

**Virgin River Watershed Comprehensive Watershed Analysis Meeting**  
**Mesquite, NV**  
**May 24, 2007**

1. **Attendees:** Approximately 50 people participated in the all day watershed meeting. List of attendees is attached.
  
2. **Welcome/Introduction** (Ruth Villalobos, Chief of Planning Los Angeles District): Ruth Villalobos welcomed everyone to the meeting and introduced **Mr. Tom Waters, Chief of Planning and Policy for the Corps of Engineers** who spoke via telephone from Washington, D.C. Mr. Waters spoke on the 5 funded watershed studies ongoing and significance in their being funded, studies at a watershed scale are not frequently conducted because of funding limitations, large scope, and extensive coordination. Although conducting studies at that scale have numerous benefits. He thanked everyone participating for their contribution to not only the individual watersheds but for importance to watershed planning for the nation. The lessons learned from Hurricane Katrina were discussed including the need for a systems approach to addressing water resources. Water resource needs are beyond the capability of a single agency and collaboration and teamwork are needed to more efficiently develop and implement solutions. The 12 Actions for Change were described, their summary may be located at: <http://www.hq.usace.army.mil/cepa/releases/actionsforchange.htm>
  
3. **Virgin River Project Webpage:** As discussed at the meeting a webpage to share project information is under development. This page will include meeting information, presentations, products, links and contact information. The link to the page is: <http://www.spl.usace.army.mil/virginriver.htm>

**Presentations:** All presentations are being made available online at the link above. If you cannot access them please contact Scott Estergard.

4. **Watershed Analysis Overview** (Scott Estergard): This presentation reviewed the study authorization and purpose and gave an overview of components of the study, to be discussed in detail throughout the day. Summary of the findings from the August 2006 St. George meeting were reviewed including overview of the major issues identified: Floodplain management, land use planning. Invasive species, water availability and river function. Major components of this study include a Needs Analysis, Floodplain Strategy, and Watershed Strategy, all discussed in detail later in the agenda.
  
5. **Floodplain Management Strategy** (Pat Quinn): The objective of this component is to formulate a floodplain management strategy for implementation by stakeholders in the Virgin River watershed. It will be comprehensive, watershed-based, coordinated and consensus-driven, focus on non-structural measures, and be implementable. Data gathering is underway for this effort and includes

discussion with floodplain managers throughout the watershed. The work plan for this effort includes data gathering → identification of flood hazard/risk → develop goals → mitigation actions → management strategies → implementation plan → communication plan → adoption. A floodplain management specific meeting will be scheduled in late summer to include results of data gathering, review findings, discuss/verify management goals and brainstorm mitigation activities.

- 6. Virgin River Recovery Actions** (Anna Toline): This presentation reviewed the numerous recovery activities in the lower watershed. This includes: Virgin River Fishes Recovery Team, SNWA Funded Activities (fish and birds), NLM Funded Actions (e.g. tamarisk removal, fish barriers), NDOW (e.g. tilapia control), and Proposed Virgin River Habitat Conservation and Recovery Program. Proposed VRHCP is to: provide ESA compliance mechanism for development, Section 10 – HCPs and Section 7 – Goal is to determine if program can offset effects of projects with federal nexus. To identify and implement recovery actions for 3 birds and 2 fish. Participants include USFWS, NPS, BLM, NDOW, SNWA, Clark Co., Virgin Valley Water District, City of Mesquite.
- 7. Virgin River Master Plan** (Corey Cram / Rick Rosenberg): Following flooding in January 2005 the Washington County Water Conservancy District, in joint venture with St. George City, Washington City and Santa Clara City contracted with the team of Natural Channel Design (Tom Moody), JE Fuller Geomorphology (Jon Fuller) & Rosenberg Associates (Rick Rosenberg) to prepare a Comprehensive Master Plan to provide river management tools for both immediate and future activities along the Virgin River, Santa Clara River and Ft. Pierce Wash in the incorporated areas of Washington County, Utah. Lessons learned from the work include: river management is a regional issue and will require cooperation from all the local, specific guiding principles and recognized design standards should guide all reconstruction, management and maintenance of the River, Regulating development within Floodplain and Erosion Hazard Zones prevented additional damage from occurring during this flood event, Standard FEMA Floodplain Management Regulations are not sufficient to protect property from erosion damage. Documents related to this work, as well as other, are available: <http://wcvcd.state.ut.us/Plans,%20Studies%20&%20Reports.htm>
- 8. Virgin River Program** (Steve Meisner): This is a multi agency program with the goals to Implement actions to recover, conserve, enhance, and protect native species in the Virgin River and, Enhance the ability to provide adequate water supplies for sustaining human needs. Native species addressed by the program include Woundfin (*Plagopterus argentissimus*), Virgin River chub (*Gila seminuda*), Virgin spinedace (*Lepidomeda mollispinis mollispinis*), Flannelmouth Sucker (*Catostomus latipinnis*), Desert Sucker (*Catostomus clarkii*), Speckled Dace (*Rhinichthys osculus*), and Southwestern willow flycatcher (*Empidonax trailii extimu*). Recovery actions within the program include the following:

Restore water to the river channel lace fish screens on diversions, Maintain native fish brood stock at hatcheries and stock into the river, Improve natural river processes, Eliminate nonnative fishes from river (physical removal and rotenone treatments), Identify and address factors that limit native fish populations (temperature, turbidity, low flow, flow variability, habitat), and Public outreach and education. The website for the program is <http://www.virginriverprogram.org>

- 9. Tamarisk Toolbox** (Ondrea Hummel): One of the major issues within the watershed is invasives species, including tamarisk. As a portion of the overall study a “tamarisk toolbox” is being developed. It will include the following components: Overview of current removal/control efforts in the watershed, Locations, type of treatment, costs, etc., Extent of tamarisk throughout watershed, Lessons Learned from removal efforts both within the watershed and region, technical considerations for removal activities and description of Policy/Regulatory Considerations for future removal activities. Information gathering is ongoing with contacts to those currently doing removal work in the watershed.
- 10. NRCS Rapid Watershed Assessments (RWA)-Utah** (Lee Woolsey): NRCS National Strategic Plan focuses on natural systems as key to conserving natural resources and encourages collaborative efforts to maximize results. NRCS will provide services (technical assistance, technology, information, and programs) on a watershed basis. Rapid watershed assessments provide initial estimates of where conservation investments would best address the concerns of landowners, conservation districts, and other community organizations and stakeholders. These assessments help land-owners and local leaders set priorities and determine the best actions to achieve their goals. 8 RWA have been completed in the State of Utah. Discussed the data gathered to perform a RWA including interviews and technical data such as land use, precipitation, ownership, land practices, etc. RWA’s can: Provide information to develop business plans and strategies, Assist NRCS & others obtain technical & financial assistance, Provide information to help program managers & decision makers, Provide focus for forming effective partnerships, Lead to more detailed, comprehensive assessments and plans where needed to solve resource issues Seek and promote cooperative efforts to achieve conservation goals, Facilitate the growth of market-based opportunities that encourage business and industry to invest in conservation on private lands, Provide information and assistance to encourage and enable locally led, watershed-scale conservation.
- 11. Virgin River Conservation Partnership** (Deborah Campbell/Alan O’Neil): Discussed the Virgin River Conservation Partnership and collaboration ongoing with that effort. The Virgin River Conservation Partnership seeks to balance the conservation and restoration of the Virgin River ecosystem with economic development, while prompting ecological sustainability, economic viability, responsible use and stewardship, and long term community benefits. Note that

the partnership has ongoing meetings and information can be located at <http://dev.fargeo.com/vrhcp/> under Stakeholders.

**12. Water Resources of the Lower Virgin River Basin** (Michael Johnson):

Presentation reviewed the availability of both surface and groundwater resources in the Lower Virgin River Basin. The Virgin River is not governed by any interstate compact, individual State water rights have been permitted, historical use of water was agriculture, Virgin River Basin and adjacent area is a rapidly growing region, change from rural-agriculture to residential-municipal land and water use, greater demands for water imposed by urbanization, balance between sustainable water resource development and habitat/species conservation. Presentation included information on groundwater availability and rights in the lower basin and detailed description of delivery by Virgin Valley Water District, projections for population growth, and conservation measures. Challenges facing water resource development include: water quality- new Arsenic standard of 10 mg/L, desalination of Virgin River water, growth and infrastructure development, Environmental Issues, NEPA and ESA compliance associated with land acts, and competing water resource demand with Arizona and Utah.

