

**Virgin River Watershed Comprehensive Watershed Analysis Meeting
St. George, Utah
August 17, 2006**

1. **Attendees:** Approximately 67 people attended the all day watershed meeting. List of attendees and contact information is attached.
2. **Welcome/Introduction (Kayla Eckert, Corps):** Kayla Eckert welcomed everyone and introduce the purpose of the meeting (networking, define issues, identify stakeholders and discuss study plan). She provided an overview of the Corps of Engineers and discussed the typical study/project process, timelines, and cost share.
3. **2006 Watershed Assessments and Virgin River Watershed Analysis (Scott Estergard, Corps):** Scott Estergard provided description and background information pertaining to the study proposal.

Study Authorization: 2006 Energy and Water Appropriations (PL 109-103) Directs the Secretary to conduct: “*at full federal expense, comprehensive analyses that examine multi-jurisdictional use and management of water resources on a watershed or regional scale*”. From a Request for Proposals 5 studies were selected nationwide.

The proposals for all studies can be found at:

http://www.usace.army.mil/civilworks/cecwp/news/watershed_06.html

General Goals of the Analyses include:

- Improved Corps support of state, tribal and local jurisdictions and their resource agencies in multi-jurisdictional integrated water resources management efforts
- Better appreciation and understanding of the Corps’ roles in water resources management among state, tribal and local jurisdictions, and federal and state water agencies to improve integration and multi-jurisdictional management of water resources
- Greater participation of Corps technical specialists in non-Federally directed water resources initiatives, such as comprehensive water planning, when the non-Federal entities desire and request such participation
- Established priorities for water resources planning and investment in coordination with states, tribal and local jurisdictions, federal and non-Federal water managers
- Collaboration within Federal agencies to bring programs and resources together to provide integrated solutions

General information or guidelines pertaining to the studies:

- Funding between \$500,000 to \$1,000,000
- Geographic diversity support a full range of regional problems
- Not exceed two years
- Funds may not be used for non-federal participation
- Non-federal cost sharing is not required
- No further Federal obligation for the “study“ phase or commitment for implementation
- A NEPA document is not expected during the “study” phase
- May produce needs analysis or a regional or basin-wide strategy

The Virgin River Proposal includes three basic products including a needs analysis, watershed strategy, and floodplain management strategy/plan. Although not inclusive of the possible issues facing the watershed the major issues identified in developing the proposal include: floodplain management, water conservation/quality, transportation, habitat/vegetation management, and endangered species.

4. Stakeholder presentations

Commissioner Alan Gardner (Washington County) Discussed flooding that occurred in 2005 and follow up work. NRCS has performed bank armoring. Debris in channels and sediment were problems. Homes were eroded by the moving channel as opposed to inundated by flooding. There is a need for channel maintenance (removing debris and sediments) and permission to do so. Gunlock reservoir- maintenance is needed to remove sediment that has built up. Fires throughout the watershed and sediment movement after them is becoming an issue.

Corey Cram, P.G. (Watershed Coordinator Washington County Water Conservancy District) “Recent Activities and Issues in the Upper Virgin River”

Virgin River Issues in Utah

- River System (flooding, river function, water quality, land use planning)
- Wildfires
- Endangered Species
- Tamarisk

Flooding, January 9-12, 2005 (20-25 year event)

- 22 homes lost
- 9 homes unsafe
- 150 vacant parcels affected
- 50 families displaced
- 15 bridges damaged or destroyed
- Utilities (water, sewer, irrigation, power, telephone, etc.)
- Roads damaged

- Arks and trails damaged
- Golf Course damaged

Factors impacting the severity of damage:

- Increased runoff due to widespread fires
- Insufficient stream capacity
- Duration of the event
- Lack of soil cohesiveness

Existing efforts:

- Santa Clara River Master Plan
- Virgin River Master Plan (WFD to Bloomington)
- NRCS Emergency Watershed Protection (noted as largest single event of armoring, revegetation (68 acres of willow plantings) nationwide) (success rate – cottonwood/willow bundle plantings are experiencing a 75% success rate)
- FEMA: 100-Year Hydrology and Floodplain Reevaluation

Current Flood Potential:

- Scoured Channels
- Lack of Vegetation
- High percentage of burned areas-increased runoff
- Inadequate prediction tools
- Need for flood mitigation especially on Ft. Pearce Wash

Water Quality:

- Nutrient and dissolved oxygen problems in Gunlock and Baker Dam reservoirs
- Total Dissolved Solids high in the river.
- Need for increased storm water planning.

