



THE UTAH GOLF ECONOMY:

ECONOMIC AND ENVIRONMENTAL IMPACT REPORT

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GOLF 20/20 for the
Golf Alliance for Utah
and prepared by SRI International



The Utah Golf Economy

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ACRONYMS

CMAA	Club Managers Association of America
GAU	Golf Alliance for Utah
GCBA	Golf Course Builders Association of America
GRAA	Golf Range Association of America
GCSAA	Golf Course Superintendents Association of America
IGCSA	Intermountain Golf Course Superintendents Association
LPGA	Ladies Professional Golf Association
NGF	National Golf Foundation
NGCOA	National Golf Course Owners Association
PGA	The Professional Golfers' Association of America
UGA	Utah Golf Association
UJGA	Utah Junior Golf Association
UPGA	Utah Section of The PGA
USGA	United States Golf Association
WGF	World Golf Foundation

STUDY OVERVIEW

Utah is for outdoor enthusiasts, and no one knows this better than golfers. Set amongst the state's natural wonders and wide-open spaces, Utah's 120 golf courses mix climbing alpine elevations with views of red rock canyons, buttes, and mesas. The state's 500+ inches of annual snowfall, iconic national parks, and 120 golf courses provide year-round recreational opportunities for Utah residents and visitors. Utah's three major recreational endeavors have similar participation rates and generate significant economic value. In 2012, golfers played 3.7 million rounds of golf; skiers made 4 million day visits; and sightseers made 6.5 million visits to Utah's Mighty 5 national parks.¹

In addition to its recreational value, golf is a key industry contributing to the vitality of Utah's economy. In 2012, the size of Utah's direct golf economy was approximately \$400 million, a level of economic activity comparable to several other important industries in the state: fitness and recreational sports centers (\$145.8 million), medical devices manufacturing (\$262.2 million), and basic chemical manufacturing (\$295.7 million).²

Golf's impact is felt far beyond the course. The game brings visitors to the state, drives new construction and residential development, generates retail sales, and creates demand for a myriad of goods and services. When the total economic impact of Utah's golf-related activities is considered, the golf industry generated approximately \$805.6 million of direct, indirect and induced economic output, \$250.1 million of wage income, and 9,625 jobs in 2012.

Moreover, the golf industry has played an important complementary role in rounding out the state's tourism industry outside of the ski season, and also in other parts of the state, from the Wasatch Front to small, rural communities through the state, from the high country valleys in northern Utah to the mild climates of St. George and Moab in the south. Early investments by municipalities in golf facilities from the 1960s through the 1990s helped catalyze development of new residential communities as well as to fill resorts, rentals and timeshares in the spring, summer and fall seasons.

Finally, the Utah golf industry strives to be a good environmental steward. Water is an important resource for the Utah golf industry, as in many other industries—e.g., agriculture, some types of manufacturing, hotels and restaurants, etc. However, Utah is the second most arid state in the country, averaging only 13 inches of precipitation annually. At the same time, Utah has experienced the third-

¹ The golf rounds estimate is based on PGA of America (2013), 2012 Operation Survey data; the ski day visits are from RRC Associates (2013), Ski Utah Skier & Snowboarder Survey: 2012/13 Winter Research Results, commissioned by Ski Utah; and the visits to Utah's Mighty Five national parks are from the Utah Office of Tourism (2013), 2012 Visitor Statistics.

² U.S. Census Bureau (2013), 2007 Economic Census, Geographic Series: Fitness and Recreational Sports Centers (NAICS 71394), Electromedical and Electrotherapeutic Apparatus Manufacturing (NAICS 334510), and Basic Chemical Manufacturing (NAICS 3251). 2007 revenues adjusted to 2012 dollars using the GDP deflator.

fastest population growth in the country, and this trend is expected to continue in coming decades. Therefore, stewardship of the land, especially as it relates to the use of precious water resources, is paramount for the golf industry and local communities. SRI's study findings presented in this report indicate that Utah golf courses:

- Represent 3.9% of the turfgrass in the state;
- Account for 0.65% of total diverted water consumed; and
- Generate significantly higher economic returns per acre-foot of water used compared to other water-intensive industries, resulting in much greater economic output, jobs, and income for state residents.

This report is the result of an effort by SRI International and GOLF 20/20, in collaboration with key golf stakeholders in several states, to bring consistency to the measurement and reporting of golf's economic impact across states. Historically, no comprehensive, standardized framework was employed in state-level studies. The framework and methodology for estimating the size and impact of the golf industry varied with each study. This made it difficult to monitor a state's golf industry growth over time and to make state-to-state or regional comparisons. This report describes and analyzes Utah's golf industry estimating both the size of the total golf industry and the total amount of economic activity in other sectors of the economy that the game of golf supports across the state. Included in this report is also a study of environmental impact, which estimates water consumed by Utah golf courses relative to other end users and calculates the economic returns on water use by other water-intensive industries.

Such analysis will assist Utah's golf industry stakeholders³ in raising awareness of the impact of golf to state and local policymakers.

There are many potential uses for such an analysis:

- Defining the range of core and enabled industries associated with the game of golf;
- Clearly articulating, for policymakers and regulatory agencies, the employment and revenue-generating contributions of the golf industry to the state economy;
- Building credibility and recognition of the golf industry as a significant business sector and a driver of economic activity in the state; and
- Putting the golf's water usage into context using available Federal, state, and university data on water consumption.

³ Key industry stakeholders comprising the Golf Alliance for Utah include representatives from the Utah Section of The PGA of America, the Utah Golf Association, the Intermountain Golf Course Superintendents Association, Salt Lake City Golf, Salt Lake County Golf, and St. George City Golf.

ANALYTICAL FRAMEWORK

Current economic studies of the golf industry in different states emphasize various factors and outcomes. For example, one may focus largely on the turf industry, while another might examine the impact of sports and recreation-related tourism more broadly. Ideally, one would want to include all the key activities and industries that are enabled by and benefit from the game of golf. To meet this goal, SRI has developed a standardized, economic impact framework that can be employed to measure a comprehensive set of golf-driven industry components. This state-level framework draws on the conceptual model of the golf economy developed in SRI's 2000 national-level *The Golf Economy Report* and the 2005 state-level *The Virginia Golf Economy Report*.

A. GOLF INDUSTRY CLUSTER DEFINITION

To arrive at economic impact, one must first estimate the size of the golf economy in the state. This entails mapping out where the golf industry begins and ends, and then estimating the size of each of these industry segments. We divide the golf industry cluster into two main categories: (1) core industries and (2) enabled industries (see figure below). The golf industry cluster begins with the golf facilities themselves and with those other core industries that produce goods and services used to operate facilities and to play the game: golf equipment and golf apparel manufacturers, golf course architects and course builders, turf maintenance equipment and service providers, and club management services. The game of golf further enables a number of other industries, such as golf-related tourism and real estate development.

We detail these industry segments and estimate their size in the following section. Having defined the core and enabled golf industries, it is possible to estimate the size of each industry segment and to total them for an overall estimate of the size of the golf economy. Multipliers can then be applied to calculate the ripple effects of these economic activities in terms of: (1) impact on total state economic output and (2) impact on total state employment. However, this process is complicated by the fact that, while most of these industries produce golf-related goods and services, the firms themselves may not limit their activities exclusively to the golf industry. For example, Nike produces golf shoes, but also running, tennis, basketball, and other shoes. Therefore, in general, our approach is to include only those firms and sales that are directly attributable to the game of golf. In so doing, we use a number of different estimation techniques to ensure that our final estimates are reasonable and robust.



Moreover, additional data challenges and location factors make estimation more difficult at the state-level than the national-level. For example, many of the major golf equipment manufacturers have production facilities in just a few states. Similarly, several of the major golf association headquarters are located in Florida. The presence of such firms, associations, or a number of well-known courses will change the size of golf's economic impact in the state considerably. Therefore, one should consider the size of the golf economy and the game's economic impact in the state in relation to the size of the overall economy and other major industries in that state.