**13. Watershed Needs Analysis** (Scott Estergard): A portion of the overall study includes completion of a needs analysis. Completion of this is intended to assist in summarizing watershed issues, identifying existing efforts throughout the watershed and areas of unmet needs. It should help for a basis for seeking options to address those needs in the watershed strategy. Focus areas include the major issues identified within the watershed: floodplain management, invasive species, land use planning, threatened & endangered species, and water supply. As can be seen from the presentations at this meeting and ongoing efforts there are numerous efforts ongoing throughout the watershed. A comprehensive summary of everything ongoing will be difficult and extremely time consuming. Therefore a more efficient way to address this is likely to complete a simple summary and focus upon increasing communication, thereby ensuring that information is shared more frequently. Gaps identified by specific focus area include: Need for additional floodplain management planning outside most populous communities, additional communication/collaboration pertaining to tamarisk management and there is potential transferable information on cheat grass from the Great Basin. Existing land use planning is in place, additional collaboration would be of benefit. T&E species are being addressed to a great extent, however there are opportunities to focus on channel maintenance and river function. Water supply/quality is addressed at different locations although not at a watershed scale.

**14. Watershed Strategy** (Scott Estergard): The intent and potential components of a watershed strategy was reviewed. A shared strategy covering the entire watershed is intended to enhance collaboration, and set priorities for addressing issues throughout the watershed. Components of this will include: coordination/communication plan, tamarisk (toolbox), priorities, and an

implementation plan. This strategy is to contribute to and build upon existing efforts, include the entire watershed, be multijurisdictional, include an implementation plan, and facilitate continued collaboration beyond completion of this specific study.

The following bulleted outline is a framework for the implementation plan.

- Goals/Objectives
- Priorities
- Schedule
- Evaluation Criteria
- Costs
- Action Entities
- Funding Sources

**15. Planning Objectives:** Setting of goals and objectives for the strategy is the first required step to development of the plan. From the problems identified in the August 2006 meeting in St. George and following discussions, and review of existing work objectives for the plan will be developed in focus areas including: Invasive species, Land Use Planning, River Function, Water Supply/Quality, and General/Management.

Priorities that stakeholders in the St George meeting listed are included below.

What are the biggest problems facing the watershed?

- Floodplain management
- Land use planning
- Invasive species
- Water availability
- River function (habitat, endangered species, channel maintenance)

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?

- Develop watershed wide plan
- Invasive species/vegetation/habitat management
- Managing urban encroachment
- Public education, outreach, and involvement of locals

The audience split into 4 groups and discussed objectives and presented their results to everyone else. Summary of those initial set of objectives is attached. Although developing objectives is a difficult process this list provides a great start for what will be incorporated into the watershed strategy and implementation plan. Those objectives will be refined further for inclusion in the plan.

- 16.** Reminder that meeting and project materials are being made available online at the link shown in bullet 3 above. If you have additional questions need more information please contact Scott Estergard, Study Manager, at 602-640-2004 (ext 242) or [scott.k.estergard@usace.army.mil](mailto:scott.k.estergard@usace.army.mil).

Scott K. Estergard

**Virgin River Watershed Analysis Meeting  
Mesquite City Hall  
May 24, 2007**

| Name            | Address  | Phone        | Email                      | Organization                     |
|-----------------|--|--------------|----------------------------|----------------------------------|
| Nathan Kennard  | 1574 W North Temple St 310<br>Salt Lake City, UT 84116 | 801 538 7284 |                            | Utah Division of Water Resources |
| Gary Hafen      | 697 Hagen-Alloy Mesquite, NV 89027                     | 702-346-8476 |                            | mesquitecitizen                  |
| Marge DeLaurell | 1173 S. 250 West # 308<br>St. George UT 84770          | 435 628476   | margedelaulrell@psomas.com | Psomas St. George UT             |
| Barry Stubb     | 1540 Foot Hills Village Dr<br>HENDERSON NV 89012       | 702-269-9923 | barry@stubs.com            | City of Mesquite Policy?         |
| 9. Amos Rehm    | 344 E Seward Dr, SOC 8,<br>St George UT 84770          |              |                            | UDNR, DWR                        |
| Andrea Hummel   | USACE Albuquerque<br>4101 Jefferson Plaza NE ABQ, NM   |              |                            | USACE                            |
| Dave Corry      | 345 E Riverwalk Dr<br>St George UT 84790               |              |                            | BLM                              |
| MAX W LITTLE    | 10 MESQUITE BLVD<br>MESQUITE, NV 89027                 | 702-346-2835 | mlittle@mesquite.nv.gov    | CITY OF MESQUITE                 |
| JARROD EDMUNDS  | 5820 S. PECOS RD STE. 400<br>LAS VEGAS, NV 89120       |              | jared.edmunds@usda.gov     | USDA NRCS                        |

