EXHIBIT 120

University of Nevada, Reno

Walker River Basin
Decision Support Tool (DST)
Version 2.0

Original DST Mission – ca. 2006-7

What: Develop a Decision Support Tool (DST) that includes the important spatial, temporal, and vertical complexities of the hydrologic behaviors of the of Walker River Basin to ***inform proposed water right acquisitions*** aimed at increasing flows to Walker Lake.

Why: Options for water right acquisitions (purchases and/or leases) are being obtained. ***DST will provide an estimate of how much additional water will make it to Walbuska*** based on different acquisitions and climate conditions.

Our Modeling Approach

1. Understand the process, scale, and data needs/constraints of the Walker River Basin - supply and demand.
2. Identify and evaluate existing and previous modeling and data collection efforts.
3. Identify and obtain available hydrologic information for the system.
4. Develop physically realistic hydrologic models of the supply and demand components of the system.
5. Create and test a DST, based on the physical models, that can be used to inform water acquisition decisions.
6. Use the DST.

Phase I & II

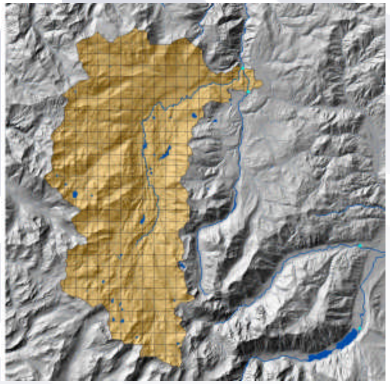
1. Development and initial testing of DST completed December 2008. Phase I completed.

2. The "Water Group" formed in January 2010. Designed, conducted, analyzed and discussed experiments with DST aimed at understanding Walker River basin behavior.

3. Phase II started in August 2010. Based on needs of Water Group, effort to improve DST started in January 2011.

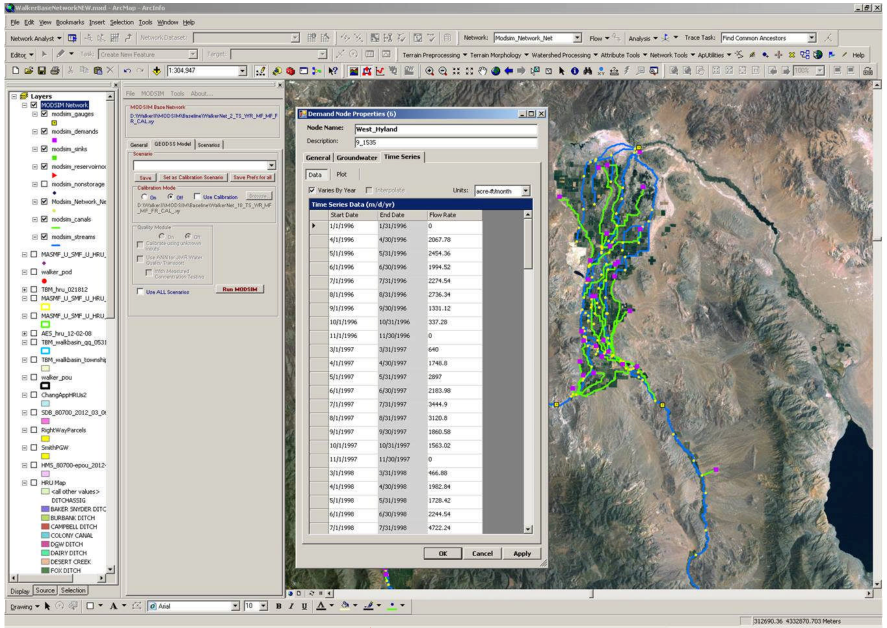
4. DST version 2.0 presented to Water Group in January 2012. Continued interactions with Water Group planned through CY 2013.

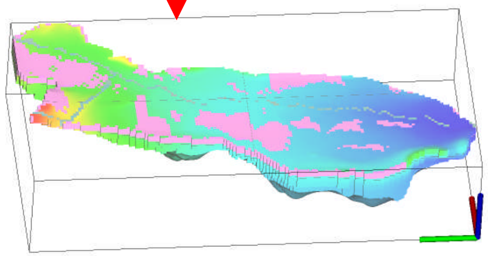
Overview of DST 2.0 Model Components



PRMS models of headwater areas (Supply Side)

MODSIM River Basin Management system





MODFLOW models of Mason & Smith (Demand Side)

What is MODSIM?

MODSIM *River Basin Management Decision Support System*

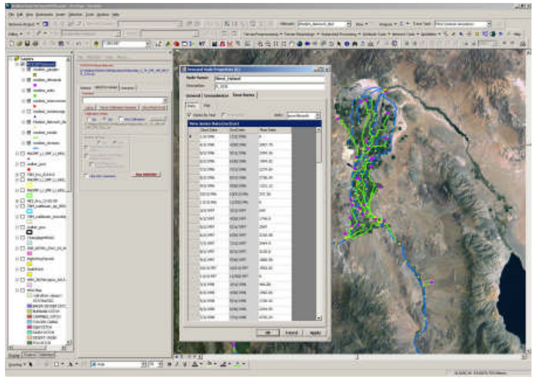
Network comprised of nodes and links

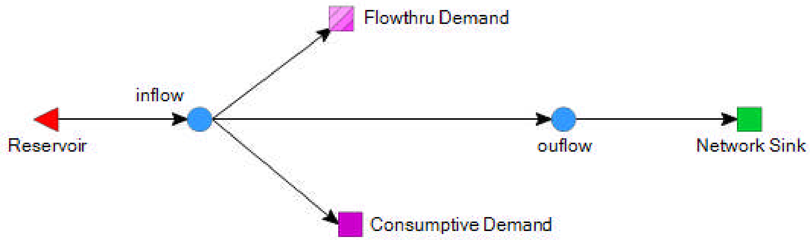
Includes tools for priority, variable colors of water, and optimization.

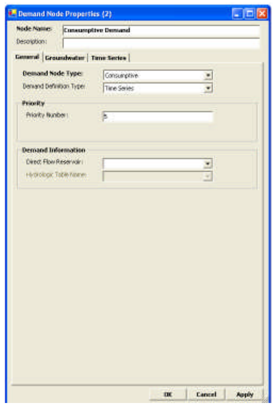
Provides user with access to all variables and parameters within time loop.

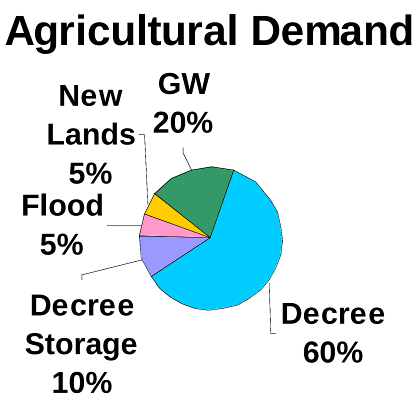
Capable of linking with other hydrologic models (e.g., MODFLOW, PRMS, etc.).

GeoMODSIM implemented in GIS software.

