



# Does a Facility Need a Permit? NWPR Screening Toolkit

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# What do we want to get accomplished today?

- Understand the importance of flow regime to the NWPR
- Why do we need a NWPR screening toolkit?
- Explain how the toolkit works
- Answer your immediate questions about what you see today
- Plan for your input

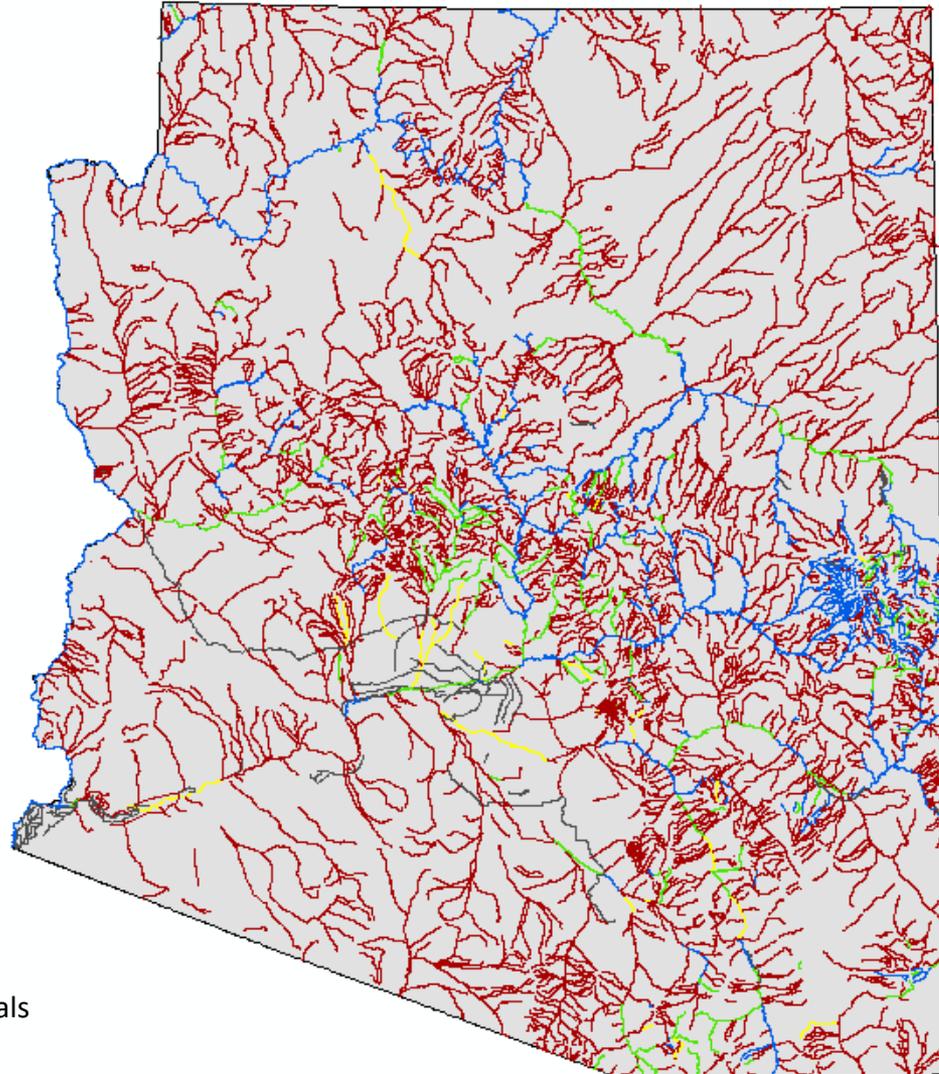
# Flow Regime Maps

**80%**

Undetermined

## Flow Regime Designations

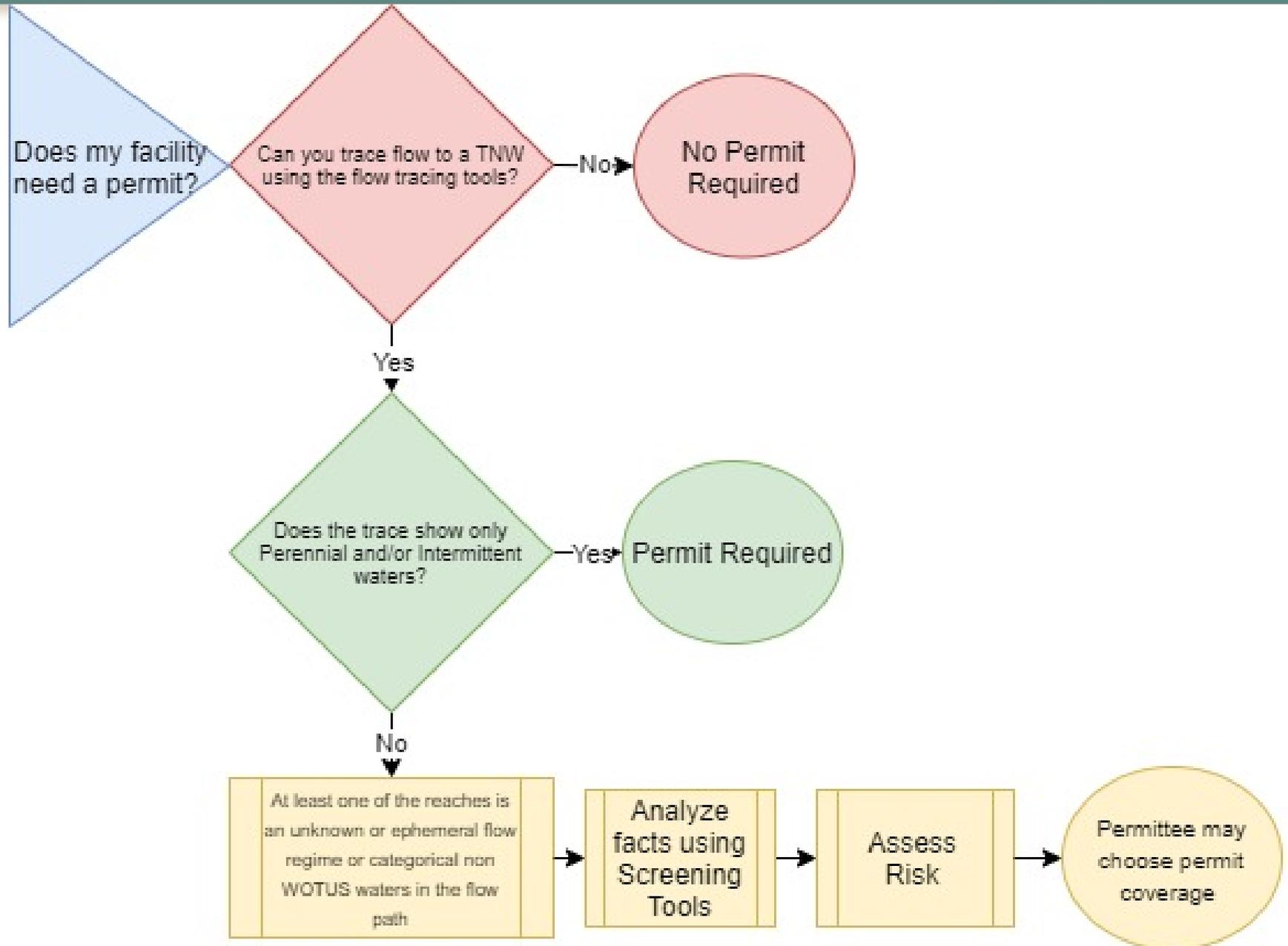
- Perennial
- Intermittent
- Ephemeral
- Not Applicable - Canal
- Undetermined