B. DATA SOURCES

SRI developed its framework for measuring state golf economies based on a broad set of existing sources and data. Although there have been several state-level impact studies conducted in the past by numerous golf constituencies, few have used a similar methodology, resulting in very different estimates depending on the golf economy elements included. A great deal of data is collected on the golf economy by many organizations on a regular basis. For example, government agencies, national golf associations, and national associations in the enabled industries collect data on different industry

elements periodically—annually, every few years, or every five years. In addition, these data are based on a relatively consistent set of inputs by large numbers of constituents. Therefore, the principal challenges involve acquiring the data, inflating or deflating the estimates for the proper target year, and then combining them to represent the entire golf economy in the target year. The core and enabled industry indicators and data sources we have identified are as follows:

State Golf Economy Indicators and Data Sources		
Indicator	Primary source	Cross-validation source
Golf Facility Operations		
# of golf course facilities by type	PGA Facility Database, multiple years (2006-2012 data)	NGF Facility Database, multiple years; state golf associations; 2007 Economic Census
Avg. revenues by type of facility	PGA Facility Operations Survey, multiple years (2006-2012 data)	2007 Economic Census; National Golf Foundation; state task force
# of rounds by facility type	2006 PGA Compensation Survey (2005 data)	National Golf Foundation
Golf Course Capital Investments		
Avg. capital investment by type of facility	GCSAA Compensation Survey (2005, 2007, 2009, 2011 data)	National Golf Foundation; state task force
# of golf courses under construction in current year	National Golf Foundation (2007-2012 data)	NGF Construction database; state task force
Avg. cost of construction per new course	Golf Course Builders Association of America	State task force; interviews with golf course builders in state
Golf-Related Supplies		
Golf-related manufacturing exports	Company annual reports; SEC filings; interviews	Company interviews; state task force
Golf equipment	National Sporting Goods Association (2007-2012 data)	2006 PGA Compensation Survey (2005 data)
Golf apparel	National Sporting Goods Association (2007-2012 data)	2006 PGA Compensation Survey (2005 data)
Golf media	Magazine Publishers of America for golf magazine sales; <i>Bowker Annual of Library and Book Trade Information</i> (2007-2012 data)	Amazon and Barnes & Noble for top golf book sales
Major Tournaments		
# of major tournaments held in state	State task force	PGA TOUR, LPGA
Visitor attendance at tournaments, tournament revenues	Major golf associations	State tourism agency; national golf associations; state golf associations
Associations & Charitable Giving		
# of major state-level golf associations	State counterparts of national golf associations	State task force
Annual expenditures/budgets	State golf associations	IRS Form 990
Revenues raised through charitable golf events	National Golf Foundation	Sampling of golf professionals and club managers to identify # of tournaments and average amount raised
Real Estate		
# of residential golf courses under	National Golf Foundation	Online research

construction		
# of lots per course	Real estate development site plans; interviews with real estate developers	Real estate agents
Avg. construction costs per home and real estate premium	Interviews with real estate developers	Real estate agents
Hospitality/Tourism		
# of golf travelers or # of golf- related trips to the state	TNS Travel America or TIA/D.K. Shifflet & Associates	State department of tourism/recent surveys/studies
Avg. spending per traveler or per trip	TNS Travel America or TIA/D.K. Shifflet & Associates	State department of tourism/recent surveys/studies; National Golf Foundation

THE SIZE OF UTAH'S GOLF ECONOMY

SRI estimates the total size of Utah's golf economy in 2012 was approximately \$399.2 million. This estimate is comprised of \$243.2 million in core industries and an additional \$156.0 million in enabled industries, as illustrated in the table below.

Size of Utah's Golf Economy in 2012 by Industry Segment (\$ millions)	
CORE INDUSTRIES	
Golf Facility Operations	\$186.9
Golf Course Construction and Capital Investment	\$24.5
Golf-Related Supplies (retail margin and manufacturing exports)	\$27.6
Major Golf Tournaments and Associations	\$4.3
Total Core Industries	\$243.2
ENABLED INDUSTRIES	
Real Estate	\$64.7
Hospitality/Tourism	\$91.3
Total Enabled Industries	\$156.0
TOTAL GOLF ECONOMY	\$399.2

Note: Column may not sum due to rounding of individual estimates.

A. CORE INDUSTRIES

Golf Facility Operations

At the center of any golf economy lie the golf facilities—the largest component in terms of revenues. The revenue that flows through a golf facility comes primarily from green fees, membership fees, golf cart rentals, lessons, and associated spending on food and beverages. This revenue, in turn, supports a host of supply sectors including golf equipment and apparel designers and manufacturers, food and beverage providers, and turfgrass equipment and maintenance service providers. Utah's 120 golf courses, 3 stand-alone ranges, and 3 miniature golf facilities generated \$186.9 million of revenue in 2012.

Utah Golf Facility Revenues in 2012 (\$ millions)	
Golf Facilities	\$185.0
Practice Ranges & Alternative Facilities	\$1.9
TOTAL¹	\$186.9

Note: ¹ Golf facility revenues exclude on-course merchandise sales, which are included in the Golf-Related Supplies industry segment.

Golf is a sizeable industry, but is even more significant when compared to other popular revenue-generating sports. For example, Utah’s golf facilities generate revenues that exceed the combined revenue of all other professional spectator sports in the state—basketball, soccer, hockey, minor league baseball, etc. Spectator sports, excluding golf, generated revenues of \$146.8 million in 2007, or \$159.3 million in 2012 inflation-adjusted dollars.⁴

Comparison of Utah Golf Facility Revenues to Revenues from Spectator Sports in 2012 (\$ millions)	
Spectator Sports (Excluding Golf)	\$159.3
Golf Facilities	\$186.9

Source for spectator sports revenues: U.S. Census Bureau (2011). Utah: *2007 Economic Census, Arts, Entertainment & Recreation Geographic Series*, July 2011. Adjusted for inflation using GDP deflator to 2012 dollars.

Golf Facility Capital Investments

Golf facilities generate economic impacts beyond operational revenues through investments to upgrade and maintain facilities and infrastructure, and through the construction, expansion, and renovation of courses. These investments create employment in the construction and maintenance industries and often involve the purchase of significant amounts of equipment and supplies from companies within the state. SRI’s estimate of Utah’s golf facility capital investments is divided into two segments: (1) capital investments at existing facilities and (2) new course construction. Together, Utah’s golf facilities made \$24.5 million worth of capital investments in 2012: \$13.1 million of investments at existing facilities and \$11.4 million for the construction of new courses.

Utah Golf Facility Capital Investment and New Course Construction in 2012 (\$ millions)	
Golf Course Capital Investments¹	\$13.1
New Course Construction	\$11.4
TOTAL	\$24.5

Note: ¹ Only the New Course Construction category is included in the economic impact analysis, because it represents new economic output or activity. Golf course capital investments are typically financed through golf facility revenues, so including both Golf Course Capital Investments and Golf Facility Operations in economic impact analysis would result in double counting.

⁴ U.S. Census Bureau (2011). Utah: *2007 Economic Census, Arts, Entertainment & Recreation Geographic Series*, July 2011.

Golf-Related Supplies

Utah golfers spend significant sums on golf balls, golf clubs, golf apparel, and golf media (books, magazines, DVDs, software). The economic value that accrues to a state comes from the production of these golf-related goods, as well as retail sales of such items. Utah is home to a small number of companies that design and manufacture golf equipment and also golf-related software—e.g., OGIO International, TruGolf, Swing Master Golf, and Vision Perfect Software. Utah companies also manufacture fertilizer, chemicals and other golf course maintenance supplies that are shipped out of state.⁵ The value of such products that are sold in Utah is already captured in the retail portion of the Golf-Related Supplies segment. However, the proportion of production that is shipped to customers in other states and countries is not. These companies' value-added shipments are included in our analysis here.

Utah Manufacturers' Value-Added Exports of Golf-Related Products in 2012 (\$ millions)	
TOTAL	\$6.1

In 2012, Utah manufacturers' total value-added shipment of golf-related products was approximately \$6.1 million. On the retail side, Utah retailers and golf facilities earned approximately \$21.5 million on the sale of \$53.1 million of golf equipment, apparel, and media. In total, the Golf-Related Supplies segment contributed \$27.6 million in revenues to the Utah economy in 2012.

