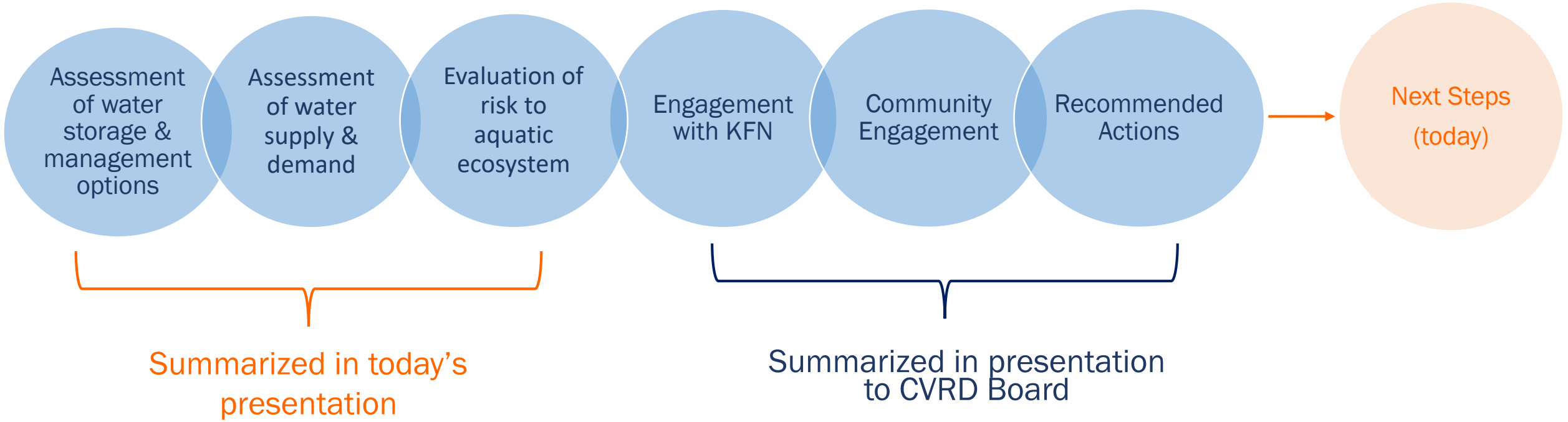
Tsolum River Agricultural Watershed Plan – Phase 2

EASC

July 12, 2021

Comox Valley
REGIONAL DISTRICT

Phase Two Activities



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Assessment of Water Storage/Management Options

1. On-farm storage
2. Large-scale storage
3. Alternative sources
4. Demand Management

Ranked by:

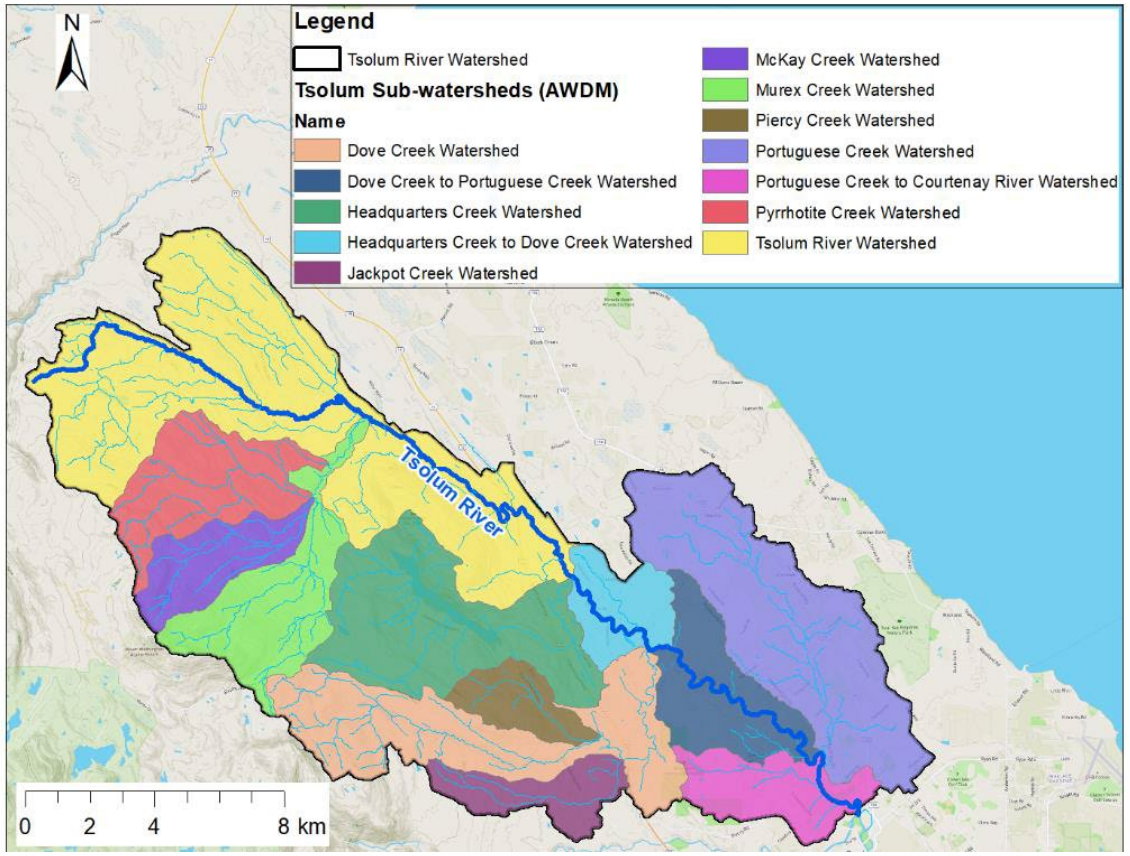
- ✓ affordability
- ✓ ease of use
- ✓ reliability
- ✓ volume of water made available
- ✓ ease of implementation

