

**BEFORE THE STATE ENGINEER, STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES**

IN THE MATTER OF APPLICATIONS)
53987 THROUGH 53992, INCLUSIVE, AND)
54003 THROUGH 54021, INCLUSIVE)
FILED TO APPROPRIATE THE)
UNDERGROUND WATERS OF SPRING)
VALLEY, CAVE VALLEY, DELAMAR)
VALLEY, AND DRY LAKE VALLEY)
HYDROGRAPHIC BASINS (180, 181, 182)
AND 184), LINCOLN COUNTY AND)
WHITE PINE COUNTY, NEVADA.)

**PROPOSED RULING OF
PROTESTANTS GBWN ET
AL.¹**

GENERAL

I.

Application 54003 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cubic feet per second (cfs) of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined within NRS § 243.210-243.225 (Lincoln), 243.275-243.315 (Nye), 243.365-243.385 (White Pine), and 243.035-243.040 (Clark).² The proposed point of diversion is described as being located within the NW¼ NE¼ of Section 20, T.8N., R.68E., M.D.B.&M.³ The remarks section of the application, Item 12, indicates that the water sought under the application shall be placed to beneficial use within the Las Vegas Valley Water District service area as set forth in Chapter 752, Statutes of Nevada 1989, or as may be amended. Further, that the water may also be served and beneficially used by lawful users within Lincoln, Nye and White Pine Counties, and that water would be commingled with other water rights owned or served by the applicant or its designee. By letter dated March 22, 1990, the Applicant further indicated, in reference to Item 12, that the approximate number of persons to be served is 800,000 in addition to the current service of approximately 618,000 persons, that the applications seek all the unappropriated water within the particular ground-

¹ This Proposed Ruling is submitted on behalf of the Great Basin Water Network and a group of over 300 individuals entities who either filed protests in their own names or joined Great Basin Water Network's protests to the Southern Nevada Water Authority's applications in Spring, Cave, Dry Lake, and Delamar Valleys. The list of individuals and entities who filed protests in their own names can be found on the first page of GBWN et al.'s written closing argument. The list of those who joined GBWN's protests can be found at Exhibit A to GBWN et al.'s written closing statement.

² These applications are now held in the name of the Southern Nevada Water Authority.

³ SE_Exh_003, public administrative hearing before the State Engineer, September 26 through October 14, 2011, and October 31 through November 18, 2011. Hereinafter, exhibits from this hearing will be referred to solely by the exhibit number.

water basins in which the water rights are sought and that the projected population of the Clark County service area at the time of the 1990 letter was estimated to be 1,400,000 persons by the year 2020.

II.

Application 54004 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 25, T.9N., R.67E., M.D.B.&M.⁴ This application, along with the others referenced below all contain the same remarks as those identified as to Application 54003.

III.

Application 54005 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 14, T.9N., R.67E., M.D.B.&M.⁵

IV.

Application 54006 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 22, T.10N., R.67E., M.D.B.&M.⁶

V.

Application 54007 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 34, T.11N., R.66E., M.D.B.&M.⁷

⁴ SE_Exh_004.

⁵ SE_Exh_005.

⁶ SE_Exh_006.

⁷ SE_Exh_007.

VI.

Application 54008 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 1, T.11N., R.66E., M.D.B.&M.⁸

VII.

Application 54009 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 36, T.13N., R.66E., M.D.B.&M.⁹

VIII.

Application 54010 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 25, T.14N., R.66E., M.D.B.&M.¹⁰

IX.

Application 54011 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 14, T.14N., R.66E., M.D.B.&M.¹¹

X.

Application 54012 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 16, T.14N., R.67E., M.D.B.&M.¹²

⁸ SE_Exh_008.

⁹ SE_Exh_009.

¹⁰ SE_Exh_010.

¹¹ SE_Exh_011.

¹² SE_Exh_012.

XI.

Application 54013 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 25, T.15N., R.66E., M.D.B.&M.¹³

XII.

Application 54014 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 15, T.15N., R.67E., M.D.B.&M.¹⁴

XIII.

Application 54015 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 14, T.15N., R.67E., M.D.B.&M.¹⁵

XIV.

Application 54016 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the NE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 7, T.15N., R.67E., M.D.B.&M.¹⁶

XV.

Application 54017 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 25, T.16N., R.66E., M.D.B.&M.¹⁷

¹³ SE_Exh_013.

¹⁴ SE_Exh_014.

¹⁵ SE_Exh_015.

¹⁶ SE_Exh_016.

¹⁷ SE_Exh_017.

XVI.

Application 54018 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 24, T.16N., R.66E., M.D.B.&M.¹⁸

XVII.

Application 54019 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 10 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 32, T.12N., R.68E., M.D.B.&M.¹⁹

XVIII.

Application 54020 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 10 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 14, T.14N., R.67E., M.D.B.&M.²⁰

XIX.

Application 54021 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 10 cfs of underground water from the Spring Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 33, T.16N., R.66E., M.D.B.&M.²¹

XX.

Application 53987 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Cave Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 22, T.6N., R.63E., M.D.B.&M.²²

¹⁸ SE_Exh_018.

¹⁹ SE_Exh_019.

²⁰ SE_Exh_020.

²¹ SE_Exh_021.

²² SE_Exh_042.

XXI.

Application 53988 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 10 cfs of underground water from the Cave Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 21, T.7N., R.63E., M.D.B.&M.²³

XXII.

Application 53989 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Dry Lake Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 30, T.2N., R.64E., M.D.B.&M.²⁴

XXIII.

Application 53990 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 10 cfs of underground water from the Dry Lake Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 8, T.2N., R.65E., M.D.B.&M.²⁵

XXIV.

Application 53991 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 6 cfs of underground water from the Delamar Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 4, T.5N., R.63E., M.D.B.&M.²⁶

XXV.

Application 53992 was filed on October 17, 1989, by the Las Vegas Valley Water District to appropriate 10 cfs of underground water from the Delamar Valley Hydrographic Basin for municipal and domestic purposes within Clark, Lincoln, Nye and White Pine Counties as more specifically described and defined above. The proposed point of diversion is described as being located within the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 15, T.6N., R.64E., M.D.B.&M.²⁷

²³ SE_Exh_043.

²⁴ SE_Exh_044.

²⁵ SE_Exh_045.

²⁶ SE_Exh_046.

²⁷ SE_Exh_047.

XXVI.

When the Las Vegas Valley Water District originally filed these applications, it also filed more than 100 other similar applications throughout Nevada. When these applications, including applications 54003 -54021, inclusive, and applications 53987 – 53992, inclusive; were published in 1990, thousands of protests were filed. However, not every person or entity protested every application.²⁸ On January 5, 2006, the State Engineer held a pre-hearing conference in the matter of 34 water right applications now held by the Southern Nevada Water Authority (“Applicant”) in Snake, Spring, Cave, Dry Lake and Delamar Valleys. At the pre-hearing conference, various persons requested the State Engineer republish notice of these 34 water right applications and reopen the period for filing a protest. On March 8, 2006, the State Engineer issued an intermediate order holding he was not authorized by statute to republish or reopen the protest period and denied the request. On July 6, 2006, the GBWN, et al. filed a Petition for Declaratory Order to Re-notice 16 Year Old Groundwater Applications in the Delamar Valley, Dry Lake Valley, Cave Valley, Spring Valley, and Snake Valley pursuant to which they requested the State Engineer re-notice the Applicant’s water rights applications. The State Engineer denied this request by intermediate order dated July 27, 2006, again holding he was not authorized by statute to republish or reopen the protest period. Spring Valley Intermediate Order 3 (July 26, 2006). On August 22, 2006, the GBWN, et al. filed a petition for judicial review challenging the State Engineer's denial of its request to republish and reopen the protest period on statutory and due process grounds.²⁹ This appeal resulted in the Nevada Supreme Court's decision in *GBWN v. Taylor II*, 126 Nev. Adv. Op. 20, 234 P.3d 912 (2010), which voided the State Engineer’s 2007 and 2008 rulings on the Applicant’s applications in Spring, Cave, Dry Lake, and Delamar Valleys, Rulings 5726 and 5875, reopened all protest issues, and required that the applications be published.³⁰ When the applications were republished in February of 2011, many persons and entities filed protests, but not every person or entity protested every application.³¹ The applications were protested by the following persons and entities as identified below and on many grounds as also identified below.

1990 PROTESTANTS:

Janell Ahivers, Joseph I. Anderson, Keith M. Anderson, Mary Ellen Anderson, Dolores A. Arnold, Bruce Ashby, Roger W. Ashby, Fred Baca & John Theissen, John Barney, Evan R. Barton, Helen Barton, Bath Lumber Co., Donna Bath, James H. Bath, Walter J. Benson, Dorothy Bicknell, Neva Bida, Bidart Brothers, Robert L. Birch, Sarah G. Bishop, Joseph Boland, Boundy & Forman, Inc., Barbara L. Bradshaw, Lance Burns, Wilford L. Cantrell, Donald R. Carrick, Cory Carson, Dewey E. Carson, Kay Carson, Marietta Carson, Carter-Griffin, Inc. dba Carter

²⁸ SE_Exh_022 - 040; SE_Exh_048 - 053.

²⁹ Plaintiffs asserted that the State Engineer’s failure to act on the 1989 applications for almost 20 years violated Plaintiffs’ due process rights and also violated the statutory provision that required the State Engineer to act within one year after the close of the protest period for the applications.

³⁰ The Supreme Court held that the State Engineer’s failure to act on the applications within one year of the close of the protest period was a violation of NRS § 533.370(2) as it read at the time.

³¹ SE_Exh_054 – 78.

Cattle Co., Citizen Alert, City of Caliente, Steve Collard, Mary Collins, Lois H. Conklin, Don Cooper, Jack R. Cooper, A. and S. Coroneos and Sendlein, Corporation of Presiding Bishop dba Delamar Valley Cattle, County of Inyo, California, County of Nye, County of White Pine and City of Ely, Cindy Cracraft, Danny Cracraft, Diana B. Crane, Jack E. Cupples, Tara Cutler, Rutherford Day, Rose De Vuono, Frank Delmue, Irvin Baker Edwards, Lillian E. Edwards, David Eldridge, Delbert D. Eldridge, Dennis H. Eldridge, Elva 1. Eldridge, George Eldridge & Sons, Inc., Gordon D. Eldridge, Helen Eldridge, Mary R. Eldridge, Nancy J. Eldridge, El Tejon Cattle Co., Ely Shoshone Tribe of Indians, Juan M. Escobedo, Donald T. Fackrell, Sherlyn K. Fackrell, Marcia Forman, Richard Forman, Richie Forman, Selena M. Fonnann, Joseph C. Fox, James F. Fraser, Lory M. Free, Beverly R. Gaffin, Gardner's Quarter Circle 5 Ranch, Mary Goeringer, Danny E. Griffith, Sally Gust, Helen Hackett, Mary S. Hager, Candy Haley, Carl and Gerry Hannig, Max Hannig, Monte Hansen, Joan F. Hanson, Robert I. & Fern A. Harbecke, Glen W. Harper, Elma Harris, John A. and Vivian A. Havens, Rick Havenstrite, Randy Heinfer, Christine Hermansen, Jess Hiatt, Bonnie J. Higdon, Bunny R. Hill, Harry James Hill, Edith Jean Hill, Merle C. Hill, Garland N. Hollingshead, Karma H. Hollingshead, Charlene R. Holt, Wesley A. Holt, Frank C. Hulse, Sheila Hunt, Barry C. Isom, Linda H. Isom, Abigail C. Johnson, Lee Jensen, Kristine P. Kaiser, Mary Katschke, Art Kinder, Kirkeby Ranch, Steven K. Klomp, Torrie O. Klomp, Rudolph E. Krause, Virginia Kreimeyer, Las Vegas Fly Fishing Club, Marian Lawrence, Alton C. Leavitt, James I. Lee, Reion Lee, Robert C. Lewis, Frank Lloyd, Lynn Lloyd, Mick Lloyd, Sarah Locke, Genevieve D. Logan, Dr. Dan A. Love, John Maio, John R. McKay, Wanda McKrosky, Lenora McMurray, Daniel Maes, Dennis Mangum, Robert N. Marcum, Chuck Marques, Beatrice D. Mathis, Rosemary Maxwell, Wess D. Mecham, Kathryn J. Miller, Laurel Ann Mills, Moriah Ranches, Inc., Mary Mosley, Frances Murrajo, Nevada Cattlemen's Association, Eastern Unit, Nevada Farm Bureau Federation, Dean G. Neubauer, Janet K. Neubauer, Bob Nichols, Jim & Betty Nichols, Alex Nickell, Lyle Norcross, Donna A. Nye, Helen O'Connor, Nancy Overson, Edna Oxborrow, Pahrnagat Valley Joint Services Board, Linda Palczewski, Panaca Irrigation Co., Bruce Pencek, Carter 1. Perkins, John Perondi, Willard R. Phillips, Pioche Town Board, Preston Irrigation Company, Clarence S. Prestwich, Karen 1. Prestwich, James R. Prince, Duane Reed, Debbie Rollinson, Katherine A. Rountree, William R. Rountree, George T. Rowe, Margaret Rowe, Marsha Lynn Sanders, William G. Schoenberg, Mark Schroeder, Steve T. Sendlein, Larry Shew, Maribah Singleton, Diana Smith, Mary Smith, Amelia Sonnenberg, Irene Spaulding, Sportsworld, Karen Sprouse, Yvonne Stackhouse, Connie K. Stasiak, Mildred 1. Stevens, Sunnyside Ranch, Virginia B. Terry, Roy Theiss, Dorothy M. Thompson, Toiyabe Chapter of the Sierra Club, Tonya K. Tomlinson, Town of Alamo Water and Sewer Board, John G. Tryon, Candi Tweedy, Freddy Van Camp, Jack Van Camp, Glen Van Roekel, Renee Vincent, Richard Vincent, John M. Wadsworth, Charlotte M. Wallis, Grace L. Wallis, Stanley L. Wallis, Richard J. Walters, Ruby Walters, Daniel Weaver, Lois Weaver, Randy Weaver, Selena Weaver, Anthony Wells, Frank R. Wheeler, Debra W. Whipple (formerly Lani), Barlow White, White Pine County Cowbells, Kelly Wiedmeyer, Thomas R. Wiedmeyer, Roy W. Wilcox, Patricia Williams, Paula Williams, Unincorporated Town of Pahump, U.S. Department of Interior, Bureau of Land Management, U.S. Department of Interior, Fish and Wildlife Service, and U.S. Department of Interior, National Park Service.

2011 PROTESTANTS:

Baker GID, Baker Ranches, Inc., Craig F. Baker, Dean Baker, Thomas D. Baker, Govert Bassett, Louis Benezet, Walter Richard Benoit, Robert and Sandra Benson, Border Inn LLC, D. Dane Bradfield, Jeffrey C. Carlton, Central Nevada Regional Water Authority, Max and Diane Chipman, Citizens Education Project, Jim Cole, Kathleen M. Cole, Louis Cole, Confederated Tribes of the Goshute Reservation, Peter Coroon, Corporation of the Presiding Bishop of the Church Jesus Christ of Latter-day Saints, County of Inyo, California, Defenders of Wildlife, Pete T. Delmue, Duckwater Shoshone Tribe, Elko Band Council, Ely Shoshone Tribe, Eskdale Center, George Eldridge and Son, Inc., Shelby Farnsworth, Mary J. Feldman, Patrick Fillman, Jo Anne Garrett, John Gianoli, Juli Gianoli, Kena Gloeckner, Patrick J. Gloeckner, Great Basin Business and Tourism Council, Great Basin Water Network, John Hadder, Shawn Hamilton, Alyson Hammond, Norris B. Hendrix, Drew A. Herbst, Kathy C. Hiatt, Kodee Hiatt O'Connor, Ronda Hornbeck, Jesse J. Howard, Abigail C. Johnson, Linda G. Johnson, Juab County, Utah, Las Vegas Fly Fishing Club, League of Women Voters of Utah, Leland Rex Leonard, Rowena R. Leonard, Brandi Lewis, Brad Lloyd, Jason Lloyd, Mick Lloyd, Long Now Foundation, Lund Irrigation and Water Company, Donna Lytle, Farrel W. Lytle, Kenneth Lytle, Manetta B. Lytle, Terrence Marasco, Thelma Matlin, Orvan Maynard, Roderick McKenzie, Millard County, Utah, Rob Mrowka, Nellis Air Force Base, Nevada Department of Wildlife, Gary and Jo Ann Perea, Cecelia D. Phillips, Preston Irrigation Company, Launce Rake, Melissa Renfro, Mark E. Rogers, Susan Rogers, Tyler Seal, Richard and Lesley Sears, Douglas G. Smith, Delaine Spilsbury, Richard A. Spilsbury, Terry and Debra Steadman, L. Ryan Stever, Lorena A. Stever, Richard Stever, David Tilford, Edith Tilford, Toiyabe Chapter of the Sierra Club, United States Forest Service, Utah Audubon Council, Henry C. Vogler, David H. Von Seggern, Mark Wadsworth, Christopher C. Wheeler, Darwin C. Wheeler, White Pine County and City of Ely, and Holly M. Wilson.

