



## Appendices

Appendix A. Steering Committee members for the Upper Sevier River Community Watershed Project/Plan.

| Name           | Title                           | Agency  |
|----------------|---------------------------------|---|
| Allen Henrie   | Chairman                        | Upper Sevier River Soil Conservation District |
| Clayton Ramsey | Project Coor.                   | Color County RC&D                             |
| Craig Axtell   | Superintendent                  | Bryce Canyon National Park                    |
| Danny Perkins  | President                       | Long Canal Irrigation Company President       |
| Doug Messerly  | Regional Supervisor             | Division of Wildlife Resources                |
| George Jolley  | Chairman                        | Piute County Farm Service Agency              |
| Jim Harris     | TMDL Coor.                      | Utah Department of Environmental Quality      |
| Kevin Heaton   | Extension Agent                 | Utah State University                         |
| Kevin Eldredge | Mayor                           | Hatch   |
| Paul Morgan    | Piute Co. Commission            | Piute Co.                                     |
| Rex Smart      | Kanab Field Office Manager      | Bureau of Land Management                     |
| Richard Jaros  | Soils and Water Program Manager | U.S. Forest Service                           |
| Ron Wilson     |                                 | Forestry, Fire and State Lands                |
| Ron Torgerson  | Renewable Resource Specialist   | State of Utah Trust Lands                     |
| Bob Russell    | Forest Supervisor               | Dixie National Forest                         |
| Tyce Palmer    | Zone Five Coordinator           | Utah Association of Conservation Districts    |
| Vane Campbell  | Area Conservationist            | Nature Resources Conservation Service         |
| Wayne Thomas   | District Engineer               | Utah Department of Environmental Quality      |
| Dennis Stowell | Iron Co. Commission             | Iron County                                   |
| Ricky Dalton   | Mayor                           | Junction                                      |
| Janet Oldham   | Mayor                           | Panguitch                                     |
| Mira Loy Ott   | County Committee Chair          | Garfield Co. Farm Services Agency             |
| Maloy Dodds    | Garfield Co. Commissioner       | Garfield Co.                                  |
| Joe Dalton     | Mayor                           | Circleville                                   |
| Mark Habbeshaw | Kane Co. Commission             | Kane County                                   |
| Liz Thomas     | Field Attorney                  | Southern Utah Wilderness Alliance             |

## Appendix B. Technical Advisory Committee Members for the Upper Sevier Watershed Management Plan.

| <b>Name</b>        | <b>Title</b>                          | <b>Agency</b>                              |
|--------------------|---------------------------------------|--|
| <b>Hydrology</b>   |                                       |  |
| Chris Butler       | Hydrologist                           | U.S. Forest Service                        |
| Dale Deiter        | Hydrologist                           | U.S. Forest Service                        |
| Joni Brazier       | Hydrologist                           | U.S. Forest Service                        |
| Harry Judd         | State TMDL Coor.                      | Utah Department of Water Quality           |
| Jim Harris         | Sevier River Watershed TMDL Coor      | Utah Department of Water Quality           |
| Joni Brazier       | Hydrologist                           | U.S. Forest Service                        |
| Dave Pace          | Richfield Zone Coor.                  | Utah Association of Conservation Districts |
| Rich Jaros         | Soil and Water Program Manager        | U.S. Forest Service                        |
| Mark Muir          | Hydrologist                           | U.S. Forest Service                        |
| <b>Agriculture</b> |                                       |  |
| Verl Bagley        | Piute Co. Extension Agent             | Utah State University                      |
| Kevin Heaton       | Garfield Co. Extension Agent          | Utah State University                      |
| Tyce Palmer        | Zone Five Coordinator                 | Utah Association of Conservation Districts |
| Tom Jarmen         | District Conservationist              | Natural Resources Conservation Service     |
| Lynn Kitchen       | District Conservationist              | Natural Resources Conservation Service     |
| Jack Soper         | Garfield Co. Extension Agent, retired | Utah State University                      |
| Mike Tebbs         | Rancher                               | Garfield Co.                               |
| Eldon Frandsen     |                                       | Natural Resources Conservation Service     |
| Lee Wolsey         |                                       | Natural Resources Conservation Service     |
| <b>Fire</b>        |                                       |  |
| Pete Goetzinger    | Assistant Fire Management Officer     | U.S. Forest Service                        |
| Taiga Rohrer       | Fire Management Officer               | U.S. Forest Service                        |
| Brett Fay          | Fire Management Officer               | U.S. Forest Service                        |
| Kim Soper          | Fire Management Officer               | U.S. Forest Service                        |
| Tracy Swenson      | Fuel Technician                       | U.S. Forest Service                        |
| Keith R Adams      | Assistant FMO                         | U.S. Forest Service                        |
| Dandy Pollock      | Fuels Specialist                      | U.S. Forest Service                        |
| Paul Briggs        | Fuels Specialist                      | Bureau of Land Management                  |
| Earl LeVanger      | Kane Co. Fire Warden                  | Utah State Forestry and Fire               |
| Larry LeForte      | So. Utah Fire Ops coordinator         | Utah State Forestry and Fire               |
| Jeff Hickerson     | Fuels Specialist                      | Zion National Park                         |
| Henry Bastian      | Fuels Specialist                      | Zion National Park                         |
| Clair Jolley       | Fuels Specialist                      | Bureau of Land Management                  |
| <b>Human Uses</b>  |                                       |  |
| Bryan Carter       | OHV Manager                           | U.S. Forest Service                        |
| Rachel Kennon      | Recreation Specialist                 | U.S. Forest Service                        |
| Max Molyneux       | Landscape Architect                   | U.S. Forest Service                        |
| Wayne Thomas       | Environmental Engineer                | Utah Department of Environmental Quality   |
| Noelle Meier       | Landscape Architect                   | U.S. Forest Service                        |
| Cindy Calbaum      | Recreation Specialist                 | U.S. Forest Service                        |
| Bill Booker        | Recreation Specialist                 | Bureau of Land Management                  |
| Bill Dawson        | Environmental Engineer                | Utah Department of Environmental Quality   |
| Alan Henrie        | Manager                               | Panguitch City                             |
| Kristin Legg       | Recreation/Hydrology                  | Bryce Canyon National Park                 |

Appendix B (cont). Technical Advisory Committee (TAC) Members for the Upper Sevier Watershed Management Plan.

| <b>Name</b>                       | <b>Title</b>                  | <b>Agency</b>                             |
|-----------------------------------|-------------------------------|---|
| <b><i>Species and Habitat</i></b> |                               |   |
| Donald Auer                       | Habitat Specialist            | Utah Division of Wildlife Resources       |
| Jake Schoppe                      | Wildlife Biologist            | U.S. Forest Service                       |
| Lisa Church                       | Wildlife Biologist            | Bureau of Land Management                 |
| Lisa Young                        | Wildlife Biologist            | U.S. Forest Service                       |
| Lydia Allen                       | Wildlife Biologist            | U.S. Forest Service                       |
| Nate Yorgason                     | Wildlife Biologist            | U.S. Forest Service                       |
| Stan Beckstrom                    | Fisheries Habitat Biologist   | Utah Division of Wildlife Resources       |
| Steve Brazier                     | Fisheries Biologist           | U.S. Forest Service                       |
| Adam Bronson                      | Wildlife Biologist            | Utah Division of Wildlife Resources       |
| <b><i>Vegetation</i></b>          |                               |   |
| Randy Beckstrand                  | Range Conservationist         | Bureau of Land Management                 |
| Jeff Bott                         | Forester                      | U.S. Forest Service                       |
| Phil Eisenhauer                   | Silviculturist                | U.S. Forest Service                       |
| David Keefe                       | Supervisory Forester          | U.S. Forest Service                       |
| Ron Larson                        | Forester                      | Forestry, Fire and State Lands            |
| Tom Simper                        | Range Conservationist         | Natural Resources Conservation Service    |
| Tom Jarman                        | District Conservationist      | Natural Resources Conservation Service    |
| Ron Torgerson                     | Renewable Resource Specialist | Utah School and Institutional Trust Lands |
| Art Pattridge                     | Range Management Specialist   | U.S. Forest Service                       |
| Kristi Hatch                      |                               | Natural Resources Conservation Service    |
| Evan Boshell                      | Range Management Specialist   | U.S. Forest Service                       |
| Steve Smith                       | Range Management Specialist   | U.S. Forest Service                       |

### CONDITION CLASS

**Condition class descriptions:** Condition classes are a function of the degree of departure from historical fire regimes resulting in alterations of key ecosystem components such as species composition, structural stage, stand age, and canopy closure. One or more of the following activities may have caused this departure: fire exclusion, timber harvesting, grazing, introduction and establishment of exotic plant species, insects and disease (introduced or native), or other past management activities.

| Condition class   | Attributes  | Example management options   |
|-------------------|---|--|
| Condition Class 1 | <ul style="list-style-type: none"> <li>• Fire regimes are within or near an historical range.</li> <li>• The risk of losing key ecosystem components is low.</li> <li>• Fire frequencies have departed from historical frequencies by no more than one return interval.</li> <li>• Vegetation attributes (species composition and structure) are intact and functioning within an historical range.</li> </ul>  | Where appropriate, these areas can be maintained within the historical fire regime by treatments such as fire use.   |
| Condition Class 2 | <ul style="list-style-type: none"> <li>• Fire regimes have been moderately altered from their historical range.</li> <li>• The risk of losing key ecosystem components has increased to moderate.</li> <li>• Fire frequencies have departed (either increased or decreased) from historical frequencies by more than one return interval. This results in moderate changes to one or more of the following: fire size, frequency, intensity, severity, or landscape patterns.</li> <li>• Vegetation attributes have been moderately altered from their historical range.</li> </ul> | Where appropriate, these areas may need moderate levels of restoration treatments, such as fire use and hand or mechanical treatments, to be restored to the historical fire regime.                               |
| Condition Class 3 | <ul style="list-style-type: none"> <li>• Fire regimes have been significantly altered from their historical range.</li> <li>• The risk of losing key ecosystem components is high.</li> <li>• Fire frequencies have departed from historical frequencies by multiple return intervals. This results in dramatic changes to one or more of the following: fire size, frequency, intensity, severity, or landscape patterns.</li> <li>• Vegetation attributes have been significantly altered from their historical range.</li> </ul>   | Where appropriate, these areas may need high levels of restoration treatments, such as hand or mechanical treatments. These treatments may be necessary before fire is used to restore the historical fire regime. |

*Hann, W.J. & Stroh, D.J. 2003. Fire Regime Condition Class and Associated Data for Fire and Fuels Planning: Methods and Applications. in Fire, Fuels Treatments, and Ecological Restoration: Conference Proceedings; April 16-18, 2002. RMRS-P-29. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. pp. 397-433.*

Appendix D. Key Issues Identified for all 9 Upper Sevier River Watersheds.

|   | Upper East Fork Sevier River | Middle East Fork Sevier River | Lower East Fork Sevier River | Asay Creek Sevier River | Mammoth Creek Sevier River | Pass Creek Sevier River | Panguitch Creek Sevier River | Bear Creek Sevier River | City Creek Sevier River |
|---|------------------------------|-------------------------------|------------------------------|-------------------------|----------------------------|-------------------------|------------------------------|-------------------------|-------------------------|
| <b>Fire</b>   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Communities at Risk                                 | X                            | X                             |                              | X                       | X                          | X                       | X                            | X                       |                         |
| Fuel Conditions                                     | X                            | X                             | X                            | X                       | X                          | X                       | X                            | X                       | X                       |
| <b>Human Uses</b>                                   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Development and Effects to Ground/Surface Water     | X                            |                               |                              | X                       | X                          | X                       | X                            | X                       |                         |
| Development and Impacts to Adjacent Lands           |                              |                               |                              |                         | X                          |                         | X                            |                         |                         |
| Access Management                                   | X                            | X                             | X                            | X                       |                            |                         |                              | X                       |                         |
| Developed and Dispersed Recreation                  |                              | X                             | X                            |                         |                            | X                       |                              | X                       |                         |
| <b>Vegetation Composition</b>                       |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Sagebrush - Grass                                   | X                            | X                             | X                            |                         |                            | X                       | X                            | X                       | X                       |
| Aspen   | X                            |                               |                              | X                       | X                          |                         |                              |                         |                         |
| Grassland - Meadow                                  |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Mixed Conifer - Mountain Fir                        |                              |                               |                              | X                       | X                          |                         |                              |                         |                         |
| Oak - Mahogany - Mountain Shrub                     |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Pinyon - Juniper                                    |                              | X                             | X                            |                         |                            | X                       |                              | X                       | X                       |
| Ponderosa   |                              |                               |                              | X                       |                            |                         |                              |                         |                         |
| Spruce - Fir  |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Tall Forb   |                              |                               |                              | X                       | X                          |                         |                              |                         |                         |
| Noxious Weeds                                       |                              |                               |                              |                         |                            |                         | X                            |                         |                         |
| <b>Species and Habitat</b>                          |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| <i>Priorities for Enhancement or Protection of:</i> |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Southwestern Willow Flycatcher Habitat              |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Utah Prairie Dog Habitat                            | X                            |                               |                              |                         |                            | X                       |                              |                         |                         |
| Bald Eagle Habitat                                  |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Spotted Bat Habitat                                 |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Townsend's Big-eared Bat Habitat                    |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Flammulated Owl Habitat                             |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Three-toed Woodpecker Habitat                       |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Northern Goshawk Habitat                            |                              |                               |                              |                         | X                          |                         |                              |                         |                         |
| Peregrine Falcon Habitat                            |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Sage Grouse Habitat                                 |                              | X                             |                              |                         |                            | X                       |                              | X                       | X                       |
| Turkey Habitat                                      |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Deer Habitat  |                              |                               | X                            | X                       |                            |                         | X                            |                         | X                       |
| Elk Habitat   |                              |                               |                              | X                       |                            |                         | X                            |                         |                         |
| Pronghorn Habitat                                   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Brian Head Mountain-Snail Habitat                   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Beaver Habitat                                      |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Boreal Toad Habitat                                 |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Bonneville Cutthroat Habitat                        |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Riparian Areas                                      | X                            |                               |                              | X                       | X                          |                         | X                            | X                       |                         |
| Fisheries Habitat                                   |                              | X                             | X                            |                         |                            |                         |                              |                         |                         |

Appendix D (cont). Key Issues Identified for all 9 Upper Sevier River Watersheds.

|  | Upper East Fork Sevier River | Middle East Fork Sevier River | Lower East Fork Sevier River | Asay Creek Sevier River | Mammoth Creek Sevier River | Pass Creek Sevier River | Panguitch Creek Sevier River | Bear Creek Sevier River | City Creek Sevier River |
|--|------------------------------|-------------------------------|------------------------------|-------------------------|----------------------------|-------------------------|------------------------------|-------------------------|-------------------------|
| <b>Hydrology/Water Quality</b>   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| <i>Hydrology</i>   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Dewatering and altered flow regimes  |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Releases from Otter Ck. Res. may be causing bank erosion along E. Fork Sevier River  |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Diversion of water from Castle Creek to Deer Creek has caused severe channel degradation   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Diversions along the Sevier R. may be affecting sediment transport capacity and channel equilibrium  |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Loss of riparian veg. has resulted in reduced bank storage and summer streamflows  |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| <i>Hillslope Processes</i>   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Accelerated erosion on high elevation meadows  |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Accelerated erosion in pinyon-juniper and sagebrush stands   |                              |                               | X                            |                         |                            |                         |                              | X                       | X                       |
| Accelerated erosion associated with urban development  |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Accelerated erosion associated with roads  |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Rill and gully erosion on hillslopes   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Accelerated erosion associated with illegal ATV use  |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| <i>Riparian Vegetation</i>   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Lack of health composition of riparian veg, defined by the presence of late seral herbaceous plants and multiple age class distribution of appropriate woody plant species | X                            | X                             | X                            | X                       | X                          | X                       | X                            |                         |                         |
| <i>Water Quality</i>   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Summer home development and associated impacts (i.e., Ground/Surface Water contamination, erosion, recreation, etc.)   |                              |                               |                              | X                       | X                          | X                       |                              |                         |                         |
| Accelerated erosion, grazing management, recreation use, roads   | X                            | X                             |                              |                         |                            |                         | X                            |                         | X                       |
| TMDL listed and potentially listed water bodies due to nutrients, sediment, phosphorous, DO, habitat alteration, or temperature  |                              |                               |                              |                         |                            |                         |                              | X                       |                         |
| <i>Channel Morphology</i>  |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Active channel adjustments (vertical or lateral)   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Accelerated bank erosion   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Channelization   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| <b>Agriculture</b>   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Animal Feed Operations   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Water conservation concerns (Sprinkler vs. Flood Irrigation)   |                              |                               |                              |                         |                            |                         |                              |                         | X                       |
| Pasture Management   |                              |                               | X                            |                         |                            |                         |                              | X                       | X                       |
| Fertilizer Usage and Impacts   |                              |                               |                              |                         |                            |                         |                              |                         |                         |
| Noxious Weeds  | X                            | X                             | X                            | X                       | X                          | X                       | X                            | X                       |                         |
| Wildlife Management on Agricultural Lands  | X                            | X                             |                              | X                       | X                          | X                       | X                            |                         |                         |

Appendix E. Total acres/miles identified as priority issues for all 9 Upper Sevier River Watersheds.