## Data sources ADEQ flow regime

- Arizona Department of Environmental Quality
- Arizona Game & Fish Department
- Maricopa County Flood Control District
- Arizona Nonpoint Education for Municipal Officials
- United States Geological Survey

# NWPR Screening Toolkit



- **USGS Streamflow-Rain Drop**
  - Trace path of hydrologic flow
- **ADEQ GIS**
  - Flow regime
  - Channelized conveyance
- **NAIPS-near Infrared Vegetation**
  - Riparian Vegetation
- **Google Earth Pro**
  - Visual evidence of flow
  - Channelized conveyance
  - Elevation
- **ADEQ-Surface water monitoring data**
  - Presence of contaminants
- **ADWR-Groundwater Site Inventory**
  - Groundwater elevation
- **AZGS GIS layers**
  - Surficial bedrock



# The USGS Streamflow Statistics and Spatial Analysis Tools for Water-Resources

DITAT DEUS

## Exploration Tools

### General

→ Measure Tool

↗ Elevation Profile Tool

📍 Show Your Location

### Network Navigation

💧 Flow (Raindrop) Path

↔ Network Path

🗺 Network Trace

### Other

PROSPER Tool

## Layers

Base Maps

National Layers

## Flow (Raindrop) Path

Trace flow path of a specified point through the network.

