

*Re-Allocation & Storage*

# **Water Banking in Washington**

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# What is a Water Bank?

Water banking is an institutionalized process specifically designed to facilitate the transfer of developed water to new uses.

**A water bank is an intermediary.**

**It:**

- ❖ Seeks to bring together buyers and sellers
- ❖ Is an institutionalized process with known procedures and with some kind of public sanction for its activities

# Water Banking Functions

- ❖ Banking is facilitated by an institution that operates in the role of broker, clearinghouse, or market-maker
  - ✓ A clearinghouse serves mainly as a repository for bid and offer information
  - ✓ Brokers connect or solicit buyers and sellers to create sales
  - ✓ A market-maker attempts to ensure there are equal buyers to sellers in a market
- ❖ The choice of the water banking institution is an important determinant of the water banking structure
  - ✓ Ecology (Yakima Water Exchange, Columbia River Water Supply Development)
  - ✓ Local Government (none yet)
  - ✓ NGO non-profit (Walla Walla, Dungeness)
  - ✓ Private party (Kittitas mitigation banks)

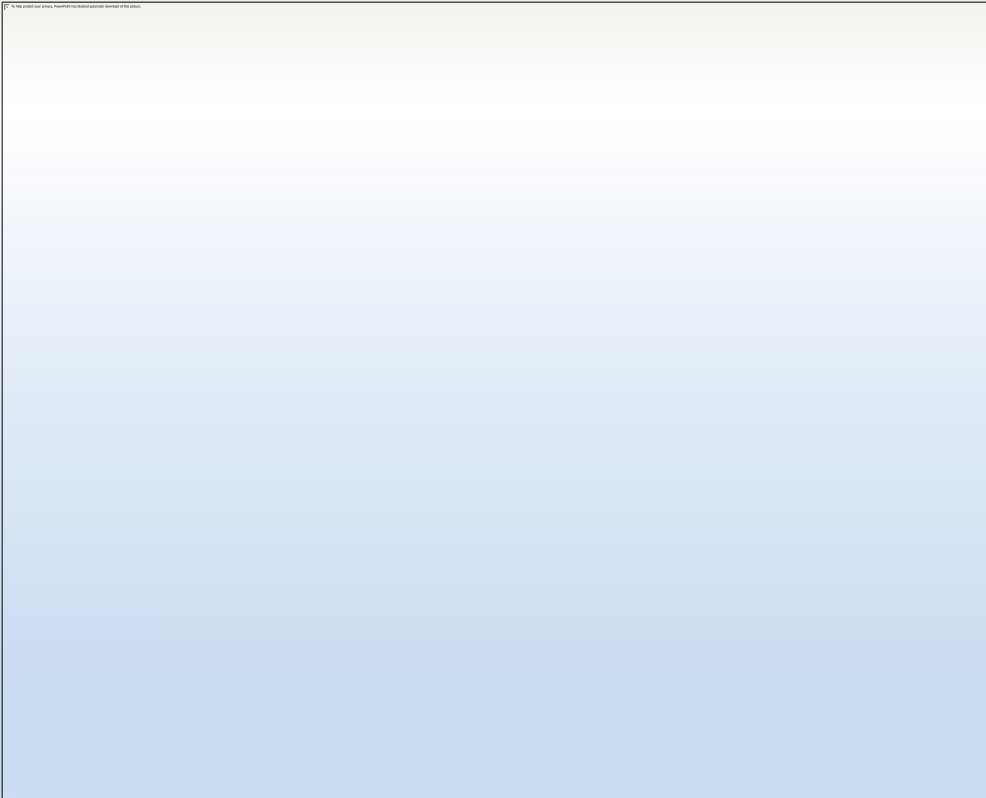
# Conceptual Feasibility

- ❖ Each bank or exchange includes and serves at least one “cap and trade” area within its service area
  - ✓ WRIA 18 – Dungeness River Basin water management rule
  - ✓ WRIA 32 – Walla Walla Gravel Aquifer –rule closure
  - ✓ WRIA 37, 38, and 39 – Upper Kittitas and Yakima River Basin
  - ✓ WRIA 63 – Columbia River mainstem rule