PROTESTANTS WHO JOINED GREAT BASIN WATER NETWORK'S 2011 PROTEST:

2nd Big Springs Irrigation Company, Alder Ranches, Bill Adler, Meshell Adler, Deana Adler, Diane Adler, Renee Adler, Ed Adler, Annette Alexander, Wendy Anderson, Mark Andreasen, Baker Ranches, Inc., Dean Baker, Sylvia Baker, G.L. Bassett, Marlene Bates, Jerald Bates, John Bates, Tom Bath, Cynthia Lee Bell, Edward John Bell III, Louis Benezet, Nancy Bilbao, Marjorie Blackett, Marlow Blackett, Bruce Bledsoe, D. Dane Bradfield, Ann Brauer, Jim Brauer, Marie A. Brean, Dariana Burbano, Ella Carling, Louise M. Carlson, Charles Carson, Keith Carson, Paula Carson, Doug Carson, Center for Biological Diversity, Frank Cheeney, Angela Childs, Glen Childs, Diane Chipman, Max Chipman, George Christanson, Linda Christanson, Citizens Education Project, F. Martin Clayton, Coalition of National Park Service Retirees, Robert Coetze, Marjorie Coffman, William R. Coffman, John S. Cole, Gary Austin Cole, Lardon Cole, Chris Daily, James Deacon, Pete T. Delmue, Blake Delucia, Rom DiCianno, Veronica Douglass, Don Duff, Gerald Dunbar, Norton Egge, Erma Egg, Bruce Eldridge, Gary Q. Elmer, Vernon Fairchild Jr., Shelby K. Farnsworth, Mary Feldman, Ilene C. Ferris, Genevieve Fields, Pat Fillman, James Fisher, Albert M. Free, Shari Frilot, Robert Furtek, Brent Gardner, Garland Family Trust, Annette Garland, Cecil Garland, Nate Garrett, Carolyn Garrett, Susan Geary, Don Geary, Patricia Gladman, Kena Gloeckner, Patrick J. Gloeckner, Great Basin Business & Tourism Council, Great Basin Chapter of Trout Unlimited, Sally Gust, John Hadder, Shawn

Hamilton, Bryan Hamilton, Anita Hansen, Lisa Hardy, Tonia Harvey, Varlin S. Higbee, Kathy Hill, Ken Hill, Lill Hillhouse, Amanda Hilton, Erik Holland, Corenzo Hooper, Milton Hooper, Jeanine Hooper, Rhonda Hornbeck, Margaret Horner, Jesse J. Howard, James Hubbard, James W. Hulse, Carol J. Hunt, Indian Springs Civic Association, M. Jenkins, Glenn A. Jewett, Brent Johnson, Linda Johnson, Donna K. Jones, Susan Juetten, Georgia Keeran, Bill Keeran, Steve Klukkert, Norman Kolstad, Ryan Latimer, Jeri Lee, Nancyann Leeder, Rowena Leonard, Anthony Lesperance, Claire Lewis, Elaine Lewis, Wes Lewis, April Lewis, Earl Lewis, Montie and Norman Liebsack, Mick Lloyd, Lynne Lloyd, Lund Irrigation and Water Company, Susan Lynn, Cory Lytle, Toni Lytle, Farrel and Manetta Lytle, Donna Lytle, Ken Lytle, Ginger Magner, Darla G. Mandas, James Mandas, Terry Marasco, Carl Marsh, Jay Mashborn, Thelma Matlin, Maynard Well Drilling, Orvan Maynard, Ryon McDermott, Carol J. McKenzie, Rod McKenzie, Skyler McRaney, Joe Messovia, Lorie Messovia, Rebecca Mills, Larry Moon, Brian Morrison, Rob Mrowka, Chrissandra Murphy, Patrick J. Murray, Leontine Nappe, Native Community Action Council, New Age Gardeners, Betty Nichols, Robert Nichols, Robert and Joyce Nickerson, Mitzi Nyborg, Gene Ockert, Michael Okelberry, Gary Olsen, Georgia Oppenheim, Sherrill Pattee, Margaret Pense, Gary and JoAnn Perea, Charlene Pete, Clell Pete, Mary Lillie Pete, Tommy Pete, Mary Peterson, Cecelia D. Phillips, Pioche Public Utilities, Grace Potorti-Thornton, Nita Purdy, Rafter Lazy C Ranch, Launce Rake, Laura Rankin, Roya Rastegar, Merle Rawlings, John Reil, Molly Reil, Melissa Renfro, Deanna Rigney, Ben Roberts, Mark E. Rogers, Round River Conservation Studies, Ed Rothfuss, LaVon Rowleg, Tom Sanders, Ellen Sargent, Bounthay Saysavanh, Rob Scanland, Kristin Schaffer, David Sharp, Nomi Sheppard, Angela Skoubye, Nathan Skoubye, Shannon Spendlove, Delaine Spilsbury, Richard A. Spilsbury, Carl Spotleson, Dellice Steadman, Debra Steadman, Terry P. Steadman, Betty Steadman, Melvin Steele, Larry Stever, L. Ryan Stever, Ross Stirling, Strawberry Creek Ranch, Tino Tadena, Valeria Taylor, Beverly Terhune, Jennifer Thompson, Raymond Timm, Vicki Toy-Smith, Unitarian Universalist Green Sanctuary Committee, Unitarian Universalist Social Justice Council, Randy Upton, Utah Audubon Council, John Wadsworth, Dora Walker, John Walker, Sandra Walker, Christopher Wheeler, Darwin Wheeler, John Whipple, Sharon Wilcox, Lee Williamson, Glee Willis, Willow Springs Ranch, William R. and Holly Wilson, Mary E. Winston, Stephen Winter, Mark Wray, and Glennon Zelch.

1990 PROTEST GROUNDS:

1. The applications should be denied because they fail to adequately describe the proposed works, the cost of such works, estimated time required to construct the works and place the water to beneficial use and the approximate number of persons to be served.
2. The water is not available for appropriation and the quantity requested for appropriation will exceed the safe yield of the area. Mining of ground water is not acceptable and appropriation of this magnitude will lower the water table and degrade the quality of water from existing wells, cause negative hydraulic gradient influences and other negative impacts and adversely affect existing rights and the public interest.
3. The proposed diversions are from the carbonate-rock province of Nevada that is typified by complex, interbasin, regional-flow systems that include both basin-fill and carbonate-rock aquifers along with interbasin flows that are poorly defined, and the diversions will reduce the interbasin flows, and modify the direction of ground-water movement in adjoining and hydraulically connected basins thereby reducing spring and stream flows. Different flow

systems underlie the state of Nevada and these flow systems link the ground water beneath many of the hydrologic basins over distances greater than 200 miles. While water taken from a basin may be within the perennial yield of that basin, areas as far away as 200 miles may experience drawdown thereby experiencing negative impacts.

4. The perennial yield is no greater than the total rate of flow through the aquifer, and is probably less, and to intercept and prevent the underground flow of more than 11,000 acre-feet from Cave Valley to the White River Valley will impact the water sources of the White River Valley.
5. The proposed diversions are from the carbonate-rock province of Nevada that is typified by complex, interbasin, regional-flow systems that include both basin-fill and carbonate-rock aquifers along with interbasin flows that are poorly defined, and the diversions will reduce the interbasin flows and modify the direction of ground-water movement in adjoining and hydraulically connected basins thereby reducing spring and stream flows, including those in the Delamar Valley, White River Valley and the southern end of Cave Valley where there are spring, marsh and riparian habitats, which are important to threatened and endangered species. Water from Dry Lake Valley contributes to ground water in Delamar Valley, which is one of the hydrographic basins that contributes ground water to Pahranaagat Valley, in which there are candidate, threatened or endangered species, and water from Pahranaagat in turn contributes water to the Muddy River where there other species of concern.
6. Granting the applications in the quantity requested will impair, conflict and interfere with existing water rights, sources and uses.
7. The granting of the applications would conflict with or tend to impair existing water rights because, if granted, the amount of water appropriated would exceed the safe yield thereby unreasonably lowering the water table.
8. It is unclear whether the amount contemplated in the applications is necessary and reasonably required for the proposed purposes.
9. The Applicant has not shown a need for the water or that the project is feasible.
10. The applications should be denied because they fail to adequately include the statutorily required information, including:
 - a. description of proposed works;
 - b. estimated cost of such works;
 - c. estimated time required to construct works;
 - d. estimated time required to complete the application of water to beneficial use; and
 - e. approximate number of persons to be served and approximate future requirement.
11. The applications should be denied because the Applicant has failed to provide relevant information as required by NRS § 533.363. The failure to provide such information denies protestants due process of law under NRS Chapter 533, because such information may provide protestants with further meaningful grounds of protest. Protestant may be forever barred from submitting these grounds after the protest period has run. Failure to provide such information denies Protestants with meaningful opportunity to submit protests to the applications.
12. The approval of the applications will sanction and enhance the willful waste of water allowed, if not encouraged, by the Las Vegas Valley Water District, contrary to the public policy in the State of Nevada.
13. The Applicant has not obtained or demonstrated that it can obtain right-of-way for water development on public lands and the transportation of water from the proposed points of

diversion to the service area and cannot show that the water ever will be placed to beneficial use.

14. The Applicant lacks the financial capability for developing the project.
15. The applications should be denied because the population projections upon which the water demand projections are based are unrealistic and ignore numerous constraints to growth including traffic congestion, increased costs of infrastructure and services, degraded air quality, etc.
16. The Applicant lacks sufficient comprehensive planning.
17. Further study is needed because the potential effects are impossible to anticipate and we do not want to render Spring Valley into another Owens Valley.
18. The applications should be denied because they individually and cumulatively with other applications will exceed the safe yield of the basins thereby adversely affecting phreatophytes and creating air contamination and air pollution in violation of state and federal statutes, including but not limited to the Clean Air Act and Chapter 445 of the Nevada Revised Statutes.
19. The application cannot be granted because the applicant has failed to provide information to enable the State Engineer to guard the public interest properly. The public interest cannot be adequately protected without an independent, formal, and publicly-reviewable assessment of:
 - a. cumulative environmental and socioeconomic impacts;
 - b. mitigation measures that will reduce such impacts; and
 - c. alternatives to the proposed extractions, including, but not limited to, the alternatives of no extraction and mandatory and effective conservation in the Las Vegas Valley Water District Service Area.
20. The available scientific literature is not adequate to reasonably assure that the proposed diversions will not impact senior rights and water resources.
21. The water will not be put to a good use and it will not serve or benefit the public interest. The Las Vegas Valley population is big enough. Further growth is not in the best interest of the Las Vegas community; neither will it benefit Nevada and the Nation. Rather than give the Las Vegas Valley more water, the State should encourage growth control, water economy, a sustainable lifestyle, and the building up of other communities.
22. The applications should be denied because the Applicant has failed to provide information necessary for the State Engineer to protect the public interest, such information including, the cumulative impacts of the proposed extractions, mitigation measures that will reduce the impacts of the proposed extractions and alternatives to the proposed extractions.
23. The applications should be denied because the per capita water consumption rate for the Las Vegas area is double that of similarly situated southwestern cities. This suggests enormous potential for more cost-effective supply alternatives, including demand management and effluent re-use. These alternatives have not been seriously considered by the Las Vegas Valley Water District.
24. Clark County must grow within the limits of their natural resources or the environmental and socioeconomic balance of the state of Nevada will be destroyed.
25. The use of water as proposed will interfere with the purpose for which federal lands are managed under the Federal Land Use Policy and Management Act of 1976.
26. The water is now being used and further pumping in large amounts would deplete the underground water and dry up springs thereby adversely affecting wildlife, livestock and

game animals, birds, fish and Homo sapiens forever. It is about time for Clark County to solve their problems and not steal the good things rural Nevada offers.

27. The applications will encourage and enable the uncontrolled population growth in the Las Vegas Valley, which will exacerbate existing problems of air quality, traffic and crime.
28. The applications will cause water rates to go up thereby causing demand to go down thereby rendering the water unnecessary.
29. The applications shouldn't be approved for the sole purpose of ensuring that there is sufficient water for already approved subdivision maps.
30. The applications should be denied because they lie within the land covered by the Treaty of Ruby Valley of 1863 and land claims under this treaty are currently in litigation and would conflict with the reserved rights of the Western Shoshone Tribe.
31. A project of such unprecedented magnitude is likely to cost far more than the Applicant has anticipated; a partially completed project - a white elephant - will burden local rate payers, bond holders, and eventually the State with higher costs, while neither meeting the water demands of the metropolitan Las Vegas area nor mitigating adverse ecological, economic and cultural effects of the project on rural Nevadans.
32. California's experiences suggest that large-scale water projects injure the state's reputation, promote factious politics and allegations of corruption, waste horrendous quantities of water through leakage and evapotranspiration, and foster dangerous illusions that water supplies are limitless and are either free for the wasting or are allocated solely for the advantage of the rich and powerful.
33. A lack of water will restrict growth in the Pioche area.
34. The D-X Ranch plans to re-open previously existing commercial businesses and the applications would affect the owner's lifestyle.
35. The applications will discourage lower cost, more efficient alternatives to obtaining water and pass the development costs on to the consumer.
36. The applications should be denied because removal of the water will adversely impact economic activity such as agriculture, power generation and transmission, mineral extraction, manufacturing, tourism, and concentration of population.
37. Mining of the water resources will negate recreational and fish habitat benefits provided through voluntary contributions.
38. Rural water sources have value in their natural state for recreation and scenic vistas.
39. The applications were some of the 146 applications to appropriate water filed by the Las Vegas Valley Water District, which combined seek approximately 800,000 acre-feet annually of underground and surface water, and diversion of such a quantity of water would deprive the area of origin of water needed to protect and enhance its environment and economic well being, and would unnecessarily destroy environmental, ecological, scenic and recreational values the State holds in trust for its citizens. Additionally, the diversion and exportation of this water will lower the static water level adversely affecting water quality, existing wells, cause negative hydraulic gradient influences, negative impacts, threaten springs, seeps and phreatophytes, which provide water and habitat critical to the survival of wildlife and grazing livestock, and will adversely affect existing rights and the public interest.
40. In as much as an interbasin transfer project of this magnitude has never been considered, it is impossible to anticipate all possible adverse effects without further information and study. This project cannot be properly evaluated without an independent, formal and public reviewable assessment.

41. The granting of the applications is not in the public interest, as it would allow the Applicant to "lock-up" vital water resources for possible use in the distant future beyond current planning horizons.
42. The applications should be denied because population projection numbers are unrealistic, current and developing trends in housing, landscaping, plumbing fixture standards and demographic patterns all suggest that the simplistic water demand forecasts upon which the proposed transfers are based substantially overstate future water demands.
43. The applications should be denied because conservation programs in the water district are ineffective and the granting of these applications will increase the waste of water in Las Vegas; the applicant has failed to make a good-faith effort to efficiently use currently available supplies.
44. These appropriations, even if limited to annual recharge, will inevitably damage plant and animal life on the surface. Precious wild and cultivated areas will be destroyed, wildlife will be disturbed or killed off and the lives of human residents and visitors damaged. In this sense, the water is not available for appropriation.
45. Spring Valley is home to the Swamp Cedar and Spring Valley Pupfish, which are rare and unique species. The survival of both depends on water quality and water levels that currently exist and they cannot tolerate less.
46. The appropriation of the quantity requested will have negative impacts to the streams and pools within the Great Basin National Park; thus, having a negative effect on migratory birds and the plant and animal species. Great Basin National Park is the state's only national park and to divert and export water from it without a water resource plan would be sinful. The environmental impact and economic well-being of the basin of origin need to be addressed.
47. The use of water as proposed under the applications would threaten to prove detrimental to the public interest because they would likely jeopardize the continuance of threatened and endangered species. The use of the water as proposed under the applications will impair wetlands and water in the area that support migratory birds, native fish and other wildlife in conflict with Federal laws that seek to protect wetlands, migratory birds and wildlife for the benefit of all.
48. The granting of the applications will lower the water table, sanction water mining, degrade water quality, cause negative hydraulic gradient influences, threaten springs and seeps and phreatophytes which provide water and habitat critical to the survival of wildlife including, endangered species and grazing livestock.
49. The applications will negatively impact Nevada's environment. The applications should be denied since it is the public policy of the State of Nevada, per Governor Bob Miller's January 25, 1990, State of the State Address to protect Nevada's environment, even at the expense of growth.
50. Granting the applications in the quantity requested, that is for all the unappropriated water in the basin, will adversely affect agricultural operations in that it will affect the economic welfare of all farms and ranches, it will destroy the environmental balance thereby destroying grazing lands, wetlands and farm lands, and it will halt all potential agricultural growth.
51. In modern periods of drought there is insufficient water that currently creates hardships on cattlemen in that grazing areas do not have sufficient feed, surface waters are insufficient for irrigation and stock watering, water tables are lowered making it more difficult and expensive to pump water, which all affects the economic welfare. If drought creates this many hardships, continual removal of the perennial yield will destroy ranching.