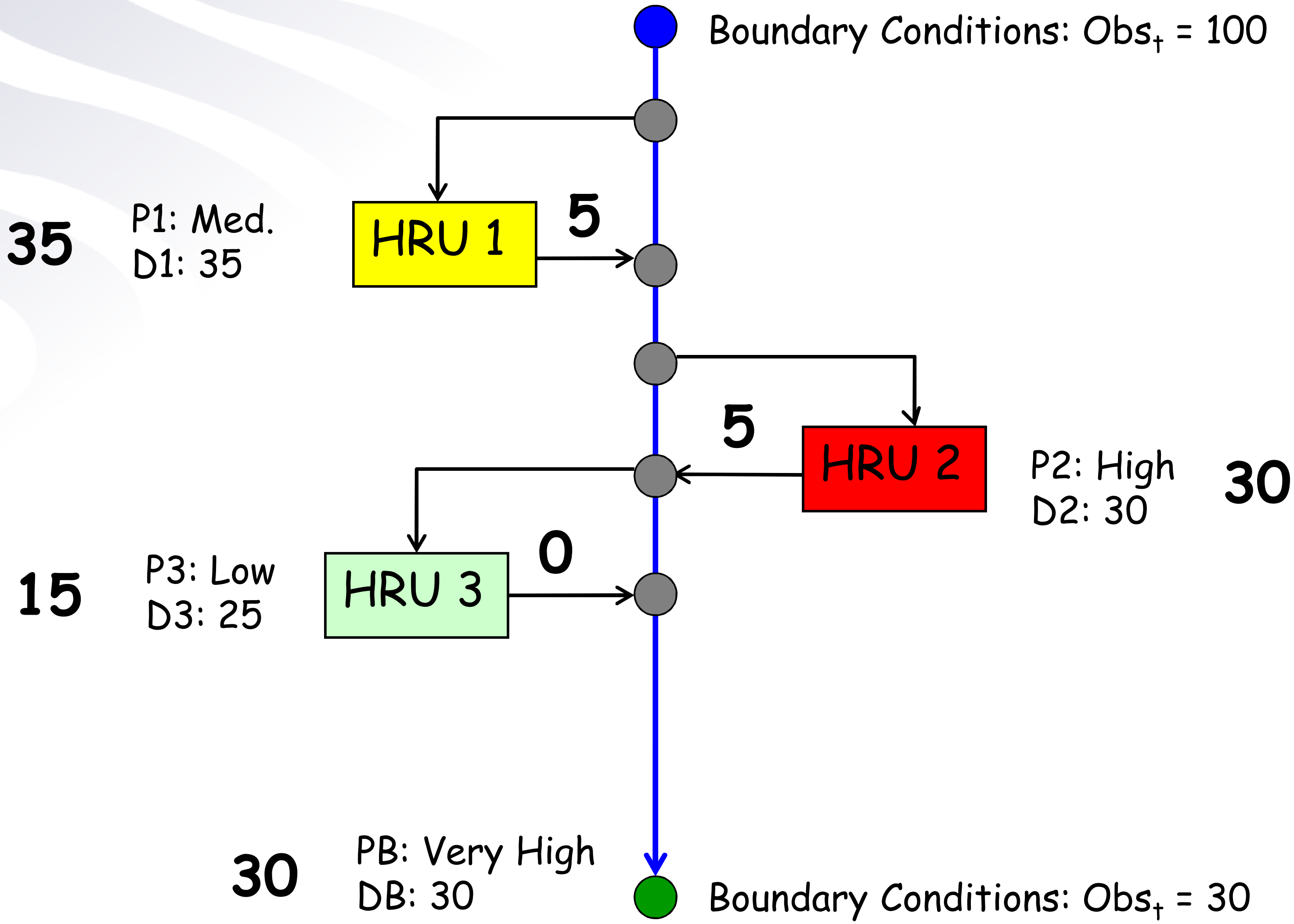








MODSIM Conceptual Model



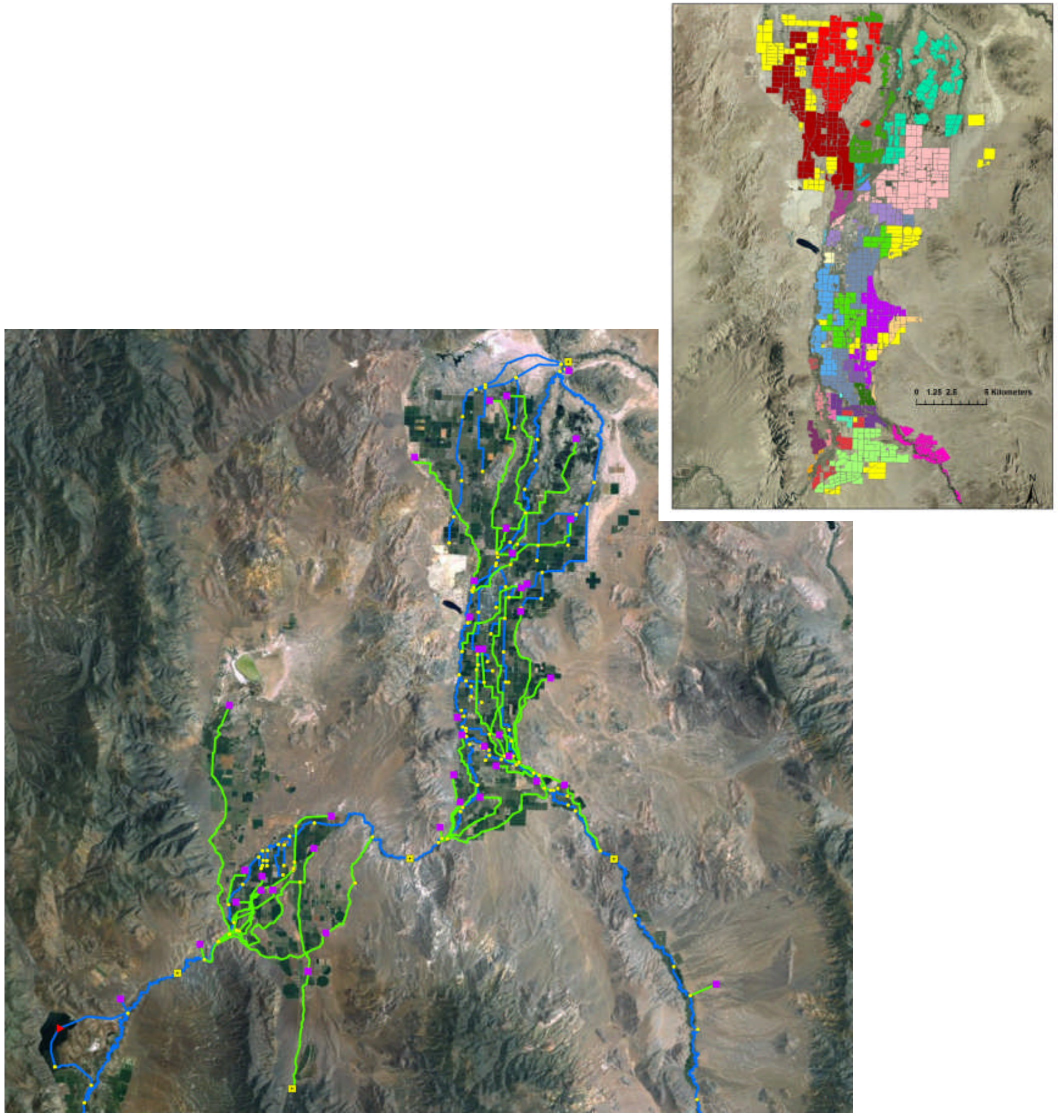
Application of MODSIM to Walker River Basin

MODSIM upstream boundary conditions - driven with observed monthly streamflow for 1996 through 2011.

Reservoir storage and evaporation simulated at Bridgeport and Topaz.

Diversion node for each ditch in Mason and Smith Valleys; HRUs defined by agricultural area served by each ditch.

Agricultural areas with primary pumping defined as separate HRUs.



MODSIM Mode 1: Historic Ditch Demand

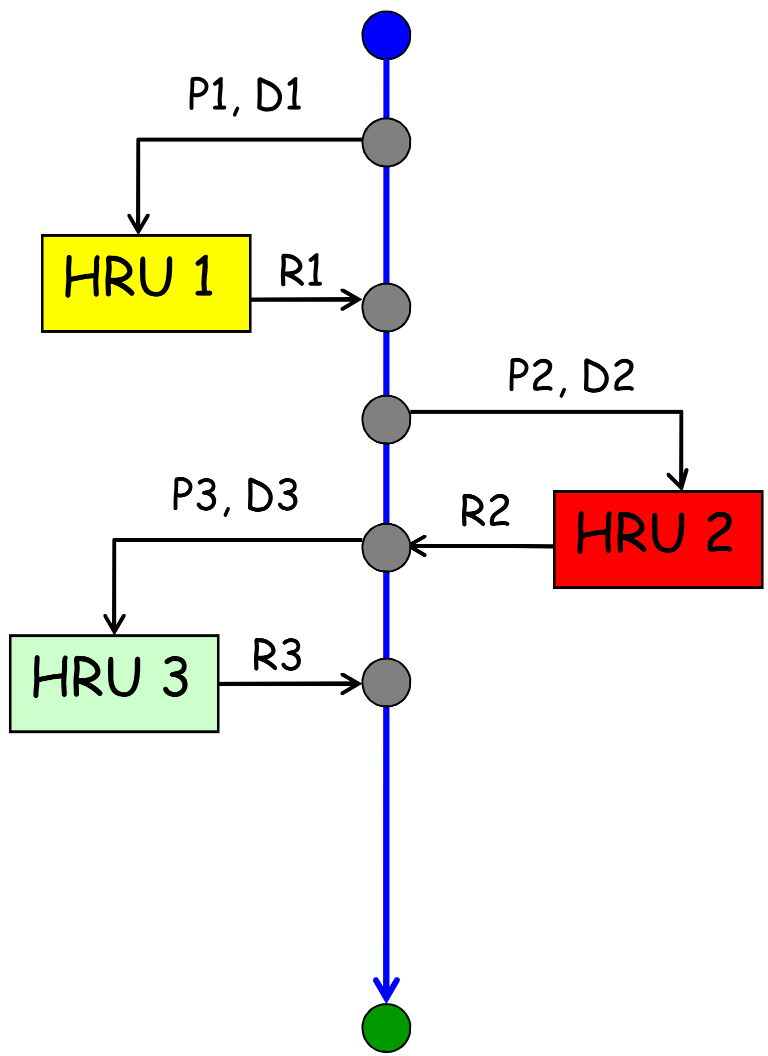
Dx: Decree, storage, and flood water diverted at each ditch based on *historic delivery records* according to priority, **Px**.

Water balance computed at each HRU on 100m grid scale based on crop type, NSE net water requirement, supplemental pumping, farm efficiency, ditch loss, etc.

Water applied becomes ET, infiltration, or runoff.

Iterative MODSIM/MODFLOW convergence

- MODSIM – partitioning and distribution of all surface water
- MODFLOW – interaction of surface and groundwater



MODSIM Mode 2: Crop Demand

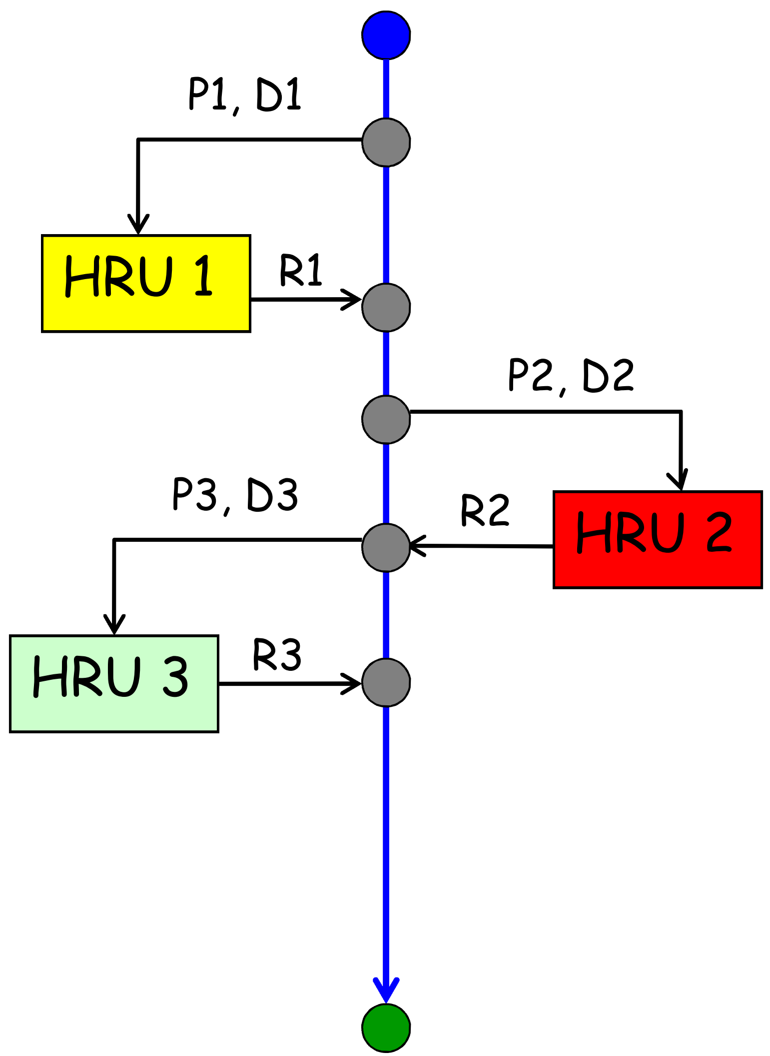
Dx: Decree, storage, and flood water diverted at each ditch based on *crop demand and ditch level priority*, **Px**. Historic diversions used to evaluate model.