# Most Water Banks Serve Residential Uses

	Walla Walla	Yakima/Kittitas	Dungeness
<b>Ac-ft in TWRP</b>	15	>1000	
<b>Transactions</b>	3	285 in 4 years	12 in first 7 months
<b># Homes</b>	3	1731	13
<b># Banks</b>	1	9	1
<b>Cost/home</b>	\$2000	\$500* - \$14,000	\$1000-3000

# Why mitigation banks for residential use?



- ❖ Predictable demand
- ❖ Domestic use requires high reliability only delivered through the most senior rights
- ❖ Amenable to a buy big, sell small strategy

# Water Banking and Agriculture: Yakima Baseline

	<i>Water Traded (acre-feet)</i>		<i>Annual Net Farm Earnings (\$mil)</i>	
	<b>Inter-District</b>	<b>Intra-District</b>	<b>Total</b>	<b>Loss from Drought</b>
<b>Avg. Non-Drought</b>	Zero	Zero	\$280	-\$0
<b>Severe Drought</b>				
<b>No Trading</b>	Zero	Zero	\$200	-\$80
<b>Baseline Trading</b>	30,000	Zero	\$220	-\$60

# Potential Effects: Market-Based Element Only

	<i>Water Traded (acre-feet)</i>		<i>Annual Net Farm Earnings (\$mil)</i>	
	<b>Inter-District</b>	<b>Intra-District</b>	<b>Total</b>	<b>Loss from Drought</b>
<b>Core Scenario<sup>a</sup></b>	50,000	130,000	\$260	-\$20
<b>Alternative Scenarios<sup>b</sup></b>	50,000 – 110,000	90,000 – 230,000	\$260 – \$270	-\$20 - -\$10

<sup>a</sup> Buyers lease water only for crops with net farm earnings at least \$150/AF; out-of-district sales no more than 10% of each district's water supply for Roza, Kittitas, and Sunnyside.

<sup>b</sup> Tighter constraints: at least \$300/AF; looser constraints: all crops can trade.



# Case 1: Walla Walla

- ❖ WWT started and initially ran the bank under a 2-yr agreement with Ecology
- ❖ WWT purchased two groundwater rights and placed them in Ecology's trust water rights program
- ❖ The bank sells mitigation credits to offset new (post WAC 173-532) groundwater uses for irrigating a residential lawn or garden (\$2000/credit)
- ❖ Operation was transferred to the Walla Walla Partnership
- ❖ Accounting is managed by WWWWMP and Ecology
- ❖ Each \$2000 payment accepted by the WWWWMP is held and will be applied to future acquisitions
- ❖ The target buyer is a permit-exempt groundwater use – a water right permit is not needed – the structure of the bank is quite simple

## Case 2: Dungeness Water Exchange

- ❖ WWT started operations in Jan 2013
- ❖ DWE sells mitigation certificates based on
  - ✓ The domestic reserve in WAC 173-518
  - ✓ Acquired water rights
  - ✓ Other flow improvement projects
- ❖ Ecology approved a mitigation plan in December 2012 for WWT's operation of the DWE
- ❖ Impacts (debits) and credits are based on GW model
- ❖ Monitoring, accounting, and tracking is provided by WWT with coordination and reporting by Clallam County and Ecology
- ❖ The target buyer is typically, but not exclusively, permit-exempt groundwater uses

# Dungeness: How it Works

- ❖ WWT pursues funding and partners to complete projects that generate credits added to mainstem and tributary accounts
- ❖ WWT coordinates with Ecology and Clallam County
- ❖ Clallam County has integrated the mitigation certificate application process into its subdivision and building permit processes

The rule specifies the primary tool we'll use to determine the distribution of credits and debits of projects is an impact calculator :

The screenshot shows an Excel spreadsheet with the following data:

Mitigation Requirement (percent of consumptive use)				
Select Parcel Number Below	Shallow Aquifer	Middle Aquifer	Deep Aquifer	Bedrock Aquifer
043027-419110-000	85.687%	40.769%	0.000%	85.687%