52. The State Engineer must consider all of the future environmental and socioeconomic ramifications of the trans-basin transfer of ground water in order to protect the state of Nevada by not allowing these transfers.
53. The State Engineer has a responsibility to all of the people of Nevada and must consider all adverse effects, which the granting of these applications will have on all areas in the state of Nevada. The appropriation of this magnitude of water will deprive the area of origin of water needed for its environmental and economic well being, especially as it applies to the agricultural uses for this area.
54. Carter-Griffin, Inc. has approximately 4,000 acres of native grass meadows in the White River Valley that are sub-irrigated and the pumping of this water will significantly lower the water table causing those meadows to dry up.
55. Granting the applications would be inconsistent with the federally owned water rights as to lands affected by Applications 54003-54005 and the proposed points of diversion are located near a wilderness study area that is managed by the BLM for study and potential designation as a National Wilderness Area.
56. Granting the applications will be detrimental to the public interest because it will eliminate the capability of the federal agencies to fulfill federal land management activities imposed by legislative action.
57. Use of water under the applications would conflict with or tend to impair existing rights of Preston Irrigation Company, the United States Fish and Wildlife Service in Ash Meadows National Wildlife Refuge, Desert National Wildlife Refuge, Moapa National Wildlife Refuge and Pahrangat National Wildlife Refuge, and rights of the National Park Service appurtenant to the Death Valley National Monument, Devil's Hole, and Lake Mead National Recreational Area. Additionally, use of water under the applications will impair existing rights from such sources as Panaca Big Springs, Crystal Springs, the Muddy River and ground water under the Moapa Indian Reservation, under three tracts of land of the Ely Shoshone Colony and the rights of the Ely Shoshone Tribe.
58. Further study is needed because the potential effects are impossible to anticipate. The available scientific literature is not adequate to reasonably assure that the proposed diversions will not impact senior rights and water resources.

2011 PROTEST GROUNDS:

1. The full extent of the water exportation scheme contemplated by the Applicant is unknown at this time and it is uncertain how many additional groundwater and/or surface water appropriations or change applications the Applicant will file to supplement the amount of water sought. Before acting on the individual applications, the applicant should be required to provide a detailed abstract of the total duty of water sought for exportation including details as to the supplemental natural of the individual groundwater and surface water applications.
2. The applicant's answer to "Question 12" does not provide sufficient details for the proposed project or proposed water usage, to allow the public, interested parties, protestants, and the State Engineer to make a proper evaluation of the potential impacts of approving the application. Based on the scope and magnitude of the water exportation scheme proposed by the applications, the applicant should be required to conduct the Hydrologic and

Environmental Studies specified by NRS 533.368, before the State Engineer makes a final determination on the applications.

3. The State Engineer previously has found that there is too much uncertainty, too little sound data, and too great a risk of unsustainable overappropriation in the interbasin flow systems of which these basins are a part, for further appropriations to be permitted until substantial additional data were gathered and evaluated. Until this is done, it would be premature to permit any additional appropriation from the carbonate rock province, including the basins targeted by the subject applications.
4. The State Engineer has not published a sensitivity analysis for groundwater recharge based on variable amounts of precipitation. The applicant, Southern Nevada Water Authority, justifies its requests on the lowering of Lake Mead, particularly during the last decade of drought conditions. The State Engineer must likewise show that groundwater supplies, whose recharge is based on the same drought, would be adequate through all climatic periods.
5. Much of the recharge in the regional flow system and in the basins targeted by these applications originates in the mountainous areas of higher altitudes and lower temperatures. Climate change will adversely affect the temperatures and precipitation in these areas decreasing the amount of groundwater recharge. The State Engineer should first exercise caution and initiate additional study and monitoring to assess the effects of climate change on the perennial yield of these flow systems and basins.
6. There is insufficient water available at the proposed source of supply. The appropriation of this water, when added to the already approved appropriations in the basins of origin and hydrologically connected basins within the same flow systems, will exceed the perennial yield and/or safe yield of those basins and reduce the natural discharge of the flow system. The State Engineer already has designated one or more hydrologically connected basins within the same flow systems effectively acknowledging that those basins and potentially the entire flow system are fully appropriated, if not over-appropriated.
7. Much of the recharge in the regional flow system and in the basins targeted by these applications originates in the mountainous areas of higher altitudes and lower temperatures. Climate change will adversely affect the temperatures and precipitation in these areas decreasing the amount of groundwater recharge. The State Engineer should first exercise caution and initiate additional study and monitoring to assess the effects of climate change on the perennial yield of these flow systems and basins.
8. The applications and proposed use would conflict with existing water rights and protectable interests in domestic, ranch production, and municipal wells in the targeted basins and in hydrologically connected basins within the same interbasin flow systems, because the proposed appropriation and use will result in declining groundwater levels and unreasonable degradation of the level and quality of water in existing wells.
9. The applications and proposed use would conflict with the spring rights of the Gloeckners and Lytles to Fairview and Simpson Springs on their allotments in Dry Lake Valley used as winter range and would destroy their entire cattle operation by eliminating their ability to sustain cattle that use fall, spring, and summer allotments.
10. In the case of Cave, Dry Lake, and Delamar Valley applications, the basins within which the applications propose to appropriate and export water is the source of water for hydrologically connected downgradient basins where it already has been appropriated by senior water rights holders.

11. In the case of Spring Valley applications, the appropriations will harm existing permitted uses in the hydrologically connected areas including but not limited to Snake Valley and Great Basin National Park.
12. The use of water as proposed under the applications will interfere with water rights held by the Fish and Wildlife Service ("FWS"), National Park Service ("NPS") and Bureau of Land Management ("BLM") specifically to protect these waters and water-related resources. Such interference will compromise the agencies' abilities to carry out their missions, continue to protect sensitive ecosystems, and comply with federal environmental laws.
13. The point of diversion for application 54014 is 6 miles slightly upgradient from Deep Spring (aka Davis Spring). Large-volume pumping from the valley-fill aquifers will adversely impact the flow from Davis Spring to which George Eldridge and Son has certificated irrigation rights and also would not be in the public interest.
14. The applications in proximity to Cleveland and Rogers Ranches and the BLM allotments that support them will have a detrimental effect on water availability for the Cleveland and Rogers Ranches and the BLM allotments and within the water basin.
15. Granting the applications will interfere with interbasin flow from Spring Valley to Snake Valley and thereby deplete and diminish the water resources, specifically groundwater, which is available to Juab and Millard Counties and their businesses and residents.
16. The applications and proposed use would be detrimental to the public interest on environmental grounds and would be environmentally unsound as they relate to the basins from which the export is proposed. The applications and proposed use would result in severely lowered groundwater levels in the basins from which the appropriation and export is proposed and in hydrologically connected basins in the same interbasin flow systems. The declining groundwater levels will result in drying out springs, seeps, wetlands, wet meadows, and moist playas, and in killing off vegetation that is groundwater-dependent in the subject basins and hydrologically connected downgradient basins, including both the Nevada and Utah portions of Snake Valley. Harms include harm to wildlife, including harm to endangered, threatened and otherwise protected species and migratory birds, harm to wildlife habitat, including wetlands and riparian areas, loss of public lands grazing and forage, degradation of air quality, including increased dust emissions and mobilized radioactive material, destruction of environmental, ecological, recreational, scenic, visual, and aesthetic values, degradation of water quality, and degradation of cultural resources. The list of species likely to be harmfully impacted by the applications and proposed use includes fish, amphibians, other aquatic species, groundwater-dependent mammals and other terrestrial species, bird species that depend on springs, wetlands, wet meadows, and vegetation supported by groundwater, and a variety of insects, including rare butterfly species.
17. The applications and proposed use likely would harm numerous habitat areas, including but not limited to: Pahrangat National Wildlife Refuge, Desert National Wildlife Refuge Complex, Great Basin National Park, Shoshone Ponds Natural Area, Shoshone Ponds Area of Critical Environmental Concern, Kirch Wildlife Management Area, Key Pittman Wildlife Management Area, Moapa Valley National Wildlife Refuge, Overton Wildlife Management Area, Ash Meadows National Wildlife Refuge, Ash Meadows Area of Critical Environmental Concern, Amargosa Valley Pupfish Station, Lake Mead National Recreation Area, Humboldt National Forest, and Death Valley National Park. Cave, Dry Lake, and Delamar Valleys are a part of the White River Flow System that flows generally toward the south and terminates at Muddy Rivers Springs and the Virgin River – tributary to the

Colorado River. Groundwater discharges in large springs in the Pahrnagat Valley and Muddy River Springs Area. Granting rights in Cave, Dry Lake, and Delamar Valleys will reduce flows in these areas.

18. The applications and proposed use could defeat the purposes of the refuges and interfere with FWS's responsibilities under the Migratory Bird Treaty Act ("MBTA"), Endangered Species Act ("ESA"), National Wildlife Refuge System Administration Act and other laws. The applications and proposed use also could interfere with the National Park Service's responsibilities under the National Park Service Organic Act, ESA and other federal laws. The use of water under the applications will interfere with the BLM's capability to provide water for the multiple uses under the Federal Land Policy and Management Act including, but not limited to recreation, range, wildlife, minerals, watershed and fish and also will interfere with the BLM's responsibilities to protect wetlands and to conserve listed threatened or endangered species.
19. The pervasive desiccation that will result from the proposed export of groundwater will make previously moist and/or vegetated areas dramatically more susceptible to greatly increased mobilization of sediment, or dust. Increased dust storms, and the alkaline nature of the sediment likely will have catastrophic impacts on human and animal health in those basins and in additional downwind communities, including Juab and Millard Counties and northward into other Utah counties. These public health impacts will result in increased health care costs, reduced productivity and have significant economic consequences. In addition to causing severe respiratory problems, the particulate matter that will be mobilized in dust storms in these areas is likely to contain radioactive fallout that heretofore has been held in place by the groundwater-fed moisture in the soil and vegetation. These dust storms also will dramatically degrade the aesthetic and recreational value of the basins in which they occur and additional downwind areas.
20. Dust storms impair visibility, creating traffic hazards and restricting airport operations. The disruption of transportation will have an economic impact in Salt Lake County. In addition, visibility impairment caused by light scattering from particulates (PM 2.5) in the atmosphere, including windblown dust creates a condition known as regional haze. The public interest ramifications for the one million residents of Salt Lake County cannot be overstated.
21. A recent study has found that particulates settling on mountain tops creates a dark layer that absorbs sunlight causing snow to melt earlier. Researchers at the University of Utah have determined that dust storms in 2006 which originated hundreds of miles away coated the snowpack with a brown layer of dust. The dust heated the surface and caused the snow to melt as much as a month early. The environmental and economic consequences of early melting are enormous affecting everything from water supplies to recreational activities. A shortened ski season in the Wasatch mountain range would have a severe economic impact in Salt Lake County. These impacts are detrimental to the public interest.
22. Wind blown dust conditions will aggravate the already challenged air quality in the Salt Lake Valley causing a reasonably foreseeable direct and immediate public health threat to the residents of Salt Lake County. I The Environmental Protection Agency ("EPA") has included Tooele County and Salt Lake County in a single non-attainment area under the Clean Air Act. Tooele County is recognized by the Bureau of Land Management's Nevada State Office as being located in one of the defined hydrologic basins designated in the draft project environmental impact statement. For these reasons, regional air quality impacts affecting Salt Lake County must be considered.

23. In addition to wind blown dust, a reduction in vegetative cover will contribute to climate change. Growing vegetation absorbs carbon dioxide (CO₂) and is a natural reservoir for the accumulation and storage of greenhouse gas. The loss of these biological carbon sinks (e.g. vegetation) due to groundwater pumping will increase the atmospheric amounts of CO₂ causing a net warming effect of the atmosphere, by decreasing the amount of heat energy radiated by the earth back into space. An increase in atmospheric temperatures will, among other things, extend the wild fire season. Wild fires will, in turn, release the absorbed CO₂ back into the atmosphere. Air quality will be further aggravated by soot and fine PM_{2.5} particulates generated by combustion. Furthermore, the accumulation of dead and dying vegetation caused by the loss of groundwater will increase the availability of fuel making fires more frequent and severe. Climate change impacts are regional and must be evaluated when assessing whether the proposed action is environmentally sound. These impacts are the direct result of decreased groundwater and are detrimental to the public interest.
24. Impacts to vegetation, wildlife, ecosystems, and air quality will profoundly degrade the aesthetic values and appeal of all these basins and additional downwind areas. Similarly, the loss of water, wildlife, clean air, and good visibility will destroy the recreational uses and value of these basins and additional downwind areas.
25. A lowering of the static water table in both the basin fill and carbonate rock aquifers within the affected basins would allow brackish groundwater and other pollutants to infiltrate those aquifers. The consequence of this infiltration of poor quality groundwater and other pollutants would be significant degradation of groundwater quality in the basins expressly targeted by these applications and downgradient hydrologically connected basins within the same interbasin flow system. This degradation of groundwater quality would prevent humans, livestock, and wildlife from relying on the groundwater from these aquifers, as they have throughout history.
26. The appropriation and proposed use would violate NRS § 533.367, which provides that an applicant must ensure that wildlife which customarily uses surface water from seeps or springs will have continued access to that water.
27. Pumping of this nature within the proximity of wetlands, springs, and streams is not environmentally sound, is not in the public interest, and will adversely affect existing rights.
28. All pumped water is expected to leave the basin, and there will be no return flows.
29. The appropriation and export of water would cause harmful impacts to Native American ritual worship and sacred sites, prehistoric Native American village or dwelling sites, Native American graves or burial sites, and scenes of historic massacres of Tribal ancestry. The appropriation and export project will also adversely impact Native American cultural resources including spring ecosystems and various plant and animal species that affected tribes hold sacred and hold religious importance.
30. The Cave Valley “Entrance to another world” is extremely sacred to the U.S. Great Basin Shoshone. For generations, it was worshipped, idolized, and respected. This Sacred Historic Site and its inhabitants will be completely devastated by pipeline construction and water withdrawal.
31. The appropriation and proposed use would violate federal and state laws that protect cultural, religious, and historic resources, including but not limited to: The National Historic Preservation Act, American Indian Religious Freedom Act of 1978, Religious Freedom

Restoration Act, Native American Graves Protection and Repatriation Act of 1990, Executive Order 13007, and the Treaty of 1863 in Ruby Valley..

32. The appropriation and proposed use would violate the federal government's trust responsibility to affected Indian tribes. The federal government's trust responsibility standard is to be thorough and vigilantly followed in protecting tribal resources, including water resources and reserved water rights.
33. The appropriation and proposed use would unduly injure Indian tribes' sovereignty and ability to regulate their territory. Tribal regulation of water is an essential component of a Tribe's ability to regulate its territory and provide services to tribal members.
34. The applications and proposed use would be detrimental to the public interest on economic grounds and would unduly limit future growth and development in the basins from which the export is proposed and in hydrologically connected basins. Existing economic activities that would be undermined include livestock and other ranching uses, domestic uses, mining and prospecting uses, the restaurant industry, and recreational uses including self-guided and outfitter-led hiking, camping, fishing, hunting, birding, and the like. Future energy development would also be limited.
35. The granting or approval of the applications would be detrimental to the welfare of the general public because water rights in adjoining Utah communities would be affected. Water tables would be lowered affecting these communities' access to their own water supply, and contamination of deeper aquifers with upper level groundwater could result. Approval of the applications would also infringe on the rights, health, and economic well being of the citizens of the State of Utah without formal agreement or approval according to accepted legal procedures.
36. The applications in Spring Valley would threaten existing groundwater levels in Snake Valley. A lowering of current groundwater levels in Snake Valley would have a severe economic impact on the community of Eskdale, Utah.
37. Juab and Millard Counties' existing economic activities, including livestock, ranching uses, agriculture, domestic uses, mining and prospecting uses, tourism, and recreational uses would also be affected. Future economic growth and development that would be unduly limited include expansion of these activities as well as potential future energy development. Juab and Millard Counties' tax bases will also be harmed.
38. The applications and proposed use will cause interference with the flow from Spring Valley to Snake Valley and therefore is not in the public interest.
39. The proposed action is not an appropriate long-term use of Nevada's water given the numerous alternatives available to the Applicant, the devastating impacts to rural communities and their economies, and to the environment. The Applicant should actively pursue alternatives such as desalination, conservation, and Colorado River Management alternatives before the State Engineer grants water rights from the subject valleys.
40. The applicant has not justified the need to import water from another basin. The Applicant has other more feasible and cost-effective options such as conservation, desalination, and Colorado River Management alternatives. The Applicant's per capita use exceeds that of similarly situated western cities and its population projections are not credible.
41. The applicant has not implemented a sufficient conservation plan. It should be mandatory for the Applicant and its client water districts to achieve the highest practicable level of water conservation as measured by reference to presently available technologies and methods and

to the highest conservation levels achieved by western cities before being permitted to export water from the rural basins of origin to the Applicant's service area.

42. The applicant has not demonstrated a good faith intent or financial ability and reasonable expectation to actually construct the work and apply the water to the intended beneficial use with reasonable diligence. Estimates for the cost of the project have ranged into the 10's of billions of dollars. The Applicant does not plan to build the pipeline in the near future and may never build it. The Applicant's financial base has dramatically contracted, calling into question its ability to construct such a project. The applicant also has not demonstrated that it has access to the lands on which the points of diversion are located.
43. The applicant has not provided information demonstrating technical feasibility of construction of the works necessary to apply the water to the intended use with reasonable diligence.
44. The applicant has a duplicative application filed in 2010 which may require a duplicative hearing for the same groundwater.
45. If the applications are not denied outright, any permitted use should be conditioned upon and preceded by sufficient comprehensive studies of groundwater resources in the area and interbasin flow from Spring Valley to Snake Valley, and the impacts on those resources by limited incremental ground water pumping and withdrawal to intermittent levels. No additional pumping and export of water should be allowed unless the intermittent staged pumping in Spring Valley proves beyond a reasonable doubt not to interfere with the groundwater flow from Spring Valley to Snake Valley that could damage resources in Juab and Millard Counties.