Feedback: CVFI, MTFI

Key Findings:

- Dugouts highest ranked
- Demand management also scored high but provides minimal volumes of water
- Potential for any one option to meet future demand limited

Assessment of Water Supply and Demand (Watershed Health)



Key Findings:

- 76% of water demand provided by groundwater
- Portuguese Creek experiencing greatest stress
- Future agricultural water demand under 2050 climate conditions could increase 3 to 7 times

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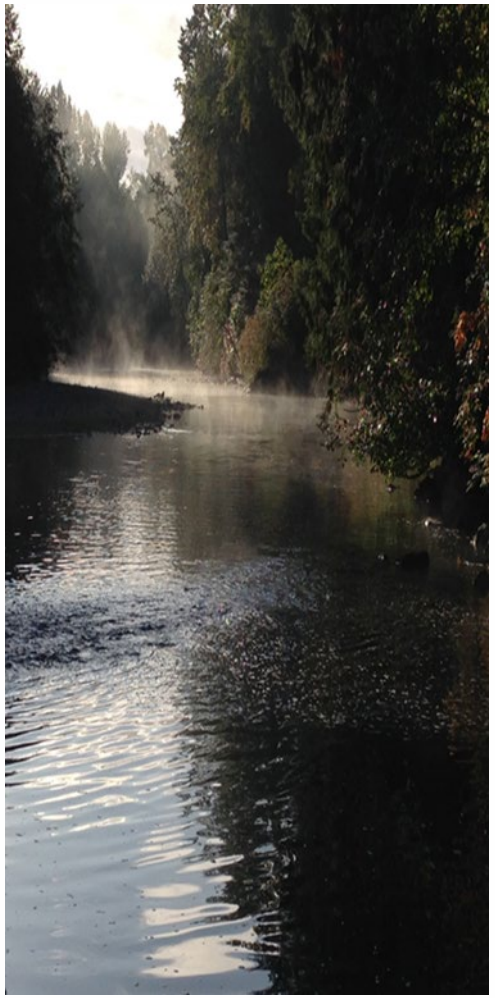
Evaluation of Risk to Aquatic Ecosystem

Location	Mean Monthly Discharge (m^3/s)	Mean Annual Discharge (m^3/s)	% of Mean Annual Discharge	Stream Size	Flow Sensitivity	Risk Management Level										
						Licensed demand	Current conditions (est. using AWDM)	Current with improved irrigation mgmt.	Current crops, more people irrigate (efficiently)	Increased production A (48% forage & pasture)	Increased production B (60% forage & pasture)	Increased production C (85% forage & pasture)	Current conditions plus climate change	Increased production A plus climate change	Increased production B plus climate change	Increased production C plus climate change
Tsolum River upstream of Courtenay River	0.969	10.580	9%	med-large	high	2	3	3	3	3	3	3	3	3	3	3
Tsolum River upstream of Portuguese Creek	0.854	8.791	10%	small	high	2	3	3	3	3	3	3	3	3	3	3
Tsolum River upstream of Dove Creek	0.694	6.454	11%	small	moderate	2	2	2	2	3	3	3	2	3	3	3
Tsolum River upstream of Headquarters Creek	0.583	4.861	12%	small	moderate	2	2	2	2	3	3	3	2	3	3	3
Portuguese Creek upstream of Tsolum River	0.087	1.371	6%	small	high	2	3	3	3	3	3	3	3	3	3	3
Dove Creek upstream of Tsolum River	0.121	1.782	7%	small	high	2	2	2	3	3	3	3	2	3	3	3
Jackpot Creek upstream of Dove Creek	0.018	0.271	7%	small	high	2	2	2	2	3	3	3	2	3	3	3
Piercy Creek upstream of Dove Creek	0.010	0.250	4%	small	high	2	2	2	2	3	3	3	2	3	3	3
Headquarters Creek upstream of Tsolum River	0.086	1.238	7%	small	high	2	2	2	2	3	3	3	2	3	3	3

Key findings:

- August month with highest risk to aquatic life
- Risk level 3 - Portuguese Creek, lower reaches of Tsolum (current conditions using AWDM)
- Risk level 2 - all other points of assessment (current conditions using AWDM)
- Additional considerations suggest the risk levels could be understated

Recommendations for the Committees Consideration



1. Continue work with KFN developing collaborative approach to water management, advocating for use of *WSA* tools
2. Proceed with a watershed stewardship service scoping study
3. Review land use planning and policy tools during consultation and drafting of Agricultural Plan update
4. Collaborate with Ministry of Agriculture on groundwater licensing workshop and supporting producers in developing on-farm water storage options