

**REMINDER: Please return completed worksheet by the end of the workshop.**

## IRWM Climate Change Workshop Vulnerability Prioritization Worksheet

Name: \_\_\_\_\_

Organization/Affiliation: \_\_\_\_\_

City/Town: \_\_\_\_\_

County Public Works staff held an online survey (January 4-19, 2018) about the regional water resources that are vulnerable to the effects of climate change. Twenty-two (22) RWMG members and stakeholders responded to the vulnerability assessment. Thirty-five (35) vulnerabilities were identified within these categories: **water demand (WD)**, **water supply (WS)**, **water quality (WQ)**, **sea level rise (SLR)**, **flooding (FL)**, **ecosystem and habitat vulnerability (EH)**, and **hydropower (HP)**.

The following three characteristics were used to help prioritize the vulnerabilities:

Exposure – the extent (e.g., percentage) that a resource/asset/system could be subject to climate change effects

Sensitivity – the degree to which small variations of climate change effects could impact a resource/asset/system

Likelihood – the probability that a resource/asset/system could be impacted *due to lack of adaptive capacity*

Each vulnerability was evaluated using the following scale and averaged for all survey responses.

	1	2	3	4	5
<b>Exposure</b>	Not Exposed	Somewhat Exposed	Exposed	Very Exposed	Completely Exposed
<b>Sensitivity</b>	Not Sensitive	Somewhat Sensitive	Sensitive	Very Sensitive	Extremely Sensitive
<b>Likelihood</b>	Unlikely	Somewhat Likely	Likely	Very Likely	Extremely Likely

Each vulnerability was scored using the following equation:

$$Exposure \times Sensitivity \times Likelihood = Score$$

Scores were assigned a high, medium, or low priority based on this table (to the right)

Priority	Score
High	> 27.0
Medium	20.8 - 27.0
Low	< 20.8

**RWMG Members:** Please write **yes or no** if you agree or disagree with the recommended priority. If you disagree, please suggest otherwise (**High, Medium, or Low**).

ID	Vulnerability	Exposure	Sensitivity	Likelihood	Score	Priority	Agree? Y/N If no, High/Med/Low
WD 1	Water-dependent industries	3.11	2.81	3.24	28.31	High	
WD 2	Seasonal water demand	3.17	2.50	3.00	23.78	Medium	
WD 3	Climate-sensitive crops	3.18	2.82	2.73	24.48	Medium	
WD 4	Drought-sensitive groundwater basins	3.81	3.47	3.67	48.52	High	
WD 5	Communities with water curtailment efforts	2.85	2.54	2.75	19.91	Low	
WD 6	Insufficient instream flows	3.77	3.54	3.62	48.31	High	
WS 1	Water supply from snowmelt	3.00	2.83	2.83	24.03	Medium	
WS 2	Water supply from coastal aquifers	3.54	3.23	3.42	39.10	High	

ID	Vulnerability	Exposure	Sensitivity	Likelihood	Score	Priority	Agree? Y/N If no, High/Med/Low
WS 3	Inability to store carryover supply surpluses	3.00	2.82	2.80	23.69	Medium	
WS 4	Drought-sensitive water systems	3.91	3.45	3.55	47.89	High	
WS 5	Invasive species management issues	2.90	2.67	2.60	20.13	Low	
WQ 1	Water bodies in areas at risk of wildfire	3.09	3.00	3.00	27.81	High	
WQ 2	Water bodies impacted by eutrophication	3.09	3.00	3.00	27.81	High	
WQ 3	Declining seasonal low flows	3.63	3.50	3.38	42.94	High	
WQ 4	Water bodies with restricted beneficial uses	2.89	2.67	2.78	21.45	Medium	
WQ 5	Water quality impacted by rain events	2.92	2.67	2.67	20.82	Medium	
SLR 1	Coastal erosion	3.00	2.70	2.80	22.68	Medium	
SLR 2	Coastal structures	2.40	2.20	2.30	12.14	Low	
SLR 3	Coastal infrastructure in low-lying areas	2.60	2.50	2.60	16.90	Low	
SLR 4	Low-lying coastal habitats	2.50	2.40	2.60	15.60	Low	
SLR 5	Flooding due to high tides and storm surges	2.60	2.50	2.40	15.60	Low	
SLR 6	Coastal land subsidence	1.63	1.50	1.50	3.67	Low	
SLR 7	Rising sea levels	2.13	2.00	2.13	9.07	Low	
FL 1	Aging flood protection infrastructure	3.44	3.11	3.11	33.27	High	
FL 2	Insufficient flood control facilities	3.30	3.10	3.20	32.74	High	
FL 3	Increased flood risk due to wildfires	3.55	3.36	3.36	40.08	High	
EH 1	Aquatic habitats at risk of erosion and sedimentation	2.90	3.00	2.80	24.36	Medium	
EH 2	Estuarine habitats dependent on freshwater flow patterns	3.00	3.09	3.09	28.64	High	
EH 3	Climate-sensitive fauna and flora	3.00	2.90	3.00	26.10	Medium	
EH 4	Changes in species distributions	3.18	3.09	3.09	30.36	High	
EH 5	Aquatic habitats used for economic activities & recreation	2.82	2.55	2.64	18.98	Low	
EH 6	Environmental flow requirements	3.36	3.27	3.09	33.95	High	
EH 7	Exposed coastal ecosystems	2.64	2.64	2.64	18.40	Low	
EH 8	Fragmented aquatic habitats	3.00	2.70	2.80	22.68	Medium	
HP 1	Future hydropower plans	1.78	1.67	1.89	5.62	Low	