XXVII.

The Applicant and the United States Fish and Wildlife Service, Bureau of Land Management, Bureau of Indian Affairs, and National Park Service (Federal Bureaus) entered into stipulations for withdrawal of their protests in both the prior Spring Valley Hearing and the Cave, Dry Lake, and Delamar Valleys Hearing on these applications, and thus, those protest grounds are not reflected in this ruling.³² In those stipulations, the Federal Bureaus agreed to withdraw their protests in exchange for the Applicant agreeing to implement a monitoring, management, and mitigation plan in cooperation with the Federal Bureaus in order to protect sensitive resources in the defined area of interest. It is the position of the Federal Bureaus and the Applicant that those stipulated agreements remain in full force and effect.³³ The State Engineer is not a party to any of the stipulated agreements. Lincoln County Board of Commissioners also signed an agreement with the Applicant that would provide Lincoln County with a share of any water granted to the Applicant in Spring, Cave, Dry Lake, and Delamar Valleys, and subsequently dropped their protests to applications.³⁴ The Applicant and the United States Forest Service, a 2011 protestant, entered into a stipulated agreement for the withdrawal of

³² SE_Exh_041; SE_Exh_080. In the Cave, Dry Lake, and Delamar Valleys Hearing, the Applicant also entered into a stipulation for withdrawal of protests with the Moapa Band of Paiute Indians. SE_Exh_079.

³³ Transcript Vol. 1, at 166-67 (Sept. 26, 2011).

³⁴ SNWA_Exh_352.

protests on September 15, 2011.³⁵ Richard W. and Lesley Ann Sears, also 2011 protestants, withdrew their protests to applications 54019, 54020 and 54021 on August 26, 2011.

XXVIII.

After all parties were duly noticed, a public administrative hearing was held before the Office of the State Engineer on September 26, 2011 through October 14, 2011 and October 31, 2011 through November 18, 2011.

XXVIX.

There was a request from some Protestants that the record of the hearings held in September 2006 on Applications 54003 through 54021 (Spring Valley) and in February 2008 on Applications 53987 through 53992 (Cave Valley, Dry Lake Valley and Delamar Valley) be incorporated into this proceeding. The Applicant objected to this request. The State Engineer ordered that he would not incorporate the entire proceedings from the 2006 and 2008 hearings into the hearing on remand. However, the State Engineer ordered that he will take administrative notice of the exhibits from the prior hearings. The transcript from the previous hearings was not incorporated into this proceeding. Amended Third Informational Statement, at 3 (June 6, 2011).

FINDINGS OF FACT

I.

STATUTORY STANDARD TO GRANT

The State Engineer finds that NRS § 533.370(1) provides that the State Engineer shall approve an application submitted in proper form which contemplates the application of water to beneficial use if the applicant provides proof satisfactory of his intention in good faith to construct any work necessary to apply the water to the intended beneficial use with reasonable diligence, and his financial ability and reasonable expectation actually to construct the work and apply the water to the intended beneficial use with reasonable diligence.

II.

STATUTORY STANDARD TO DENY

The State Engineer finds that NRS § 533.370(5) provides that the State Engineer shall reject an application and refuse to issue the permit where there is no unappropriated water in the proposed source of supply, or where the proposed use conflicts with existing rights or with protectable interests in existing domestic wells as set forth in NRS § 533.024, or where the proposed use threatens to prove detrimental to the public interest.

³⁵ SE_Exh_095.

III. STATUTORY STANDARD FOR INTERBASIN TRANSFERS

The State Engineer finds that NRS § 533.370(6) provides that in determining whether an application for an interbasin transfer of ground water must be rejected, the State Engineer shall consider: (1) whether the applicant has justified the need to import the water from another basin; (2) if the State Engineer determines a plan for conservation of water is advisable for the basin into which the water is imported, whether the applicant has demonstrated that such a plan has been adopted and is being effectively carried out; (3) whether the proposed action is environmentally sound as it relates to the basin from which the water is exported; (4) whether the proposed action is an appropriate long-term use which will not unduly limit the future growth and development in the basin from which the water is exported; and (5) any other factor the State Engineer determines to be relevant.

IV. INADEQUACY OF THE APPLICATIONS

The Protestants allege that the applications should be denied because they fail to adequately describe the proposed works, the cost of such works, estimated time required to construct the works and place the water to beneficial use and the approximate number of persons to be served. The application form used by the Office of the State Engineer only requires a brief explanation of the description of the proposed works of diversion and delivery of water. On its applications, the Applicant described that the water was to be diverted via a cased well, pump, pipelines, pumping stations, reservoirs and distribution system. The Applicant estimated the cost of each well and indicated it believed it would be a minimum of 20 years to construct the works of diversion and place the water to beneficial use.

Applicants who request an appropriation for municipal water use are required by NRS § 533.340(3) to provide information approximating the number of persons to be served and future requirement. While the Applicant did not have this information physically on its application, by letter dated March 22, 1990, the Applicant supplemented its applications and indicated the approximate number of persons to be served was 800,000 in addition to the 618,000 persons it was currently serving.

The State Engineer finds for the purposes of the application form, the applications adequately describe the proposed works, the cost of such works, estimated time required to construct the works and place the water to beneficial use and the approximate number of persons to be served.

V. PLACE OF USE

The Applications under consideration in this ruling were filed for municipal and domestic uses in Clark, Lincoln, Nye, and White Pine Counties. Nevada Revised Statute § 533.035 provides that beneficial use is the basis, measure, and limit of the right to use water, and NRS § 533.370 provides that any applicant must demonstrate an intention in good faith to construct works with reasonable diligence to apply the water to a beneficial use. The Applicant requests water for mitigation purposes in White Pine County. No evidence was provided supporting beneficial use in Nye County. The Applicant presented various pieces of evidence in support of its contention that it intends to put water to beneficial use in Clark County. However, the

evidence does not demonstrate that the Applicant will construct the works necessary to put the water to beneficial use with reasonable diligence. *See* Financial Ability and Proof of Good Faith sections, below.

During the 2011 administrative hearing evidence was provided regarding an agreement between the Applicant and Lincoln County for the withdrawal of Lincoln County's protests.³⁶ Pursuant to said agreement, the Applicant agreed that, upon written request by Lincoln County, the Applicant would assign to Lincoln County such portion of any permit issued to the Applicant in Cave Valley, Dry Lake Valley, or Delamar Valley in an amount not to exceed 1,500 afa from either Cave Valley, Dry Lake Valley, or Delamar Valley with a combined total not to exceed 3,000 afa. In accordance with the agreement, the use of the water by Lincoln County was limited to Lincoln County in general or the basin of origin.³⁷ The Applicant submitted a Lincoln County resolution dated June 20, 2011 in which Lincoln County expressed a preference for the use of any water acquired pursuant to the agreement.³⁸ While the resolution clearly indicates an intent by Lincoln County to use any water assigned to Lincoln County within the Coyote Springs-Lincoln County General Improvement District, the resolution provides that the water would be used for the Coyote Springs Development in Coyote Springs Valley. On cross examination, the Applicant's Lincoln County witness conceded that all development has come to a halt on that project and that the original project proponent no longer owns the development.³⁹ Further, Coyote Springs Development was the only anticipated use for the water.⁴⁰

The State Engineer finds these Applications were originally filed by the Las Vegas Valley Water District and are now held by the Southern Nevada Water Authority. The State Engineer finds there is no evidence in the record of a need for or a beneficial use of the water for anywhere other than Clark County, and there is no evidence in the record showing the Applicant has justified a need to import water into Coyote Spring Valley as part of the Coyote Springs-Lincoln County General Improvement District, particularly since the Applicant is not a water purveyor in Coyote Spring Valley or a participant in the Coyote Springs-Lincoln County General Improvement District.

VI. FINANCIAL ABILITY AND REASONABLE EXPECTATION TO PERFECT

Nevada Revised Statute § 533.370(1) provides that the State Engineer shall approve an application submitted in proper form which contemplates the application of water to beneficial use if the applicant provides proof satisfactory of his intention in good faith to construct any work necessary to apply the water to the intended beneficial use with reasonable diligence, and his financial ability and reasonable expectation to actually construct the work and apply the water to the intended beneficial use with reasonable diligence. Protestants allege that the Applicant lacks the financial capability for developing the project and that a project of such unprecedented magnitude is likely to cost far more than the Applicant has anticipated.

³⁶SNWA_Exh_352.

³⁷ *See generally*, testimony of Dylan Frehner, Transcript Vol. 14 (Oct. 13, 2011).

³⁸SNWA_Exh_347.

³⁹ Transcript Vol. 14, at 3168-70 (Oct. 13, 2011) (Frehner Cross).

⁴⁰ *Id.* at 3171-72 (Frehner Staff Questions).

Additionally, that a partially completed project will burden local rate payers, bond holders, and eventually the State with higher costs, while neither meeting the water demands of the metropolitan Las Vegas area nor mitigating adverse ecological, economic, and cultural effects of the project on rural Nevadans.

The Applicant presented testimony about its financial ability to construct the project through its witnesses Mr. Bonow, of Public Financial Management, and Mr. Hobbs, of Hobbs, Ong, and Associates. Mr. Bonow and Mr. Hobbs estimate that the Applicant's proposed pipeline project could cost over \$15 billion to construct and finance.⁴¹ This estimate falls into a concept or feasibility study estimate category, where the current project definition is between 1% and 15% of full project definition.⁴² The Applicant testified that there is substantial uncertainty about many aspects of the proposed project.⁴³ Thus, the actual construction cost could be up to 50% higher than the estimate.⁴⁴ Mr. Bonow testified that there is roughly a one to one relationship between a construction cost increase and the overall cost including financing.⁴⁵ Thus, if the actual construction cost is 50% higher than projected, the cost to construct and finance the project will be 50% higher than projected.

The \$15 billion construction cost projected by Hobbs and Bonow does not include operating costs or the cost of the Applicant's monitoring and mitigation program, which evidence indicates could be substantial. For example, the Los Angeles Department of Water and Power ("LADWP") pays roughly \$5 million to Inyo County on a yearly basis and spends more than that on its Monitoring and Mitigation program.⁴⁶ The State Engineer finds that the Applicant's ability to finance report provides only a portion of the overall cost of the project. Protestants GBWN et al. presented substantial evidence through the testimony of Sharlene Leurig, of Ceres, that the Applicant's ability to finance the construction alone is tenuous.⁴⁷ Financing the project depends on multiple factors, including the ability to maintain a revenue stream sufficient to meet debt obligations. In order to finance construction of the project alone, Hobbs and Bonow project a debt service ratio of about 1 to 1 for over a decade.⁴⁸ As noted by Ms. Leurig, "[t]hat is an extremely slim margin, and it's one that is even slimmer if you consider that that's assuming that demand stays fixed within that time frame based on its current levels."⁴⁹ The State Engineer finds that the debt service ratio projected by the Applicant leaves little room for error.

The State Engineer finds that the Applicant's revenue is directly related to water use or consumption and finds persuasive Ms. Leurig's testimony that the "sensitivity of the Applicant's revenues to actual demand is quite significant, given its price structure."⁵⁰ The State Engineer finds Hobbs and Bonow's assumption that demand for water is inelastic to be unreasonable; it is clear based on Ms. Leurig's testimony that demand will not remain the same if prices increase substantially, to nearly three times the current average water bill. This assumption allows the

⁴¹ SNWA_Exh_383, at 35.

⁴² SNWA_Exh_195, Summary of Cost Estimate, at 2.

⁴³ *Id.*

⁴⁴ *Id.* See also Transcript Vol. 2, at 378 (Sept. 27, 2011) (Holmes Cross).

⁴⁵ Transcript Vol. 13, at 2923-25 (Oct. 12, 2011) (Bonow Cross).

⁴⁶ Transcript Vol. 23, at 5323-24 (Nov. 9, 2011) (Harrington Staff Questions).

⁴⁷ Transcript Vol. 22, at 4891 (Nov. 8, 2011) (Leurig Staff Questions).

⁴⁸ See *id.* at 4857 (Leurig Direct).

⁴⁹ *Id.* at 4858.

⁵⁰ *Id.* at 4850.

Applicant to project an increasing revenue stream as a result of water rate increases. And yet Mr. Bennett, the Applicant's conservation manager, conceded that raising the rates too much could have the unintended consequence of revenue shortfall.⁵¹ The State Engineer finds that given the well known fact that demand for water is not inelastic, actual revenue growth could fall far short of projected revenue growth.⁵² The State Engineer finds that GBWN et al. presented substantial evidence that further increasing rates could have the effect of further decreasing demand, and that creates very significant difficulties in their ability to assure a given revenue stream over time.⁵³ This is consistent with the testimony of Applicant witness Mr. Bennett who noted that water rate increases were not effective conservation tools because they could have the unintended consequence of driving demand so low that revenues would not cover operating costs.⁵⁴ In this case, Mr. Bennett suggested that it would be "very probable that the water rates themselves would have to increase beyond what is proposed in the ability to finance report."⁵⁵

Given that the Applicant's ability to finance report does not take into account the fact that the project construction costs could very well be 50% greater than projected, that monitoring and mitigation costs will be significant, and that demand for water could very well decrease substantially with price increases that will be necessary to finance the project, the State Engineer finds that the Hobbs and Bonow report represents an unrealistic picture of the Applicant's ability to actually finance this project. The State Engineer finds that it is unlikely that the Applicant has the financial ability to actually construct the works necessary to put the water to beneficial use with reasonable diligence.

VII. AVAILABLE WATER PERENNIAL YIELD AND UNAPPROPRIATED WATER

Nevada Revised Statute § 533.370(5) requires the State Engineer to determine whether there is sufficient unappropriated water in the proposed source to support the applications in question and requires the State Engineer to reject an application where there is insufficient unappropriated water in the proposed source. With regard to the applications at issue here, the State Engineer finds that there is insufficient unappropriated water available in the proposed sources to support the applications in question. The proposed sources are: the Spring Valley Hydrographic Basin (No. 184) for Applicant's applications located in Spring Valley; Cave Valley (No. 180) for Applicant's applications in Cave Valley; Dry Lake Valley (No. 181) for Applicant's applications located in Dry Lake Valley; and Delamar Valley (No. 182) for Applicant's applications located in Delamar Valley.

In determining the amount of groundwater available for appropriation in a given hydrographic basin, the State Engineer relies on all available hydrologic studies to provide relevant data to determine the perennial yield for a basin. The perennial yield of a groundwater reservoir may be defined as the maximum amount of groundwater that can be salvaged each year

⁵¹ See Transcript Vol. IV, at 919-21 (Sept. 29, 2011) (Bennett Cross). See also Transcript Vol. 22, at 4847 (Leurig Direct).

⁵² *Id.* (Leurig Direct).

⁵³ *Id.* at 4851.

⁵⁴ See Transcript Vol. IV, at 919-21.

⁵⁵ Transcript Vol. 22, at 4850.

over the long term without depleting the groundwater reservoir. Perennial yield is ultimately limited to the maximum amount of the natural discharge that can be salvaged for beneficial use. Perennial yield cannot be more than the natural recharge to a groundwater basin and in some cases is less.⁵⁶ If the perennial yield is exceeded, groundwater levels will decline and steady state conditions will not be achieved, a situation commonly referred to as groundwater mining. The term groundwater mining typically refers to a prolonged and progressive decrease in the amount of water stored in a groundwater system, as may occur, for example, in heavily pumped aquifers in arid and semiarid regions.⁵⁷ Withdrawals of ground water in excess of the perennial yield contribute to adverse conditions such as water quality degradation, storage depletion, diminishing yield of wells, increased economic pumping lifts, land subsidence and possible reversal of groundwater gradients which could result in significant changes in the recharge-discharge relationship.⁵⁸ In view of the problems that groundwater mining causes, it has long been the policy of the State Engineer to prohibit groundwater mining and deny applications that would result in groundwater mining. *See e.g.*, Ruling Nos.707 (1964); 2453 (1979); 3486 (1988); No. 5750 (2007); and 6151 (2011).

In most Nevada basins, groundwater is discharged primarily through evapotranspiration (ET). In those basins, the perennial yield often has been found to be approximately equal to the estimated groundwater ET; the assumption being that water lost to natural ET can be captured by wells and placed to beneficial use. However, other factors may make the capture of ET discharge within a basin impractical or otherwise problematic, which would result in a lower perennial yield amount than ET discharge amount for the basin. In addition, many of the basins in the Carbonate Aquifer terrain discharge their groundwater mostly via subsurface flow to adjacent basins, that is, there is little or no ET. The amount of subsurface discharge that can be captured in those basins is highly variable and uncertain. Perennial yields for these basins have historically been set at one-half of the subsurface discharge. However, when conditions are such that there is subsurface flow through several basins, there is a potential for double accounting and over appropriating the resource. Therefore, downward adjustments may be required to the perennial yields of basins in these “flow systems” so that over appropriation does not occur.

