge feature class: **Waterway**

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length
OBJECTID	Object ID						
Shape	Geometry	Yes					
Enabled	Short integer	Yes	1	EnabledDomain		0	
HydroID	Long integer	Yes				0	
ReachCode	String	Yes					14
GNISID	String	Yes					10
Name	String	Yes					100
LengthMiles *	Double	Yes				0	0
LengthDown	Double	Yes				0	0
FlowDir *	Short integer	Yes	1	FlowDirection		0	
FeatureType	Short integer	Yes		WaterwayType		0	
NextDownID *	Long integer	Yes				0	
UserID *	Short integer	Yes		UserID		0	8
RevisionDate	Date	Yes				0	8
Comments *	String	Yes					100
Shape_Length	Double	Yes				0	0

Network of natural and artificial flowlines that trace water movement through rivers, streams, canals and waterbodies.

Simple junction feature class: **WaterwayJunction**

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length
OBJECTID	Object ID						
Shape	Geometry	Yes					
AncillaryRole	Short integer	Yes	0	AncillaryRoleDomain		0	
Enabled	Short integer	Yes	1	EnabledDomain		0	
HydroID	Long integer	Yes				0	
NextDownID *	Long integer	Yes				0	
LengthDown	Double	Yes				0	0
DrainArea *	Double	Yes				0	0
UserID *	Short integer	Yes		UserID		0	8
RevisionDate	Date	Yes				0	8
Comments *	String	Yes					100

Strategic locations where other hydro features are attached to the network (ESRI).

Simple junction feature class: **WaterwayNetwork_Junctions**

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length
OBJECTID	Object ID						
SHAPE	Geometry	Yes					
Enabled	Short integer	Yes	1	EnabledDomain		0	

Generic junctions created wherever two edges meet (ESRI).

Simple feature class: **Waterbody**

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length
OBJECTID	Object ID						
Shape	Geometry	Yes					
HydroID	Long integer	Yes				0	
ReachCode	String	Yes					14
GNISID	String	Yes					10
FeatureType	Short integer	Yes		WaterbodyType		0	
Name	String	Yes					100
Area	Double	Yes				0	0
Elevation	Short integer	Yes		Elevation		0	
JunctionID *	Long integer	Yes				0	
UserID *	Short integer	Yes		UserID		0	8
RevisionDate	Date	Yes				0	8
Comments *	String	Yes					100
Shape_Length	Double	Yes				0	0
Shape_Area	Double	Yes				0	0

Hydrographic features that are represented by areas, such as lakes, ponds, swamps, marshes. Rivers and streams that are eight feet or wider are also included.

Simple feature class: **Watershed**

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length
OBJECTID	Object ID						
Shape	Geometry	Yes					
HydroID	Long integer	Yes				0	
DrainID *	Long integer	Yes				0	
Name	String	Yes					100
AreaAcres	Double	Yes				0	0
JunctionID *	Long integer	Yes				0	
NextDownID *	Long integer	Yes				0	
UserID *	Short integer	Yes		UserID		0	8
RevisionDate	Date	Yes				0	8
Comments *	String	Yes					100
Shape_Length	Double	Yes				0	0
Shape_Area	Double	Yes				0	0

Drainage areas used for water resource management, sometimes referred to as basins.

* = Field not published

Domains

AncillaryRoleDomain (Coded value domain)
Description: WaterwayJunction feature class.
Field type: Short integer
Split policy: Default value
Merge policy: Default value

Code	Description
0	None
1	Source
2	Sink

UserID (Coded value domain)
Description: WaterwayJunction, Waterbody, Watershed, and Waterway feature classes.
Field type: Short integer
Split policy: Default value
Merge policy: Default value

Code	Description
2	Asplinc
3	CampbellA
1	MenyhartD
4	MooreS
5	MooreC

Elevation (Range domain)
Description: Waterbody feature class.
Field type: Short integer
Split policy: Default value
Merge policy: Default value

Minimum value	Maximum value
500	1400

EnabledDomain (Coded value domain)
Description: WaterwayJunction, WaterwayNetwork_Junctions, and Waterway feature class.
Field type: Short integer
Split policy: Default value
Merge policy: Default value

Code	Description
0	False
1	True

WaterbodyType (Coded value domain)
Description: Waterbody feature class.
Field type: Short integer
Split policy: Default value
Merge policy: Default value

Code	Description
3	Canal or Ditch
2	Lake or Pond
1	Stream or River
4	Swamp or Marsh

WaterwayType (Coded value domain)
Description: Waterway feature class.
Field type: Short integer
Split policy: Default value
Merge policy: Default value

Code	Description
3	Artificial Pathway
2	Canal or Ditch
4	Connector
1	Stream or River

FlowDirection (Coded value domain)
Description: Waterway flow direction
Field type: Short integer
Split policy: Default value
Merge policy: Default value

Code	Description
0	Uninitialized
1	With Digitized
2	Against Digitized
3	Indeterminate

