

Water Contingency Planning Task Force

Appendix V

Survey results

December 2009

Survey #1

- **Feedback on guiding principles, initial portfolios, individual options**
- **Distributed following TF meeting #2 (Nov 24, 2009)**

Recap: Survey #1 examined three main topics

1

Principles of option evaluation

- **By what principles do you evaluate potential solutions?**
 - Which considerations matter more/less?
- **To what degree would you consider**
 - mandated conservation (vs. incentives)?
 - state control (vs. local government)?
 - interbasin transfers into Metro district?
 - ...

2

Portfolio review

- **To what degree do you support the initial 2015 and 2020 solution portfolios? What would you change?**

3

Option assessments

- **To what degree do you support a given option for inclusion in the solution portfolio?**
- **Would you endorse this option even if Lake Lanier were re-authorized as a supply source?**

Task Force Survey #1: Context

Survey intended as a means to collect your input

- Not a "voting" mechanism
- Used to identify areas of agreement and recognize dissenting views
- Recognize there are some inherent limitations
 - Cost and yield figures, while comparable, are nonetheless *estimates*
 - Material has degree of technical complexity- challenging for a non-technical Task Force
 - Imperfect information regarding options (given lack of full hydrology studies, downstream impact studies)

Significant response rate achieved – 64 of 87 (74%)

- Respondent pool makeup closely resembles that of overall Task Force

Task Force Survey #1: Summary (I)

Principles of option evaluation

1

Principles of option evaluation

- General consensus that conservation should be incentive-driven
- Some acceptance of transfers on temporary basis to address a shortfall would be acceptable, but many question feasibility of this
- Recognition that cost efficiency and environmental impact must be balanced
- Notable division over issues of local vs. state control

Task Force Survey #1: Summary (II)

Portfolio review

2

Portfolio review

- Reaction to 2020 portfolio generally positive; 2015 more mixed due to high cost and low practicality
- Some concerns cited regarding inability to close 2012 gap and uncertainty around downstream impacts

Task Force Survey #1: Summary (III)

Option assessment

3

Option assessment

- Incentive-driven conserve options stand out as "no regret" moves (ie, supported even with Lanier reauthorization)
- Indirect Reuse, Reservoirs and groundwater supported as "contingency" options (ie, wouldn't support if Lanier reauthorized)
- Leak abatement supported, despite relatively high cost
- Inter-basin transfers show mixed support, strong areas of dissent

Feedback provides some logic for "alternate" 2020 portfolio, designed around multiple considerations beyond cost efficiency

Executive summary

Principles

Fairly strong agreement that conservation should be incentive-driven and that temporary transfers are acceptable to address a shortfall...

- "Should rely on incentives as much as possible, but portions may require mandate"
- "Conservation and water efficiency should be the underpinning – both incentives and mandates should be pursued"
- "The problem is large, all options should be in play"

But group is significantly divided over local vs. state control and long-term inter-basin transfers

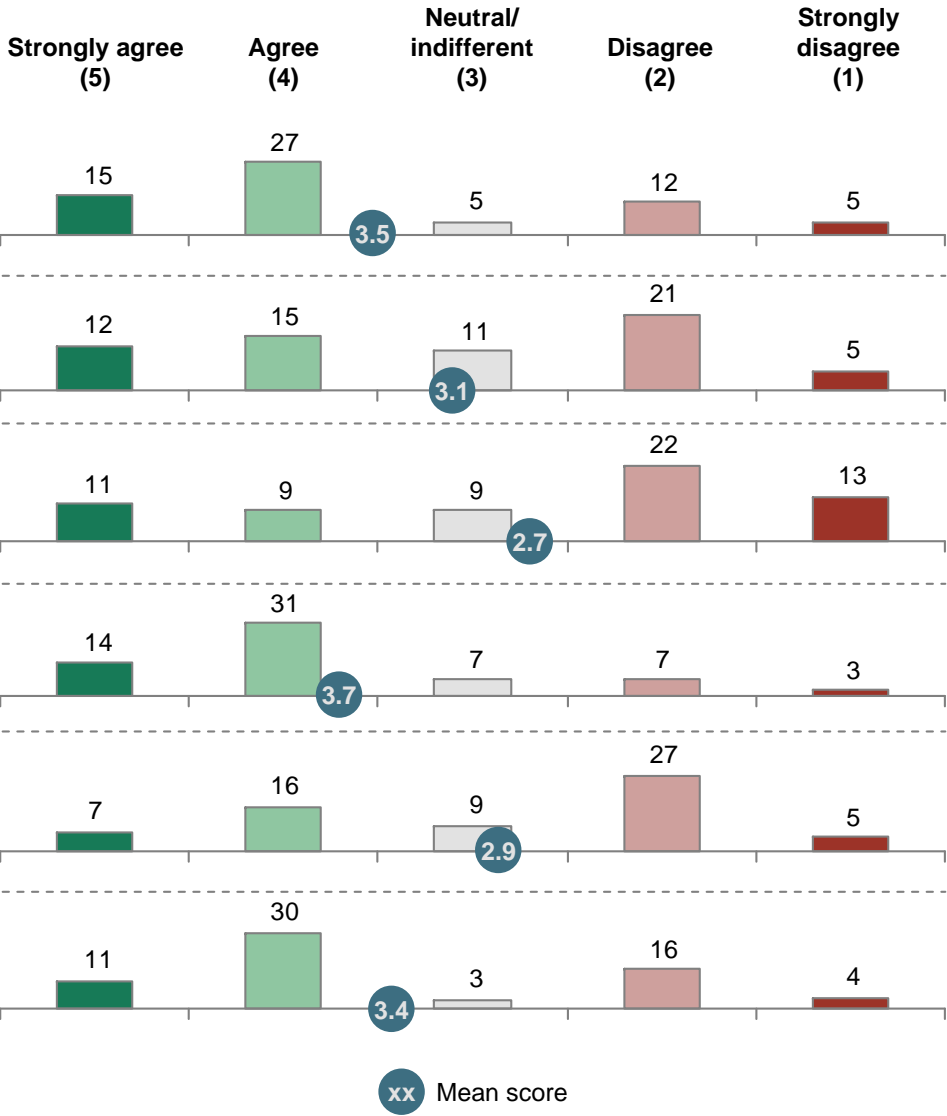
- "Local government would be more effective" vs. "State will need to set some rules and parameters"
- "Metro area needs to eat this one" vs. "Transfers [into Metro area] should certainly be considered"
- "Moving water around does not solve the problem" vs. "Water transfers are essential and should be used long and short term"

Most agree that both cost and environmental impact should be considered

- "Both [cost and environmental impact] are important and should be given appropriate consideration"
- "Cost effectiveness and environmental impact all need to be balanced"

General agreement on incentive-driven conserv. and temporary transfers; division noted for 'local/state control', IBT

Key principles



Note: n=64
 Source: Water Contingency Planning Task Force Survey results
 144200-01 TF Appendix V.ppt

General agreement on principles across most groups

Conservation-group affiliated members often differ

Key principles

Conservation should be incentive-driven, not mandated

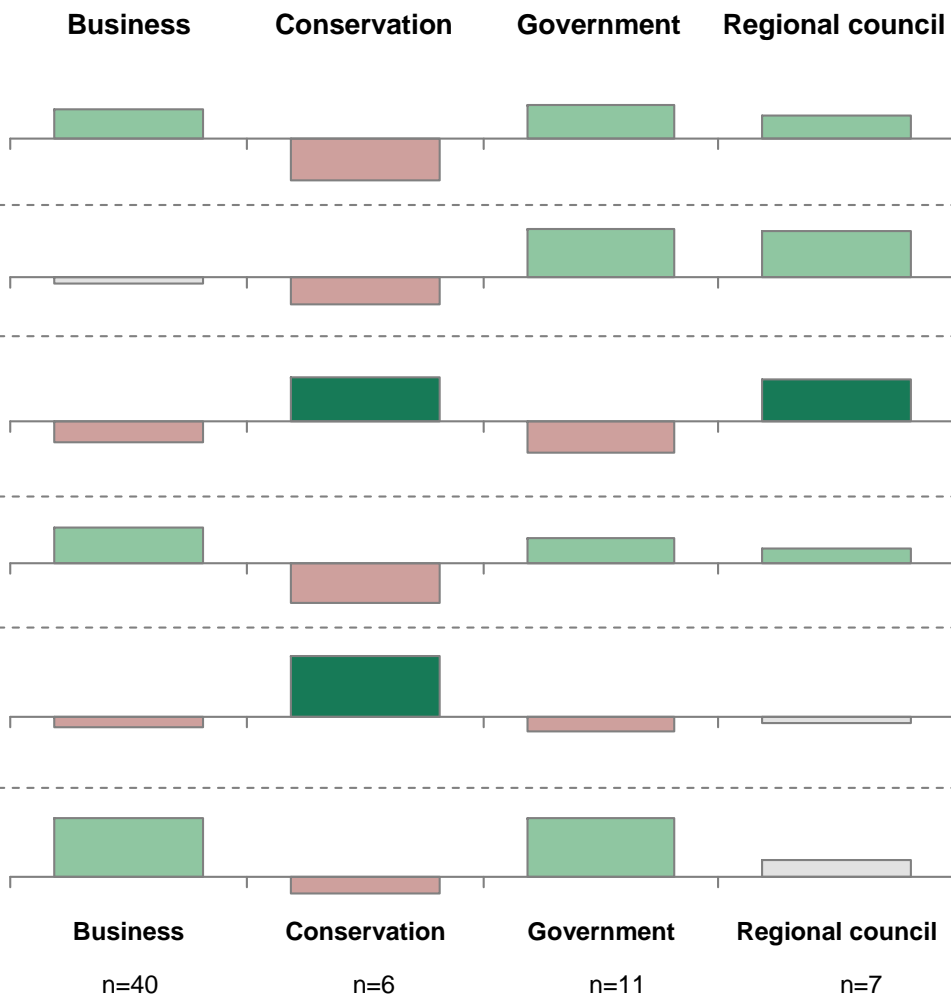
Local governments, utilities should retain policy control- versus state directed policy

Water should not be transferred from outside the Metro Water District into the District – the Metro District should supply its own needs

Water transfers, if temporary in nature, would be acceptable to address a shortfall

Solutions should be prioritized first on the basis of minimizing environmental impact, secondly on cost efficiency

Georgia should consider establishing market mechanisms to price water and allow transfer of sustainable yields from surplus regions



■ Strongly disagree (1) <1.8
 ■ Disagree (2) 1.8 - 2.8
 ■ Neutral/indifferent (3) 2.8 - 3.3
 ■ Agree (4) 3.3 - 4.3
 ■ Strongly agree (5) > 4.3
 (#) = Score assigned to response
 ## - ## = Range of scores shaded

Note: Groups defined as: "Business" - state and local business leaders; "Conservation" - state and local conservation experts; "Government" - state government officials, legislators, local elected officials; "Regional council" - chairs of state's regional water councils Source: Water Contingency Planning Task Force Survey results

Executive summary

Portfolios

Task Force members generally expressed positive reaction to 2020 option portfolio

- "Broadly based and well considered"
- "Good identification of options"
- "All should be considered and a combination of these will be necessary over the long term"

Reactions much more mixed for 2015 portfolio – based on cost and practicality

- Very costly solution, and not practical; Indirect Potable Reuse a very expensive work-around

Some significant concerns raised...