Utah Retailers' Net Revenues on Consumer Purchases of Golf-Related Supplies in 2012 (\$ millions)		
	Total purchases	Retail sales margin
Golf Equipment (retail margin)	\$28.1	\$11.3
Golf Apparel (retail margin)	\$24.9	\$10.1
Golf Media (retail margin)	\$0.2	\$0.1
TOTAL	\$53.1	\$21.5

Note: This includes on-course and off-course purchases of golf equipment, apparel, and media. Column does not sum due to rounding.

⁵ Unfortunately, it is not possible to disaggregate corporate financial information to the level required for sales to out-of-state golf facilities.

Associations, Major Tournaments & Charitable Giving

Associations and Major Tournaments

Numerous associations represent the game of golf in Utah. The largest golf associations include the Utah Golf Association, the Utah Section of The PGA, the Intermountain Golf Course Superintendents Association, and the Utah Junior Golf Association. The Salt Lake City region accounts for over two-thirds of the state economy, and major golf associations at the local level include Salt Lake City Golf, Salt Lake County Golf, the Salt Lake City chapter of the Executive Women's Golf Association, and St. George City Golf. The First Tee of Utah introduces youth to the game and values of golf, along with The Utah Section of The PGA's Utah Junior Golf Foundation, which sponsors the Junior Golf Connection, golf programs for youth of all ages that includes parent-child events and recreational and competitive tournaments.

In 2012, Utah hosted one major professional golf tournament, the Utah Championship, a PGA Tour event presented by the Utah Sports Commission. Previously known as the Utah Classic, the Utah Championship is part of the Web.com Tour. It is an annual event that has been played in Utah since 1990 when the tour commenced. The event was originally managed locally by the UPGA and was hosted at the Riverside Country Club in Provo, UT, before moving to the Willow Creek Country Club in Sandy, UT in 1997. Other tournaments of note played in Utah in 2012 include the U.S. Amateur Public Links Championship and the Utah Open. The U.S. Amateur Public Links Championship is the first USGA championship event to be held in Utah, and the 2012 tournament champion, T.J. Vogel, won by the second largest margin in the event's history.⁶ The Utah Open, organized by the Utah Section of The PGA, was first played in 1926 and draws amateur and professional golfers from across Utah and neighboring states. In 2012, the 85th edition of this Utah state open golf tournament was hosted by Oakridge Country Club in Farmington, UT.

In 2012, the Web.com Tour event (excluding the tournament purse and costs for TV broadcasting) combined with Utah golf associations generated \$4.3 million of expenditures.

Utah Major Tournament & Association Revenues in 2012 (\$ millions)	
TOTAL	\$4.3

⁶ USGA. 2012. "Vogel Claims 2012 APL Championship."
<http://www.usga.org/ChampEventArticle.aspx?id=21474848565>.

Charitable Giving

Utah's golf industry makes substantial contributions to a variety of charities. At the championship level, the Utah Championship generated close to \$200,000 in proceeds for Special Olympics-Utah from 1990 to 1997, and has benefited many other charities across the state since then, including the Junior League of Salt Lake City, the Road Home, Jewish Family Service, Volunteers of America, The Children's Center, West Ridge Academy, Adopt a Native Elder, United Way of Salt Lake, the Ghandi Peace Center, Sealants for Smiles, Juan Diego Home and School, Regents Caring Foundation, Utah Animal Adoption Center, and the Junior Golf Academy Foundation.⁷ The Utah Open raised \$35,000 to benefit Special Olympics-Utah in 2012.

In total, much larger than the charitable monies raised by professional events are the numerous charitable events hosted by Utah golf facilities each year. For example, the 21st Annual Chili Open and Golf Classic of Utah presented by the Rotary Club of Sugar House has raised almost \$3.5 million in net proceeds since its inception in 1992. This event benefits local charities including Cancer Wellness House, Pingree Center for Children with Autism, People Helping People, and many others.⁸ The 15th Annual AMICUS Open played at Wasatch Mountain State Park Golf Course raised \$160,000 to benefit research and education at Intermountain Healthcare's Salt Lake Valley hospitals. The annual Playing for Life Invitational held at Park City Golf Club generated \$77,500 in net proceeds in 2012 to fund breast cancer research at the Huntsman Cancer Institute, as well as to sponsor women survivor retreats with the Image Reborn Foundation and to provide breast exams and mammograms to women without health insurance.⁹ Played at Mountain Dell Golf Course in Salt Lake City, UT, in 2012, the 17th Annual Boys & Girls Clubs of South Valley (BGCSV) Golf Classic raises approximately \$40,000 annually. The Park City Board of REALTORS® Philanthropic Foundation & Affiliate Members' 7th Annual Charity Golf Tournament was held at Red Ledges in Heber City, UT in 2012 to benefit The Children's Justice Centers in Summit and Wasatch Counties, which serve victims of child abuse and their families. Since 2006, this tournament has raised over \$300,000 for local charities.¹⁰ In the St. George area, The Rulon D. Woodbury Jubilee Classic has raised \$950,000 since 1999 for the Dixie Regional Medical Center Foundation, and the Dixie Celebrity Classic played at Sunbrook Golf Club has raised hundreds of thousands of dollars for Dixie State University scholarships and athletic department operations. Additionally, the Huntsman World Senior Games (HWSG), which includes a full week of golf and other

⁷ 22nd Annual Chili Open and Golf Classic of Utah Presented by the Rotary Club of Sugar House.

<http://utahchiliopen.com/home.html>

⁸ ABC 4 Utah, "Charity Golf Tournament at Red Ledges," September 5, 2012.

http://www.abc4.com/content/about_4/gtu/featured_on/story/Charity-Golf-Tournament-at-Red-Ledges/PVFTYgo27U6S-tX0QId4AA.csp

⁹ Playing for Life Foundation. <http://www.theplayingforlifefoundation.org/7thAnnualInvitation.pdf>

¹⁰ ABC 4 Utah, "Charity Golf Tournament at Red Ledges," September 5, 2012.

http://www.abc4.com/content/about_4/gtu/featured_on/story/Charity-Golf-Tournament-at-Red-Ledges/PVFTYgo27U6S-tX0QId4AA.csp

sports competitions, provides free health screenings annually to the thousands of HWSG participants as well as residents in Washington County over the event's 26-year history.

Golf course owners, operators, and golf professionals are happy to serve as access points for annual fundraising by local service organizations. In total, SRI estimates that the amount of charitable giving attributed to the game of golf in Utah was \$11.2 million in 2012.

Utah Golf Industry's Charitable Giving in 2012 (\$ millions)	
TOTAL	\$11.2

B. ENABLED INDUSTRIES

Golf Real Estate

Real estate developers use amenities to attract new home buyers, and golf is a key amenity in many parts of the state. The development of new golf communities in Utah followed the rise in the national real estate market, which peaked in 2005 in terms of new home starts and existing home sales, and suffered from the financial crisis and recession of 2007-2009.¹¹ In 2012, Utah's housing market began to see some recovery spurred by historically low mortgage rates (30-year mortgage rates below 4 percent) and strong economic growth (3.4% GDP growth). Following this slight upturn, Utah's golf communities also saw small signs of recovery in new home construction in 2012. Several developments were underway in the Park City area, such as The Outlaw Golf Club in Hideout, Red Ledges in Heber City, and Tuhaye, among others. Examples of golf community developments elsewhere in the state include: The Dunes at Sand Hollow Resort, near Zion National Park; Valderra Golf Club at The Ledges, also in Southwest Utah in St. George; and SunRiver St. George Golf Club in St. George.

New golf-related real estate construction generated \$54.4 million in 2012. Furthermore, in 2012 there were an estimated 25 golf communities in Utah, and SRI estimates the "golf" premium associated with the sale of real estate in these developments to be \$10.3 million. The premium is the additional amount a buyer is willing to pay for a home or property located on a golf course or within a golf community.

¹¹ National Association of Realtors data.