Start point location **(Required)**

📍 Select Point On Map

Limit **(Optional)**

Distance (km) 10

👉 Go

Zoom Level: 7  
Map Scale: 1:4,622,324  
Lat: 32.9533, Lon: -105.5675

100 km  
50 Miles

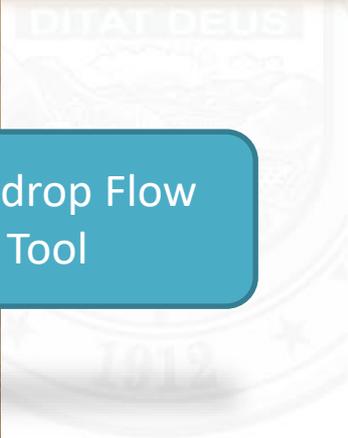


# Use Cases Terminal Basin

# City of Kingman Hilltop WWTP

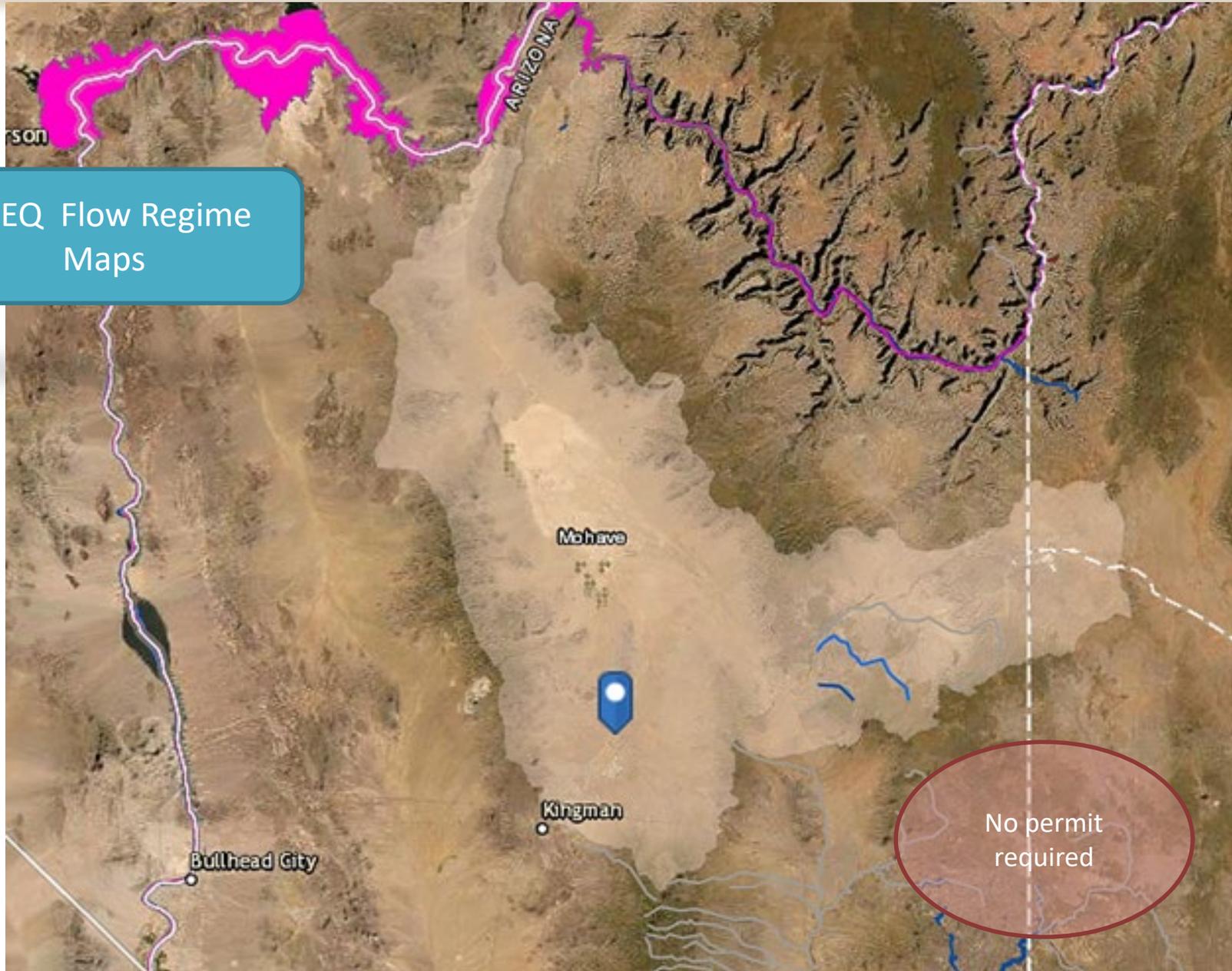


