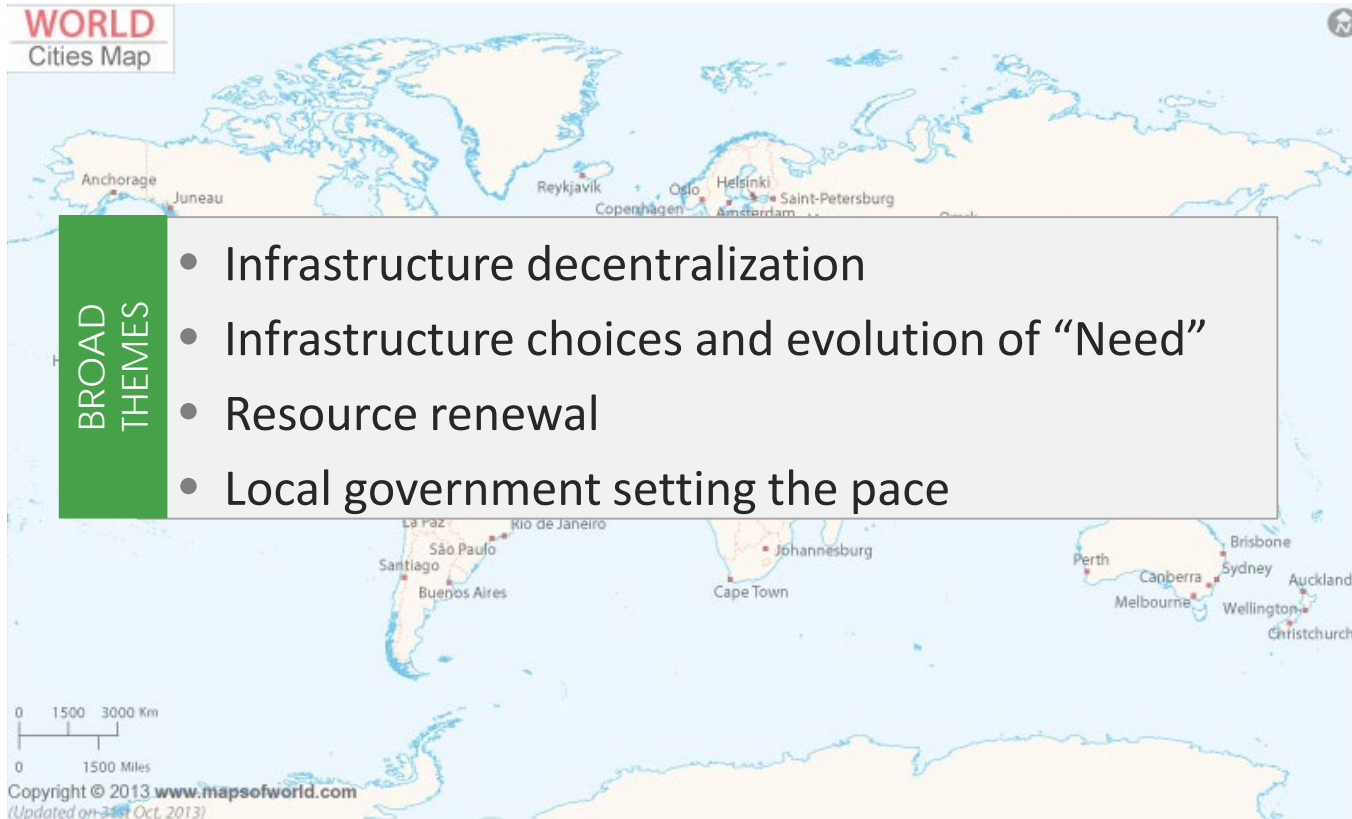




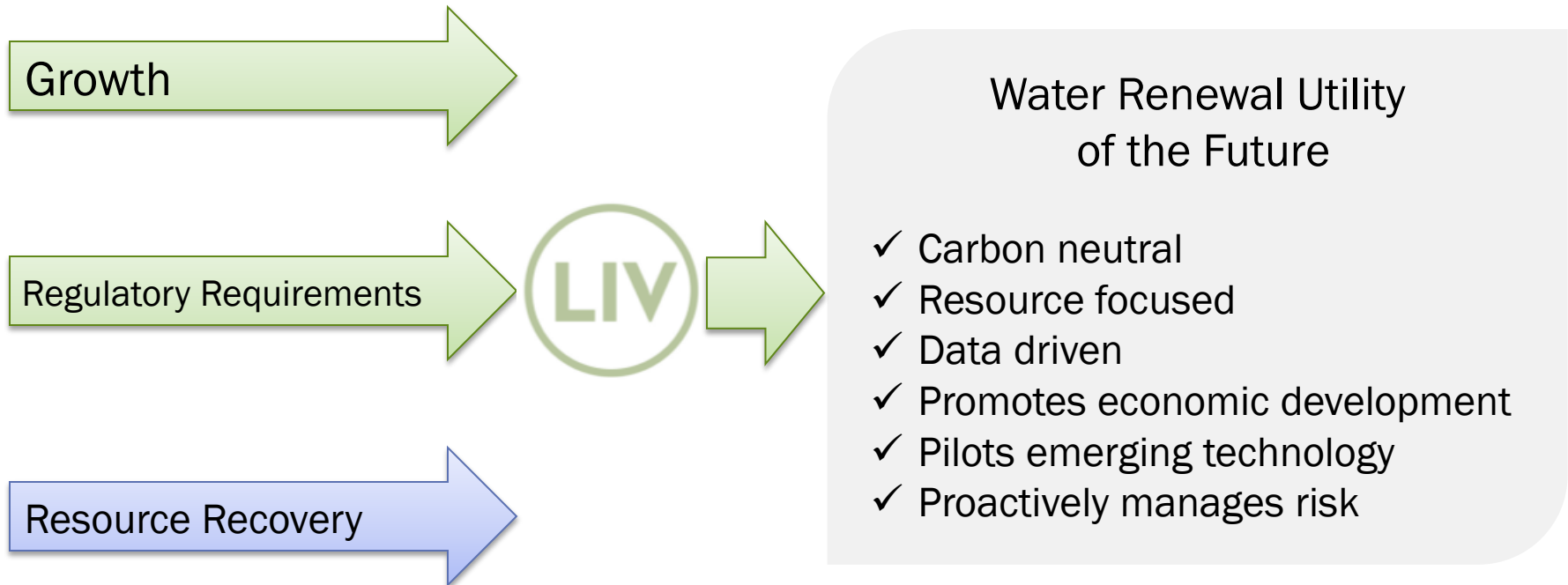
DIXIE DRAIN PHOSPHORUS REMOVAL PROJECT

December 7, 2018

IN THE 21ST CENTURY, CITIES WILL DRIVE CHANGE



WATER RENEWAL STRATEGIC PLANNING



OBJECTIVES

- Why This Project?
- Watershed
- Permitting
- The Facilities
- Operating Performance
- What's Next

