



On the way to watershed stewardship – a collaborative strategy

May 28, 2014

Kari Vigerstol, P.E. - Sr Hydrologist, The Nature Conservancy

Ellen Silva, Ph.D. – Sr Manager, General Mills



Our journey to a watershed stewardship strategy has been, and will be, one of collaboration.



Understanding Water Risk for Key Commodities

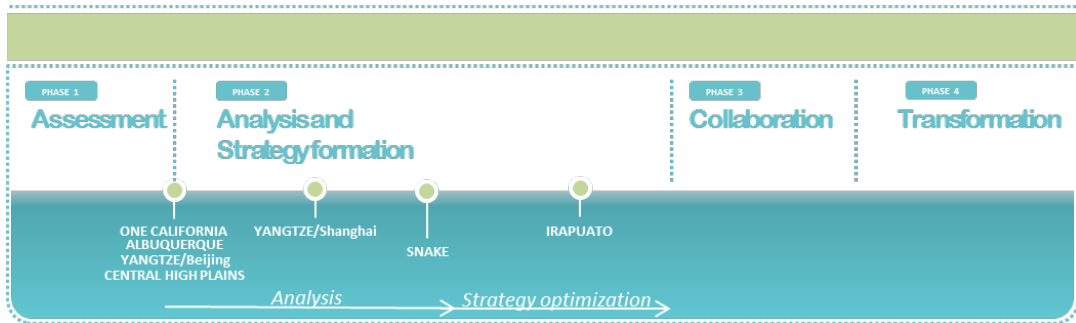
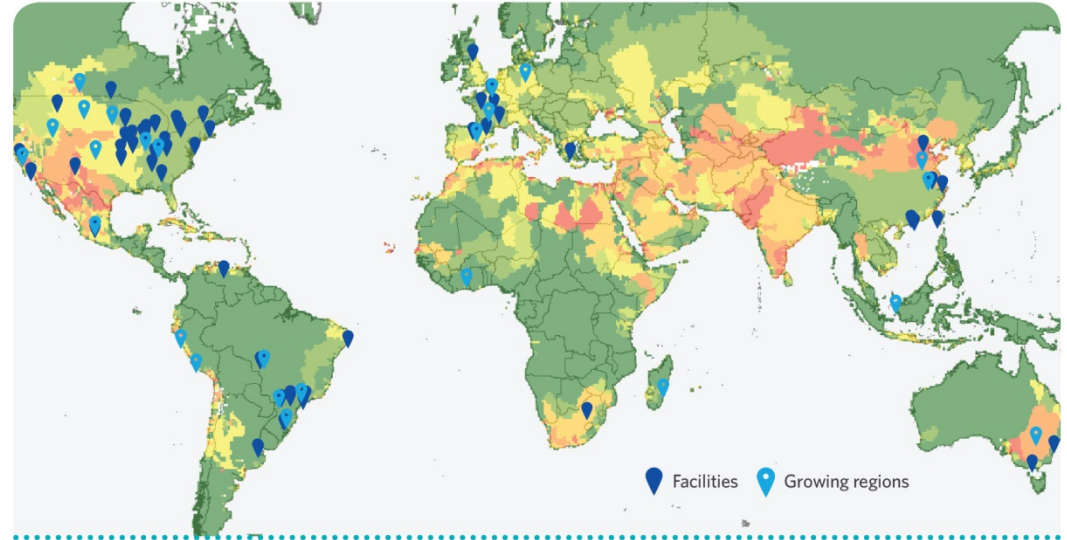


Global Assessment Deep Analysis



Consistent Stewardship

Geographic location	Location type	Water risk*
Albuquerque, New Mexico, United States	Facility	5.0
Beijing, China (includes Sanhe facility)	Facility/Growing region	5.0
Los Angeles, California, United States (includes Carson and Vernon facilities)	Facility	5.0
Shanghai, China	Facility	4.3
San Joaquin Valley, California, United States (includes Lodi facility)	Facility/Growing region	4.1
El Bajio, Mexico (includes Irapuato facility)	Facility/Growing region	4.0
Central High Plains, United States	Growing region	3.1
Snake River Valley, United States	Growing region	2.5