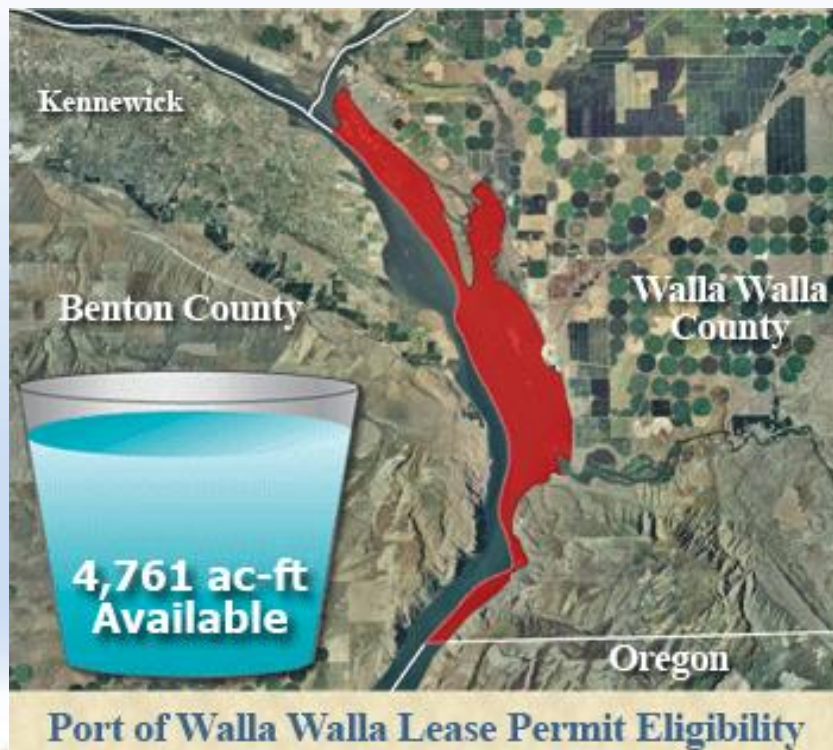
Select Aquifer Below	Bagley Creek	Bell Creek	Cassalery Creek	Dungeness River	Gierin Creek	Matriotti Creek	McDonald Creek	Meadowbrook Creek	Siebert Creek
Shallow Aquifer	1.517%	0.034%	0.288%	29.618%	0.088%	3.662%	56.722%	0.090%	7.980%
Gallons per Day	31.21	0.70	5.93	609.10	1.81	75.32	1166.48	1.84	164.11

Enter Consumptive Quantity	Total Mitigation Obligation
2400	2056.50

# Case 3: OCR Port of Walla Walla Lease Bank

Under Ecology's lease with the Port of Walla Walla, all or a portion of the leased water can be discontinued, with notice, for subsequent years.



- ❖ To be eligible to receive water, an applicant must
  - ✓ File a water right application or a letter of interest (if an application is already on file)
  - ✓ Accept a term permit with a maximum term of ten years, subject to annual review
  - ✓ Propose to divert water from the Columbia River or adjacent ground water to lands within WRIA 32
  - ✓ Agree to a annual cost-recovery fee of \$105 per ac-ft (the amount OCR pays for the water it is leasing from the Port of Walla Walla)
  - ✓ Propose a use that can be interrupted when the lease expires (e.g. not for houses)

