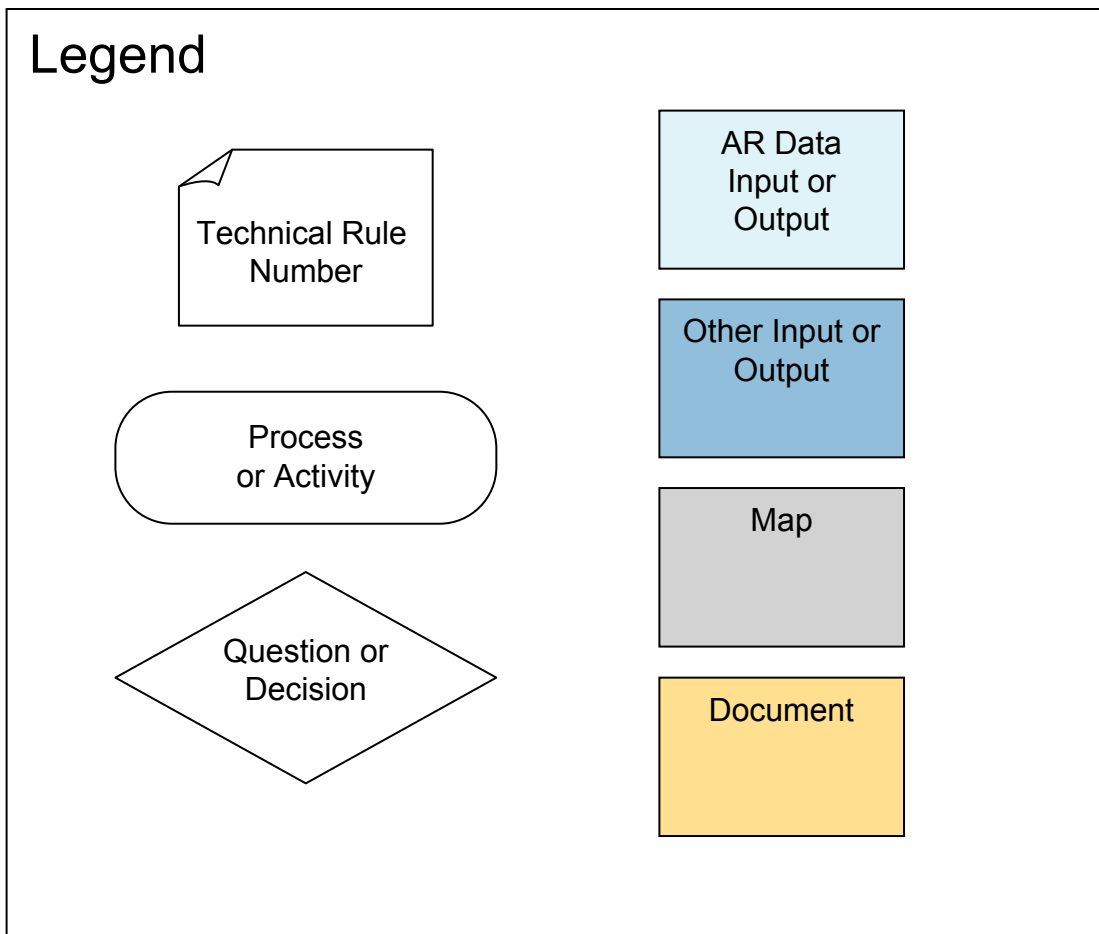
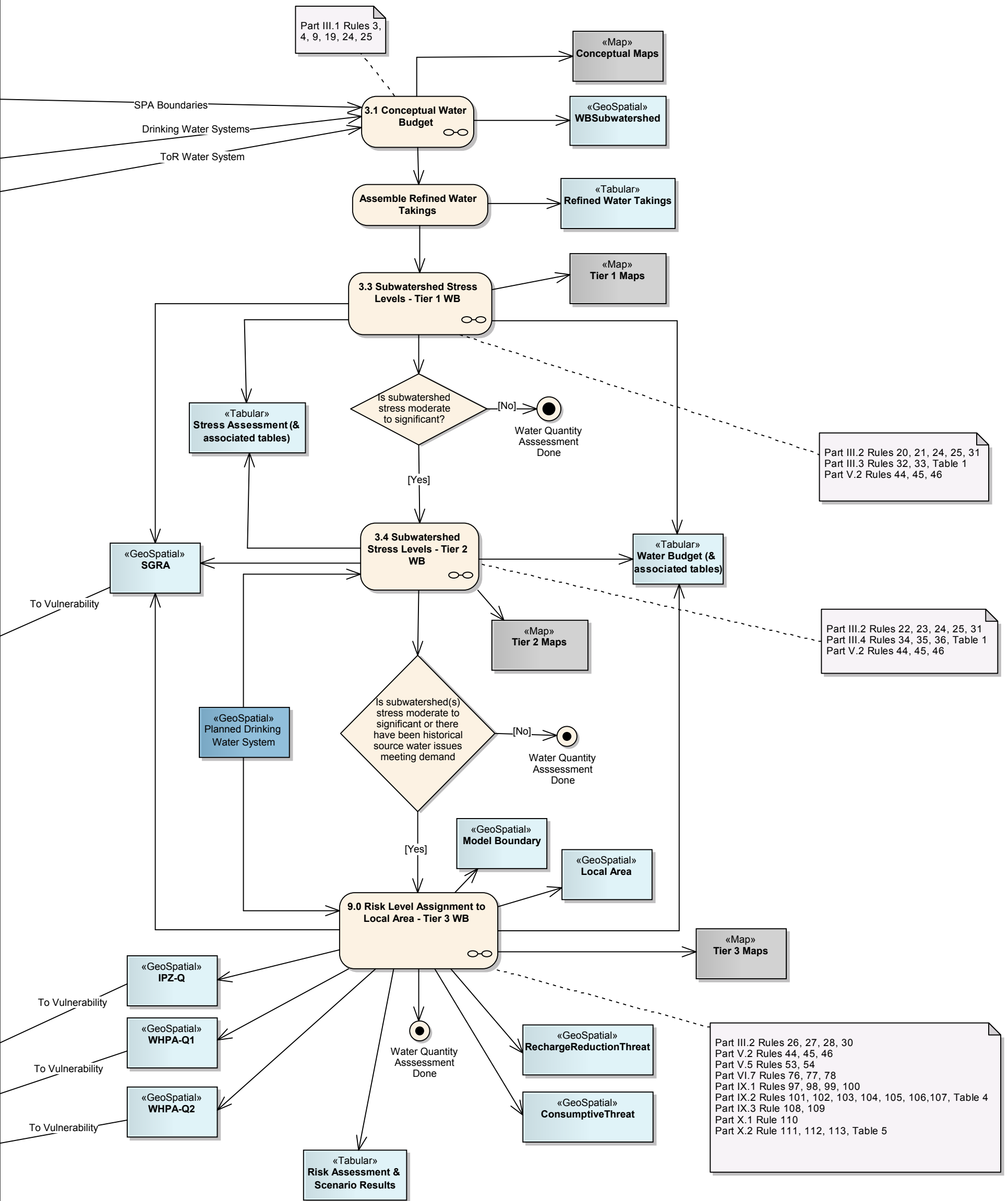


# Water Budget & Water Quantity Risk Assessment Technical Rules Road Map

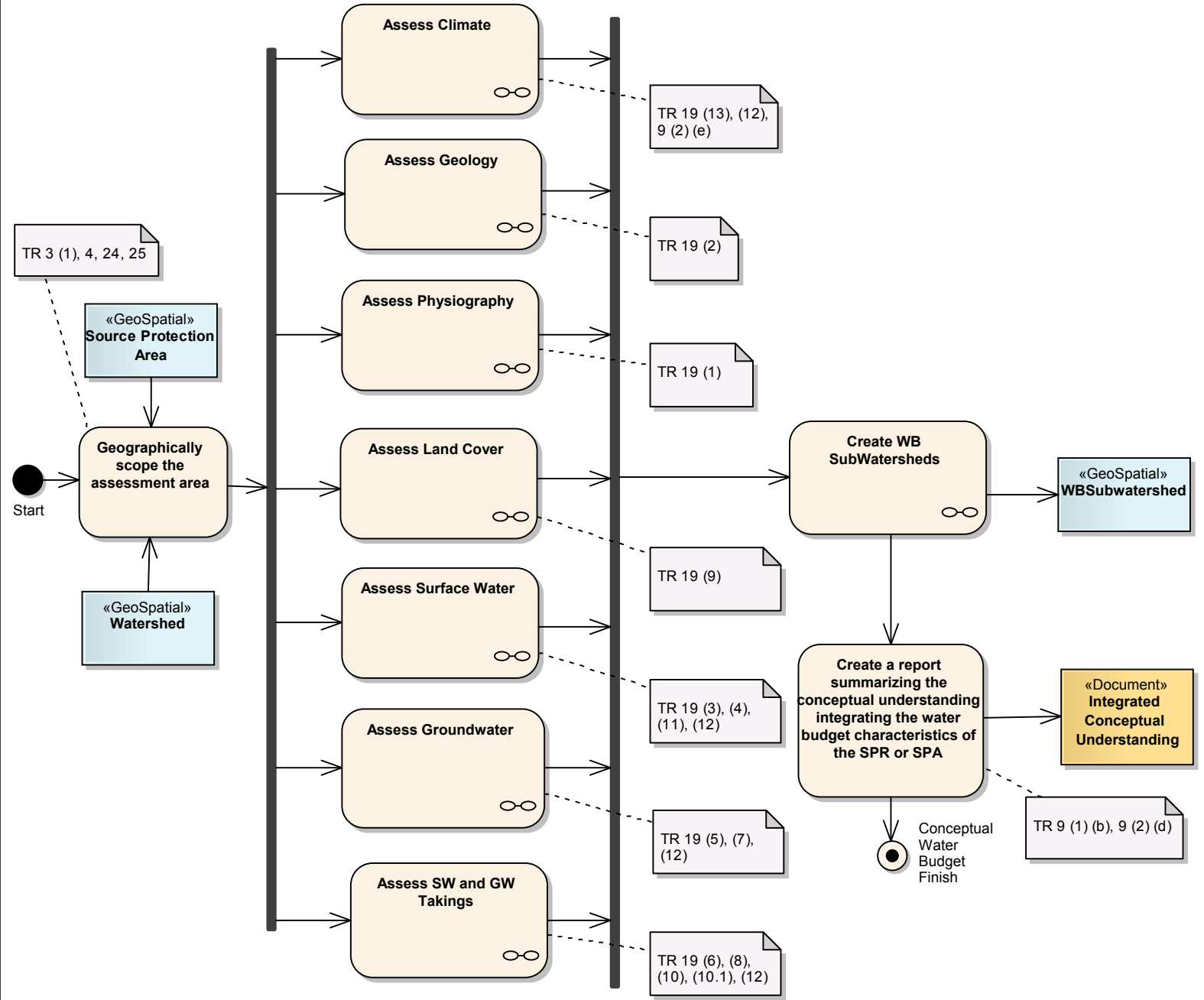
This Road Map was created in order to assist practitioners to undertake the Water Budget & Water Quantity Assessment process. The road map is a series of work flow diagrams that illustrate the processes or activities involved in completing Water Budget and Water Quantity Assessments. Where applicable, the Technical Rule numbers corresponding to the work flow have been noted. Please use this document with the “Technical Rules: Assessment Report” and the “Water Budget and Water Quantity Risk Assessment Guide”.



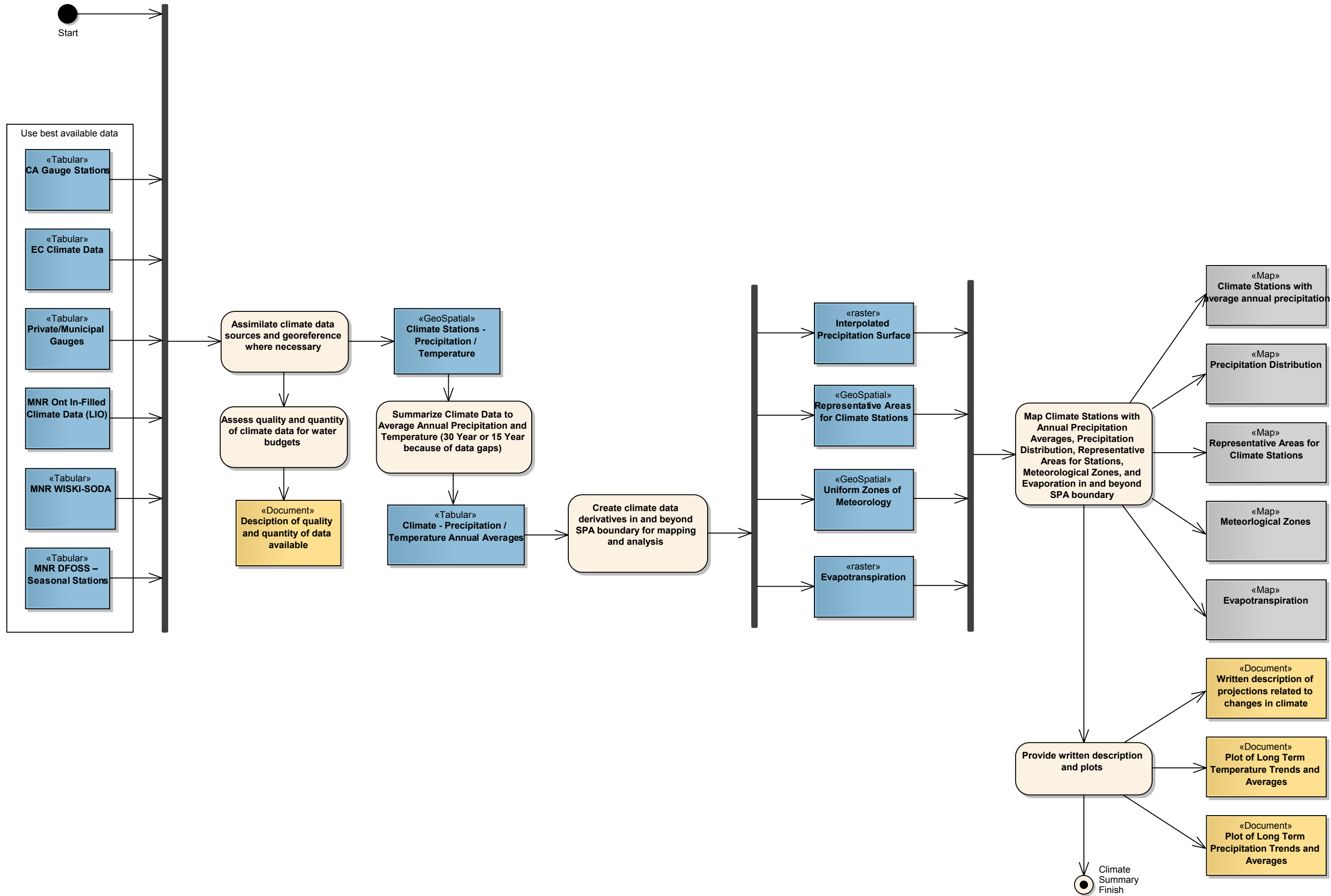
# Overview of Water Budget and Water Quantity Assessment Framework