Utah's Golf Real Estate Revenues in 2012 (\$ millions)	
Golf-Related Residential Construction	\$54.4
Realized Golf Premium	\$10.3
TOTAL	\$64.7

Note: The sale of existing homes is considered a transfer of assets rather than new economic output, so the golf premium that is realized in the sale of an existing home is not included in the economic impact analysis.

Golf-Related Hospitality/Tourism

Across the country, golf has enjoyed increasing popularity among travelers, whether it is the primary motivation for a trip or is connected to other recreational time spent with friends and family, or business colleagues. In Utah, golf complements the state's year-round outdoor recreational offerings: its iconic national parks, snow-capped mountains, and historic sites. The state's "Visit Utah" website¹² features golf as a key tourist activity, and the "Play Utah Golf" is a comprehensive online guide to year-round golf destinations across the state (<http://www.playutahgolf.com/>). Utah's amateur and professional golf tournaments also draw golf enthusiasts within and outside the state.

In 2012, SRI estimates golf-related tourism spending in Utah was \$91.3 million. This is based on the following estimates of golf trips and associated expenditures by Utah residents and non-residents: (1) an estimated 356,100 *day* trips with average golf trip spending of \$56 per person and (2) an estimated 231,400 *overnight* trips with average trip spending of \$309 per person.¹³

Utah Golf-Related Travel Expenditures in 2012	
# of day trips	356,100
Average travel \$ per day trip	\$55.62
# of overnight trips	231,400
Average travel \$ per overnight trip	\$309.17
Total	\$91.3 million

Note: Numbers do not sum due to rounding.

¹² See <http://www.visitutah.com/things-to-do/outdoor-adventures/golf/>

¹³ All trips refer to "person-trips" which simply means the count of the total number of people taking a trip. Therefore, 356,100 day trips should be interpreted as 356,100 people who took a day trip, and 231,400 overnight trips should be interpreted as 231,400 people who took a trip including at least one overnight stay at the destination.







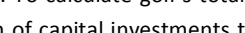
GOLF'S ECONOMIC IMPACT IN UTAH

Golf's impact on Utah's economy includes both the direct effects of economic activity in the core and enabled golf industries, as well as the indirect and induced (or multiplier) effects on other industries in the state economy. In economics, the idea of the multiplier is that changes in the level of economic activity in one industry impacts other industries throughout the economy. For example, a fraction of each dollar spent at a golf course is, in turn, spent by the golf course to purchase goods and services for golf course operation—these are indirect effects. In addition, golf course employees spend their disposable income on personal goods and services, and this stimulates economic activity in a myriad of other industries—these are induced effects.

Therefore, golf's total (direct plus multiplier) economic impact includes both the direct employment and wage income of those employed in golf-related industries, as well as the secondary employment and wages supported in other sectors of the economy through subsequent purchases of goods and services by golf industry employees.

In 2012, the \$399.2 million Utah golf industry supported:

- A total economic impact of \$805.6 million for the state of Utah including the indirect and induced economic impacts stimulated by golf sector activity;
- A total employment impact of over 9,600 jobs; and
- Total wage income of \$250.1 million.

Golf's Impact on Utah's Economy in 2012						
INDUSTRY	DIRECT (\$ millions)	INDIRECT	INDUCED	TOTAL OUTPUT (\$ millions)	TOTAL JOBS	TOTAL WAGE INCOME (\$ millions)
Golf Facility Operations	\$186.9			\$386.4	5,106	\$119.0
Golf Course Capital Investments*	\$24.5			\$27.0	255	\$8.9
Golf-Related Supplies	\$27.6			\$46.9	535	\$14.7
Tournaments & Associations	\$4.3			\$10.2	107	\$3.2
Real Estate **	\$64.7			\$128.5	1,216	\$42.2
Hospitality/Tourism	\$91.3			\$206.6	2,405	\$62.1
TOTAL	\$399.2			\$805.6	9,625	\$250.1

Note: Columns may not sum due to rounding. To calculate golf's total economic impact, SRI subtracted from the direct golf economy impact of \$399.2 million the portion of capital investments that is investment in existing facilities (\$13.1 million of \$24.5 million) and the portion of real estate that is the realized golf premium associated with the sale of real estate in existing developments (\$10.3 million of \$64.7 million). This is because:

*Golf Facility Capital Investments—Only new course construction has an indirect and induced economic impact. Other types of facility capital investments are typically financed through facility revenues and, therefore, are omitted to avoid double-counting.

**Real Estate—Only golf residential construction has an indirect and induced impact. The golf premium associated with golf real estate is considered a transfer of assets rather than new economic activity.

GOLF'S ENVIRONMENTAL IMPACT IN UTAH

Land and water are critical inputs for the Utah golf industry—as they are for most of the state's agricultural, industrial, and commercial enterprises. However, Utah is the second most arid state in the nation with approximately 13 inches of annual precipitation. At the same time, Utah has experienced the third fastest population growth in the country, and this trend is expected to continue in coming decades. The growing population is increasing demands on water resources particularly for residential and business use. In the past decade, the Utah Department of Water Resources has stepped up its water conservation efforts focused on residential and commercial users. In addition, there has been a simultaneous effort to encourage the efficient use of water resources through the implementation of new technologies and improvements to existing infrastructure.¹⁴ Therefore, active participation in this stewardship of the land, especially as it relates to use of precious water resources, is paramount for the golf industry in Utah and the local communities it serves.

This section estimates how the golf industry uses land and water in Utah and compares it to other uses of water in the state. It then examines the economic output, measured by crop value, of a sample of major agricultural crops in Utah and compares this to the economic output generated by Utah golf facilities—turfgrass can be considered an agricultural crop and its inputs are very similar to other agricultural crops. Finally, this section illustrates several examples of conservation and environmental stewardship in the state of Utah. These examples focus on golf's stewardship of land and water resources and efforts to limit the application of nutrients and pesticides.

Utah Golf's Land and Water Use

Approximately 25 percent of the golf courses in the Upper West Mountain agronomic region irrigate with water from municipal or public water systems.¹⁵ Golf facilities in Utah draw water from a combination of sources including surface runoff collection in open water lakes and ponds, rivers and streams, onsite wells, potable and non-potable public systems, and recycled sources.

According to data from the Utah Legislature's Office of Legislative Research and General Counsel (2012), and the Utah Division of Water Resources (2010), total water diverted in Utah is approximately 5.15 million acre-feet per year, with 4.2 million acre-feet diverted for agriculture (82 percent) and the remaining 0.95 million acre-feet diverted for municipal and industrial users.¹⁶ Approximately 10 percent of Utah's water is used for indoor and outdoor residential consumption, while 8 percent goes to commercial/industrial/institutional users. Large amounts of water are used for outdoor residential and

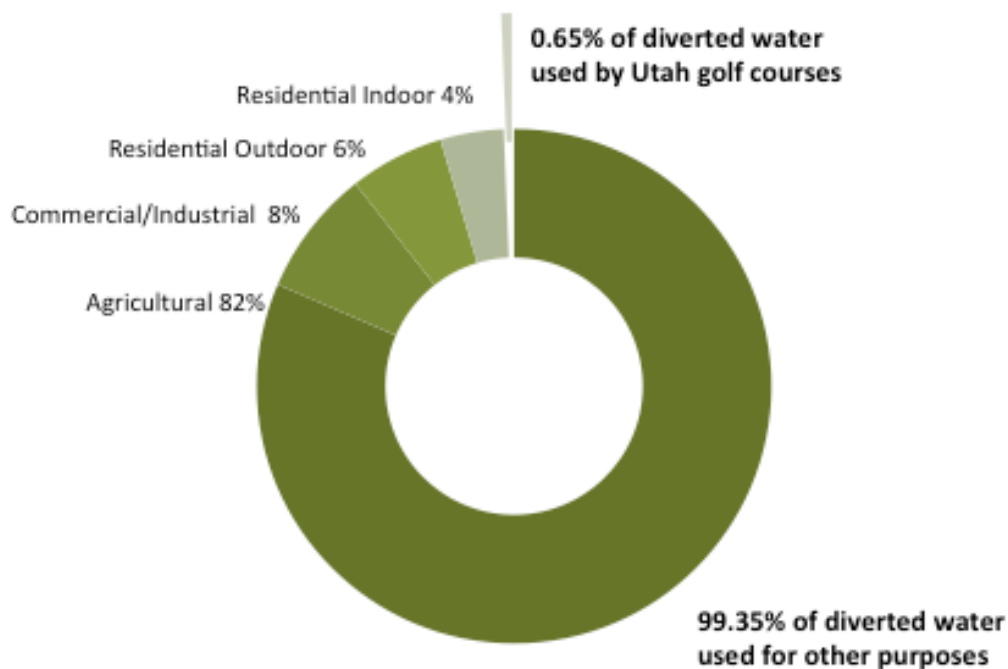
¹⁴ Webb, G. (2013). "Tapping Out: Utahns Face an Increasingly Tight Water Supply." *Utah Business*.