The Spring Valley Hydrographic Basin has a significant amount of discharge via ET and an uncertain amount of subsurface flow to adjacent basin(s). Substantial evidence was presented by Protestants GBWN et al. demonstrating a reasonable probability that there is as much as 8,800 afa of interbasin flow from Steptoe Valley into Spring Valley and 11,800 afa of interbasin flow out of Spring Valley into Snake and Hamlin valleys.⁵⁹ In addition, protestants presented substantial evidence demonstrating that the Applicants’ existing applications in Spring Valley will not be able to capture a great deal of the groundwater ET in Spring Valley, meaning that Applicant’s proposed groundwater pumping would amount to groundwater mining that would draw a large proportion of groundwater from storage for at least many centuries and likely millennia.⁶⁰ Protestants also presented substantial evidence that whether the present application

⁵⁶ Water Resources Bulletin, Nevada’s Water Resources, Report No. 3, at 13 (1971).

⁵⁷ Alley et al. (1999).

⁵⁸ Water Resources Bulletin, Nevada’s Water Resources, Report No. 3, at 13 (1971).

⁵⁹ Transcript pp. 3788 – 3921, 4073 – 4126, 4213 – 4235, 5392, GBWN_Ehxs._ 001-003, 009, 103-105, 109.

⁶⁰ *See generally* Transcript Vol. 17, Vol. 18 at pp. 4067-4126, Vol. 19 at pp. 4207-4273 (Myers); Vol. 24, pp 5353-5411 (Bredehoeft); Vol. 27 at pp. 5973-6148 (Mayo & Jones), 6149-

locations or other locations in Spring Valley are pumped at even the reduced rate of 30,000 afa, that proposed pumping will cause impermissible impacts to existing water rights and environmental resources throughout Spring Valley and in southern Snake Valley.⁶¹ The State Engineer finds this evidence to be credible.

The depth to groundwater within the principal groundwater aquifer throughout Cave Valley generally exceeds 50 feet below ground surface; thus, groundwater ET within Cave Valley is minimal. Evidence was presented indicating that there may be 1,290 afa or more of groundwater ET from Cave Valley.⁶² However, the State Engineer finds that the groundwater level data suggests that the groundwater ET discharge that does occur most likely results from perched aquifers, and as such, it would be impracticable to capture the groundwater ET discharge with wells drilled into the principal groundwater aquifer may be limited. Substantial evidence was presented which demonstrates that the recharge in Cave Valley is accounted for by interbasin outflow into other basins within the White River Flow System, specifically White River Valley, Pahroc Valley, and Dry Lake Valley.⁶³

Dry Lake Valley and Delamar Valley do not have any significant natural groundwater ET discharge, rather all groundwater discharge occurs as subsurface outflow to adjacent downgradient basins in the White River Flow System.

The Applicant presented its own new estimates of the perennial yields of the four basins within which the applications in question are located. Substantial evidence demonstrated that these estimates lie at the high end of the range of perennial yield estimates for the basins in question. In an effort to support its perennial yield estimates the Applicant presented extensive testimony and documentary evidence reflecting the Applicant's opinion regarding precipitation, recharge, evapotranspiration, geology and interbasin flow within and affecting the basins in question.

Protestants GBWN et al. presented substantial evidence that the Applicant's estimates of precipitation, recharge, and evapotranspiration were inflated and that the data and analysis used by the Applicant to arrive at these estimates was flawed and therefore suspect.⁶⁴ Protestants GBWN et al. further presented substantial evidence that the Applicant's interpretation of the relevant geology was flawed and suspect in a manner that distorted potential intrabasin and interbasin flow patterns in order to support the amounts of water that the applications seek.

While the Applicant's presentation was lengthy, the State Engineer finds that the Applicant's evidence concerning recharge, evapotranspiration, and interbasin flow was not

6216 (Drew & Scott); Vol. 28 at 6222-6225 (Drew & Scott), 6223-6259 (Scott & Drew), 6260 – (Cooper & Sanders); Vol; GBWN_Exhs._001-003, 009, 103-105, 109, 110, 271, 277; CPB_Exhs. 001, 006-012, 018; LONG_Exhs._004, 013-015.

⁶¹ See generally Transcript Vol. 17, Vol. 18 at pp. 4067-4126, Vol. 19 at pp. 4207-4273 (Myers); Vol. 24, pp 5353-5411 (Bredehoeft) ; Vol. 27 at pp. 5973-6148 (Mayo & Jones), 6149-6216 (Drew & Scott); Vol. 28 at 6222-6225 (Drew & Scott), 6223-6259 (Scott & Drew), 6260 – (Cooper & Sanders); GBWN_Exhs._001-003, 009, 103-105, 109, 110, 271, 277; CPB_Exhs. 001, 006-012, 018; LONG_Exhs._004, 013-015.

⁶² SNWA_Exh_258, at 514, Table 5-6.

⁶³ See generally Transcript Vol. 17, Vol. 18 at pp. 4067-4126, Vol. 19 at pp. 4207-4273 (Myers); Vol. 24, pp 5353-5411 (Bredehoeft); GBWN_Exhs._001-003, 009, 103-105, 109, 110, 271, 277.

⁶⁴ See generally Transcript Vol. 17, Vol. 18 at pp. 4067-4126, Vol. 19 at pp. 4207-4273 (Myers); Vol. 24, pp 5353-5411 (Bredehoeft); GBWN_Exhs._001-003, 009, 103-105, 109, 110, 271, 277.

credible because the data gathered and the analysis of that data were distorted so as to exaggerate the amount of recharge and the perennial yield in each of the four basins in question. All of the Applicant's scientific evidence was prepared after the fact in order to support application amounts that were set by the Applicant in the late 1980s. The vast majority of the Applicant's evidence was prepared by employees and long-term contractors of the Applicant, who simply are not disinterested or objective scientists. In addition, at frequent junctures critical subjective judgments were made by these witnesses that uniformly had the effect of producing water where it conformed to the amounts and locations previously selected by the Applicant long ago and preventing water from flowing in directions or to places that would undercut the Applicant's applications. The sheer uniformity of the Applicant's witnesses' testimony to the effect that every component of the water budgets for the target basins works out just so as to support the amounts of water applied for by the Applicant is too implausible to be reasonably accepted.

The testimony of the Applicant's geology witness, Dr. Peter Rowley, is an example of the result-oriented overreaching that plagues the Applicant's entire case. Dr. Rowley testified at length in a very self-complimentary vein about the voluminous geologic work he and his partner had performed in these basins for the Applicant, but it became apparent during the course of his testimony that he did not in fact have any substantial evidence that fundamentally altered the picture of the relevant geology in any of the basins in question. Areas where interbasin flow has previously been considered permissible remain so, and virtually all of his analysis and testimony concerning "likely" flow patterns remains unverified by pump testing. In addition, Dr. Rowley plainly overstated the role of particular faults as essentially complete barriers to groundwater cross flow virtually perfect conduits of groundwater in exactly the quantities to precisely the areas the Applicant seeks. Similarly, the Applicant's principal hydrology witness, Andrew Burns, based his judgment that interbasin flow out of Spring Valley is practically nonexistent in the northern part of the valley and at the very low end of estimates in the southern part of the valley largely on a student's masters thesis that is framed from beginning to end as an argumentative piece in favor of reducing outflow estimates so that the Applicant can export more water from Spring Valley. When asked about this fact, Mr. Burns professed not to be aware that the student paper was expressly written to justify increased water rights for the Applicant in Spring Valley.⁶⁵

Perhaps the most blatant obfuscation at the heart of the Applicant's hydrology case was the Applicant's attempt to run away from its own model and the results of its own modeling efforts. On the one hand, the Applicant's witnesses testified that the predictive model they developed for use in preparing the Environmental Impact Statement for the same Groundwater Development Project was superior to other models, and argued in particular that Dr. Myers' Spring Valley model should not be relied on because it was not as elaborately documented as the Applicant's model.⁶⁶ Yet on the other hand, they repeatedly tried to persuade the State Engineer and his staff to disregard the predictions of its own model. The Applicant's witnesses even argued that the State Engineer could not use the Applicant's model for the very purpose it was developed and used in the BLM's Draft EIS, namely to predict likely hydrologic impacts and drawdown of the water table throughout the hydrologically connected basins in the region affected by the Applicant's proposed pumping.⁶⁷ The Applicant cannot rationally be allowed to

⁶⁵ Transcript Vol. 7, at 1536-40 (Oct. 4, 2011) (Burns Cross).

⁶⁶ See Transcript Vol. 9, at 1902-06, 49 (Oct. 6, 2011) (D'Agnese Direct).

⁶⁷ Transcript Vol. 9, at 1906-09 (Oct. 6, 2011) (D'Agnese Direct).

have it both ways. The evidence in the record plainly demonstrates that, while it is flawed in some regards and has certain limitations, the Applicant's model and other models, including Dr. Myers', that have been developed to project the impacts of the Applicant's proposed pumping in part or all of the affected region are useful tools that the State Engineer should employ to predict in at least general terms impacts are likely to occur and the order of magnitude or rough degree of severity of such impacts in affected areas. The irony of the Applicant's inconsistent and blatantly skewed approach to the use of its own model, is that the evidence shows that the Applicant's model produces projections that are broadly similar to those produced by Dr. Myers' and other models.⁶⁸ The clear implication of this general consensus among different models as to the geographic scope and magnitude of impacts from the Applicant's proposed pumping is that the State Engineer can rely with some degree of confidence on those projected impacts. By the same token, it would be irrational to disregard these predictions.

In the same vein, the Applicant's refusal to present any model runs extending beyond 75 years was nothing more than a patent attempt to hide from the uniform evidence of ever graver impacts as the Applicant's proposed groundwater development project continues to operate into the indefinite future, which is what the water rights the Applicant has applied for would permit and which the overwhelming weight of the evidence indicates. Indeed, the Applicant's witness Patricia Mulroy likened the Applicant's supposed entitlement to this project to Rome's ability to build and rely on its aqueduct system, a water supply system that has been in operation for two millennia.⁶⁹ Reinforcing the fact that this proposed project must be viewed as much longer term than 75 years, no witness for the Applicant was willing to commit to any limit whatsoever on the duration of the Applicant's proposed pumping. Accordingly, the Applicant's refusal to offer any evidence whatsoever concerning potential impacts beyond 75 years completely undercuts its case concerning both the availability of water and the proposed use's likely environmental impacts and conflicts with existing rights.

A. Spring Valley

With regard to Spring Valley, despite the conflicting evidence concerning interbasin flow, the evidence demonstrated that both Dr. Myers' and the Applicant's models were reasonable tools for analyzing the likely impacts of granting Applicant's applications in whole or in part, and for estimating the perennial yield of Spring Valley. The evidence demonstrated that there is a general consensus from all modeling that the system in Spring Valley will not approach any reasonable definition of equilibrium for over a thousand years and quite possibly not for several millennia.⁷⁰ The State Engineer Under any reasonable interpretation of Nevada water law and traditional water policy, the Applicant's proposed use would constitute unsustainable and impermissible groundwater mining.

In addition, the models all concur that there will be a significant magnitude of drawdown which will spread throughout the Spring Valley, eventually resulting in the drying up of springs and wetlands through most if not all of Spring Valley. As the witnesses for Protestant Long Now Foundation testified, this drawdown will affect playa areas in Spring Valley that presently are

⁶⁸ See Transcript Vol. 24, at 5388-90 (Nov. 10, 2011) (Bredehoeft Direct); Transcript Vol. 19, at 4259-60 (Nov. 3, 2011) (Myers Direct).

⁶⁹ Transcript Vol. 1, at 92 (Sept. 26, 2011) (Mulroy Direct).

⁷⁰ See Transcript Vol. 18, at 4103-18 (Nov. 2, 2011) (Myers Direct).

moist, and could well give rise to substantially greater dust emissions in the Valley, affecting human and animal health, as well as Spring Valley's important scenic and recreational values.⁷¹ In addition, the drawdown caused by the Applicant's proposed pumping will create irreconcilable conflicts with existing rights such as those owned by Protestant CPB and associated with the Cleveland Ranch, and other existing rights associated with privately owned ranching operations such as the Eldridge family's ranching operations in Spring Valley.

The State Engineer finds that the Applicant's proposed hydrologic monitoring and mitigation plan for Spring Valley would do nothing more than mask these long-term effects for a few decades.

With regard to interbasin flow into and out of Spring Valley, the evidence clearly shows that flow is permissible into Spring from Steptoe and out of Spring to Hamlin and southern Snake Valley. It also is clear that both the gradients and some other evidence indicate that there is at least some flow. It also is clear that there is great uncertainty about the amount of flow and that the system is not well understood. In such a situation the only responsible and rational approach to take is a conservative one that errs on the side of protecting the long-term viability of the resource.

B. Cave, Dry Lake, and Delamar Valleys

With regard to Cave, Dry Lake, and Delamar Valleys, substantial evidence demonstrated that: (1) there is no significant groundwater ET available for capture by the Applicant in any of those basins; and (2) the recharge in those three valleys is accounted for by interbasin flow in the White River Flow System, which flows out of those basins and into downgradient basins where it is completely appropriated at downgradient discharge points such as the Muddy River Springs, the regional springs in Pahrangat Valley, and longstanding wells. The dangers of allowing water in the White River Flow System that already has been appropriated to be double appropriated already has been recognized by the State Engineer in Order 1169. It ultimately would be disastrous to water rights holders and the environment in those hydrologically connected downgradient basins to allow the Applicant to appropriate and transfer any part of the interbasin flow out of Cave, Dry Lake or Delamar Valleys, when the evidence clearly indicates that such interbasin flow is accounted for by existing water rights at downgradient points of discharge or diversion within the same flow system.

The groundwater recharge in these three upgradient basins within the White River Flow System is not available for appropriation because it already has been appropriated elsewhere within the White River Flow System. This may be expressed by a finding that the perennial yield of Cave, Dry Lake, and Delamar Valleys effectively is zero. In the alternative, the unavailability of groundwater for appropriation in those basins may be expressed as a finding that, whatever the perennial yields of those basins might be in the absence of downgradient development, because the recharge in those basins makes up the interbasin flow out of those basins and into the downgradient portions of the White River Flow System where it is subject to existing water rights, granting the applications would impermissibly conflict with those prior existing rights. The State Engineer finds that, under either formulation, granting the applications in Cave, Dry Lake, and Delamar Valleys would sanction impermissible groundwater mining, would conflict with existing rights, and would be detrimental to the public interest.

⁷¹ See Transcript Vol. 28, at 6276-338 (Nov. 17, 2011) (Robinson Direct).

VIII. IMPACTS TO EXISTING RIGHTS AND DOMESTIC WELLS

Nevada Revised Statute § 533.370(5) provides that the State Engineer shall reject an application where the proposed use conflicts with existing rights or protectable interests in existing domestic wells as set forth in Nevada Revised Statute § 533.024. Nevada Revised Statute § 533.024 provides that it is the policy of this State to recognize the importance of domestic wells as appurtenances to private homes, to create a protectable interest in such wells and to protect their supply of water from unreasonable adverse effects which are caused by municipal, quasi-municipal or industrial uses and which cannot be reasonably mitigated.

The Applicant presented testimony that the project will have limited impact on the environment, local economies, and existing rights based on modeling projections limited to 75 years, and based on a reliance on its Monitoring and Mitigation program discussed below. The Applicant also presented an effects analysis that plotted impacts based on drawdowns of 50 feet or more, and spring decline of 15% or more. The State Engineer finds that it is unreasonable to limit the examination of impacts to the effect of 50 foot drawdowns or 15% decline in spring flow given that impacts will occur much before that level of drawdown, and that such an approach departs from the Applicant's work for the Draft Environmental Impact Statement without justification.⁷² As discussed in previous sections of this ruling, Protestants GBWN et al. witnesses Dr. Myers and Dr. Bredehoeft presented evidence that all model projections agree that there will be significant drawdown over vast areas after just 200 years with a large percentage of water being drawn from storage.⁷³ According to the DEIS model, which shows similar drawdowns to the model presented by Dr. Myers, at 200 years, Spring Valley will experience drawdowns of 100 feet or more over much of the valley.⁷⁴ The State Engineer finds that given the scale of the project, the fact that it is intended to serve as a source of supply relied on by southern Nevada in perpetuity, and its potential to have irreversible impacts on the affected basins, it is unreasonable to limit the examination of impacts to a 75 year, or even a 200 year, time frame. The State Engineer further finds that the models all agree that drawdown will be severe and will spread over a vast area of eastern rural Nevada and into western Utah. The State Engineer finds that this consensus provides a high degree of certainty regarding the likelihood of serious impacts, and further concludes that modeling indicates that these impacts will extend over a vast area.

In Spring Valley, water rights that are likely to be adversely affected by the proposed applications include both groundwater rights and surface water rights originating as springs on the valley floor or valley margins. Surface water rights with points of diversion within the mountain block are not likely to be measurably affected by the proposed project. Water-level

⁷² See Transcript Vol. 19, at 4167-68 (Nov. 3, 2011) (Deacon Direct).