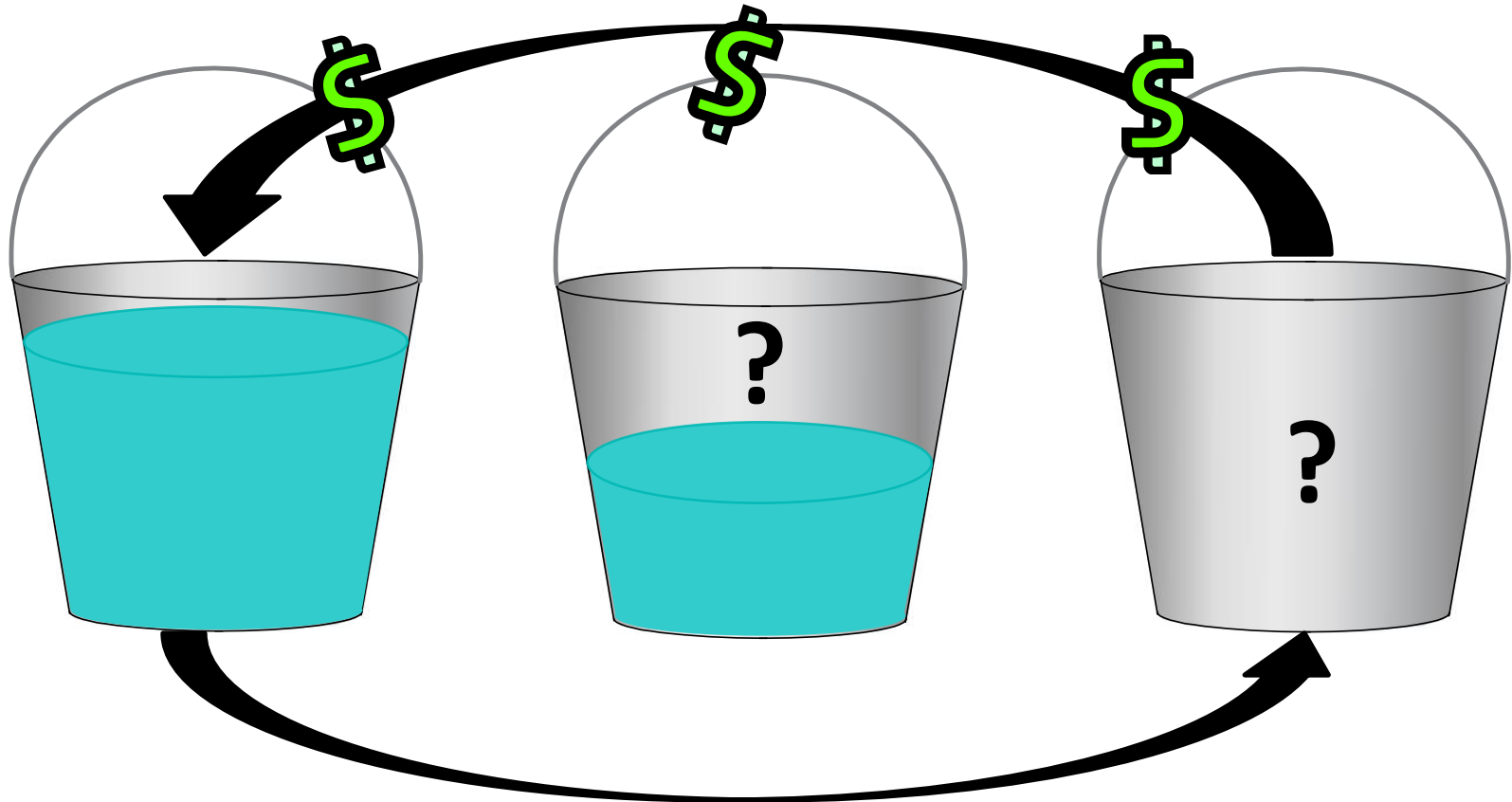
## Case 4: Yakima Water Exchange

- ❖ Started in 2001 as part of emergency drought response
- ❖ Water rights have been leased by Ecology when funds are available (2001 and 2005) or purchased when authorized (2007 “cabin-owner” program)
- ❖ Mitigation banks have also been established by water right owners and can be either “closed” or “open” to 3<sup>rd</sup> party sales

# Current Functions

- ❖ Drought response mitigation
  - ✓ Periodic water shortages result in curtailment of post-1905 water rights and pro-rationing of 1905 water rights
  - ✓ Emergency groundwater permits
- ❖ Groundwater management for new uses:
  - ✓ Upper Kittitas Water Budget Neutral projects since 2009 adoption of WAC 173-539A
    - Mitigated permits and permit-exempt uses
- ❖ Surface water or groundwater permit mitigation for any new use