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El Bajío Growing Region



Growth and Aquifer Depletion

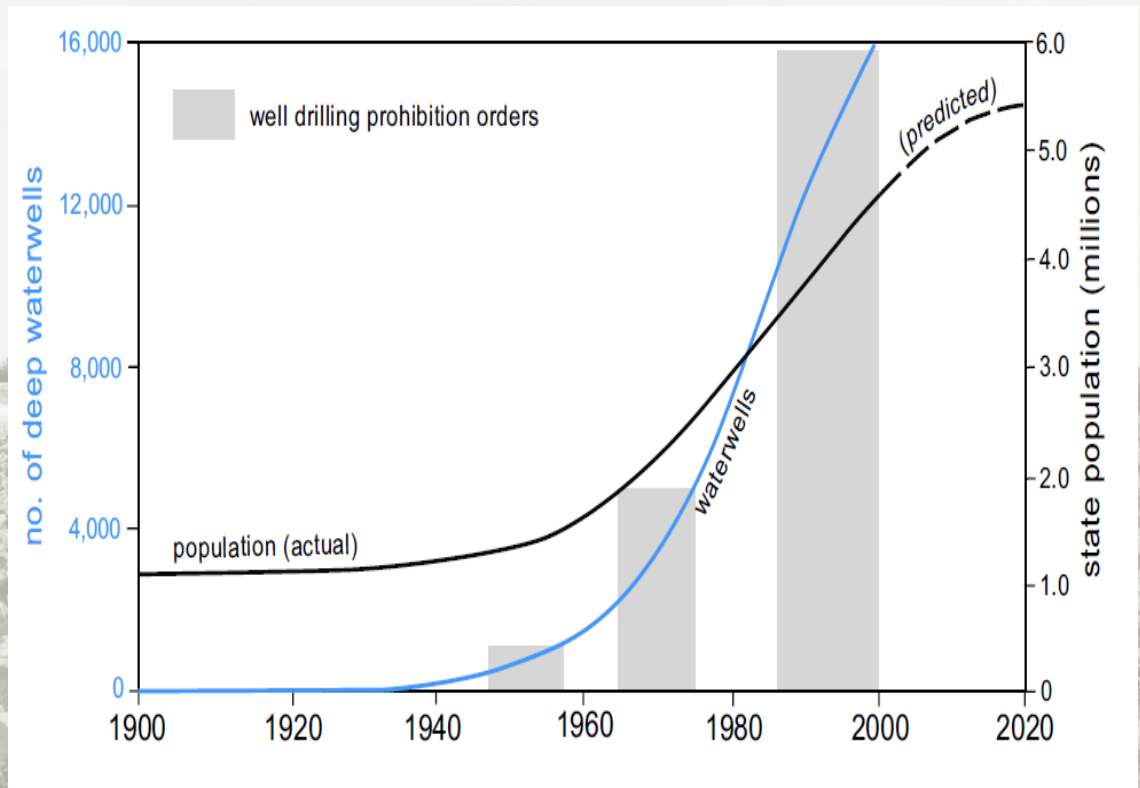
Aquifer	Average annual fall of static levels (m)
Laguna Seca	2.50
Laja-San Felipe	1.20
Silao-Romita	3.00
Valle de León	1.50
Valle del Río Turbio	2.00
Valle de Celaya	3.00
La Cuevita	0.50
Valle de Acámbaro	2.00
Salvatierra	1.50
Irapuato-Valle de Santiago	2.00
Pénjamo-Abasolo	3.00
Lago de Cuitzeo	1.00
Moroleón-Cienega Prieta	1.25
Apaseos	3.50
State Average	2.03