USGS Raindrop Flow  
Path Tool



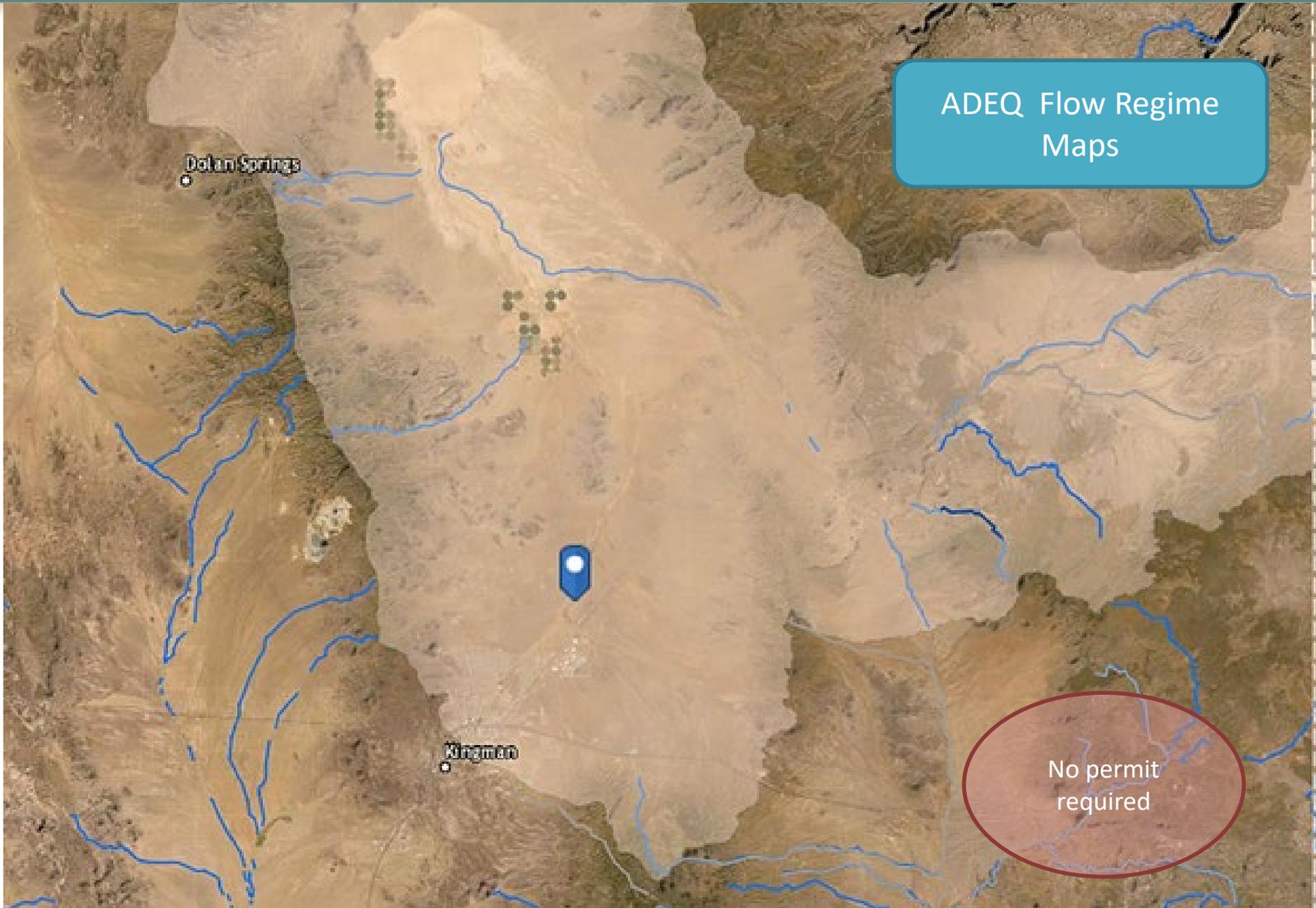
# City of Kingman Hilltop WWTP

ADEQ Flow Regime  
Maps



No permit  
required

# City of Kingman Hilltop WWTP

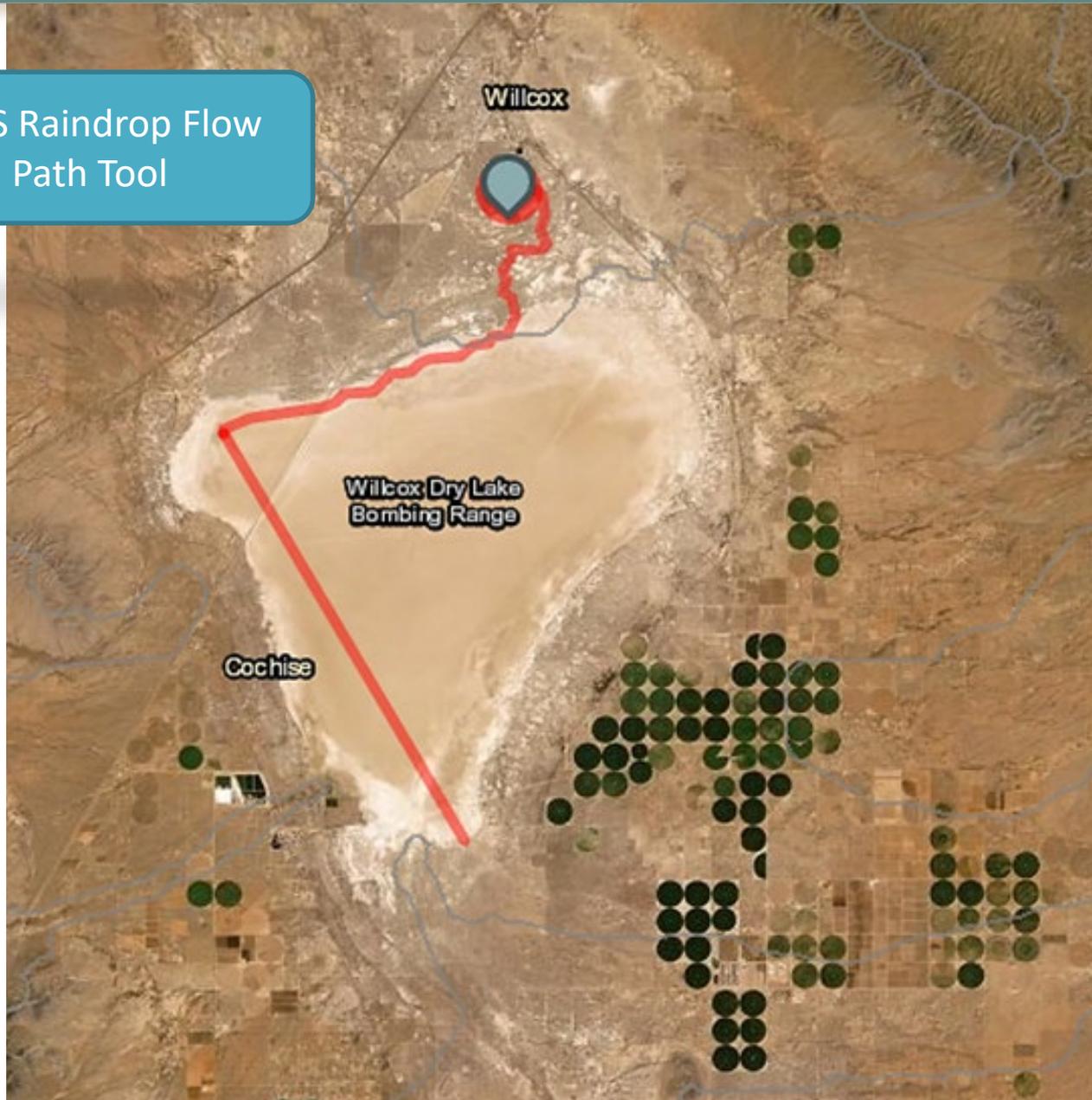


ADEQ Flow Regime  
Maps

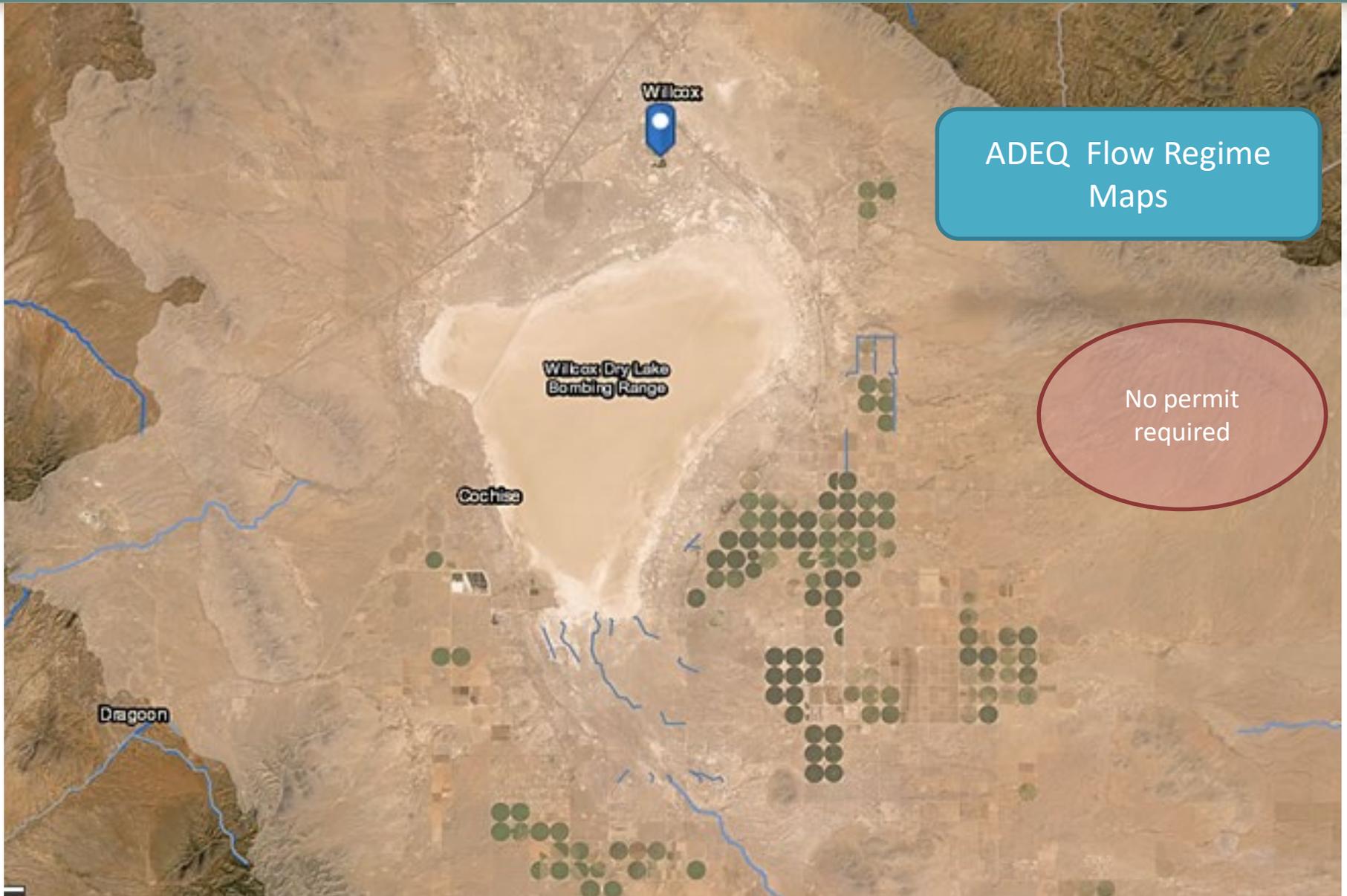
No permit  
required