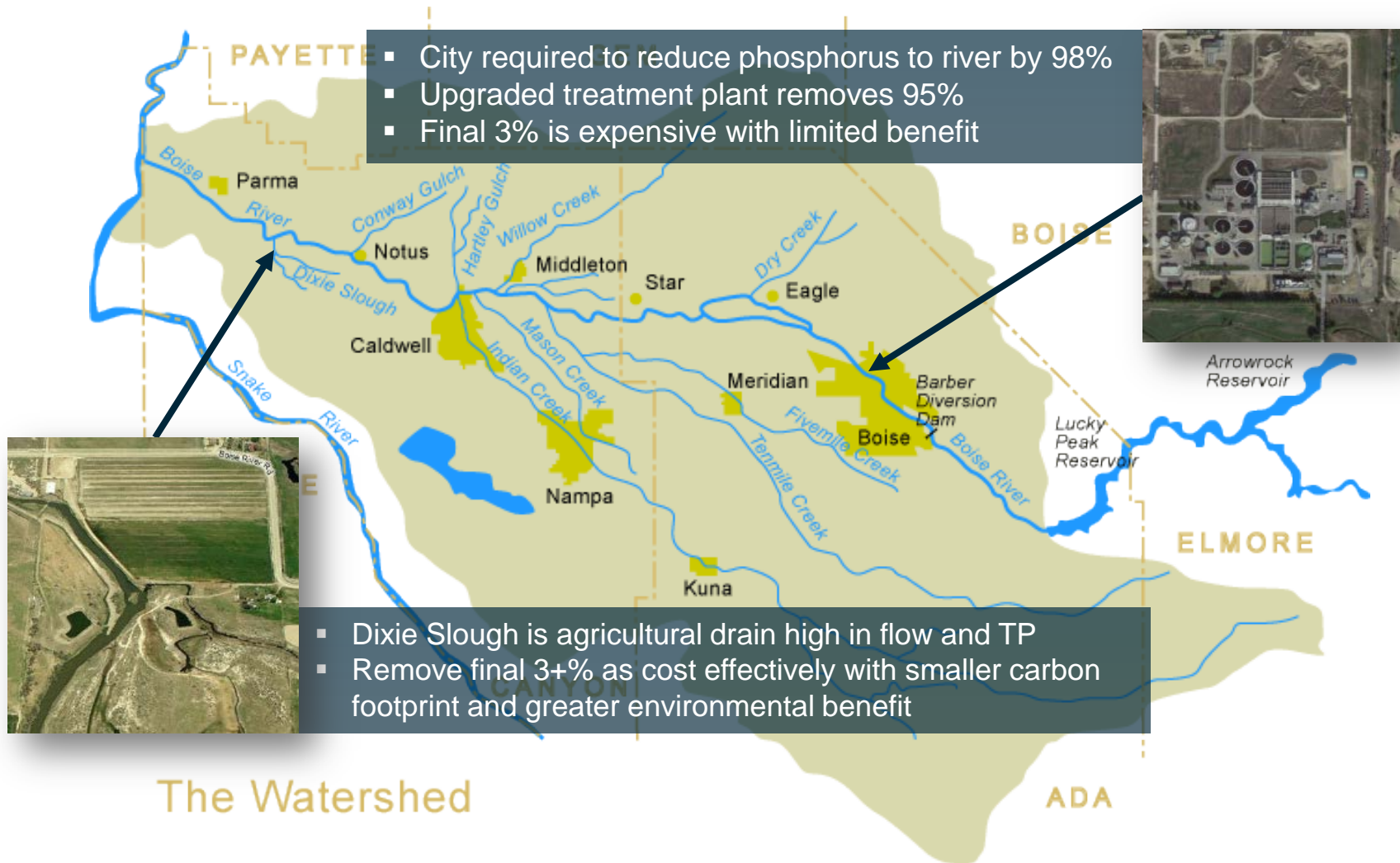


[Watch: City of Boise - Dixie Drain](#)

SO WHY PURSUE TRADING? GENERALLY . . .



POLLUTANT TRADING/OFFSET CONCEPT



NPDES PERMIT

- Issued May 2012 with reopener clause
- Modification September 2012 to allow Dixie Drain TP Offset on West Boise Permit
 - SOC for design, construction, O&M plan, and initial operation year (2016)
 - Monitoring requirements – temperature, aluminum, flow, pH, TP, removal %

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue Suite 900
Seattle, Washington 98101-3140

Permit No.: ID-002398-1
Page 1 of 57

**Authorization to Discharge Under the
National Pollutant Discharge Elimination System**

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 *et seq.*, as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act,"

West Boise Wastewater Treatment Facility, City of Boise

is authorized to discharge from the wastewater treatment facility located in Boise, Idaho at the following outfall locations:

Outfall	Receiving Water	Latitude	Longitude
001	Boise River	43° 30' 30"	116° 19' 53"
002	Dixie Slough	43° 38' 31"	116° 41' 15"

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective May 1, 2012!

This permit and the authorization to discharge shall expire at midnight, April 30, 2017 before the expiration of this permit if the permittee intends to continue operations and discharges at the facility beyond the term of this permit.

