

**RESPONSE TO CWRM COMMENTS PER KEN C. KAWAHARA (CWRM) LETTER
DATED MARCH 24, 2008**

Cover/Global comments:

*Should title be Hawaii Water Resources Study, instead of Hawaii Water Resource Study?
This should be changed throughout document.*

The title has been changed to “Hawaii Water Resources Study”

*Reference to Reclamation should be U .S. Department of Interior, Bureau of Reclamation,
not U.S. Bureau of Reclamation. Change throughout document.*

Changed accordingly

Report header acronym should be HWRS not HA WRS throughout document.

Necessary changes have been made

Page iii: survey data and demand projections not on accompanying CD-ROM.

The new submission include two CDs regarding data fro AWUDP-HWRS System and Delphi Surveys, bioenergy, and water projections.

Page viii, second sentence: The ten systems are not all "State-operated."

The part of sentence was dropped.

Page ix, third paragraph, second sentence: CWRM adopted not "drafted" a framework ...

Changed accordingly

Page xiii, Table ES2: Lower Hamakua Ditch Max. Capacity of 17 mgd seems low.

The 17mgd capacity at Lower Hamakua is based on interview with the system manager.

Page xiv, Figure ES2: cannot read vertical axis labels.

The Figure ES2 has been revised.

Page xxiv, Figure ES7: legend colors for pineapple and fruit & nut trees are too similar - cannot discern easily between them.

Since the legend contents for pineapple and fruit & nut trees are not adjacent in the graph, they are easily distinguishable.

Page xxvi, third paragraph: typo in first word of last sentence.

Corrected accordingly

Page 4, Sec. 2.1.5, second sentence: waste water facilities are not "State-owned," should be

county-owned.

Corrected accordingly

Page 5, Table 2.5 title: should be County-owned, not "State-owned"

Corrected accordingly

Page 12, first sentence: Figures 3.B-1 to .B-4 not found in this report. Is this in a separate appendix?

Yes, see the revised sentence and copy of appendices.

Page 15, last paragraph, first sentence: Table 3.B.1. not found in this report. Is this in a separate appendix?

Yes, see the revised sentence and copy of appendices.

Page 19, Table 3.5 crop type in left-most column stops at seed, corn and is missing remainder of crop types. Is this intentional?

Table was completed

Page 21, Sec. 4: the CD-ROM accompanying this pre-final draft report did not contain any data or information referenced throughout this section.

New CDs contain the missing data

Page 21, Sec.3.5 references all identified crops in the 10 irrigation systems, but some of the Tables beginning with Table 9.6 do not show all crop types.

Tables were completed

Page 22, second full paragraph, last sentence: Figures 4.A-1 and 4.A-2 not found in this report. Last sentence on page, Table 4-C not found in this report. Are these in a separate appendix?

Yes, see the revised sentence and copy of appendices.

Pages 26 and 27, references to Appendices 4.B-x not found in this report. Is this in a separate appendix?

Yes, see the revised sentence and copy of appendices.

Page 31, Table 5.1: Report does not comment on the decline in Delphi respondents in subsequent surveys. This decline seems significant - how does it affect the validity of this Delphi process?

The decline in Delphi respondents is expected and not significant in this case.

Page 35, Table 5.3: Report does not comment on the decline in Delphi respondents in subsequent surveys. This decline seems significant - how does it affect the validity of this Delphi process?

The decline in Delphi respondents is expected. The only significant decline is in the fifth round,

where there were sufficient responses to validate results from earlier rounds. Due to limited response on questions about the impact of irrigation system rehabilitation, an alternative analysis (see Figure 5.5) was used in place of Delphi results.

Page 36, first sentence: Appendix 5.B and Figure 5.B-1 not found in this report. Are these in a separate appendix?

Yes, see the revised sentence and copy of appendices.

Page 41, first full sentence: Figure 5.C.1 not found in this report. Is this in a separate appendix?

There is a separate index copy

Page 48, Sec. 5.5, summary and conclusion does not address decline in Delphi respondents in the two processes. How does this affect the validity of processes?

As noted in above comments, the decline in Delphi respondents did not significantly affect results.

Page 48, Sec. 6.2, third sentence: for which crops were the average coefficients applied on each studied irrigation system? It is not clear what crops (types) were assumed to be cultivated on each of these systems.

The averaging shown in Table 6.1 is across seasons or irrigation technologies, not crops. Acreages were projected for crop groups (see Appendix 9.21) and multiplied by respective crop water requirements to estimate future water demand. The accompanying CD includes spreadsheet with projection calculations.

Page 50, Sec. 6.3: does the final projections cover all existing crops? It is unclear which future crops are allocated to each of the studied systems, i.e., is this based on Table 5.2, existing land cover/crops and applying Table 5.5, estimated growth, to existing land cover/crops? Or, is growth only limited to 7 crop types. There are no proportions of the crops for each irrigation system, how are crops applied or allocated to each of the irrigation systems? Further, what is the net increase or absolute future water demand, which should account for current demand plus projected change in Table ES2?

The analysis covers 7 crop groups following HASS classification. Some very minor crops (e.g., herbs) may be excluded. This qualification has been added in Section 5.3.1. Appendix 9.21 shows growth in total acreage at each studied system. The spreadsheet on accompanying CD gives breakdown of these acreages by crop type. Estimates of system acreages circa 2001 could only be estimated for general crop types (see Table 2.4). Additional assumptions would be needed to derive current acreages and respective water demands.

Page 52, Sec. 6.4, second sentence: regarding the "rates were applied to 2005 crop acreages," does this account for existing demand for crops not included in the 7 crop groups? Is this significant?

As explained in previous comment, 7 crop groups covered in report may exclude some very minor crops. These omissions will not significantly affect results.

Page 54, Sec. 7, 4th bullet, it is not clear which crop types were applied for each of the irrigation systems and what proportions of each crop type.

Projections are for 7 groups of current crops. Appendix 9.21 and spreadsheets on accompanying CD provide details on calculations.

Page 56: We would like to recommend the following modifications to Table 7.1.: (1) add "Identify sources to meet future demands." to the end of the description to the first two recommendations, (2) add "Identification of barriers and enablers affecting implementation." to the end of the description of the recommendation Potential Use of Reclaimed Water, and (3) add a new recommendation: Expand Investigation of Unstudied Systems. Estimate crop irrigation duties, assess agricultural potential, and develop crop acreage projections.

At bottom of page 33 following the sentence “Figures 5.3 and 5.4 ... select U.S. crops, respectively.”, a sentence was added: “The 7 Hawaii groupings are based on HASS’s classification of currently grown crops and may exclude some minor specialty crops like herbs.”

See revised Table 7.1