¹⁵ GCSAA, Environmental Institute for Golf (2009a). *Golf Course Environmental Profile: Volume II, Water Use and Conservation Practices on U.S. Golf Courses*.

¹⁶ Note that there are 326,700 gallons in 1 acre-foot (which is equivalent to 43,560 cubic feet).

commercial landscapes, and often, not very efficiently.^{17 18} In the state water context, golf courses use approximately 0.8 percent of the water diverted for agricultural purposes and approximately 0.65 percent of the total water diverted in the state, while golf courses represent approximately 3.9 percent of the turfgrass in the state. Residential lawns and gardens use approximately ten times as much water as golf courses. A study of residential consumption found, that similar to golf courses, residential customers used less water in response to Utah's "Slow the Flow" media water conservation campaign.¹⁹ The figure below illustrates the Utah golf industry's water usage relative to other uses of water in the state.

Figure 1 Breakdown of Utah's Diverted Water by End Use, 2010



Source for golf course water consumption: SRI calculation based on survey data from Golf Course Superintendents Association of America, Environmental Institute for Golf (EIFG) (2009). *Golf Course Environmental Profile, Volume II: Water Use and Conservation Practices on U.S. Golf Courses*.

Source for other types of water consumption: Utah Legislature, Office of Legislative Research and General Counsel (2012). *How Utah Water Works*. Briefing Paper; Utah Department of Natural Resources, Division of Water Resources (2010), *Municipal and Industrial Water Use in Utah*.

¹⁷ Humanists for Utah (2012). *Water Waste in Utah*. http://humanistsforutah.org/2012/Water_Waste_Apr-12.html.

¹⁸ Webb, G. (2013).

¹⁹ Utah Division of Water Resources (2010). *2009 Residential Water Use*.

For this study, estimating the total water use for Utah golf courses involved three steps:

- 1) SRI estimated the number of 18-hole equivalents in Utah. SRI used golf facility databases from the National Golf Foundation (NGF), the Utah Section of The PGA of America, and the Utah Golf Association to create a comprehensive list of golf courses and ensure that all facilities were accounted for (as illustrated in the prior section on golf facility operations). The estimate of 112 18-hole equivalent courses in 2012 comes from the NGF (2013).
- 2) SRI estimated total and irrigated acreage for Utah golf facilities, which are located in the Upper-West Mountain agronomic region, according to the GCSAA Environmental Institute for Golf. Total acreage and irrigated acreage for the Upper-West Mountain agronomic region is based on golf facility survey data. Based on this research, SRI estimated 150 acres per 18-hole equivalent to yield a total of 16,800 golf facility acres and 11,536 irrigated acres (irrigated acreage is different for each agronomic region). Due to limited rainfall, golf courses in the Upper-West Mountain agronomic region irrigate a larger area and use more water per 18 holes than all but one other agronomic region in the U.S., the Southwest region. Irrigated acreage includes tees, fairways, greens, rough, practice areas, and clubhouse landscapes. It does not include non-turf landscapes, such as non-irrigated woodlands or grasslands, water bodies, bunkers, buildings, parking lots, and roads and trails. Irrigated acreage represents approximately two-thirds of the acreage on a golf facility. Melisi, Running, Elvidge, Dietz, Tuttle, & Nemani (2005) estimated that Utah has approximately 300,000 acres of turfgrass. Therefore, In Utah, golf courses represent approximately 3.9 percent of the turfgrass in the state. Golf's relatively low percentage of total turfgrass acreage is due to the fact that most turfgrass acreage is associated with residential and commercial landscapes, right of ways, parks, schools, and sports fields. However, because golf courses are well used urban landscapes in full public view, perceptions of the magnitude of land and water they consume is often overestimated. The current calculations of total golf facility acreage and total golf facility irrigated acreage are presented in the table below.

Utah Golf Facility Irrigated Acreage for the Agronomic Region					
AGRONOMIC REGION	NUMBER OF UTAH FACILITIES	18-HOLE EQUIVALENTS	TOTAL COURSE ACREAGE	AVERAGE IRRIGATED ACREAGE	TOTAL IRRIGATED ACREAGE
Upper-West Mountain	120	112	16,800	103	11,536

Source: SRI calculations based on survey data from: Golf Course Superintendents Association of America, Environmental Institute for Golf (EIFG) (2007). *Golf Course Environmental Profile, Volume I: Water Use and Conservation Practices on U.S. Golf Courses*. EIFG (2009). *Golf Course Environmental Profile, Volume II: Water Use and Conservation Practices on U.S. Golf Courses*.

- 3) Next, SRI estimated total water use for the irrigated acreage. Estimated water use per acre per year, by region was based on GCSAA research (see table sources). Estimated total water use calculations for Utah golf facilities are presented in the table below.

Utah Golf Facility Water Use			
AGRONOMIC REGION	TOTAL IRRIGATED ACRES	ESTIMATED WATER USE PER ACRE *	TOTAL WATER USE*
Upper-West Mountain	11,536	2.9	33,454

* Acre-feet per year (1 acre-foot = 326,700 gallons)

Source: SRI calculations based on research from: Lyman, G.T. (2007). "Golf Course Land Use, Water Use, and Conservation." Presentation at the Irrigation Association Conference, San Diego, CA; Golf Course Superintendents Association of America, Environmental Institute for Golf (2009). *Golf Course Environmental Profile: Volume II, Water Use and Conservation Practices on U.S. Golf Courses*; Throssell, C.S., Lyman, G.T., Johnson, M.E., Brown, C.D. (2009). "Golf course environmental profile measures water use, source, cost, quality, and management and conservation strategies." *Applied Turfgrass Science*.

SRI calculates that Utah golf facilities' 11,536 irrigated acres require approximately 33,454 acre-feet of water annually. This represents an average of 300 acre-feet of water per 18-hole equivalent, per year. Water use on individual courses can vary widely, and these differences may result from variations in conditions such as average temperature, altitude, rainfall, type of facility, and irrigation practices, which may result in under- or over-watering. For example, private courses tend to irrigate more acreage and spend more of their maintenance budget on water.²⁰ A prior study of metered delivery for a sample of Utah golf courses from 2000 through 2003 revealed a wide range of irrigated acreage: 79 to 185 irrigated acres for an 18-hole course and 169 acre-feet to 641 acre-feet of metered water delivery per year for an 18-hole course.²¹ The same study also found that the number of irrigated acres and overall water use declined over the four-year period resulting in improved irrigation efficiency. Respectively, for each year in this period, 326, 332, 303, and 287 acre-feet of water were applied per 18-hole equivalent. These declines were attributed in part to the Governor's water conservation campaign and golf facilities decreasing their watering in natural and rough areas. The metered application rates in the final two years of this study are very close to the applied water estimates generated by the GCSAA research (approximately 300 acre-feet, per year) that were used to estimate consumption in this study.

²⁰ GCSAA (2009a).

²¹ Utah Division of Water Resources (2004). *Golf Course Irrigation Study*.

Revenue Per Unit of Land and Water

In 2012, golf courses produced significant economic returns in comparison to other agricultural commodities that require irrigation. Similar to several prior studies, golf facilities tend to generate greater economic returns per unit of land and water.^{22 23 24} The table below illustrates economic output per unit of land and water, for a sample of individual crops, combined crops, and golf facilities.