Signed this 15th day of March, 2012

/s/ Michael A. Bussell
Michael A. Bussell, Director
Office of Water and Watersheds

This permit modification is effective on September 1, 2012

Signed this 30th day of August, 2012,

/s/ Michael A. Bussell
Michael A. Bussell, Director
Office of Water and Watersheds

DIXIE DRAIN ELEMENTS



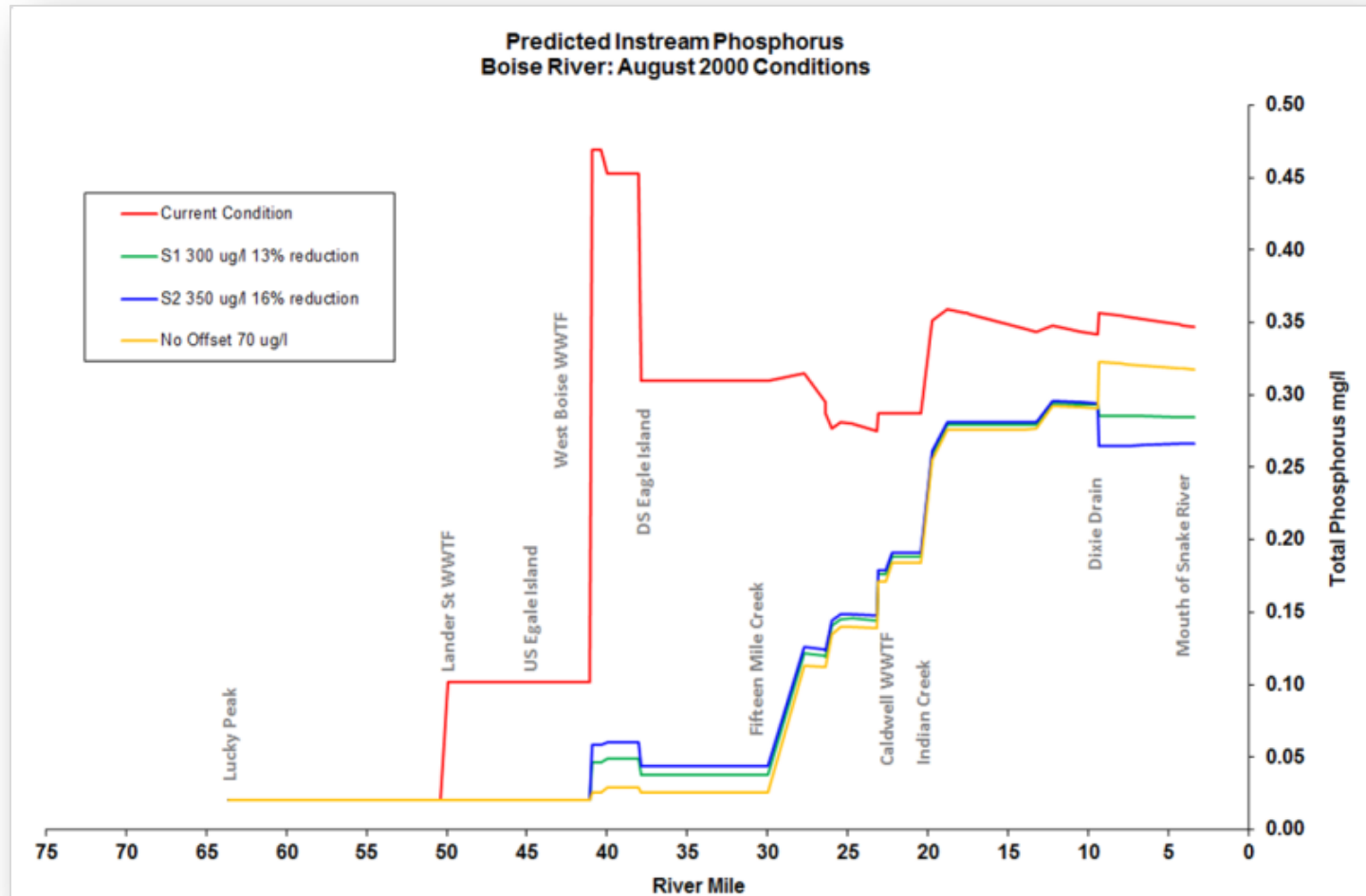
2017 PERFORMANCE

Month	Pounds of P Removed	Pounds/Day	Percent P Removal
May	911	29	79
June	1,091	36	81
July	1,017	33	79
August	903	29	79
September	985	33	81