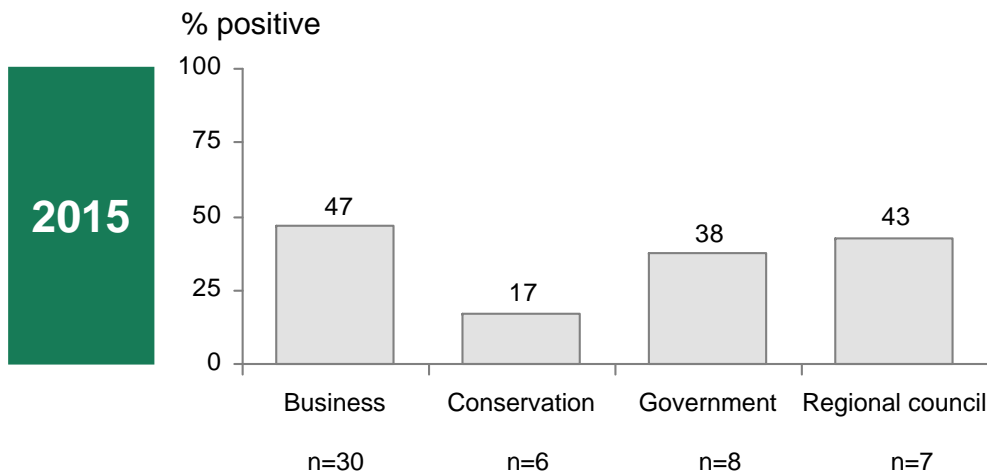
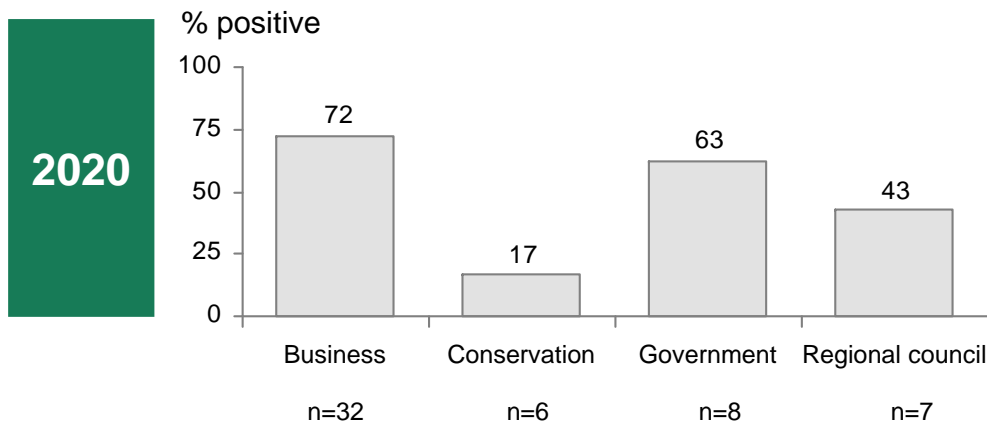
- "Appropriate mix of options, but none solve problem by 2012"
- "We should be focusing on infrastructure to ensure that water supply can be shared as of July 2012"
- "[Have some] concerns over downstream impacts"

Significant value in deferring to 2020, if we have the flexibility to pursue longer-term solutions

- "Good list, time is real issue, not options. List magnifies time issue"
- "The options make sense and mix is good if we can wait until 2020 to hit our goal"
- "Many options look attractive through 2020, but we need to get started and make commitments ASAP"
- "How confident are we that the court will negotiate the end date?"

Reaction to 2020 portfolio generally positive, while many cite high cost and low practicality of 2015 option portfolio

Reaction to mix



Notable comments

- "Reservoir expansion and creation with conservation measures are the best options"
 - "Conservation measures need to be adopted both inside and outside of Metro area"
 - "We need to get more out of conservation"
 - "Concerned that conservation measures alone aren't going to make a substantive difference"
-
- "Cannot get there by 2012, and doing it by 2015 would be expensive"
 - "Would probably eliminate ASR and indirect potable reuse... not realistic"
 - "Indirect potable reuse is a very expensive way to do what we're already doing – drawing water out of the ACF and putting it back after using and treating it"

Note: groups defined as: "Business" - state and local business leaders; "Conservation" - state and local conservation experts; "Government" - state government officials, legislators, local elected officials; "Regional council" - chairs of state's regional water councils
 Source: Water Contingency Planning Task Force Survey results

Executive summary

Options

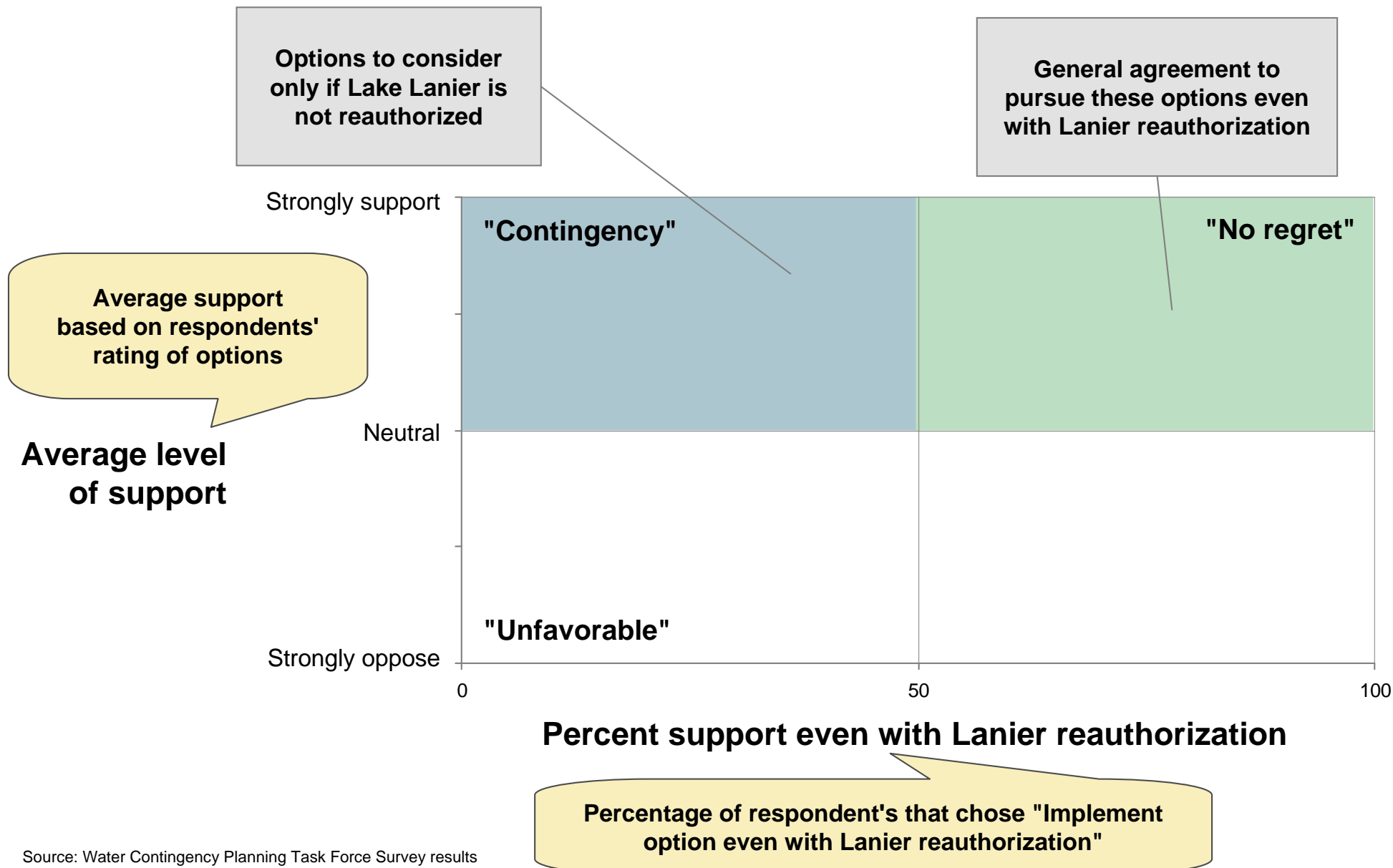
Group clearly agrees that more can, and should be, accomplished via conservation

- Incentive-driven fixture retrofits + conservation pricing identified as options to be pursued even if Lake Lanier reauthorization is obtained
- Task Force members generally favor incentive-driven implementation, but many recognize that mandates serve a role in contingency situations
 - "[Mandates] may not go over well, but [they are] decisive and effective"

In the event of no reauthorization, reservoirs + groundwater supply emerge as front-running "contingency" options

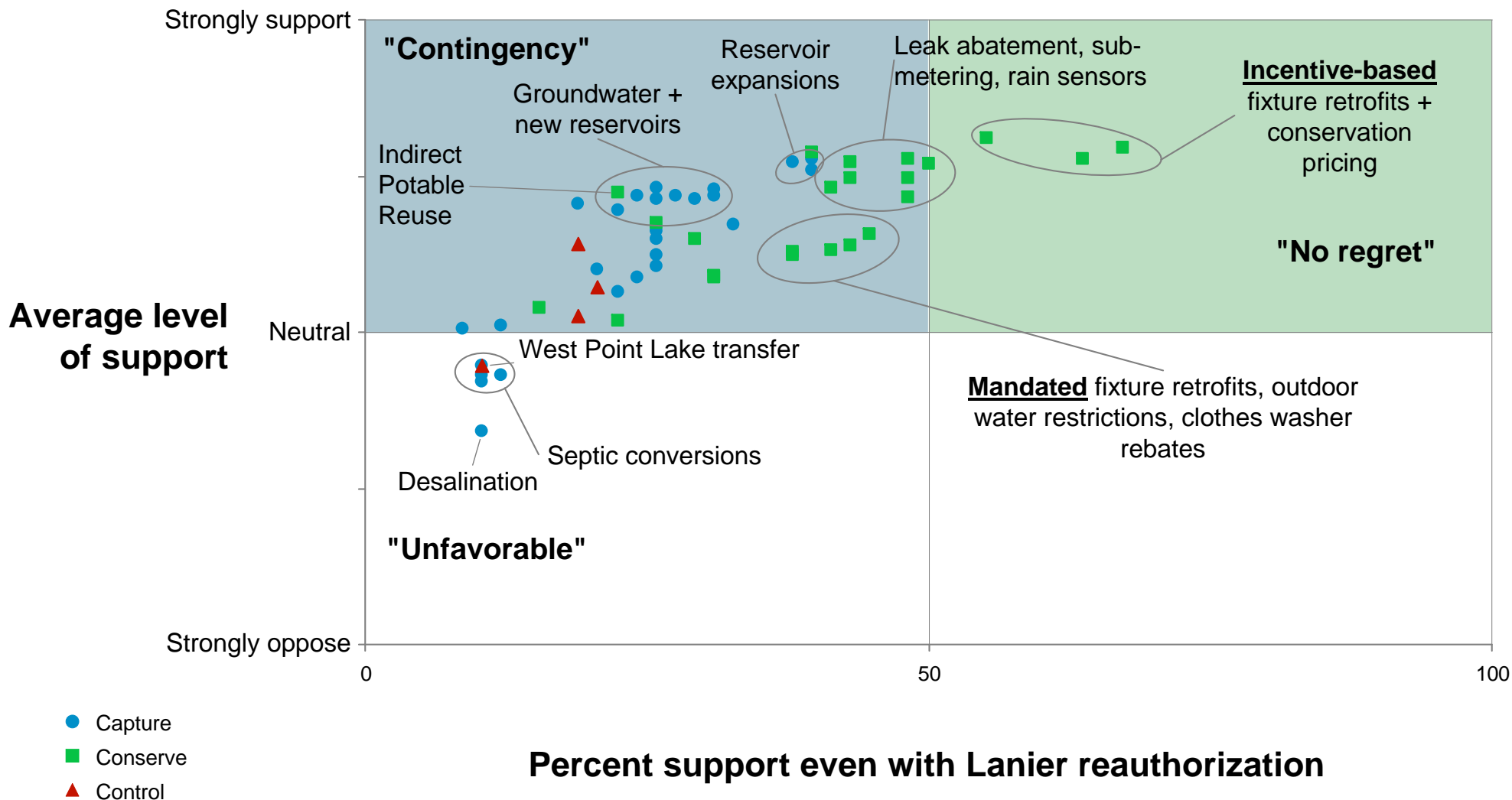
- Desalination, septic conversion, and groundwater from south GA clearly identified as unfavorable options to pursue
 - "No support [for desalination] – no way our situation in Georgia requires this measure"
 - "[Septic conversions] too small, too expensive, too disruptive to homeowners"