Water balance computed at each HRU on 100m grid scale based on crop type, NSE net water requirement, supplemental pumping, farm efficiency, ditch loss, etc.

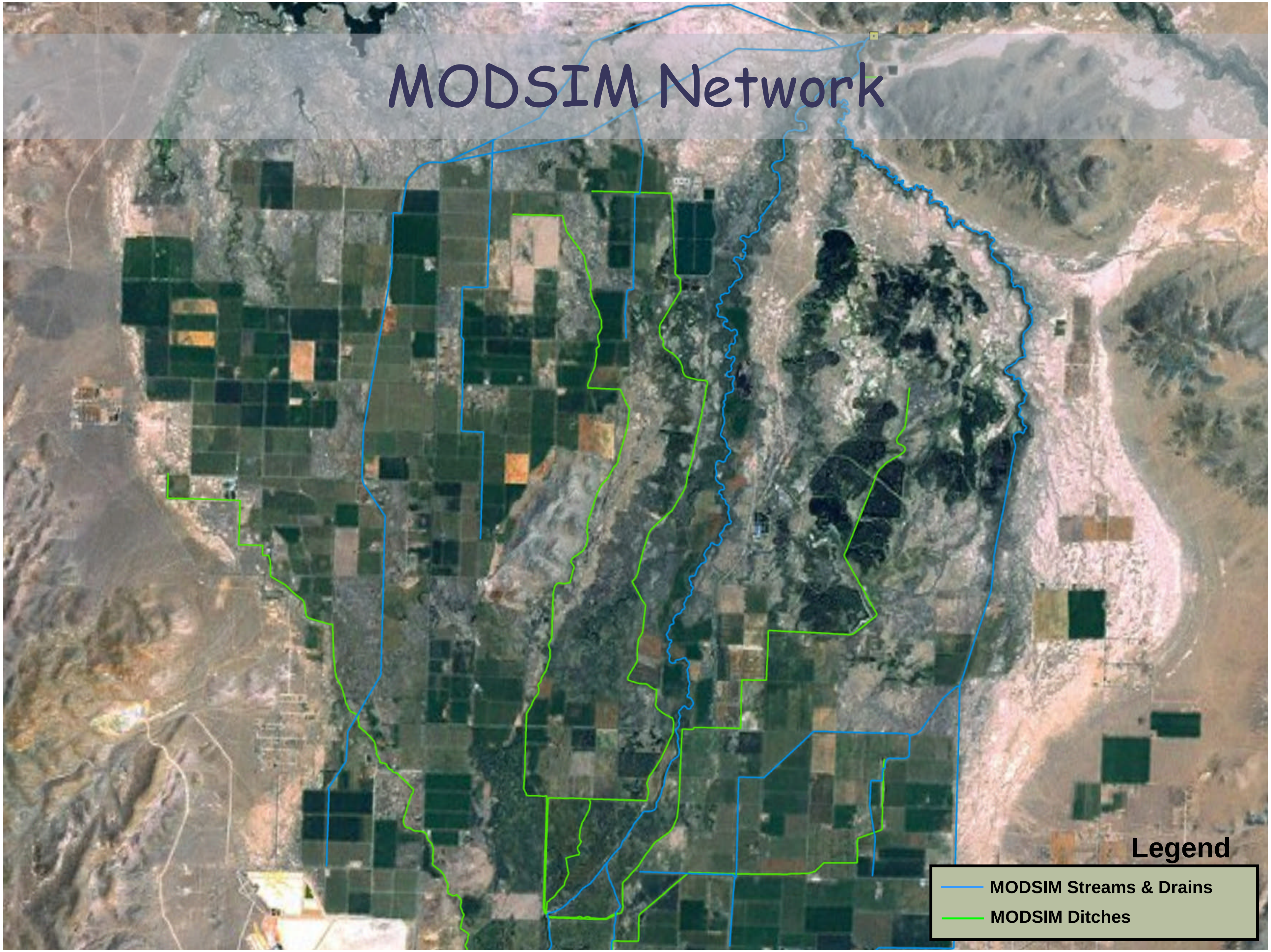
Water applied becomes ET, infiltration, or runoff.

Iterative MODSIM/MODFLOW convergence

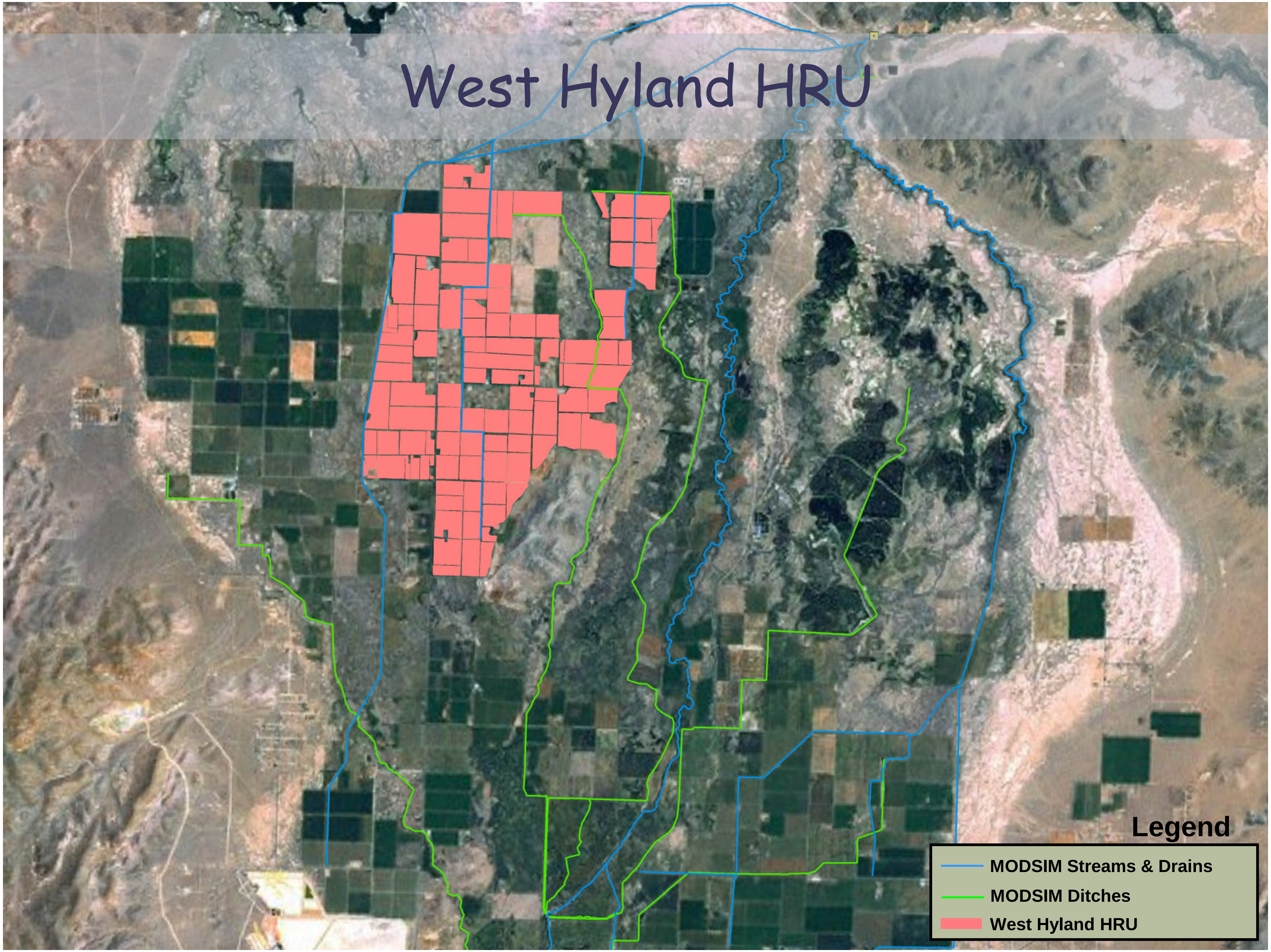
- MODSIM – partitioning and distribution of all surface water
- MODFLOW – interaction of surface and groundwater



