Review of Water and Sediment

1998 - 1999

"Long-Term Monitoring Protocols"

PEP - SEDS II

Summary

August 29 - 31, 1999

External Peer Review of Water and Sediment Resources Research and Long-Term Monitoring Protocols

Members

"SEDS"

Chavez - USGS; Randle - BOR; Wilcock - Johns Hopkins; Dietrich - Berkeley; Powers - Berkeley; Howard - Virginia; Wohl - CSU; Baker - Arizona; Furbish - Florida State; Komar - Oregon State

CHARGE

Evaluate and Comment on Written and Verbal Recommendations for Water and Sediment LTM and Related Research below Glen Canyon Dam

Relative to Current MOs - *Evaluate*

1 – WRITTEN RECOMMENDATIONS FOR LTM DESIGN CRITERIA CONTAINED WITHIN NATIONAL RESEARCH COUNCIL REPORTS ON GCES AND GCMRC (1994; 1999);

2 – WATER AND SEDIMENT RESOURCES LTM AND RESEARCH ELEMENTS PROPROSED FOR FY 2001 AND BEYOND (Melis);

3 - WRITTEN SUGGESTIONS/ RECOMMENDATIONS FOR WATER AND SEDIMENT RESOURCES LTM AND RESEARCH PROVIDED BY PRESENTERS DURING AUGUST 30-31, 1999, (GCMRC Science Cooperators)

Final SEDS Report Elements - *(w.r.t. LTM)*

- *GLEN CANYON VS. DOWNSTREAM GEOMORPHOLOGY*
- *STREAMFLOW AND FINE-SEDIMENT MONITORING*
- *MAIN CHANNEL AND SHORELINE SAND STORAGE*
- *UNGAGED TRIBUTARIES/ GEOMORPHIC FRAMEWORK*
- *CHANNEL-GEOMETRY DATA FOR MAIN CHANNEL (Maps)*
- *GENERAL COMMENTS AND RECOMMENDATIONS*

Summary of Field Trip & Meeting Reports

- ***Glen Canyon Scoured after 1963, but partially aggraded since 1990?***
  (FY 2000 Synthesis by Schmidt and Topping)
- ***Currently Developing FY 2001 Annual Plan and Draft LTM Plan***
  (Melis)
- ***USGS Interest in Testing Streamflow/ Sediment Techniques in GC***
  (Gray, Office of Surface Water)
- ***Within Measurement Error, Historical Sand Storage at <6,000 cfs***
  (Topping)
- **alpha** ***Might Provide Efficient Monitoring Method for Sand/ Silt***
  (Rubin)
- ***Sand Bar Evolution Can be Modeled, Sand Transport Modeling?***
  (Wiele)
- ***Currently, Measurement is Only Method of Estimating Sand Export***
  (Hornewer)

Summary of Meeting Reports *(con't)*

- ***Backscatter (Radiometers) Feasible for Sediment Export/ Texture*** **(Chavez)**
- ***Remote Sand Bar Change Detection possible in 3-D - gross changes*** **(McCarthy)**
- ***Scientist are from Mars - Managers from Venus (culture/ commun.)*** **(Baker)**
- ***Fine-Sediment Input Downstream not Linear, Boulder Input Model*** **(Webb)**
- ***System-Wide Substrate Mapping Success, Need for CD Algorithm*** **(Anima)**
- ***Multi-Beam Works in CRE - Further Testing/ Development Needed*** **(Kaplinski)**
- ***LIDAR (for Shoreline mapping) has Merit, Cost Analysis Needed*** **(Wright)**

Final SEDS Review Panel Report -

- *Report Distribution to TWG in November 1999*
- *Panel Chair (Dr. Wohl) Presents Findings - January AMWG Meeting*
- *Program Manager Proceeds with Drafting LTM Plan in FY 2000*
- *Draft LTM Plan (Water and Sediment Resources) to TWG/ SEDS for Review and Comment in Summer 2000 (Delayed owing to LSSF)*
- *Release of LTM RFPs in Fall 2000*
- *Implement LTM Plan beginning in FY 2001*

FY 2001 Projects - (Following SEDS Findings)

- ***Advanced Conceptual Modeling Simulations*** *- Evolving Habitat under Dam Operations (Ecometric Research)*
- ***1-D Sand Routing Simulation*** *- Develop Numerical Model to Predict Fate of Fine-Grained Sediment Inputs (RFP)*
- ***2-D Sand Bar Simulation*** *- Expanded Development of Numerical Model to Predict Sand-Bar Conditions (RFP)*
- ***Fine-Sediment Budgeting*** *- Continue to Monitor Sand Influx, Storage and Efflux (USGS and RFPs)*