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| 1)  | Dylan Frehner  | P.O. Box 307<br>Pinckney, NJ<br>07043          | 715-962-5644                 | dcfrehner@gmail.com          | Lincoln City<br>Water Dist.                  |
| 2)  | Amy Labrie     | 4701 N. Torrey Pines<br>North Las Vegas, NV    | 702/515-5230                 | amy-labrie@fws.gov           | USFWS -<br>Nevada                            |
| 3)  | Toni Foran     | 147 N. 870 West<br>Hurricane, UT               | 435-635-2811 X 118           | tonifor@infocast.com         | Hurricane<br>City                            |
| 4)  | Brian Bock     | 345 E Riverside Dr<br>St. George, UT 84790     | (435) 650-1823               | bbock@blm.gov                | AZ Strip BLM                                 |
| 5)  | Pat Quinn      | 8400 S. Kyrene Rd. Ste. 201<br>Tempe, AZ 85284 | 480-222-5714                 | pat@jefuller.com             | JE Fuller                                    |
| 6)  | Jon Fuller     | 8400 S. Kyrene #201                            | 480 222-5710                 | jonejefuller.com             | JE/AG conc                                   |
| 7)  | ROBERT BOYD    | 1340 FINANCIAL BLVD<br>RENO, NV 89502          | (775) 861-6516               | rboyd@blm.gov                | BLM  |
| 8)  | Gary Zabriskie | P.O. Box 1550<br>St. George, Utah              | (435) 673-3548<br>84771-1550 | gzabriskie@fcaog.state.ut.us | Five County<br>Association of<br>Governments |
| 9)  |                |  |                              |                              |  |
| 10) |                |  |                              |                              |  |

OVER



**Virgin River Watershed Analysis Meeting  
Mesquite City Hall  
May 24, 2007**

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| ANNA TOCINE    | 829 FRONT ST<br>SUITE J<br>GEORGETOWN, UT 89470 | 843-543-1013<br>383-3707 | atc@entrrix.com                                    | ENTRIX, Inc.                              |
| Alan Gardner   | 197 E Tabernacle<br>St George, UT 84780         | 84780                    | alanguardner@washco.utah.gov                       | Washington County<br>washco.utah.gov      |
| Ron Whitehead  | 197 E Tabernacle<br>St George, UT 84780         | 435-634-5780             | ronw@washco.state.ut.us                            | Washington County                         |
| MAURICIA BACA  | 3380 W. Sahara Ave,<br>LV, NV 89149             | Site 120                 | mbaca@tnc.org                                      | TNC                                       |
| Steve Meisner  | 136 N 100 E<br>St. GEORGE<br>Utah 84770         | 435-673-3617             | smmeisner@utah.gov                                 | TNC                                       |
| Pat Quinn      | 8400 S. Kyrene Rd., Ste. 201<br>Tempe, AZ 85284 | 480-222-5714             | pat@jofuller.com                                   | JE Fuller                                 |
| Elaine York    | 559 E. So. Temple<br>Salt Lake City UT<br>84108 |                          | eyork@tnc.org                                      | The 801<br>Nature 238-2320<br>Conservancy |
| DAVE DEMAS     | 175 E 200 N.<br>St. GEORGE, UT<br>84770         | 435-674-4287             | ddemas@sgcity.org                                  | City of St. George<br>City Engineer       |
| SCOTT STODDARD | 533 W. 2600 S. #150, Bountiful, UT 84002        | 801-294-7033 x1          | cell 801-450-3167<br>scott.stoddard@usace.army.mil | COE                                       |