# City of Willcox WWTP

USGS Raindrop Flow  
Path Tool



# City of Willcox WWTP





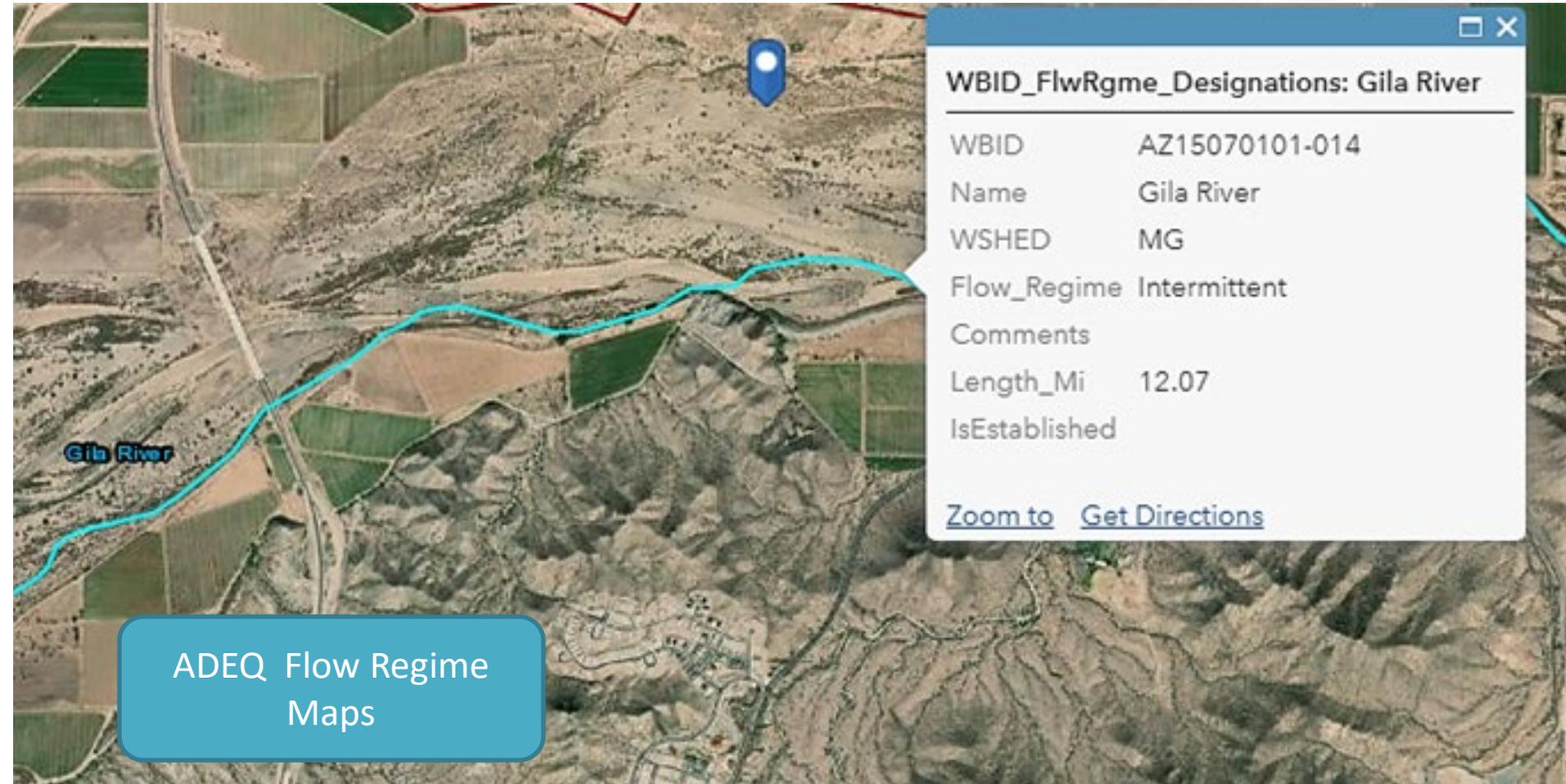
## Use Case

**Discharge to a WOTUS via relatively permanent waters**



USGS Raindrop Flow  
Path Tool

DITAT DEUS



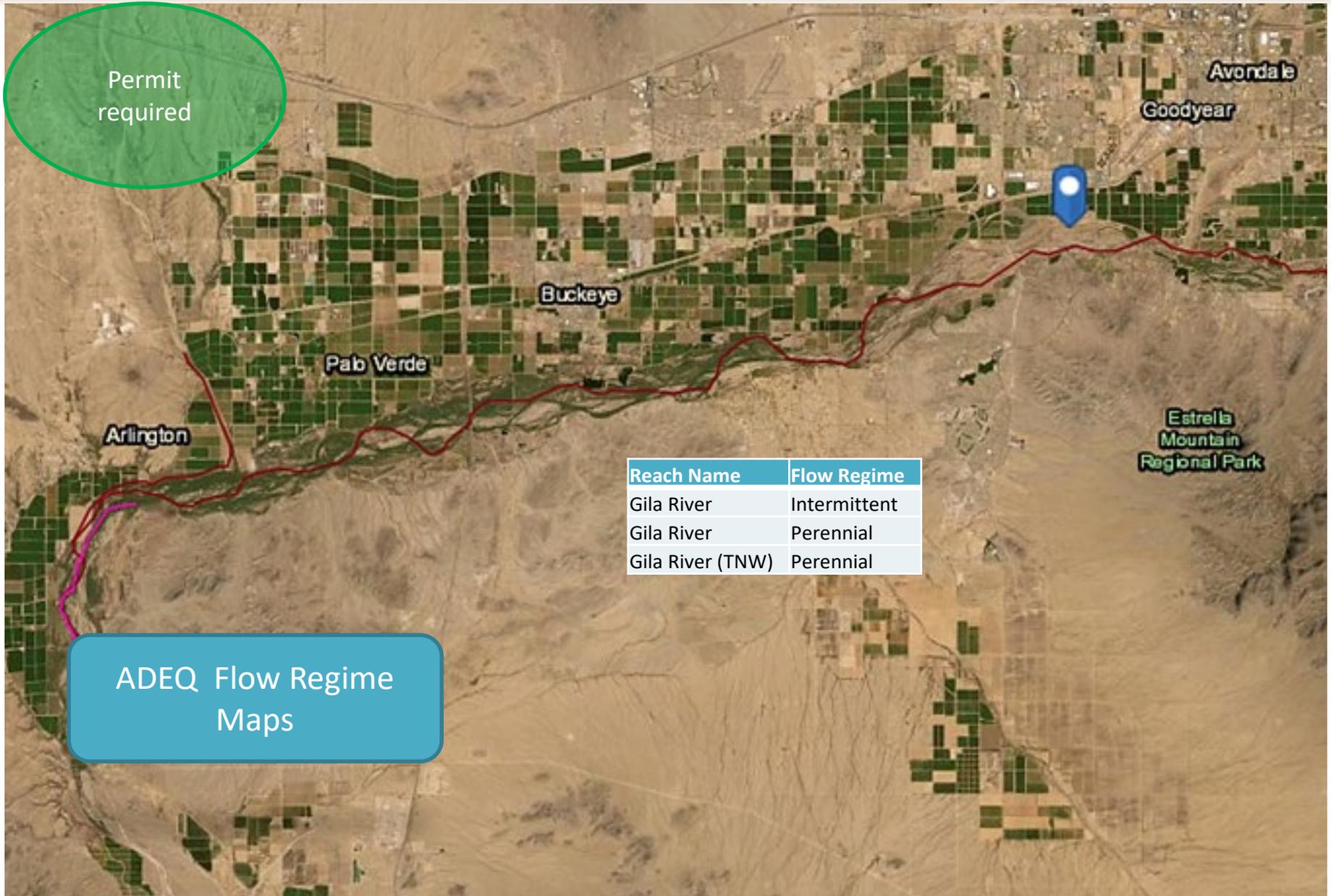
**WBID\_FlwRgme\_Designations: Gila River**