| Watershed               | TAC Group              | Key Issue  | Acres/(mi.) Identified |
|-------------------------|------------------------|--|------------------------|
| <b>Upper East Fork</b>  |                        |  |                        |
|                         | Hydrology              | Accelerated Erosion                                    | 3503                   |
|                         | Human Uses             | Access Management                                      | 2601                   |
|                         | Fire                   | Communities at Risk to Wildfire                        | 27732                  |
|                         | Vegetation             | Aspen - Vegetation Composition                         | 45016                  |
|                         | Human Uses             | Development and Effects to Ground Water                | 631                    |
|                         | Species and Habitat    | Enhancement and Protection of Riparian Habitat         | 159 (mi)               |
|                         | Species and Habitat    | Enhancement and Protection of Utah Prairie Dog Habitat | 50973                  |
|                         | Fire                   | Shade Tolerant Vegetation - Fuel Conditions            | 23684                  |
|                         | Agriculture            | Noxious Weeds  | 3278                   |
|                         | Hydrology              | Riparian Vegetation Composition                        | 108 (mi)               |
|                         | Vegetation             | Sagebrush/Grassland Areas - Vegetation Composition     | 50973                  |
|                         | Agriculture            | Wildlife Infringement on Private Lands                 | 10811                  |
| <b>Middle East Fork</b> |                        |  |                        |
|                         | Hydrology              | Accelerated Erosion                                    | 9973                   |
|                         | Human Uses             | Access Management                                      | 55607                  |
|                         | Fire                   | Communities at Risk to Wildfire                        | 7942                   |
|                         | Human Uses             | Dispersed Recreation                                   | 1854                   |
|                         | Species and Habitat    | Enhancement or Protection of Sage Grouse Habitat       | 11861                  |
|                         | Species and Habitat    | Enhancement or Protection of Fisheries Habitat         | 100 (mi)               |
|                         | Fire                   | Mountain Brush Species - Fuel Conditions               | 24604                  |
|                         | Agriculture            | Noxious Weeds  | 10127                  |
|                         | Vegetation             | Pinyon/Juniper - Vegetation Composition                | 32177                  |
|                         | Hydrology              | Riparian Vegetation Composition                        | 104 (mi)               |
|                         | Vegetation             | Sagebrush/Grassland Areas - Vegetation Composition     | 11696                  |
|                         | Agriculture            | Wildlife Infringement on Private Lands                 | 10665                  |
| <b>Lower East Fork</b>  |                        |  |                        |
|                         | Human Uses             | Access Management                                      | 37381                  |
|                         | Human Uses             | Dispersed Recreation                                   | 2967                   |
|                         | Species and Habitat    | Enhancement and Protection of Deer Habitat             | 20875                  |
|                         | Species and Habitat    | Enhancement and Protection of Fisheries Habitat        | 37 (mi)                |
|                         | Fire                   | Mountain Brush Species                                 | 15471                  |
|                         | Agriculture            | Noxious Weeds  | 2357                   |
|                         | Agriculture            | Pasture Management                                     | 10154                  |
|                         | Fire                   | Pinyon/Juniper - Fuel Conditions                       | 11019                  |
|                         | Vegetation             | Pinyon/Juniper - Vegetation Composition                | 8264                   |
|                         | Hydrology              | Pinyon/Juniper, Sagebrush - Accelerated Erosion        | 10723                  |
|                         | Hydrology              | Riparian Vegetation Composition                        | 25 (mi)                |
|                         | Vegetation             | Sagebrush/Grassland Areas - Vegetation Composition     | 8263                   |
| <b>Panguitch Creek</b>  |                        |  |                        |
|                         | Hydrology              | Accelerated Erosion                                    | 7596                   |
|                         | Fire                   | Communities at Risk to Wildfire                        | 2834                   |
|                         | Human Uses             | Development and Effects to Ground/Surface Water        | 2372                   |
|                         | Human Uses             | Development and Impacts to Adjacent Lands              | 23474                  |
|                         | Species and Habitat    | Enhancement and Protection of Deer/Elk Habitat         | 82044                  |
|                         | Species and Habitat    | Enhancement and Protection of Sage Grouse Habitat      | 31448                  |
|                         | Species and Habitat    | Enhancement and Protection of Riparian Habitat         | 43 (mi)                |
|                         | Vegetation/Agriculture | Noxious Weeds  | 5889                   |
|                         | Fire                   | Pinyon/Juniper, Sagebrush - Fuel Conditions            | 15920                  |
|                         | Fire                   | Ponderosa Pine - Fuel Conditions                       | 2159                   |
|                         | Hydrology              | Riparian Vegetation Composition                        | 22 (mi)                |
|                         | Vegetation             | Sagebrush/Grasslands - Vegetation Composition          | 23422                  |
|                         | Agriculture            | Wildlife Infringement on Private Lands                 | 35492                  |

Appendix E (cont). Total acres/miles identified as priority issues for all 9 Upper Sevier River Watersheds.

| Watershed                      | TAC Group           | Key Issue  | Acres/(mi.) Identified |
|--------------------------------|---------------------|--|------------------------|
| <b>Asay Creek</b>              |                     |  |                        |
|                                | Human Uses          | Access Management                                      | 43851                  |
|                                | Vegetation          | Aspen/Mixed Conifer - Vegetation Composition           | 35709                  |
|                                | Fire                | Communities at Risk                                    | 2121                   |
|                                | Human Uses          | Development and Effects to Ground/Surface Water        | 4815                   |
|                                | Species and Habitat | Enhancement and Protection of Deer/Elk Habitat         | 60207                  |
|                                | Species and Habitat | Enhancement and Protection of Riparian Habitat         | 56 (mi)                |
|                                | Agriculture         | Noxious Weeds  | 30137                  |
|                                | Vegetation          | Ponderosa Pine - Vegetation Composition                | 14449                  |
|                                | Fire                | Ponderosa Pine/Mixed Conifer - Fuel Conditions         | 65615                  |
|                                | Hydrology           | Riparian Vegetation Composition                        | 71 (mi)                |
|                                | Hydrology           | Summer Home Development                                | 4205                   |
|                                | Vegetation          | Tall Forbs - Vegetation Composition                    | 2568                   |
|                                | Agriculture         | Wildlife Infringement on Private Lands                 | 9925                   |
| <b>Pass Creek Sevier River</b> |                     |  |                        |
|                                | Hydrology           | Accelerated Erosion                                    | 56911                  |
|                                | Hydrology           | Active Channel Adjustments                             | 102 (mi)               |
|                                | Fire                | Communities at Risk                                    | 4259                   |
|                                | Human Uses          | Developed and Dispersed Recreation                     | 7857                   |
|                                | Human Uses          | Development and Effects to Ground/Surface Water        | 1290                   |
|                                | Species and Habitat | Enhancement and Protection of Sage Grouse Habitat      | 70136                  |
|                                | Species and Habitat | Enhancement and Protection of Utah Prairie Dog Habitat | 47775                  |
|                                | Agriculture         | Noxious Weeds  | 18631                  |
|                                | Fire                | Pinyon/Juniper - Fuel Conditions                       | 12182                  |
|                                | Vegetation          | Pinyon/Juniper - Vegetation Composition                | 31178                  |
|                                | Vegetation          | Sagebrush/Grasslands - Vegetation Composition          | 14572                  |
|                                | Agriculture         | Wildlife Infringement on Private Lands                 | 152301                 |
| <b>Mammoth Creek</b>           |                     |  |                        |
|                                | Vegetation          | Aspen/Mixed Conifer - Vegetation Composition           | 13738                  |
|                                | Fire                | Communities at Risk                                    | 3046                   |
|                                | Human Uses          | Development and Effects to Ground/Surface Water        | 2912                   |
|                                | Human Uses          | Development and Impacts to Adjacent Lands              | 5540                   |
|                                | Species and Habitat | Enhancement and Protection of Goshawk Habitat          | 74766                  |
|                                | Species and Habitat | Enhancement and Protection of Riparian Habitat         | 40 (mi)                |
|                                | Agriculture         | Noxious Weeds  | 7741                   |
|                                | Fire                | Ponderosa Pine - Fuel Conditions                       | 8267                   |
|                                | Hydrology           | Riparian Vegetation Composition                        | 37 (mi)                |
|                                | Fire                | Spruce Fir - Fuel Conditions                           | 10730                  |
|                                | Hydrology           | Summer Home Development                                | 2884                   |
|                                | Vegetation          | Tall Forb - Vegetation Composition                     | 3731                   |
|                                | Agriculture         | Wildlife Infringement on Private Lands                 | 26479                  |
| <b>City Creek Sevier River</b> |                     |  |                        |
|                                | Hydrology           | Accelerated Erosion                                    | 2512                   |
|                                | Human Uses          | Access Management                                      | 979                    |
|                                | Fire                | Aspen/Spruce - Fuel Conditions                         | 12562                  |
|                                | Species and Habitat | Enhancement and Protection of Deer Habitat             | 48504                  |
|                                | Vegetation          | Pinyon/Juniper - Vegetation Composition                | 88676                  |
|                                | Hydrology           | Pinyon/Juniper, Sagebrush - Accelerated Erosion        | 24996                  |
|                                | Fire                | Pinyon/Juniper, Sagebrush - Fuel Conditions            | 12816                  |
|                                | Vegetation          | Sagebrush/Grasslands - Vegetation Composition          | 17923                  |
|                                | Agriculture         | Pasture Management                                     | 4365                   |
|                                | Agriculture         | Water Conservation Concerns                            | 11904                  |
| <b>Bear Creek</b>              |                     |  |                        |
|                                | Species and Habitat | Enhancement and Protection of Riparian Habitat         | 52 (mi)                |
|                                | Species and Habitat | Enhancement and Protection of Sage Grouse Habitat      | 26649                  |
|                                | Agriculture         | Noxious Weeds  | 39061                  |
|                                | Agriculture         | Pasture Management                                     | 25014                  |
|                                | Vegetation          | Pinyon/Juniper - Vegetation Composition                | 95445                  |
|                                | Hydrology           | Pinyon/Juniper, Sagebrush - Accelerated Erosion        | 47644                  |
|                                | Fire                | Pinyon/Juniper, Sagebrush, Mountain Brush - Fuel Cond. | 3720                   |
|                                | Vegetation          | Sagebrush/Grasslands Areas - Vegetation Composition    | 25443                  |
|                                | Hydrology           | TMDL listed and potentially listed waters              | 29 (mi)                |

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Appendix F. Vegetation types (acres) by watershed and subwatershed, for entire Upper Sevier River basin. (This table is a two-page spread.)

| Watershed/subwatersheds             | Vegetation      |                 |                |                              |                 |
|-------------------------------------|-----------------|-----------------|----------------|------------------------------|-----------------|
|                                     | Agriculture     | Aspen           | Grass-Forb     | Limber Pine/Bristlecone Pine | Mixed Conifer   |
| <b>Asay Creek</b>                   |                 |                 |                |                              |                 |
| Deer Valley-Midway Creek            |                 | 342.31          | 1106.08        |                              | 14298.28        |
| Midway Valley-Midway Creek          |                 | 63.98           | 1796.29        | 12.31                        | 491.97          |
| Strawberry Creek                    |                 |                 | 1456.33        |                              | 9853.06         |
| Swains Creek                        |                 |                 | 1273.99        |                              | 8389.07         |
| West Fork Asay Creek-Asay Creek     | 38.59           |                 | 903.64         |                              | 770.23          |
| <b>Total</b>                        | <b>38.59</b>    | <b>406.29</b>   | <b>6536.33</b> | <b>12.31</b>                 | <b>33802.61</b> |
| <b>Bear Creek Sevier River</b>      |                 |                 |                |                              |                 |
| Bear Creek                          | 7.3             | 2.56            | 769.98         |                              | 959.68          |
| East Bench-Sevier River             | 3679.53         |                 |                |                              |                 |
| Horse Valley Creek-Sevier River     | 1029.83         |                 | 46.8           |                              |                 |
| Limekiln Creek                      | 236.1           |                 | 71.98          |                              | 375.42          |
| Sandy Creek                         | 77.54           | 34.65           |                |                              | 442.4           |
| Sanford Creek                       | 23.39           |                 | 2278.03        |                              | 1170.4          |
| Smith Canyon-Sevier River           | 1202.63         |                 | 1292.18        |                              | 312.27          |
| Tebbs Hollow-Sevier River           | 941.18          |                 |                |                              | 90.1            |
| Threemile Creek                     | 58.06           |                 |                |                              | 1749.05         |
| West Ditch-Sevier River             | 2174            |                 |                |                              |                 |
| <b>Total</b>                        | <b>9429.56</b>  | <b>37.21</b>    | <b>4458.97</b> |                              | <b>5099.32</b>  |
| <b>City Creek Sevier River</b>      |                 |                 |                |                              |                 |
| Birch Creek-Sevier River            | 1707.54         |                 | 47.55          |                              |                 |
| Burnt Hollow-Sevier River           | 4379.3          | 75.26           |                |                              | 2.48            |
| Chokecherry Creek-Sevier River      |                 |                 | 386.63         |                              | 417.53          |
| City Creek                          | 22.71           | 976.71          | 4.57           |                              | 1412.48         |
| Cottonwood Creek                    | 1956.07         | 980.66          |                |                              | 0.92            |
| Echard Creek                        |                 |                 | 438.13         |                              | 175.3           |
| Lost Creek                          | 1348.85         | 268.68          | 1483.93        |                              | 0               |
| Piute Reservoir                     | 1438.26         |                 |                |                              | 328.46          |
| <b>Total</b>                        | <b>10852.73</b> | <b>2301.31</b>  | <b>2360.81</b> |                              | <b>2337.17</b>  |
| <b>Lower East Fork Sevier River</b> |                 |                 |                |                              |                 |
| Antimony Creek                      | 784.27          | 924.68          | 11.9           |                              | 180.36          |
| Antimony-East Fork Sevier River     | 2558.17         | 95.12           |                |                              |                 |
| Coyote Hollow-Antimony Creek        |                 | 6089.49         | 425.31         |                              |                 |
| Dry Wash                            | 81.31           | 1100.67         | 740.8          |                              | 252.63          |
| East Fork Sevier River Outlet       | 1380.75         | 3994.08         |                |                              | 1634.21         |
| Hoodle Creek                        | 0.11            | 3041.94         | 1.54           |                              |                 |
| Lost Spring Draw                    |                 | 2516.74         | 0.65           |                              |                 |
| <b>Total</b>                        | <b>4804.61</b>  | <b>17762.72</b> | <b>1180.2</b>  |                              | <b>2067.2</b>   |
| <b>Mammoth Creek</b>                |                 |                 |                |                              |                 |
| Lower Mammoth Creek                 | 451.96          |                 | 280.79         |                              | 1724.91         |
| Middle Mammoth Creek                |                 | 206.9           | 368.7          |                              | 1481.23         |
| Tommy Creek                         |                 | 2066.14         | 420.96         |                              | 3305.25         |
| Upper Mammoth Creek                 |                 | 4479.99         | 3838.99        |                              | 473.24          |
| <b>Total</b>                        | <b>451.96</b>   | <b>6753.03</b>  | <b>4909.44</b> |                              | <b>6984.63</b>  |

Appendix F. Vegetation types (acres) by watershed and subwatershed, for entire Upper Sevier River basin. (This table is a two-page spread.)

| Mountain Shrub  | Pinyon/ Juniper | Ponderosa Pine  | Riparian      | Rock            | Sagebrush/ Grass | Spruce-Fir      | Urban         | Water          | Grand Total      |
|-----------------|-----------------|-----------------|---------------|-----------------|------------------|-----------------|---------------|----------------|------------------|
|                 |                 | 1568.9          |               | 3559.28         | 583.93           | 1972.14         |               | 423.76         | 23854.68         |
|                 |                 | 86.32           |               | 1835.19         | 596.03           | 6295.49         |               |                | 11177.58         |
|                 | 72.46           | 6205.8          |               | 47.66           | 22.78            |                 |               |                | 17658.09         |
| 113.61          |                 | 6783.85         |               | 86.94           | 123.51           |                 |               |                | 16770.97         |
|                 | 1100.83         | 11077.96        |               | 507.29          | 5010.64          |                 |               |                | 19409.18         |
| <b>113.61</b>   | <b>1173.29</b>  | <b>25722.83</b> |               | <b>6036.36</b>  | <b>6336.89</b>   | <b>8267.63</b>  |               | <b>423.76</b>  | <b>88870.5</b>   |
| 6363.4          | 13486.97        | 2565.94         | 101.41        | 0.81            | 9259.75          |                 |               |                | 33517.8          |
| 0.1             | 9385.92         |                 |               |                 | 576.57           |                 | 687.06        |                | 14329.18         |
|                 | 24345.41        | 1965.43         |               |                 | 2233.63          | 597.3           |               |                | 30218.4          |
|                 | 4644.59         |                 |               | 6915.93         | 3990.06          | 799.43          |               |                | 17033.51         |
| 4336.86         | 8293.51         |                 |               | 315.81          | 1761.23          |                 |               |                | 15262            |
|                 | 1124.36         |                 |               | 3303.64         | 2271.85          | 8978.52         |               |                | 19150.19         |
|                 | 11747.65        | 19.96           |               |                 | 1720.55          | 5436.78         |               |                | 21732.02         |
| 731.72          | 9134.03         |                 |               |                 | 1306.05          | 673.88          |               |                | 12876.96         |
| 4043.51         | 6405.14         | 303.36          |               | 11.3            | 631.82           |                 |               |                | 13202.24         |
|                 | 6877.7          |                 |               | 2.96            | 1691.36          | 911.96          |               |                | 11657.98         |
| <b>15475.59</b> | <b>95445.28</b> | <b>4854.69</b>  | <b>101.41</b> | <b>10550.45</b> | <b>25442.87</b>  | <b>17397.87</b> | <b>687.06</b> |                | <b>188980.28</b> |
| 145.5           | 15657.95        | 959.47          |               |                 | 67.82            | 1090.74         | 308.3         |                | 19984.87         |
|                 | 11289.51        | 153.77          |               | 413.63          | 2794.01          |                 |               |                | 19107.96         |
| 247.3           | 10906.65        | 4549.55         |               |                 | 960.89           | 2493.91         |               |                | 19962.46         |
| 1007.11         | 5472.98         | 1069.96         |               |                 | 607.81           | 5345.25         |               | 21.6           | 15941.18         |
| 1219.61         | 8098.17         | 1936.37         |               |                 | 338.36           | 1418.24         | 13.72         |                | 15962.12         |
| 476.65          | 3613.02         | 4808.88         |               |                 | 6049.1           | 256.91          |               |                | 15817.99         |
|                 | 11209.74        |                 |               | 1907.37         | 5099.11          | 1674.51         | 16.69         |                | 23008.88         |
| 14.34           | 22427.72        | 815.12          | 253.09        |                 | 2005.45          |                 |               | 1812.71        | 29095.15         |
| <b>3110.51</b>  | <b>88675.74</b> | <b>14293.12</b> | <b>253.09</b> | <b>2321</b>     | <b>17922.55</b>  | <b>12279.56</b> | <b>338.71</b> | <b>1834.31</b> | <b>158880.61</b> |
|                 | 11233.75        |                 |               | 1996.88         | 6632.59          | 9.38            |               |                | 21773.81         |
|                 | 13468.25        | 10.22           |               |                 | 2746.24          |                 |               |                | 18878            |
|                 | 72.6            |                 |               | 964.49          | 12643.97         | 17609.3         |               |                | 37805.16         |
|                 | 3823.29         | 1518.8          |               | 283.65          | 6090.6           | 606.36          |               |                | 14498.11         |
|                 | 25364.61        | 2545.57         |               | 410.22          | 3306.82          | 845.48          |               |                | 39481.74         |
|                 | 4529.53         |                 |               | 94.72           | 5503.66          |                 |               |                | 13171.5          |
|                 | 46.83           |                 |               | 391.57          | 6129.5           | 1547.59         |               |                | 10632.88         |
|                 | <b>58538.86</b> | <b>4074.59</b>  |               | <b>4141.53</b>  | <b>43053.38</b>  | <b>20618.11</b> |               |                | <b>156241.2</b>  |
|                 | 4247.07         | 6727.92         |               | 606.6           | 4480.51          |                 |               |                | 18519.76         |
| 75.91           | 125.04          | 8003.81         |               | 2691.06         | 2589.89          | 558.97          |               |                | 16101.51         |
|                 |                 | 1498.76         |               | 3321.8          | 256.44           | 3369.57         |               |                | 14238.92         |
|                 |                 | 1903.94         |               | 1604.09         | 1653.5           | 11862.74        |               |                | 25816.49         |
| <b>75.91</b>    | <b>4372.11</b>  | <b>18134.43</b> |               | <b>8223.55</b>  | <b>8980.34</b>   | <b>15791.28</b> |               |                | <b>74676.68</b>  |

Appendix F (cont). Vegetation types (acres) by watershed and subwatershed, for entire Upper Sevier River basin. (This table is a two-page spread.)