Contrasting "level of support" with "pursue option anyway" identifies "no regret" and "contingency" options



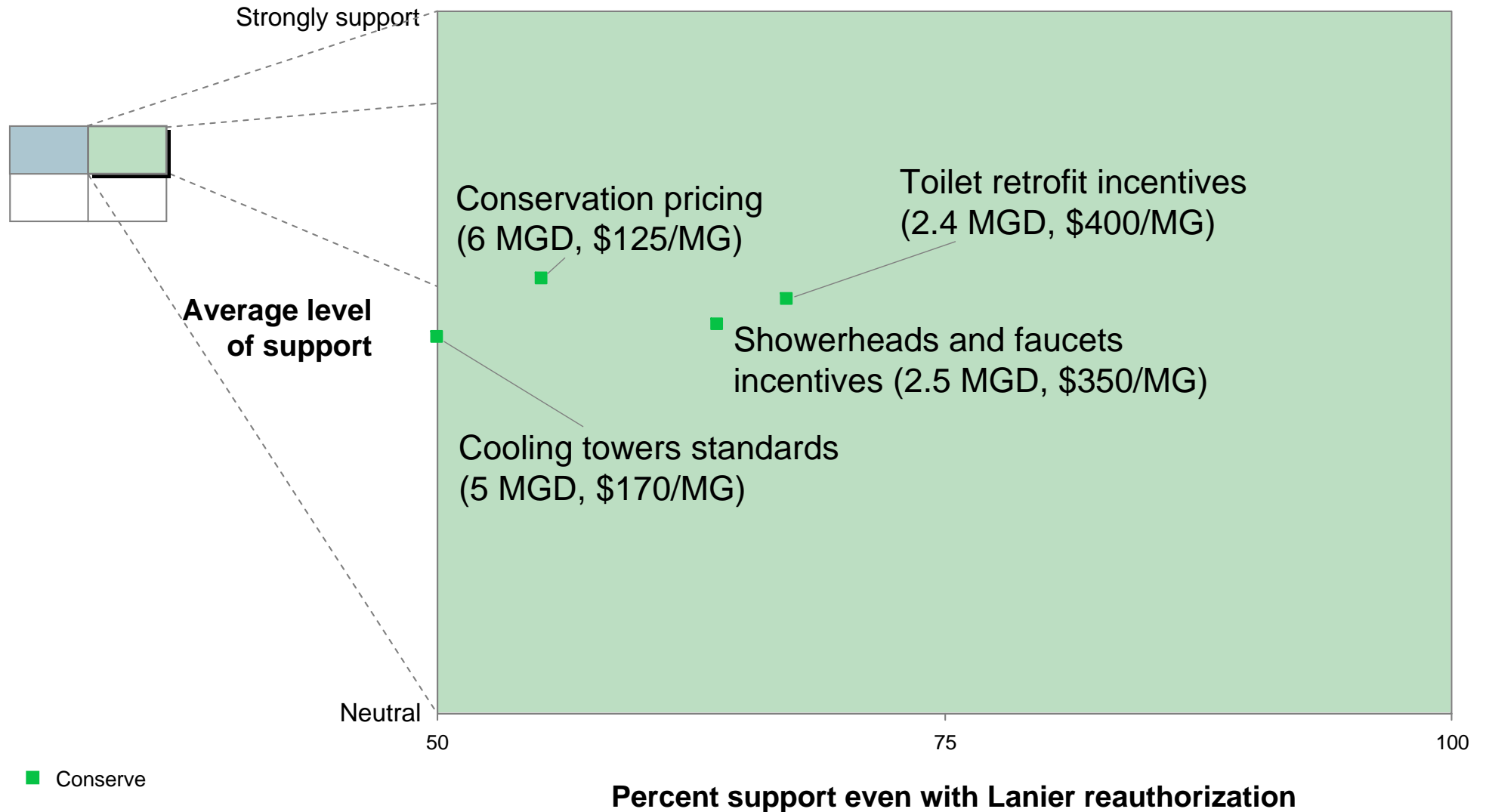
Incentive-based conservation generally viewed "no regret"

Groundwater supply and reservoirs most favorable "contingency" options



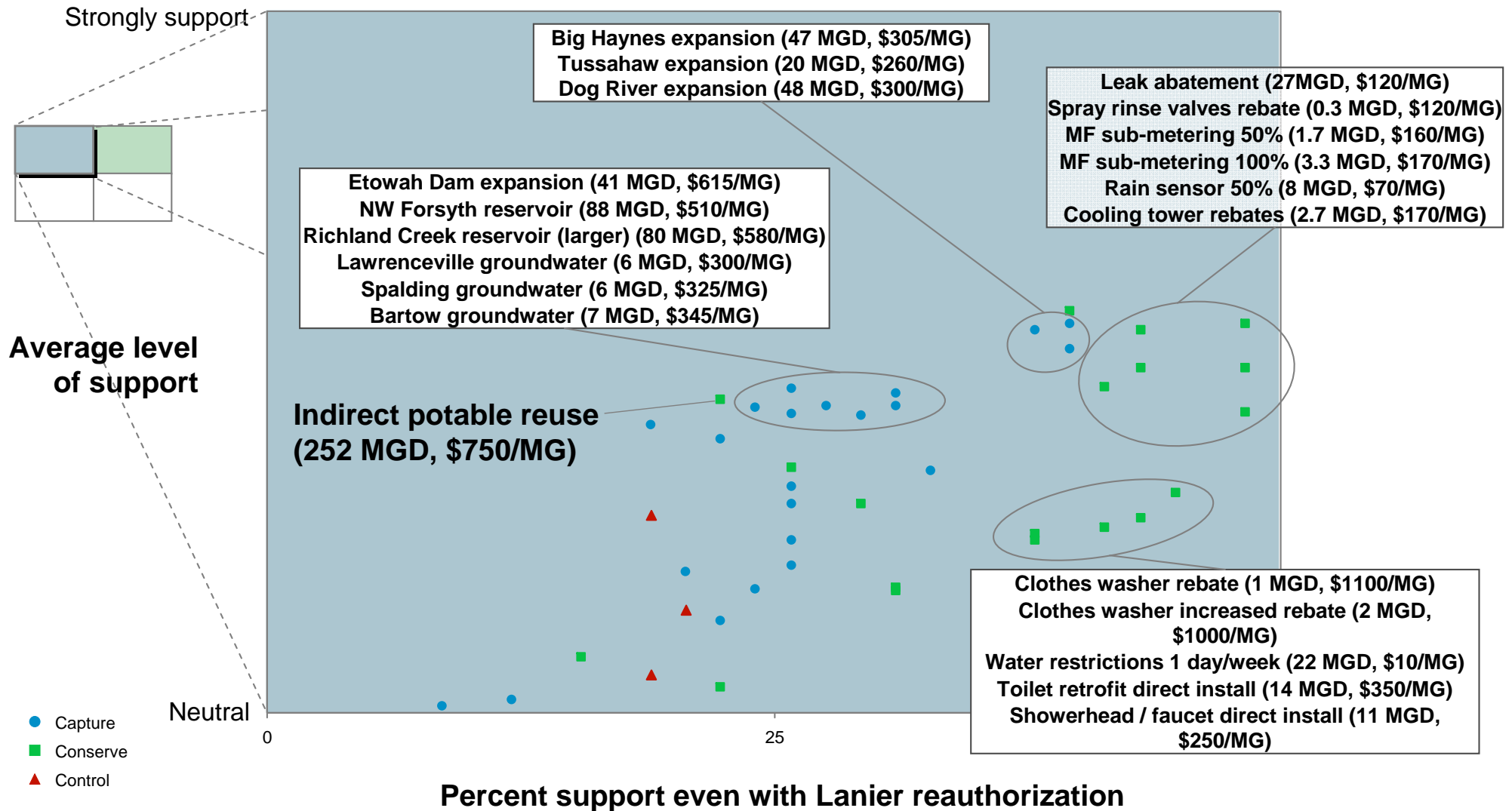
Source: Water Contingency Planning Task Force Survey results, n=64

Incentive-based fixture retrofit and conservation pricing viewed as "no regret" options