# “Cabin Owner” and Upper Kittitas Domestic Mitigation Banks



**Senior**

**Water Rights**

Pre-1905 priority date:  
receives full water right

**Proratable**

**Water Rights**

1905 priority date:  
Receives ~ 1/3 to full water  
right depending on supply

**Junior**

**Water Rights**

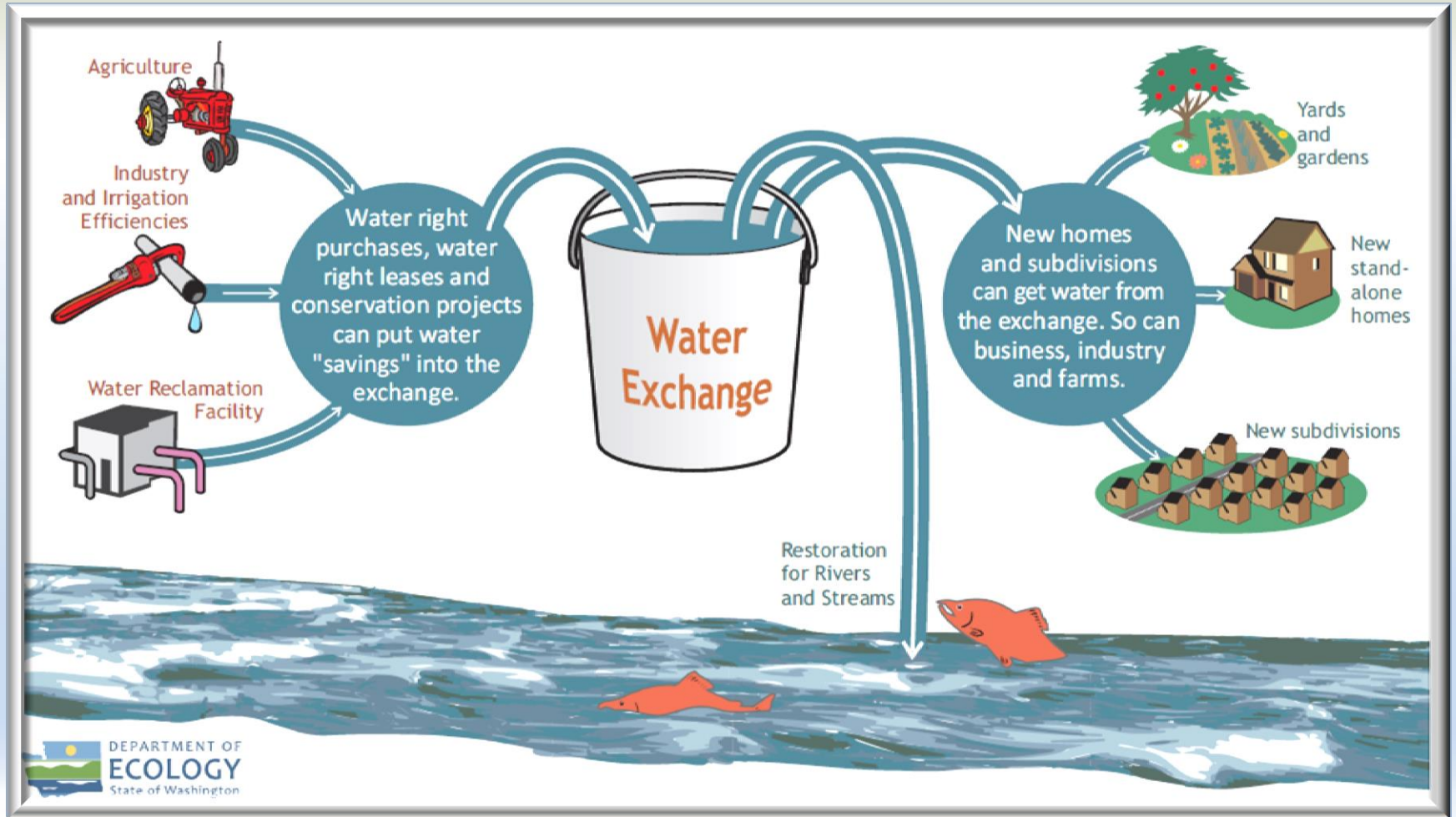
Post-1905 priority date:  
Receives no water once  
prorating occurs

# Kittitas-Yakima Mitigation Banks

	<b>Open to 3<sup>rd</sup> Party Sales</b>
WSDOT	Swiftwater Ranch (Teaway)
Northland Resources	Masterson (Teaway)
Ecology post-1905 Cabin Owners	Roan and Suncadia Swauk Creek
	Williams-Amerinvest (Manastash Creek)
	Reecer Creek GC
	Roth-Clennon
	Yakima Mitigation Services



# Form and Function



# Structure: What's Inside the Water Exchange Bucket?

- ❖ Exchanges and banks tend to be built around and use available assets, tools, and institutions
- ❖ Funding and its “delivery” method matters
- ❖ Kittitas and Dungeness residential water banks are different than the Yakima and OCR agricultural water banks
- ❖ To understand structure, follow:
  - ✓ Money
  - ✓ Permission to use water