### 3.1 Conceptual Water Budget



# Assess Climate



# Assess Geology

Start

Use best available data

«GeoSpatial»  
Bedrock geology of  
Southern Ontario

«GeoSpatial»  
Bedrock Area at 250K

«GeoSpatial»  
Soil Survey Complex (ON  
Soils) (LIO)

«raster»  
Overburden Thickness of  
SPA Area

«GeoSpatial»  
CANSIS - Ontario Soil  
Surveys

«Raster»  
Interpolated Bedrock  
Surface Elevation

«GeoSpatial»  
Surficial Geology of GTA /  
ORM

«GeoSpatial»  
Borehole (ON Database)  
(LIO)

«GeoSpatial»  
MRD 126: Surficial  
Geology of Southern  
Ontario

«Raster»  
Bedrock Topography of  
Southern Ontario

Quaternary Geology of  
Ontario 1:1M

«Raster»  
Bedrock Topography  
(GTA/ORM)

«GeoSpatial»  
NOEGTS (Northern Ontario  
Engineering Geology Terrain  
Studies) (LIO)

«Raster»  
Provincial DEM - Tiled  
(Version 2)

«raster»  
Overburden Thickness of  
Southern Ontario (GW  
Studies)

Map Overburden Thickness, Bedrock  
Geology, Soils, and Surficial Geology  
classified by infiltration and runoff  
potential with SPA boundary

«Map»  
Overburden  
Thickness

«Map»  
Bedrock Geology

«Map»  
Soils

«Map»  
Surficial Geology

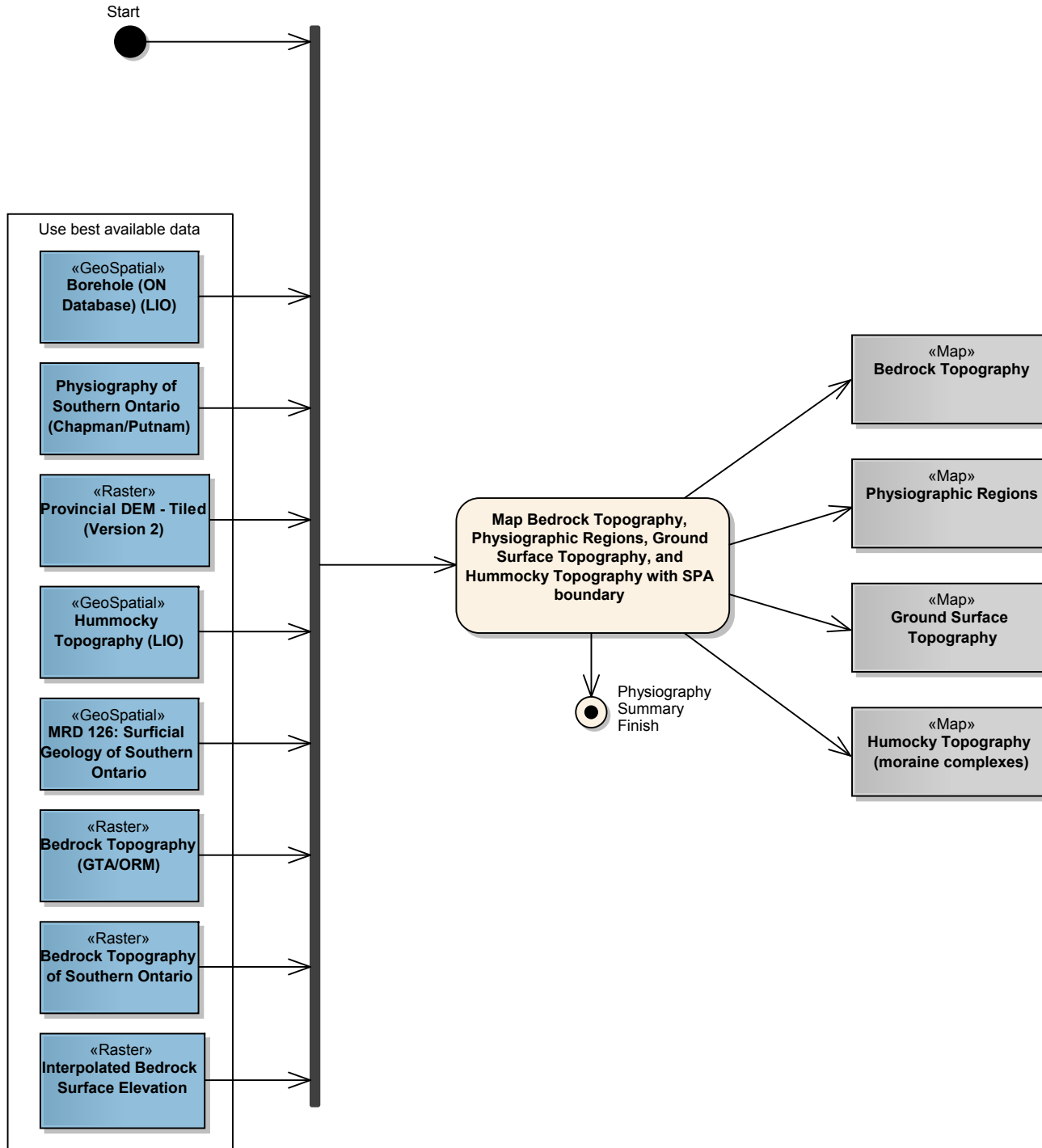
Provide written description  
and cross sections

«Document»  
Written description of how the  
permeability distribution at surface  
and subsurface influences runoff and  
infiltration/recharge trends.

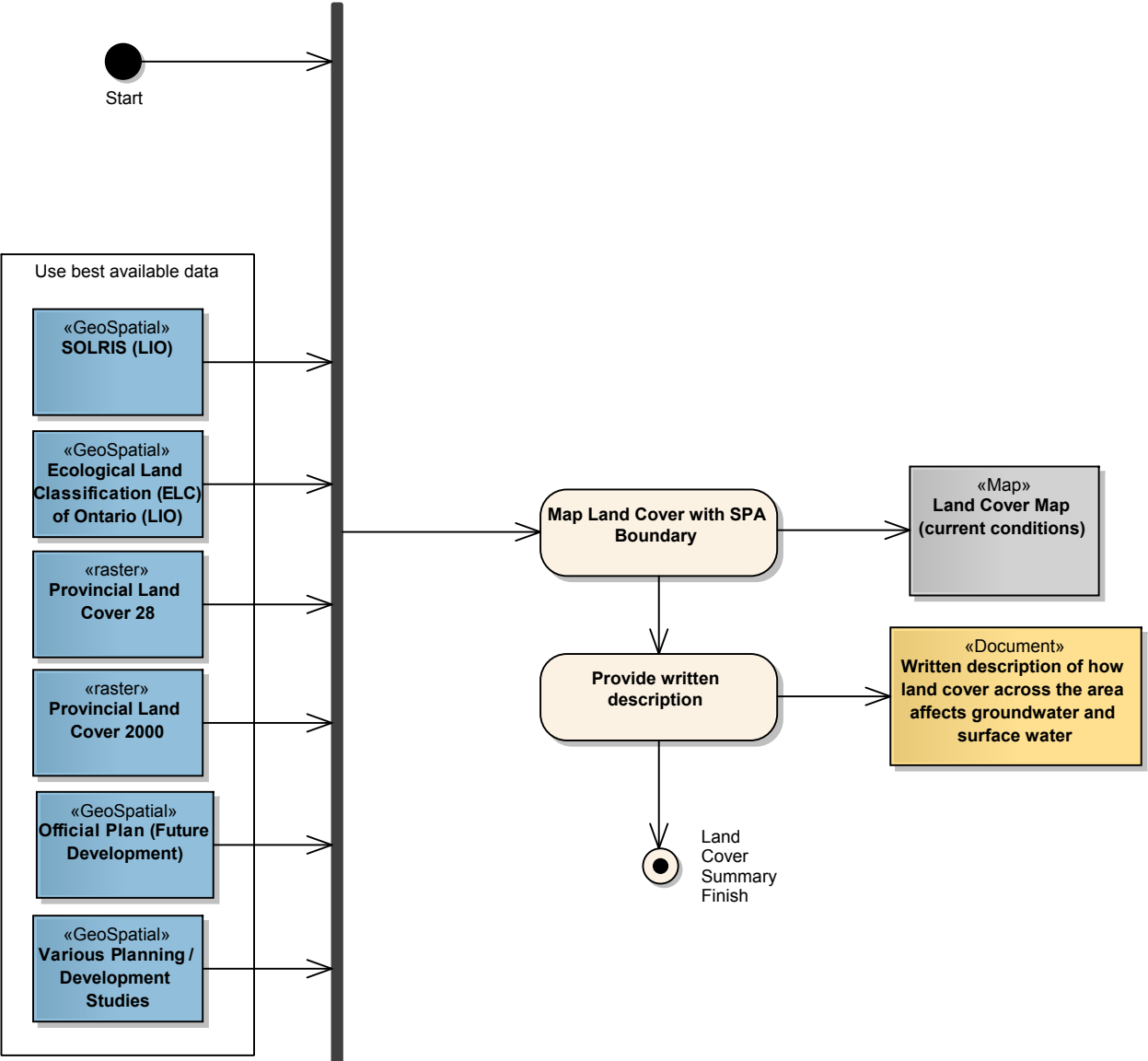
«Document»  
Graphic Cross Sections of  
watershed scale aquifer units