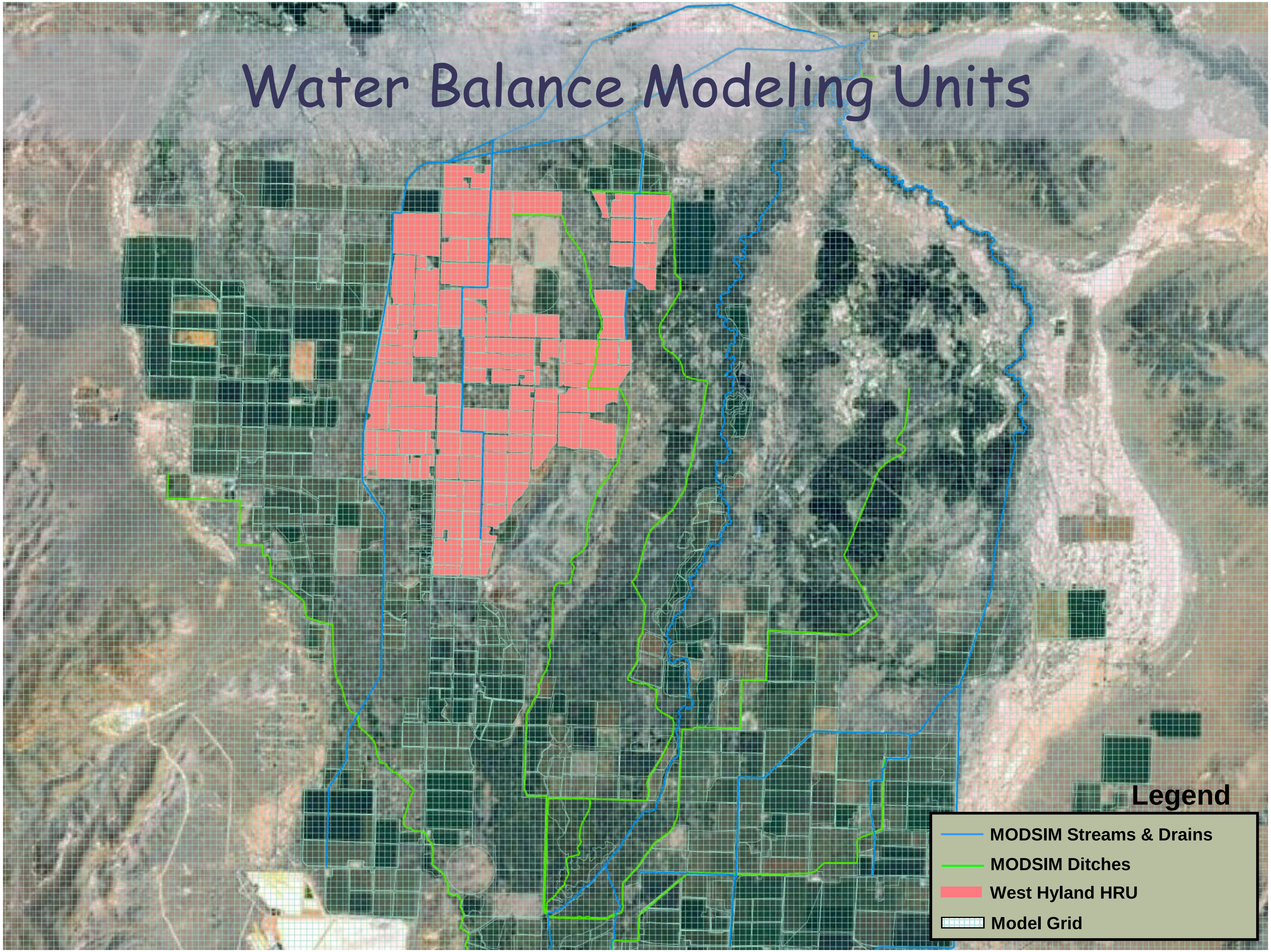
MODSIM Network



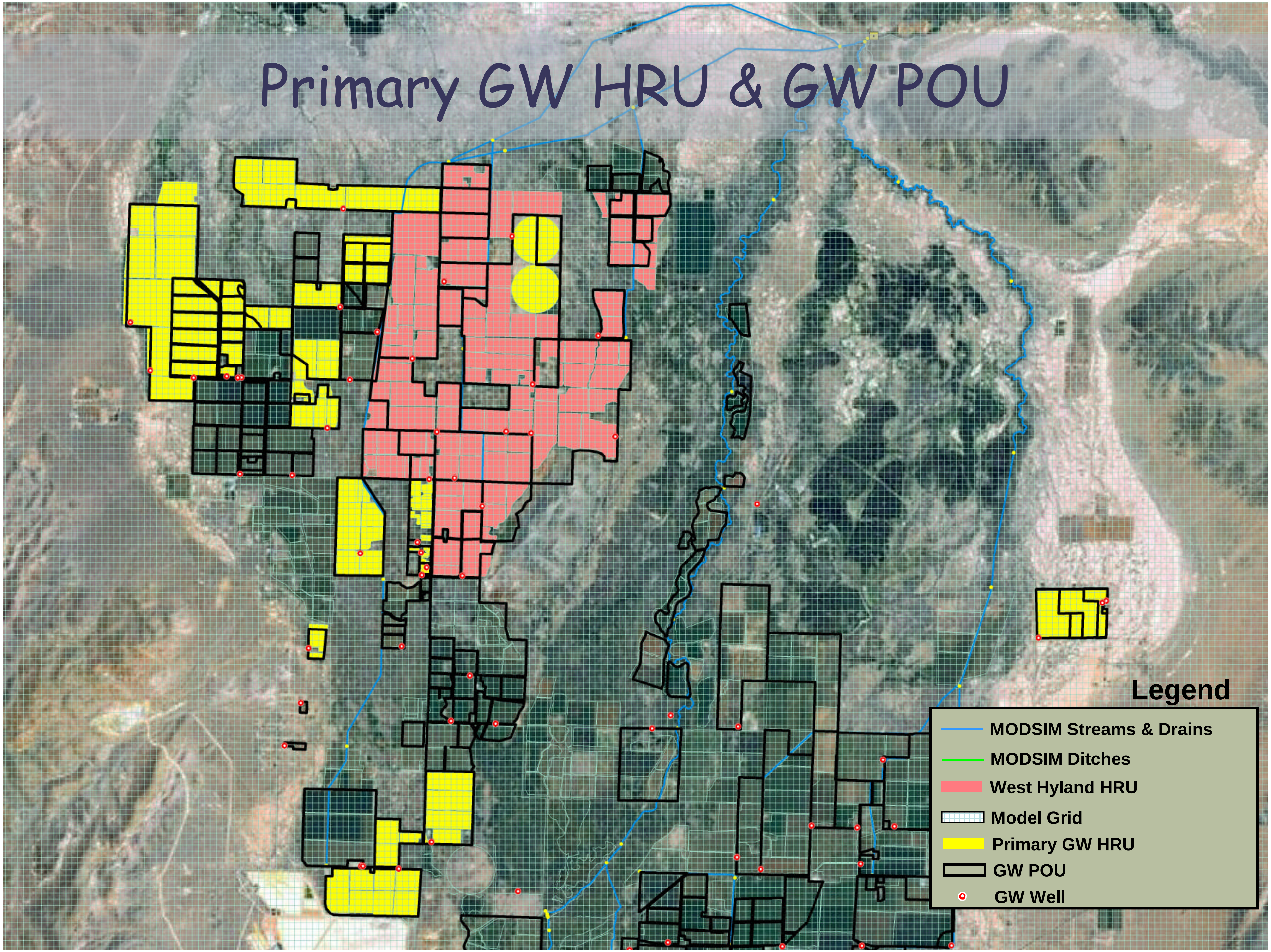
West Hyland HRU



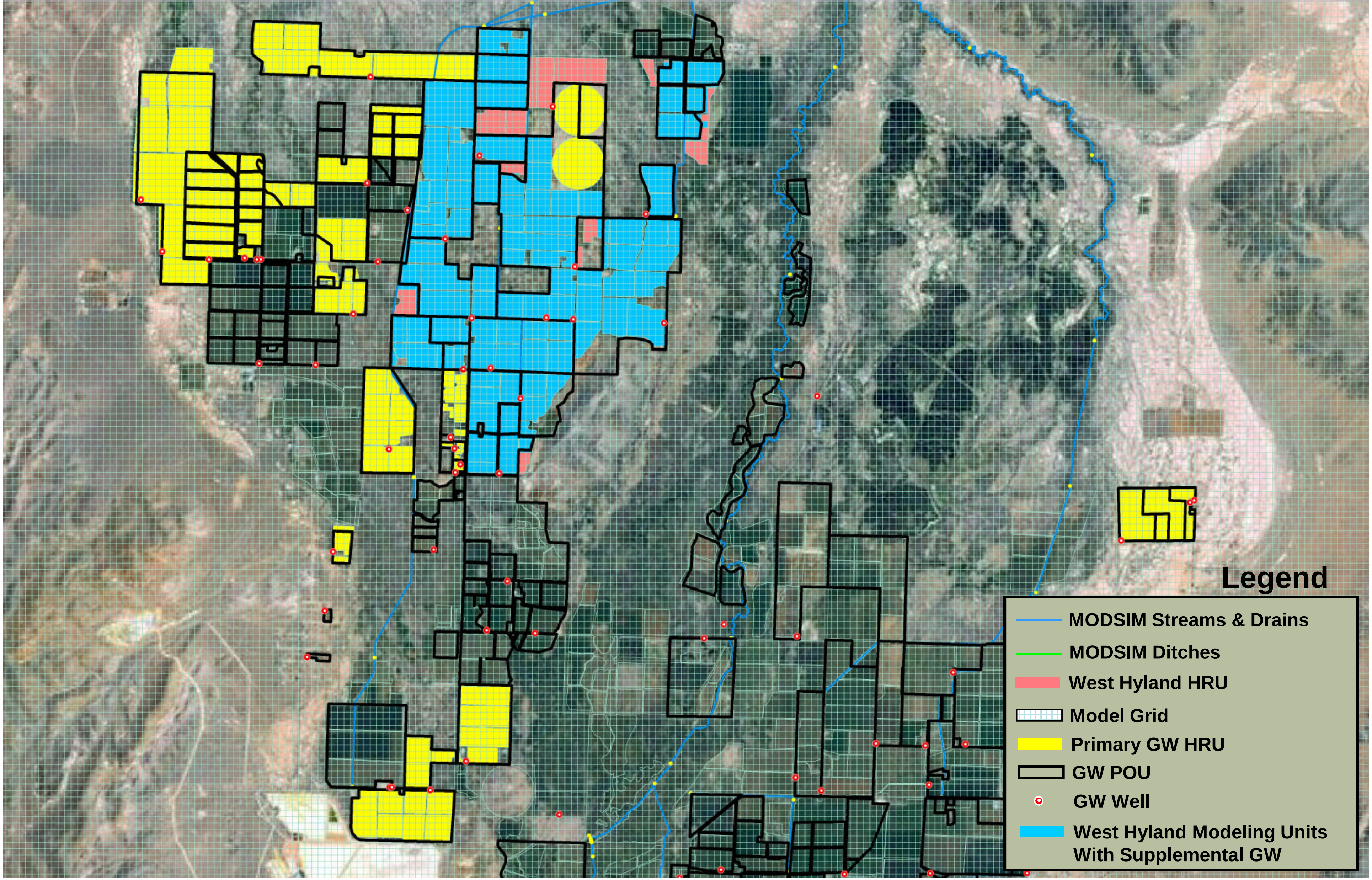
Water Balance Modeling Units



Primary GW HRU & GW POU



Portion of West Hyland With Supplemental GW



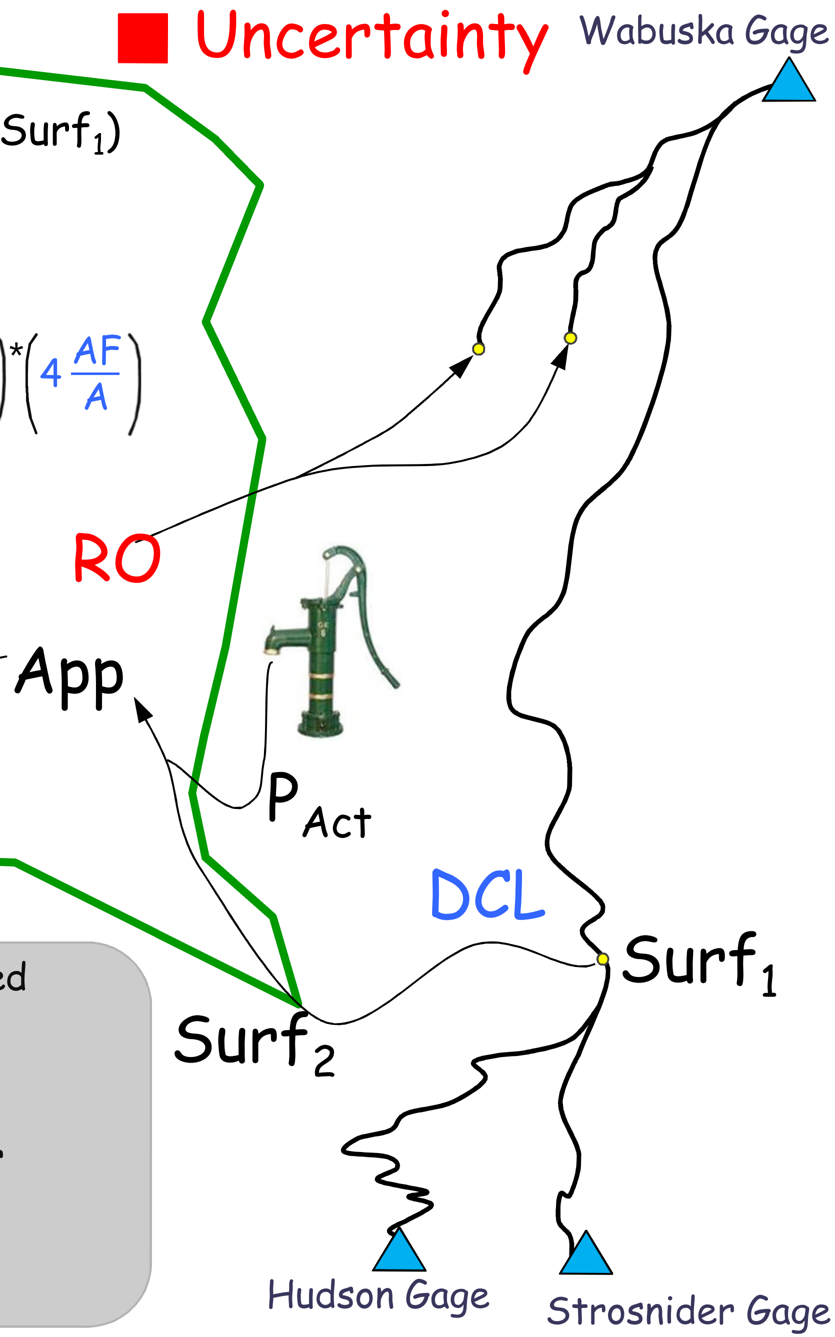
Walker DST Water Balance 2.0

Parameter
Uncertainty

HRU

1. Determine available surface water at POD ($Surf_1$)