WBID	AZ15070101-014
Name	Gila River
WSHED	MG
Flow_Regime	Intermittent
Comments	
Length_Mi	12.07
IsEstablished	

[Zoom to](#) [Get Directions](#)

ADEQ Flow Regime  
Maps

# City of Goodyear 157th Ave Water Reclamation Facility

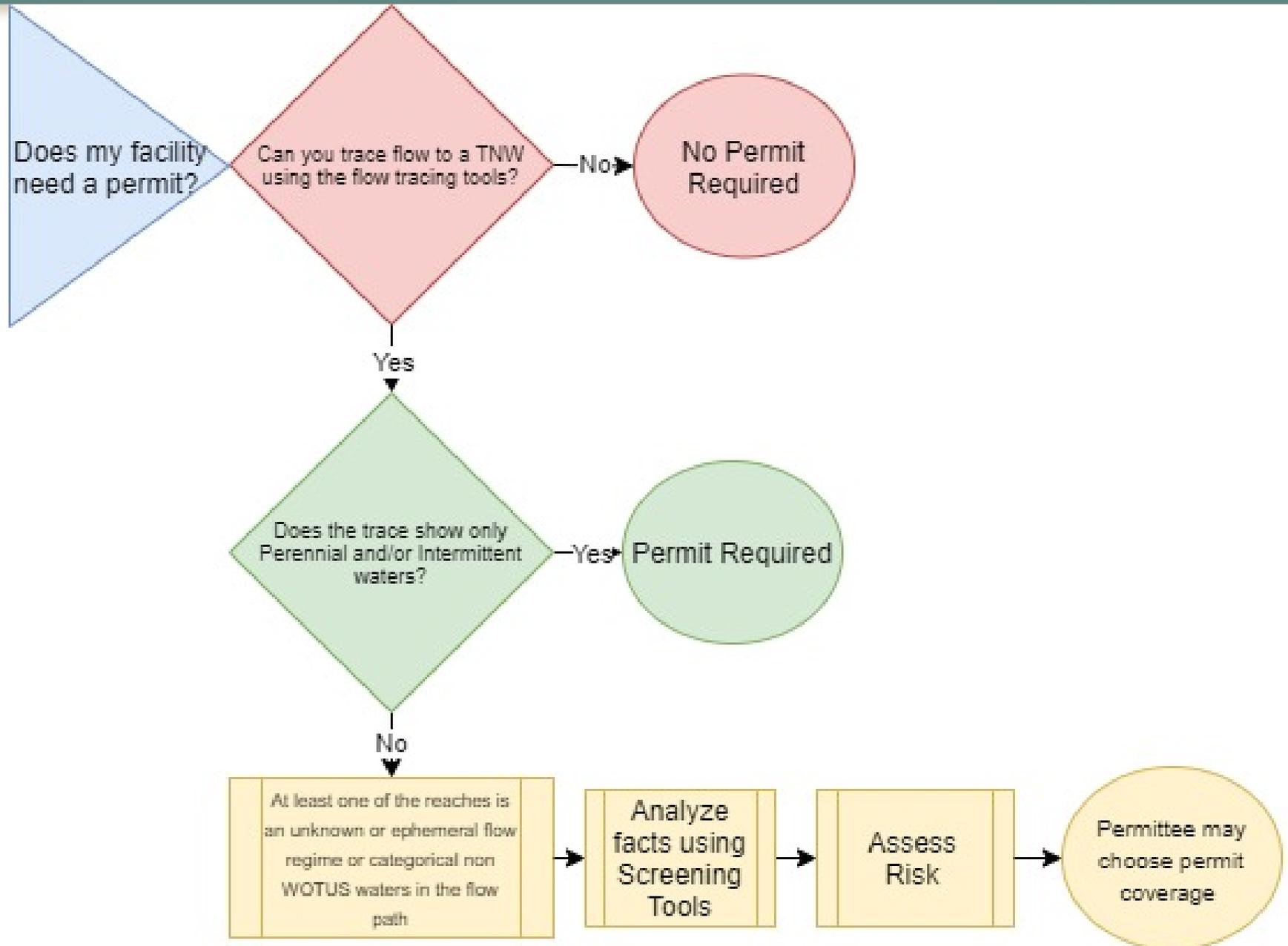


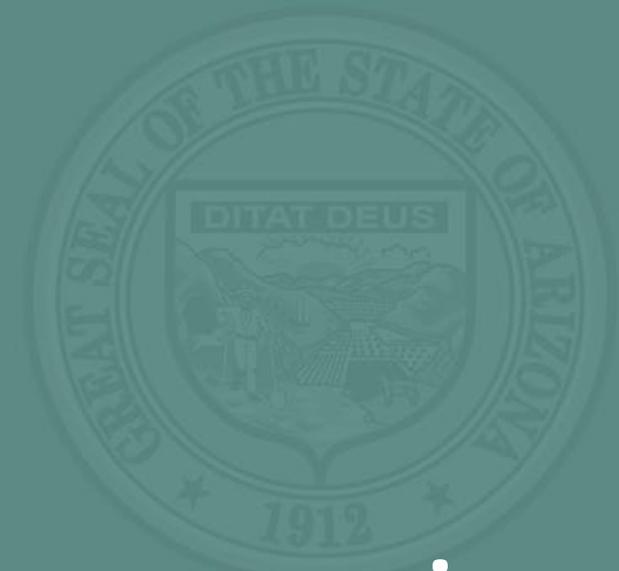
Permit  
required

ADEQ Flow Regime  
Maps

Reach Name	Flow Regime
Gila River	Intermittent
Gila River	Perennial
Gila River (TNW)	Perennial