Geology  
Summary  
Finish

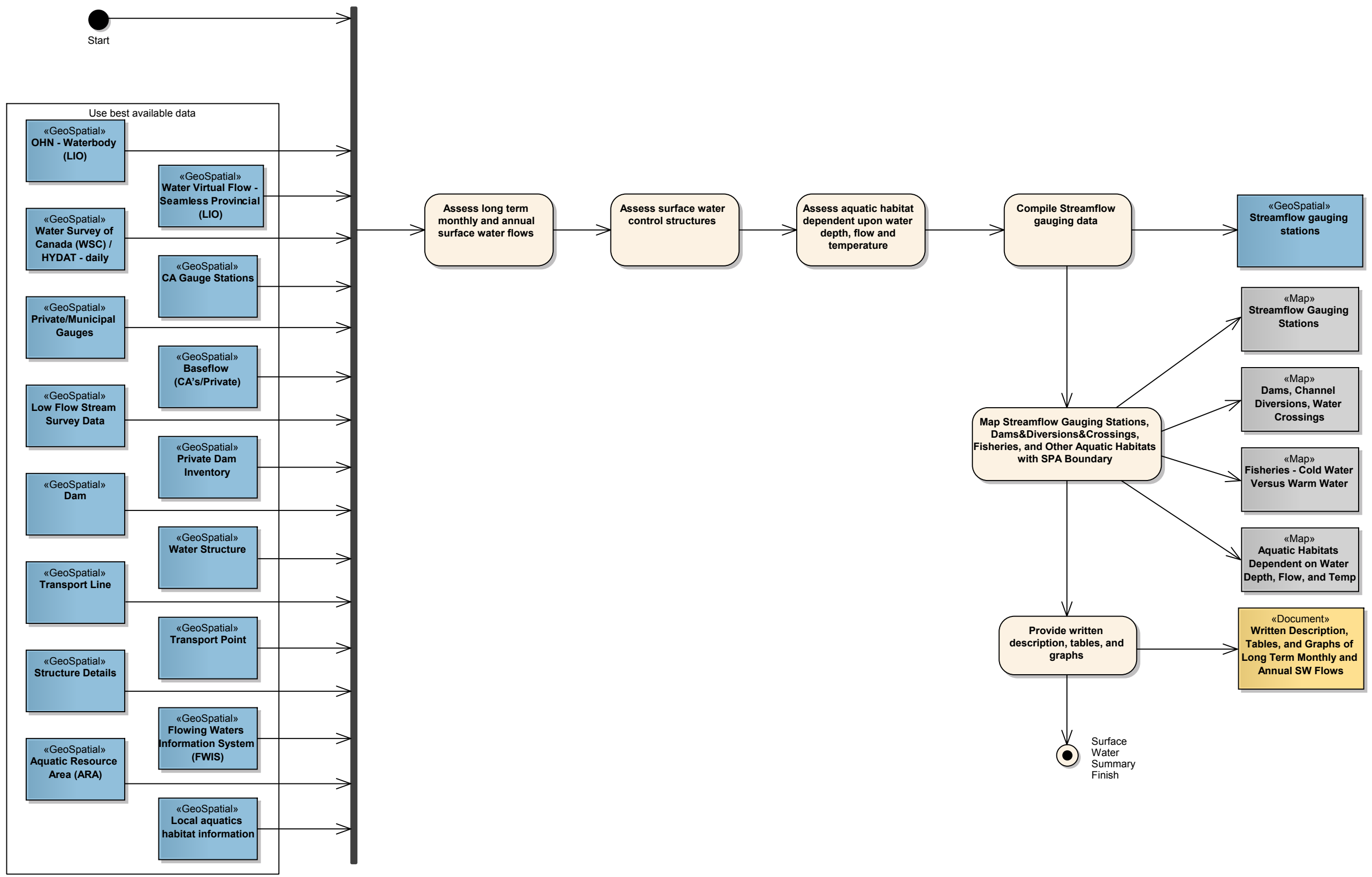
# Assess Physiography



# Assess Land Cover

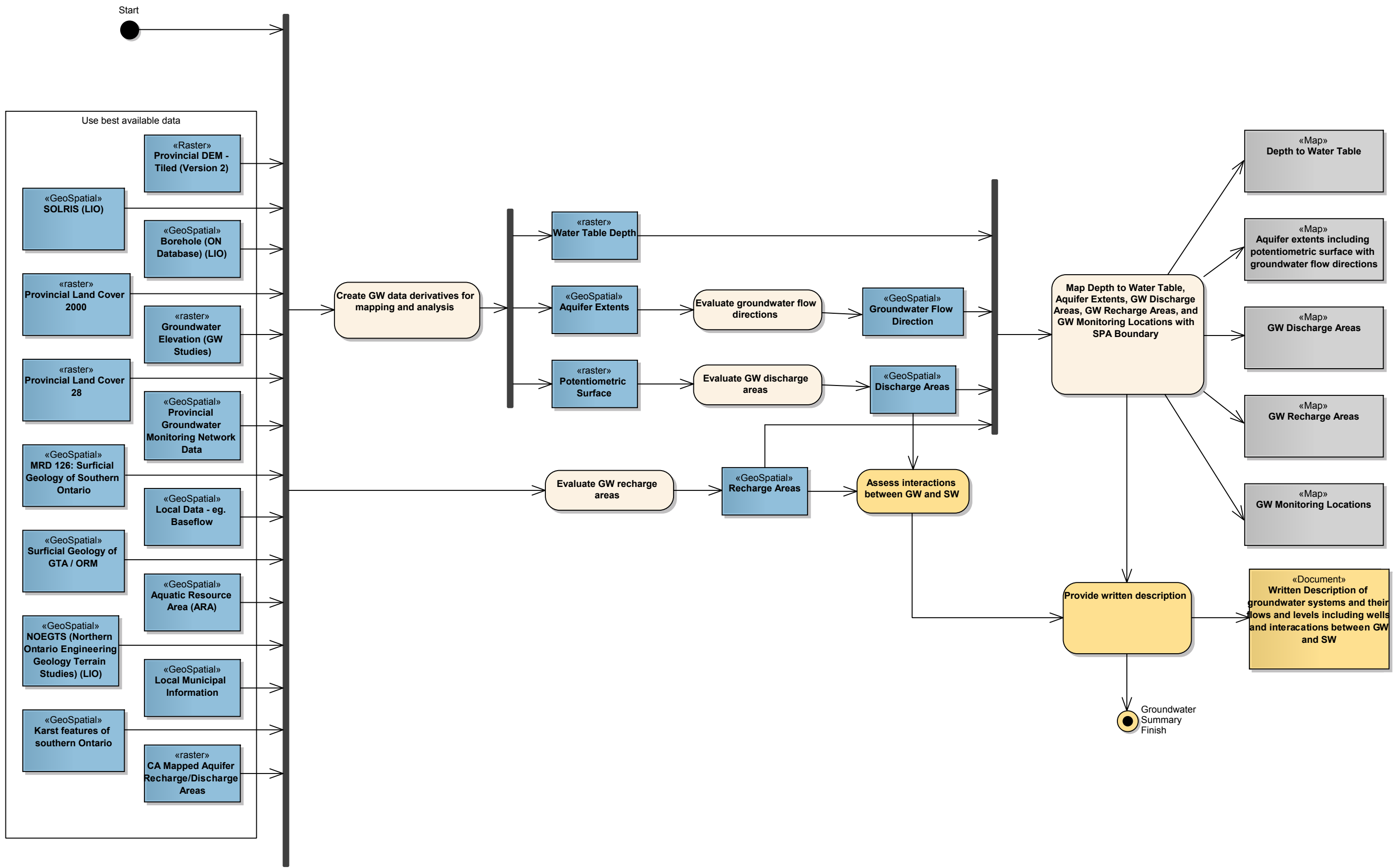


# Assess Surface Water

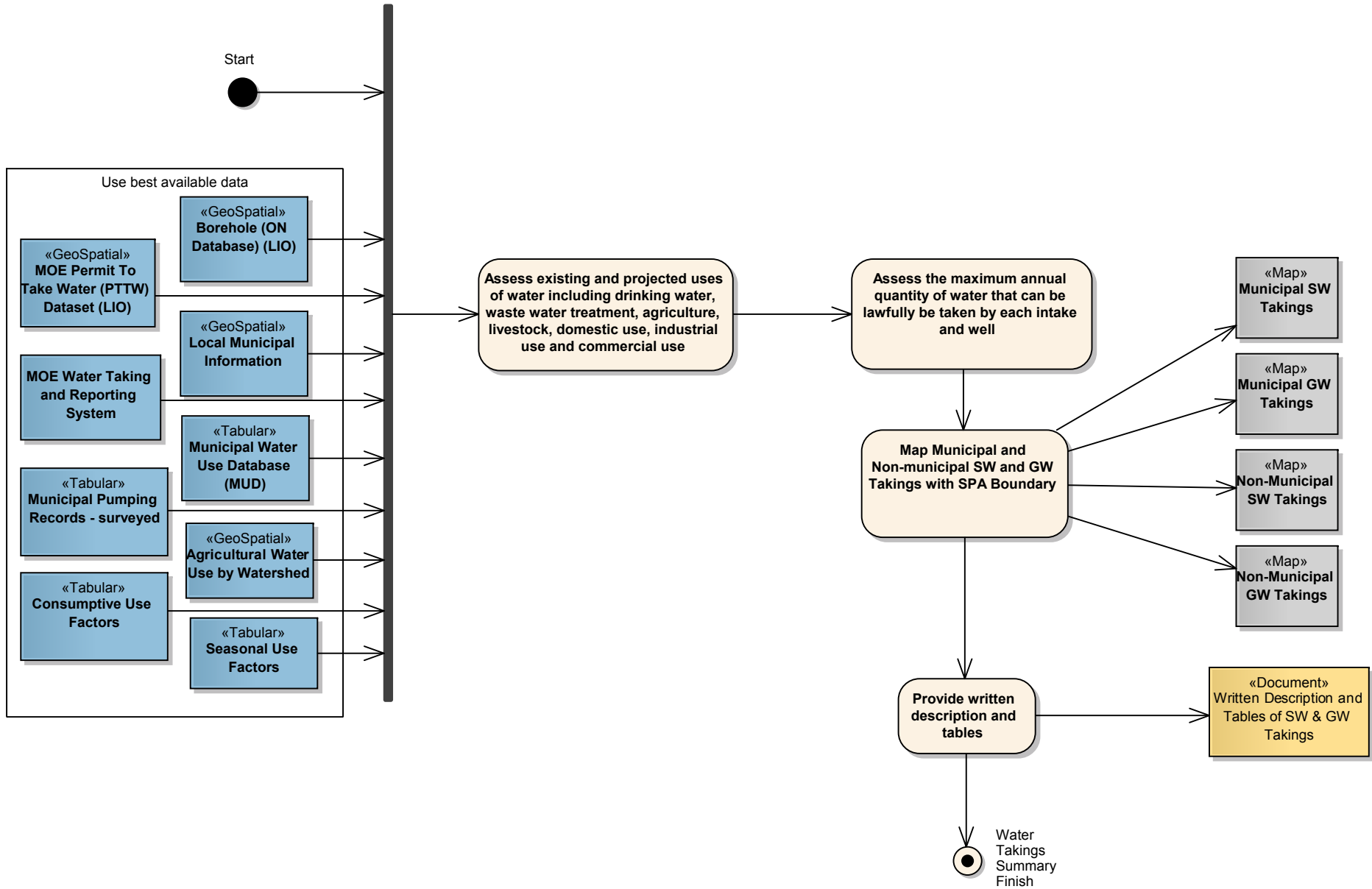




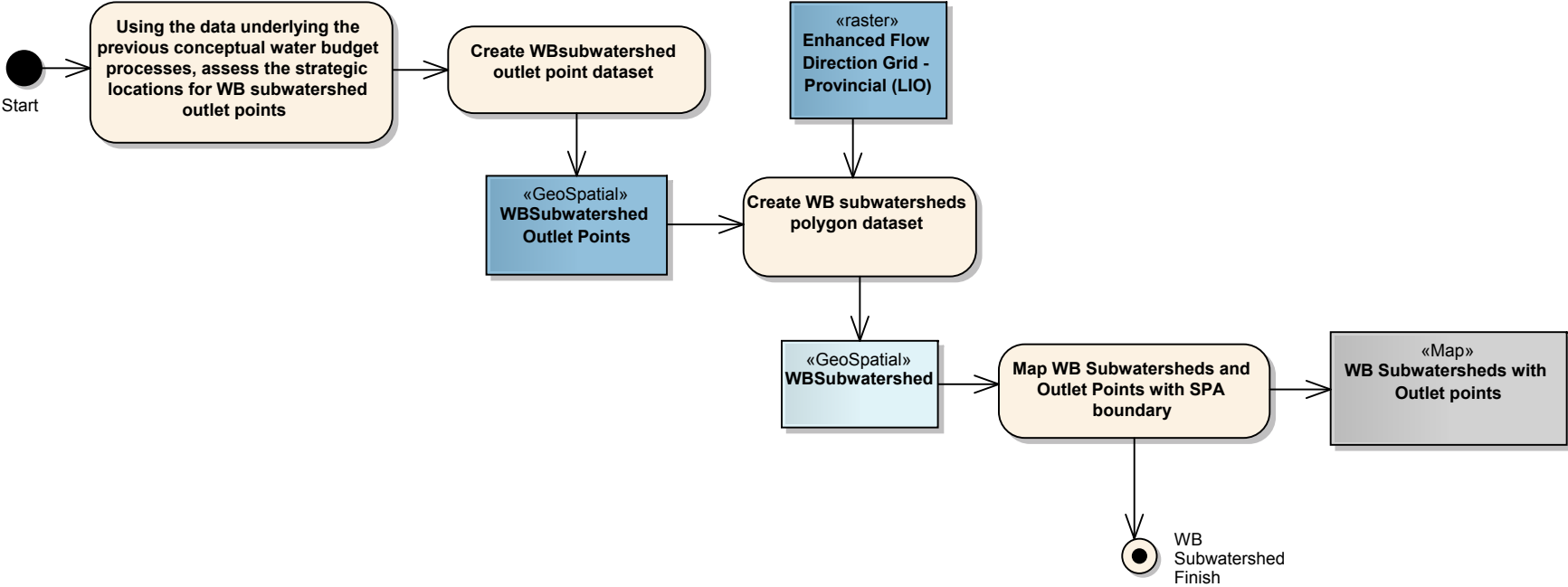