# The Private Mitigation Bank Model

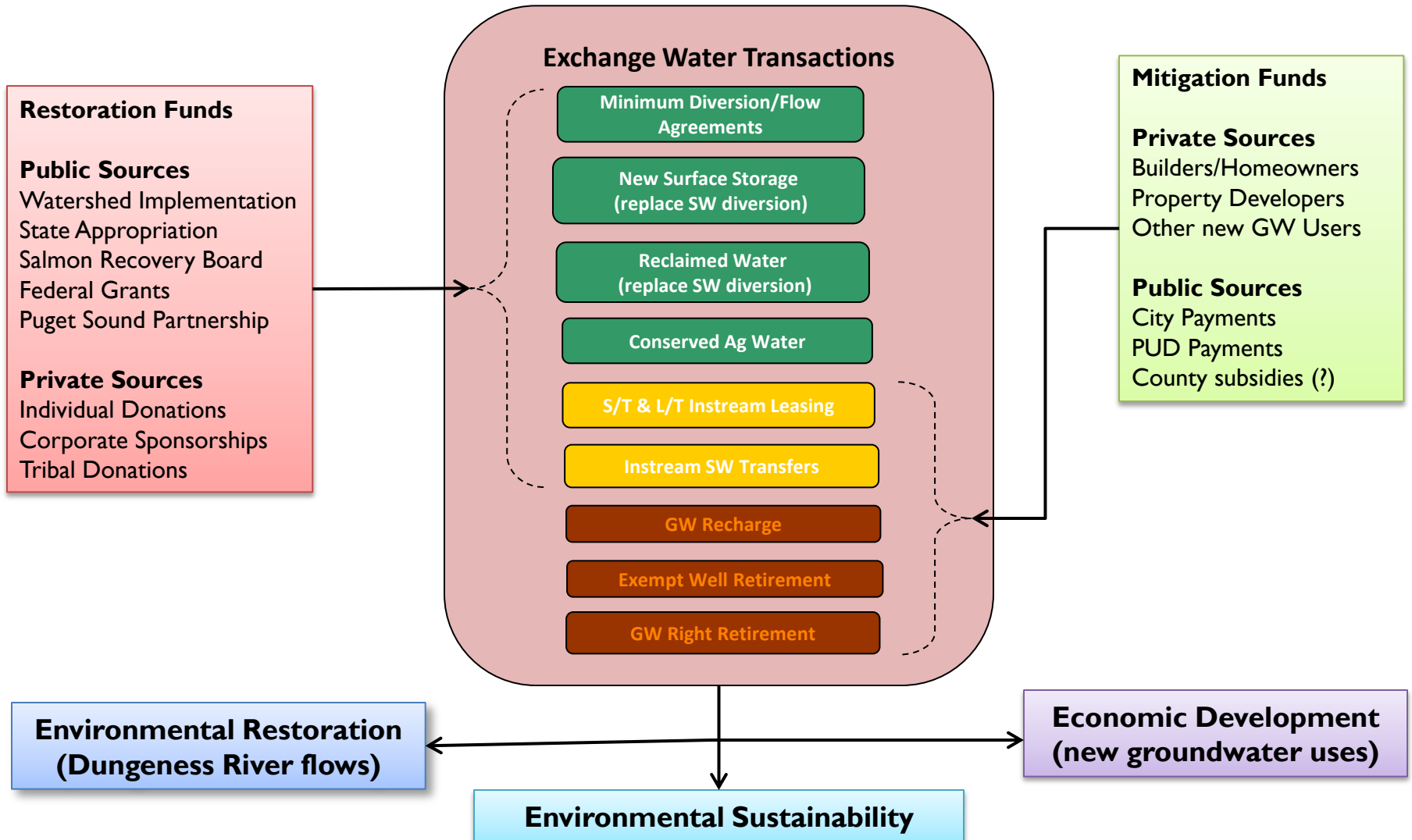
Conceptual Model - Yakima Mitigation Bank



TWRP = Trust Water Right Program  
WTWG = Water Transfer Work Group  
USBR = U.S. Bureau of Reclamation



# Dungeness Water Exchange Flow Restoration and Groundwater Mitigation



# Summary

- ❖ All four banks/exchanges rely on different mixes of local & state authority and non-profit participation
- ❖ Dungeness exchange incorporates private management of the domestic water reserve. Currently, the domestic water use mitigation certificates are subsidized
- ❖ Yakima banks include publicly managed and privately managed models
- ❖ OCR is a publicly capitalized water supply development program incorporating water banking as a means of developing area-wide water supply

# Questions