Utah Water Use Estimates and Economic Return Comparisons				
CROP EXAMPLES	IRRIGATED ACREAGE	REVENUE	REVENUE PER IRRIGATED ACRE	REVENUE PER ACRE-FT OF WATER
Alfalfa	580,000	\$449,442,000	\$775	\$365
Other hay	180,000	\$60,588,000	\$337	\$190
Winter wheat	124,000	\$49,290,000	\$398	\$325
Corn for grain	30,000	\$33,210,000	\$1,107	\$718
Other spring grain	20,000	\$10,120,000	\$506	\$337
TOTAL CROPS ABOVE	934,000	\$602,650,000	\$645	\$339
Golf courses	11,536	\$184,976,000	\$16,035	\$5,529

Sources: SRI calculations based on data from: Golf Course Superintendents Association of America, Environmental Institute for Golf (EIFG) (2009), *Golf Course Environmental Profile, Volume II: Water Use and Conservation Practices on U.S. Golf Courses*; U.S. Department of Agriculture, National Agricultural Statistics Service (2012), *Utah 2011 Final Crop Production Summary*; Hill, R.W., Barker, J.B., & Lewis, C.S. (2011), *Crop and Wetland Consumptive Use and Open Water Surface Evaporation for Utah*, Utah State University.

The most current estimates of crop acreages and crop values were obtained from the Utah Agricultural Statistics Service. Several major crops were selected that had estimates of both harvested acreage and total production value (hay, wheat, corn). Crops such as cherries and peaches yielded higher returns per acre, but were not used for comparisons because of relatively small numbers of harvested acres in few regions of the state (e.g., 1,500 acres of peaches).

Crop water use estimates were based on a comprehensive study of consumptive use and irrigation requirements for major crops in Utah.²⁵ In this study, crop water use was estimated for a 38-year period

²² Templeton, Zilberman, & Henry (2010). "Golf Courses in California as Modern Agricultural Enterprises." *Agricultural and Resource Economics Update*.

²³ SRI International (2002). *The Golf Economy Report*.

²⁴ SRI International (2006). *The Virginia Golf Economy Report*.

²⁵ Hill, Barker, & Lewis (2011). *Crop and Wetland Consumptive Use and Open Water Surface Evaporation for Utah: Final Report*.

using weather data from the network of National Weather Service stations in Utah and adjacent states. Crop reference evapotranspiration and the crop irrigation requirements were calculated for each weather region considering variables such as air temperature, solar radiation, wind, humidity, and precipitation. Crop irrigation requirements were estimated in inches per year and excluded effective precipitation.

The estimated irrigation requirements indicate the amount of water needed to maintain a healthy crop. Using average values from the sample regions illustrated in the Hill, Barker, & Lewis (2011) report, SRI estimated the irrigation requirements in terms of acre-feet per acre, acre-feet per year, and total acre-feet for each crop. For example, corn for grain requires an average of 1.54 acre-feet per acre for 30,000 acres, resulting in an annual use of approximately 46,200 acre-feet of water. Average acre-feet per acre estimates were: alfalfa—2.12, other hay—1.77, winter wheat—1.22, spring grain—1.5, and corn for grain—1.54. It should be noted that this is a conservative estimate of water use because diversion of water for these crops is much greater than the estimates of consumptive use.²⁶

The revenue estimate for golf courses included only green grass golf facility revenues, and excluded capital expenditures, or revenues associated with golf equipment manufacturing, golf merchandise, charitable giving, travel, tourism, or real estate. These values are described in the “Detailed Methodology” section of this report. The land and water comparisons presented in the table above, illustrate that golf facility revenues per acre and per acre-foot of water are substantially higher than those for many irrigated crops, resulting in much greater economic output, jobs, taxes, etc. per input unit of land and water. While few would argue with the beneficial use of water resources for traditional agricultural purposes, the golf industry in Utah also demonstrates important beneficial uses related to promoting individual wellness through recreation and socialization, as well as substantial economic benefits to local communities.

Sustainability and Environmental Stewardship

Providing significant economic returns and jobs for Utah citizens is only part of the equation for an industry to thrive in the state. Golf course owners, operators, and allied golf organizations must be conscientious stewards of the land and water resources required to sustain the industry and provide recreational opportunities to millions. In this vein, the golf industry has aggressively pursued conservation strategies to reduce the potential negative impacts of turfgrass management and to conserve water. In spite of the fact that golf facilities represent a small percentage of the land, water, and nutrient use in Utah, golf course owners and superintendents understand that it is essential to be proactive and work closely with regulatory agencies, university extensions, and other agricultural, municipal, and industrial users to be part of the conservation solution. Moreover, beyond regulatory requirements, costs related to water, managing water systems and the associated labor, as well as

²⁶ Reid, Christensen, & Hill (2008). “Water Rights in Utah.”

nutrient application, continue to increase and remain a major expense for golf facilities. Therefore, it is strongly in their financial interest to conserve and optimize resources while maintaining high-quality turf and landscapes on golf properties. Examples of strategies employed to enhance environmental stewardship and make the game of golf more sustainable, in local communities, are discussed below.

Improving Water Systems and Irrigation Practices through System Audits and Technology. A major focus of golf course superintendents and course maintenance professionals involves maintaining and improving irrigation control and water distribution systems. Many technologies such as local weather stations and central control computers employ site-specific weather and evapotranspiration data to adjust irrigation volume and intervals. These systems can also manage the time of water application to focus on “off-peak” demand periods for water and power. In addition, soil monitoring systems and portable moisture sensors can provide superintendents with real-time data to help eliminate overwatering. Combining these technologies with deep and infrequent watering, maintaining systems to improve distribution uniformity, and the use of wetting agents and growth regulators, can substantially reduce water usage.

Efficient irrigation is particularly important for golf facilities that draw water from municipal systems that monitor both residential and commercial uses. In addition, municipal water is the most expensive source for golf courses. This is the case for Salt Lake City, which irrigates eight municipal facilities (7.5 18-hole equivalents) and draws from metered public supply. Recently, Salt Lake City Golf conducted an irrigation audit to understand current irrigation efficiency and how upgrades to system infrastructure could improve conservation efforts. An analysis of 5-year water use data from the 2008/2009 season through the 2012/2013 season indicated average annual consumption of 1,772 acre-feet of water to irrigate 948 acres of turfgrass.

To put the Salt Lake City Golf water use in context, the data illustrates that Salt Lake City golf courses use an average of 1.87 acre-feet of water per acre per year as compared to an average for the agronomic region of 2.9 acre-feet per acre per year.²⁷ These same facilities irrigated more acreage than average for the region, but averaged substantially fewer acre-feet per year per for 18-holes: 236 acre-feet per 18-hole equivalent compared to approximately 300 acre-feet per 18 holes for the agronomic region. Additionally, the use of 1.87 acre-feet or 22.4 inches per acre is less than the 24.26 inches for Salt Lake City, based on long-term seasonal water use estimates, as illustrated in a report by the Utah State University Extension (2002). Overall, the Salt Lake City Golf metered use in the past five years is quite efficient based on both recommended use and reported use in the golf industry. Additional conservation and reduction of water use and the associated costs may come from upgrading irrigation systems, watering less acreage, and increasing the use of non-potable reclaimed water.

²⁷ GCSAA (2009a).

Increasing Use of Reclaimed Water. According to the Utah Division of Water Resources (2005), agricultural uses, as well as municipal landscapes such as golf courses, are prime targets for water reuse projects. Consistent with these efforts, golf facility managers have worked closely with municipal and industrial water agencies to reuse non-potable water to offset a portion of the turf irrigation requirements. The Division of Water Resources identified golf course reuse examples and proposed projects in the Central Valley, Tooele, Orem, St. George, and Saratoga Springs water districts. However, water reuse depends upon distribution systems and new infrastructure to transport reclaimed water to end-users. Golf courses close to urban and suburban water treatment and recycling plants tend to be the best options for reuse, because there is greater infrastructure in place as well as fewer challenges distributing the effluent.