⁷³ Transcript Vol. 24, at 5388-90 (Nov. 10, 2011) (Bredehoeft Direct); Transcript Vol. 18, at 4118 (Nov. 2, 2011) (Myers Direct); GBWN_Exh_109, at 5-8; GBWN_Exh_110 (Draft Environmental Impact Statement, app. F3.3.7-3 (June 2010)). The Applicant raised questions concerning the data used in Dr. Myers' model construction, conceptual accuracy and scale of the model, and testified that model results are uncertain and should be discounted. However, Dr. Myers model is consistent with the Applicant's own model and shows very similar drawdowns.

⁷⁴ *Id.*

drawdown will occur in a cone of depression around the pumping wells, which will eventually coalesce, resulting in wide-spread water-level declines.⁷⁵ In particular, Applications 54016, 54017, 54018, and 54021 are located on the Cleve Creek alluvial fan. Distributed around the eastern toe of the fan there are 12 claims of vested spring rights, which total 9,600 acre-feet annually for the irrigation of 2,400 acres. These rights are likely to be adversely impacted.

GBWN et al. presented testimony and evidence through Dr. Myers that there is no water available for appropriation in Cave, Dry Lake, and Delamar valleys as the White River Flow System is fully appropriated due to existing senior appropriations in White River Valley, Pahranaagat Valley, Coyote Spring Valley, and the Muddy River Springs Area and that Cave Valley, Dry Lake Valley and Delamar Valley should not be developed.⁷⁶ Protestants assert that the water rights in the down-gradient and hydrologically connected basins of White River Valley, Pahranaagat Valley, Coyote Spring Valley and the Muddy River Springs Area will eventually be impacted. They assert that steady state will never be reached and the Applicant is not going to capture ground-water ET; therefore, the use of water under these Applications will capture the discharge to the down gradient basins of White River Valley, Pahranaagat Valley, Coyote Spring Valley and the Muddy River Springs Area, which they allege are fully appropriated. Dr. Myers's ground-water model runs show significant drawdown, removal of ground water from storage, and that ground-water pumping will eventually reduce the flow at regional springs.⁷⁷ After carefully reviewing the evidence presented by the Applicant and Protestants, the State Engineer finds there is no dispute that the basins of the White River Flow System are hydrologically connected and that the downgradient basins are fully appropriated. Thus, permitting any groundwater in Cave, Dry Lake, or Delamar Valley would conflict with existing rights in violation of NRS § 533.370(5).

The State Engineer further finds that the vast majority of water rights in the subject basins will be impacted by the proposed use. GBWN et al. presented substantial evidence that water rights of multiple Protestants stand to be adversely impacted, including rights to stock water. In particular, GBWN et al. presented evidence of impacts to the rights of Alamo Sewer and Water GID, Preston, Panaca, and Lund Irrigation Companies, Gardner Quarter Circle 5 Ranch, Carter-Griffin, Inc., Kena and Patrick Gloeckner, John Wadsworth, Kathy Rountree, Baker Ranches, and Baker GID.⁷⁸ Protestant Confederated Tribes of the Goshute Reservation presented substantial evidence through witness Rupert Steele that CTGR has unclaimed federal reserved water rights in the project drawdown area that could be affected by the proposed use.⁷⁹ Protestant Corporation of the Presiding Bishop presented substantial evidence that its water rights in Spring Valley stand to be adversely impacted by the proposed use.⁸⁰

⁷⁵ *Id.*

⁷⁶ *See generally*, Dr. Myers Testimony.

⁷⁷ *Id.*

⁷⁸ *See generally*, Transcript Vol. 21 (Nov. 7, 2011) (John Wadsworth, Roderick McKenzie, Steven Carter Testimony); Transcript Vol. 22 (Nov. 8, 2011) (Nancy Brown, Rocky Hatch, Kirk Swanson, Jim Poulsen, Jeff Gardner Testimony); Transcript Vol. 23 (Nov. 9, 2011) (Doug Busselman Testimony); Transcript Vo. 24 (Nov. 10, 2011) (Kathy Rountree; Kenna Gloeckner, Craig Spratling, Dean Baker, Tom Baker, Craig Baker Testimony).

⁷⁹ *See* Transcript Vol. 25, at 5689-90 (Nov. 14, 2011) (Steele Direct).

⁸⁰ *See* Transcript Vol. 27 (Nov. 16, 2011); Transcript Vol. 28 (Nov. 17, 2011).

After carefully reviewing the modeling and water rights evidence presented by the Applicant and Protestants, and contained in the State Engineer's files, the State Engineer finds that given the substantial drawdowns predicted by all models, there is little question that the vast majority of the water rights within the drawdown area will be adversely impacted. The State Engineer further finds that such a widespread adverse impact to existing rights is impermissible under Nevada law, which prohibits permitting a new use that would conflict with existing rights or protectable interests in domestic wells.

IX. PUBLIC INTEREST NRS 533.370(5)

Nevada Revised Statute § 533.370 provides that the State Engineer must reject an application if the proposed use of the water threatens to prove detrimental to the public interest. The State Engineer finds the analysis of whether the use of water for a proposed project threatens to prove detrimental to the public interest must be addressed on a case-by-case basis. The State Engineer finds the statutory criterion, like beneficial use, is a dynamic concept changing over time.

To determine whether the use of water under these applications threatens to prove detrimental to the public interest, the State Engineer reviews how other State Engineers interpreted this provision of the law and finds that during the 1940s and 1950s the focus of the rulings was development of water resources and prevention of conflicts with existing rights. During these decades the public interest criterion was almost always tied to other statutory criteria such as water availability and impairment to existing rights.

Throughout the 1960s whether the use of water would threaten to prove detrimental to the public interest was still almost always tied to another provision of Nevada water law. Applications were denied because the applicant could not demonstrate the ability to apply the water to beneficial use; therefore, granting the application would threaten to prove detrimental to the public welfare. Applications in Pahrump were denied on the grounds that the Pahrump Fan was fully appropriated; therefore, granting the application would impair the value of existing rights and be detrimental to the public welfare. Also, applications were denied where a water purveyor under the provisions of NRS § 534.120 could supply water to the applicant, and to grant a water right under those circumstances would threaten to prove detrimental to the public welfare.

The analyses did not change much during the 1970s except rulings now denied applications where the use of the water conflicted with a basin designation order; therefore, granting the application would be detrimental to the public interest. Additionally, applications were denied where use of the water would create a cone of depression that would potentially draw in nearby poor quality water; therefore, the State Engineer determined that use would conflict with existing rights and be detrimental to the public welfare.

Environmental issues were also coming to the forefront in the 1970s. For example, in 1974 the Federal District Court for Nevada decided the case of *United States v. Cappaert*, 375 F. Supp. 456 (D. Nev. 1974) pursuant to which it found that pumping of ground water in the area of concern was jeopardizing the survival of an endangered species because it was lowering the water level below the ledge where the endangered species bred. It found that the United States had shown the public interest lies in the preservation of endangered species. "Congress, state legislatures, local governments and citizens have all recently voiced their expression for the

preservation of our environment, and the destruction of the Devil's Hole pupfish would go clearly against the theme of environmental responsibility.”⁸¹

As we entered the 1980s, the rulings began to demonstrate a concern about areas of the state where issued or applied for water rights exceeded the estimated water availability and, during this period, analyses of the public interest criterion began to make significant changes. In Little Fish Lake Valley, a change application from mining and milling to irrigation was denied on the grounds that water levels were declining, water rights exceeded the availability of water in the source, irrigation was not a preferred use and the right sought to be changed had been issued as a temporary use. The State Engineer held that it would not be in the public interest to allow a preferred use to be changed to a non-preferred use within a designated basin as it would adversely affect existing rights. In State Engineer's Supplemental Ruling No. 2776, the State Engineer found that:

The water law does not specifically define what criteria the State Engineer must follow in determining whether the act of appropriating or changing the point of diversion of existing water rights is "detrimental to the public interest or welfare." The State Engineer therefore must exercise discretion in his interpretation under the express authority granted in law. The State Engineer must, to the extent possible, make a factual determination of all interests involved in any particular appropriation or change of existing rights. It is not unusual that more than one public interest is determined or defined. Some interests may ultimately outweigh others.

In Steptoe Valley, the State Engineer designated the preferred use for industrial purposes and found that:

The arid conditions that prevail in the state of Nevada dictate that this vital resource be allocated to the most reasonable and economic use and that the public interest and welfare be an integral part of any determination in reaching these decisions. That interest and welfare extends to the protection of the existing rights which is mandated by statute as well as the wants and necessities of the state and local areas. The State Engineer in many cases is simply faced with weighing one public interest against another in reaching a decision especially when competitive beneficial uses are at issue.

The 1990s saw interpretations very similar to the decades that preceded it. In the Supplemental Ruling on Remand in the Honey Lake case,⁸² the State Engineer set forth for the first time the criteria he found in Nevada water law for assessing whether the use of water as proposed under those applications threatened to prove detrimental to the public interest. But he

⁸¹ 375 F. Supp. at 460.

⁸² Supplemental Ruling on Remand 3787A, at 13 (Oct. 9, 1992). *See also Pyramid Lake Paiute Tribe v. Washoe County*, 112 Nev. 743 (1996).

also made public interest findings on issues that were not identified in that list and made findings of what was in the public interest. He decided that to allocate resources to reasonable and economical uses was in the public interest, so long as other public interest values were not unreasonably compromised or could be mitigated. But he also found that it would threaten to prove detrimental to the public interest to impair the endangered or threatened species in the area or degrade the quality of the water in the Truckee River. He found that where there would be minimal loss of wetlands there was an overriding public interest value to put the water to its highest and best use by allowing the water to be exported for municipal use.

In 1992, the State Engineer denied applications that were filed for a large quantity of water for municipal purposes to be used in every populated area in western Nevada on the grounds that it would threaten to prove detrimental to the public interest to grant applications where the applicant had not provided information on its financial ability to construct the project, and had failed to provide information that it had even begun studies to determine whether the water was available, cost to capture the water or whether there was a potential buyer for the water. He also found that it would threaten to prove detrimental to issue permits on applications acquired for the purpose of speculation.

The State Engineer finds that he must exercise discretion in his interpretation under the express authority granted in law and must look at all the interests involved as to any particular appropriation and balance them. The public interest analysis has included looking at the benefits of a project, effect of water use on the economy of the area in general,⁸³ protection of the environment,⁸⁴ protection of existing rights, and protection of the quality of water sources.⁸⁵ Unreasonable environmental harms include undue impacts on wildlife populations and habitat and on air quality that would harmfully affect human health and significant recreational and aesthetic values in the affected areas as a result of the drawdown of groundwater tables and spring flows in both the basins of origin and those basins that are hydrologically connected and downgradient from the basins of origin. Protestants Confederated Tribes of the Goshute Reservation, Ely Shoshone Tribe, and Duckwater Shoshone Tribe presented cultural resources evidence in connection with their protest case. The State Engineer finds that it is appropriate to consider impacts to cultural resources as part of the public interest criterion of Nevada water law.

Generally, it would threaten to prove detrimental to the public interest to allow large scale development of water resources to go forward in support of municipal development when the confidence in predictions as to water availability long-term without damaging impacts is low and dire consequences could result. Thus, in granting water rights in resources where it is not known if there will be impacts, but there is a concern there might be, the State Engineers'

⁸³ See *Pyramid Lake Paiute Tribe v. Washoe County*, 112 Nev. 743 (1996).

⁸⁴ The parties agree and the State Engineer has previously held that the public interest includes a requirement that the proposed use not cause unreasonable environmental harm resulting from hydrologic depletion as a result of the appropriation and export of the water, including effects on downgradient basins – such as White River Valley, Pahrnagat Valley, Moapa Valley, and Snake Valley – that depend on inflow from the basins of origin as well as those basins of origin themselves. See *e.g.*, Transcript Vol. 9, at 2081 (Oct. 6, 2011) (Marshall Direct) (referencing the Biological Monitoring Plan area of interest). See also Ruling 5875, at 23- 25 (July 9, 2008) (Cave, Dry Lake, and Delamar Valleys Ruling).

⁸⁵ Supplemental Ruling on Remand 3787A, at 18 (Oct. 9, 1992).

decisions have reflected a policy that the water belongs to the public and its appropriation is subject to availability, existing rights, economic impact, and environmental concerns.

The Applicant presented testimony that the project will have limited impact on the environment, local economies, and existing rights based on modeling projections limited to 75 years, and based on a reliance on its Monitoring and Mitigation program discussed below. The Applicant also presented an effects analysis that plotted impacts based on drawdowns of 50 feet or more, and spring decline of 15% or more. The State Engineer finds that it is unreasonable to limit the examination of impacts to the effect of 50 foot drawdowns or 15% decline in spring flow given that impacts will occur much before that level of drawdown.⁸⁶ As discussed in previous sections of this ruling, Protestants GBWN et al. witnesses Dr. Myers and Dr. Bredehoeft presented evidence that all model projections agree that there will be significant drawdown over vast areas after just 200 years with a large percentage of water being drawn from storage.⁸⁷ At 200 years, Spring Valley will experience drawdowns of 100 feet or more over much of the valley.⁸⁸ The State Engineer finds that given the scale of the project, the fact that it is intended to serve as a source of supply relied on by southern Nevada in perpetuity, and its potential to have irreversible effects on the affected basins, it is unreasonable to limit the examination of impacts to a 75 year, or even a 200 year, time frame. The State Engineer further finds that the models all agree that drawdown will be severe and will spread over a vast area of eastern rural Nevada and into western Utah. The State Engineer finds that this consensus provides a high degree of certainty regarding the likelihood of serious impacts, and further concludes that modeling indicates that these impacts will extend over a vast area.

Protestants GBWN et al. presented testimony and evidence through Drs. Deacon, Patten, Kilkenny, and multiple lay witnesses regarding whether use of the water would threaten to prove detrimental to the public interest through multiple witnesses. Dr. Deacon testified that drawdowns of far less than 50 feet or 15% decline in spring flow would threaten to prove detrimental to the public interest because reductions in spring flow would result in the more rapid cooling of the thermal water of the regional springs, which will reduce the habitat for fish and spring snails and subsequently reduce reproductive potential. Dr. Deacon also testified that declines in spring flows or a lowering of the shallow water tables would reduce wetland areas, adversely impacting migratory birds, aquatic species, and mammals. With respect to Cave, Dry Lake, and Delamar basins, which are hydrologically connected to the fully appropriated down-gradient basins of the White River Flow System, Dr. Deacon testified that there will be impacts to the plants and animals dependent on those springs due to a reduction in discharge and those impacts threaten to prove detrimental to the public interest.⁸⁹ Dr. Deacon is very concerned about the regional springs in the down-gradient basins of the White River Flow System and does not believe that the Monitoring and Mitigation Program introduced by the Applicant will protect those areas.⁹⁰

⁸⁶ See Transcript Vol. 19, at 4167-68 (Nov. 3, 2011) (Deacon Direct).

⁸⁷ Transcript Vol. 24, at 5388-90 (Nov. 10, 2011) (Bredehoeft Direct); Transcript Vol. 18, at 4118 (Nov. 2, 2011) (Myers Direct); GBWN_Exh_109, at 5-8; Draft Environmental Impact Statement, app. F3.3.7-3 (June 2010).

⁸⁸ *Id.*

⁸⁹ Transcript Vol. 19, at 4164 – 69 (Nov. 3, 2011) (Deacon Direct).

⁹⁰ See Transcript Vol. 19 (Nov. 3, 2011) (Deacon Direct).

Protestants GBWN et al. witness Dr. Patten and Long Now witness Dr. Robinson presented substantial evidence that the proposed use would result in the disappearance of wetlands, sub-irrigated meadows, swamp cedars, resulting in the potential for invasion by nonnative species and increased dust emissions from bare ground and dried playas.⁹¹ These witnesses testified further that predicted drawdowns will have catastrophic impacts to wildlife, wildlife habitat, and plant communities in the affected region, including those in national wildlife refuges and state wildlife management areas, and have the potential to cause serious additional dust emissions in a number of the affected valleys that will create serious air quality issues possibly extending as far as the Wasatch front.⁹² Impacts to Great Basin National Park air quality will also be likely.⁹³ GBWN et al. witness Rebecca Mills testified about the pristine nature of the Park's air quality and view shed. She expressed concern that the groundwater development project could destroy these qualities that are so integral to the Park's mission to interpret the Great Basin.⁹⁴

The State Engineer finds that it would not be in the public interest to permit a project that would have such devastating and widespread impacts to Nevada's environmental resources, including impacts to threatened and endangered species and habitat, Great Basin National Park, wildlife refuges and management areas, and air quality.

The Applicant focused its public interest economics presentation on the relative scale of the economies of Southern Nevada and eastern rural Nevada. The Applicant presented unsupported testimony, contradicted by credible testimony presented by Protestant witnesses, that there is no viable economic activity in the basins of origin or in surrounding basins whose economies are dependent on the basins of origin.⁹⁵ The testimony of multiple GBWN et al. witnesses, including Jim Garza, Gary Perea, Kena Gloeckner, Katherine Rountree, Roderick McKenzie, Nancy Brown, Doug Busselman, Craig Spratling, and John Wadsworth makes it clear that there is significant economic activity in both the basins of origin and in surrounding communities that depend on the basins of origin. The State Engineer finds that, as reflected in the vast majority of public comment, provision must be made for the continued viability of these rural communities in order to ensure that the public interest criterion of Nevada water law is satisfied.⁹⁶

The Applicant's discussion of impacts to rural economies in eastern Nevada also fails to take into consideration the interdependence of economic activity and the scale of the economies. GBWN et al. presented substantial evidence that an analysis that focuses only on the direct dollar amount lost due to the pipeline project fails to disclose the reality that in many rural areas, where there is only one store, one gas station, or one convenience store, a decrease in business could, in fact, drive those businesses out of business.⁹⁷ Dr. Kilkenny testified that in rural communities,

⁹¹ Transcript Vol. 18, at 3973-83 (Nov. 2, 2011) (Patten Direct); Transcript Vol. 28, at 6276 -338 (Nov. 17, 2011) (Robinson Direct).