**Virgin River Watershed Analysis Meeting  
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| 1) | VICTORIA COSTON  | P.O. Box 837<br>Logandale, NV                      | 397-6475     | VCOSTON@Co.<br>Clark, NV. US | Clark County<br>Rural Town<br>Services |
| 2) | LeAnn SKRZYNSKI  | KAIBAB PAIUTE                                      | 928-643-7245 |                              | KPT                                    |
| 3) | Allen Park       | 10 E Mesquite Blvd<br>Mesquite Nevada 89027        |              | abell@ci.mesquite.nv.us      | City of Mesquite                       |
| 4) | Weston Nelson    | 750 W. Pioneer Blvd.<br>Mesquite, Nevada. 346 5100 |              | wnelson@bullochbrothers.com  | Bulloch Brothers Eng.                  |
| 5) | Curt Deuser      | 601 NV Way<br>Boulder City, NV 89005               |              | Curt-deuser@nps.gov          | NPS Lake Mead NRA                      |
| 6) | Deborah Campbell | 2505 Anthem Village Dr<br>Henderson, NV 89052      |              |                              | VREP                                   |
| 7) | Michael Jansson  | 500 Riverside Road<br>Mesquite, NV 89027           |              |                              | Virgin Valley Water                    |
| 8) | David J. Syzdek  | 1900 E Flamingo Rd.<br>LV NV 89119                 |              |                              | SNWA                                   |
| 9) | Sean Collier     | 1900 E Flamingo Rd<br>Las Vegas, NV 89119          |              |                              | SNWA                                   |

10)

OVER

**Virgin River Watershed Analysis Meeting  
Mesquite City Hall  
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| Tracee Wheaton    | Wheaton@co.clark.nv.us<br>500 Grand Central Pkwy<br>Las Vegas NV 89155 |              |                              | Clark County                    |
| Rob Mrowka        | "  | "            | "                            | " "                             |
| William Elser     | 1365 Corporate Dr.<br>Reno, NV 89502                                   | 775-851-6300 | William.Elser@nv.usda.gov    | USDA-NRCS                       |
| Richard Remington | <del>1365</del> 57 West Third Street<br>L. 16450 Ferguson AZ 85281     |              |                              | Legan Simpson Design<br>Inc.    |
| Jim Carter        | 8E. Broadway, Suite 81111  |              | 801-364-0505 jcart@ksdnt.com | Legan Simpson<br>Design, Inc.   |
| Rob Mrowka        | CLARK CO - JAGEM<br>RMROWKA@CO-CLARK.NV.US                             |              |                              | CLARK COUNTY<br>JAGEM           |
| Alan O'Neill      | 2252 Morning Mesa Ave<br>Henderson, NV 89052                           |              |                              | Outside Las<br>Vegas Foundation |
| Nick Hont         | P.O. Box 7000<br>Kingman, AZ 86402                                     |              |                              | Mohave County, AZ               |
| LISA MASH         |  |              | lmash@entri.com              | ENTRIX                          |

**Virgin River Watershed Analysis Meeting  
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| Elise McAllister | PO Box 387<br>Moapa, NV 89025 | 702 864 2579 | elise@mcmodl.com                 | Partners In Conservation |
| RUTH Villalobos  |                               |              |                                  | USACE                    |
| SCOTT Estergard  |                               |              | Scott.K.Estergard@usace.army.mil | "                        |
| KAYLA Eckert     |                               |              |                                  | "                        |

| Name           | Address  | Phone        | Email                   | Organization                 |
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| Lee Woolsey    | Richfield UT<br>435-896                        | 6441 ext 110 | lee.woolsey@ut.usda.gov | NRCS                         |
| Corey Cram     | 136 N. 100 E.<br>St. George, UT 84770          | 435-673-3617 | ccram@utah.gov          | Wash. Co. Water Cons. Dist.  |
| Rick Rosenberg | 352 E. Riverside Dr.<br>St. George, Utah 84790 |              | ricket@infowest.com     | Santa Clara City             |
| SHIRLEY TAYLOR | Mesquite                                       |              |                         | CAMPING<br>CONCERNED CITIZEN |