2017 Total: 4,907 Pounds Removed

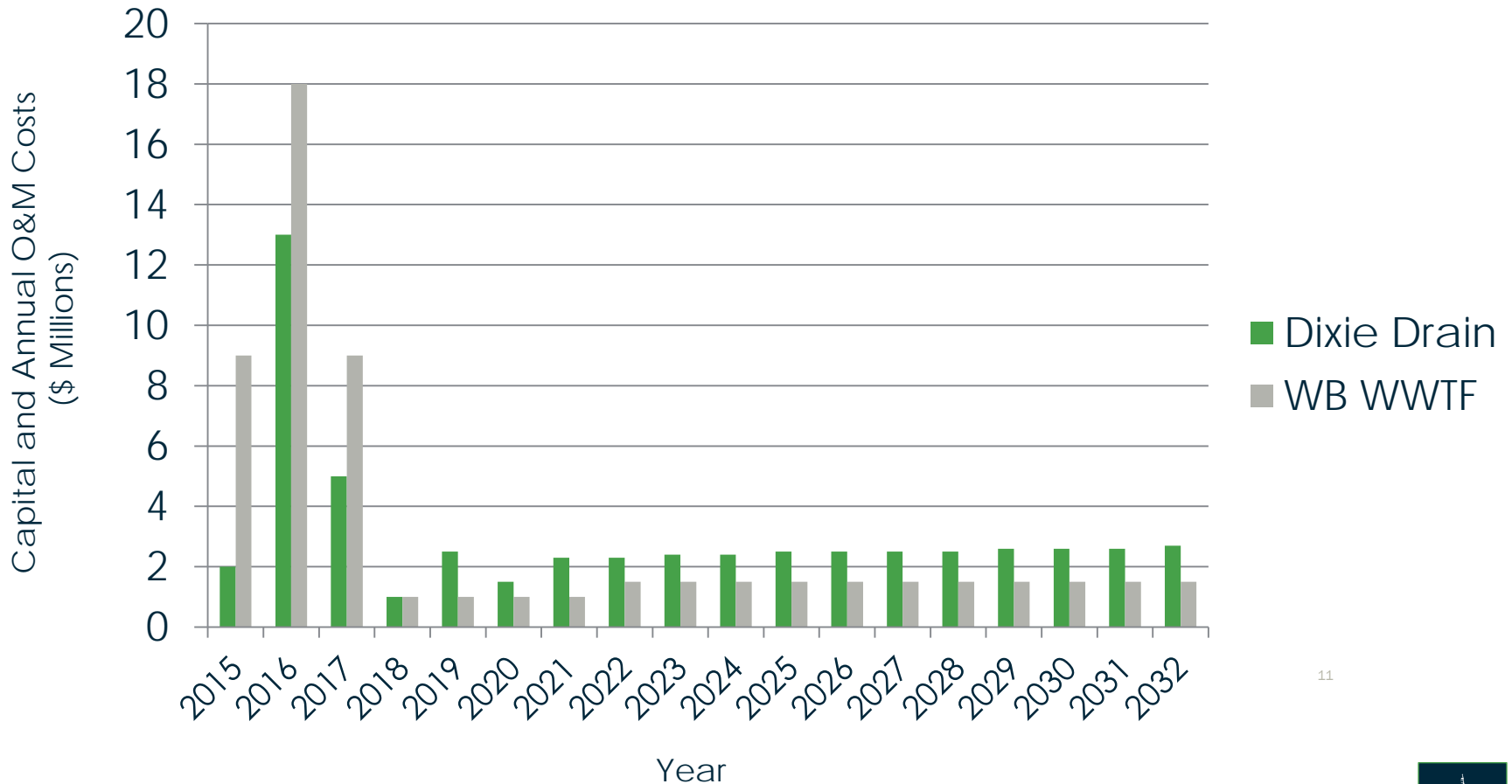
TRADING FOR CITY OF BOISE MEANS . . .

