MENDOCINO COUNTY INLAND WATER AND POWER COMMISSION

STORAGE ALTERNATIVES FORMULATION AND RANKING

OPTIONS UNDER CONSIDERATION FOR ADDITIONAL STORAGE IN THE RUSSIAN RIVER WATERSHED

- USACE study of Lake Mendocino (with potential pipeline for delivery to Potter Valley) – being studied
- Tributary storage – concept study completed
- Lower Valley on-stream storage – concept study completed
- In-valley pond storage – concept study completed
- Conjunctive use – concept study completed
- Pump back from Lake Mendocino – concept study completed
  - *Note: Costs associated with "concept studies" are typically -50%/+100%*

Comparison and Ratings to Characterize Water Management Alternatives (from Jacobs 2024)

Criteria	Lk Mendo Expand. (Corps)	Tributary Storage	EFRR Dam	In-Valley Ponds	Groundwater Supply	Lake Mendocino Pump-Back System
Annual yield (AF)	5,000 - 20,000	7,000	7,000	5,000	3,500	10,000
Capital cost ($M)	$125 to 500M	$125 to 250M	$110 to 220M	$15 to 28M	$19 to 22M	$100M
Annual O&M cost ($)	$1.2 to 2.5M	$1.2 to 2.5M	$1.1 to 2.3M	$0.2 to 0.3M	$0.3 to 0.8M	$0.7M
Cost ($/AF)	$1,200 to 2,400	$1,200 to 2,400	$1,100 to 2,200	$201 to 381	$210 to 370	$466 to 919
Timing (years)	20+ years	15 years	15 years	5 years	5 years	8 years
Flexibility	Low	Low	Low	Moderate	Moderate	Moderate
Environmental impacts	High	High	High	Low/ Moderate	Low/Moderate	Low/Moderate
Permitting/ legal	High	High	High	Low/ Moderate	Low/Moderate	High
Jurisdiction complexity	High	High	High	Low	Low	Moderate/ High
Phasing potential	Low	Low	Low	Moderate	Moderate	Low

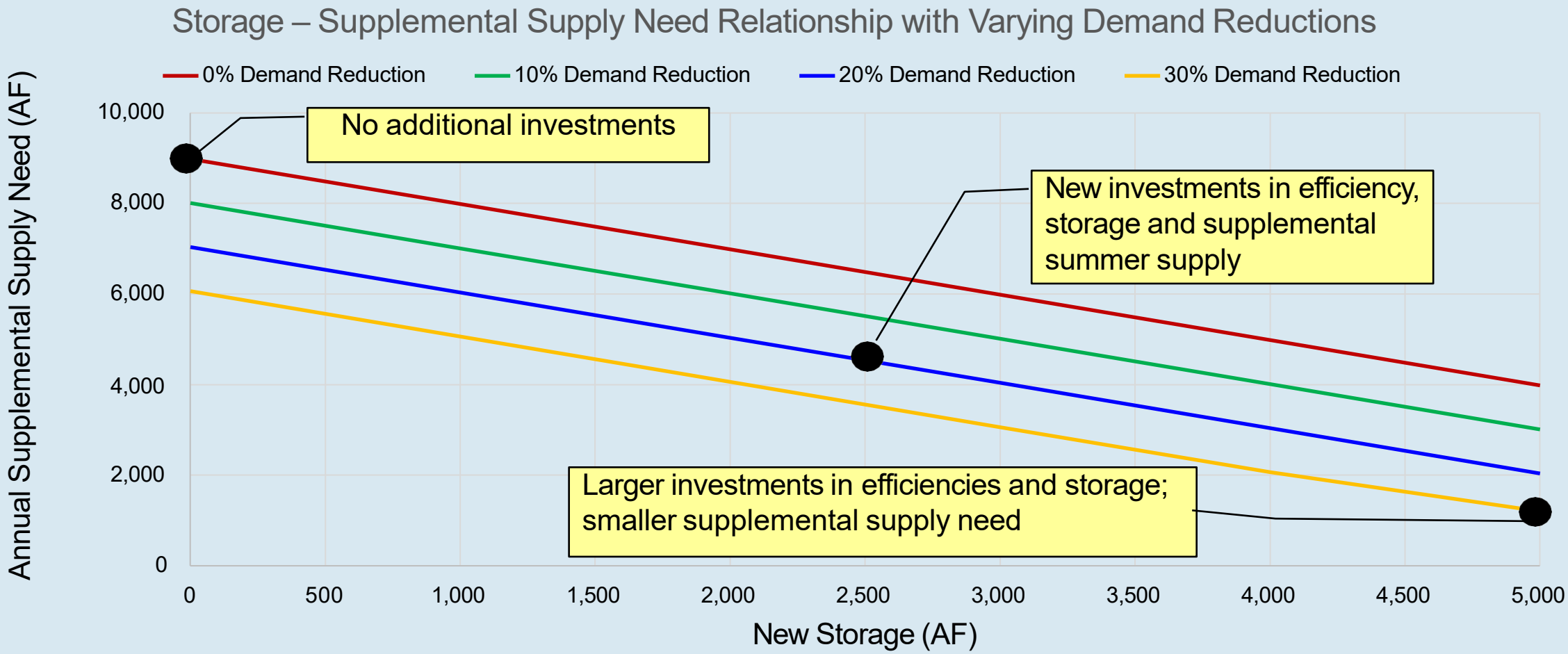
$/AF = dollars per acre-foot
$M = million dollars