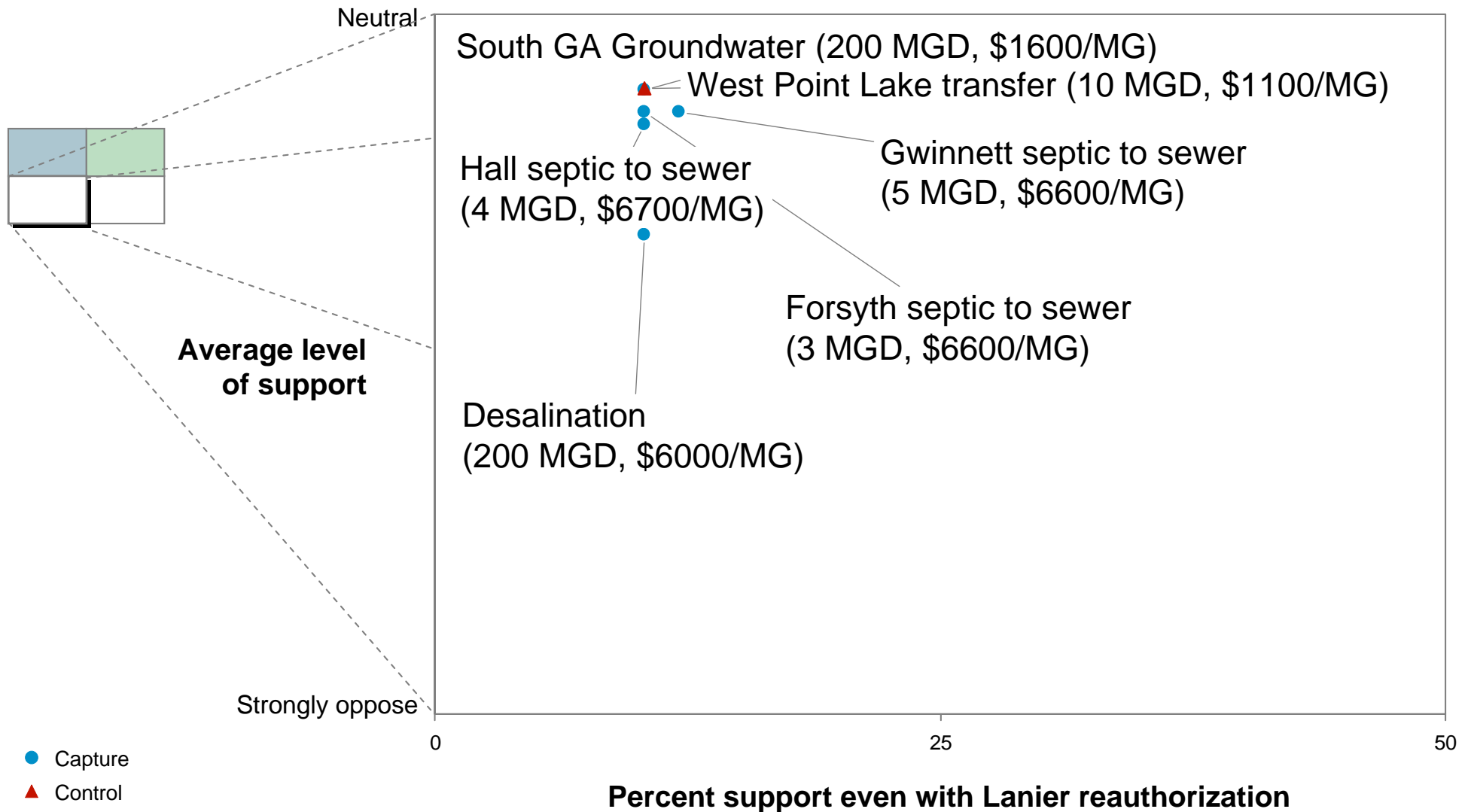
Note: n=64
Source: Water Contingency Planning Task Force Survey results
144200-01 TF Appendix V.ppt

Following additional conserve measures, reservoirs and groundwater most favored "contingency" options



Note: n=64
 Source: Water Contingency Planning Task Force Survey results
 144200-01 TF Appendix V.ppt

Septic conversions and desalination decidedly "unfavorable" options

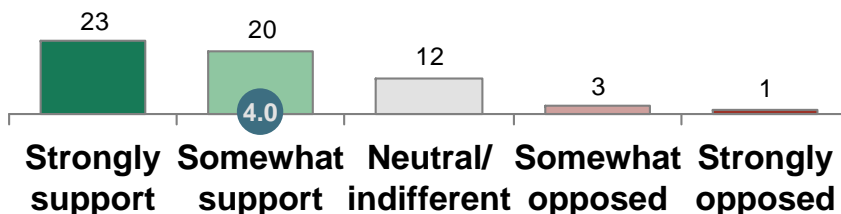


Note: n=64
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 144200-01 TF Appendix V.ppt

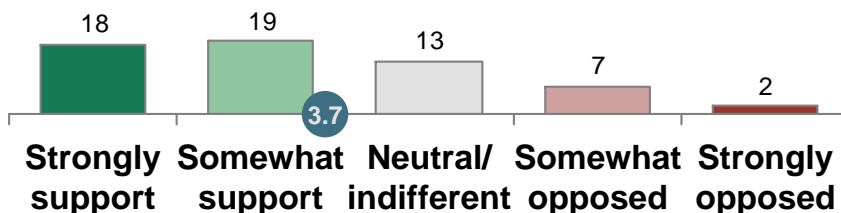
General preference for incentive-based measures, but recognize need for mandates in some instances

Level of support

Incentive driven conserv. options¹



Alternative mandated conserv. options²



xx Mean score

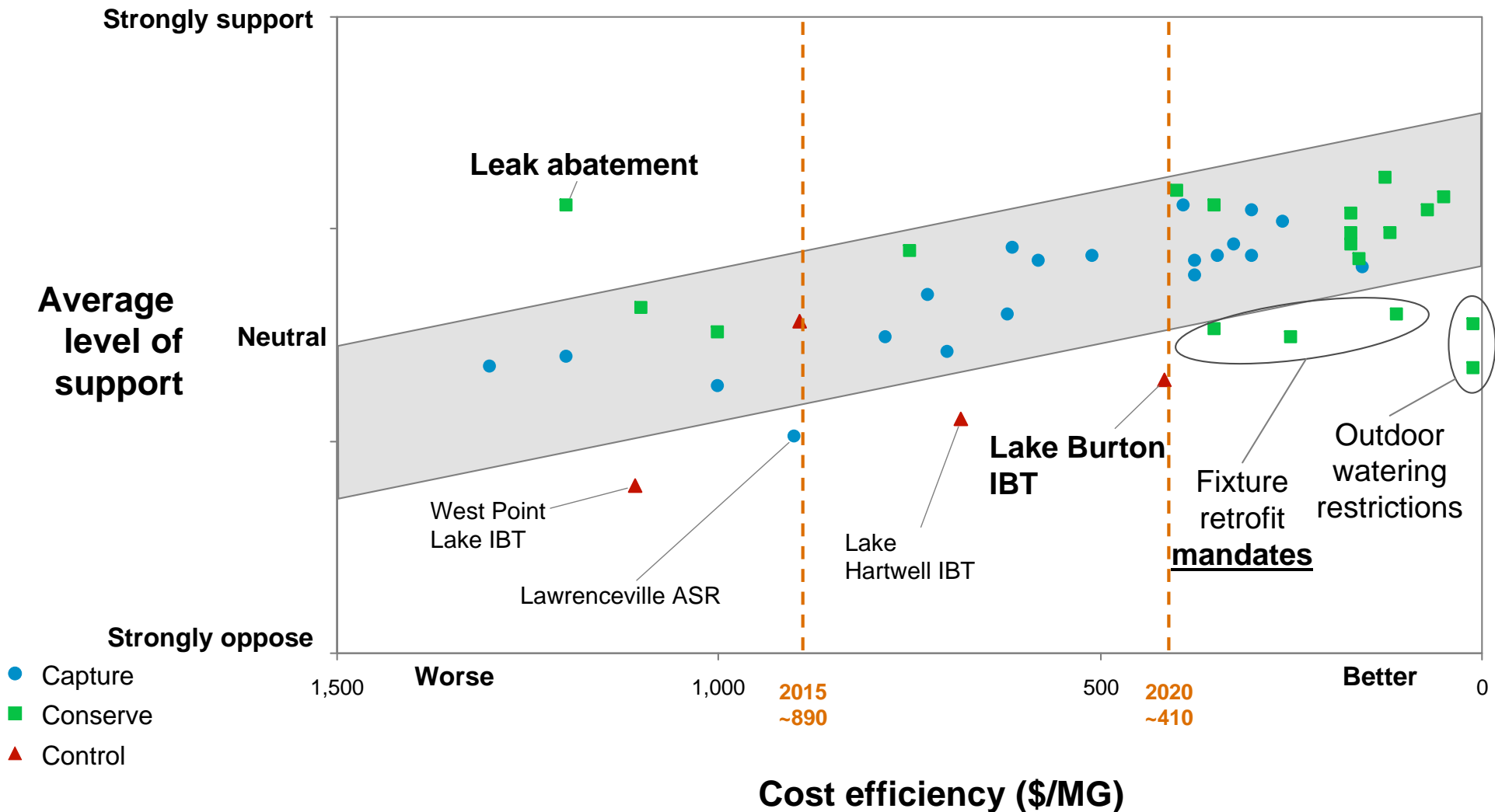
- "Just makes sense in too many ways - we have to go after new technology like this [efficient fixtures]"
- "Consider incentives to local water authorities to encourage local practices"
- "[Mandates] may not go over well, but [they are] decisive and effective"
- "Direct install is the only option that results in substantial water savings"
- "Strongly support if cost is paid by property owner"

1. Includes toilet retrofit incentives, showerhead/faucets incentives, MF sub-metering (50%), spray rinse valve rebates, cooling tower rebates 2. Includes toilet retrofit direct install, showerhead faucets direct install, MF sub-metering (100%), spray rinse valve direct install, cooling tower standards

Note: n=59

Source: Water Contingency Planning Task Force Survey results

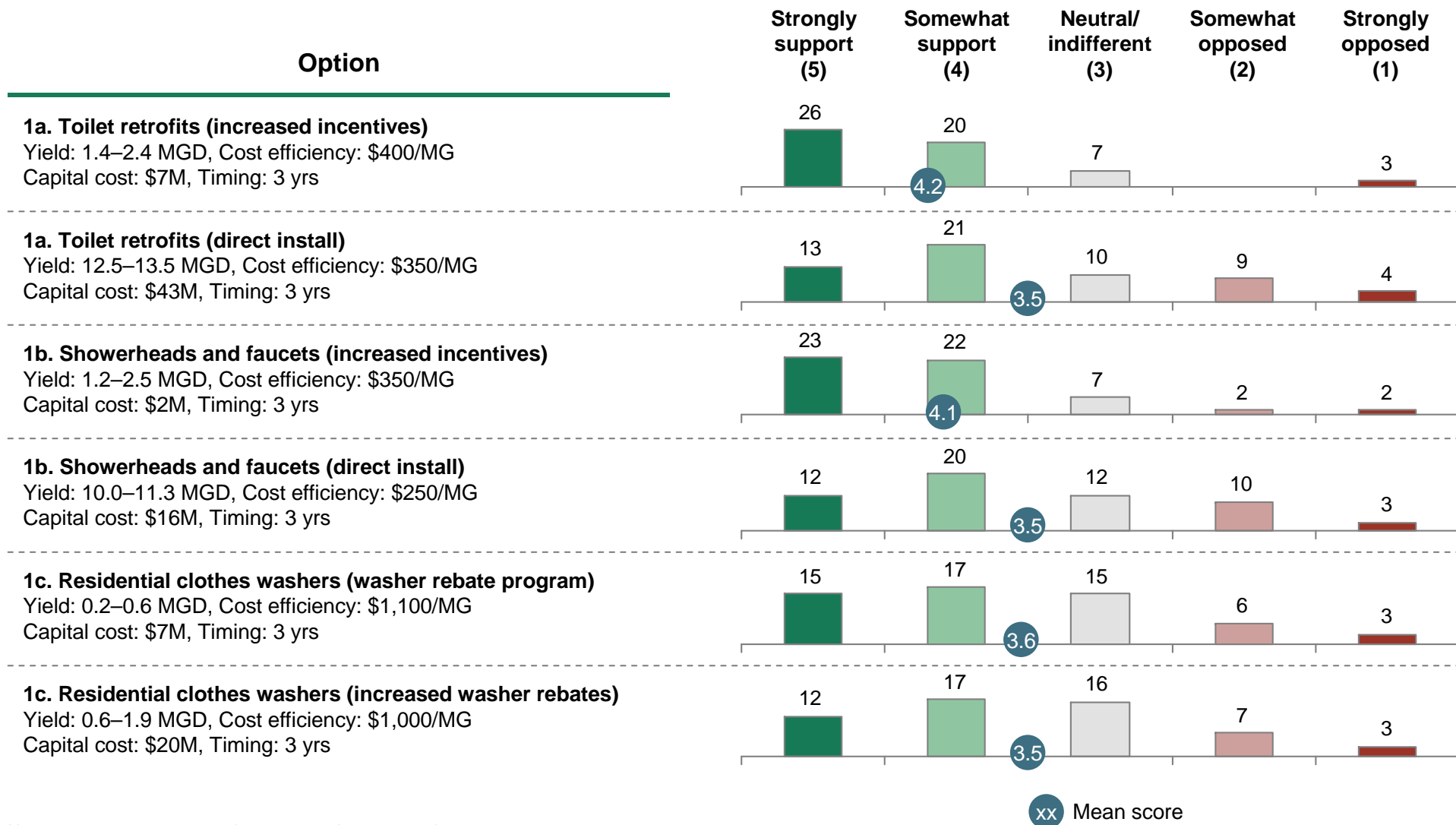
Comparison of support vs. relative cost-efficiency can highlight outliers, inform alternate portfolio development



