

**ILO-5. River Basin Simulation with WEAP****Learning Objectives:**

- b. Identify + recommend suitable structural and non-structural approaches to manage water supply*
- d4. Recommend reservoir operations and release policies when given a time-series of historical inflows, water uses, and delivery targets.*
- e. Quantitatively evaluate identified options against stated performance criteria.*
- g. Present work and findings in a variety of formats required of practicing basin planners and managers, including written reports.*
- i. Work effectively individually.*

Using the WEAP model for the Lower Bear River Basin you developed in the [WEAP Lab Activity](#), describe the reliability, resiliency, and vulnerability to meet delivery targets at individual Demand Sites if:

1. Cache County builds and operates the Above Cutler Reservoir, or
2. Urban water users throughout the basin reduce their use by 10% over historical values.

Compare results to the base case scenario of existing infrastructure and operations. Recommend what option Cache County should pursue to meet forecast urban water demands through 2050 (i.e., the demands specified for Cache New M&I users). Also provide short answers to the underlined, italicized questions in the lab activity as a separate appendix labeled “Model Development” and explain how you will modify the WEAP model for the Lower Bear River to include the stakeholder you are representing for the semester group project.



## ILO-5 Grading Rubric

Student: \_\_\_\_\_

Category (Max. Score)	No Evidence	Doesn't Meet Standard	Nearly Meets Standard	Meets Standard	Exceeds Standard	Self- Score	Instructor Score
<b>Title (1)</b>	Absent  0	Evidence of two or less  0	Evidence of three  0	Evidence of four  1	Title – can assess main point from title alone; Name, Instructor's Name, Course, Date, Neatly finished 1		
<b>Introduction (3)</b>	Absent, no evidence  0	There is no clear introduction or main topic.  1	Introduction states the main topic but either: 1. Does not give a full overview, Or: 2. Too detailed, leading to annoying repetition later. 2	The introduction states the main topic and previews the structure of the report.  2	The introduction states the main topic and previews the structure of the report. Good overview of the design and strategy. An effective summary. Gives enough detail to interest the reader. 3		
<b>Organization and structural development of the idea: procedure, results, discussion (10)</b>	Not applicable	Paragraphs fail to develop the main idea. No evidence of structure or organization.  1 – 5	Organization of ideas not fully developed. Paragraphs lack supporting detail sentences. No transitions.  6 - 7	Paragraph development present but not perfected. Each paragraph has sufficient supporting detail sentences. No transitions.  8	Writer demonstrates logic and sequencing of ideas in 1 page through well-developed paragraphs. Each paragraph has thoughtful, supporting detail sentences that develop the main idea. The first sentence of each paragraph is the summary sentence. Transitions enhance structure. 9 - 10		
<b>Engineering Calculations and Design (70)</b>	Design point(s) not addressed.  3 – 42%	The writer has no clue what they are talking about.  45 – 58%	Sketchy: left out required design points. Did not work on this as much as you should have, and it shows. Many important answers are incorrect.  61 – 79%	Discussion lacks adequate detail, but all the necessary points are covered and nearly all answers are correct.  82 – 88%	Provides what was explicitly asked for. The function of each piece is demonstrated to the reader in adequate, but not overwhelming, detail. Answers are correct and reasonable.  91 – 100%		
	a) Effects of new reservoir and urban water conservation (25)						
	b) Compare to base case (10)						
	c) Recommendation (10)						
	d) Answers to lab questions (20)						
	e) Modifications to model to represent stakeholder (5)						

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<b>Word Usage and Format (10)</b>	Not applicable	Numerous and distracting errors in punctuation, capitalization, spelling, sentence structure, word usage, significant figures, tables, and figures. Data vomited onto page(s). Unacceptable / unprofessional at the graduate level. <u>1 – 5</u>	Misspelled words, poor English grammar and word choice. Main body of report is either longer or significantly less than one page. Figures are too small and/or under-labeled, although they are usually of acceptable quality and focus. Tables incoherent or not cohesive. Bad font sizes. Too much or too little data in appendices. Could be improved by being more meticulous. <u>6 - 7</u>	Almost no errors in punctuation, capitalization, spelling, sentence structure, word usage, significant figures, and presentation of figures, tables, and appendices. Main body of report is one page or less  <u>8</u>	Punctuation, capitalization, spelling, sentence structure, word usage, and significant figures all correct. Main body of report is one page or less. Clear, consistent fonts. Good word processing skills. Figures have adequate contrast. Informative figure and table titles and legends. Figures have appropriate axis tick spacing, labels, units, and legends. Table columns cohesive, labeled, and specify units. Document is stapled. Appendices, if provided, are separated by topic, and each have a title, discussion, and proper formatting and display of information <u>9 - 10</u>		
<b>Conclusion (4)</b>	Absent <u>0</u>	Incomplete and/or not focused. <u>1</u>	The conclusion does not adequately restate the main results. <u>2</u>	The conclusion restates the main results. <u>3</u>	The conclusion restates the main results, and is an effective summary. <u>4</u>		
<b>References (2)</b>	Absent <u>0</u>	With many errors, off-the- wall sources used. <u>0</u>	With some errors, appropriate sources were used. <u>1</u>	With few errors, good sources were used <u>2</u>	All cited works; text, visual, and data sources are done in the correct format with no errors. Uses innovative sources of information. <u>2</u>		
<b>TOTAL (100)</b>							