2. $Surf_2 = Surf_1 * (1 - DCL)$
3. CD = Ag. Area * NIWR (State Engineer)
4. CIWR = CD / (E_{Farm})
5. P_{Req} = CIWR – $Surf_2$
6. SP_{Max} = f(Permits)
7. $P_{Act} = P_{Req}$ or Balance of SP_{Max}
8. App = P_{Act} + $Surf_2$
9. OFL = App*(1-E_{Farm})
10. RO = R_{Factor}*(OFL)
11. RCH = (1-R_{Factor})*OFL

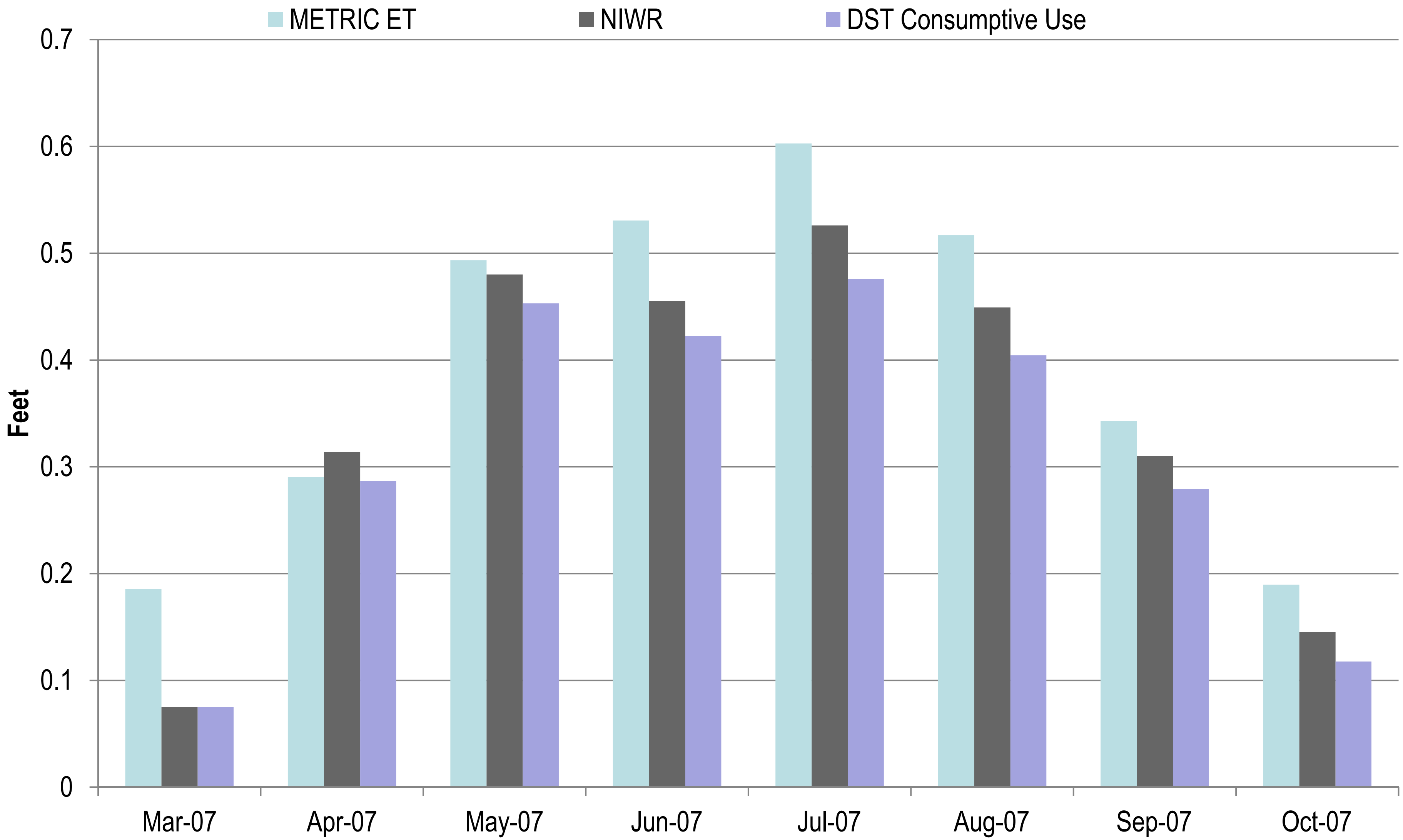
$$SP_{Max} = \left(\#\ Acres\right)^{*}\left(4\ \frac{AF}{A}\right)$$