# Assess Groundwater



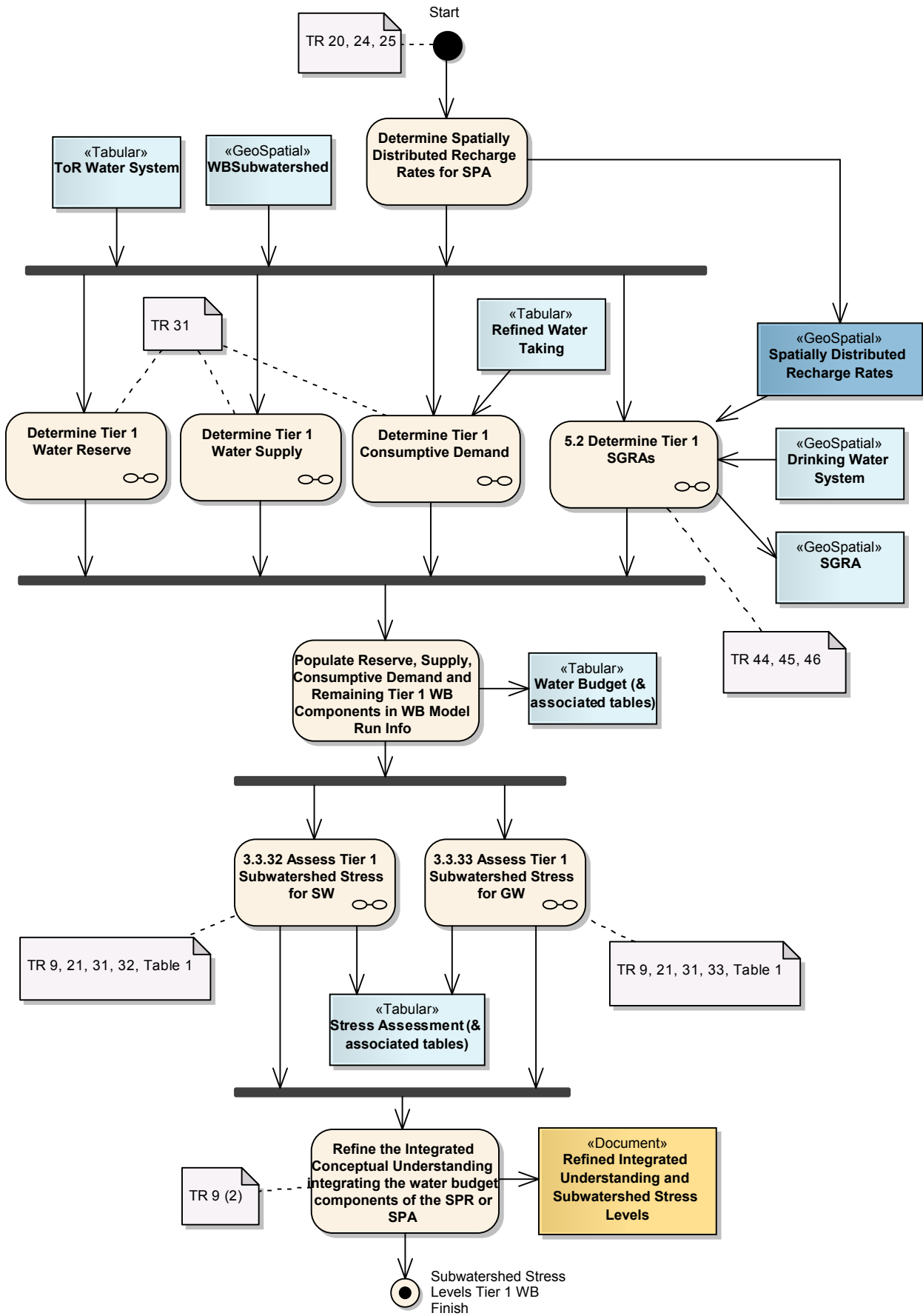
# Assess SW and GW Takings



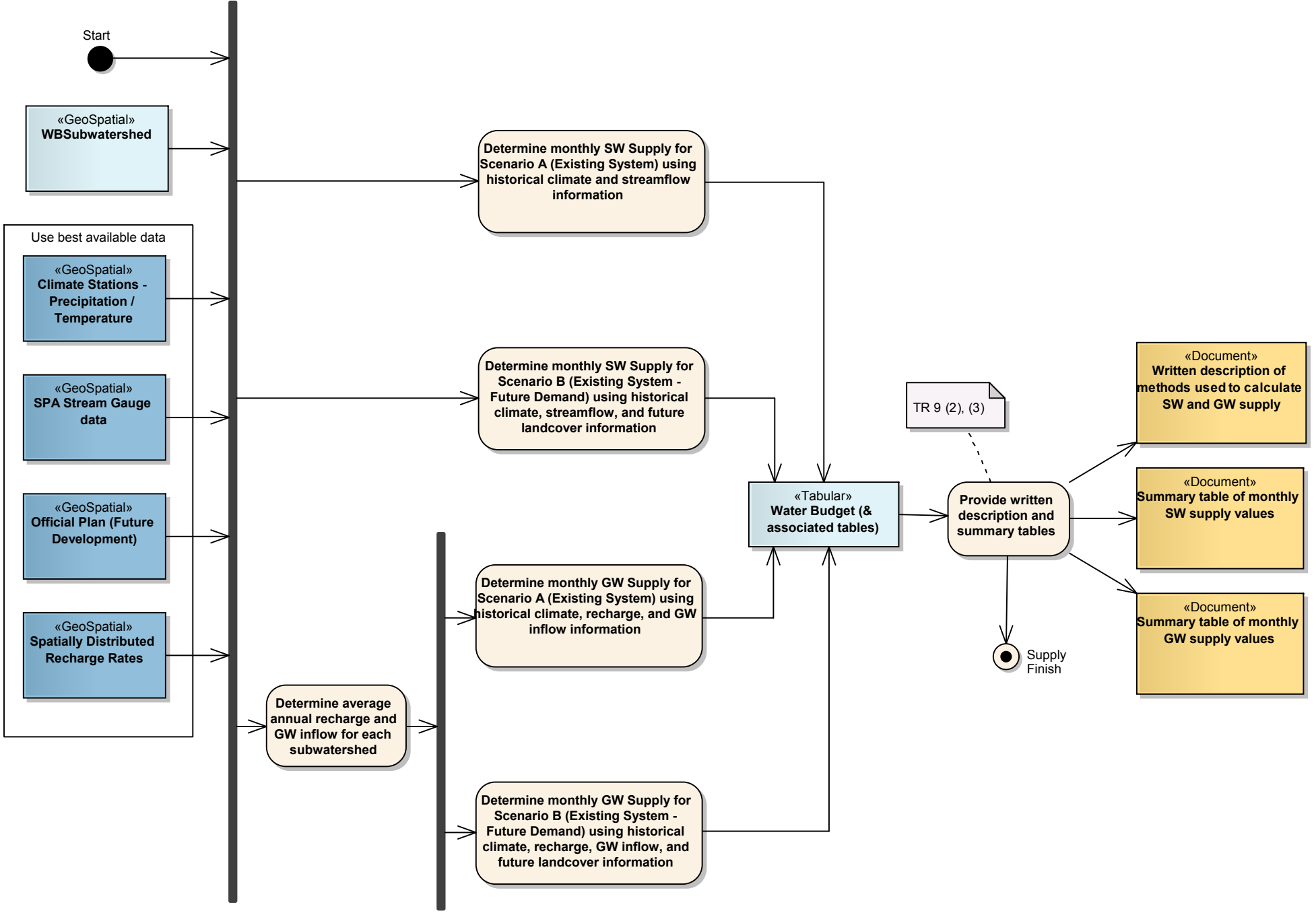
# Create WB SubWatersheds



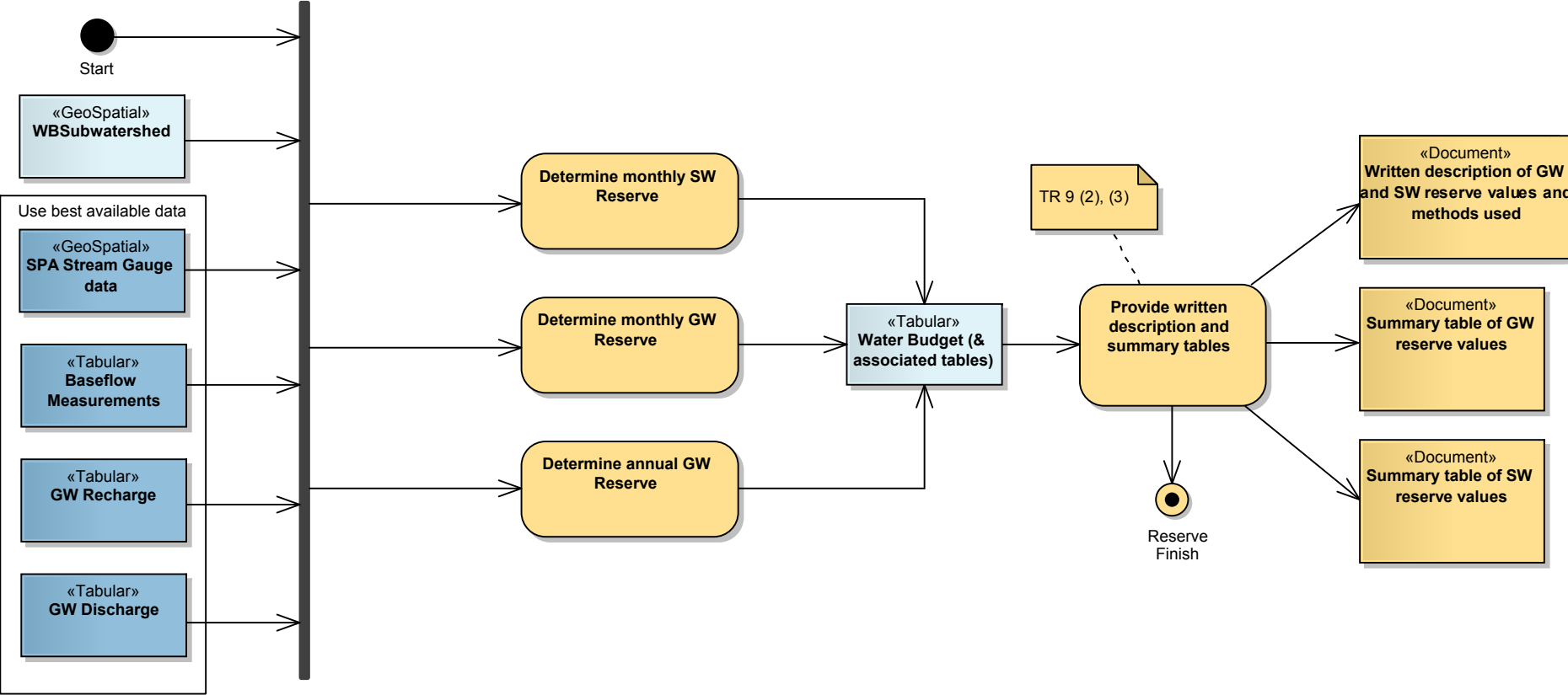
### 3.3 Subwatershed Stress Levels - Tier 1 WB