| Watershed/subwatersheds                 | Vegetation      |                 |                 |                              |                  |
|---|-----------------|-----------------|-----------------|------------------------------|------------------|
|   | Agriculture     | Aspen           | Grass-Forb      | Limber Pine/Bristlecone Pine | Mixed Conifer    |
| <b>Middle East Fork Sevier River</b>    |                 |                 |                 |                              |                  |
| Clay Creek                              |                 | 152.43          | 250.21          |                              | 6459.54          |
| Cottonwood Creek                        | 30.24           |                 | 2990.95         |                              | 0.39             |
| Cow Creek-Sevier River                  | 81.68           |                 | 589.99          |                              |                  |
| Deep Creek                              |                 | 270.43          | 2427.35         |                              |                  |
| Deer Creek                              |                 |                 | 3129.24         |                              |                  |
| Forest Creek                            | 0               | 1663.04         | 647.37          |                              |                  |
| North Creek                             |                 | 4070            | 276.04          |                              | 68.83            |
| Pacer Lake                              | 170.86          | 2361.64         | 11.18           |                              |                  |
| Prospect Creek                          | 3.61            |                 | 820.33          |                              |                  |
| Ranch Creek-Sevier River                | 1664.66         | 2373.99         | 531.56          |                              | 242.1            |
| South Creek                             |                 |                 | 4602.21         |                              | 2051.83          |
| Sweetwater Creek                        | 187.68          | 688.11          | 2105.77         | 308.08                       | 4804.59          |
| <b>Total</b>                            | <b>2138.73</b>  | <b>11579.64</b> | <b>18382.2</b>  | <b>308.08</b>                | <b>13627.28</b>  |
| <b>Panguitch Creek</b>                  |                 |                 |                 |                              |                  |
| Blue Spring Creek                       |                 | 3028.17         | 1369.91         |                              | 585.2            |
| Butler Creek                            |                 | 295.47          | 467.89          |                              | 2384.5           |
| Fivemile Hollow-Panguitch Creek         |                 |                 | 214.51          |                              | 4.17             |
| Haycock Creek                           |                 | 1669.94         | 1026.78         |                              | 63.99            |
| Ipson Creek                             |                 | 4375.15         | 1580.6          |                              | 0.39             |
| South Canyon-Panguitch Creek            | 669.38          |                 |                 |                              |                  |
| <b>Total</b>                            | <b>669.38</b>   | <b>9368.73</b>  | <b>4659.69</b>  |                              | <b>3038.25</b>   |
| <b>Pass Creek Sevier River</b>          |                 |                 |                 |                              |                  |
| Big Hollow-Sevier River                 | 938.45          |                 | 2199.56         |                              | 1010.55          |
| Castle Creek-Sevier River               | 456.92          | 542.16          | 5277.73         |                              | 387.3            |
| Casto Wash                              |                 |                 | 352.28          |                              |                  |
| Graveyard Hollow                        | 212.33          |                 |                 |                              |                  |
| Hillsdale-Sevier River                  | 373.4           |                 | 405.33          |                              |                  |
| Pass Creek                              |                 | 210.67          | 1341.11         |                              | 1159.65          |
| Peterson Wash-Sevier River              | 843.17          |                 |                 |                              |                  |
| Pole Canyon-Sevier River                | 106.21          | 24.44           | 2383.63         |                              | 2103.88          |
| Proctor Canyon-Sevier River             |                 |                 | 1685.76         |                              | 1386.68          |
| Red Canyon                              |                 |                 |                 |                              | 67.33            |
| <b>Total</b>                            | <b>2930.48</b>  | <b>777.27</b>   | <b>13645.4</b>  |                              | <b>6115.39</b>   |
| <b>Upper East Fork Sevier River</b>     |                 |                 |                 |                              |                  |
| Cameron Wash-East Fork Sevier River     |                 |                 | 2705.45         |                              | 767.67           |
| East Fork Sevier River Headwaters       |                 | 2352.58         | 1124.91         |                              | 16641.7          |
| Hunt Creek                              |                 |                 | 6371.33         |                              |                  |
| Mud Spring Creek-East Fork Sevier River |                 |                 | 3841.65         |                              | 2492.87          |
| Showalter Creek-East Fork Sevier River  |                 |                 | 3065.86         |                              | 463.51           |
| Tropic Reservoir                        |                 | 434.28          | 475.57          |                              | 9017.17          |
| <b>Total</b>                            |                 | <b>2786.86</b>  | <b>17584.77</b> |                              | <b>29382.92</b>  |
| <b>Grand Total</b>                      | <b>31316.04</b> | <b>51773.06</b> | <b>73717.81</b> | <b>320.39</b>                | <b>102454.77</b> |

Appendix F (cont). Vegetation types (acres) by watershed and subwatershed, for entire Upper Sevier River basin. (This table is a two-page spread.)

| Mountain Shrub | Pinyon/ Juniper | Ponderosa Pine | Riparian | Rock      | Sagebrush/ Grass | Spruce-Fir | Urban   | Water   | Grand Total |
|----------------|-----------------|----------------|----------|-----------|------------------|------------|---------|---------|-------------|
|                | 1859.23         | 1631.88        |          | 2545.45   | 2332.96          | 1301.32    |         |         | 16533.02    |
| 391.59         | 3352.54         | 502.79         |          | 18.71     | 5864.53          | 2619.6     |         |         | 15771.34    |
|                | 7074.4          | 525.05         |          |           | 2839.51          | 5.54       |         |         | 11116.17    |
|                | 5597.14         | 104.57         |          | 253.49    | 3515.53          | 3715.44    |         |         | 15883.95    |
|                | 6674.21         | 328.84         |          | 78.01     | 4224.89          | 3606.11    |         |         | 18041.3     |
|                | 3858.79         | 5.63           |          | 52.2      | 2937.84          | 902.59     |         |         | 10067.46    |
| 291.7          | 4552.19         | 126.38         |          | 1192.63   | 5192.13          | 1210.33    |         |         | 16980.23    |
| 343.49         | 10247.3         | 21.79          |          | 880.96    | 6792.17          | 956.54     |         |         | 21785.93    |
|                | 1511.12         |                |          | 935.09    | 13809.59         | 1727.45    |         |         | 18807.19    |
| 581.62         | 8219.12         | 272.42         |          | 827.24    | 9257.47          | 258.54     |         |         | 24228.72    |
|                | 5965.96         | 1264.38        |          | 1855.97   | 5518.95          | 140.29     |         |         | 21399.59    |
|                | 4151.71         | 1817.37        |          | 2762.92   | 2013.61          | 1176.9     |         |         | 20016.74    |
| 1608.4         | 63063.71        | 6601.1         |          | 11402.67  | 64299.18         | 17620.65   |         |         | 210631.64   |
|                | 45.54           | 2127.4         |          | 1285.22   | 1027.13          | 2917.12    |         | 341.98  | 12727.67    |
| 859.98         | 950.46          | 411.1          |          | 3.34      | 8107.48          | 324.6      |         |         | 13804.82    |
| 2829.64        | 5668.98         | 1306.63        |          | 0.09      | 6063.47          |            |         |         | 16087.49    |
| 64.38          | 68.46           | 2944.81        |          | 0.02      | 5887.6           | 657.84     |         | 512.73  | 12896.55    |
| 84.43          |                 | 1398.06        |          | 668.8     | 2493.98          | 5298.64    |         | 345.78  | 16245.83    |
| 33.37          | 10396.01        | 227.92         |          |           | 345.2            |            | 454.94  |         | 12126.82    |
| 3871.8         | 17129.45        | 8415.92        |          | 1957.47   | 23924.86         | 9198.2     | 454.94  | 1200.49 | 83889.18    |
| 189.2          | 7424.96         | 899.35         |          | 3087.99   | 4308.83          |            |         |         | 20058.89    |
| 266.66         | 1396.2          | 1695.04        |          |           | 12579.07         |            |         |         | 22601.08    |
|                | 1845.37         |                |          | 8294.25   | 3524.04          | 152.77     |         |         | 14168.71    |
| 4              | 6881.27         | 1660.06        |          |           | 998.28           |            |         |         | 9755.94     |
|                | 11063.54        | 1556.02        |          | 746.25    | 1531.98          |            |         |         | 15676.52    |
| 728.69         | 11196.82        | 6970.38        |          | 672.84    | 6752.35          |            |         |         | 29032.51    |
|                | 11004.55        |                |          | 2251.85   | 728.35           |            |         |         | 14827.92    |
|                | 4184.88         | 989.38         |          | 1974.97   | 3729.92          |            |         |         | 15497.31    |
| 403.92         | 5882.74         | 932.33         |          | 7103.15   | 2450.48          |            |         |         | 19845.06    |
|                | 1614.16         | 1205.66        |          | 7725.65   | 1848.12          |            |         |         | 12460.92    |
| 1592.47        | 62494.49        | 15908.22       |          | 31856.95  | 38451.42         | 152.77     |         |         | 173924.86   |
|                | 5392.65         | 4294.17        |          | 2748.23   | 7778.59          |            |         |         | 23686.76    |
|                | 231.87          | 4477.75        |          | 3413.92   | 2280.43          |            |         |         | 30523.16    |
|                | 2298.72         | 455.27         |          | 3527.12   | 18398.43         | 2938.13    |         |         | 33989       |
|                | 4214.98         | 12289.17       |          | 8845.66   | 13413.21         |            |         |         | 45097.54    |
|                | 6142.77         | 4455.32        |          | 3453.94   | 13394.54         | 1.62       |         |         | 30977.56    |
|                | 69.71           | 4330.7         |          | 7461.27   | 1289.23          |            |         | 141.56  | 23219.49    |
|                | 18350.7         | 30302.38       |          | 29450.14  | 56554.43         | 2939.75    |         | 141.56  | 187493.51   |
| 25848.29       | 409243.63       | 128307.28      | 354.5    | 105940.12 | 284965.92        | 104265.82  | 1480.71 | 3600.12 | 1323588.46  |

Appendix G. Land ownership (acres) by watershed and subwatershed, for entire Upper Sevier River basin.

| Watershed/subwatersheds             | Ownership (acres) |                 |                     |               |                 |                 |               |                  |
|-------------------------------------|-------------------|-----------------|---------------------|---------------|-----------------|-----------------|---------------|------------------|
|                                     | BLM               | USFS            | Intermittent waters | NPS           | Private         | State           | Water         | Total            |
| <b>Asay Creek</b>                   |                   |                 |                     |               |                 |                 |               |                  |
| Deer Valley-Midway Creek            |                   | 22112.68        | 200.07              |               | 1196.22         |                 | 392.31        | 23901.28         |
| Midway Valley-Midway Creek          |                   | 10928.78        |                     | 277.97        |                 |                 |               | 11206.75         |
| Strawberry Creek                    |                   | 16153.11        |                     |               | 1514.78         |                 |               | 17667.89         |
| Swains Creek                        | 0.67              | 15314.66        |                     | 22.34         | 1389.87         | 89.75           |               | 16817.29         |
| West Fork Asay Creek-Asay Creek     |                   | 13743.33        |                     |               | 5665.93         |                 |               | 19409.26         |
| <b>Total</b>                        | <b>0.67</b>       | <b>78252.56</b> | <b>200.07</b>       | <b>300.31</b> | <b>9766.8</b>   | <b>89.75</b>    | <b>392.31</b> | <b>89002.47</b>  |
| <b>Bear Creek Sevier River</b>      |                   |                 |                     |               |                 |                 |               |                  |
| Bear Creek                          | 13085.4           | 12382.48        | 13.88               |               | 6131.88         | 2069.96         |               | 33683.6          |
| East Bench-Sevier River             | 6533.75           | 1642.13         |                     |               | 5976.14         | 177.1           |               | 14329.12         |
| Horse Valley Creek-Sevier River     | 16634.51          | 11236.49        |                     |               | 283.97          | 2063.4          |               | 30218.37         |
| Limekiln Creek                      | 3990.79           | 11891.12        |                     |               | 1151.59         |                 |               | 17033.5          |
| Sandy Creek                         | 4797.15           | 9632.05         |                     |               | 581.93          | 250.76          |               | 15261.89         |
| Sanford Creek                       | 903.7             | 17790.72        |                     |               | 455.79          |                 |               | 19150.21         |
| Smith Canyon-Sevier River           | 7091.87           | 7897.22         |                     |               | 6425.7          | 317.22          |               | 21732.01         |
| Tebbs Hollow-Sevier River           | 5502.56           | 4429.91         |                     |               | 2689.1          | 255.33          |               | 12876.9          |
| Threemile Creek                     | 2343.84           | 10333.29        |                     |               | 100.65          | 430.28          |               | 13208.06         |
| West Ditch-Sevier River             | 3291.86           | 1286.87         |                     |               | 6583.63         | 495.6           |               | 11657.96         |
| <b>Total</b>                        | <b>64175.43</b>   | <b>88522.28</b> | <b>13.88</b>        |               | <b>30380.38</b> | <b>6059.65</b>  |               | <b>189151.62</b> |
| <b>City Creek Sevier River</b>      |                   |                 |                     |               |                 |                 |               |                  |
| Birch Creek-Sevier River            | 9331.19           | 6413.28         |                     |               | 3683.57         | 558.92          |               | 19986.96         |
| Burnt Hollow-Sevier River           | 7908.39           | 3740.22         |                     |               | 6432.18         | 1027.18         |               | 19107.97         |
| Chokecherry Creek-Sevier River      | 9114.66           | 8123.67         |                     |               | 2074.16         | 650.66          |               | 19963.15         |
| City Creek                          | 986.37            | 13314.8         |                     |               | 1003.04         | 616.57          | 34.86         | 15955.64         |
| Cottonwood Creek                    | 3520.03           | 9460.43         |                     |               | 2433.34         | 556.41          |               | 15970.21         |
| Eehard Creek                        | 10180.02          | 421.39          | 30.3                |               | 4291.75         | 974.31          |               | 15897.77         |
| Lost Creek                          | 3287.09           | 17495.01        |                     |               | 2226.74         |                 |               | 23008.84         |
| Piute Reservoir                     | 15197.45          | 5022.12         |                     |               | 4381.01         | 2249.32         | 2245.24       | 29095.14         |
| <b>Total</b>                        | <b>59525.2</b>    | <b>63990.92</b> | <b>30.3</b>         |               | <b>26525.79</b> | <b>6633.37</b>  | <b>2280.1</b> | <b>158985.68</b> |
| <b>Lower East Fork Sevier River</b> |                   |                 |                     |               |                 |                 |               |                  |
| Antimony Creek                      | 3468.81           | 15848.92        |                     |               | 2167.73         | 359.81          |               | 21845.27         |
| Antimony-East Fork Sevier River     | 8694.6            | 4560.8          |                     |               | 4021.15         | 1601.47         |               | 18878.02         |
| Coyote Hollow-Antimony Creek        |                   | 38018.28        |                     |               |                 |                 |               | 38018.28         |
| Dry Wash                            | 2401.17           | 1504.14         |                     |               | 187.45          | 10429.48        |               | 14522.24         |
| East Fork Sevier River Outlet       | 25326.38          | 19115.48        |                     |               | 4885.57         | 3325.8          |               | 52653.23         |
| Lost Spring Draw                    |                   | 10860.13        | 81.08               |               |                 |                 | 29.01         | 10970.22         |
| <b>Total</b>                        | <b>39890.96</b>   | <b>89907.75</b> | <b>81.08</b>        |               | <b>11261.9</b>  | <b>15716.56</b> | <b>29.01</b>  | <b>156887.26</b> |
| <b>Mammoth Creek</b>                |                   |                 |                     |               |                 |                 |               |                  |
| Lower Mammoth Creek                 | 53.67             | 11609.14        |                     |               | 6816.26         | 40.84           |               | 18519.91         |
| Middle Mammoth Creek                |                   | 13222.51        |                     |               | 2879.01         |                 |               | 16101.52         |
| Tommy Creek                         |                   | 14119.79        |                     |               | 119.14          |                 |               | 14238.93         |
| Upper Mammoth Creek                 |                   | 22777.92        |                     | 540.8         | 2587.2          |                 |               | 25905.92         |
| <b>Total</b>                        | <b>53.67</b>      | <b>61729.36</b> |                     | <b>540.8</b>  | <b>12401.61</b> | <b>40.84</b>    |               | <b>74766.28</b>  |

Appendix G (cont). Land ownership (acres) by watershed and subwatershed, for entire Upper Sevier River basin.

| Watershed/subwatersheds                 | Ownership (acres) |                  |                     |                 |                  |                 |                | Total             |
|---|-------------------|------------------|---------------------|-----------------|------------------|-----------------|----------------|-------------------|
|   | BLM               | USFS             | Intermittent waters | NPS             | PRIVATE          | STATE           | WATER          |                   |
| <b>Middle East Fork Sevier River</b>    |                   |                  |                     |                 |                  |                 |                |                   |
| Clay Creek                              |                   | 16108.53         |                     |                 | 359.28           | 24.8            | 81.81          | 16574.42          |
| Cottonwood Creek                        |                   | 11438.22         |                     |                 | 60.24            | 4272.99         |                | 15771.45          |
| Cow Creek-Sevier River                  | 2483.4            | 2335.26          |                     |                 | 399.79           | 5897.69         |                | 11116.14          |
| Deep Creek                              | 3722.39           | 11921.39         |                     |                 | 240.24           |                 |                | 15884.02          |
| Deer Creek                              | 4492.69           | 12830.67         |                     |                 | 297.82           | 420.04          |                | 18041.22          |
| Forest Creek                            | 2369.05           | 7444.6           |                     |                 | 253.77           |                 |                | 10067.42          |
| North Creek                             | 2012.84           | 14829.46         |                     |                 | 3.82             | 271.09          |                | 17117.21          |
| Pacer Lake                              | 8368.75           | 10556.99         |                     |                 | 1690.79          | 1169.45         |                | 21785.98          |
| Prospect Creek                          |                   | 18109.25         |                     |                 | 170.42           | 527.53          |                | 18807.2           |
| Ranch Creek-Sevier River                |                   | 14915.29         |                     |                 | 4489.34          | 4868.7          |                | 24273.33          |
| South Creek                             |                   | 9314.18          |                     |                 | 3272.26          | 8813.7          |                | 21400.14          |
| Sweetwater Creek                        |                   | 16592.32         |                     |                 | 1392.68          | 2051.29         |                | 20036.29          |
| <b>Total</b>                            | <b>23449.12</b>   | <b>146396.16</b> |                     |                 | <b>12630.45</b>  | <b>28317.28</b> | <b>81.81</b>   | <b>210874.82</b>  |
| <b>Panguitch Creek</b>                  |                   |                  |                     |                 |                  |                 |                |                   |
| Blue Spring Creek                       |                   | 10857            |                     |                 | 1536.62          |                 | 335.5          | 12729.12          |
| Butler Creek                            |                   | 12620.29         |                     |                 | 1205.46          |                 |                | 13825.75          |
| Fivemile Hollow-Panguitch Creek         | 789.83            | 14006.57         |                     |                 | 905.09           | 386.01          |                | 16087.5           |
| Haycock Creek                           |                   | 11957.87         |                     |                 | 446.77           |                 | 494.99         | 12899.63          |
| Ipson Creek                             |                   | 12983.4          |                     |                 | 2833.78          | 118.65          | 325.32         | 16261.15          |
| South Canyon-Panguitch Creek            | 8600              | 982.45           |                     |                 | 1880.84          | 663.53          |                | 12126.82          |
| <b>Total</b>                            | <b>9389.83</b>    | <b>63407.58</b>  |                     |                 | <b>8808.56</b>   | <b>1168.19</b>  | <b>1155.81</b> | <b>83929.97</b>   |
| <b>Pass Creek Sevier River</b>          |                   |                  |                     |                 |                  |                 |                |                   |
| Big Hollow-Sevier River                 | 5982.16           | 6948.26          |                     |                 | 6197.85          | 930.73          |                | 20059             |
| Castle Creek-Sevier River               | 1285.3            | 1560.51          |                     |                 | 19764.23         |                 |                | 22610.04          |
| Casto Wash                              | 2050.65           | 11751.77         |                     |                 | 366.3            |                 |                | 14168.72          |
| Graveyard Hollow                        | 6701.02           | 2116.15          |                     |                 | 290.69           | 648.09          |                | 9755.95           |
| Hillsdale-Sevier River                  | 9397.39           | 3182.3           |                     |                 | 2261.37          | 835.44          |                | 15676.5           |
| Pass Creek                              | 9452.54           | 14307.21         |                     |                 | 3429.67          | 1843.24         |                | 29032.66          |
| Peterson Wash-Sevier River              | 7359.31           | 3623.93          |                     |                 | 3198.35          | 646.34          |                | 14827.93          |
| Pole Canyon-Sevier River                | 7536.99           | 3614.06          |                     |                 | 4076.3           | 271.08          |                | 15498.43          |
| Proctor Canyon-Sevier River             | 4544.7            | 10210.37         |                     |                 | 4320.59          | 769.38          |                | 19845.04          |
| Red Canyon                              | 793.8             | 11320.72         |                     |                 | 346.4            |                 |                | 12460.92          |
| <b>Total</b>                            | <b>55103.86</b>   | <b>68635.28</b>  |                     |                 | <b>44251.75</b>  | <b>5944.3</b>   |                | <b>173935.19</b>  |
| <b>Upper East Fork Sevier River</b>     |                   |                  |                     |                 |                  |                 |                |                   |
| Cameron Wash-East Fork Sevier River     |                   | 14585.13         |                     |                 | 4751.2           | 4364.04         |                | 23700.37          |
| East Fork Sevier River Headwaters       |                   | 28427.42         |                     | 2153.53         |                  |                 |                | 30580.95          |
| Hunt Creek                              |                   | 31744.96         |                     |                 | 37.12            | 2207.04         |                | 33989.12          |
| Mud Spring Creek-East Fork Sevier River | 163.98            | 35464.24         |                     | 4469.97         | 3252.67          | 1762.96         |                | 45113.82          |
| Showalter Creek-East Fork Sevier River  | 68.97             | 17616.91         | 41.76               | 1418.47         | 4302.29          | 7657.56         |                | 31105.96          |
| Tropic Reservoir                        |                   | 21455.53         |                     | 1595.76         |                  |                 | 178.72         | 23230.01          |
| <b>Total</b>                            | <b>232.95</b>     | <b>149294.19</b> | <b>41.76</b>        | <b>9637.73</b>  | <b>12343.28</b>  | <b>15991.6</b>  | <b>178.72</b>  | <b>187720.23</b>  |
| <b>Grand Total</b>                      | <b>251821.69</b>  | <b>810136.08</b> | <b>367.09</b>       | <b>10478.84</b> | <b>168370.52</b> | <b>79961.54</b> | <b>4117.76</b> | <b>1325253.52</b> |