⁹² *Id.*

⁹³ *Id.*

⁹⁴ Transcript Vol. 22, at (Nov. 8, 2011) (Mills Direct).

⁹⁵ Transcript Vol. 14 (Oct. 13, 2011) (Holmes Direct); Transcript Vol. 15 (Oct. 14, 2011) (Holmes Direct and Cross); Transcript Vol. 13 (Oct. 12, 2011) (Carter and Peseau Testimony).

⁹⁶ *See generally* Transcript Vol. 10 (Oct. 7, 2011) (Public Comment).

⁹⁷ *See* Transcript Vol. 22, at 5012-13 (Nov. 8, 2011) (Kilkenny Direct); GBWN_Exh_066; GBWN_Exh_114.

where there may be only one of a particular business, such closures likely would lead to the obliteration of the town where these businesses once existed. So, in Dr. Kilkenny's expert opinion the question is not whether a small percentage decline in economic activity is permissible, but whether it is permissible to wipe out entire communities for the benefit of southern Nevada. The State Engineer finds that it would not be in the public interest to eliminate rural Nevada communities that have been in existence for hundreds of years in order to support the illusory additional water needs of southern Nevada.

The Applicant also presented testimony that it plans to keep the water rights on the shelf until some unknown future date when the project may or may not be built.⁹⁸ GBWN et al. witnesses Dr. Kilkenny and Ms. Rountree represented substantial evidence that the specter of the Applicant's applications alone has been enough to suppress economic activity in the basins of origin and in surrounding communities.⁹⁹ The State Engineer finds that permitting a project that may never in fact be built while suppressing economic activity in the basins of origin clearly is not in the public interest of the State of Nevada as a whole.

The Applicant's economics presentation also focused on the project's purported economic benefit to Southern Nevada. However, the State Engineer finds that given the tenuous nature of the Applicant's ability to finance the project, alternatives available to the Applicant, and changes in projected future demand, it would not be in the public interest for the Applicant to construct the project infrastructure necessary to deliver water to southern Nevada.

The State Engineer finds in this case that the Applicant has applied for water that belongs to the public at large. The State Engineer recognizes the limitations of the Applicant's current water resources and the increasing demands based on projected population growth. However, the State Engineer recognizes that existing rights must be protected as well as a concern for local rural economies, wildlife and maintenance of wetlands and fisheries; therefore, the State Engineer finds that it would threaten to prove detrimental to the public interest to grant the subject applications. As discussed in the following section, the Applicant's monitoring and mitigation plan does not provide adequate assurance that unreasonable impacts will not occur.

Further, as noted in the Need and Financial Ability sections of this ruling, the Applicant has not adequately demonstrated the approximate future water demand, nor has the Applicant demonstrated the ability to finance the project or its ability to develop large water projects. Finally, as discussed in the Need section of this Ruling, the Applicant's suggestion that the project is necessary to supplement its water resources portfolio in the event of Colorado River drought restrictions is unsupported, as the applicant has available more cost effective alternatives that would better meet the potential limited additional need arising from drought restrictions. Thus, the State Engineer finds the proposed use of water threatens to prove detrimental to the public interest of the State as a whole including the public interest of both the targeted basins and southern Nevada.

The State Engineer further finds that the Applicant has not considered the potential impact of its proposed pipeline on Native American cultural resources, sites, or water use. Such an evaluation of impacts to these resources is necessary in order for the State Engineer to evaluate the public interest implications of the Applicant's proposed project.

⁹⁸ See Transcript Vol. 1, at 97 (Sept. 26, 2011) (Mulroy Direct).

⁹⁹ See Transcript Vol. 22, at 4987-89 (Nov. 8, 2011) (Kilkenny Direct); GBWN_Exh_066; GBWN_Exh_114; Transcript Vol. 24, at 5550 (Nov. 10, 2011) (Rountree Direct).

After carefully reviewing and weighing the evidence presented by the Applicant and Protestants, the State Engineer finds that the proposed use would prove detrimental to the public interest on economic grounds, both in rural and southern Nevada, and on environmental and cultural grounds in the affected region.

X. MONITORING AND MITIGATION PLAN

As explained in previous sections of this ruling, the State Engineer finds that the proposed use would conflict with existing rights, would be detrimental to the public interest, and would be environmentally unsound in the basin of origin. In an attempt to address this inevitability, the Applicant presented a hydrologic and biologic monitoring and mitigation program it claims is designed to detect and manage impacts to water dependent species in an environmentally sound manner.¹⁰⁰ The Applicant's Monitoring and Mitigation Program is premised on the ability to manage the succession from more water dependent species to less water dependent species in affected areas, which would be achieved by carefully managing pumping levels and locations and by implementing targeted mitigation measures if necessary.¹⁰¹

The Applicant's witness Dr. McLendon testified that it is possible to manage the succession from groundwater dependent species to non-groundwater dependent species and that such a transition would result in a viable, yet different, ecosystem.¹⁰² The State Engineer finds that it is clear that if there were a decline in the groundwater table there would be a change in the existing groundwater dependent plant community. However, the type of plant community that will result and the time frame over which this transition would occur are unknown. There are many parameters which are part of a viable ecosystem, including the area of vegetative cover, vegetative density, groundwater levels, rainfall, and soil type. These parameters have not been adequately evaluated by the Applicant. The State Engineer finds that while it is evident that rainfall and groundwater dependent plant communities can exist in an area with similar ET and precipitation, there was no credible evidence or testimony presented which supported the concept that a plant community can transition from a ground-water dependent to precipitation-dependent without significant impacts to that ecosystem. The State Engineer finds that it is unknown whether the succession contemplated by the Applicant is achievable given the variables involved.

Protestants GBWN et al. presented evidence through Drs. Bredehoeft, Deacon, Patten, and Harrington criticizing the Applicant's monitoring and mitigation plan. Drs. Deacon and Patten both presented substantial evidence that, even if the Applicant is able to achieve its desired managed succession, such an approach would result in a long-term, extensive, widespread loss of biodiversity, and would be especially damaging to wetland areas which support the greatest level of biodiversity and which are the most water dependent.¹⁰³

¹⁰⁰ See generally testimony of Marshall and Prieur; SNWA_Exh_148, 149, 365, 366.

¹⁰¹ See generally Transcript Vols. 7 & 8 (Oct 4 & 5, 2011) (McLendon Testimony).

¹⁰² *Id.*

¹⁰³ See Transcript Vol. 18, at 3973, 83 (Nov. 2, 2011) (Patten Direct); GBWN_Exh_057; GBWN_Exh_112; Transcript Vol. 19, at 4164-68 (Nov. 3, 2011) (Deacon Direct).

Phreatophytic communities and wetland-upland communities also would be at risk.¹⁰⁴ Managed succession also would increase the likelihood of invasion of non-native species such as cheat grass.¹⁰⁵ For these reasons, in Owens Valley, succession is not permitted and is not considered to be an acceptable outcome.¹⁰⁶ The State Engineer finds that a monitoring and mitigation program based on managed succession is not environmentally sound because it would result in a significant loss of biodiversity, especially in wetland areas, would leave the basins of origin and hydrologically connected basins vulnerable to wind erosion and dust generation, and would threaten the swamp cedar population in Spring Valley.

GBWN et al. witnesses Drs. Patten, Deacon, and Harrington testified that the Applicant must establish objective, quantified triggers or thresholds and targets or goals prior to development of any water in order to create a management plan that is capable of being effectively implemented.¹⁰⁷ Yet both of the Applicant's witnesses on Monitoring and Mitigation, Mr. Prieur and Mr. Marshall, testified that none of these site specific goals or triggers have been identified and that specific monitoring sites have yet to be identified.¹⁰⁸ Mr. Prieur did note that not all springs are protected under the monitoring and mitigation plan submitted by the Applicant and that certain springs in Spring Valley may dry up.¹⁰⁹ The State Engineer finds that unless site specific triggers or goals are developed prior to the development of any water, the monitoring and mitigation program has little likelihood of success. The State Engineer further finds that it is not possible to evaluate whether the monitoring and mitigation program introduced by the Applicant is premised on environmentally sound management targets. The State Engineer is unable to make a determination as to what level of succession is contemplated by the Applicant or whether the management system proposed by the applicant would result in impermissible impacts to existing rights or the environment.

The Applicant presented evidence and testimony that it has gathered a good deal of baseline data that will be used to develop targets in the future.¹¹⁰ However, as Protestant witness Dr. Bredehoeft testified, even the best monitoring program does not necessarily support a successful management program.¹¹¹

GBWN et al. witnesses testified that even assuming targets and thresholds are set up front, management in the manner contemplated by the Applicant is not possible, especially given the scale of the proposed project, which is expected to create substantial drawdowns over a vast area of eastern Nevada and western Utah. Dr. Deacon testified that due to the dynamic nature of the problem of adaptive management, "while the MMM program can be viewed as an effort to

¹⁰⁴ See Transcript Vol. 18, at 3973-74, 82 (Nov. 2, 2011) (Patten Direct); GBWN_Exh_057; GBWN_Exh_112.

¹⁰⁵ *Id.* at 82.

¹⁰⁶ Transcript Vol.23, at 5256 (Nov. 9, 2011) (Harrington Direct); GBWN_Exh_121; GBWN_Exh_122.

¹⁰⁷ Transcript Vol. 23, at 5271-72 (Nov. 9, 2011) (Harrington Direct); Transcript Vol. 18, at 4058-59 (Nov. 2, 2011) (Patten Direct); Transcript Vol. 19, at 4163-64, 70-71 (Nov. 3, 2011) (Deacon Direct).

¹⁰⁸ Transcript Vol. 11, at 2425-27, 36-37 (Oct. 10, 2011) (Prieur Cross); *id.* at 2428- 31 (Marshall Cross).

¹⁰⁹ Transcript Vol. 11, at 2524 (Oct. 10, 2011) (Prieur Staff Questions).

¹¹⁰ See generally testimony of Marshall and Prieur.

¹¹¹ Transcript Vol. 24, at 5409 (Nov. 10, 2011) (Bredehoeft Direct).

minimize a narrowly-defined set of environmental objectives, it is scientifically indefensible to expect a high level of success from the program.”¹¹² Protestant witness Dr. Bredehoeft testified that managing pumping rates based on measured impacts is problematic, because there is a lag time in the system’s measurable response to drawdown. Thus, by the time impacts are measured, it will be too late to prevent further impact.¹¹³ Protestant witness Dr. Harrington testified that mitigation measures such as artificial recharge in the case of impacted springs often are ineffective at recreating lost habitat.¹¹⁴ The State Engineer finds that the experience of Inyo County in Owens Valley provides valuable insight into the evaluation of the Applicant’s monitoring mitigation and finds further that attempting to manage pumping to avoid unreasonable impacts to the environment and existing rights in the context of such a massive groundwater development project is unrealistic and is inconsistent with modeling results presented by both the Applicant and Protestants, which show substantial drawdowns over vast areas of eastern Nevada and western Utah.

Finally, GBWN et al. witnesses critiqued the management or decision-making regime proposed in the Applicant’s monitoring and mitigation program. They argued that the consensus-based decision making process gives the Applicant an effective veto over any monitoring, management, or mitigation decision, because the Applicant has a seat on each committee or panel involved in the decisionmaking process.¹¹⁵ Further, GBWN et al. witnesses criticized the fact that the monitoring and mitigation program includes no process for implementation of mitigation measures, no dispute resolution mechanism, no timeframe or concrete procedure for decisionmaking, and does not specify how conflicts will be resolved or what specific management or mitigation measures will be used.¹¹⁶ Thus, it is unlikely that effective action will be taken in a timely fashion if necessary. Dr. Bredehoeft pointed out that this lack of specificity leaves decisionmaking to the State Engineer putting the State Engineer in the position of having to shut the project down when impacts are discovered. GBWN et al. witnesses criticized the program because unlike Owens Valley, there is no provision for the involvement of affected water rights holders and no provision for payment to affected water rights holders or local governments that would enable them to protect their rights.¹¹⁷ Finally, the State Engineer notes that the monitoring and mitigation program introduced by the Applicant does not provide for the involvement of Lincoln or White Pine Counties. Nevada water law contemplates the involvement of counties of origin in the study of the aquifer system that is the subject of any interbasin transfer.¹¹⁸ Thus the State Engineer finds that it would not only be appropriate, but necessary to include White Pine and Lincoln Counties in the management regime for the monitoring and mitigation program introduced by the applicant; failure to do so renders the program deficient.

¹¹² Transcript Vol. 19, at 4164 (Nov. 3, 2011) (Deacon Direct).

¹¹³ Transcript Vol. 24, at 5398-5401 (Nov. 10, 2011) (Bredehoeft Direct); *see also* Transcript Vol. 19, at 4171 (Nov. 3, 2011) (Deacon Direct).

¹¹⁴ Transcript Vol. 23, at 5261 (Nov. 9, 2011) (Harrington Direct).

¹¹⁵ Transcript Vol. 11, at 2496 (Oct. 10, 2011) (Marshall Cross).

¹¹⁶ Transcript Vol. 23, at 5268-70 (Nov. 9, 2011) (Harrington Direct); GBWN_Exh_119, at 2-4.

¹¹⁷ Transcript Vol. 23, at 5313-15, 5323-24 (Nov. 9, 2011) (Harrington Redirect and Staff Questions); Transcript Vol. 24, at 5508-09 (Nov. 10, 2011) (Gloeckner Direct); Transcript Vol. 24, at 5545 (Nov. 10, 2011) (Rountree Direct).

¹¹⁸ NRS § 533.368(4).

After carefully reviewing and weighing the evidence presented by both the Applicant and Protestants, State Engineer finds that the management regime proposed by the Applicant's monitoring and mitigation plan does not adequately protect existing rights, the public interest, economies dependent on the basins of origin, or the environment in the affected area, because it provides no assurance that appropriate or effective action will be taken in a timely fashion when impacts are seen. Moreover, all models agree that the proposed project will cause significant drawdowns over a vast area of Nevada and western Utah. Mitigation of such a significant drawdown in valleys with limited recharge likely would be of limited effect. While managing pumping locations and rates might be effective in the short term, over the long term it is impossible to avoid the inevitable catastrophic impacts predicted by all models; thus, the proposed use would be detrimental to the public interest and is not environmentally sound.

XI. NEED TO IMPORT WATER

Nevada Revised Statute § 533.370(6)(a) requires the State Engineer to make a determination that there is a genuine need for water in another area of the state before it is transported out of the basin of origin. The State Engineer finds that the Applicant's purported need for the water sought in these applications is based on unreasonably inflated population and water demand projections, and is contradicted by the availability of more cost-effective alternatives that would eliminate the need for the proposed project that these applications are intended to serve. After careful review of the Applicant's and Protestants' evidence, the State Engineer finds that there is not a genuine need for the water sought by these applications or the Applicant's proposed pipeline project which these applications are intended to serve.

Because future demand is a function of population and per capita use, the population numbers advanced by the Applicant are critical to the determination of need for the proposed pipeline project. The Applicant presented population projections taken from their 2009 Water Resources Plan.¹¹⁹ The Applicant testified that these numbers have not been updated to reflect the recent economic downturn, which has halted growth in southern Nevada.¹²⁰ The Applicant also based its population projections for Clark County on numbers obtained from the Center for Business and Economic Research ("CBER"), but presented the Nevada Demographer's more conservative population projections for rural Nevada. The State Engineer finds that the use of CBER's numbers as a basis for population projections in southern Nevada inflates the Applicant's projected population numbers and is not credible evidence. The State Engineer finds that the Applicant's population projections are unreasonably high and are based on outdated data, which inflates the Applicant's future demand projections.

The State Engineer finds that an examination of the Applicant's per capita water use is also essential to the determination of genuine need for additional water supplies, because a reduction in per capita use alone could eliminate the need for the proposed pipeline project. The Applicant dedicated hours of testimony to the presentation of its conservation plan's various components. However, the Applicant did not present an assessment or evaluation of the effectiveness of any of these programs and does not dispute the fact that there is room for significantly greater water savings. GBWN et al. witness Dr. Gleick testified that the

¹¹⁹ SNWA_Exh_209.

¹²⁰ Transcript Vol. 2, at 358 (Sept. 27, 2011) (Holmes Cross).