# NWPR Screening Toolkit





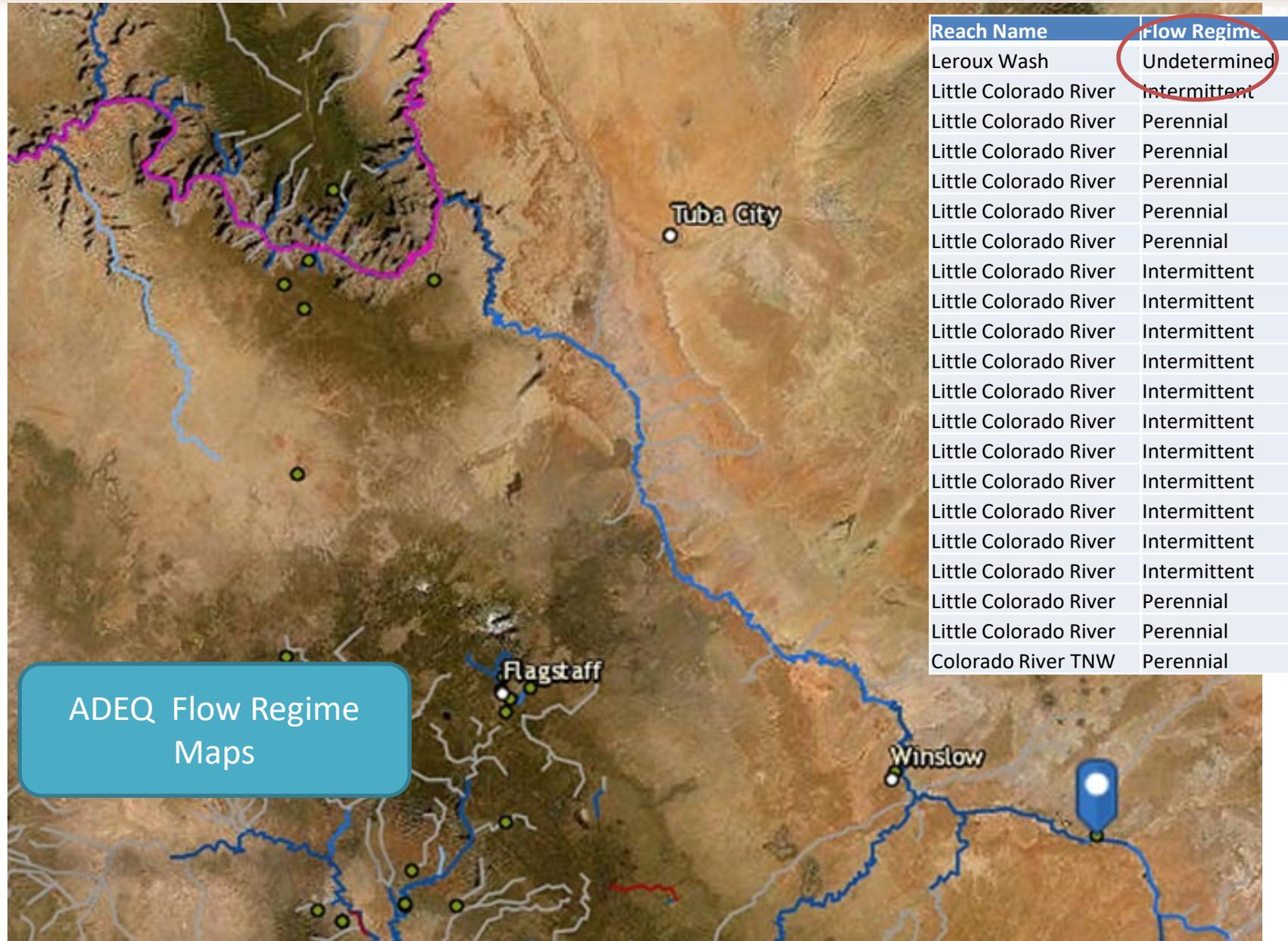
# Use Case

## Assess risk when flow permanence is unknown

# City of Holbrook Painted Mesa Water Reclamation Facility



# City of Holbrook Painted Mesa Water Reclamation Facility



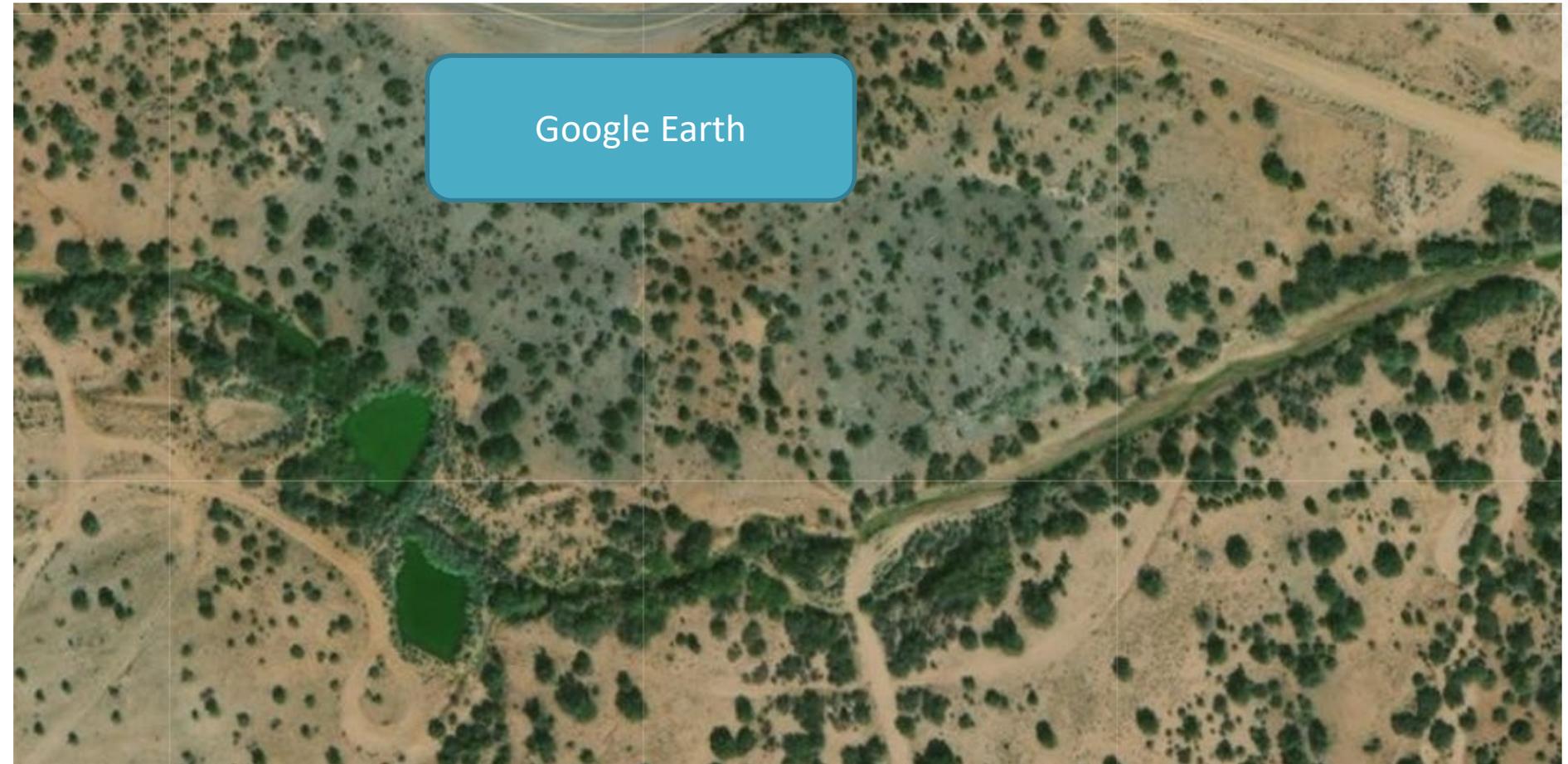
ADEQ Flow Regime Maps

- **Channelized conveyance**
- **Visual evidence of flow**
- **Surface water monitoring data**
- **Riparian Vegetation**
- **Groundwater level**
- **Surficial bedrock**
- **Snowpack**