Appendix H (cont). Data tables for water quality, Asay Creek at U89 Crossing – 494990.

| Date       | Dissolved Phosphorus (mg/l) | Flow (cfs) | Ortho-phosphorus (mg/l) | Total Suspended Solids (mg/l) | Total Phosphorus (mg/l) | TSS Load (kg/day) | TP Load (kg/day) |
|------------|-----------------------------|------------|-------------------------|-------------------------------|-------------------------|-------------------|------------------|
| 4/24/1985  |                             | 130        | 0.04                    | 96                            | 0.04                    | 30533             | 12.7             |
| 5/22/1985  |                             | 248.3      | 0.01                    | 62                            | 0.03                    | 37664             | 18.2             |
| 7/10/1985  |                             | 78         | 0.03                    | 14                            | 0.03                    | 2672              | 5.7              |
| 8/7/1985   |                             | 55.9       | 0.04                    | 16                            | 0.04                    | 2188              | 5.5              |
| 9/4/1985   |                             | 58.6       | 0.03                    | 3                             | 0.02                    | 430               | 2.9              |
| 10/1/1985  |                             | 73.4       | 0.0025                  | 18                            | 0.02                    | 3232              | 3.6              |
| 10/29/1985 |                             | 63.8       | 0.01                    | 3                             | 0.008                   | 468               | 1.2              |
| 12/3/1985  |                             | 55.6       | 0.0025                  | 3                             | 0.01                    | 408               | 1.4              |
| 1/29/1986  |                             | 50.2       | 0.01                    | 13                            | 0.02                    | 1597              | 2.5              |
| 3/12/1986  |                             | 40.3       | 0.01                    | 28                            | 0.04                    | 2761              | 3.9              |
| 4/22/1986  |                             | 87.5       | 0.007                   | 36                            | 0.03                    | 7707              | 6.4              |
| 6/4/1986   |                             | 88         | 0.0025                  | 19                            | 0.02                    | 4091              | 4.3              |
| 7/8/1986   |                             | 79.3       | 0.0025                  | 9                             | 0.02                    | 1746              | 3.9              |
| 8/19/1986  |                             | 48.4       | 0.0025                  | 3                             | 0.008                   | 355               | 0.9              |
| 9/30/1986  |                             | 64.8       | 0.0025                  | 12                            | 0.02                    | 1902              | 3.2              |
| 11/12/1986 |                             | 58.4       | 0.0025                  | 5                             | 0.02                    | 714               | 2.9              |
| 12/17/1986 |                             | 49.8       | 0.007                   | 8                             | 0.059                   | 975               | 7.2              |
| 2/3/1987   |                             | 47.9       | 0.01                    | 16                            | 0.02                    | 1875              | 2.3              |
| 3/18/1987  |                             | 39         | 0.01                    | 24                            | 0.03                    | 2290              | 2.9              |
| 4/29/1987  |                             | 104.9      | 0.01                    | 45                            | 0.04                    | 11549             | 10.3             |
| 6/24/1987  |                             | 86.2       | 0.0025                  | 4                             | 0.01                    | 844               | 2.1              |
| 8/5/1987   |                             | 59         | 0.0025                  | 18                            | 0.02                    | 2598              | 2.9              |
| 9/15/1987  |                             | 63         | 0.0025                  | 4                             | 0.02                    | 617               | 3.1              |
| 11/10/1987 |                             | 59.7       | 0.0025                  | 3                             | 0.02                    | 438               | 2.9              |
| 12/15/1987 |                             | 52         | 0.005                   | 3                             | 0.01                    | 382               | 1.3              |
| 1/26/1988  |                             | 39.3       | 0.0025                  | 3                             | 0.03                    | 288               | 2.9              |
| 3/7/1988   |                             | 30         | 0.02                    | 3                             | 0.05                    | 220               | 3.7              |
| 4/20/1988  |                             |            | 0.02                    | 73                            | 0.02                    |                   |                  |
| 6/1/1988   |                             | 102.3      | 0.0025                  | 3                             | 0.08                    | 751               | 20               |
| 8/3/1988   |                             | 68         | 0.0025                  | 77                            | 0.02                    | 12810             | 3.3              |
| 9/7/1988   |                             | 35         | 0.0025                  | 3                             | 0.02                    | 257               | 1.7              |
| 10/26/1988 |                             | 16.8       | 0.009                   | 3                             | 0.006                   | 123               | 0.2              |
| 12/7/1988  |                             |            | 0.008                   | 3                             | 0.0025                  |                   |                  |
| 1/25/1989  |                             | 20.5       | 0.018                   | 3                             | 0.02                    | 150               | 1                |
| 3/1/1989   |                             | 39         | 0.007                   | 48                            | 0.029                   | 4580              | 2.8              |
| 4/12/1989  |                             | 50.2       | 0.013                   | 58                            | 0.026                   | 7123              | 3.2              |
| 5/18/1989  |                             | 50.8       | 0.011                   | 3                             | 0.017                   | 373               | 2.1              |
| 6/21/1989  |                             | 41         | 0.0025                  | 3                             | 0.025                   | 301               | 2.5              |
| 9/6/1989   |                             | 31.9       | 0.011                   | 7                             | 0.01                    | 546               | 0.8              |
| 10/18/1989 |                             | 36         | 0.0025                  | 6                             | 0.0025                  | 528               | 0.2              |
| 11/30/1989 |                             | 21         | 0.0025                  | 22                            | 0.008                   | 1130              | 0.4              |
| 1/10/1990  |                             | 30.4       | 0.011                   | 23                            | 0.018                   | 1711              | 1.3              |
| 3/6/1990   |                             | 25.1       | 0.009                   | 36                            | 0.03                    | 2211              | 1.8              |
| 4/11/1990  |                             | 26         | 0.011                   | 20                            | 0.037                   | 1272              | 2.4              |
| 5/2/1990   |                             | 56.1       | 0.0025                  | 23                            | 0.039                   | 3157              | 5.4              |
| 6/13/1990  |                             | 39.7       | 0.015                   | 4                             | 0.106                   | 389               | 10.3             |
| 9/5/1990   | 0.04                        | 29.5       |                         | 10                            | 0.042                   | 722               | 3                |
| 10/16/1990 | 0.008                       | 29.9       |                         | 9                             | 0.02                    | 658               | 1.5              |
| 1/16/1991  | 0.02                        | 4.5        |                         | 48                            | 0.05                    | 528               | 0.6              |
| 2/27/1991  | 0.011                       | 25         |                         | 33                            | 0.034                   | 2018              | 2.1              |

Appendix H (cont). Data tables for water quality, Asay Creek at U89 Crossing – 494990.

| Date       | Dissolved Phosphorus (mg/l) | Flow (cfs) | Ortho-phosphorus (mg/l) | Total Suspended Solids (mg/l) | Total Phosphorus (mg/l) | TSS Load (kg/day) | TP Load (kg/day) |
|------------|-----------------------------|------------|-------------------------|-------------------------------|-------------------------|-------------------|------------------|
| 4/24/1985  |                             | 130        | 0.04                    | 96                            | 0.04                    | 30533             | 12.7             |
| 5/22/1985  |                             | 248.3      | 0.01                    | 62                            | 0.03                    | 37664             | 18.2             |
| 7/10/1985  |                             | 78         | 0.03                    | 14                            | 0.03                    | 2672              | 5.7              |
| 8/7/1985   |                             | 55.9       | 0.04                    | 16                            | 0.04                    | 2188              | 5.5              |
| 9/4/1985   |                             | 58.6       | 0.03                    | 3                             | 0.02                    | 430               | 2.9              |
| 10/1/1985  |                             | 73.4       | 0.0025                  | 18                            | 0.02                    | 3232              | 3.6              |
| 10/29/1985 |                             | 63.8       | 0.01                    | 3                             | 0.008                   | 468               | 1.2              |
| 12/3/1985  |                             | 55.6       | 0.0025                  | 3                             | 0.01                    | 408               | 1.4              |
| 1/29/1986  |                             | 50.2       | 0.01                    | 13                            | 0.02                    | 1597              | 2.5              |
| 3/12/1986  |                             | 40.3       | 0.01                    | 28                            | 0.04                    | 2761              | 3.9              |
| 4/22/1986  |                             | 87.5       | 0.007                   | 36                            | 0.03                    | 7707              | 6.4              |
| 6/4/1986   |                             | 88         | 0.0025                  | 19                            | 0.02                    | 4091              | 4.3              |
| 7/8/1986   |                             | 79.3       | 0.0025                  | 9                             | 0.02                    | 1746              | 3.9              |
| 8/19/1986  |                             | 48.4       | 0.0025                  | 3                             | 0.008                   | 355               | 0.9              |
| 9/30/1986  |                             | 64.8       | 0.0025                  | 12                            | 0.02                    | 1902              | 3.2              |
| 11/12/1986 |                             | 58.4       | 0.0025                  | 5                             | 0.02                    | 714               | 2.9              |
| 12/17/1986 |                             | 49.8       | 0.007                   | 8                             | 0.059                   | 975               | 7.2              |
| 2/3/1987   |                             | 47.9       | 0.01                    | 16                            | 0.02                    | 1875              | 2.3              |
| 3/18/1987  |                             | 39         | 0.01                    | 24                            | 0.03                    | 2290              | 2.9              |
| 4/29/1987  |                             | 104.9      | 0.01                    | 45                            | 0.04                    | 11549             | 10.3             |
| 6/24/1987  |                             | 86.2       | 0.0025                  | 4                             | 0.01                    | 844               | 2.1              |
| 8/5/1987   |                             | 59         | 0.0025                  | 18                            | 0.02                    | 2598              | 2.9              |
| 9/15/1987  |                             | 63         | 0.0025                  | 4                             | 0.02                    | 617               | 3.1              |
| 11/10/1987 |                             | 59.7       | 0.0025                  | 3                             | 0.02                    | 438               | 2.9              |
| 12/15/1987 |                             | 52         | 0.005                   | 3                             | 0.01                    | 382               | 1.3              |
| 1/26/1988  |                             | 39.3       | 0.0025                  | 3                             | 0.03                    | 288               | 2.9              |
| 3/7/1988   |                             | 30         | 0.02                    | 3                             | 0.05                    | 220               | 3.7              |
| 4/20/1988  |                             |            | 0.02                    | 73                            | 0.02                    |                   |                  |
| 6/1/1988   |                             | 102.3      | 0.0025                  | 3                             | 0.08                    | 751               | 20               |
| 8/3/1988   |                             | 68         | 0.0025                  | 77                            | 0.02                    | 12810             | 3.3              |
| 9/7/1988   |                             | 35         | 0.0025                  | 3                             | 0.02                    | 257               | 1.7              |
| 10/26/1988 |                             | 16.8       | 0.009                   | 3                             | 0.006                   | 123               | 0.2              |
| 12/7/1988  |                             |            | 0.008                   | 3                             | 0.0025                  |                   |                  |
| 1/25/1989  |                             | 20.5       | 0.018                   | 3                             | 0.02                    | 150               | 1                |
| 3/1/1989   |                             | 39         | 0.007                   | 48                            | 0.029                   | 4580              | 2.8              |
| 4/12/1989  |                             | 50.2       | 0.013                   | 58                            | 0.026                   | 7123              | 3.2              |
| 5/18/1989  |                             | 50.8       | 0.011                   | 3                             | 0.017                   | 373               | 2.1              |
| 6/21/1989  |                             | 41         | 0.0025                  | 3                             | 0.025                   | 301               | 2.5              |
| 9/6/1989   |                             | 31.9       | 0.011                   | 7                             | 0.01                    | 546               | 0.8              |
| 10/18/1989 |                             | 36         | 0.0025                  | 6                             | 0.0025                  | 528               | 0.2              |
| 11/30/1989 |                             | 21         | 0.0025                  | 22                            | 0.008                   | 1130              | 0.4              |
| 1/10/1990  |                             | 30.4       | 0.011                   | 23                            | 0.018                   | 1711              | 1.3              |
| 3/6/1990   |                             | 25.1       | 0.009                   | 36                            | 0.03                    | 2211              | 1.8              |
| 4/11/1990  |                             | 26         | 0.011                   | 20                            | 0.037                   | 1272              | 2.4              |
| 5/2/1990   |                             | 56.1       | 0.0025                  | 23                            | 0.039                   | 3157              | 5.4              |
| 6/13/1990  |                             | 39.7       | 0.015                   | 4                             | 0.106                   | 389               | 10.3             |
| 9/5/1990   | 0.04                        | 29.5       |                         | 10                            | 0.042                   | 722               | 3                |
| 10/16/1990 | 0.008                       | 29.9       |                         | 9                             | 0.02                    | 658               | 1.5              |
| 1/16/1991  | 0.02                        | 4.5        |                         | 48                            | 0.05                    | 528               | 0.6              |
| 2/27/1991  | 0.011                       | 25         |                         | 33                            | 0.034                   | 2018              | 2.1              |

Appendix H (cont). Data tables for water quality, Asay Creek at U89 Crossing – 494990

| Date       | Dissolved Phosphorus (mg/l) | Flow (cfs) | Ortho-phosphorus (mg/l) | Total Suspended Solids (mg/l) | Total Phosphorus (mg/l) | TSS Load (kg/day) | TP Load (kg/day) |
|------------|-----------------------------|------------|-------------------------|-------------------------------|-------------------------|-------------------|------------------|
| 6/5/1991   | 0.024                       | 51.8       |                         | 12                            | 0.037                   | 1521              | 4.7              |
| 7/31/1991  | 0.005                       | 74.8       |                         | 6                             | 0.024                   | 1098              | 4.4              |
| 9/18/1991  | 0.005                       | 15.8       |                         | 16                            | 0.017                   | 618               | 0.7              |
| 10/30/1991 | 0.005                       | 20         |                         | 36                            | 0.022                   | 1762              | 1.1              |
| 1/8/1992   | 0.005                       | 14         |                         | 39                            | 0.028                   | 1336              | 1                |
| 2/19/1992  | 0.005                       |            |                         |                               | 0.032                   |                   |                  |
| 4/9/1992   | 0.028                       | 20         |                         |                               | 0.06                    |                   | 2.9              |
| 5/20/1992  | 0.01                        |            |                         | 21                            | 0.017                   |                   |                  |
| 7/15/1992  | 0.005                       |            |                         | 4                             | 0.005                   |                   |                  |
| 10/14/1992 | 0.005                       |            |                         | 13                            | 0.021                   |                   |                  |
| 11/18/1992 | 0.045                       | 36.7       |                         | 34                            | 0.064                   | 3053              | 5.7              |
| 2/3/1993   | 0.005                       | 44         |                         | 30                            | 0.01                    | 3229              | 1.1              |
| 3/17/1993  | 0.018                       |            |                         | 109                           | 0.005                   |                   |                  |
| 4/4/1996   | 0.005                       | 44         |                         | 14                            | 0.01                    | 1507              | 1.1              |
| 4/25/1996  | 0.005                       | 55         |                         | 8                             | 0.01                    | 1076              | 1.3              |
| 5/8/1996   | 0.005                       | 70         |                         | 8.8                           | 0.01                    | 1507              | 1.7              |
| 5/22/1996  | 0.01                        | 52.2       |                         | 8.8                           | 0.03                    | 1124              | 3.8              |
| 6/6/1996   | 0.005                       | 45         |                         | 11.2                          | 0.01                    | 1233              | 1.1              |
| 6/19/1996  | 0.01                        | 42         |                         | 10.4                          | 0.01                    | 1069              | 1                |
| 7/8/1996   | 0.01                        | 38         |                         | 12.4                          | 0.01                    | 1153              | 0.9              |
| 8/21/1996  | 0.005                       | 25         |                         | 4.8                           | 0.005                   | 294               | 0.3              |
| 9/18/1996  | 0.01                        | 47         |                         | 4                             | 0.005                   | 460               | 0.6              |
| 10/30/1996 | 0.005                       | 45         |                         | 4                             | 0.06136                 | 440               | 6.8              |
| 12/10/1996 | 0.01434                     | 30         |                         | 7.2                           | 0.005                   | 528               | 0.4              |
| 1/29/1997  | 0.0279                      | 19         |                         | 11.2                          | 0.01994                 | 521               | 0.9              |
| 2/25/1997  | 0.005                       | 35         |                         | 17.2                          | 0.01433                 | 1473              | 1.2              |
| 3/19/1997  | 0.01751                     | 16         |                         | 68.7                          |                         | 2689              |                  |
| 4/9/1997   | 0.01223                     | 35         |                         | 5.6                           | 0.005                   | 480               | 0.4              |
| 4/23/1997  |                             | 60         |                         | 58.8                          | 0.0542                  | 8632              | 8                |
| 5/7/1997   |                             | 15         |                         | 38.4                          |                         | 1409              |                  |
| 5/21/1997  |                             | 58         |                         | 25.2                          | 0.08203                 | 3576              | 11.6             |
| 6/5/1997   |                             | 14         |                         | 7.6                           |                         | 260               |                  |
| 7/11/2001  | 0.01                        | 18.2       |                         | 110                           | 0.08                    | 4898              | 3.6              |
| 8/15/2001  | 0.01                        | 41         |                         | 9.2                           | 0.01                    | 923               | 1                |
| 9/13/2001  | 0.01                        | 25         |                         | 112                           | 0.02                    | 6850              | 1.2              |
| 10/18/2001 | 0.01                        | 18         |                         | 110                           | 0.01                    | 4844              | 0.4              |
| 11/15/2001 | 0.01                        | 25         |                         | 8                             | 0.01                    | 489               | 0.6              |
| 12/6/2001  | 0.01                        | 40.4       |                         | 9.6                           | 0.023                   | 949               | 2.3              |
| 1/16/2002  | 0.01                        | 35.7       |                         | 112                           | 0.01                    | 9782              | 0.9              |
| 2/27/2002  | 0.01                        | 29.8       |                         | 102                           | 0.022                   | 7437              | 1.6              |
| 3/27/2002  | 0.01                        | 21         |                         | 96                            | 0.02                    | 4932              | 1                |
| 4/10/2002  |                             | 36.9       |                         |                               |                         |                   |                  |
| 5/1/2002   | 0.01                        | 22         |                         | 92                            | 0.01                    | 4952              | 0.5              |
| 6/12/2002  | 0.01                        | 36.4       |                         | 4                             | 0.02                    | 356               | 1.8              |