Source: Jaime D. Hoogesteger van Dijk, 2004



Major Water Resource Challenges

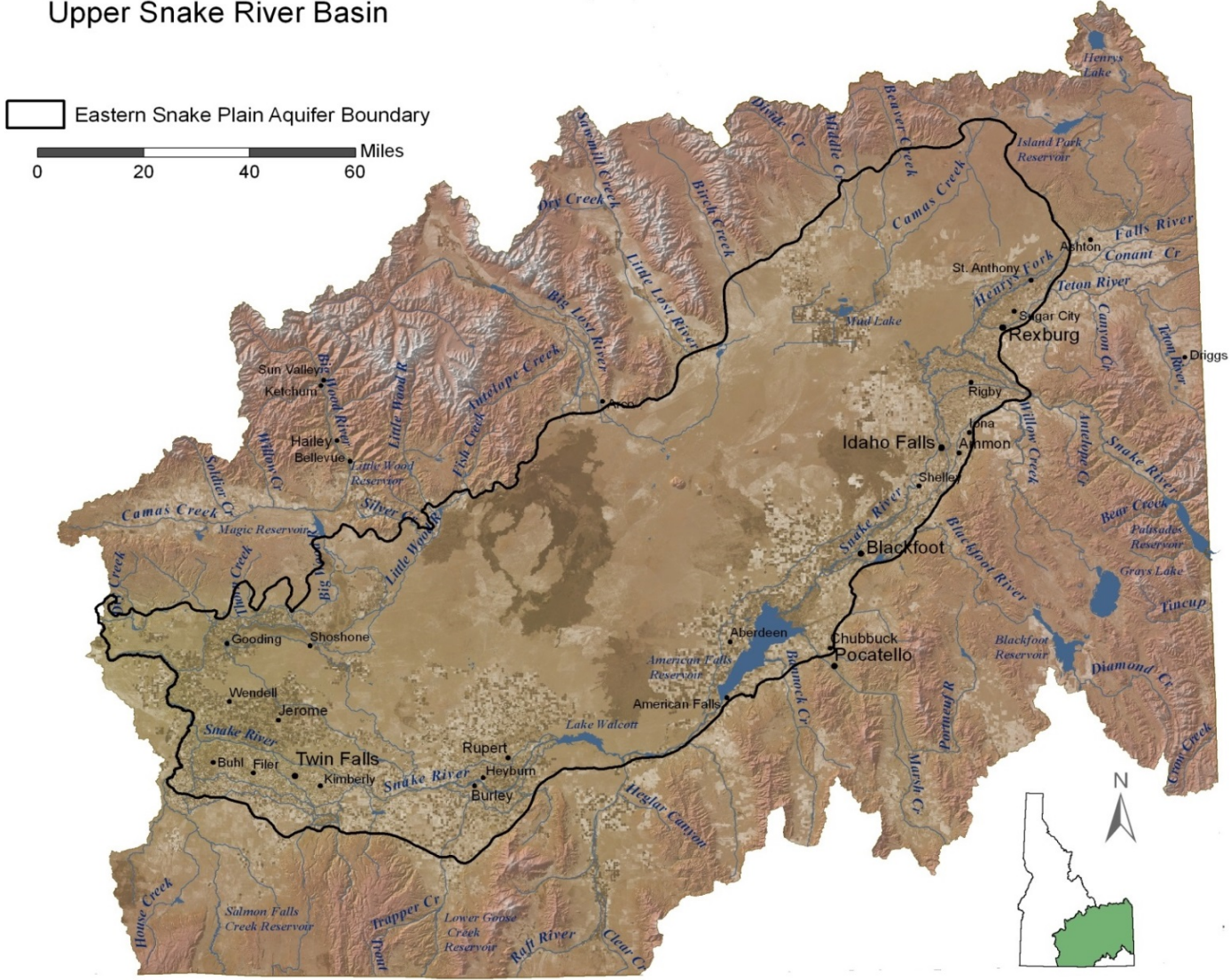
- Technology
- Economics
- Governance





Upper Snake River Basin, Idaho

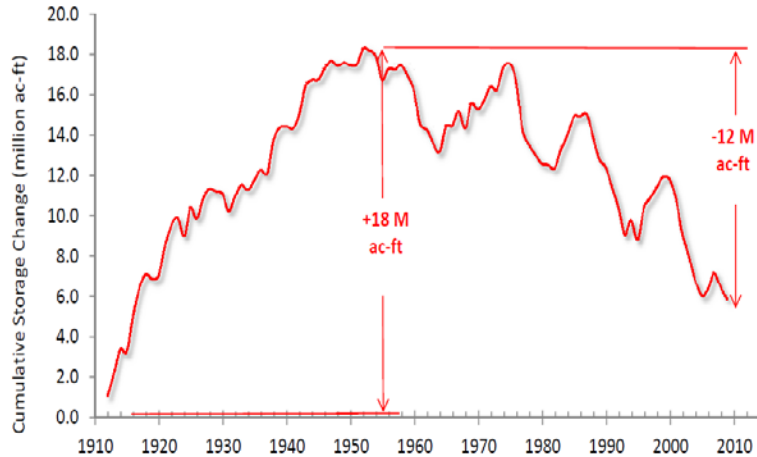
Upper Snake River Basin



Map of Upper Snake River Basin and the Eastern Snake Plain Aquifer (ESPA). From IDWR.