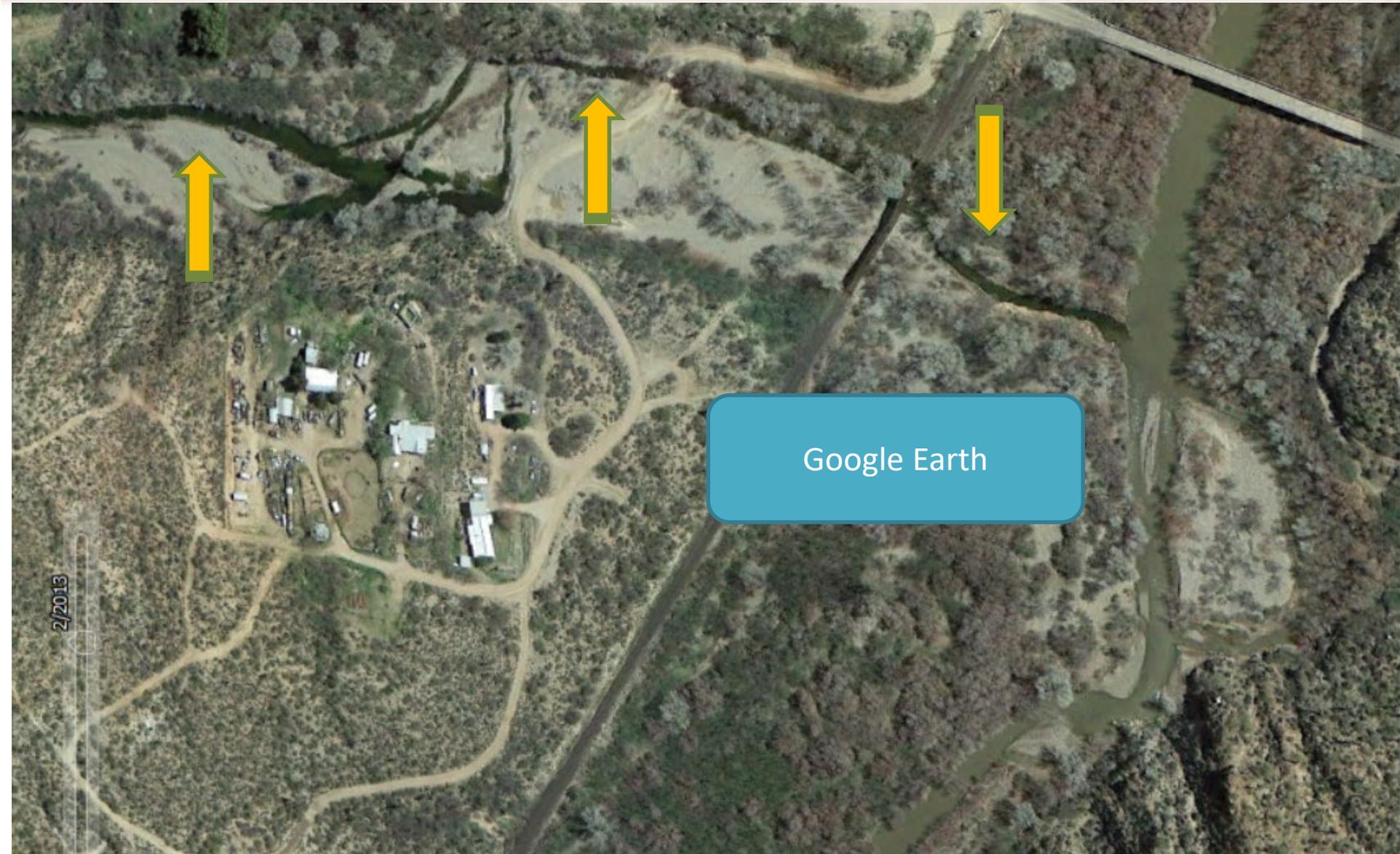


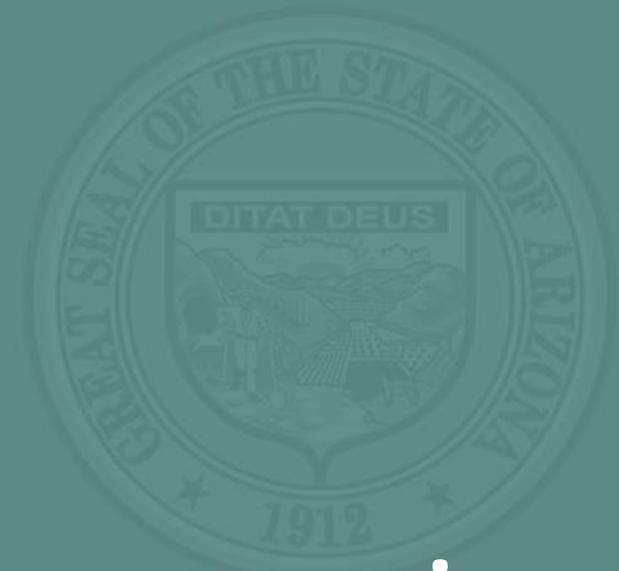
# Channelized conveyance

Google Earth



# Visual Evidence of Flow





## Use Case

**Assess risk when flow permanence is unknown, continued**



- We want your input
  - Sept 4
- Stakeholder input on Toolkit
- Reach out to permittees
- Continue updating our flow regime maps



- Antecedent Precipitation  
Tool Feedback from EPA
- Streamflow Duration  
Assessment Method





# Q and A

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“A point source of pollution may also be present where miners design spoil piles from discarded overburden such that, during periods of precipitation, erosion of spoil pile walls results in discharges into a navigable body of water by means of ditches, gullies and similar conveyances, even if the miners have done nothing beyond the mere collection of rock and other materials.”

*Sierra Club v. Abston Constr. Co.*, 620 F.2d 41, 43  
(5th Cir. 1980)