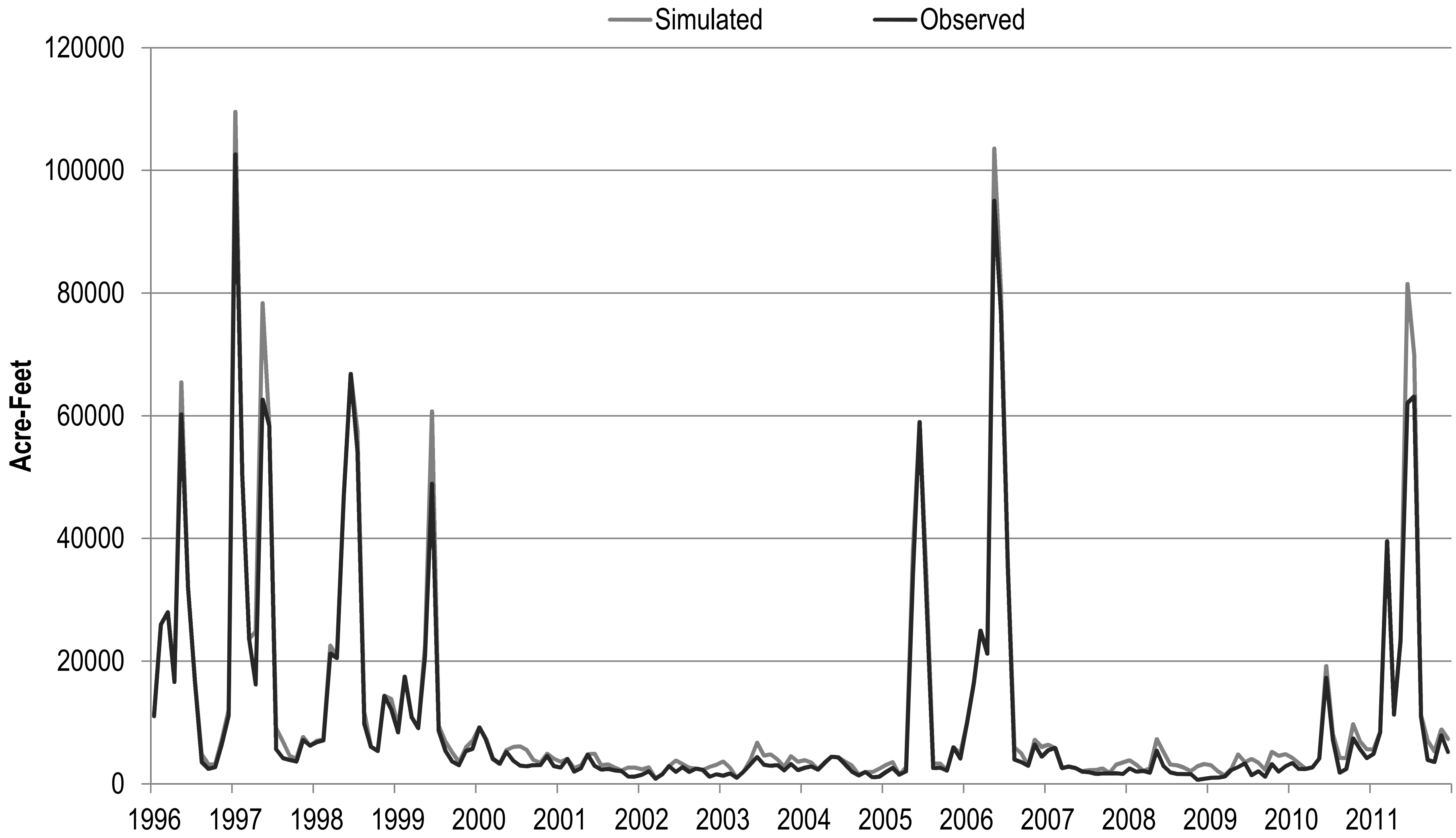
Terms and Definitions

$Surf_1$ = Surface Supply at POD	P_{Req} = Pumping Required
DCL = Ditch Conveyance Loss	P_{Act} = Pumping Actual
$Surf_2$ = Surface Supply at Ag. Area	App = Application
CD = Crop Demand	OFL = On Farm Loss
E_{Farm} = Farm Efficiency	R_{Factor} = Runoff Factor
NIWR = Net Irrigation Water Req.	RO = Runoff
CIWR = Crop Irrigation Water Req.	RCH = Recharge
SP_{Max} = Seasonal Pumping Maximum	

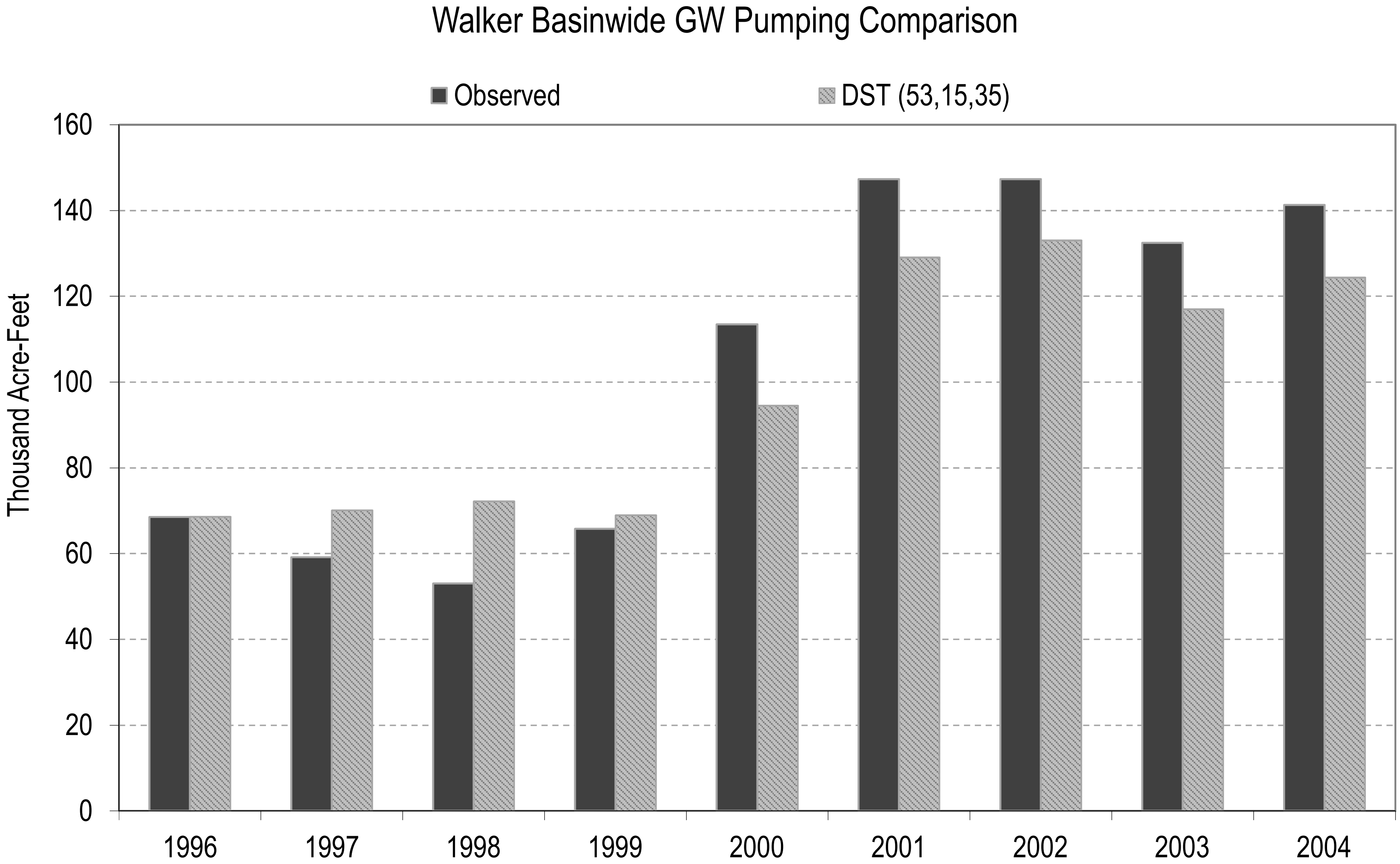
Consumptive Use Comparison (2007)
West Hyland Non-NDOW



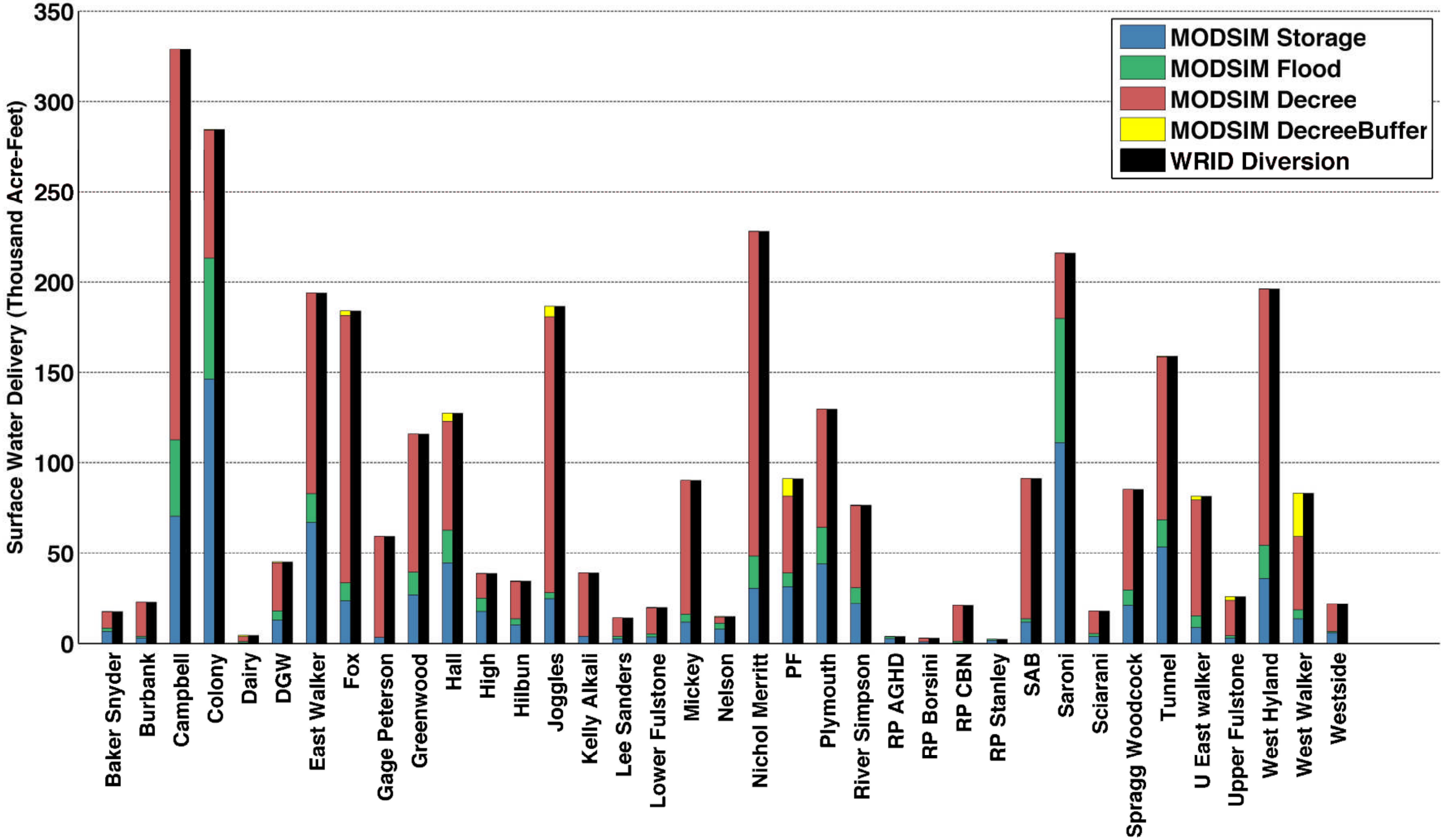
Example Wabuska Calibration Streamflow



Basin-wide GW Pumping (Mason and Smith)