Appendix H (cont). Data tables for water quality, Mammoth Creek at U89 Crossing – 494970.

| Date       | Dissolved Phosphorus (mg/l) | Flow (cfs) | Ortho-phosphorus (mg/l) | Total Suspended Solids (mg/l) | Total Phosphorus (mg/l) | TSS Load (kg/day) | TP Load (kg/day) |
|------------|-----------------------------|------------|-------------------------|-------------------------------|-------------------------|-------------------|------------------|
| 9/8/1976   |                             |            |                         | 10                            | 0.05                    |                   |                  |
| 10/13/1976 |                             |            | 0.02                    | 5                             | 0.05                    |                   |                  |
| 1/19/1977  |                             |            | 0.03                    |                               | 0.07                    |                   |                  |
| 2/9/1977   |                             |            | 0.02                    | 20                            | 0.16                    |                   |                  |
| 3/23/1977  |                             |            | 0.1                     |                               |                         |                   |                  |
| 5/25/1977  |                             |            | 0.07                    | 10                            | 0.06                    |                   |                  |
| 7/28/1977  |                             |            |                         | 75                            | 0.1                     |                   |                  |
| 9/28/1977  |                             |            |                         | 60                            | 0.07                    |                   |                  |
| 12/7/1977  |                             |            |                         | 15                            |                         |                   |                  |
| 1/11/1978  |                             | 7          |                         | 15                            | 0.05                    | 257               | 0.9              |
| 3/8/1978   |                             | 11.9       | 0.03                    | 80                            |                         | 2329              |                  |
| 5/10/1978  |                             |            |                         | 20                            | 0.07                    |                   |                  |
| 7/12/1978  |                             | 20         |                         | 10                            |                         | 489               |                  |
| 9/6/1978   |                             |            | 0.04                    | 30                            | 0.07                    |                   |                  |
| 11/14/1978 |                             |            |                         | 5                             | 0.08                    |                   |                  |
| 3/21/1979  |                             |            | 0.11                    | 1                             |                         |                   |                  |
| 5/16/1979  |                             |            |                         | 34                            | 0.28                    |                   |                  |
| 7/18/1979  |                             | 45         |                         | 1                             | 0.05                    | 110               | 5.5              |
| 8/15/1979  |                             | 29         | 0.03                    | 2                             | 0.05                    | 142               | 3.5              |
| 11/28/1979 |                             | 12.5       | 0.04                    | 3                             | 0.07                    | 92                | 2.1              |
| 6/17/1980  |                             |            | 0.02                    |                               | 0.02                    |                   |                  |
| 10/29/1980 |                             | 58.2       | 0.01                    |                               | 0.025                   |                   | 3.6              |
| 1/14/1981  |                             | 80         | 0.01                    |                               | 0.06                    |                   | 11.7             |
| 2/19/1981  |                             |            | 0.03                    |                               | 0.025                   |                   |                  |
| 4/15/1981  |                             |            | 0.04                    |                               | 0.025                   |                   |                  |
| 6/17/1981  |                             | 28.9       |                         |                               |                         |                   |                  |
| 10/22/1981 |                             | 31.6       |                         |                               |                         |                   |                  |
| 12/17/1981 |                             | 26         |                         |                               |                         |                   |                  |
| 2/24/1982  |                             |            |                         | 56                            | 0.07                    |                   |                  |
| 4/14/1982  |                             |            |                         | 94                            | 0.15                    |                   |                  |
| 5/19/1982  |                             |            |                         | 160                           | 0.15                    |                   |                  |
| 7/21/1982  |                             |            |                         | 3                             | 0.07                    |                   |                  |
| 9/16/1982  |                             |            |                         | 7                             | 0.1                     |                   |                  |
| 11/10/1982 |                             |            |                         | 7                             | 0.15                    |                   |                  |
| 1/5/1983   |                             |            |                         | 25                            | 0.11                    |                   |                  |
| 3/1/1983   |                             |            |                         | 36                            | 0.1                     |                   |                  |
| 4/26/1983  |                             |            |                         | 231                           | 0.1                     |                   |                  |
| 6/21/1983  |                             |            |                         | 144                           | 0.06                    |                   |                  |
| 8/2/1984   |                             |            | 0.01                    | 63                            | 0.07                    |                   |                  |
| 8/29/1984  |                             |            | 0.005                   | 17                            | 0.07                    |                   |                  |
| 4/24/1985  |                             |            | 0.05                    | 58                            | 0.07                    |                   |                  |
| 5/22/1985  |                             | 203        | 0.04                    | 60                            | 0.06                    | 29799             | 29.8             |
| 7/10/1985  |                             |            | 0.03                    | 9                             | 0.97                    |                   |                  |
| 9/4/1985   |                             | 33.6       | 0.02                    | 3                             | 0.03                    | 247               | 2.5              |
| 10/1/1985  |                             | 11.6       | 0.02                    | 3                             | 0.04                    | 85                | 1.1              |
| 10/29/1985 |                             | 16.2       | 0.02                    | 3                             | 0.03                    | 119               | 1.2              |
| 12/3/1985  |                             | 24.4       | 0.03                    | 3                             | 0.04                    | 179               | 2.4              |
| 1/29/1986  |                             | 19.3       | 0.04                    | 9                             | 0.05                    | 425               | 2.4              |
| 3/12/1986  |                             | 24.2       | 0.03                    | 11                            | 0.04                    | 651               | 2.4              |
| 4/22/1986  |                             | 27.5       | 0.04                    | 45                            | 0.07                    | 3028              | 4.7              |

Appendix H (cont). Data tables for water quality, Mammoth Creek at U89 Crossing – 494970.

| Date       | Dissolved Phosphorus (mg/l) | Flow (cfs) | Ortho-phosphorus (mg/l) | Total Suspended Solids (mg/l) | Total Phosphorus (mg/l) | TSS Load (kg/day) | TP Load (kg/day) |
|------------|-----------------------------|------------|-------------------------|-------------------------------|-------------------------|-------------------|------------------|
| 6/4/1986   |                             | 164        | 0.04                    | 33                            | 0.06                    | 13241             | 24.1             |
| 7/8/1986   |                             | 22         | 0.03                    | 10                            | 0.05                    | 538               | 2.7              |
| 8/19/1986  |                             | 33.1       | 0.01                    | 10                            | 0.04                    | 810               | 3.2              |
| 9/30/1986  |                             | 21.2       | 0.02                    | 8                             | 0.07                    | 415               | 3.6              |
| 11/12/1986 |                             | 26.1       | 0.03                    | 18                            | 0.05                    | 1149              | 3.2              |
| 12/17/1986 |                             | 17         | 0.2                     | 7                             | 0.565                   | 291               | 23.5             |
| 2/3/1987   |                             | 15.4       | 0.05                    | 11                            | 0.06                    | 414               | 2.3              |
| 3/18/1987  |                             | 4.5        | 0.04                    | 18                            | 0.06                    | 198               | 0.7              |
| 4/29/1987  |                             | 116.1      | 0.11                    | 198                           | 0.18                    | 56241             | 51.1             |
| 6/24/1987  |                             | 45.9       | 0.01                    | 5                             | 0.04                    | 561               | 4.5              |
| 8/5/1987   |                             | 22         | 0.03                    | 18                            | 0.04                    | 969               | 2.2              |
| 9/15/1987  |                             | 13         | 0.01                    | 15                            | 0.06                    | 477               | 1.9              |
| 11/10/1987 |                             | 30         | 0.01                    | 3                             | 0.04                    | 220               | 2.9              |
| 12/15/1987 |                             | 13         | 0.04                    | 3                             | 0.04                    | 95                | 1.3              |
| 1/26/1988  |                             | 16.7       | 0.04                    | 88                            | 0.05                    | 3595              | 2                |
| 3/7/1988   |                             | 41         | 0.07                    | 3                             | 0.1                     | 301               | 10               |
| 4/20/1988  |                             | 20         | 0.03                    | 3                             | 0.04                    | 147               | 2                |
| 6/1/1988   |                             | 232.7      | 0.0025                  | 3                             | 0.06                    | 1708              | 34.2             |
| 8/3/1988   |                             | 59         | 0.03                    | 277                           | 0.009                   | 39984             | 1.3              |
| 9/7/1988   |                             | 42         | 0.01                    | 3                             | 0.05                    | 308               | 5.1              |
| 10/26/1988 |                             | 55         | 0.02                    | 3                             | 0.04                    | 404               | 5.4              |
| 12/7/1988  |                             |            | 0.05                    | 17                            | 0.05                    |                   |                  |
| 1/25/1989  |                             | 31.5       | 0.049                   | 3                             | 0.062                   | 231               | 4.8              |
| 3/1/1989   |                             | 22         | 0.038                   | 3                             | 0.012                   | 161               | 0.6              |
| 4/12/1989  |                             | 66         | 0.036                   | 90                            | 0.035                   | 14533             | 5.7              |
| 5/18/1989  |                             | 29         | 0.019                   | 18                            | 0.012                   | 1277              | 0.9              |
| 6/21/1989  |                             | 21         | 0.025                   | 6                             | 0.056                   | 308               | 2.9              |
| 9/6/1989   |                             | 18         | 0.031                   | 16                            | 0.036                   | 705               | 1.6              |
| 10/18/1989 |                             |            | 0.023                   | 3                             | 0.013                   |                   |                  |
| 11/30/1989 |                             |            | 0.006                   | 22                            | 0.0025                  |                   |                  |
| 1/10/1990  |                             |            | 0.039                   | 11                            | 0.049                   |                   |                  |
| 3/7/1990   |                             |            | 0.033                   | 16                            | 0.065                   |                   |                  |
| 4/11/1990  |                             |            | 0.051                   | 10                            | 0.077                   |                   |                  |
| 5/2/1990   |                             |            | 0.033                   | 32                            | 0.076                   |                   |                  |
| 6/13/1990  |                             |            | 0.015                   | 9                             | 0.042                   |                   |                  |
| 9/5/1990   | 0.056                       |            |                         | 74                            | 0.115                   |                   |                  |
| 10/16/1990 | 0.024                       |            |                         | 14                            | 0.04                    |                   |                  |
| 1/16/1991  | 0.05                        |            |                         | 66                            | 0.11                    |                   |                  |
| 2/27/1991  | 0.04                        |            |                         | 17                            | 0.067                   |                   |                  |
| 6/5/1991   | 0.03                        |            |                         | 42                            | 0.077                   |                   |                  |
| 7/31/1991  | 0.045                       |            |                         | 12                            | 0.068                   |                   |                  |
| 9/18/1991  | 0.027                       |            |                         | 14                            | 0.038                   |                   |                  |
| 10/30/1991 | 0.029                       |            |                         | 59                            | 0.092                   |                   |                  |
| 1/8/1992   | 0.046                       |            |                         | 56                            | 0.076                   |                   |                  |
| 4/4/1996   | 0.03                        | 17         |                         | 14                            | 0.04                    | 582               | 1.7              |
| 4/25/1996  | 0.04                        | 21         |                         | 7.6                           | 0.05                    | 390               | 2.6              |
| 5/8/1996   | 0.03                        | 91.8       |                         | 44.8                          | 0.04                    | 10062             | 9                |
| 5/22/1996  | 0.03                        | 60         |                         | 15.2                          | 0.03                    | 2231              | 4.4              |

Appendix H (cont) . Data tables for water quality, Mammoth Creek at U89 Crossing – 494970.

| Date       | Dissolved Phosphorus (mg/l) | Flow (cfs) | Ortho-phosphorus (mg/l) | Total Suspended Solids (mg/l) | Total Phosphorus (mg/l) | TSS Load (kg/day) | TP Load (kg/day) |
|------------|-----------------------------|------------|-------------------------|-------------------------------|-------------------------|-------------------|------------------|
| 6/6/1996   | 0.02                        | 20.6       |                         | 8.8                           | 0.06                    | 444               | 3                |
| 6/19/1996  | 0.02                        | 11         |                         | 4                             | 0.03                    | 108               | 0.8              |
| 7/8/1996   | 0.03                        | 8          |                         | 25.6                          | 0.06                    | 501               | 1.2              |
| 8/21/1996  | 0.02                        | 4          |                         | 4                             | 0.02                    | 39                | 0.2              |
| 9/18/1996  | 0.03                        | 8          |                         | 4                             | 0.03                    | 78                | 0.6              |
| 10/29/1996 | 0.03552                     | 9          |                         | 4                             | 0.10461                 | 88                | 2.3              |
| 12/10/1996 | 0.02776                     | 8          |                         | 4                             | 0.03719                 | 78                | 0.7              |
| 1/29/1997  |                             | 9          |                         | 7.6                           |                         | 167               |                  |
| 2/25/1997  | 0.01513                     | 9          |                         | 7.6                           | 0.03073                 | 167               | 0.7              |
| 3/19/1997  | 0.03714                     | 6          |                         | 48.4                          |                         | 710               |                  |
| 4/9/1997   | 0.02178                     | 11         |                         | 5.6                           | 0.02434                 | 151               | 0.7              |
| 4/23/1997  |                             | 42         |                         | 74.4                          | 0.09814                 | 7645              | 10.1             |
| 5/7/1997   |                             | 50         |                         | 258                           |                         | 31561             |                  |
| 5/21/1997  |                             | 90         |                         | 34                            | 0.11458                 | 7487              | 25.2             |
| 6/5/1997   |                             | 18         |                         | 12.4                          |                         | 546               |                  |
| 7/11/2001  | 0.024                       | 32.4       |                         | 62                            | 0.063                   | 4915              | 5                |
| 8/15/2001  | 0.03                        | 13.1       |                         | 16.8                          | 0.043                   | 538               | 1.4              |
| 9/13/2001  | 0.02                        | 13.7       |                         | 58                            | 0.031                   | 1944              | 1                |
| 11/15/2001 | 0.021                       | 13.7       |                         | 16                            | 0.024                   | 536               | 0.8              |
| 12/6/2001  | 0.031                       | 15         |                         | 14.8                          | 0.043                   | 543               | 1.6              |
| 1/16/2002  | 0.054                       | 8.2        |                         | 4                             | 0.04                    | 80                | 0.8              |
| 2/27/2002  | 0.146                       | 8.2        |                         | 4                             | 0.049                   | 80                | 1                |
| 3/27/2002  |                             | 7.4        |                         |                               |                         |                   |                  |
| 3/28/2002  | 0.01                        |            |                         | 4                             | 0.046                   |                   |                  |
| 4/10/2002  |                             | 6.5        |                         |                               |                         |                   |                  |
| 5/1/2002   | 0.021                       | 54.3       |                         | 4                             | 0.034                   | 531               | 4.5              |
| 6/12/2002  | 0.031                       | 4          |                         | 4                             | 0.044                   | 39                | 0.4              |

Appendix H (cont) . Data tables for water quality, Sevier River at U12 Crossing - 494963.

| Date       | Dissolved Phosphorus (mg/l) | Flow (cfs) | Ortho-phosphorus (mg/l) | Total Suspended Solids (mg/l) | Total Phosphorus (mg/l) | TSS Load (kg/day) | TP Load (kg/day) |
|------------|-----------------------------|------------|-------------------------|-------------------------------|-------------------------|-------------------|------------------|
| 11/17/1980 |                             |            | 0.01                    |                               | 0.05                    |                   |                  |
| 1/27/1981  |                             |            | 0.3                     |                               | 0.3                     |                   |                  |
| 5/5/1981   |                             |            |                         | 13                            | 0.1                     |                   |                  |
| 1/12/1982  |                             |            |                         | 53                            | 0.07                    |                   |                  |
| 5/11/1982  |                             |            |                         | 395                           | 0.2                     |                   |                  |
| 4/4/1996   | 0.005                       | 69         |                         | 22                            | 0.03                    | 3714              | 5.1              |
| 4/25/1996  | 0.005                       | 70         |                         | 12                            | 0.02                    | 2055              | 3.4              |
| 5/8/1996   | 0.01                        | 125        |                         | 107.2                         | 0.07                    | 32784             | 21.4             |
| 5/23/1996  | 0.01                        | 60         |                         | 28.8                          | 0.02                    | 4228              | 2.9              |
| 6/4/1996   | 0.005                       | 30         |                         | 11.2                          | 0.02                    | 822               | 1.5              |
| 6/18/1996  | 0.005                       | 25         |                         | 6.4                           | 0.01                    | 391               | 0.6              |
| 7/8/1996   | 0.01                        | 25         |                         | 33.6                          | 0.02                    | 2055              | 1.2              |
| 8/20/1996  | 0.005                       | 20         |                         | 9.2                           | 0.01                    | 450               | 0.5              |
| 9/18/1996  | 0.005                       | 45         |                         | 6                             | 0.01                    | 661               | 1.1              |
| 10/29/1996 | 0.005                       | 56         |                         | 6.8                           | 0.06799                 | 932               | 9.3              |
| 12/11/1996 | 0.005                       | 59         |                         | 7.2                           | 0.01006                 | 1039              | 1.5              |
| 1/28/1997  | 0.005                       | 60         |                         | 35.6                          | 0.0194                  | 5226              | 2.8              |
| 2/25/1997  | 0.01007                     | 52         |                         | 14.8                          | 0.01737                 | 1883              | 2.2              |
| 3/18/1997  | 0.03221                     | 77         |                         | 192                           |                         | 36170             |                  |
| 4/8/1997   | 0.005                       | 73         |                         | 19.6                          | 0.01402                 | 3501              | 2.5              |
| 4/24/1997  |                             | 259        |                         | 104                           | 0.08072                 | 65901             | 51.1             |
| 5/6/1997   |                             | 238        |                         | 341                           |                         | 198559            |                  |
| 5/21/1997  |                             | 288        |                         | 83.6                          | 0.12473                 | 58906             | 87.9             |
| 6/5/1997   |                             | 136        |                         | 24.8                          | 0.51989                 | 8252              | 173              |
| 7/11/2001  | 0.032                       | 96.6       |                         | 1660                          | 0.962                   | 392322            | 227.4            |
| 8/15/2001  | 0.024                       | 39.2       |                         | 38.4                          | 0.03                    | 3683              | 2.9              |
| 9/13/2001  | 0.01                        | 56         |                         | 1592                          | 0.01                    | 218117            | 1.4              |
| 10/18/2001 | 0.01                        | 30         |                         | 1661                          | 0.01                    | 121913            | 0.7              |
| 11/15/2001 | 0.01                        | 50.8       |                         | 40                            | 0.01                    | 4971              | 1.2              |
| 12/6/2001  | 0.01                        |            |                         | 40                            | 0.033                   |                   |                  |
| 1/16/2002  | 0.01                        |            |                         | 1610                          | 0.025                   |                   |                  |
| 2/27/2002  | 0.01                        |            |                         | 1728                          | 0.01                    |                   |                  |
| 3/28/2002  | 0.01                        | 34         |                         | 1830                          | 0.023                   | 152226            | 1.9              |
| 4/10/2002  | 0.01                        | 43.4       |                         | 12.4                          | 0.032                   | 1317              | 3.4              |
| 5/1/2002   | 0.01                        | 85.6       |                         | 1880                          | 0.01                    | 393722            | 2.1              |
| 6/12/2002  | 0.01                        | 26.2       |                         | 4                             | 0.01                    | 256               | 0.6              |