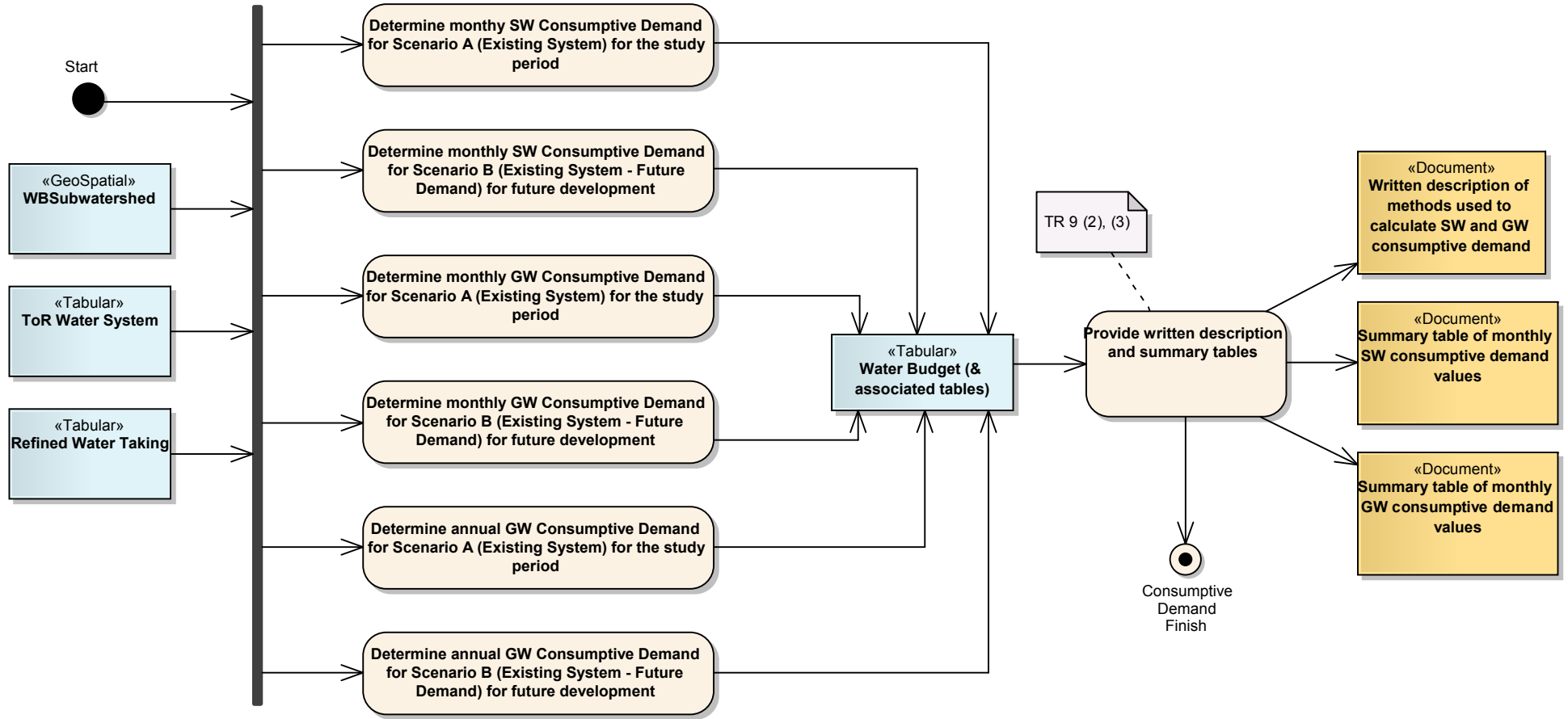
# Determine Tier 1 Water Supply



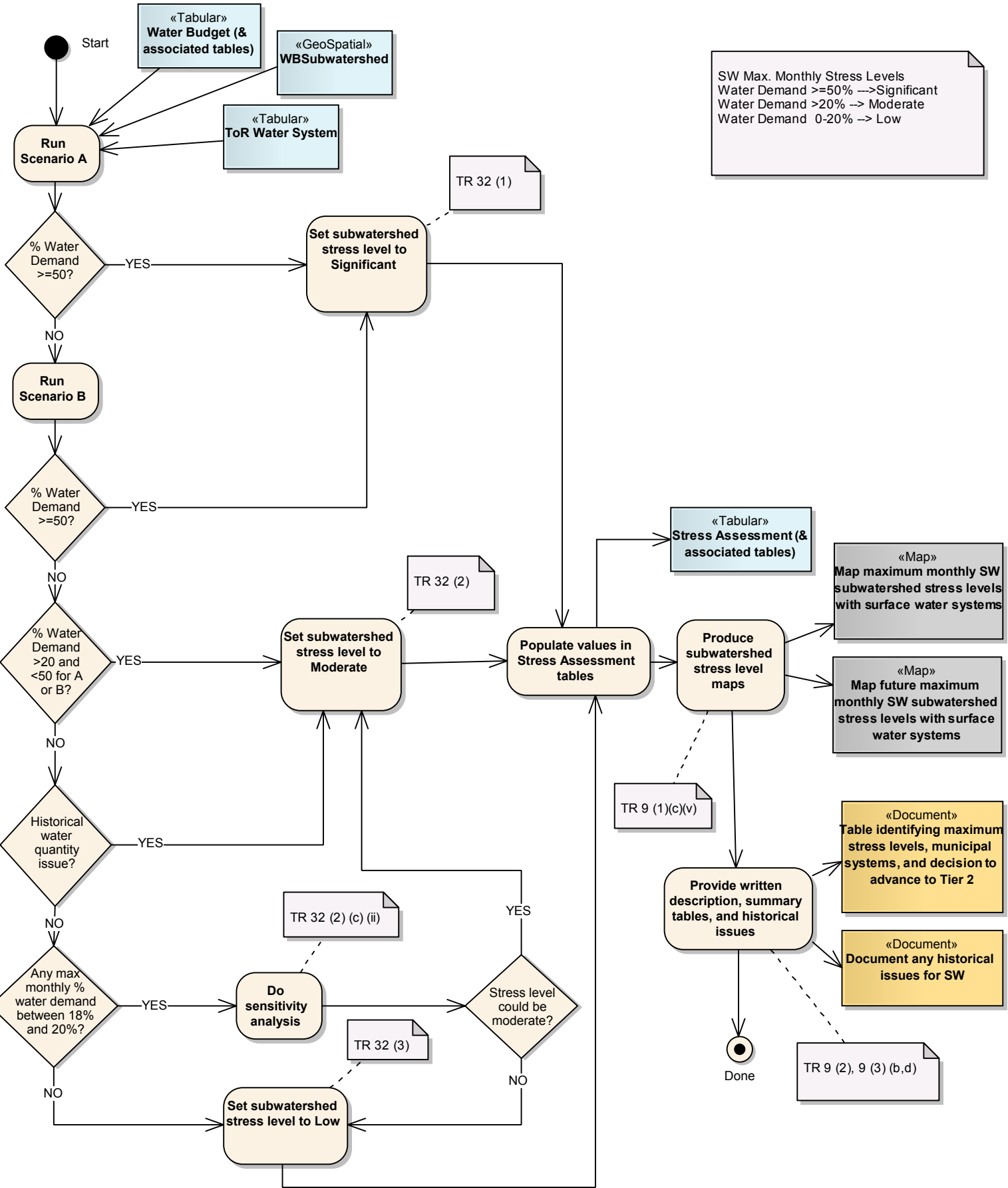
# Determine Tier 1 Water Reserve



# Determine Tier 1 Consumptive Demand

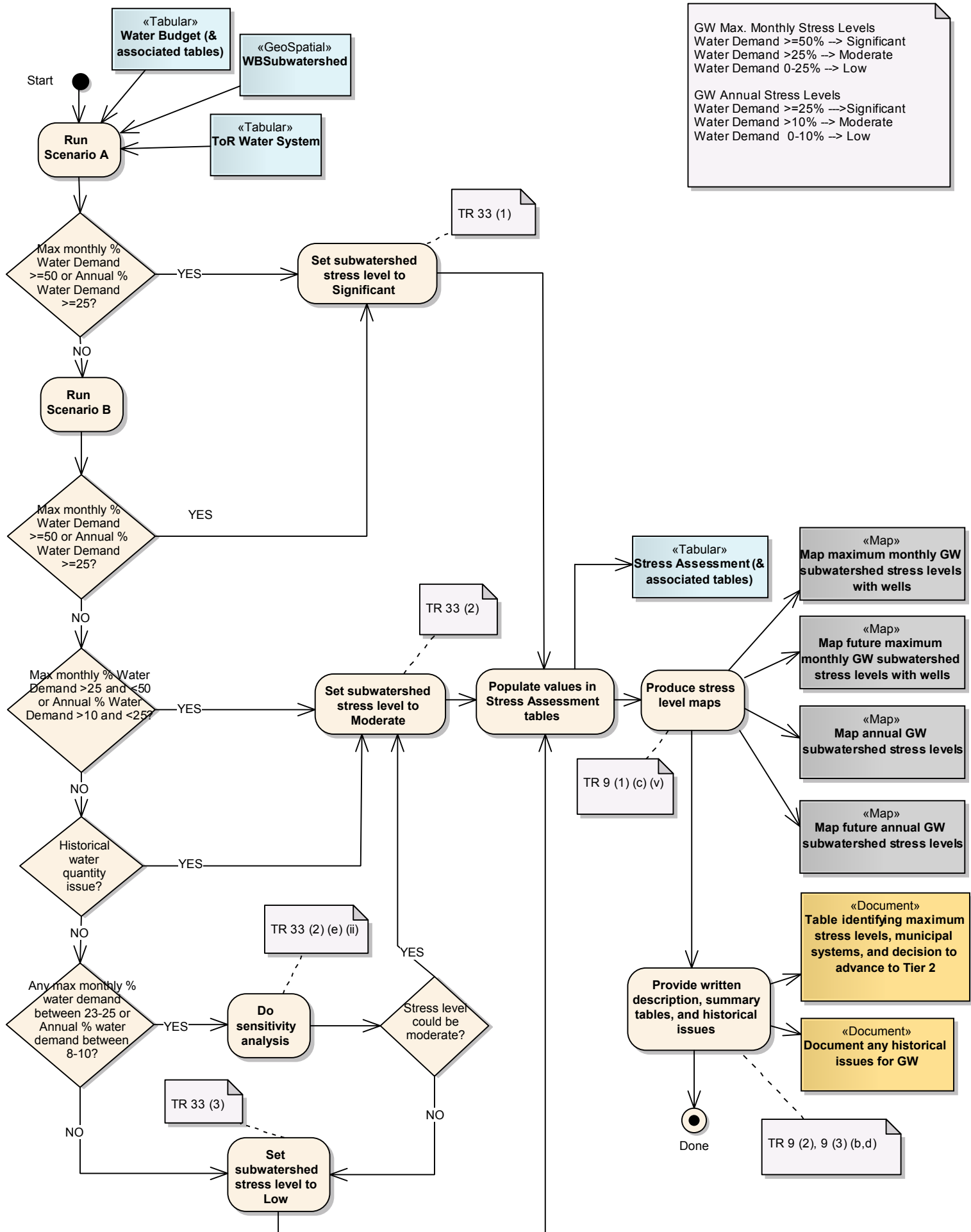


### 3.3.32 Assess Tier 1 Subwatershed Stress for SW

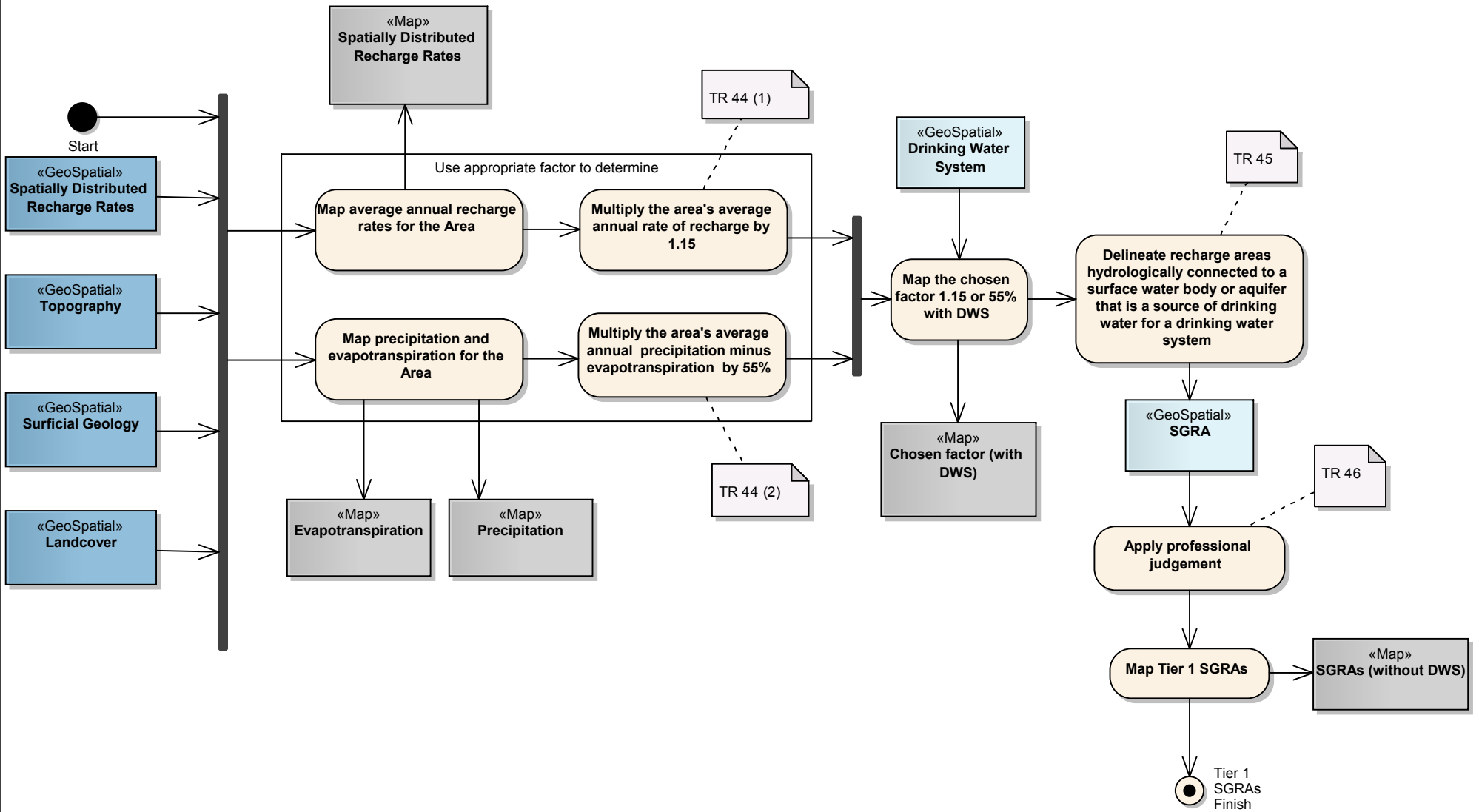




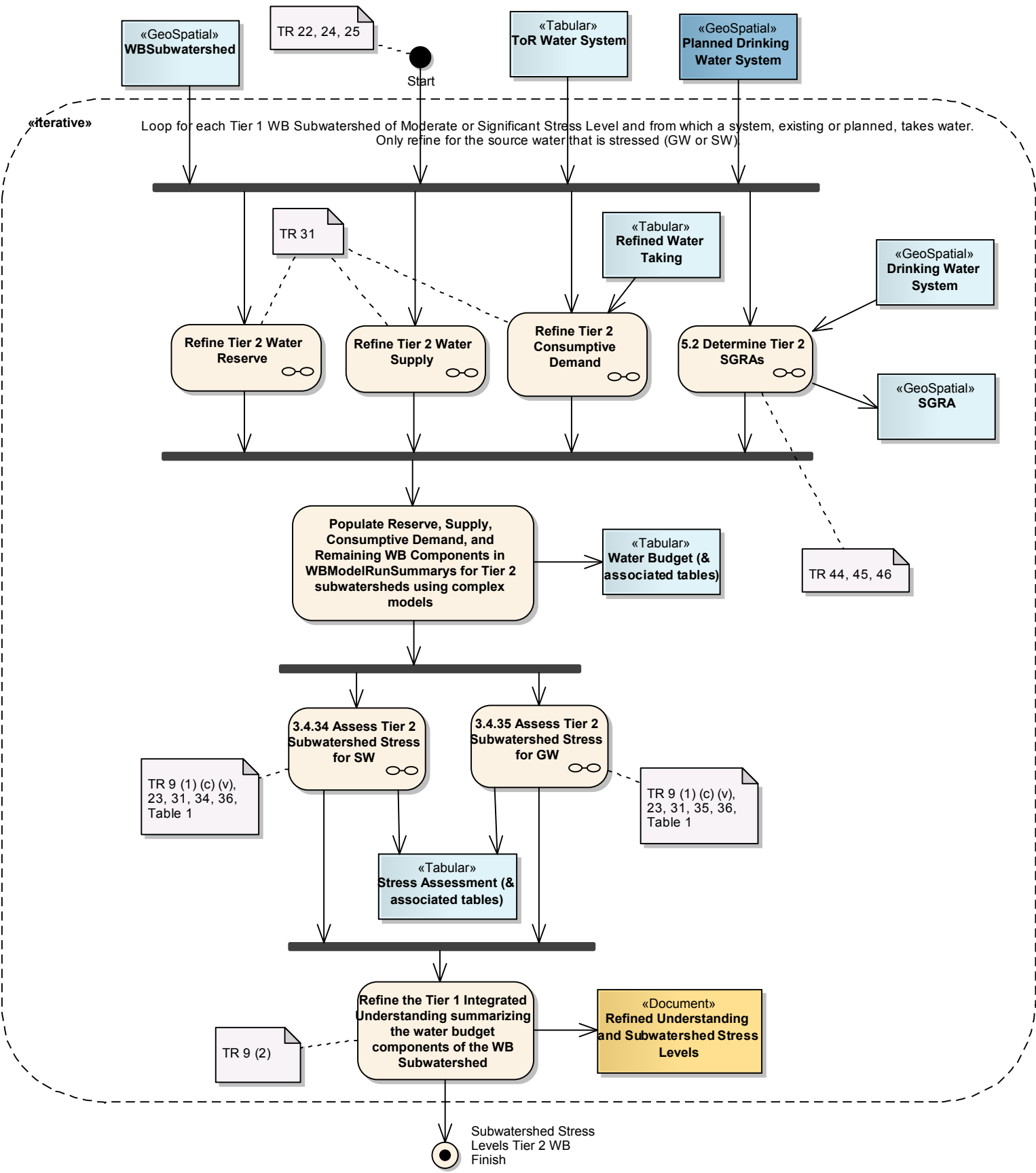
### 3.3.33 Assess Tier 1 Subwatershed Stress for GW