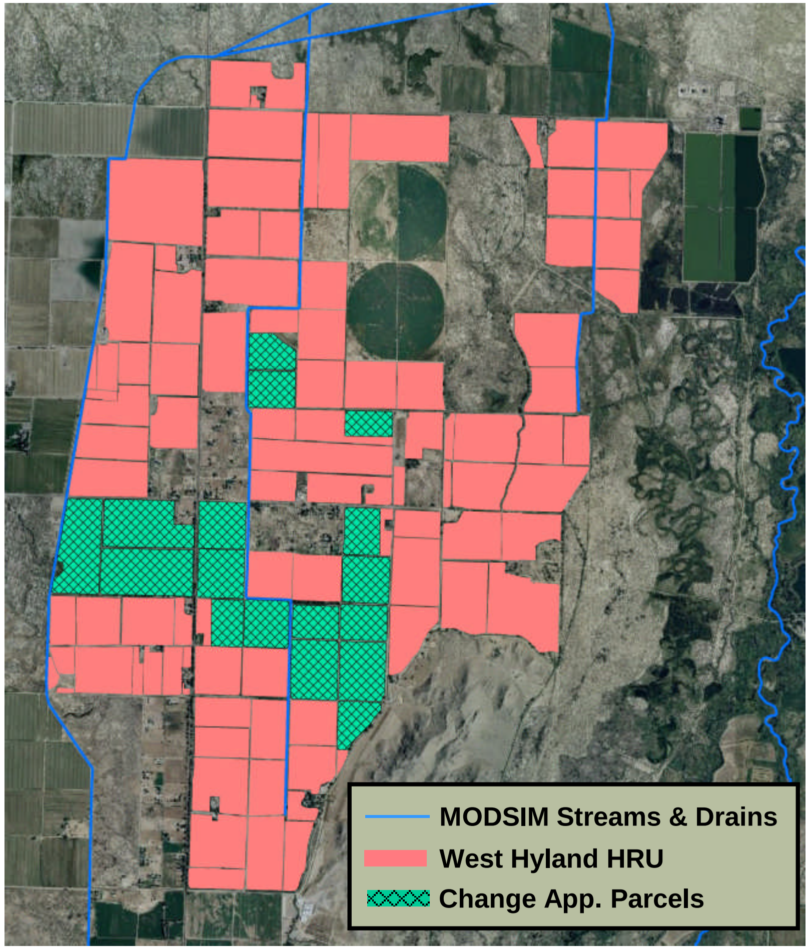


Example West Hyland Demands & Deliveries



Application No. 80700

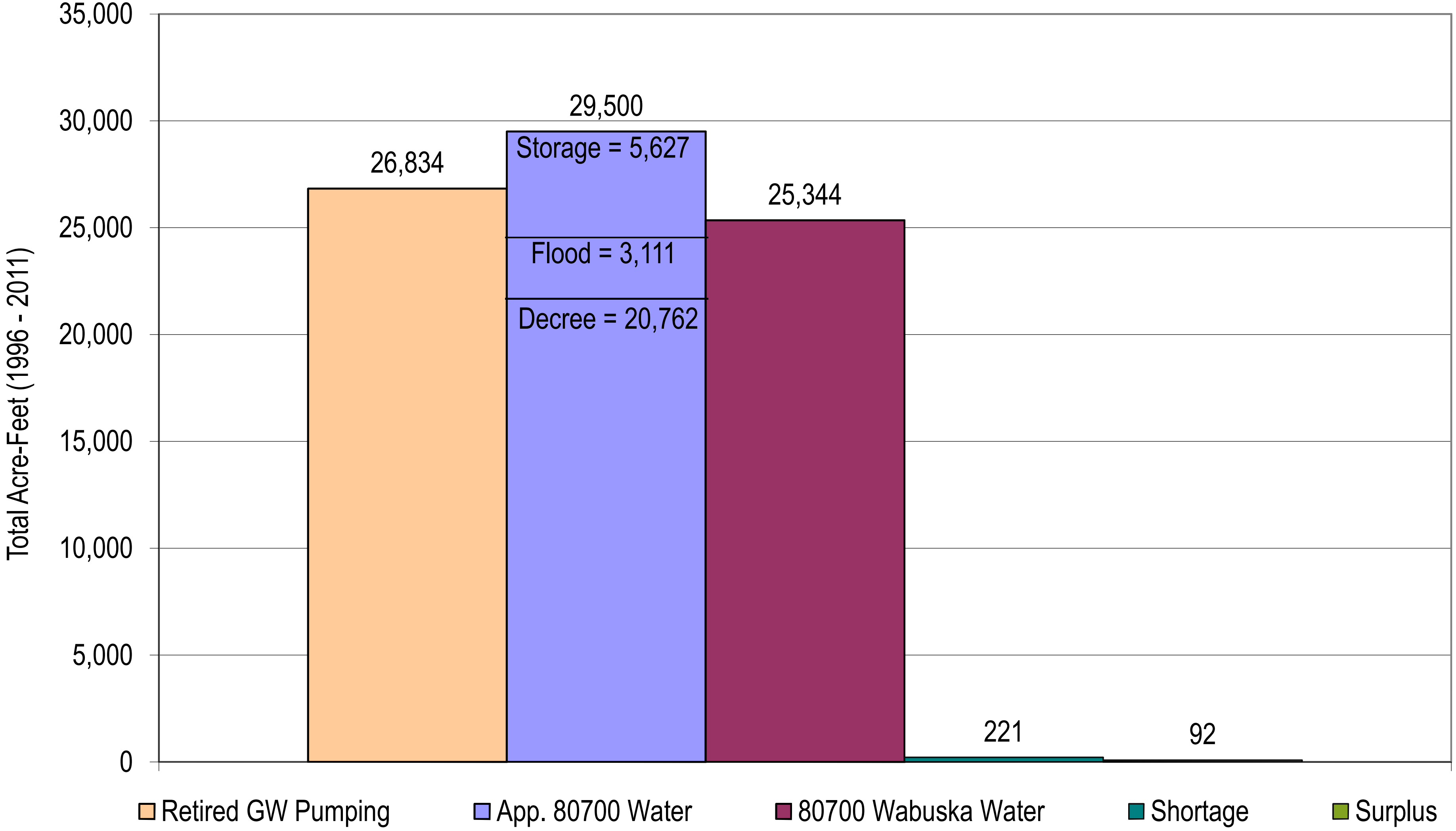
- Summary
  - 646.16 Acres of West Hyland HRU
  - 7.745 CFS of Decree Rights
  - Claim Numbers: 23, 23A, 35, 44, 67, 89
  - Priority Dates: 1874, 1877, 1880, 1881, 1887, 1888, 1891, 1894, 1896, 1900, 1901, 1904, 1906