Appendix H (cont) . Data tables for water quality, Sevier River East of Panguitch - 494966.

| Date       | Dissolved Phosphorus (mg/l) | Flow (cfs) | Ortho-phosphorus (mg/l) | Total Suspended Solids (mg/l) | Total Phosphorus (mg/l) | TSS Load (kg/day) | TP Load (kg/day) |
|------------|-----------------------------|------------|-------------------------|-------------------------------|-------------------------|-------------------|------------------|
| 5/9/1996   | 0.01                        | 81.6       |                         | 113.2                         | 0.06                    | 22599             | 12               |
| 5/23/1996  | 0.01                        | 90         |                         | 9.2                           | 0.01                    | 2026              | 2.2              |
| 6/4/1996   | 0.005                       | 1          |                         | 7.2                           | 0.02                    | 18                | 0                |
| 6/18/1996  | 0.005                       | 1.5        |                         | 14.8                          | 0.04                    | 54                | 0.1              |
| 7/8/1996   | 0.01                        | 2          |                         | 9.2                           | 0.03                    | 45                | 0.1              |
| 8/20/1996  | 0.005                       | 0.5        |                         | 24                            | 0.02                    | 29                | 0                |
| 9/18/1996  | 0.005                       | 0.6        |                         | 8.8                           | 0.01                    | 13                | 0                |
| 10/29/1996 | 0.005                       | 1          |                         | 12.4                          | 0.0732                  | 30                | 0.2              |
| 12/11/1996 | 0.005                       | 65         |                         | 4                             | 0.0126                  | 636               | 2                |
| 1/28/1997  | 0.01184                     |            |                         | 25.2                          | 0.0113                  |                   |                  |
| 2/25/1997  | 0.005                       | 50         |                         | 20.8                          | 0.0182                  | 2544              | 2.2              |
| 3/18/1997  | 0.02785                     | 35         |                         | 160                           |                         | 13701             |                  |
| 4/8/1997   | 0.01095                     | 38         |                         | 119.6                         | 0.0256                  | 11119             | 2.4              |
| 4/23/1997  |                             | 110        |                         | 348                           | 0.255                   | 93655             | 68.6             |
| 5/21/1997  |                             | 240        |                         | 156                           | 0.8815                  | 91600             | 517.6            |
| 6/5/1997   |                             | 35         |                         | 22                            |                         | 1884              |                  |
| 7/11/2001  | 0.024                       | 25         |                         | 12780                         |                         | 781680            | 129.7            |
| 8/15/2001  | 0.141                       | 1.5        |                         | 11.2                          | 0.025                   | 41                | 0.1              |
| 9/13/2001  | 0.01                        | 6          |                         | 13130                         | 0.028                   | 192741            | 0.4              |
| 10/18/2001 | 0.01                        | 1.5        |                         | 12855                         | 0.021                   | 47176             | 0.1              |
| 11/15/2001 | 0.01                        | 5          |                         | 10                            | 0.01                    | 122               | 0.1              |
| 12/6/2001  | 0.01                        | 12         |                         | 12                            | 0.043                   | 352               | 1.3              |
| 3/28/2002  | 0.01                        | 37.2       |                         | 14                            | 0.025                   | 1274              | 2.3              |
| 4/10/2002  |                             | 1.8        |                         |                               |                         |                   |                  |
| 5/1/2002   | 0.01                        | 4          |                         | 16                            | 0.01                    | 157               | 0.1              |
| 6/12/2002  | 0.01                        | 1          |                         | 4                             | 0.01                    | 10                | 0                |

Appendix H (cont) . Data tables for water quality, Sevier River at Airport Road Crossing - 494967.

| Date       | Dissolved Phosphorus (mg/l) | Flow (cfs) | Ortho-phosphorus (mg/l) | Total Suspended Solids (mg/l) | Total Phosphorus (mg/l) | TSS Load (kg/day) | TP Load (kg/day) |
|------------|-----------------------------|------------|-------------------------|-------------------------------|-------------------------|-------------------|------------------|
| 5/8/1996   | 0.01                        | 100        |                         | 210                           | 0.12                    | 51378             | 29.4             |
| 5/22/1996  | 0.01                        | 30.7       |                         | 20                            | 0.02                    | 1502              | 1.5              |
| 6/4/1996   | 0.005                       | 14.8       |                         | 4.8                           | 0.02                    | 174               | 0.7              |
| 6/18/1996  | 0.01                        | 7          |                         | 4                             | 0.02                    | 69                | 0.3              |
| 7/8/1996   | 0.01                        | 13         |                         | 8.4                           | 0.06                    | 267               | 1.9              |
| 8/20/1996  | 0.01                        | 3          |                         | 34                            | 0.02                    | 250               | 0.1              |
| 9/18/1996  | 0.005                       | 13         |                         | 42.4                          | 0.02                    | 1349              | 0.6              |
| 10/29/1996 | 0.01025                     | 9.5        |                         | 11.6                          | 0.07348                 | 270               | 1.7              |
| 12/10/1996 | 0.01129                     | 85         |                         | 56.8                          | 0.04051                 | 11812             | 8.4              |
| 1/28/1997  | 0.005                       |            |                         | 24                            | 0.005                   |                   |                  |
| 2/25/1997  | 0.005                       | 29         |                         | 26.4                          | 0.0208                  | 1873              | 1.5              |
| 3/18/1997  | 0.02985                     | 43         |                         | 175                           |                         | 18410             |                  |
| 4/8/1997   | 0.01062                     | 40         |                         | 10.4                          | 0.01705                 | 1018              | 1.7              |
| 4/24/1997  |                             | 115        |                         | 288.7                         | 0.16994                 | 81227             | 47.8             |
| 5/6/1997   |                             |            |                         | 455                           |                         |                   |                  |
| 5/21/1997  |                             | 206        |                         | 162.7                         | 0.13354                 | 82000             | 67.3             |
| 6/3/1997   |                             | 35         |                         | 24                            |                         | 2055              |                  |

Appendix H (cont) . Data tables for water quality, Sevier River at Sanford Road Crossing - 494964.

| Date       | Dissolved Phosphorus (mg/l) | Flow (cfs) | Ortho-phosphorus (mg/l) | Total Suspended Solids (mg/l) | Total Phosphorus (mg/l) | TSS Load (kg/day) | TP Load (kg/day) |
|------------|-----------------------------|------------|-------------------------|-------------------------------|-------------------------|-------------------|------------------|
| 4/4/1996   | 0.005                       | 9          |                         | 50                            | 0.03                    | 1101              | 0.7              |
| 4/25/1996  | 0.005                       | 10         |                         | 15.6                          | 0.01                    | 382               | 0.2              |
| 5/8/1996   | 0.01                        | 150        |                         | 102                           | 0.06                    | 37433             | 22               |
| 5/22/1996  | 0.01                        | 51         |                         | 13.6                          | 0.02                    | 1697              | 2.5              |
| 6/4/1996   | 0.005                       | 28.7       |                         | 7.6                           | 0.03                    | 534               | 2.1              |
| 6/18/1996  | 0.005                       | 31.5       |                         | 11.2                          | 0.02                    | 863               | 1.5              |
| 7/8/1996   | 0.01                        | 25         |                         | 32                            | 0.03                    | 1957              | 1.8              |
| 8/24/1996  | 0.005                       | 24.4       |                         | 75.2                          | 0.03                    | 4489              | 1.8              |
| 9/18/1996  | 0.005                       | 60         |                         | 120.4                         | 0.08                    | 17674             | 11.7             |
| 10/29/1996 | 0.02163                     | 90         |                         | 180.7                         | 0.22918                 | 39789             | 50.5             |
| 12/10/1996 | 0.01874                     | 105        |                         | 154.4                         | 0.13597                 | 39664             | 34.9             |
| 1/28/1997  | 0.005                       |            |                         | 44.4                          | 0.03952                 |                   |                  |
| 2/25/1997  | 0.01128                     | 50         |                         | 40                            | 0.02553                 | 4893              | 3.1              |
| 3/18/1997  | 0.03204                     | 55         |                         | 321                           |                         | 43194             |                  |
| 4/8/1997   | 0.01415                     | 70         |                         | 87                            | 0.10854                 | 14900             | 18.6             |
| 4/23/1997  |                             | 120        |                         |                               | 0.18582                 |                   | 54.6             |
| 5/6/1997   |                             |            |                         | 205                           |                         |                   |                  |
| 5/21/1997  |                             | 224        |                         | 260                           | 0.23441                 | 142488            | 128.5            |
| 6/5/1997   |                             | 50         |                         | 20                            |                         | 2447              |                  |
| 7/11/2001  | 0.02                        | 71.3       |                         | 46                            | 0.049                   | 8024              | 8.5              |
| 8/15/2001  | 0.032                       | 9.73       |                         | 112                           | 0.092                   | 2666              | 2.2              |
| 9/13/2001  | 0.01                        | 35         |                         | 48                            | 0.023                   | 4110              | 2                |
| 10/18/2001 | 0.01                        | 8          |                         | 52                            | 0.01                    | 1018              | 0.2              |
| 11/15/2001 | 0.01                        | 72         |                         | 114                           | 0.066                   | 20081             | 11.6             |
| 12/6/2001  | 0.024                       | 52         |                         | 115                           | 0.049                   | 14631             | 6.2              |
| 1/16/2002  | 0.01                        |            |                         | 48                            | 0.059                   |                   |                  |
| 2/28/2002  | 0.01                        |            |                         | 52                            | 0.044                   |                   |                  |
| 3/28/2002  | 0.01                        | 52         |                         | 56                            | 0.034                   | 7124              | 4.3              |
| 4/10/2002  |                             | 36.2       |                         |                               |                         |                   |                  |
| 5/2/2002   | 0.01                        | 10         |                         | 60                            | 0.01                    | 1468              | 0.2              |
| 6/13/2002  | 0.01                        | 19.7       |                         | 4                             | 0.01                    | 193               | 0.5              |

Appendix H (cont) . Data tables for water quality, Sevier River 2.5 Miles South of Circleville – 494945

| Date       | Dissolved Phosphorus (mg/l) | Flow (cfs) | Ortho-phosphorus (mg/l) | Total Suspended Solids (mg/l) | Total Phosphorus (mg/l) | TSS Load (kg/day) | TP Load (kg/day) |
|------------|-----------------------------|------------|-------------------------|-------------------------------|-------------------------|-------------------|------------------|
| 6/3/1976   |                             | 110        |                         | 110                           |                         | 29603.5           |                  |
| 7/15/1976  |                             | 49         |                         | 20                            |                         | 2397.6            |                  |
| 8/12/1976  |                             | 40         | 0                       | 15                            |                         | 1467.9            |                  |
| 9/9/1976   |                             | 38         |                         | 15                            | 0.07                    | 1394.5            | 6.5              |
| 10/14/1976 |                             | 94         |                         | 80                            | 0.04                    | 18398.2           | 9.2              |
| 12/2/1976  |                             | 101        |                         |                               | 0.24                    |                   | 59.3             |
| 1/19/1977  |                             | 93         | 0                       | 100                           | 0.3                     | 22753.1           | 68.3             |
| 3/23/1977  |                             | 75         | 0                       |                               |                         |                   |                  |
| 5/25/1977  |                             | 38         | 0                       | 15                            | 0.04                    | 1394.5            | 3.7              |
| 7/28/1977  |                             | 34         |                         | 105                           | 0.14                    | 8734.3            | 11.6             |
| 9/28/1977  |                             | 33         |                         | 15                            | 0.02                    | 1211.1            | 1.6              |
| 11/16/1977 |                             | 78         | 0                       | 86                            | 0.07                    | 16411.6           | 13.4             |
| 12/7/1977  |                             | 88         |                         | 60                            |                         | 12917.9           |                  |
| 1/11/1978  |                             | 88         |                         | 105                           | 0.06                    | 22606.3           | 12.9             |
| 3/8/1978   |                             | 96         | 0                       | 585                           |                         | 137399.5          |                  |
| 5/10/1978  |                             | 128        |                         | 230                           | 0.24                    | 72027.1           | 75.2             |
| 5/22/1978  |                             | 288        |                         |                               |                         |                   |                  |
| 7/11/1978  |                             | 69         | 0                       | 10                            |                         | 1688.1            |                  |
| 9/5/1978   |                             | 36         | 0                       | 25                            |                         | 2201.9            |                  |
| 9/6/1978   |                             | 36         | 0                       | 10                            | 0.05                    | 880.8             | 4.4              |
| 11/15/1978 |                             |            |                         | 260                           | 0.06                    |                   |                  |
| 1/17/1979  |                             | 56         |                         |                               | 0.11                    |                   | 15.1             |
| 3/21/1979  |                             | 56         | 0.1                     | 28                            |                         | 3836.2            |                  |
| 5/16/1979  |                             | 514        |                         | 76                            | 0.5                     | 95572.9           | 628.8            |
| 11/28/1979 |                             | 162        | 0                       | 10                            | 0.08                    | 3963.4            | 31.7             |
| 6/18/1980  |                             | 733        | 0                       | 460                           | 0.5                     | 824935.1          | 896.7            |
| 10/28/1980 |                             | 191        | 0.1                     |                               | 0.03                    |                   | 11.7             |
| 1/15/1981  |                             | 158        | 0                       |                               | 0.05                    |                   | 19.3             |
| 2/19/1981  |                             | 149        | 0                       |                               | 0.03                    |                   | 9.1              |
| 4/15/1981  |                             | 89         | 0                       |                               | 0.03                    |                   | 5.4              |
| 6/18/1981  |                             | 78         |                         | 15                            | 0.03                    | 2862.5            | 4.8              |
| 8/19/1981  |                             | 187        |                         |                               | 0.03                    |                   | 11.4             |
| 10/22/1981 |                             | 128        |                         | 135                           | 0.03                    | 42276.8           | 7.8              |
| 12/17/1981 |                             | 131        |                         | 132                           | 0.15                    | 42306.1           | 48.1             |
| 4/14/1982  |                             | 163        |                         | 1730                          | 0.55                    | 689908.8          | 219.3            |
| 5/19/1982  |                             | 235        |                         | 799                           | 0.35                    | 459380.6          | 201.2            |
| 7/21/1982  |                             | 78         |                         | 18                            | 0.1                     | 3435              | 19.1             |
| 9/16/1982  |                             | 144        |                         | 114                           | 0.2                     | 40162.9           | 70.5             |
| 11/10/1982 |                             | 186        |                         | 108                           | 0.2                     | 49146.7           | 91               |
| 1/5/1983   |                             | 140        |                         | 24                            | 0.04                    | 8220.5            | 13.7             |
| 3/2/1983   |                             | 259        |                         | 2550                          | 0.2                     | 1615839           | 126.7            |
| 4/26/1983  |                             | 347        |                         | 2448                          | 0.22                    | 2078255           | 186.8            |
| 6/21/1983  |                             | ####       |                         | 686                           | 0.24                    | 1745482           | 610.7            |
| 8/2/1984   |                             | 178        | 0                       | 1780                          | 0.31                    | 775171.9          | 135              |
| 8/29/1984  |                             | 216        | 0                       | 969                           | 0.18                    | 512077.3          | 95.1             |
| 4/24/1985  |                             | 316        | 0.4                     | 780                           | 0.35                    | 603031.1          | 270.6            |
| 5/22/1985  |                             | 385        | 0.2                     | 334                           | 0.24                    | 314604.7          | 226.1            |

Appendix H (cont) . Data tables for water quality, Sevier River 2.5 Miles South of Circleville – 494945

| Date       | Dissolved Phosphorus (mg/l) | Flow (cfs) | Ortho-phosphorus (mg/l) | Total Suspended Solids (mg/l) | Total Phosphorus (mg/l) | TSS Load (kg/day) | TP Load (kg/day) |
|------------|-----------------------------|------------|-------------------------|-------------------------------|-------------------------|-------------------|------------------|
| 7/10/1985  |                             | 104        | 0                       | 36                            | 0.04                    | 9160              | 10.2             |
| 8/7/1985   |                             | 93         | 0                       | 25                            | 0.01                    | 5688.3            | 2.3              |
| 9/4/1985   |                             | 104        | 0                       | 42                            | 0.03                    | 10686.6           | 7.6              |
| 10/1/1985  |                             | 110        | 0                       | 34                            | 0.04                    | 9150.2            | 10.8             |
| 10/29/1985 |                             | 106        | 0                       | 63                            | 0.03                    | 16338.2           | 7.8              |
| 1/28/1986  |                             | 31.9       | 0.1                     | 81                            | 0.06                    | 6321.7            | 4.7              |
| 3/11/1986  |                             | 150        | 0.1                     | 144                           | 0.12                    | 52846             | 44               |
| 4/22/1986  |                             |            | 0                       | 40                            | 0.05                    |                   |                  |
| 6/4/1986   |                             | 160        | 0.2                     | 386                           | 0.2                     | 151100.3          | 78.3             |
| 7/10/1986  |                             |            | 0                       | 18                            | 0.02                    |                   |                  |
| 8/20/1986  |                             | 5          | 0                       |                               | 0.19                    |                   | 2.3              |
| 10/2/1986  |                             | 133        | 0                       | 48                            | 0.07                    | 15618.9           | 22.8             |
| 11/13/1986 |                             | 136        | 0                       | 116                           | 0.05                    | 38597.1           | 16.6             |
| 12/17/1986 |                             | 146        | 0.1                     | 100                           | 0.09                    | 35720             | 31.4             |
| 2/4/1987   |                             | 143        | 0.1                     | 198                           | 0.15                    | 69272.2           | 52.5             |
| 4/28/1987  |                             | 171        | 0.2                     | 200                           | 0.2                     | 83672.8           | 83.7             |
| 6/25/1987  |                             | 99.6       | 0                       | 18                            | 0.04                    | 4386.2            | 9.7              |
| 8/4/1987   |                             | 115        | 0.1                     | 85                            | 0.07                    | 23915.2           | 19.7             |
| 9/16/1987  |                             | 70.1       | 0                       | 23                            | 0.05                    | 3944.6            | 8.6              |
| 11/11/1987 |                             | 145        | 0                       | 130                           | 0.1                     | 46117.9           | 35.5             |
| 12/16/1987 |                             | 186        | 0.1                     | 3                             | 0.07                    | 1365.2            | 31.9             |
| 1/26/1988  |                             | 146        | 0                       | 3                             | 0.08                    | 1071.6            | 28.6             |
| 3/7/1988   |                             | 167        | 0.2                     | 293                           | 0.23                    | 119713.2          | 94               |
| 4/21/1988  |                             | 247        | 0                       | 3                             | 0.27                    | 1812.9            | 163.2            |
| 6/1/1988   |                             | 304        | 0                       | 343                           | 0.08                    | 255109            | 59.5             |
| 8/3/1988   |                             | 99         | 0                       | 591                           | 0.04                    | 143146.5          | 9.7              |
| 9/8/1988   |                             | 83         | 0                       | 3                             | 0.05                    | 609.2             | 10.2             |
| 10/27/1988 |                             | 101        | 0                       | 3                             | 0.02                    | 741.3             | 4.9              |
| 12/8/1988  |                             | 124        | 0.1                     | 109                           | 0.07                    | 33067.9           | 21.2             |
| 1/26/1989  |                             | 93         | 0.1                     | 157                           | 0.02                    | 35722.4           | 5.2              |
| 2/28/1989  |                             | 106        | 0                       | 421                           | 0.12                    | 109180.7          | 29.8             |
| 4/11/1989  |                             | 92         | 0                       | 37                            | 0.04                    | 8328.1            | 9.5              |
| 5/18/1989  |                             | 69         | 0                       | 49                            | 0.02                    | 8271.9            | 4.1              |
| 6/21/1989  |                             | 33         | 0                       | 3                             | 0.03                    | 242.2             | 2.3              |
| 9/7/1989   |                             | 40         | 0                       | 12                            | 0.03                    | 1174.4            | 3                |
| 10/19/1989 |                             |            | 0                       | 7                             |                         |                   |                  |
| 11/29/1989 |                             |            | 0                       | 225                           | 0.09                    |                   |                  |
| 1/9/1990   |                             | 99         | 0                       | 136                           | 0.09                    | 32940.6           | 22.8             |
| 3/7/1990   |                             | 110        | 0                       | 245                           | 0.07                    | 65935.1           | 18.8             |
| 4/12/1990  |                             | 55         | 0                       | 19                            | 0.05                    | 2556.7            | 6.2              |
| 5/3/1990   |                             | 44         | 0                       | 14                            | 0                       | 1507.1            | 0.3              |
| 6/13/1990  |                             | 40         | 0                       | 192                           | 0.09                    | 18789.7           | 8.8              |
| 9/6/1990   | 0.1                         | 42         |                         | 101                           | 0.17                    | 10378.4           | 17.9             |
| 10/16/1990 | 0                           | 44         |                         | 14                            | 0.02                    | 1507.1            | 2.2              |
| 1/17/1991  | 0                           | 92         |                         | 167                           | 0.16                    | 37589.1           | 36               |
| 2/28/1991  | 0                           | 95         |                         | 217                           | 0.16                    | 50436.1           | 36.3             |
| 6/5/1991   | 0                           | 122        |                         | 158                           | 0.06                    | 47160.1           | 16.4             |
| 7/31/1991  | 0                           | 30         |                         | 19                            | 0.04                    | 1394.5            | 3.1              |
| 9/18/1991  | 0                           | 44         |                         | 3                             | 0.01                    | 322.9             | 1.5              |
| 10/30/1991 | 0                           | 65         |                         | 28                            | 0.02                    | 4452.8            | 3.2              |