Wildfires

- 165,000 acres burned in Washington County (10% of County)
- 166,891 acres have burned so far this year.
- Much of the burn areas are concentrated in the west desert
- Cheat Grass Invasion (increases fire cycle, impacts to livelihoods, impacts to Desert Tortoises)
- Wildfires in Tamarisk in the river corridor

Endangered Species

- Federally listed Fish: Woundfin and Virgin River Chum
- State listed Fish: Flannelmouth Sucker and Spinedace
- Birds- Southwestern Willow Flycatcher

- *Virgin River Resource Management and Recovery Program working to address recovery of species (fish and birds) while allowing for use of the water resources
- Efforts for fish recovery: fish barriers and eradication for invasive Red Shiner; managing other factors of drought, low flow and high temperatures
- Efforts for bird recovery: habitat protection and improvement

Tamarisk

- Fires threatening developments
- Alters stream and flood behavior
- Degrades habitat and forage
- Tamarisk removal group in place – pursuing Section 7 Consultation with USFWS

Phillip Wisely (Mohave County Public Works, Acting Flood Control District Engineer)
What happened?

- 2005 flood
 - Took out bridge in Beaver Dam
 - 16 homes lost at Beaver Dam
 - New approach at Beaver Dam built in two weeks, from an engineering perspective, the bridge failed, can't hold capacity and is limited right now, County needs roughly \$8 million for replacement.
- 30,000 cfs for 100 year event is what the study contractor estimated

Mohave County Watershed 575 acres...borders can be blinders and we don't see beyond boundaries

Concerns:

- Future flood hazards – development pressure everywhere, and they know a flood will come again. Regulatory efforts are slow. After June of 2005, all permitting stopped.
- Development pressures
- Sediment transport
- Buyout programs?
- Who has the data? Elevations coming from FEMA in future will be viewed as bare minimums.
- Recognize they may not have asked the right questions to start with. Hinging much of their efforts on early warning systems, putting up stream gauges, precipitation gauges,

Virgin River Conservation Partnership: Alan O'neil (Outside Las Vegas Foundation)
The mission of the Virgin River Conservation Partnership is to balance conservation and economic development on the Virgin River. It includes local, state, federal and non government organizations in Nevada and Arizona.

Doug Merkler (NRCS): Presented Flooding on the Virgin River Impacts and Historic Perspective. The presentation included descriptions of the Virgin River from early explorers in the region and summary of flooding in the basin from 1861 to present. He presented hydrographs and data including erosion and deposition from Hereford, et al 1996 and others discussing the historic conditions in the watershed. Extensive pictures and discussion of the 2005 Flood throughout the watershed is also included in the presentation.

Dave Vincelette (City of Mesquite): The City of Mesquite is surrounded by Federal land and growing with pressure for developable land. Need assistance in preventing future damages including reducing potential damages from Federal land that is adjacent to private properties in Mesquite.

Coordination efforts, lessons learned:

- Being on NV/AZ border, there are multiple coordination efforts.
- Coordination efforts need to look at regional scale, beyond local and county jurisdiction.
- Hindsight was that City of Mesquite should have reached beyond County to USACE, BLM and others.
- Conservation effort vs development is tough balance.
- Increased pressures to develop closer to the river.
- 16,000- 18,0000 people now with projections to grow to 80,000 in the future.
- St. George, Santa Clara, and Washington County is ahead of City of Mesquite with management.

Kevin Eubanks (Clark County Regional Flood Control District): The RFCDD has obtained Lidar data of the post flood conditions from the Bureau of Reclamation and VVWD. Erosion hazard mapping is in progress however FEMA does not have funding to complete the process. The RFCDD is also in the process of updating the Master Plan for the area around Mesquite.

- 5. Watershed Issues Exercise:** A planning exercise was conducted after lunch to assist with facilitation of discussion, elicit information from the large group attending, and assist in focusing the study scope with stakeholder input. The exercise included 3 questions where the group had 5 minutes to write down their answers to each, the most important answer to each was then placed on a Post- it note and placed on boards around the room. The attendees split into three groups, one for each question to evaluate and summarize the responses.