Note: n=64; Only options with cost efficiency <\$1,500/MG shown
 Source: Water Contingency Planning Task Force Survey results, Technical Advisory Panel analysis

Detailed survey results

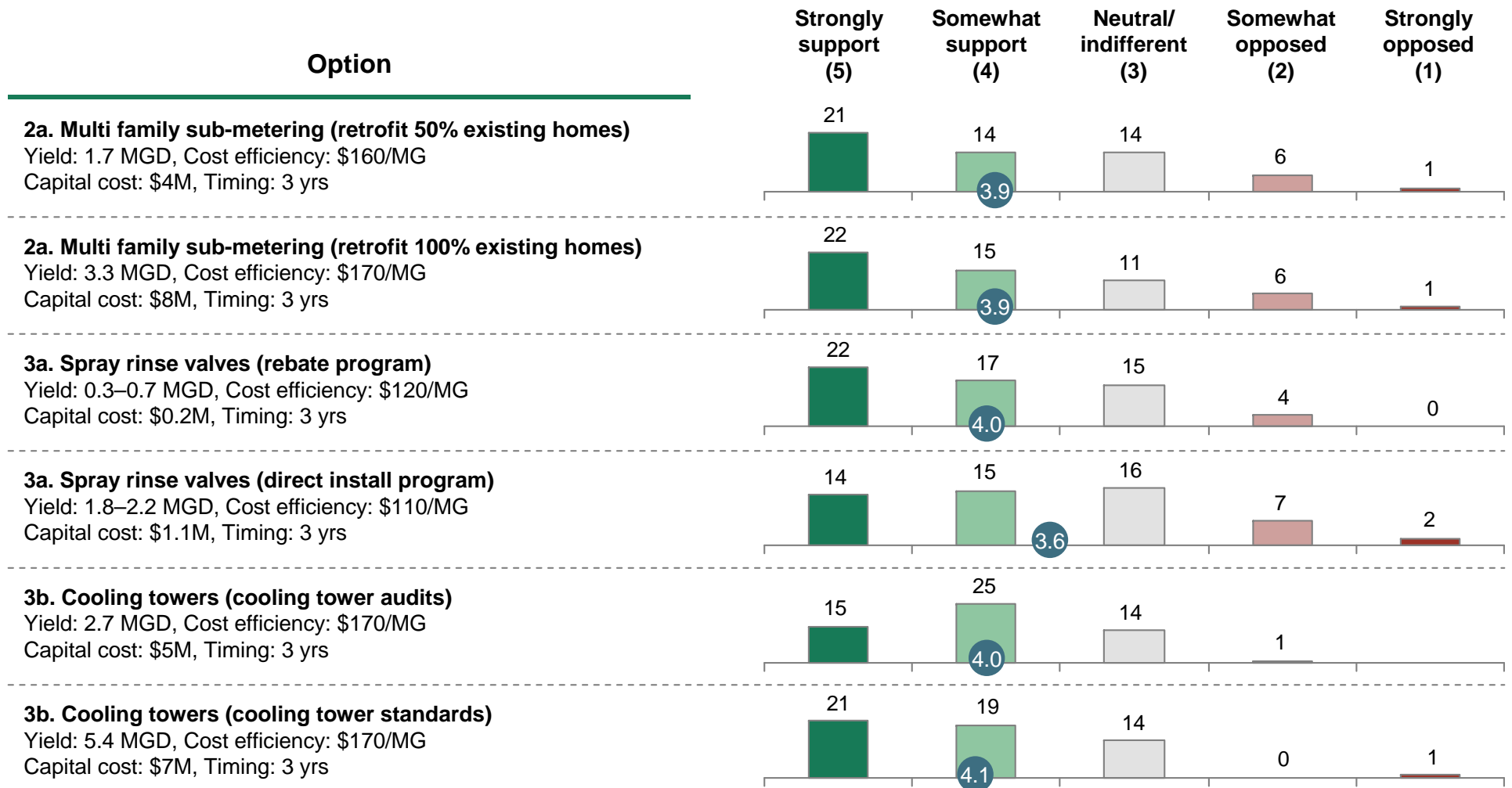
Conserve (I)



Note: n=64; not every respondent answered every question
Source: Water Contingency Planning Task Force Survey results

Detailed survey results

Conserve (II)

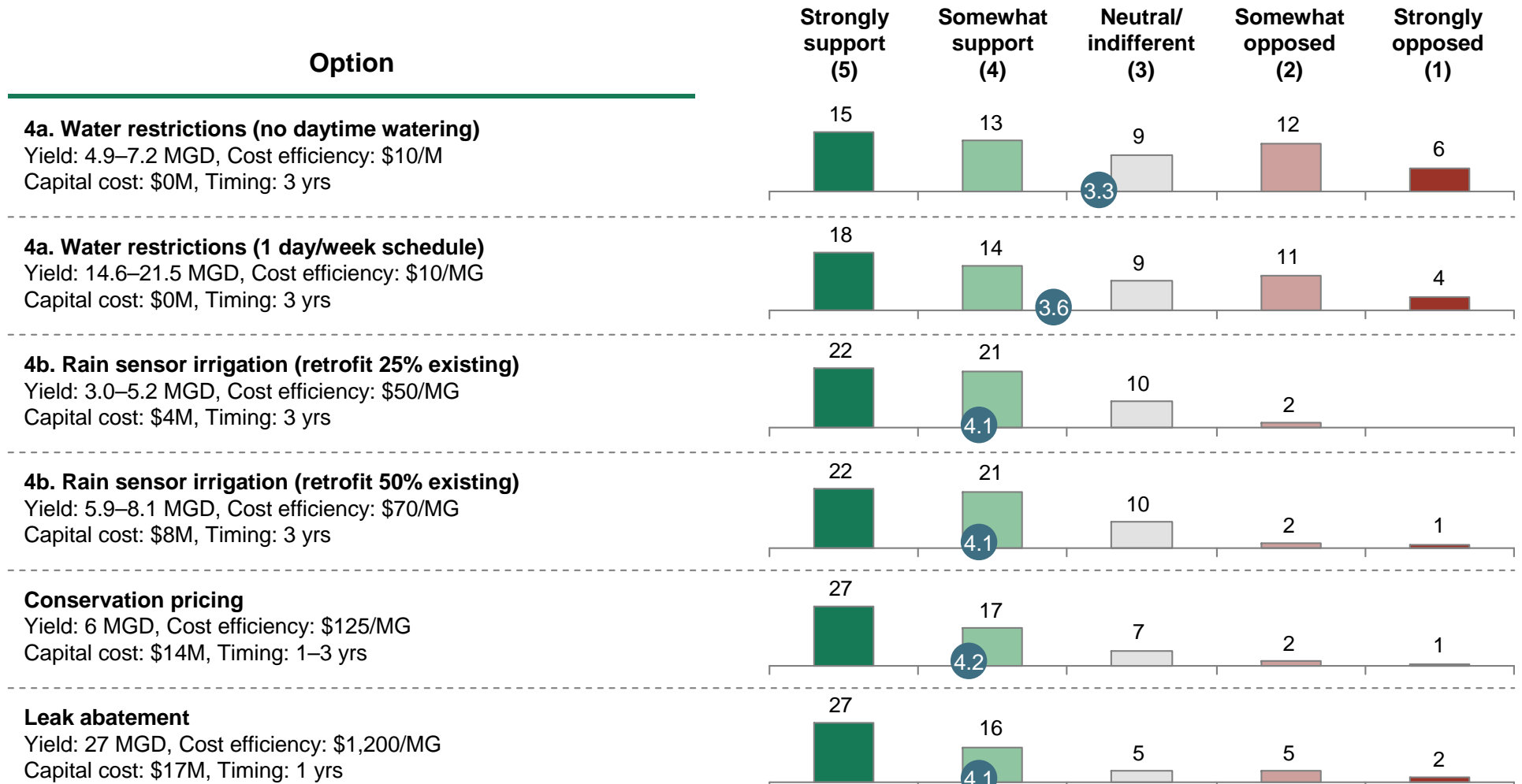


xx Mean score

Note: n=64; not every respondent answered every question
Source: Water Contingency Planning Task Force Survey results

Detailed survey results

Conserve (III)