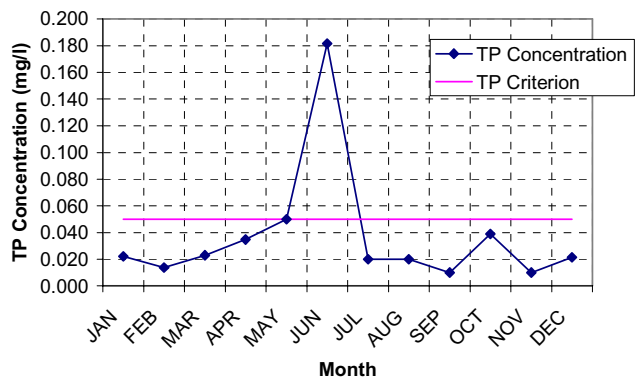
Appendix H (cont) . Data tables for water quality, Sevier River 2.5 Miles South of Circleville – 494945

| Date       | Dissolved Phosphorus (mg/l) | Flow (cfs) | Ortho-phosphorus (mg/l) | Total Suspended Solids (mg/l) | Total Phosphorus (mg/l) | TSS Load (kg/day) | TP Load (kg/day) |
|------------|-----------------------------|------------|-------------------------|-------------------------------|-------------------------|-------------------|------------------|
| 1/9/1992   | 0                           | 85         |                         | 48                            | 0.04                    | 9982              | 8.3              |
| 2/19/1992  | 0                           | 105        |                         | 148                           | 0.13                    | 38019.7           | 32.9             |
| 4/9/1992   | 0.1                         | 78         |                         | 250                           | 0.27                    | 47708.2           | 51               |
| 5/20/1992  | 0                           | 163        |                         | 153                           | 0.11                    | 61015.1           | 44.3             |
| 7/15/1992  | 0                           | 33         |                         | 84                            | 0.08                    | 6781.9            | 6.1              |
| 10/14/1992 | 0                           | 49         |                         | 12                            | 0.02                    | 1438.6            | 2.9              |
| 11/18/1992 | 0                           | 123        |                         | 198                           | 0.13                    | 59583.8           | 38.2             |
| 2/3/1993   | 0                           | 106        |                         | 99                            | 0.06                    | 25674.3           | 14.5             |
| 3/17/1993  | 0                           | 198        |                         | 808                           | 0.11                    | 391412.4          | 54.3             |
| 5/5/1993   |                             | 643        |                         | 704                           | 0.28                    | 1107495           | 445.2            |
| 6/9/1993   |                             | 600        |                         | 390                           | 0.27                    | 572497.8          | 389              |
| 8/18/1993  |                             | 98         |                         | 39                            | 0.04                    | 9350.8            | 10.5             |
| 9/22/1993  |                             | 91         |                         | 9                             | 0.02                    | 2003.7            | 4                |
| 11/10/1993 |                             | 191        |                         | 104                           | 0.1                     | 48598.7           | 45.3             |
| 1/12/1994  |                             | 151        |                         | 205                           | 0.15                    | 75733.6           | 56.9             |
| 2/23/1994  |                             | 154        |                         | 83                            | 0.09                    | 31272.1           | 33.9             |
| 4/6/1994   |                             | 127        |                         | 166                           | 0.08                    | 51578.6           | 26.1             |
| 5/11/1994  |                             | 103        |                         | 64                            | 0.07                    | 16127.8           | 16.9             |
| 6/15/1994  |                             | 56         |                         | 21                            | 0.03                    | 2877.2            | 3.7              |
| 7/27/1994  |                             | 41         |                         | 9                             | 0.01                    | 902.8             | 1.2              |
| 9/7/1994   |                             | 66         |                         | 148                           | 0.09                    | 23898.1           | 14.9             |
| 10/20/1994 |                             | 125        |                         | 192                           | 0.15                    | 58717.7           | 46.8             |
| 11/30/1994 |                             | 122        |                         | 168                           | 0.14                    | 50144.9           | 42.4             |
| 1/24/1995  |                             | 129        |                         | 89                            | 0.06                    | 28089.1           | 19.3             |
| 3/8/1995   |                             | 137        |                         | 581                           | 0.28                    | 194739.8          | 92.8             |
| 4/19/1995  |                             | 193        |                         | 259                           | 0.18                    | 122296.8          | 82.6             |
| 5/30/1995  |                             | 500        |                         | 567                           | 0.33                    | 693603.2          | 403.7            |
| 7/12/1995  |                             | 326        |                         | 300                           | 0.1                     | 239274.7          | 79.8             |
| 8/28/1995  |                             | 133        |                         | 80                            | 0.08                    | 26031.5           | 26               |
| 10/18/1995 |                             |            |                         | 110                           | 0.1                     |                   |                  |
| 12/6/1995  |                             |            |                         | 112                           | 0.08                    |                   |                  |
| 1/31/1996  |                             | 32         |                         | 108                           | 0.09                    | 8455.4            | 7                |
| 3/13/1996  |                             | 35         |                         | 129                           | 0.07                    | 11046.3           | 6                |
| 4/4/1996   | 0                           | 32         |                         | 38                            | 0.04                    | 2975              | 3.1              |
| 4/25/1996  | 0                           | 50         |                         | 24.8                          | 0.02                    | 3033.7            | 2.4              |
| 5/9/1996   | 0                           | 75         |                         | 54.8                          | 0.04                    | 10055.4           | 7.3              |
| 5/23/1996  | 0                           | 61         |                         | 30.8                          | 0.03                    | 4596.6            | 4.5              |
| 6/4/1996   | 0                           | 50         |                         | 8.8                           | 0.03                    | 1076.5            | 3.7              |
| 6/18/1996  | 0                           | 31.7       |                         | 4                             | 0.01                    | 310.2             | 0.8              |
| 7/8/1996   | 0                           | 25         |                         | 16.8                          | 0.02                    | 1027.6            | 1.2              |
| 8/20/1996  | 0                           | 20.4       |                         | 148.7                         | 0.06                    | 7421.6            | 3                |
| 9/18/1996  | 0                           | 25         |                         | 186.7                         | 0.09                    | 11419.4           | 5.5              |
| 10/29/1996 | 0                           | 58         |                         | 37.2                          | 0.08                    | 5278.7            | 11.4             |
| 12/10/1996 | 0                           | 150        |                         | 124                           | 0.1                     | 45506.2           | 38.1             |
| 1/28/1997  | 0                           | 60         |                         | 103.6                         | 0.12                    | 15207.9           | 17.8             |
| 2/25/1997  | 0                           | 55         |                         | 65.6                          | 0.04                    | 8827.2            | 5.7              |
| 3/18/1997  | 0                           | 63         |                         | 417                           |                         | 64273.9           |                  |
| 4/8/1997   | 0                           | 70         |                         | 144.7                         | 0.08                    | 24781.3           | 13.9             |
| 4/23/1997  |                             | 145        |                         | 404                           | 0.35                    | 143320.2          | 122.5            |
| 5/6/1997   |                             | 160        |                         | 228                           |                         | 89250.9           |                  |
| 5/21/1997  |                             | 260        |                         | 202.5                         | 0.22                    | 128812            | 139.2            |
| 6/5/1997   |                             | 65         |                         | 15.2                          |                         | 2417.2            |                  |
| 7/9/1997   | 0.1                         | 37         |                         | 9.6                           | 0.09                    | 869               | 8.4              |
| 8/14/1997  |                             | 85         |                         | 227.3                         | 0.23                    | 47269             | 47.5             |
| 10/1/1997  |                             | 125        |                         | 252                           |                         | 77067             |                  |
| 11/5/1997  | 0                           | 104        |                         | 38.8                          |                         | 9872.4            |                  |
| 12/17/1997 | 0                           | 90         |                         | 202.4                         |                         | 44566.8           |                  |
| 2/11/1998  | 0                           | 65         |                         | 42.4                          | 0.04                    | 6742.8            | 6.3              |
| 3/26/1998  | 0                           |            |                         | 1840                          | 1.07                    |                   |                  |
| 6/10/1998  | 0                           |            |                         | 244                           | 0.14                    |                   |                  |

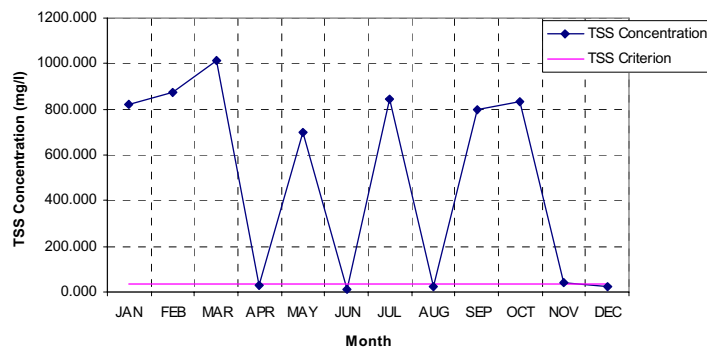
Appendix H (cont) . Data tables for water quality, Sevier River 2.5 Miles South of Circleville – 494945

| Date       | Dissolved Phosphorus (mg/l) | Flow (cfs) | Ortho-phosphorus (mg/l) | Total Suspended Solids (mg/l) | Total Phosphorus (mg/l) | TSS Load (kg/day) | TP Load (kg/day) |
|------------|-----------------------------|------------|-------------------------|-------------------------------|-------------------------|-------------------|------------------|
| 9/8/1999   |                             | 36         |                         | 26.4                          | 0.03                    | 2325.2            | 2.2              |
| 11/16/1999 |                             | 155        |                         | 57.2                          | 0.03                    | 21691.3           | 11.4             |
| 1/19/2000  |                             | 204        |                         | 119                           | 0.09                    | 59393             | 46.4             |
| 3/15/2000  |                             | 150        |                         | 138                           | 0.06                    | 50644             | 20.2             |
| 5/17/2000  |                             |            |                         | 156                           | 0.07                    |                   |                  |
| 7/19/2000  |                             | 44.5       |                         | 34.7                          | 0.07                    | 3777.9            | 7.9              |
| 9/13/2000  |                             | 14         |                         | 16.4                          | 0.01                    | 561.7             | 0.3              |
| 10/25/2000 |                             |            |                         | 348                           |                         |                   |                  |
| 4/18/2001  |                             |            |                         | 570                           | 0.54                    |                   |                  |
| 6/20/2001  |                             |            |                         | 15.2                          | 0.02                    |                   |                  |
| 7/11/2001  | 0                           |            |                         | 404                           | 0.29                    |                   |                  |
| 8/15/2001  | 0                           | 64.5       |                         | 165                           | 0.13                    | 26037.6           | 20.8             |
| 9/13/2001  | 0                           | 67.5       |                         | 15.8                          | 0.01                    | 2609.3            | 1.7              |
| 10/18/2001 | 0                           | 25         |                         | 18                            | 0.01                    | 1101              | 0.6              |
| 11/15/2001 | 0                           | 112.2      |                         | 172                           | 0.07                    | 47214.9           | 18.9             |
| 12/6/2001  | 0                           | 70         |                         | 159                           | 0.09                    | 27230.3           | 15.6             |
| 1/16/2002  | 0                           |            |                         | 552                           | 0.13                    |                   |                  |
| 2/28/2002  | 0                           |            |                         | 580                           | 0.06                    |                   |                  |
| 3/28/2002  | 0                           | 115.8      |                         | 620                           | 0.08                    | 175654.1          | 22.4             |
| 4/10/2002  | 0                           | 46.6       |                         | 15.6                          | 0.03                    | 1778.6            | 3.2              |
| 5/2/2002   | 0                           | 80         |                         | 640                           | 0.01                    | 125264.5          | 2                |
| 6/13/2002  | 0                           | 45.2       |                         | 4                             | 0.01                    | 442.3             | 1.1              |
| 7/31/2002  |                             | 15.7       |                         | 55                            | 0.06                    | 2112.6            | 2.1              |
| 11/13/2002 |                             | 71.3       |                         |                               |                         |                   |                  |

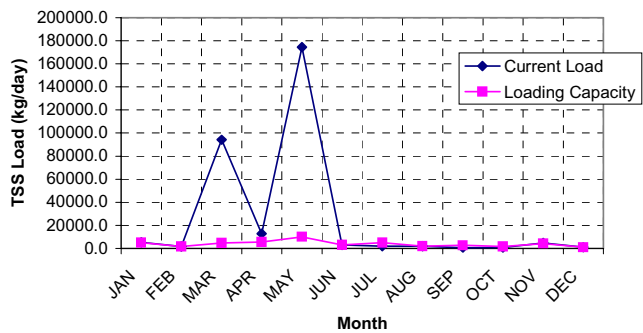
**Mean Monthly Total Phosphorus Concentration**



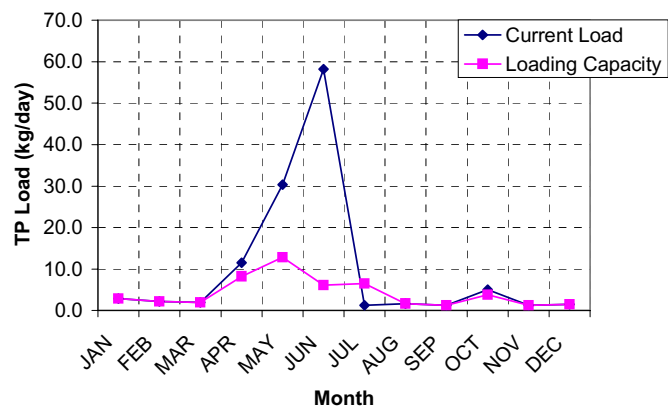
**Mean Monthly TSS Concentration for Station 494963**



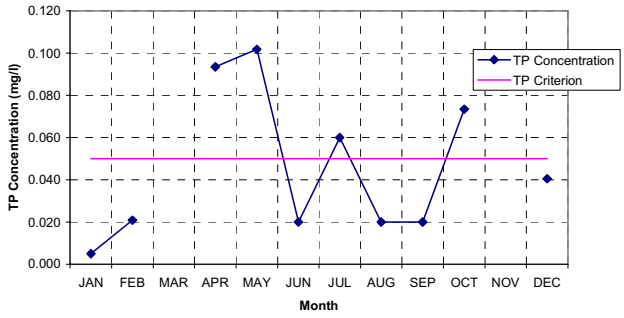
**Mean TSS Load by Month for Station 494963**



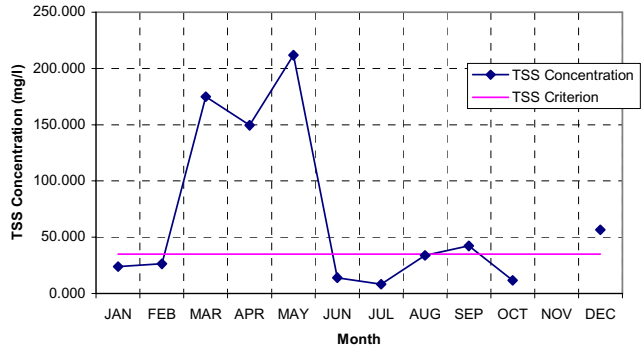
**Mean Total Phosphorus Load by Month for station 494963**



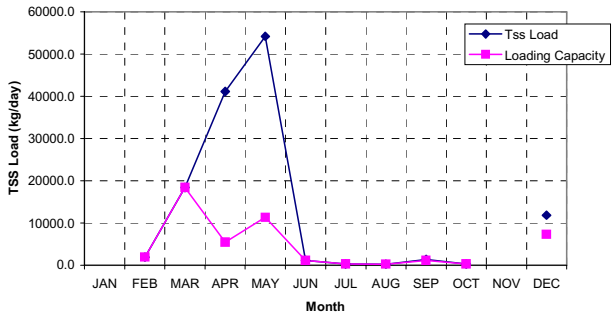
Mean Monthly TP Concentration



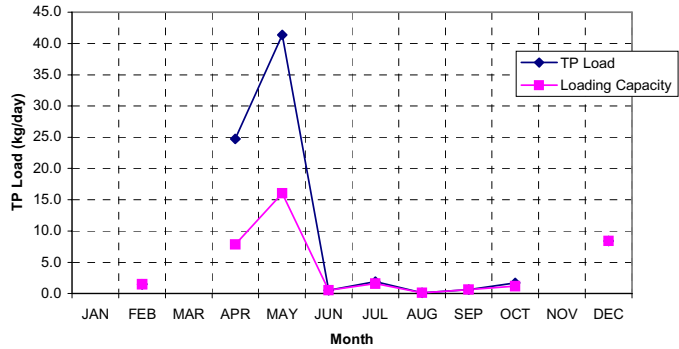
Mean Monthly TSS Concentration for Station 494967



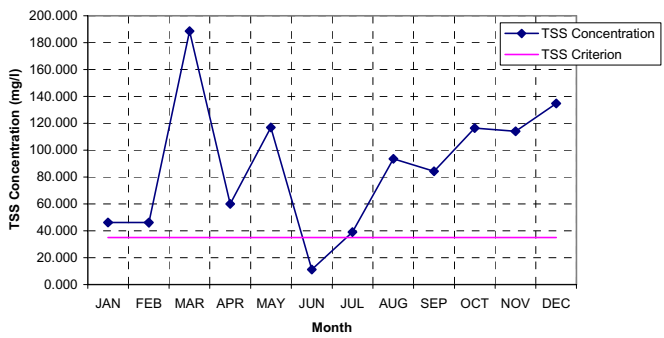
Mean TSS Load By Month for Station 494967