EVALUATION SUMMARY (DRAFT – SUBJECT TO CHANGE)

	Irrigation Delivery System Efficiency	On-Farm Demand Management	In Valley Ponds	Tributary Storage	East Fork Russian River Dam	Groundwater Supply	Lk Mendocino Expansion	Lake Mendocino Pump-Back System
Yield	M	M	M	H	H	M	H	M/H
Cost	$$	$$	$$$	$$$$$	$$$$$	$$$	$$$$$	$$$$
Timing	5 yrs	5 yrs	5 yrs	15 yrs	15 yrs	5 yrs	20 yrs	8 yrs
Flexibility	M	M/H	M	L	L	M	L	M
Environmental Impacts	L/M	L/M	L/M	H	H	L/M	H	L/M
Permitting/ Legal	L/M	L	L/M	H	H	L/M	H	H
Jurisdiction Complexity	L	M/H	L	H	H	L	H	M/H
Phasing Potential	M/H	H	M	L	L	M	L	L/M

L = low, M = moderate, H = high

PROMISING SOLUTIONS MAY COMBINE DEMAND REDUCTIONS, NEW STORAGE, AND SUPPLEMENTAL SUPPLY



STORAGE NEXT STEPS OPTIONS – COYOTE VALLEY RAISE CONSIDERATIONS

- Challenges:
  - Requires continued Federal appropriations, plus substantial local cost share for studies
  - No certainty of a project in the future, best case has implementation 15 to 20 years out
  - Any project will meet federal requirements, which may or may not fully align with local desires
  - Any future construction will likely require a massive (tens of millions) local cost share

  However…
- Opportunities:
  - In the near term, if a federal appropriation can be secured then $800K of additional work (including preliminary alternative formulation) can be completed due to the Lytton credit
  - A successful federal project would bring benefits including storage and potentially environmental benefits downstream of the dam
  - Federal support means federal cost share
- ***Conclusion: continue to pursue for now***

STORAGE NEXT STEPS OPTIONS

- Cost is no Object
  - Pursue Coyote Valley Raise
  - Develop off-stream storage on a Potter Valley tributary, 10 TAF to 15 TAF
- Cost is Paramount
  - Investigate scalable and incremental options: groundwater and pond storage in Potter Valley
- Everything else
  - Pump back from Lake Mendocino – expensive, and pretty much requires a Lake Mendocino expansion to work
  - Lower Potter Valley on-stream storage – too much land impact
  - Small disbursed tributary storage – perhaps not easier than one large project, and water rights issues if not filled from the Potter Valley Project tunnel.

NEXT STEPS, COST IS NO OBJECT

- USACOE Coyote Valley Dam Raise study:
  - Set aside $4M for the Corps study cost share, plus
  - Prepare to deploy up to $1M for legal, consultant and lobbying costs over the next 5 years, and
  - Continue Lobbying efforts to restart and fund the study
  - Ultimately: be prepared for local cost share of up to $75M towards construction

- Off-Stream Storage in Potter Valley:
  - Raise at least $2M for the next phases of feasibility and geotech work
  - Prepare to deploy up to $500K for legal and lobbying costs over the next 4 years
  - Ultimately: be prepared for local cost share of up to $50M+ towards construction

NEXT STEPS, COST IS PARAMOUNT

- Groundwater storage feasibility assessment:
  - Commit $2M three to five production wells, plus a handful of monitoring wells.
  - Pump (contributes to local supply), and monitor for two seasons
  - Ultimately: be prepared for local cost share of $5M to $20M towards construction, plus potential for individual landowner costs TBD

- Pond Storage in Potter Valley:
  - Raise $100K to $200K for the next phases of feasibility site assessment work
  - Ultimately: be prepared for local cost share of $1M to $5M towards construction, plus potential for individual landowner costs TBD

POTENTIAL PRIORITIZATION FOR FUTURE WORK

Recommendations for consideration:

- Tier 1: Proceed with funding additional work
  - Corps study (perhaps assuming the study is included in the 2027 budget?)
  - GW investigations
  - Fund legal and lobbying work in support of projects and finding additional funding
  - Two-year cost estimate:
- Tier 2: On hold pending additional grant funds
  - Assessment of off-stream storage in Potter Valley
  - Expansion of existing pond system in Potter Valley

POTENTIAL PRIORITIZATION FOR FUTURE WORK (CONT.)

- Tier 3: On shelf for now
  - Pump back from Lake Mendocino – expensive, and pretty much requires a Lake Mendocino expansion to work
  - Lower Potter Valley on-stream storage – too much land impact
  - Small disbursed tributary storage – perhaps not easier than one large project, and water rights issues if not filled from the Potter Valley Project tunnel.