

Fall Line

	Local Funding Needs/Sources/ Availability	State Funding Needs/Sources/ Availability	Other Incentives (Non-Financial)	Other Impediments
Alternative sources below result in adding water back into the aquifer				
<p>Aquifer Recharge Using Surface Water withdrawn by water providers</p>	<p>Potential funding options from existing recharge projects across the country (Florida, California/Orange County) should be investigated by the funding committee</p> <p>Some ideas:</p> <ul style="list-style-type: none"> - User fees; - recharge authority pays water source (e.g. WWTP, WTP); - regionalized funding system to target funding; - distribute cost among aquifer users in a tiered system; - consider user fee credit for conservation measures or past investments; - consider banking credit; - consider assessing a user fee to private well owners in the region benefitting from additional recharge (guarantee of future water availability, no need for deeper wells, communication about ongoing injection activity) 	<p>State financial support for upfront cost similar to WQIF or SRF, loan or grants</p>	<ul style="list-style-type: none"> • Building a regional authority to manage surface recharge at the fall line may allow better distribution of costs and benefits • Using seasonal capacity at existing surface water treatment facilities may allow for operational improvements, but initial capital cost (injection wells) and higher operational cost for injection demand would need to be offset • Treated surface water may be less objectionable as recharge water • Can utilize existing facilities • Treatment requirements are lower at WTP than at WWTP • Already have one example in Virginia (City of Chesapeake) 	<ul style="list-style-type: none"> • Benefits accrue to the aquifer as a whole, including the local injection site, but costs under current system are localized • Potential impacts to streamflow/instream water quality? • Information needed/uncertainty about what injection volume is needed where (to stop decline, to actually recharge, to eliminate critical cells,...) • Model runs needed to determine extent of impact to aquifer to determine locations (use existing WTP facilities along fall line as test cases?) • Potential impacts to private well owners from different water quality

Aquifer Recharge Using Surface Water (ponds, borrow pits, sand pits, other)			<ul style="list-style-type: none"> • Injection may distribute water/pressure where it is needed • Needs less infrastructure for distribution • 	<ul style="list-style-type: none"> • Volume and/or quality may be limited • Inventory of existing available surface water bodies may be limited (DMME, localities) • Model runs needed to determine extent of impact to aquifer (pressure/water levels)
Aquifer Recharge Using Wastewater			<ul style="list-style-type: none"> • An education and awareness campaign about the safety of aquifer recharge using wastewater • Possibility of nutrient credits? 	<ul style="list-style-type: none"> • Benefits accrue to the aquifer as a whole, but costs are localized • Negative public perception (e.g., the “yuck factor”) • Additional treatment costs
Alternative sources below result in reduced withdrawals from the aquifer				
Reuse (on-site)	<ul style="list-style-type: none"> • State/locality/industry partnership to jointly invest in upfront capital cost, e.g. for storage; incentive for use of reused water instead of new water • Concept of “first use water should cost more than reclaimed/reused water” • Locations could be shared with Economic Development to help with siting/marketing 		<ul style="list-style-type: none"> • An education and awareness campaign about the availability and safety of reused water (incl. information exchange with Economic Development on available water) 	<ul style="list-style-type: none"> • Benefits accrue to the aquifer as a whole, but costs are localized • Need an end user • Negative public perception (e.g., the “yuck factor”) • Additional treatment costs • Additional piping and distribution system(s) required

<p>Use of Reclaimed Water (off-site)</p>	<ul style="list-style-type: none"> • State/locality/industry partnership to jointly invest in upfront capital cost, e.g. for storage; incentive for use of reused water instead of new water • Concept of “first use water should cost more than reclaimed/reused water” • Locations could be shared with Economic Development to help with siting/marketing 		<ul style="list-style-type: none"> • An education and awareness campaign about the safety of reclaimed water (incl. information exchange with Economic Development on available water) • Available locations could be shared with Economic Development to help with siting /marketing • Consider and discuss available water sources upfront during economic development discussions 	<ul style="list-style-type: none"> • Benefits accrue to the aquifer as a whole, but costs are localized • Need an end user • Additional treatment costs • Additional piping and distribution system(s) required •
<p>Surface Water Reservoirs (incl. sand & borrow pits, quarries, impoundments)</p>			<ul style="list-style-type: none"> • Existing surface water bodies may be a good local solution • Locations could be shared with Economic Development to help with siting • Focus on new or existing smaller surface water reservoirs may alleviate some impediments (public concern, permitting, land availability) 	<ul style="list-style-type: none"> • Permitting issues • Public opposition • Land availability • Volume and/or quality may be limited • Inventory of existing available surface water bodies may be limited (DMME, localities) • Location may not match where water is needed • Needs infrastructure for distribution