Applicant's conservative conservation target of about 10% set by the Applicant for year 2035 of 199 gallons per capita per day (gpcd) lags behind other cities in the west.¹²¹ Dr. Gleick also testified that many western cities have already achieved 199 gpcd.¹²² Dr. Gleick testified further that despite the fact that the Applicant has engaged in some significant positive conservation efforts, the agency has not done nearly as much as other western cities, and that it readily could do a much better job of implementing conservation measures and programs.¹²³

The State Engineer finds that there are ample additional conservation measures and programs that are readily available more quickly and more cheaply than the pipeline project, and that would eliminate some or all of the purported need for the pipeline project. For example, in his testimony Dr. Gleick pointed out one glaring example where, despite Mr. Bennett's claim to the contrary, the Applicant's own public information demonstrates that there are three times as many acres of turf left, available for conversion, as have been converted already, and there is substantial additional outdoor landscaping water use that could be dramatically reduced.¹²⁴

The State Engineer further finds that the Applicant's water rate structure fails to encourage conservation, especially when compared with other western cities. Despite the fact that the Applicant's conservation manager has conceded that demand for water is elastic and that consumers respond to rate increases, the Applicant's rate structure remains one of the most conservative in the west.¹²⁵ There can be no debate that implementation of a more aggressive rate structure would decrease demand, and, combined with an effective conservation program, could eliminate the need for the pipeline project. The State Engineer finds that the water rate structure evidence presented by the Applicant is misleading and is not credible.¹²⁶ While the rate structure tiers represented by the applicant appear to increase steeply and the recent rate increases appear to be significant, when the Applicant member agencies' water rates are evaluated in comparison with other western cities, it is clear that they remain some of the least aggressive in the west.¹²⁷

After thoroughly reviewing and weighing the evidence presented by both the Applicant and Protestants, the State Engineer finds that despite the Applicant's existing conservation programs and despite their improvement since 2007, its water use is still far higher than other western cities, and despite the proven effectiveness and savings, their outdoor programs have stalled. The State Engineer finds that if the Applicant were to implement a more aggressive and effective conservation program, the purported need for the pipeline project would be eliminated.

Finally, the Applicant presented evidence that the potential for Lake Mead shortages supports the need for the proposed use, because southern Nevada's water resources portfolio currently relies heavily on its Colorado River allocation. Evidence was presented that the protocols developed by the Colorado River Basin States and the federal government call for cuts of only 13,000 to 20,000 acre-feet annually (afa) in the Applicant's allocation from the river in the event drought causes the water levels in Lake Mead to decline. Other basin states would face

¹²¹ Transcript Vol. 23, at 5099-103 (Nov. 9, 2011) (Gleick Direct).

¹²² *Id.* at 5099.

¹²³ *Id.* at 5096.

¹²⁴ Transcript Vol. 23, at 5108-10 (November 9, 2011) (Gleick Direct).

¹²⁵ *See* Transcript Vol. IV, at 920 (Sept. 29, 2011) (Bennett Direct).

¹²⁶ *See* SNWA_Exh_004, at Figure 4-1.

¹²⁷ *See* Hidden Oasis Report, at 23, Figure 9 (GBWN_Exh_072).

similar percentage reductions in their allocations.¹²⁸ Those cuts, which would preserve access to the river for all users, would be, for Southern Nevada, far smaller than the conservation measures already achieved in metropolitan Las Vegas. The State Engineer finds that even in the event of a deepening drought, Southern Nevada water users would not be seriously affected. Indeed, they have already conserved their way out of crisis and there is room for far greater conservation.

After carefully reviewing and weighing the evidence presented by the Applicant and Protestants, the State Engineer finds that the Applicant has not justified the need for the proposed project.

XII. CONSERVATION PLAN

Nevada Revised Statute § 533.370(6) provides that in determining whether an application for an interbasin transfer of groundwater must be rejected the State Engineer is to consider whether a plan for conservation of water is advisable for the basin into which the water is imported and whether the applicant has demonstrated that such a plan has been adopted and is being effectively carried out. Additionally, some of the Protestants alleged that the approval of the applications would sanction and encourage the willful waste and inefficient use of water in Las Vegas Valley and that the applications should be denied because the per capita water consumption rate for the Las Vegas area is far above that of similarly situated southwestern cities. As described in detail above, the Applicant has demonstrated that it has implemented a conservation plan that is effective in some regards, but the State Engineer finds that the Applicant's conservation plan falls short of those implemented by other similarly situated western cities. Nonetheless, the State Engineer finds that while the Applicant's current conservation plan does not support a need for the proposed use, it does satisfy the requirement of NRS § 533.370(6).

XIII ENVIRONMENTAL SOUNDNESS

Nevada Revised Statute § 533.370(6)(c) provides that in determining whether an application for an interbasin transfer of ground water must be rejected the State Engineer shall consider whether the proposed action is environmentally sound as it relates to the basin from which the water is exported.¹²⁹ The public record and discussion leading up to the enactment of NRS § 533.370(6)(c) do not specify any operational or measurable criteria for use as the basis for a quantitative definition. This provision of the water law provides the State Engineer with no guidance as to what constitutes the parameters of "environmentally sound;" therefore, like the criterion "does the use of the water threaten to prove detrimental to the public interest," it has been left to the State Engineer's discretion to interpret the meaning of environmentally sound.

¹²⁸ SNWA Water Resource Plan 09, 45-46 (Dec. 2009) (SNWA_Exh_209).

¹²⁹ The State Engineer finds that SNWA's suggestion that the State Engineer simply rest his environmental soundness determination under the public interest and interbasin transfer statutes on the BLM's compliance with NEPA is unsupported by law. The State Engineer further finds that a thorough examination of these criteria is necessary to fulfill the statutory requirements under Nevada law.

The legislative history of NRS § 533.370(6)(c) demonstrates that there was minimal discussion regarding the term environmentally sound. However, the State Engineer at that time indicated to the Subcommittee on Natural Resources that he did not consider the State Engineer to be the guardian of the environment, but rather the guardian of the state groundwater and surface water. The State Engineer noted that he was not a range manager or environmental scientist,¹³⁰ Senator James pointed out that by the language "environmentally sound" it was not his intention to create an environmental impact statement process for every interbasin water transfer application and that the State Engineer's responsibility should be for the hydrologic environmental impact in the basin of export.¹³¹ Additional testimony pointed to the fact that the greatest concern was that there would be enough water left in the basin from which the water was exported to ensure that the basin would remain environmentally viable and that it was important to protect the future environment of basins in the rural communities to ensure water would be available for future growth.¹³²

While there are no definitions of what environmentally sound is, there are examples of what environmentally sound is not, such as the Owens Valley project in California. The State Engineer believes that the legislative intent of NRS § 533.370(6)(c) was to protect the natural resources of the basin of origin and prevent a repeat of the Owens Valley while at the same time allowing for responsible use of the available water resources by the citizens of Nevada.

Environmental consideration for wildlife is found in NRS § 533.367, which provides that before a person may obtain a right to the use of water from a spring or water that has seeped to the surface of the ground, he must ensure that the wildlife which customarily uses the water will continue to have access to it. While this provision of the water law does not specifically apply to an appropriation of groundwater, it is a clear demonstration of the public interest in that the sources of water for wildlife remain accessible and viable.

Nevada Revised Statute § 534.020 provides that it is the intention of the Nevada Legislature to prevent the pollution and contamination of the groundwater and empowered the State Engineer to take action to prevent that pollution. Pollution of the groundwater would be considered to be environmentally unsound; therefore, in allowing for appropriating water, the State Engineer must take into consideration whether the extent of the pumping could draw nonpotable water into a drinkable water supply.

Another issue as to whether the use of the water is environmentally sound is the resulting groundwater level decline from the groundwater pumpage. The development of groundwater from a hydrologic basin with ET occurs through the capture of the ET by groundwater pumpage and a lowering of the groundwater levels. Nevada Revised Statute § 534.110(4) provides that it is a condition of each appropriation of groundwater that the right must allow for a reasonable lowering of the static water level at the appropriator's point of diversion. While water-level decline in and of itself may not be environmentally unsound, the effects of water-level decline on the hydrologic-related natural resources must be considered.

¹³⁰ Minutes of the February 22, 1999, Subcommittee meeting of the Senate Committee on Natural Resources.

¹³¹ *Id.*; Minutes of the March 8, 1999, Subcommittee meeting of the Senate Committee on Natural Resources.

¹³² Minutes of the April 21, 1999, Subcommittee meeting of the Senate Committee on Natural Resources.

As discussed in the Public Interest Section of this Ruling, Protestants GBWN et al. witness Dr. Deacon testified that the pumpage of groundwater will threaten to prove detrimental to the public interest because reductions in spring flow would result in the more rapid cooling of the thermal water of the regional springs, which will reduce the habitat for fish and spring snails and subsequently reduce reproductive potential. Dr. Deacon also testified that declines in spring flows or a lowering of the shallow water tables would reduce wetland areas, adversely impacting migratory birds, aquatic species, and mammals. With respect to Cave, Dry Lake, and Delamar basins, which are hydrologically connected to the fully appropriated down-gradient basins of the White River Flow System, Dr. Deacon testified that there will be impacts to the plants and animals dependent on those springs due to a reduction in discharge and those impacts threaten to prove detrimental to the public interest.¹³³ Dr. Deacon is very concerned about the regional springs in the down-gradient basins of the White River Flow System and does not believe that the Monitoring and Mitigation Program introduced by the Applicant will protect those areas.

Protestants GBWN et al. witness Dr. Patten and Long Now witness Dr. Robinson presented substantial evidence that the proposed use would result in the disappearance of wetlands, sub-irrigated meadows, swamp cedars, resulting in the potential for invasion by nonnative species and increased dust emissions from bare ground and dried playas.¹³⁴ The State Engineer finds that the models all agree that drawdown will be severe and will spread over a vast area of eastern rural Nevada and will extend into western Utah.¹³⁵ These drawdowns will have catastrophic impacts to wildlife and plant communities in the affected region, including those in national wildlife refuges and state wildlife management areas, and have the potential to cause serious additional dust emissions in a number of the affected valleys that will create serious air quality issues possibly extending as far as the Wasatch front. Impacts to Great Basin National Park air quality will also be likely. The State Engineer finds that it would not be environmentally sound to permit a project that would have such devastating impacts within several hundred years.

XIV. UNDULY LIMIT ECONOMIC GROWTH AND DEVELOPMENT

Nevada Revised Statute § 533.370(6) provides that in determining whether an application for an interbasin transfer of ground water must be rejected, the State Engineer shall consider whether the proposed action is an appropriate long-term use, which will not unduly limit the future growth and development in the basin from which the water is exported. Protestants claim the applications should be denied because removal of the water will adversely impact economic activity such as agriculture, power generation and transmission, mineral extraction, manufacturing, tourism and concentration of population. That in modern periods of drought there is insufficient water which creates hardships on cattlemen in that grazing areas do not have sufficient feed, surface waters are insufficient for irrigation and stock watering, water tables are lowered making it more difficult and expensive to pump water, and this effects economic value. If drought creates this many hardships, it is alleged that continual removal of the perennial yield

¹³³ Transcript Vol. 19, at 4164 – 69 (Nov. 3, 2011) (Deacon Direct).

¹³⁴ Transcript Vol. 18, at 3973-83 (Nov. 2, 2011) (Patten Direct); Transcript Vol. 28, at 6276 -338 (Nov. 17, 2011) (Robinson Direct).

¹³⁵ See Transcript Vol. 24, at 5388-90 (Nov. 10, 2011) (Bredehoeft Direct).

will destroy ranching. Finally, it is alleged that granting the applications in the quantity requested, that is for all the unappropriated water in the basin, will adversely affect agricultural operations in that it will affect the economic value of all farms and ranches, it will destroy the environmental balance thereby destroying grazing lands, wetlands, and farm lands and it will halt all potential agricultural growth.

As described above, it is clear that the substantial drawdowns predicted by all models will have a severe impact on the economies of the effected rural communities. The Applicant has made no provision for the maintenance of these communities and has not provided any of them with a seat on any of the monitoring and mitigation teams. Instead, the Applicant's approach is to downplay the significance of the people who live in these communities to the State of Nevada as a whole.

The Applicant focused its economic impacts presentation on the relative scale of the economies of Southern Nevada and eastern rural Nevada and suggested that ranching in the subject and downgradient basins is not economically viable. This portrayal is at odds with the reality that many people do ranch in these very areas, and are expanding or planning to expand their ranching operations. Protestants presented testimony through multiple lay witnesses, including Jim Garza, Gary Perea, Kena Gloeckner, Katherine Rountree, Roderick McKenzie, Nancy Brown, Doug Busselman, Craig Spratling, and John Wadsworth that there is significant economic activity in both the basins of origin and in surrounding communities that depend on the basins of origin. Provisions must be made for the continued viability of these communities in order to ensure that the public interest and interbasin transfer statute are satisfied.

The State Engineer finds that the Applicant's discussion of impacts to rural economies in eastern Nevada also fails to take into consideration the interdependence of economic activity and the scale of the economies. An analysis that focuses only on the direct dollar amount lost due to the pipeline project fails to disclose the reality that in many rural areas, where there is only one store, one gas station, or one convenience store, a decrease in business could, in fact, drive those businesses out of business. In rural communities, where there may be only one of a particular business, such closures likely would lead to the obliteration of the town where these businesses once existed. The State Engineer finds that Nevada water law does not permit the elimination of entire communities for the benefit of Southern Nevada.

Protestant witnesses also presented evidence that the specter of the Applicant's applications alone has been enough to suppress economic activity in the basins of origin and in surrounding communities.¹³⁶ The State Engineer finds that permitting a project that may never in fact be built clearly is not in the public interest of the State of Nevada as a whole.

After carefully reviewing and weighing the evidence presented by the Applicant and Protestants, the State Engineer finds that the Applicant presented very limited evidence regarding impacts to the economies of the basins of origin and those that depend on them, and further finds that Protestant witnesses presented substantial evidence that economic impacts would be severe. Thus, the State Engineer finds that the subject applications would unduly limit future economic development in the basins of origin.

¹³⁶ See Transcript Vol. 22, at 4987-89 (Nov. 8, 2011) (Kilkenny Direct); Transcript Vol. 24, at 5550 (Nov. 10, 2011) (Rountree Direct).

CONCLUSIONS OF LAW

I.

The State Engineer has jurisdiction over the parties and the subject matter of this action and determination.¹³⁷

II.

The State Engineer is prohibited by law from granting an application to appropriate the public waters where:¹³⁸

- A. There is no unappropriated water at the proposed source;
- B. The proposed use or change conflicts with existing rights;
- C. The proposed use or change conflicts with protectable interests in existing domestic wells as set forth in NRS § 533.024; or
- D. The proposed use or change threatens to prove detrimental to the public interest.

The State Engineer concludes, based on the findings, that there is no unappropriated water for export from the subject basins, that there is substantial evidence that the proposed use will conflict with existing rights and protectable interests in existing domestic wells, and that the proposed use of the water threatens to prove detrimental to the public interest; thus, under NRS § 533.370(5), the law mandates denial of the water rights applications.

III.

The State Engineer concludes that the Applicant has not provided satisfactory proof of its intention in good faith to construct the works necessary to apply the water to the intended beneficial use with reasonable diligence, or its financial ability and reasonable expectation actually to construct the work and apply the water to the intended beneficial use with reasonable diligence; thus, under NRS § 533.370(1)(c)(1), and (2), the law mandates denial of the water rights applications.

IV.

In determining whether an application for an interbasin transfer of groundwater must be rejected, the State Engineer shall consider:¹³⁹

- A. Whether the applicant has justified the need to import the water from another basin;
- B. If the State Engineer determines that a plan for conservation of water is advisable for the basin into which the water is to be imported, whether the applicant has demonstrated that such a plan has been adopted and is being effectively carried out;

¹³⁷ NRS chapters 533 and 534.

¹³⁸ NRS § 533.370(5).

¹³⁹ NRS § 533.370(6).

- C. Whether the proposed action is environmentally sound as it relates to the basin from which the water is exported;
- D. Whether the proposed action is an appropriate long-term use which will not unduly limit the future growth and development in the basin from which the water is exported; and
- E. Any other factor the State Engineer determines to be relevant.

The State Engineer concludes that based on the findings the Applicant has not justified the need to import water from another basin, the Applicant has provided a conservation plan sufficient to satisfy this section, that the use of water is not environmentally sound as it relates to the basin of origin, and that the use of water will unduly limit the future growth and development of the basin of origin; thus, under NRS § 533.370(6), the law mandates denial of the water rights applications.

RULING

The protests to Applications 54003 through 54021, inclusive, and Applications 53987 through 53992, inclusive, are hereby upheld in part and overruled in part, as noted above.

Applications 54003 through 54021, inclusive, and Applications 53987 through 53992, inclusive, are hereby denied.

Respectfully submitted,

Jason King, P.E.
State Engineer

Dated this ____ day of _____, 2012.

Respectfully submitted this 26th day of January, 2012.



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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of this **PROPOSED RULING OF PROTESTANTS GBWN ET AL** was served on the following, on this 26th day of January, 2012.

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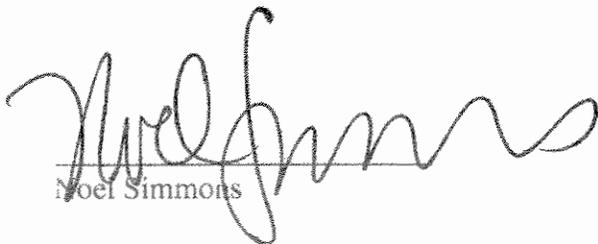
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