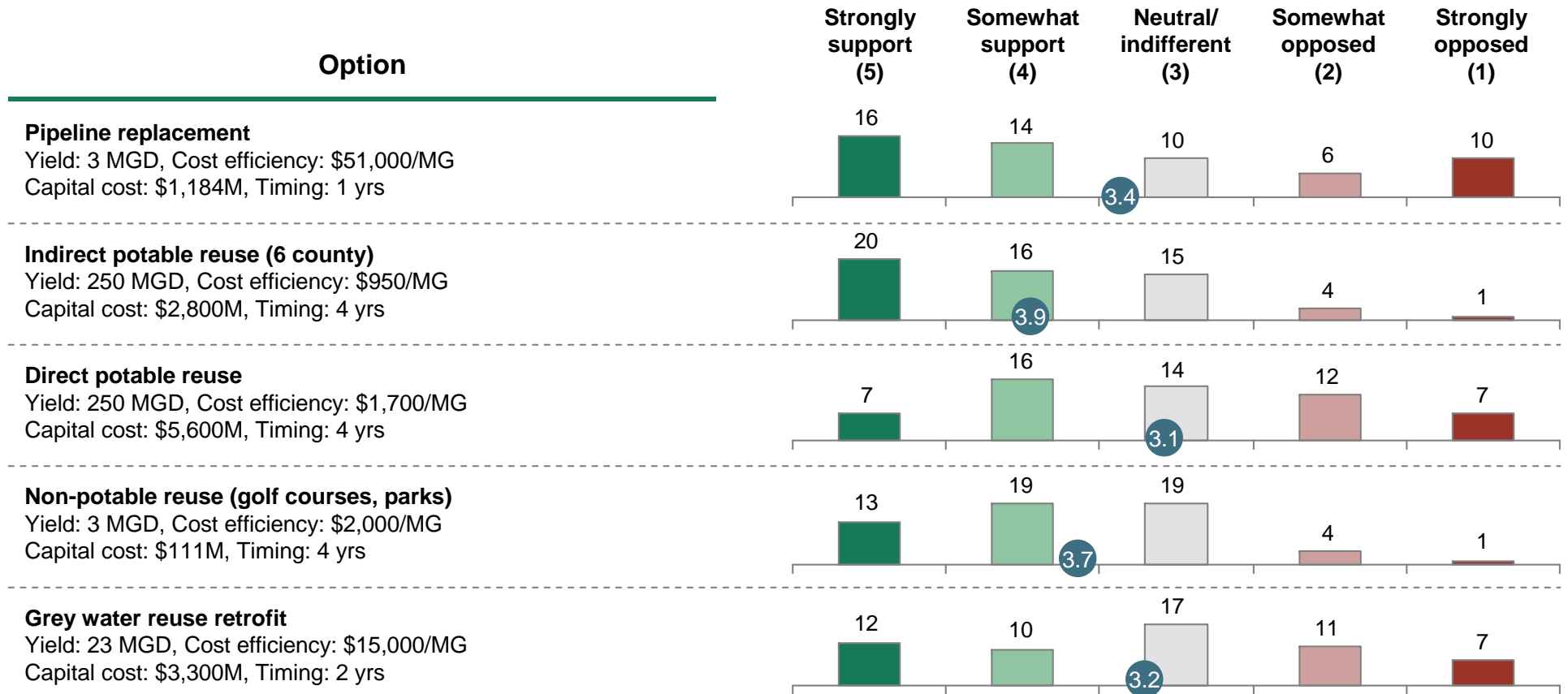


xx Mean score

Note: n=64; not every respondent answered every question
Source: Water Contingency Planning Task Force Survey results

Detailed survey results

Conserve (IV)

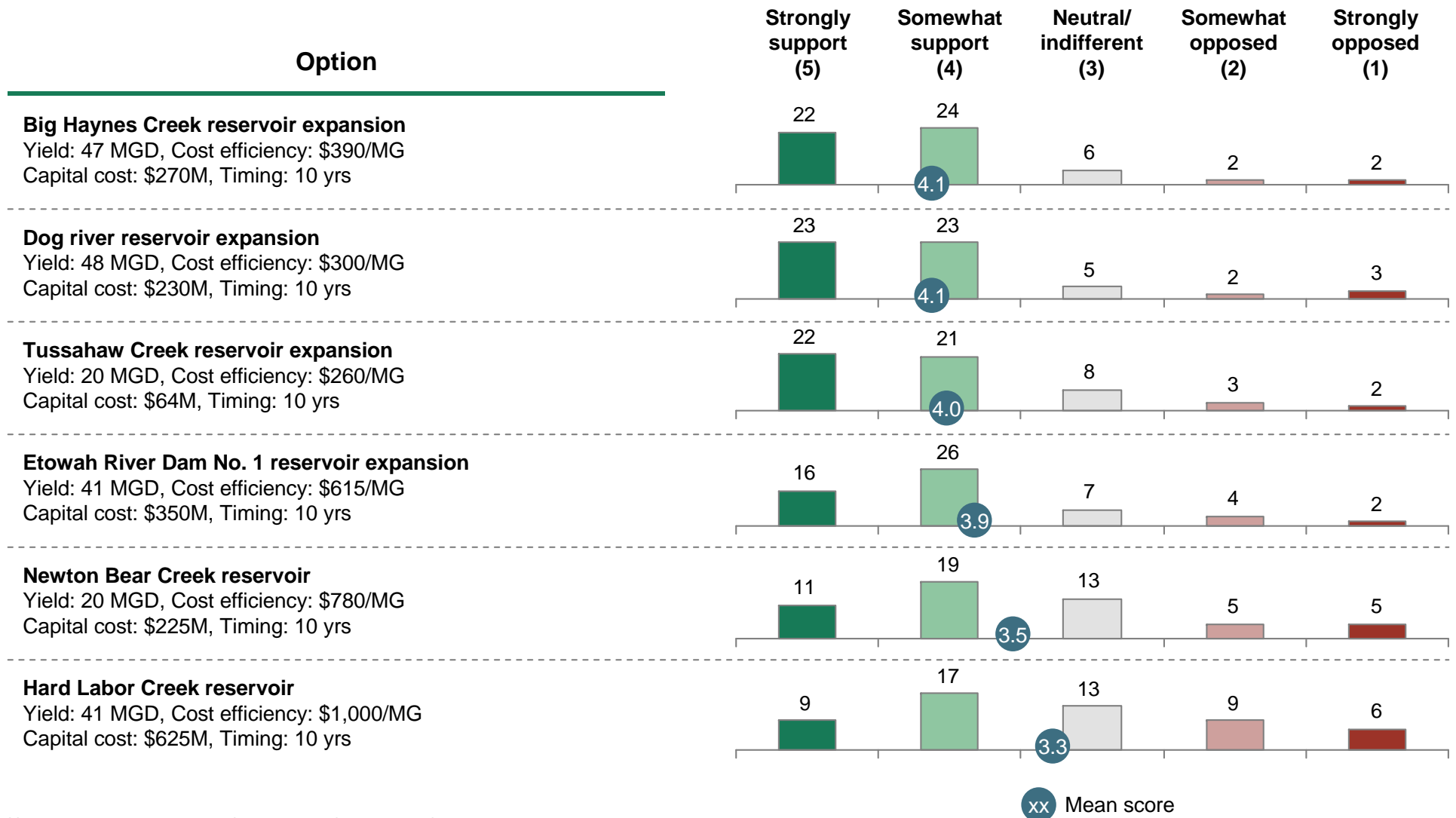


xx Mean score

Note: n=64; not every respondent answered every question
Source: Water Contingency Planning Task Force Survey results

Detailed survey results

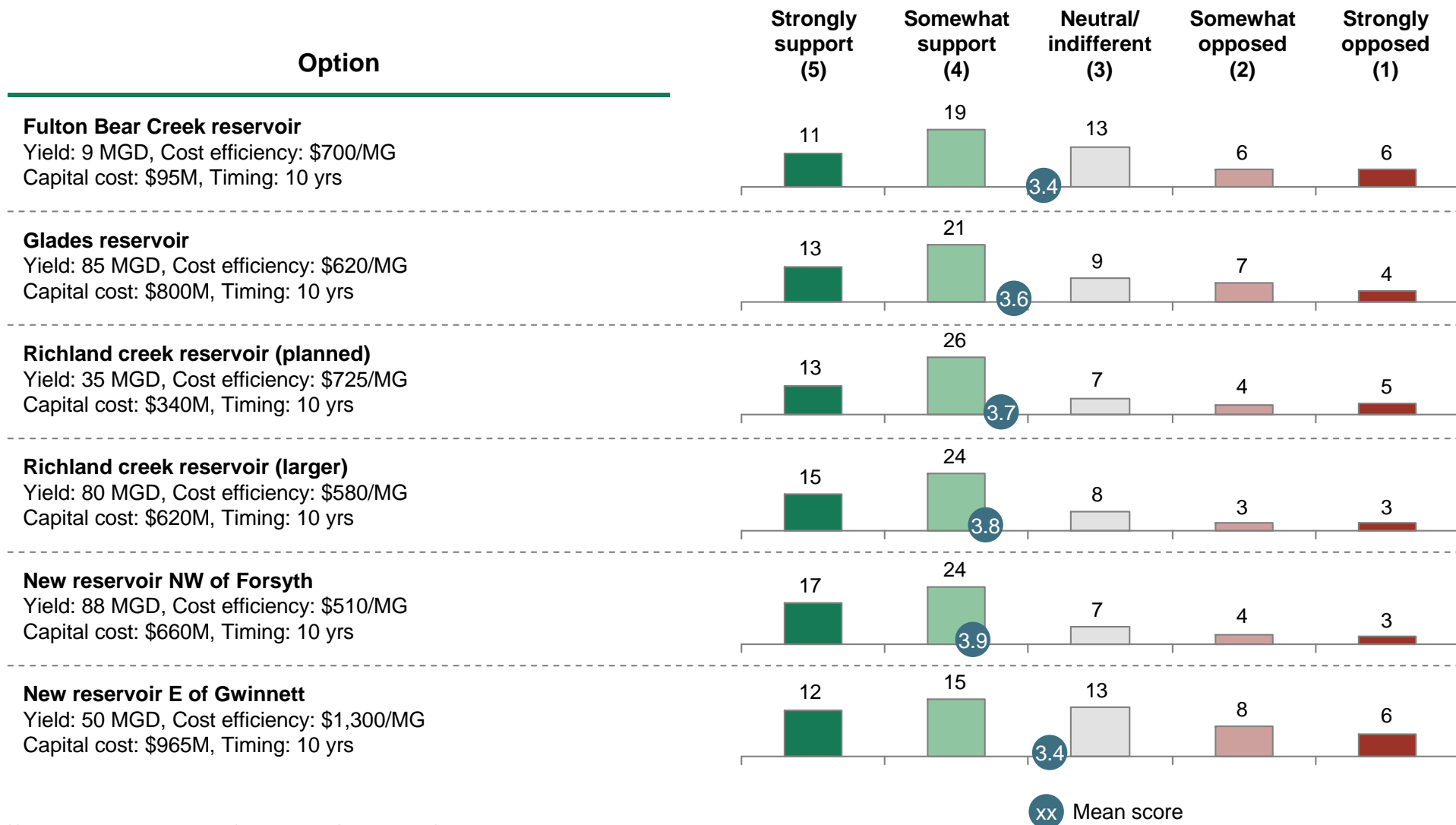
Capture (I)



Note: n=64; not every respondent answered every question
Source: Water Contingency Planning Task Force Survey results