Primary risk: water availability

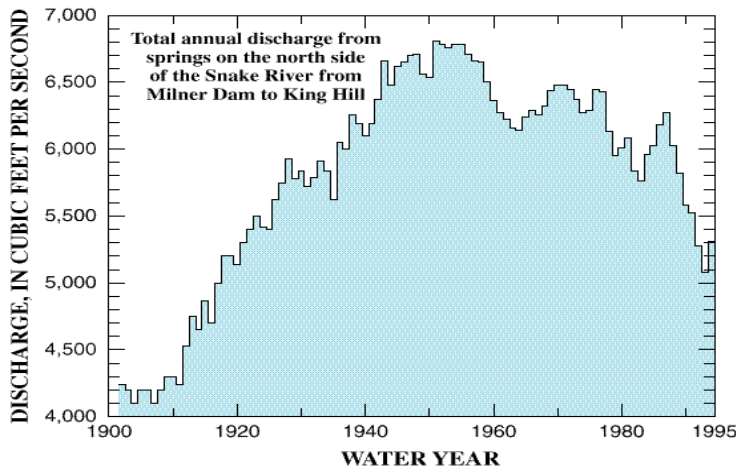


DECREASING AQUIFER STORAGE:

- Driven by increased withdrawals and decreased infiltration

DECREASING SPRING DISCHARGE:

- Groundwater elevation drives spring discharge



INCREASING USER CONFLICT:

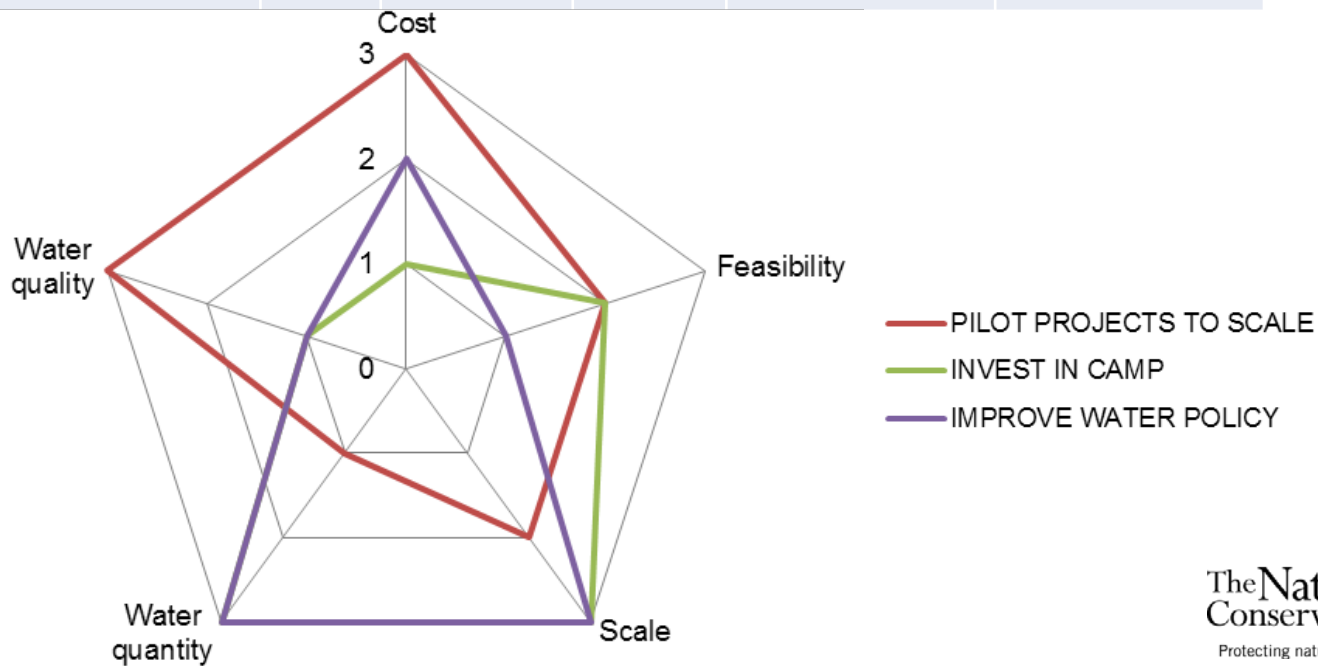
- SW users impacted by junior GW pumpers
- GW users face threat of curtailment

Change in cumulative aquifer storage (top) and annual spring discharge to the Snake River (bottom). From IWRB and USGS.



Comparing strategies

Strategy	Cost	Feasibility	Scale	Water quantity	Water quality
NO ACTION	-	-	+++	+++	+
BRING PILOT PROJECTS TO SCALE	+++	+++	++	+	+++
INVEST IN CAMP ACTIVITIES	+	++	+++	+++	+
IMPROVE WATER POLICY	++	+	+++	+++	+



Each watershed journey is similar, but where we join the path be different

El Bajío

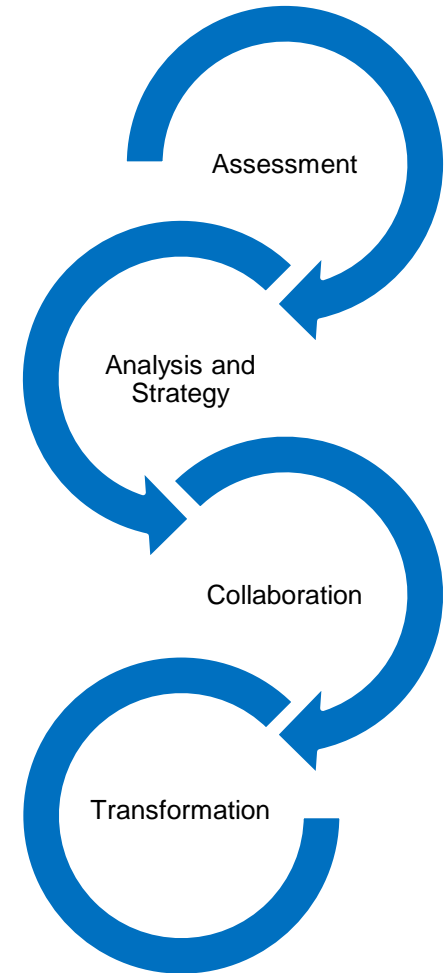
- Relatively simple hydrology
- GMI opportunity to lead development of large scale collaboration

Upper Snake River

- Complex, counter-intuitive hydrology
- GMI grower network provides opportunity to expand existing work

California

- Complex network of delivery and water rights coupled with historic drought
- GMI seeks our most useful role



Thank you!



Ellen Silva



Kari Vigerstol



Ellen.Silva@genmills.com



kvigerstol@tnc.org