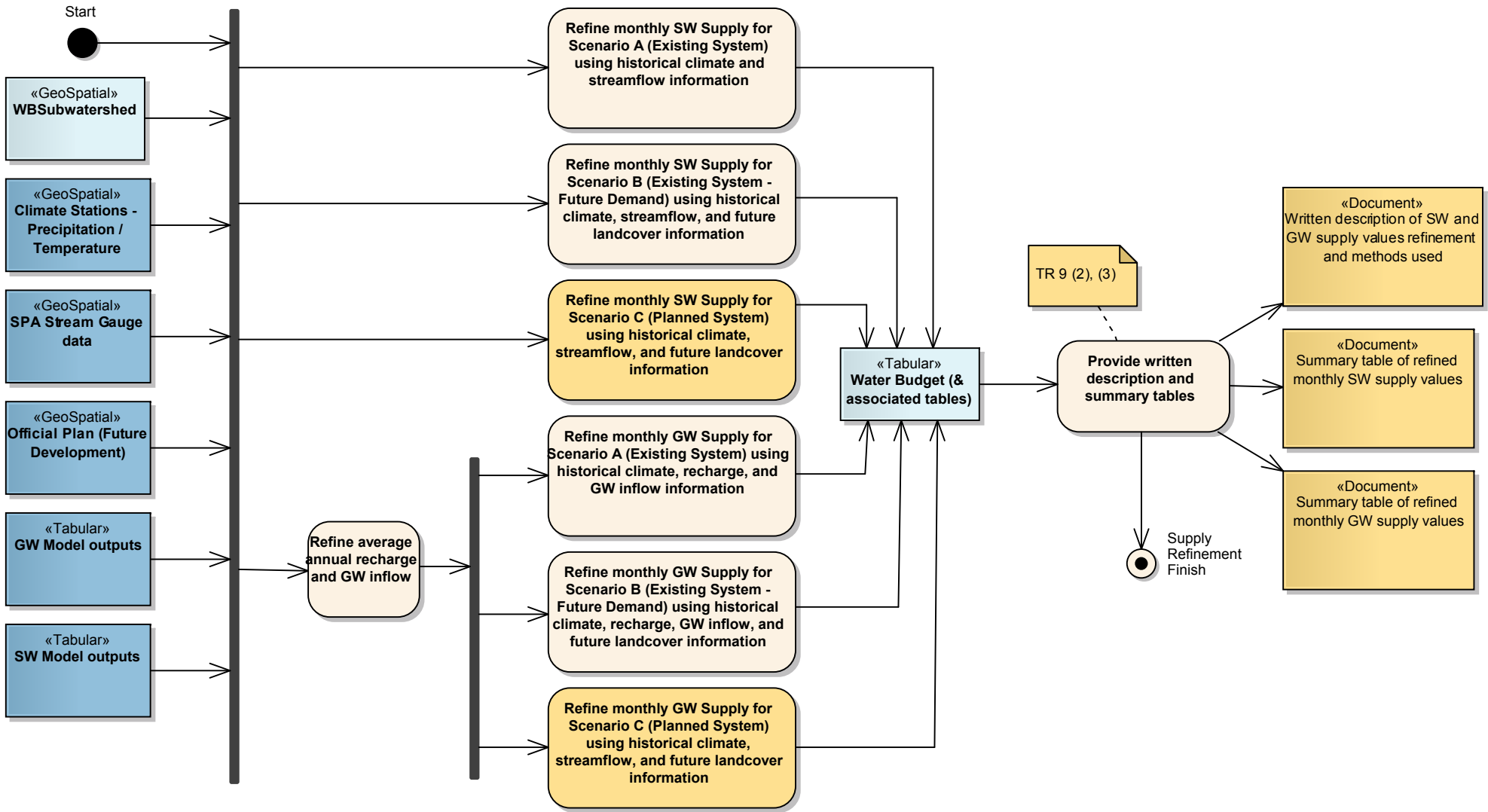
## 5.2 Determine Tier 1 SGRAs



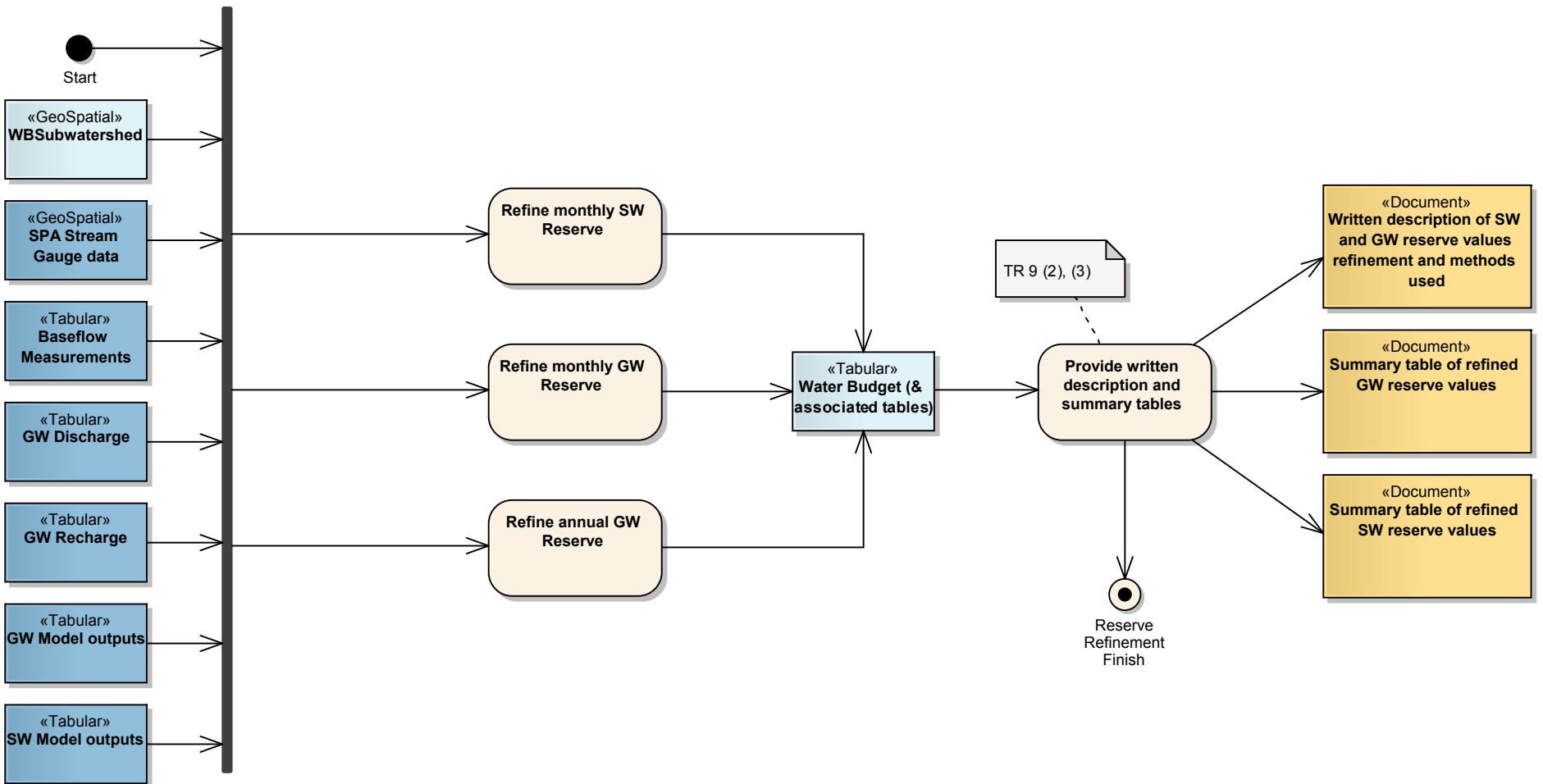
### 3.4 Subwatershed Stress Levels - Tier 2 WB