Monitoring and Controlling Nutrient and Chemical Use. Managing the use of turf nutrients and chemicals, such as pesticides, fungicides, and herbicides, is a critical function of golf industry professionals in Utah, even though golf courses represent a small amount of acreage, water use, and nutrient and pesticide use relative to other agricultural, commercial, and residential uses. A major concern of most communities involves nonpoint source pollution that comes from diffuse sources. Runoff from rain and snow carries man made pollutants such as excess nutrients, pesticides, surface oils and chemicals and deposits them in rivers, streams, underground aquifers, and lakes. This can create hypoxic zones where excess algae grow and harm food resources for plants and animals.²⁸ Agricultural nonpoint pollution (farming and ranching) is a leading source of impacts of surveyed rivers and lakes.²⁹

Research conducted by the GCSAA (2009b), indicates that although a small percentage of facilities in the U.S. were required to have nutrient management plans by regulatory agencies, approximately 50 percent had written management plans and the percentage with a plan increased with the size of the facility (9, 18, or 27+ holes). Additionally, courses in Utah's agronomic region tended to follow university extension and scientific recommendations for fertilizer application and used fewer pounds per acre of primary nutrients than the national average (138lbs to 154lbs of nitrogen, 125lbs to 157lbs of potassium/potash, and 60lbs to 65lbs of phosphate).

Direct comparisons of nutrient applications between golf courses, Utah agriculture or residential and commercial applications are difficult to make because they depend on soil conditions and may vary widely in different locations. The GCSAA and university agricultural extensions, such as Utah State University, recommend soil testing to determine nutrient deficiencies and the optimum result desired in terms of yield per acre for agronomic crops or the desired turf characteristics for golf courses before nutrient application. However, research-based recommendations for nutrients for alfalfa at the midrange of soil depletion indicate nutrient recommendations similar to turfgrass use for potassium and

²⁸ Utah Department of Environmental Quality (2013). *Nutrients in Utah's Waters*.

²⁹ U.S. Environmental Protection Agency (2005). *Agricultural Nonpoint Source Fact Sheet*.

greater for phosphate.³⁰ Comparisons of nitrogen use are difficult because it is only recommended for new stands of alfalfa and not for mature plants. However, research recommendations for grass hay, grass pasture, corn, and wheat suggest similar pounds per acre for many applications of nitrogen, potassium, and phosphate. In addition, turfgrass in parks, right of ways and commercial, institutional, and residential landscapes also have nutrient applications. Therefore, in the case that golf courses apply slightly more nutrients per acre, the potential impact from nutrients—and pesticide application—is relatively small on a statewide basis: 11,500 acres of maintained turf on golf courses relative to the more than 1 million acres of agricultural cropland and an additional 300,000 acres of turfgrass in Utah.

Golf courses are often identified as a problem for nonpoint pollution. However, it is important to identify potential pollution from all sources to assess the magnitude of the potential environmental impact in order to understand and solve potential problems in this area.^{31 32} Nevertheless, golf course superintendents, as well as farmers and ranchers, must remain diligent in their environmental stewardship in an effort to limit both point and nonpoint pollution that is a result of nutrient and pesticide use.

Furthermore, as a result of research on pesticide use on golf courses, the GCSAA (2012) has engaged in education and distributed the *Integrated Pest Management Planning Guide* which addresses identification and management of threats to healthy golf course turf. In addition, The GCSAA research helps educate Utah superintendents on pesticides storage, mixing and loading, application, pesticide emergency response plans.

Cooperating with Environmental and Regulatory Organizations. More than ever, golf course owners and superintendents are reaching out to local, state, and national organizations focused on environmental conservation and regulation.³³ The sustainability of many golf courses means coordinating with the community at large to solve challenging environmental problems. For example, Wolf Creek Golf Course is a certified Audubon sanctuary because of its efforts to engage the local community, protect the local environment, conserve natural resources, and provide/improve wildlife habitats.³⁴ Similar to the Salt Lake City Golf collaboration described above, many golf industry professionals collaborate with municipal water agencies to increase conservation and reuse. In addition, they participate in numerous research projects required to better understand water, nutrient, and

³⁰ Koenig (2002). "Nitrogen, Sulfur, Potassium and Phosphorous Fertilization in Alfalfa: When Are They Necessary." Proceedings of the Western Alfalfa and Forage Conference.

³¹ GCSAA, Environmental Institute for Golf (2009b). *Golf Course Environmental Profile: Volume III, Nutrient Use and Management on U.S. Golf Courses*.

³² Ostemeyer (2009). "Teaspoon Feeding." *Golf Course Management*.

³³ National Golf Course Owners Association (2008). *Troubled Waters: Golf's Future in a Thirsty World*.

³⁴ Audubon International (2013). *Audubon Cooperative Sanctuary Program for Golf: Certification Criteria and Utah Certified Courses*.

pesticide use. Coordinating with these types of organizations to proactively solve challenges related to land and water stewardship presents a better alternative than responding to potential sanctions.

Investing in Continuing Education and Research. Utah Golf Course Superintendents and turfgrass specialists are well educated in land and water conservation issues and water-saving technologies and practices. They participate in research projects, pre-service education, and ongoing education and training focusing on efficient turf management, integrated pest management, water management and conservation, and the application and control of plant nutrients.^{35 36 37} Their education encourages them to be proactive in working with others to reduce negative environmental impacts and avoid problems. They regularly interact with agencies such as the Utah State University Agricultural Extension, turfgrass organizations, and water resource agencies to stay abreast of current research and best practices. They also participate on local and state committees addressing challenges associated with water and other environmental concerns.

Managing Customer Expectations. As the industry grew rapidly in the 1980's and 1990's, courses increased in length and difficulty and added more expansive, manicured, landscapes requiring additional water and overall maintenance to meet customer demands. With greater awareness of conservation and emphasis on environmental stewardship, course owners and operators need to communicate that courses can remain in excellent "playable" condition with fewer irrigated and highly maintained acres. The Professional Golfers' Association of America, the Golf Course Superintendents Association of America, the National Golf Course Owners Association, the United States Golf Association, the Club Managers Association of America, and their state and local affiliates are supporting numerous research and education efforts to promote more sustainable environmental practices for both professionals and the golfing public. These efforts enable consumers, to expect, and accept features such as more natural landscapes, and increases in non-irrigated areas typically in the rough or out of play, and firmer ground on fairways in less common landing areas. Irrigating less acreage and using water primarily on landing areas, teeing grounds and greens during the summer can substantially reduce water and nutrient consumption.

Golf courses provide many benefits to local communities in Utah. These benefits include improving the quality of life and aesthetics overall throughout both urban and rural areas across the state, as well as providing much-needed green space, wetlands, and natural habitat for wildlife, that provide social and recreational opportunities as well as substantial economic impact for communities throughout the state. The Utah golf industry is also responding to the call for environmental stewardship. This stewardship must involve the combined efforts of golf course owners, operators, environmental and regulatory

³⁵ GCSAA (2009a).

³⁶ GCSAA (2009b).

³⁷ GCSAA (2012).

agencies, as well as input from local communities, to enhance golf's sustainability and to benefit the people of Utah well into the future.

DETAILED METHODOLOGY & DATA SOURCES

A key challenge in this study was to identify reliable state-level data sources and to develop methodologies for measuring the size of industry components for which cross-state estimates do not exist in straightforward metrics, e.g., golf real estate and off-course purchases of golf apparel and equipment. This section describes each of the core and enabled industries included in the golf economy and SRI's approach to measuring each of these segments.

A. GOLF FACILITY OPERATIONS

For this industry segment, we analyzed the number of golf facilities and average facility revenue data to derive a total facility operations estimate. Revenues for this segment include: annual or monthly membership fees, green fees, range fees, and golf car rental fees; purchases of golf apparel and equipment in pro shops; golf lessons; tournament entry fees; consumption of food and beverages; etc.

Number of golf course facilities. Many golf organizations track the number of golf facilities in a state: the National Golf Foundation (NGF), The PGA of America, and state/regional golf associations, among others. The U.S. Census Bureau also surveys golf facilities as business establishments in its Economic Census every five years. However, these organizations' calculations of the total numbers of golf facilities in each state, by type of facility, are not always consistent with each other due to: (1) absence of data for courses which are not members (e.g., The PGA tracks those courses with a PGA member) or for particular subsets of courses (e.g., municipal facilities and golf resorts are not tracked by the Census), (2) facility closures and openings, and (3) inconsistency in the classification of courses, especially resorts.