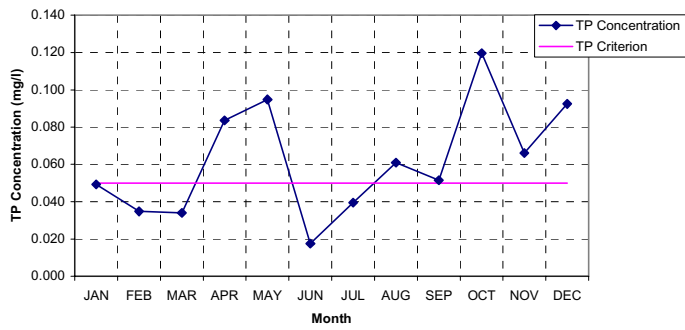
Mean TP Load by Month for station 494967



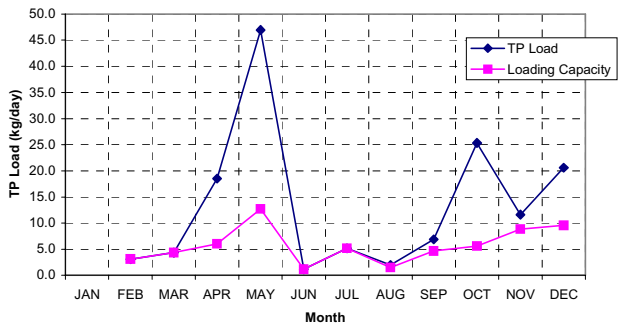
Mean Monthly TSS Concentration for Station 494964



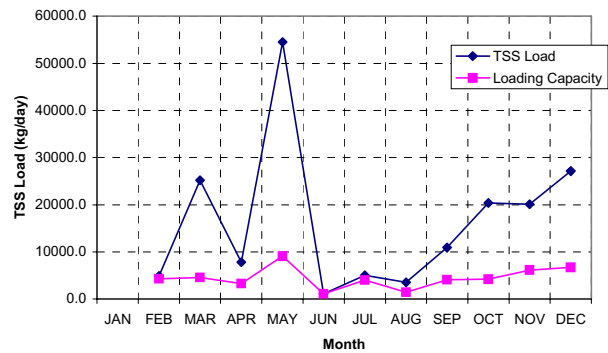
Mean Monthly TP Concentration for Station 494964



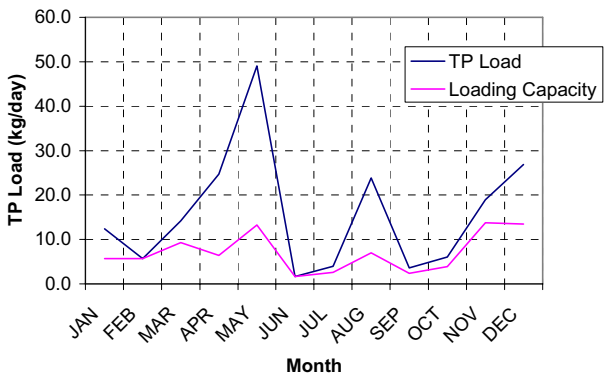
Mean TP Load by Month for Station 494964



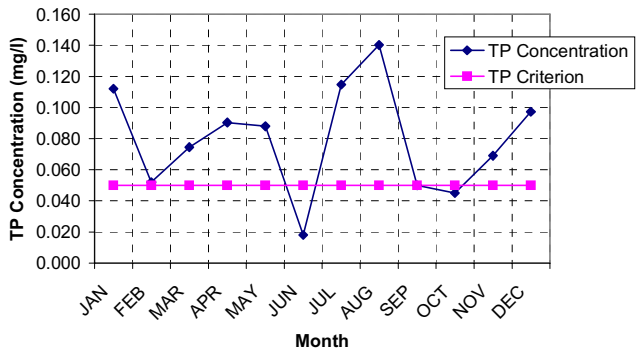
Mean TSS Load By Month for Station 494964



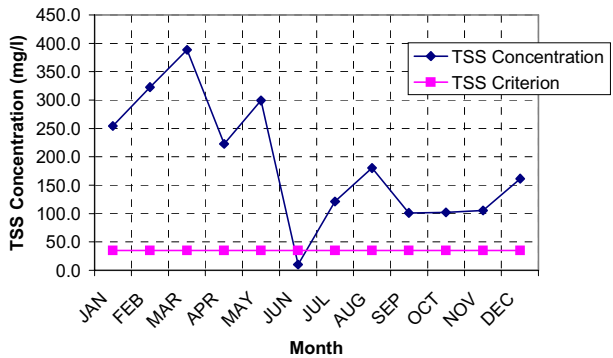
Mean TP Load by Month for Station 494945



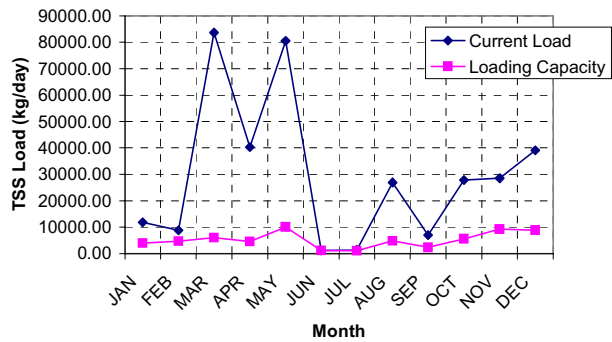
Mean Monthly TP Concentration for Station 494945



Mean Monthly TSS Concentration for Station 494945



Mean TSS Load by Month for Station 494945



Appendix J. SVAP and SECI Tables.

| Reach | Channel Condition | Hydrologic Alteration | Riparian Zone | Bank Stability | Water Appearance | Nutrient Enrichment | Fish Barriers | Fish Cover |
|-------|-------------------|-----------------------|---------------|----------------|------------------|---------------------|---------------|------------|
| 1     | 6.3               | 9.3                   | 8.6           | 8.3            | 10               | 10                  | 10            | 9          |
| 2     | 9                 | 9                     | 3             | 5              | 7                | 8                   | 10            | 10         |
| 3     | 3                 | 3                     | 3             | 2              | 7                | 7                   | 10            | 4          |
| 4     | 10                | 10                    | 9             | 10             | 9                | 10                  | 10            | 10         |
| 5     | 8                 | 7                     | 5             | 3              | 7                | 5                   | 3             | 5          |
| 6     |                   |                       |               |                |                  |                     |               |            |
| 7     | 9                 | 10                    | 10            | 10             | 7                | 4                   | 10            | 10         |
| 8     | 8                 | 9.5                   | 1             | 3              | 8                | 3                   | 6             | 5          |
| 9     | 6                 | 7                     | 1             | 7.5            | 8                | 4                   | 10            | 1          |
| 10    | 7                 | 7                     | 8             | 9              | 8                | 4.5                 | 10            | 10         |
| 11    | 4.5               | 5                     | 1             | 2              | 6                | 2                   | 10            | 4          |
| 12    | 5.3               | 9                     | 2.3           | 4.1            | 5.8              | 5                   | 10            | 2.5        |
| 13    | 4.7               | 9                     | 4.7           | 3.7            | 7                | 4.3                 | 9.7           | 6          |
| 14    | 4.7               | 5                     | 6.3           | 5.7            | 7.7              | 6.7                 | 10            | 4.3        |
| 15    | 7.3               | 9                     | 4.7           | 4              | 8                | 8                   | 1             | 4.3        |
| 16    | 6.3               | 7                     | 5             | 8              | 8                | 8.5                 | 10            | 4.5        |
| 17    | 8                 | 9.5                   | 4             | 7              | 8                | 8                   | 10            | 5          |
| 18    | 7.6               | 9                     | 3.8           | 6.5            | 6.3              | 7.5                 | 9             | 4          |
| 19    | 7.5               | 7.8                   | 6.3           | 5.5            | 7.8              | 6.8                 | 8.5           | 4.5        |
| 20    | 3                 | 5                     | 1             | 2.5            | 5                | 5                   | 5             | 4          |
| 21    | 8                 | 7                     | 7             | 7              | 5                | 5                   | 10            | 8          |
| 22    | 3                 | 5                     | 3             | 3              | 5                | 4                   | 3             | 5          |
| 23    | 8                 | 6                     | 4             | 5              | 4                | 3                   | 3             | 5          |
| 24    | 7                 | 5                     | 2             | 1              | 4                | 5                   | 10            | 3          |
| 25    | 8                 | 7                     | 8             | 5              | 7                | 4                   | 3             | 3          |
| 26    | 2                 | 5                     | 1             | 1              | 4                | 4                   | 3             | 2          |
| 27    | 2                 | 5                     | 1             | 1              | 4                | 4                   | 10            | 2          |
| 28    | 7                 | 7                     | 4             | 6              | 6                | 7                   | 5             | 2          |
| 29    | 2                 | 7                     | 1             | 3              | 6                | 5                   | 10            | 3          |
| 30    | 3                 | 7                     | 1             | 4              | 6                | 5                   | 6             | 3          |
| 31    | 6                 | 7                     | 1             | 1              | 6                | 5                   | 9             | 1.5        |
| 32    | 6                 | 7                     | 1             | 1.5            | 6                | 5                   | 9             | 1          |
| 33    | 6                 | 7                     | 1             | 2              | 6                | 5                   | 5             | 1          |

Appendix J (cont). SVAP and SECI Tables.

| Reach | Channel Condition | Hydrologic Alteration | Riparian Zone | Bank Stability | Water Appearance | Nutrient Enrichment | Fish Barriers | Fish Cover |
|-------|-------------------|-----------------------|---------------|----------------|------------------|---------------------|---------------|------------|
| 1     | 6.3               | 9.3                   | 8.6           | 8.3            | 10               | 10                  | 10            | 9          |
| 2     | 9                 | 9                     | 3             | 5              | 7                | 8                   | 10            | 10         |
| 3     | 3                 | 3                     | 3             | 2              | 7                | 7                   | 10            | 4          |
| 4     | 10                | 10                    | 9             | 10             | 9                | 10                  | 10            | 10         |
| 5     | 8                 | 7                     | 5             | 3              | 7                | 5                   | 3             | 5          |
| 6     |                   |                       |               |                |                  |                     |               |            |
| 7     | 9                 | 10                    | 10            | 10             | 7                | 4                   | 10            | 10         |
| 8     | 8                 | 9.5                   | 1             | 3              | 8                | 3                   | 6             | 5          |
| 9     | 6                 | 7                     | 1             | 7.5            | 8                | 4                   | 10            | 1          |
| 10    | 7                 | 7                     | 8             | 9              | 8                | 4.5                 | 10            | 10         |
| 11    | 4.5               | 5                     | 1             | 2              | 6                | 2                   | 10            | 4          |
| 12    | 5.3               | 9                     | 2.3           | 4.1            | 5.8              | 5                   | 10            | 2.5        |
| 13    | 4.7               | 9                     | 4.7           | 3.7            | 7                | 4.3                 | 9.7           | 6          |
| 14    | 4.7               | 5                     | 6.3           | 5.7            | 7.7              | 6.7                 | 10            | 4.3        |
| 15    | 7.3               | 9                     | 4.7           | 4              | 8                | 8                   | 1             | 4.3        |
| 16    | 6.3               | 7                     | 5             | 8              | 8                | 8.5                 | 10            | 4.5        |
| 17    | 8                 | 9.5                   | 4             | 7              | 8                | 8                   | 10            | 5          |
| 18    | 7.6               | 9                     | 3.8           | 6.5            | 6.3              | 7.5                 | 9             | 4          |
| 19    | 7.5               | 7.8                   | 6.3           | 5.5            | 7.8              | 6.8                 | 8.5           | 4.5        |
| 20    | 3                 | 5                     | 1             | 2.5            | 5                | 5                   | 5             | 4          |
| 21    | 8                 | 7                     | 7             | 7              | 5                | 5                   | 10            | 8          |
| 22    | 3                 | 5                     | 3             | 3              | 5                | 4                   | 3             | 5          |
| 23    | 8                 | 6                     | 4             | 5              | 4                | 3                   | 3             | 5          |
| 24    | 7                 | 5                     | 2             | 1              | 4                | 5                   | 10            | 3          |
| 25    | 8                 | 7                     | 8             | 5              | 7                | 4                   | 3             | 3          |
| 26    | 2                 | 5                     | 1             | 1              | 4                | 4                   | 3             | 2          |
| 27    | 2                 | 5                     | 1             | 1              | 4                | 4                   | 10            | 2          |
| 28    | 7                 | 7                     | 4             | 6              | 6                | 7                   | 5             | 2          |
| 29    | 2                 | 7                     | 1             | 3              | 6                | 5                   | 10            | 3          |
| 30    | 3                 | 7                     | 1             | 4              | 6                | 5                   | 6             | 3          |
| 31    | 6                 | 7                     | 1             | 1              | 6                | 5                   | 9             | 1.5        |
| 32    | 6                 | 7                     | 1             | 1.5            | 6                | 5                   | 9             | 1          |
| 33    | 6                 | 7                     | 1             | 2              | 6                | 5                   | 5             | 1          |

Appendix K. Waterbody Assessments. (This table is a two-page spread.)

| Waterbody Description  | Use Class/Support | HUC Unit                  | Size mi/ac | 303(d) list for TMDL | Pollutant or Stressor |  | Causes or source  |  |
|--|-------------------|---------------------------|------------|----------------------|-----------------------|--|---|--|
|  |                   |                           |            |                      | 303(d) list           | Evaluation                                     |   |  |
| Navajo Lake  | UT-00078          | 2B/NA, 3A/PS, 4/FS        | 16030001   | 714                  | Yes                   | Dissolved Oxygen                               | Macrophyte decomposition                                  |  |
| Asay Creek and tributaries from cnfl/w Sevier River  | 1                 | 2B/NA, 3A/PS, 4/FS        | 16030001   |                      | No                    |  | Sediments, bacteria                                       | Development, septic tanks, erosion (silviculture, grazing, fires)  |
| Duck Creek and tributaries   | 2                 | 1C/NA, 2B/NA, 3A/NA, 4/NA | 16030001   |                      | No                    |  | Sediments, bacteria                                       | Development, septic tanks, erosions (grazing silviculture), recreation   |
| Mammoth Creek and tributaries from cnfl/w Sevier River   | 3                 | 2B/NA, 3A/FS, 4/FS        | 16030001   |                      | No                    |  | Nutrients, sediments, bacteria                            | Extensive development, septic tanks, fish hatchery, erosion (roadways, grazing), recreation  |
| Panguitch Lake   | UT-00086          | 2B/NA, 3A/NA, 4/FS        | 16030001   | 1248                 | Yes                   | phosphorus dissolved oxygen, total macrophytes |   | Nutrients, fill & drain, macrophytes, construction, agriculture, silviculture  |
| Tributaries above Panguitch Lake   | 4                 | 2B//NA, 3A/NA, 4/NA       | 1603001    |                      | No                    |  | Sediments, nutrients, bacteria                            | Development, transbasin water diversion, septic tanks, grazing, recreation   |
| Panguitch Creek and tributaries to Panguitch Lake  | 5                 | 2B/NA, 3A/NA, 4/NA        | 16030001   |                      | No                    |  | Sediments, nutrients                                      | Development, dewatering, erosion (stream morphology and habitat)   |
| Sevier River and tributaries from Long Canal to tributaries  | 6                 | 2B/NA, 3A/NA, 4/NA        | 16030001   |                      | No                    |  | Sediments, nutrients                                      | Erosion (grazing, stream morphology, development), development, land speculation   |
| Sevier River from Horse Valley Bridge Diversion to Long Canal Diversion (excluding Bear and Panguitch Creek) | 7                 | 2B/NA, 3A/FS, 4/FS        | 16030001   |                      |                       |  | Sediments, nutrients, total dissolved solids, temperature | Grazing practices, erosion (irrigation practices, stream morphology and habitat), municipal lagoons, pasture feeding with flood action and in riparian areas |
| Bear Creek and tributaries from the cnfl/w Sevier River  | 8                 | 2B/NA, 3A/NA, 4/NA        | 16030001   |                      | No                    |  | Sediments, nutrients                                      | Erosion (stream morphology, grazing), vegetative mgt   |
| Sevier River from Circleville Irrigation Diversion to Horse Valley Bridge Diversion                          | 9                 | 2B/NA, 3A/PS, 4/FS        | 16030001   |                      | Yes                   | Sediment, habitat, total phosphorous           |   | Agricultural grazing and irrigation, hydromod and habitat mod, erosion   |

## Appendix K. Waterbody Assessments.

| USFS  | BLM lands (2)  | Private Lands (3)  | Feasible Solution   | Comment   |
|---|--|--|---|---|
| Uplands in good condition   | No BLM   |  | In-lake solutions   |   |
| Stream/Riparian poor to moderate condition - low risk, highly eroded  | Kanab BLM  | Vegetative cover at moderate risk  | 1) BMP's erosion control, riparian protection/restoration, 2) BMP's erosion control, riparian protection/restoration; 3) planning and zoning, brush mgt., off site watering, grazing mgt. | DWR 3A, Upper/PS, lower/NS, Potential development from SITLA lands  |
| Excellent stream and riparian conditions - low risk   | No BLM   | Development, septic tanks  | 1) BMP's erosion control.   | DWR 3A/FS   |
| Stream/Riparian: Moderate to good riparian risk in upper zone with relatively low riparian risk in lower zone; Upland meadows: poor condition-accelerated erosion | Minimal lands, Kanab BLM   | Spotty, poor to fairly good for riparian and range with good potential for improvement, septic tanks | 1) BMP's as needed, 2) BMP's as needed, 3) Planning and zoning, vegetative restoration to increase  | DWR 3A upper/FS lower/NS  |
|   | No BLM   | Septic tanks   |   |   |
| Stream/Riparian: Moderate condition; Uplands: good condition  | No BLM   | Septic tanks   | 1) BMP's as needed in range and riparian, 3) planning and zoning, grazing mgt, recreation   | DWR 3A/FS, Phase 1 & II Clean Lake area   |
| Stream/Riparian: Moderate condition; Uplands: moderate-good condition   |  | Poor to fair stream morphology and habitat   | 1) Vegetative alteration, BMP's as needed in riparian and range; riparian restoration and protection  | DWR 3A, Upper/PS, mid/FS, Lower/NS  |
| Stream/Riparian: poor to moderate condition   | Poor to fair at best, area is highly erosive and poor vegetative cover | Poor conditions for vegetative cover with good potential   | 1), 2), 3) Reestablish grasses and vegetative cover in uplands; fish cover structures and riparian restoration as needed  | DWR 3A/NS, Sage grouse habitat, potential development from SITLA lands  |
| No USFS   | Poor vegetative cover in upland area area, Kanab BLM                   | Riparian habitat poor, stream morphology poor  | 2), revegetation and PMP's as needed; 3) improve irrigation efficiency, grazing develop off stream, waering, restore and protect riparian corridor  | DWR 3A/NS Ck contains Bonneville CTT. Lef Fk Sanford Ck and Sandy Ck planned for reestablishing Bonneville cutthroat trout, sage grouse habitat |
| Stream/Riparian: Poor conditions; Uplands moderate condition  | Needs vegetative management, Kanab BLM                                 | Grazing practices, stream morphology and habitat   | 2) Revegetation and mgt; 3) Grazing mgt, riparian restoration and protection  | Leather side chub habitat, sage grouse habitat area, lower section is improving riparian  |
|   | Kanab BLM  | Grazing practices  | 2) Grazing has been removed and vegetation is improving   | DWR 3A/NS   |