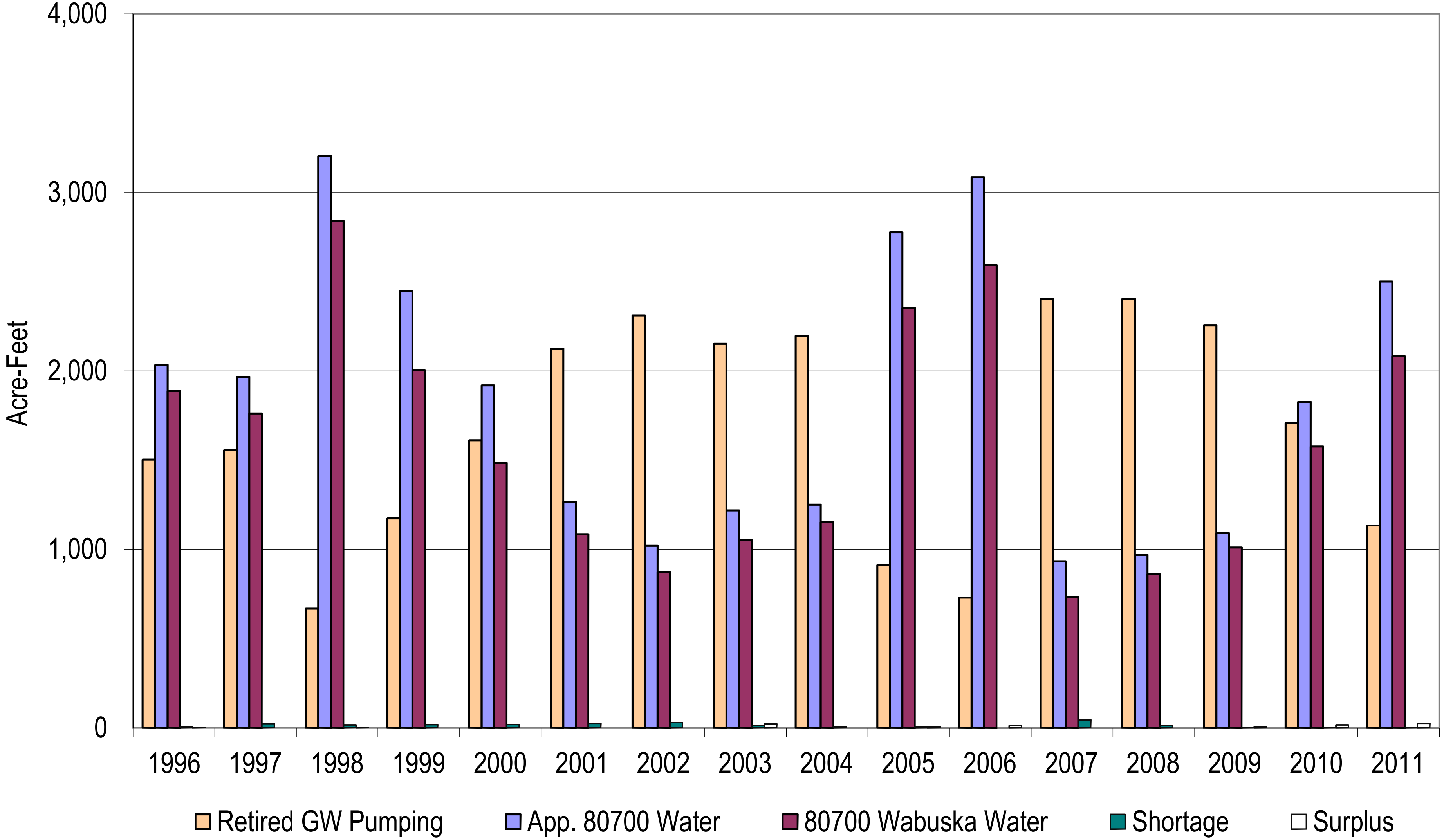
Application No. 80700 – DST Methods

- The DST was modified from the baseline model run to reflect, as closely as possible, the effects of the proposed change over calendar years 1996 through 2011. The results from the scenario model run are then compared to the results from the baseline model run.
- The change application parcels are removed from the DST modeling grid (i.e. fallowed) & supplemental pumping is retired for the parcels.
- The volume of surface water that is not applied in the scenario run (i..e., Application 80700 water) is calculated based on the fraction of the areas taken out of production relative to the total non-NDOW HRU area. It is equal to the sum of the decree, flood and storage water delivered to the same areas in the baseline run.
- The Application 80700 water is "protected" at the West Hyland point of diversion and allowed to flow to Wabuska.
- The 80700 Wabuska water is the amount of Application 80700 water that makes it to Wabuska

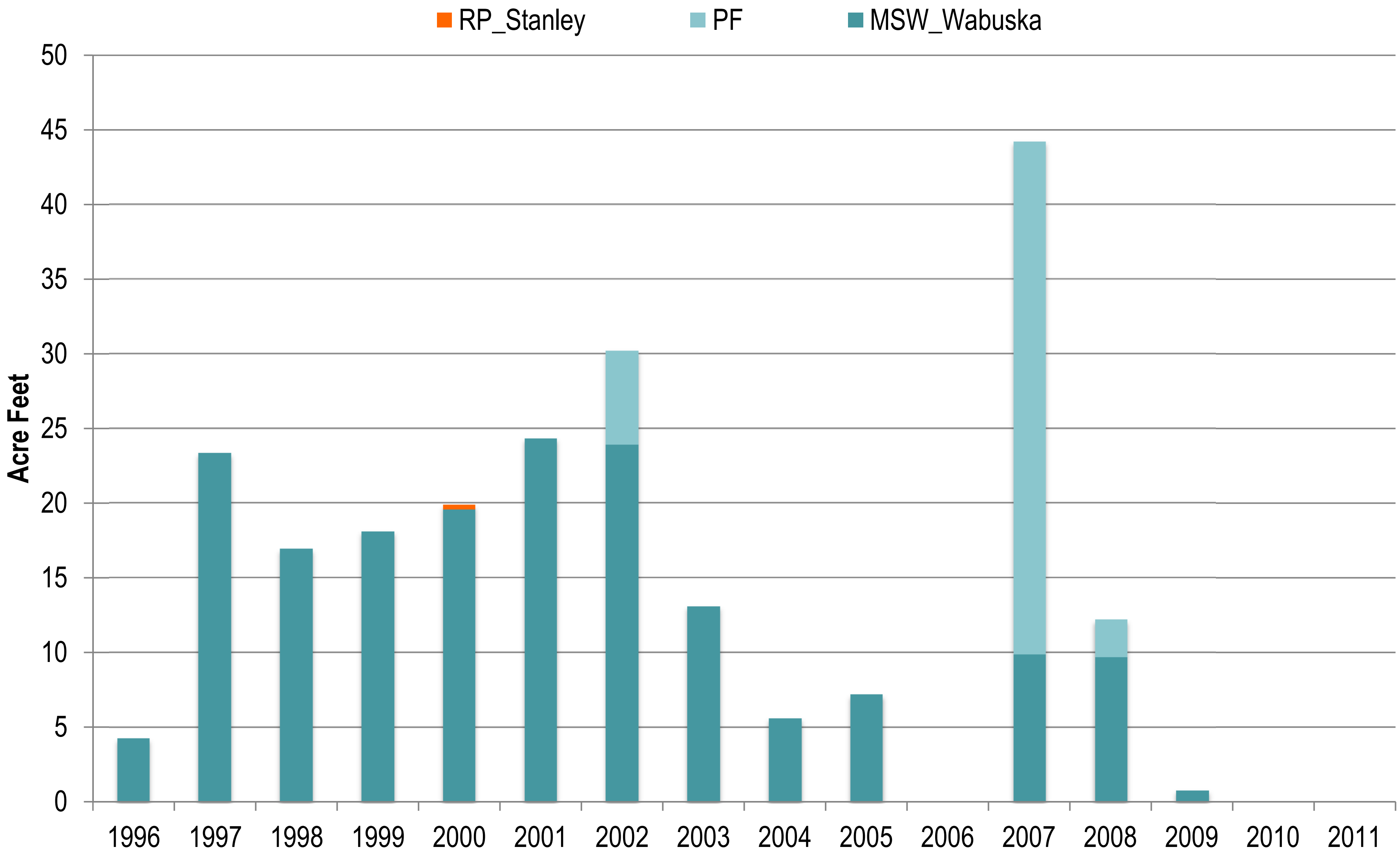
Scenario Results (1996-2011)



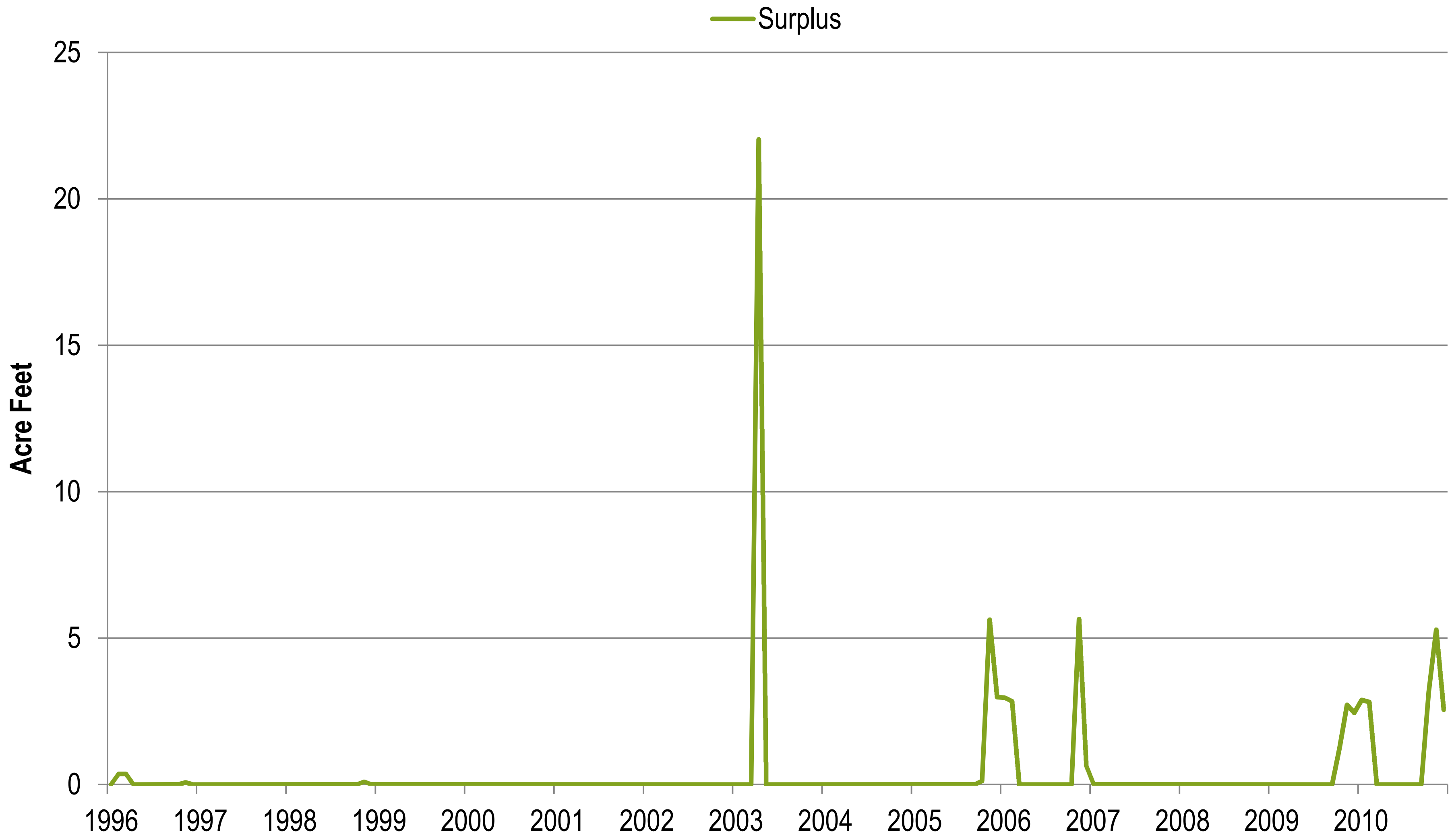
Scenario Results (Annual)



Shortage By Demand (1996-2011)



Surplus


Surplus
25
20
15
10
5
0
Acre Feet
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010

Summary of Application No. 80700 DST Run

- Results from the scenario model run were then compared to the results from the baseline model run.

- An analysis of the results indicates that, within the assumptions and limitations of the DST and the scenario method, 86% of the Application 80700 water makes it to Wabuska over the sixteen-year time period with an annual range between 77.3% and 92.9%.

- The analysis also indicates that there were no shortages in surface water delivered to the remaining areas of the West Hyland HRU but that there are occasional minor shortages and surpluses within the system.