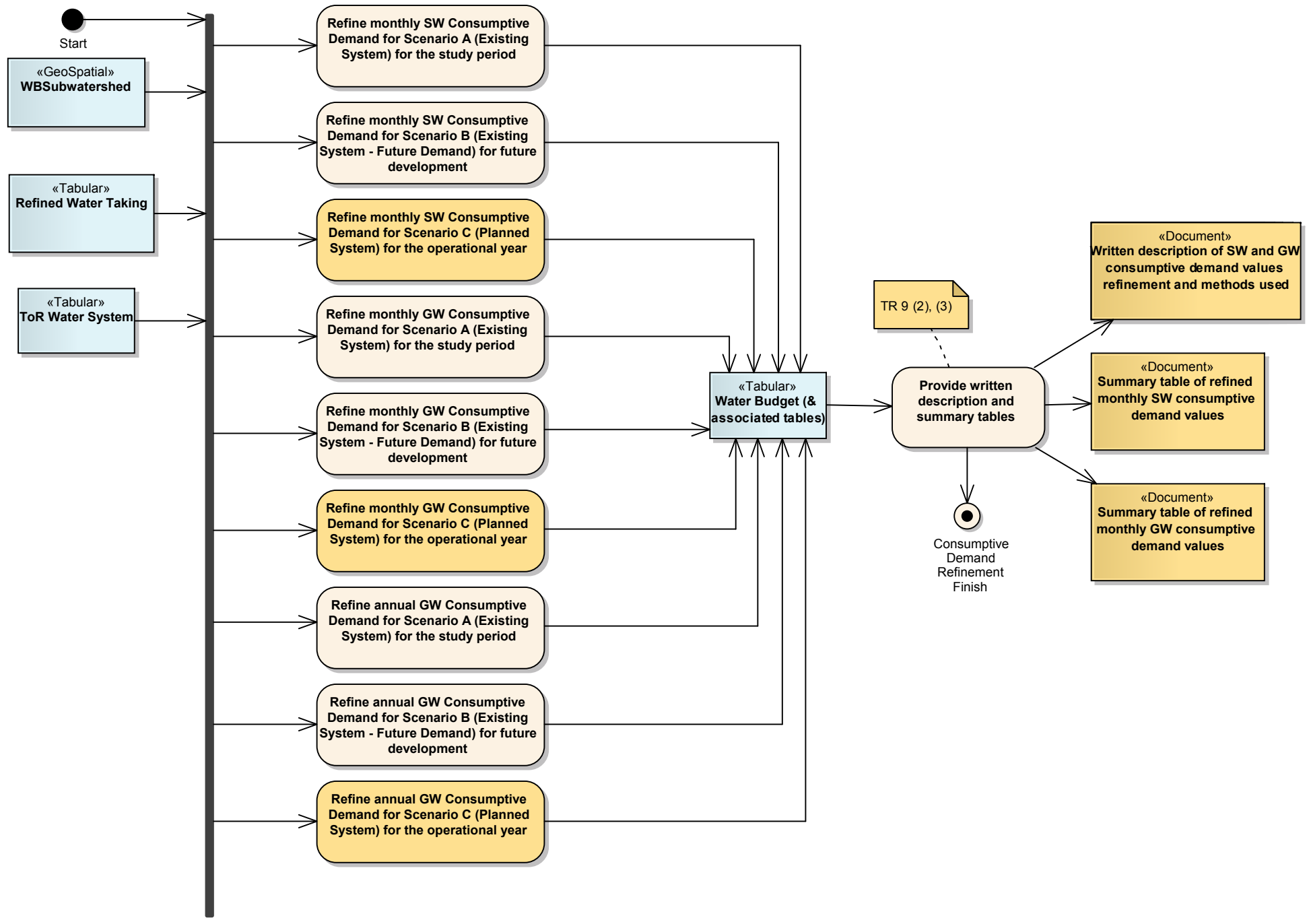
# Refine Tier 2 Water Supply



# Refine Tier 2 Water Reserve

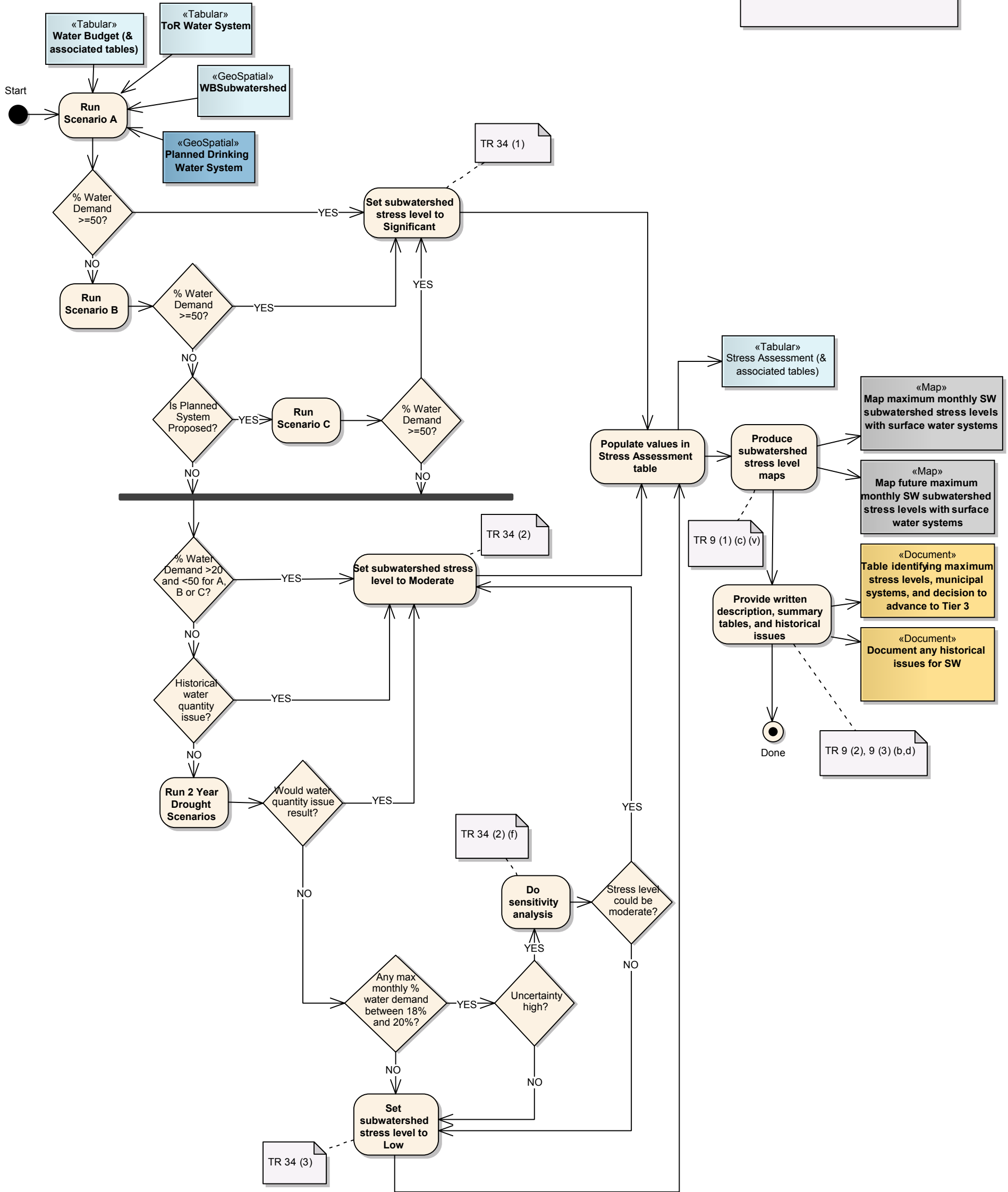


# Refine Tier 2 Consumptive Demand

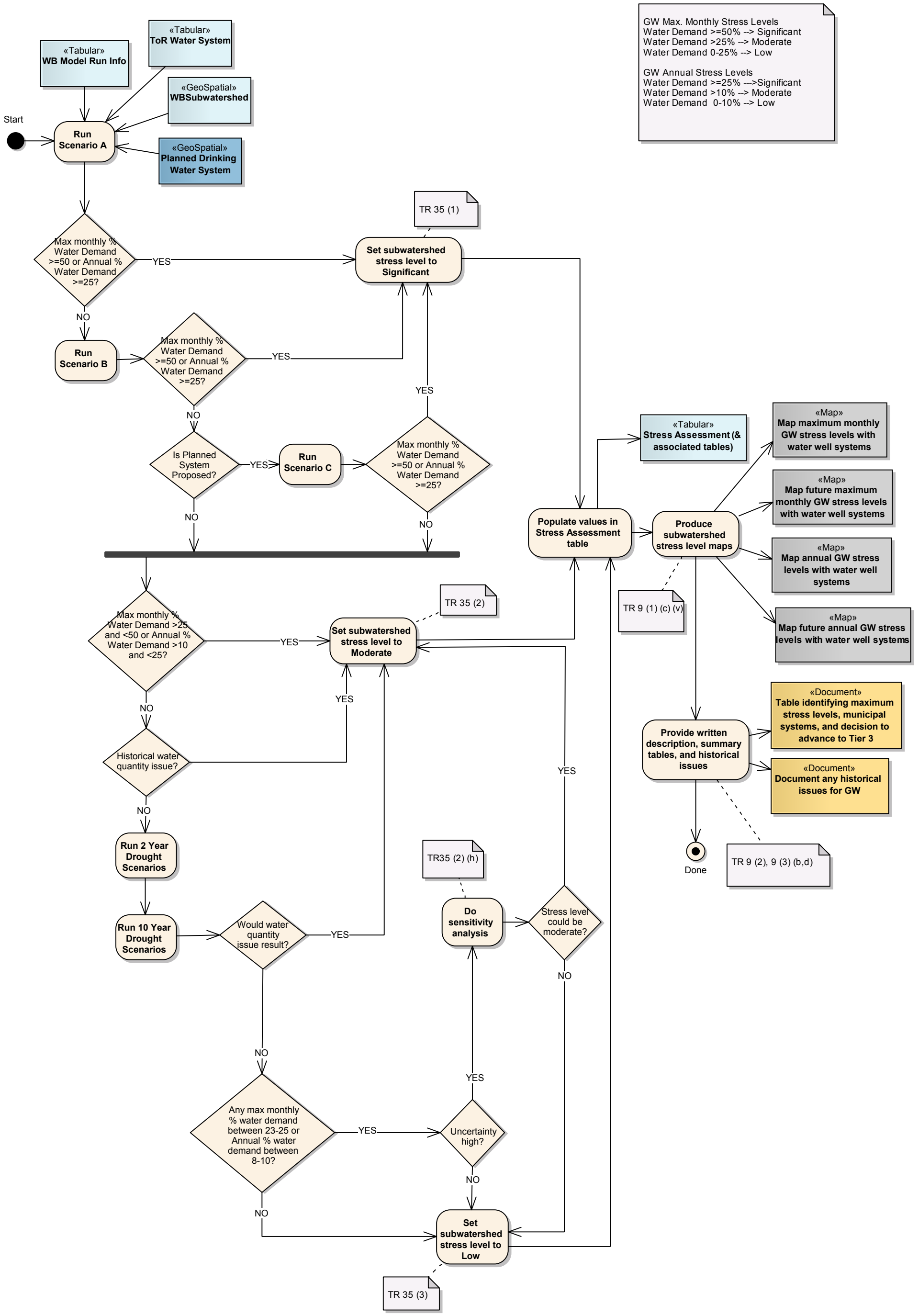


### 3.4.34 Assess Tier 2 Subwatershed Stress for SW

SW Max. Monthly Stress Levels  
 Water Demand >=50% -> Significant  
 Water Demand >20% -> Moderate  
 Water Demand 0-20% -> Low