- Better environmental outcomes for the watershed



TRADING FOR CITY OF BOISE MEANS . . .

- Capital cost deferment and improved cash flow



11

TRADING FOR CITY OF BOISE MEANS . . .

- Temporary solution to long term discharge options

NPDES

Nutrients



has been recycled at one time or another, but when you talk about bringing wastewater to get a little squeamish.

one of the biggest hurdles for communities considering direct potable reuse (DPR) as a source of clean water when other resources aren't sufficient, said Wade Miller, executive arch Foundation (WRKF), a non-profit water reuse research organization that is leading direct potable reuse.

wastewater to drinkable standards and returning it to the raw water supply without the use or than mixing the treated water into an aquifer or reservoir (as you could with an

Microconstituents

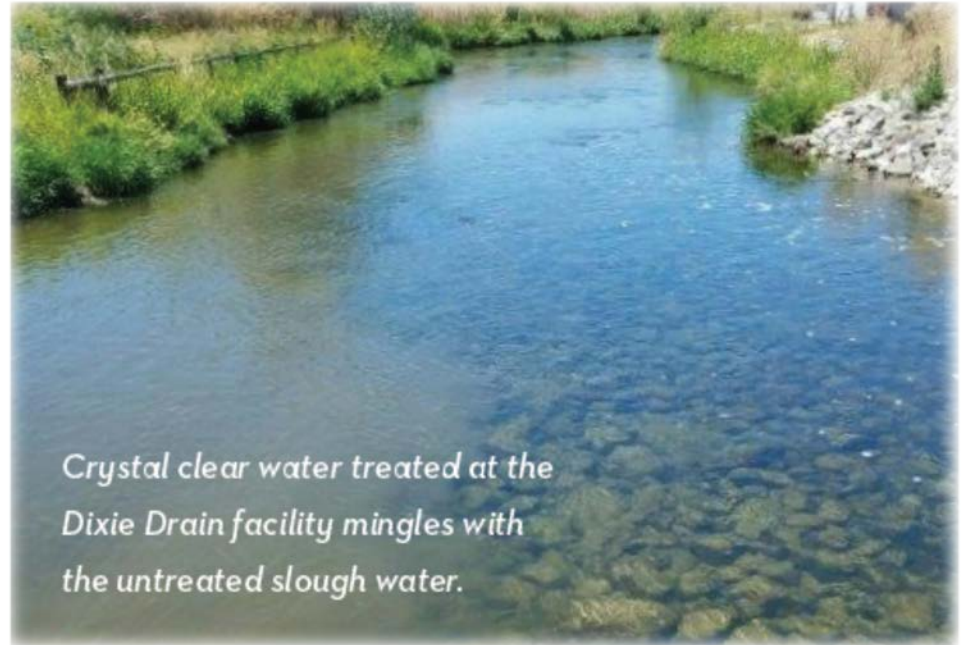
PCBs

TMDLs

Toxics

COLLABORATION IS KEY

- Collaborative effort
 - Congressional Delegation
 - EPA
 - IDEQ
 - IDWR
 - Idaho Conservation League
 - Brown and Caldwell
 - J-U-B



SUMMARY: AN INNOVATIVE SOLUTION TO A COMPLEX PROBLEM

- Removes up to 140 pounds of phosphorus per day
- Better Environmental Return on Investment
 - Removes 50% more phosphorus for same investment
- Removes phosphorus that would typically go untreated



TEMPERATURE MITIGATION: THE NEXT CHALLENGE REQUIRING INNOVATION

- The Boise River is our most prized piece of green infrastructure
- A Path Forward: Section 316a of the Clean Water Act





QUESTIONS





THANK YOU