Detailed survey results

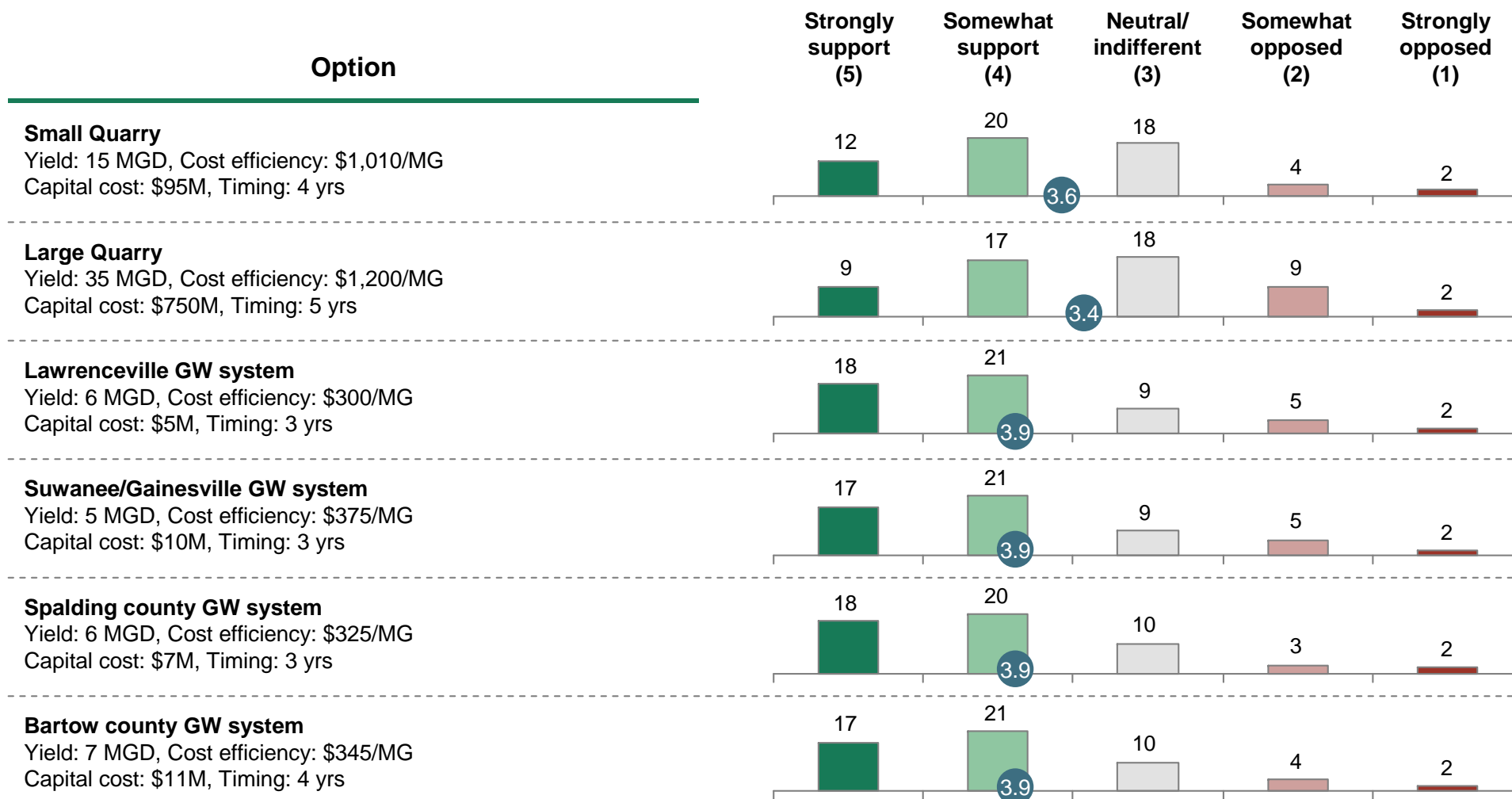
Capture (II)



Note: n=64; not every respondent answered every question
 Source: Water Contingency Planning Task Force Survey results

Detailed survey results

Capture (III)

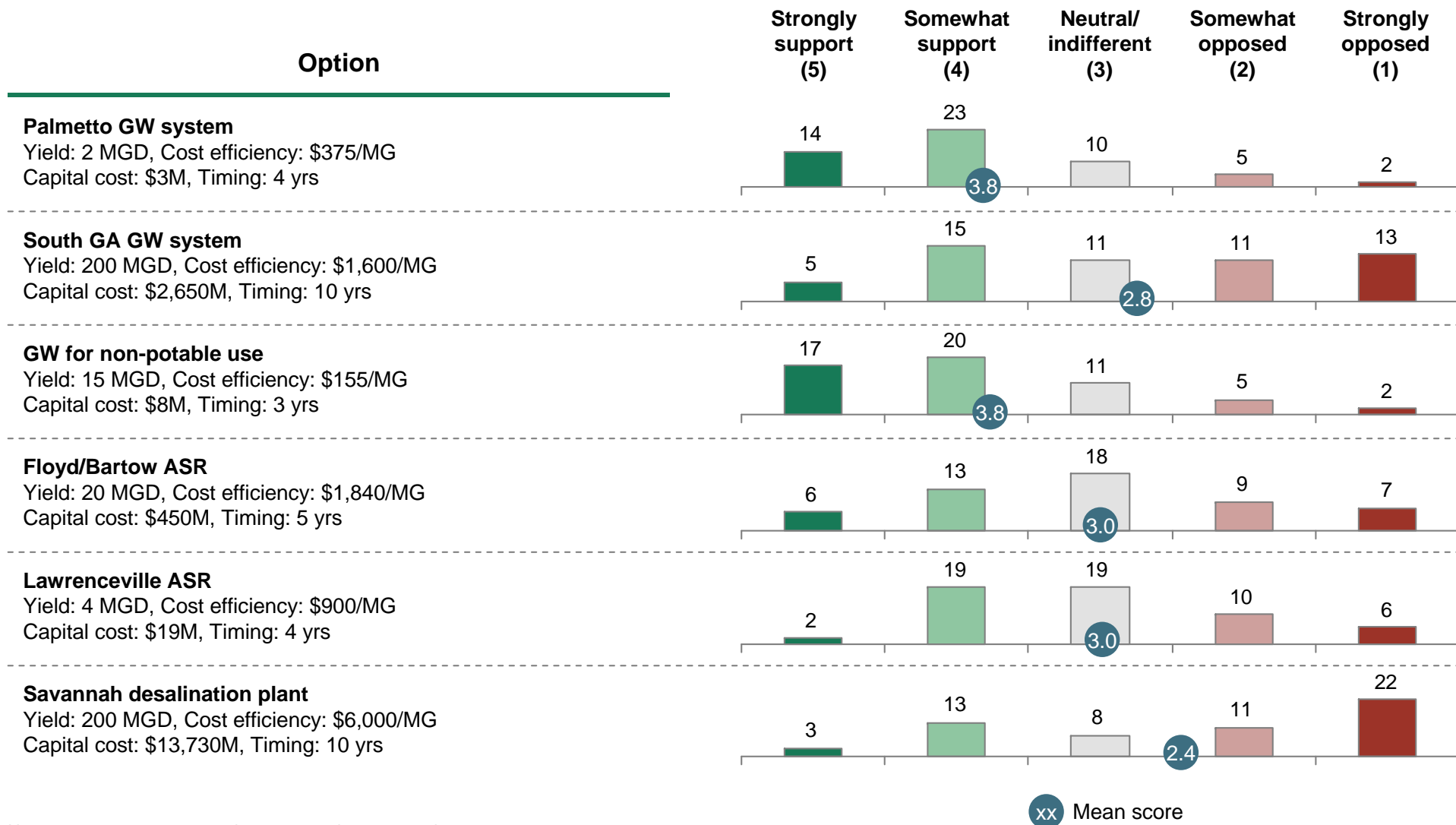


xx Mean score

Note: n=64; not every respondent answered every question
Source: Water Contingency Planning Task Force Survey results

Detailed survey results

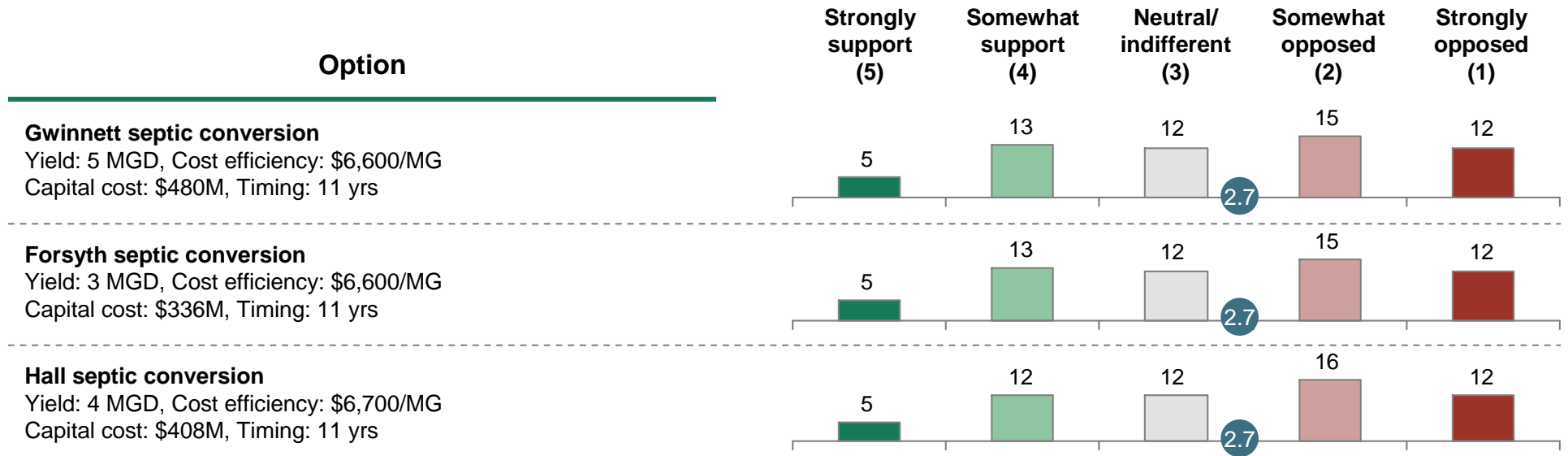
Capture (IV)



Note: n=64; not every respondent answered every question
Source: Water Contingency Planning Task Force Survey results

Detailed survey results

Capture (V)