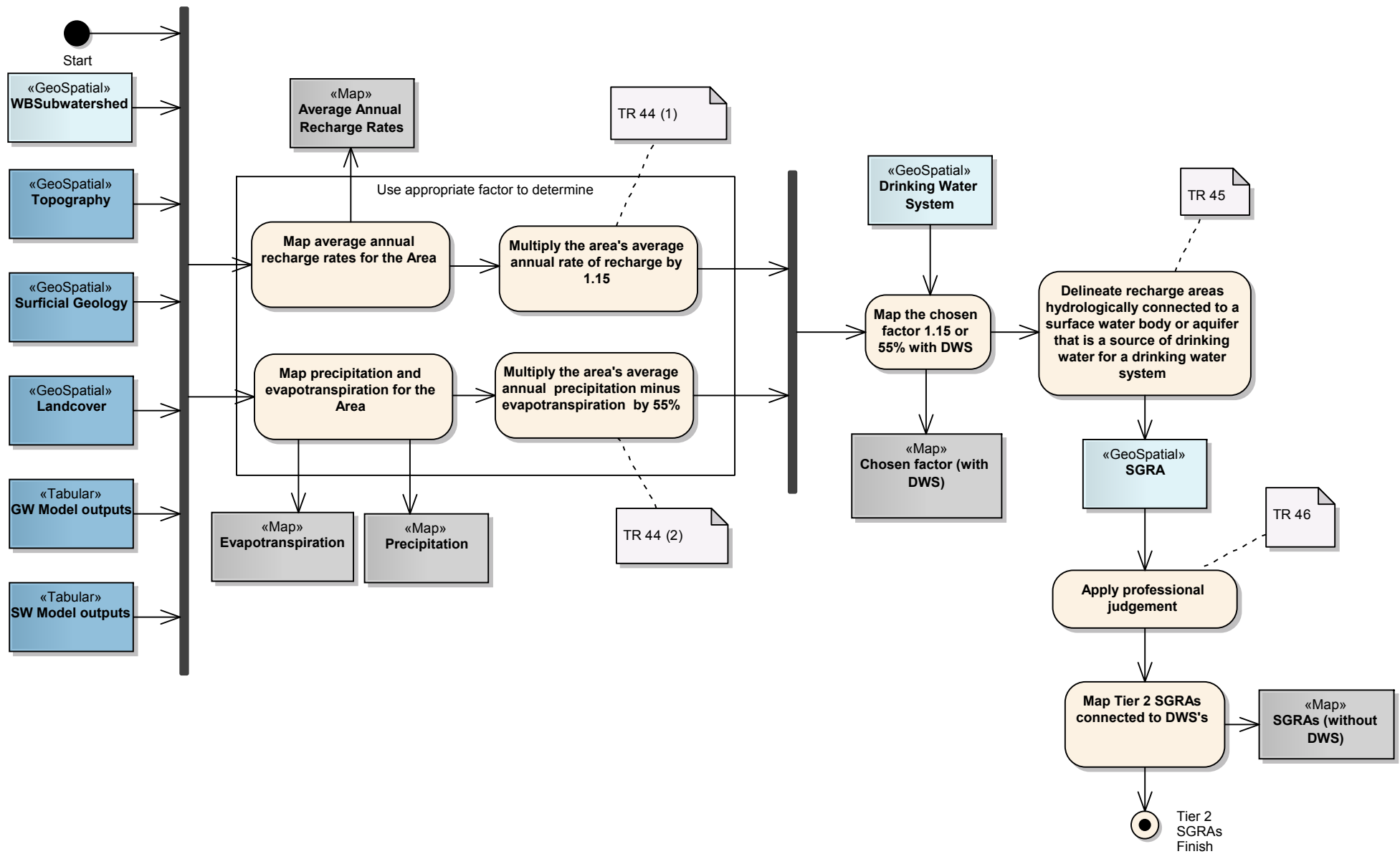


### 3.4.35 Assess Tier 2 Subwatershed Stress for GW

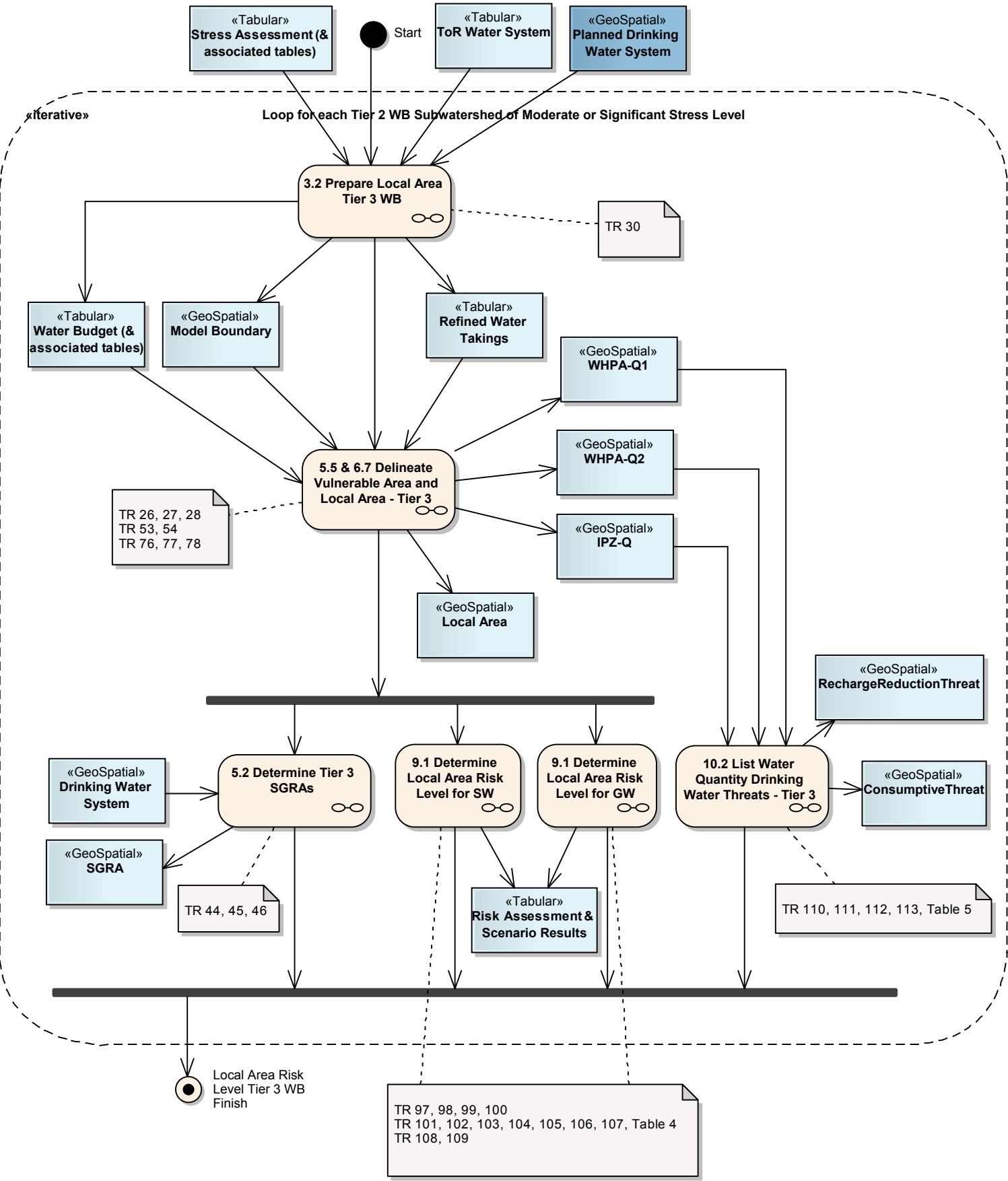




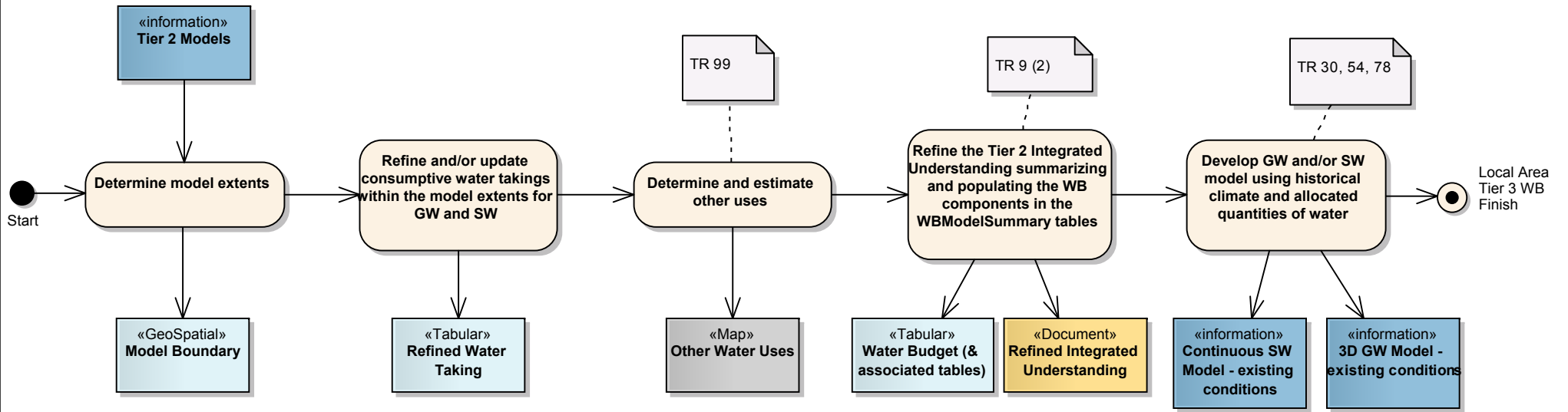
## 5.2 Determine Tier 2 SGRAs



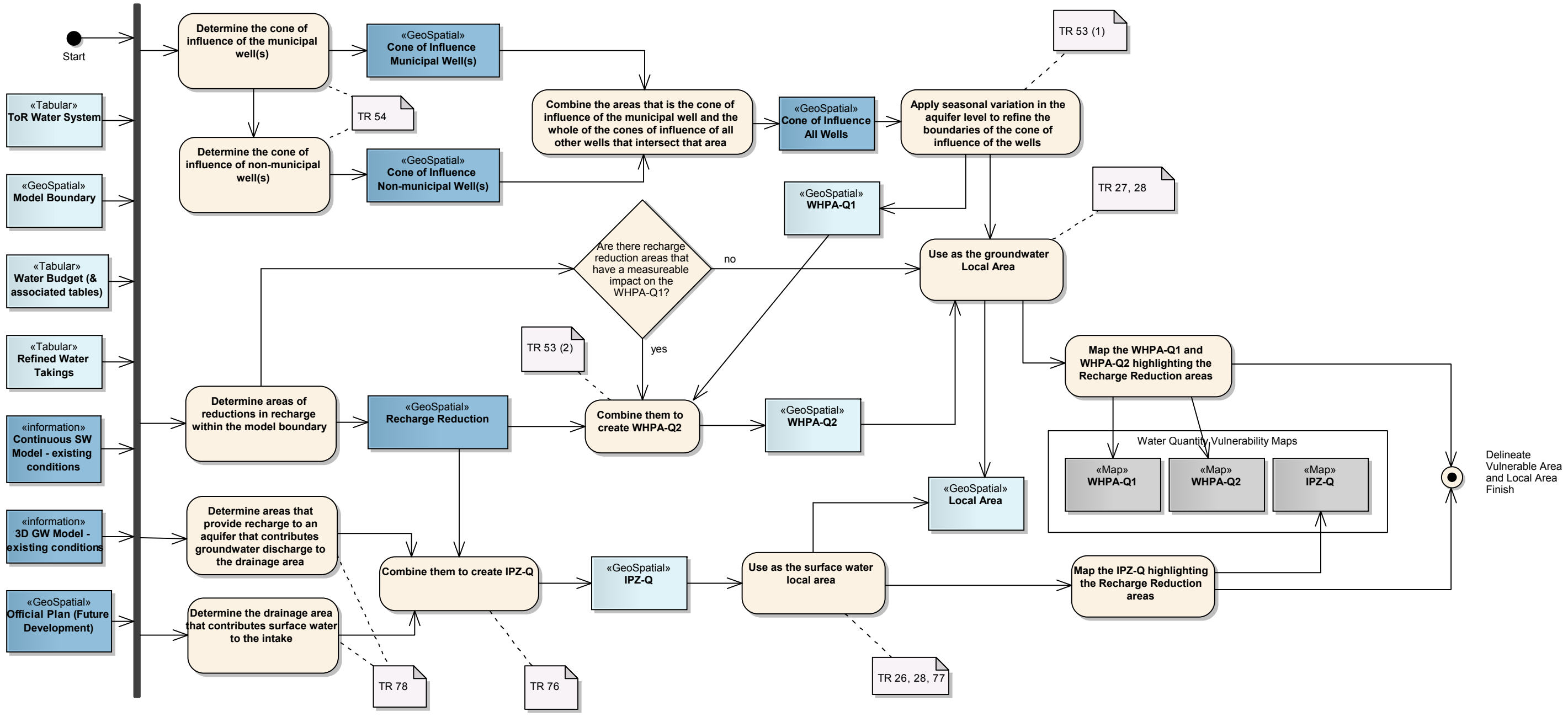
# 9.0 Local Area Risk Level - Tier 3 WB



### 3.2 Prepare Local Area Tier 3 Water Budget

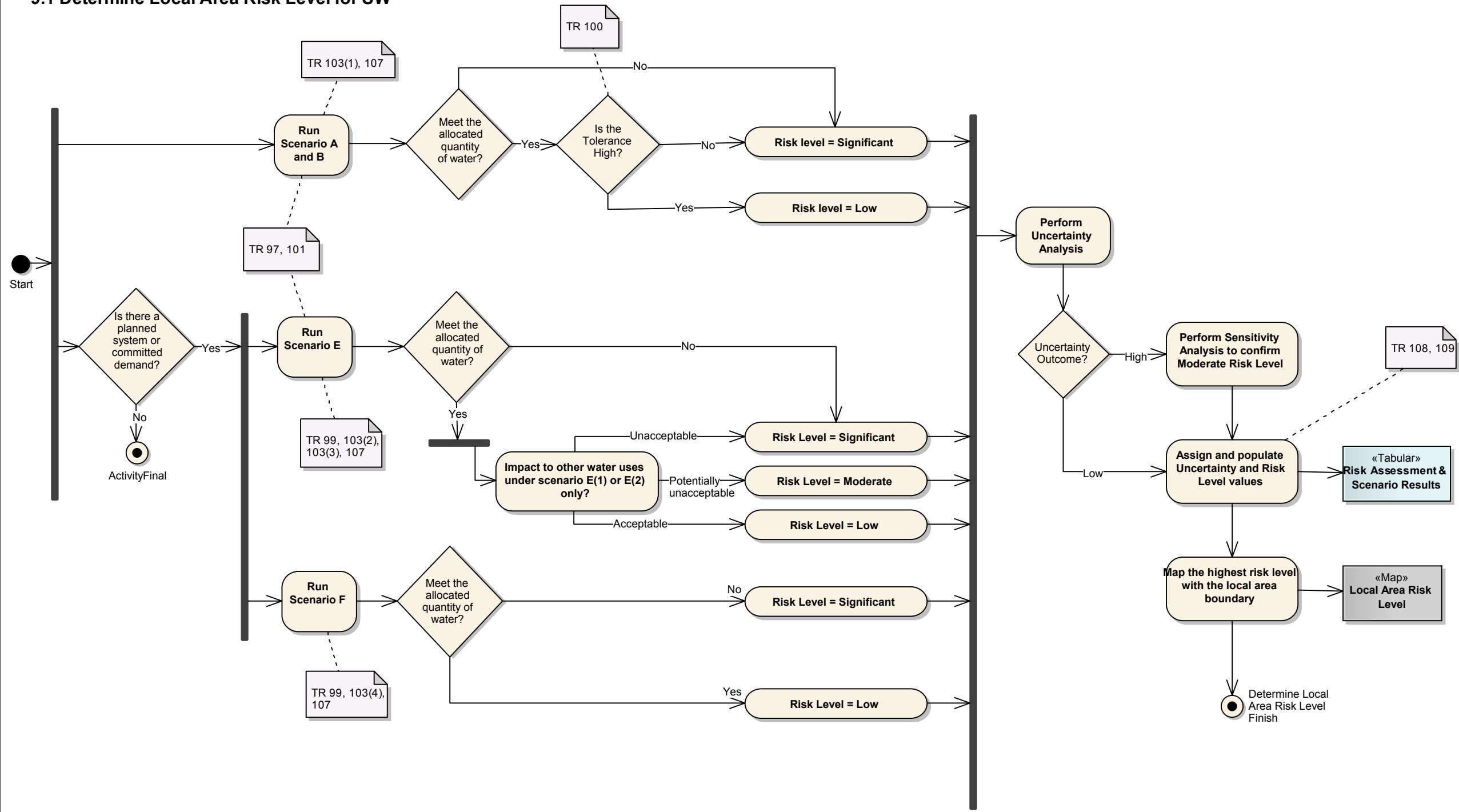


5.5 & 6.7 Delineate Vulnerable Area and Local Area - Tier 3

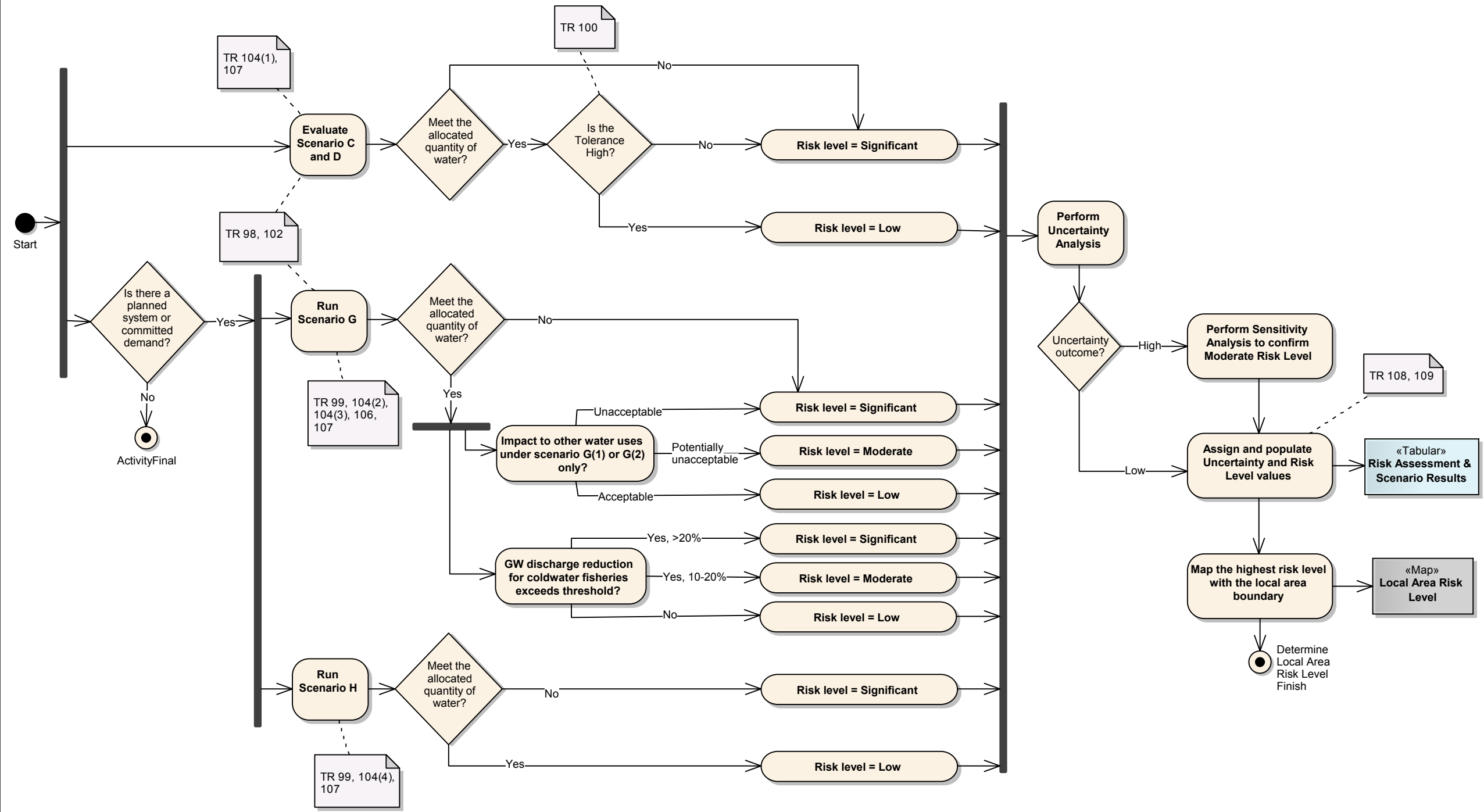


Delineate Vulnerable Area and Local Area Finish

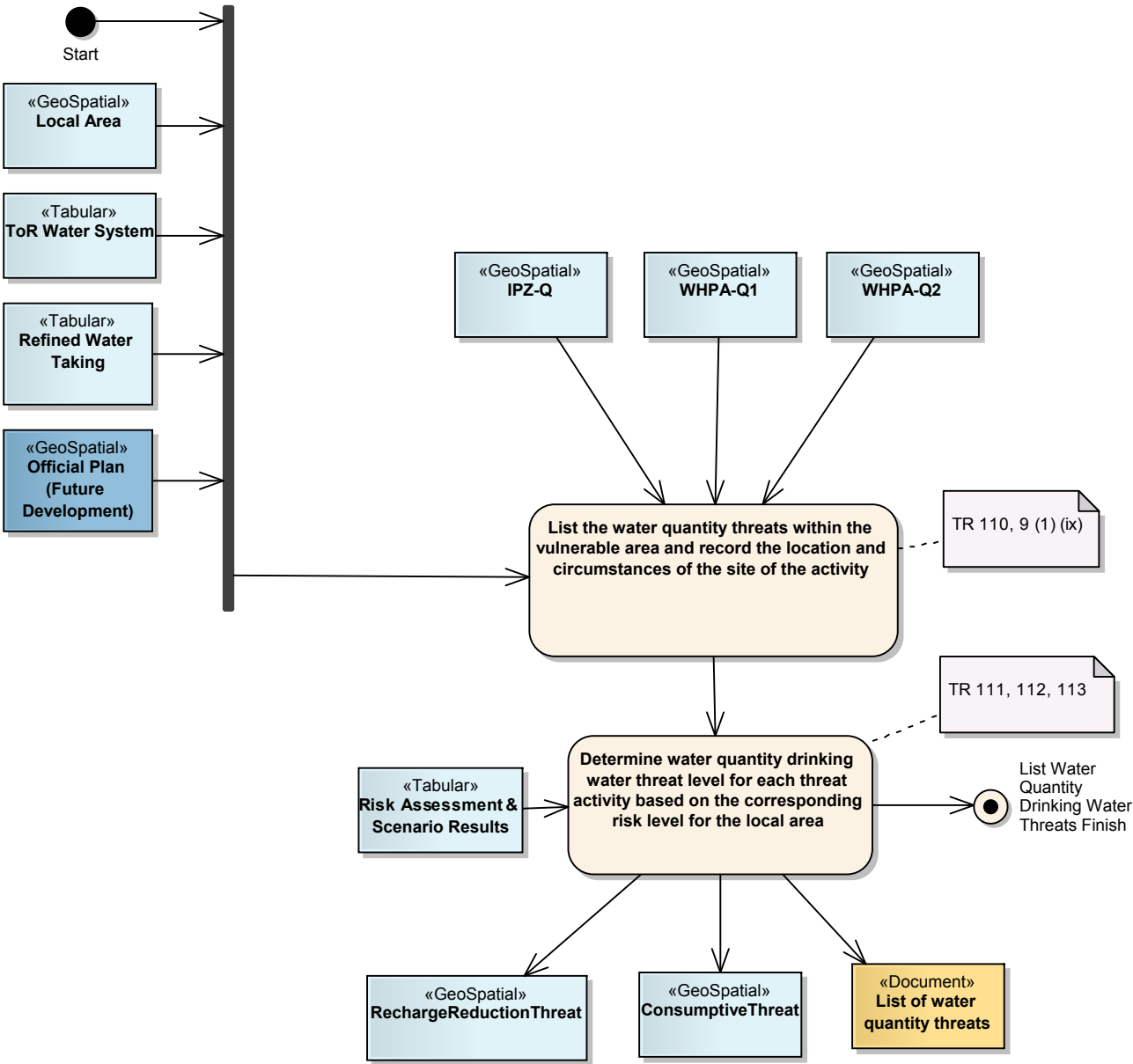
# 9.1 Determine Local Area Risk Level for SW



# 9.1 Determine Local Area Risk Level for GW



# 10.2 List Water Quantity Drinking Water Threats - Tier 3



## 5.2 Determine Tier 3 SGRAs