Summary of the responses as presented by the three groups follow. More complete summary of the issues exercise will be completed and provided to the entire group.

What are the biggest problems facing the watershed?

- Invasive species (human, plant, animal)
- Limited resources (water/land)
- Lack of floodplain management (no integrated floodplain management)
- Narrow vision focus on floodplain management focusing on floodplain, river (not considering uplands and headwaters)
- Land use is affecting the watershed.

How do you recognize successful watershed management?

- Cooperation-lack of conflict
- Floodplain management/mitigation
- Healthy functioning ecosystem
- Effective planning tools (monitoring)
- Knowing/understanding resources

During the next 10 years what could be done to improve watershed management in the Virgin River Watershed?

- Develop watershed wide plan
- Invasive species/vegetation/habitat management
- Managing urban encroachment
- Public education, outreach, and involvement of locals
- Control & Maintenance of sediment deposits
- Local control of managing streams and tributaries
- Continued hydrologic monitoring program
- Control off-road vehicles

6. Study Proposal Review: Major issues identified in the original study proposal include: floodplain management, water conservation/quality, transportation, habitat/vegetation management and endangered species. The main products identified as coming out of the study include a needs analysis, watershed strategy, and floodplain management plan.

7. **Focus of Scope:** To help focus the scope a couple of questions were brainstormed with the group.

How do we best build upon existing information?

- Gather existing info (data waterhouse)
- Data links (web)
- Identify data gaps
- Summarize existing programs/efforts in the watershed
- Identify what has worked to be extended elsewhere
- Fill data gaps
- Implement a public education plan/input
- Identify goals and needs of stakeholders
- Develop interdisciplinary questions
- Build a technical advisory group (science based)
- Outcome- have predictive capability give some way to measure how land use decisions affect watershed health (connect the dots watershed wide)
- Interdisciplinary thinking
- Missing components are social and economic affects

What direction should study take (to accomplish these)?

- Evaluate agency goals/compatibility (local, state, Fed, stakeholders) for opportunities to collaborate
- Identify issues (3 questions) that can be implemented watershed wide and get a response (benefit)
- Lessons learned to date
- Technical group
- Local vs. regional issues
- Small group to work w/ Corps to refine issues
- Recommendations (Next steps, Who can carry on, Available resources)
- Tool to obtain funding
- Common goals and implementation strategy
- Interactive CD Rom
- Notification system for new projects
- Funding to participate in this study?

In summary as part of the Needs Analysis the issues identified by stakeholders will be summarized and evaluated. The scale of the issue will be considered and determine if it is local or regional with focus of this analysis being on those issues that are regional across the watershed or that largely affect the watershed as a whole. A gap analysis will be completed by summarizing existing reports and activities and determine what issues are and are not being addressed currently.

8. As decided by the group volunteers to participate on a technical committee were sought. The technical group will work closely with the Corps team members on the study scope; it was intended to include a good representation of members from across the watershed. In addition other agency representatives (NRCS, USGS) volunteered technical expertise/information as needed but won't necessarily participate as a technical committee member.

Those volunteering include:

- Corey Cram (Washington County Water Conservancy District)
 - Any LaVoie (USFWS)
 - Bob Boyd (BLM-Nevada)
 - Dave Vincelette (City of Mesquite, NV)
 - Phillip Wisely (Mohave County)
 - Tom Whitmer (AZ DWR)
 - Richard Spotts (BLM-AZ Strip)
 - LeAnn Skrzynski (Kaibab Paiute Tribe)
 - Rick Rosenberg (Santa Clara, UT)
 - Nicole Everett (Colorado River Commission-NV)
9. **Next Meeting:** The next meeting of the stakeholder group as a whole will be tentatively in February 2007. However, the technical committee will meet prior to that with dates to be determined. We will most likely hold meetings via telephone to reduce travel time and costs for everyone. Additionally, there will be communication ongoing through existing watershed groups including Virgin River Watershed Advisory Committee (Utah) and Virgin River Conservation Partnership.
 10. Any questions or comments may be directed to Scott Estergard, US Army Corps of Engineers. Phone 602-640-2004 or email scott.k.estergard@usace.army.mil

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