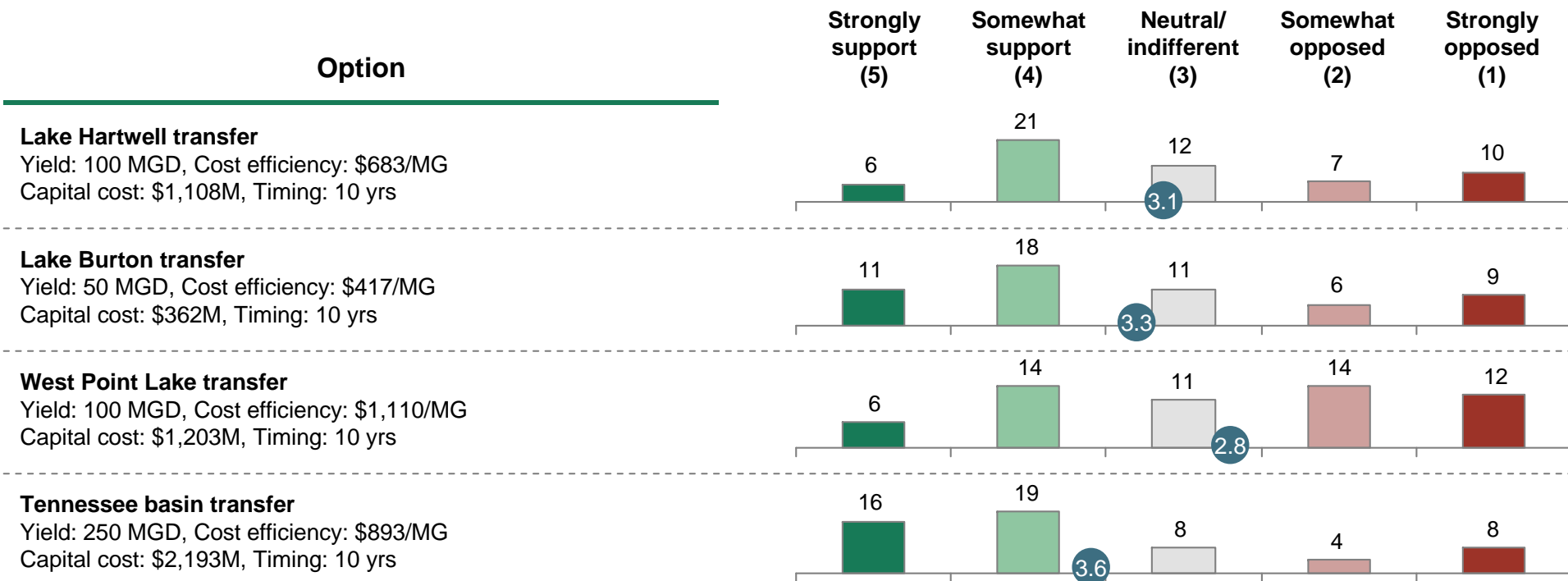


Note: n=64; not every respondent answered every question
Source: Water Contingency Planning Task Force Survey results

xx Mean score

Detailed survey results

Control



Note: n=64; not every respondent answered every question
 Source: Water Contingency Planning Task Force Survey results

xx Mean score

Survey #2 feedback

- **Feedback on support + endorsement of 2020 portfolios**
- **Distributed following TF meeting #3 (Dec 11, 2009)**

Executive summary

Portfolio endorsement

When asked which portfolio they would endorse, Task Force members chose "Alternate" portfolio by a narrow margin

- While almost all recognize the need for, and are willing to endorse mandates in a "dire" situation, significant proportion feels strongly that initial implementation be incentive-based

However, all report generally high levels of support for both, indicating strong endorsement of the common core options

- TF primarily divided over willingness to accept conservation mandates as the "norm"
- Many suggest a balanced mix of incentives *and* mandates as optimal approach

Task Force members do suggest additional consideration/ analysis in three main areas

- Analyze potential impact on downstream resources before implementing any option
- Evaluate cost-benefit of additional reregulation capacity on the Chattahoochee below Buford Dam (eg, dredge Morgan Falls reservoir)
- Consider developing more widely incorporated, bi-directional system interconnections to facilitate flexibility in supplying water to areas of need

Task Force members provided feedback on "Primary" and "Alternate" 2020 portfolios

Primary 2020 Portfolio				Alternate 2020 portfolio			
Option	Cost efficiency (\$/MG)	Capital cost (\$M)	Yield (MGD)	Option	Cost efficiency (\$/MG)	Capital cost (\$M)	Yield (MGD)
Water restrictions (no daytime watering)	10	0	7	Water restrictions (no daytime watering)	10	0	7
Rain sensors (retrofit 25% existing systems)	60	6	3	Rain sensors (retrofit 50% existing systems)	70	6	6
Spray rinse valves (rebate program)	115	1	0.3	Spray rinse valves (direct install program)	110	1	2
Conservation pricing	125	14	6	Conservation pricing	125	14	6
GW for non-potable use (parks, golf courses, etc)	155	8	15	GW for non-potable use (parks, golf courses, etc)	155	8	15
Multi family sub-metering (retrofit 50% existing homes)	165	6	2	Multi family sub-metering (retrofit 100% existing units)	170	6	3
Cooling towers (rebate program)	170	6	3	Cooling towers (required standards)	170	6	5
Tussehaw Creek reservoir expansion	260	64	20	Tussehaw Creek reservoir expansion	260	64	20
Lawrenceville GW system	300	5	6	Lawrenceville GW system	300	5	6
Dog river reservoir expansion	300	230	48	Dog river reservoir expansion	300	230	48
Showerheads and faucets (increased rebate program)	300	8	1	Showerheads and faucets (direct install program)	250	8	10
Spalding county GW system	325	7	6	Spalding county GW system	325	7	6
Bartow county GW system	345	11	7	Bartow county GW system	345	11	7
Suwanee GW system	375	10	5	Suwanee GW system	375	10	5
Palmetto GW system	375	3	2	Palmetto GW system	375	3	2
Toilet retrofits (increased rebate program)	375	25	1	Toilet retrofits (direct install program)	350	25	15
Big Haynes Creek reservoir expansion	390	270	47	Big Haynes Creek reservoir expansion	390	270	47
New reservoir NW of Forsyth	510	660	88	Etowah River Dam No. 1 expansion	615	350	41
Richland creek reservoir (larger)	580	620	80	Richland creek reservoir (larger)	580	620	80
Leak abatement	1,200	17	27	Leak abatement	1,200	17	27
	Wtd. Avg. ~470	~1,970	~370		Wtd. Avg. ~460	~1,660	~360

Note: Changes from "primary" to alternate" portfolio include:
1) Most aggressive retrofit/efficiency program implementation, and
2) Etowah River Dam 1 expansion instead of New Reservoir NW of Forsyth

Respondents reported degree of support for each portfolio, and choice of portfolio to endorse

Level of support

Primary portfolio

Strongly support Support Neutral Oppose Strongly oppose

Are there any other options, previously evaluated by the TF, that you would add? Are there any options not explicitly evaluated that you would add? Are there any options listed that you would remove?

Other options

Provide any additional comments you have

Alternate portfolio

Strongly support Support Neutral Oppose Strongly oppose

Are there any other options, previously evaluated by the TF, that you would add? Are there any options not explicitly evaluated that you would add? Are there any options listed that you would remove?

Other options

Provide any additional comments you have

Endorsement

Primary Alternate Other

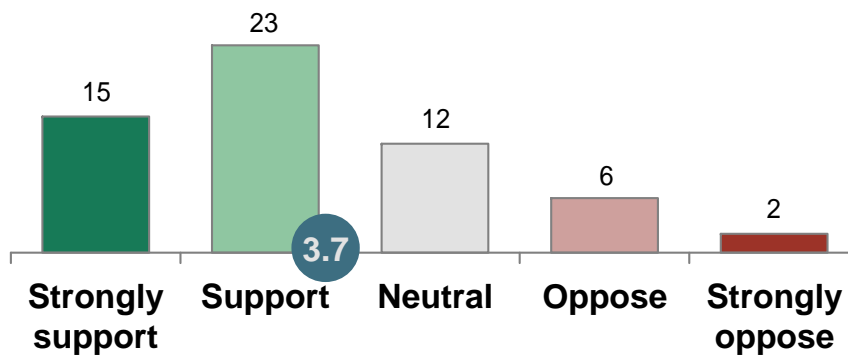
Note any conditions/caveats for endorsement of Primary or Alternate: If "Other", what would that portfolio look like?

If you had to choose between these two portfolios, which would you endorse?

TF supports both portfolios nearly equally - slightly favors "Alternate" when asked to choose between the two

Primary

Level of support



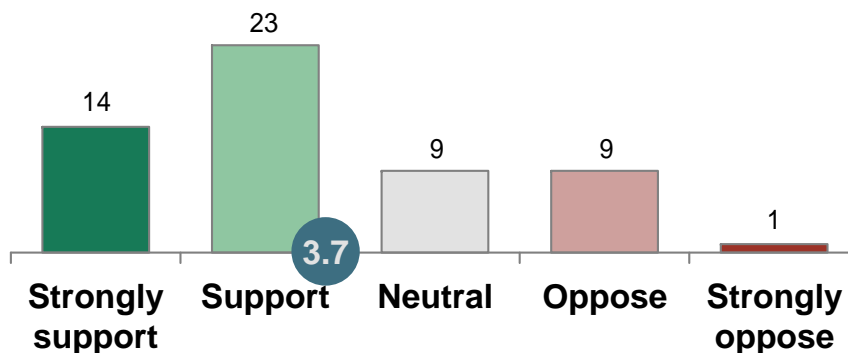
% of TF members endorsing¹

40%
(23 responses)

Most often cited additions, deletions, concerns

- "[Add] dredging Morgan Falls"
- "[Remove] daytime watering restriction – it is not sustainable"
- "More attention to developing an interactive piping system [bi-directional] around metro area"

Alternate



47%
(27 responses)

- "[We should] pursue a new reservoir NW of Forsyth"
- "We need to deal w/ septic tanks and their consumptive nature"
- "Concern is simply that we haven't identified funds needed to implement mandates"

xx Mean score

1. When asked which portfolio they endorse, 14% (8 respondents) chose "Other"
 Note: n=58; mean score reported on scale of 1 to 5, where 1 = "Strongly oppose" and 5 = "Strongly support"
 Source: Water Contingency Planning Task Force Survey #2

Mandates deemed acceptable in "dire" situation, but general preference for incentive-based conservation

Category	Illustrative conditions for endorsement
Incentives vs. mandates	<ul style="list-style-type: none"> • "Prefer the primary because I am more inclined to base conservation on incentives and market pricing versus government mandate" • "[Remove] 'No daytime watering' - this is a 'draconian' measure" • "Mandatory is not a great approach...I would reconsider if situation was truly dire"
Reservoir expansions vs. new	<ul style="list-style-type: none"> • "I do believe that expanding the Etowah river dam would be easier politically than permitting and building a new reservoir" • "In general, I support reservoir expansion over new reservoirs, but believe that a new reservoir NW of Forsyth could be a viable alternative if operated as a public utility" • "It doesn't make sense to remove [from Primary portfolio] a huge potential supply addition [NW Forsyth reservoir] that would be funded with private dollars"
Downstream impacts	<ul style="list-style-type: none"> • "The 'yet to be analyzed' potential impact on yield to downstream resources remains a serious concern"

"Alternate" portfolio favored by narrow margin

Business members generally favor Primary while other groups favor Alternate

"If you had to choose between these two portfolios, which would you endorse?"

Overall, group endorses Alternate (~47%) over Primary (~40%)

But margin of preference is relatively thin - only 4 responses separate the two

Opinions differ mainly over conservation implementation

- "Conservation measures should be by county [as needed], not by all counties in aggregate"
- "Oppose retrofit measures that require 100% financing by utility, creating additional pressure on water rates"
- "Prefer the primary – I am more inclined to base conservation on incentives and market pricing versus government mandate"
- "If conservation measures are to work, adoption should be mandatory"

Proportion of Task Force endorsing each portfolio, segmented by sub-group