In some surveys, golf facilities are allowed to self-classify. In others, the surveying organization classifies the facility based on specific criteria. This can mean the difference between a small number of resorts (e.g., a figure that includes five-star accommodations located on or adjacent to an 18-hole course) or a much larger number of resorts (e.g., three-star hotel accommodations located near a daily fee golf course). Similarly, a resort with two 18-hole golf courses could be counted as two golf facilities or as one depending on the reporting organization. Fortunately, the variations in the number of facilities caused by these data collection methods are very small, and thus do not materially impact the overall analysis. The table below presents slightly differing estimates for the number of golf course facilities in Utah in 2012 or the latest available year.

Estimates of Utah Golf Facilities from Various Sources in 2007 and 2012				
	2007 Economic Census (# of facilities, excl resorts & municipal) ¹	2012 PGA (# of facilities) ²	2012 NGF (# of facilities) ³	2012 NGF (# of 18-hole equivalent courses) ³
PRIVATE	13	23	18	18.5
PUBLIC	40	93	94	88.5
Daily fee/ semi-private		29		
Municipal		64		
Military				
University				
RESORT		4	6	5
TOTAL	53	120	118	112.0

Sources: ¹ U.S. Census Bureau, *2007 Economic Census*.

² Professional Golfers' Association of America (2013). *Facility Database*.

³ NGF (2013). Total Facility Supply Tables 6-14, *Golf Facilities in the U.S., 2013 edition*, pp.6-14.

The PGA of America and NGF data fall within a very narrow range, PGA's 120 vs. NGF's 118. SRI conducted further research to confirm the classification of individual facilities by type and arrived at the following estimates of total facilities in 2012: 23 private facilities, 32 daily fee facilities, 64 municipal/military/university facilities, and 1 resort facility. According to the PGA Facility Database, Utah had 3 golf ranges in 2012.

Average revenues per facility. Facility revenue includes membership dues (where applicable), green fees, cart rental fees, and associated spending on food and beverage. The SRI team collected average revenue data from a variety of sources. Here again, the data challenge was that average facility revenues will vary significantly depending on: (1) the number of holes (e.g., a 9-hole course versus a 18-hole course) and (2) the type of facility—whether a golf course facility is private, daily fee, resort, municipal, etc.

The U.S. Census Bureau collects revenue data for golf course facilities as part of its Economic Census of all U.S. establishments every five years. Whereas facility surveys conducted by private sector organizations are often based on lower response rates (less than 30 percent), all establishments are required by law to respond to the Census Bureau survey. However, the Census Bureau data has several limitations. Many types of facilities are not included in the survey: (1) resort facilities, (2) municipal and military facilities, (3) stand-alone driving ranges, and (4) golf facilities without payroll. The latest 2007 Economic Census contains revenue, payroll, and employment data on 12,193 golf facilities broken down

by state. This provides a robust estimate with which to compare other available golf facility revenue data.

The PGA collects revenue data for all 50 states on an annual basis through its Annual Operations Survey. The latest available data are from 2012, but the PGA has annual data going back to 2005. In addition, PGA revenue data are broken down by type of facility for categories for which Census data are not available—namely, resorts, municipal courses, and military courses.

Estimates of Utah Average Revenue per Facility Data from Various Sources from 2007 to 2012						
	Census (2007) ¹	NGF (2009) ²	PGA (2009) ³	PGA (2010) ⁴	PGA (2011) ⁵	PGA (2012) ⁶
Private facility	\$2,445,538	\$3,277,000	\$3,491,540	\$3,638,970	\$4,901,439	\$3,677,689
Daily fee facility	\$1,155,500	\$3,262,123	\$1,548,903	\$1,549,823	\$1,973,088	\$1,354,646
Resort facility	X	X	\$1,286,000	\$1,652,561	\$3,616,088	\$4,468,064
Municipal/ military/ university facility	X	\$1,269,100	\$1,028,178	\$1,085,865	\$1,559,122	\$1,107,991
Driving range	X	X	X	X	\$400,000	X
Miniature golf	\$217,286	X	X	X	X	X

Note: Bolded values are an average of Utah and neighboring states, due to low response sample, or a national average in the case of the PGA golf range estimate and NGF estimates.

Sources: ¹ U.S. Census Bureau, *2007 Economic Census*.

² NGF (2010). *Operating & Financial Performance Profiles of 18-hole Golf Facilities in the U.S., 2009 edition*.

³ Professional Golfers' Association of America (2010). *2009 Operations Survey*.

⁴ Professional Golfers' Association of America (2011). *2010 Operations Survey*.

⁵ Professional Golfers' Association of America (2012). *2011 Operations Survey*.

⁶ Professional Golfers' Association of America (2013). *2012 Operations Survey*.

Average revenue data from the Census (2007) and The PGA (2009-2012) are presented above. In consultation with the task force, SRI calculated total private, daily fee, and municipal/military/university facility revenues using the 2012 PGA survey data. Utah has one golf resort. The PGA reported a regional estimate for average resort facility revenue in 2012, since it cannot disclose the actual revenue of individual facilities. In consultation with the golf task force, SRI used the reported average revenue for a Utah private facility (\$3.678 million) as a proxy for average revenue of the Utah golf resort. This is lower than the PGA's regional estimate of average resort facility revenue of \$4.468 million. Driving range revenues were calculated using 2011 PGA survey data (which was the latest year available), which estimated the national median revenue figure for golf ranges, and average miniature golf facility

revenue was calculated using the 2007 Census data for the agronomic region, since data at the state level was suppressed due to low sample size.

To calculate golf facility operations revenues, SRI subtracted average on-course merchandise sales from the average golf facility revenue estimates, because on-course merchandise sales are included in the Golf-Related Supplies industry segment. SRI then multiplied these adjusted average golf facility operations revenue estimates by the respective number of golf facilities. Overall, SRI estimates that Utah's 120 golf courses, 3 stand-alone ranges, and 3 miniature golf facilities generated \$186.9 million of revenue in 2012.

B. GOLF FACILITY CAPITAL INVESTMENTS

To calculate golf course capital investments, SRI collected data on two major types of investments: (1) capital investment at existing facilities and (2) new course construction.

Utah Golf Facility Capital Investment and New Course Construction in 2012 (\$ millions)	
Golf Facility Capital Investment¹	\$13.1
New Course Construction	\$11.4
TOTAL	\$24.5

Note: ¹ Only the New Course Construction category is included in the economic impact analysis, because it represents new economic output or activity. Golf facility capital investment is typically financed through golf facility revenues, so including both Golf Facility Capital Investments and Golf Facility Operations in economic impact analysis would result in double-counting.

Investment at existing courses. Golf facility capital investments include improvements to greens and tees, repaving of cart paths, purchases of new turf maintenance equipment and irrigations systems, and renovations of the clubhouse, pro shop, and maintenance buildings. Ordinary maintenance expenses are not included. SRI typically examines golf facility capital investment data from two sources: NGF and the GCSAA. The GCSAA data comes from golf facility capital budget questions included in its 2011 Compensation Survey. The data is state-level and includes the mean, median, and standard deviation of capital expenditures (not maintenance expenses). The NGF's *2010 Operating and Financial Performance Profile* presents national estimates of capital expenditures (and also breaks out maintenance expenses separately) at: (1) daily fee facilities (average revenue of \$1,457,700, with 69.6% of daily fee facilities making average capital improvement investments of \$131,700); (2) municipal facilities (average revenues of \$1,269,100, with 70.2% of municipal facilities making average capital investments of \$189,300); and (3) private facilities (average revenues of \$3,277,000, with 82% of private facilities making capital investments of \$410,400).

After review of the state-level and national data sets, SRI used the GCSAA survey data to calculate the average capital investment amount for the agronomic region since the survey response size for Utah on

its own was low and likely not representative of all facilities in Utah. Based on this calculation, SRI estimates that, on average, a Utah golf facility invested \$108,900 in 2012 for a total capital investment by existing golf facilities of \$13.1 million.

New course construction. The NGF's *Golf Facilities in the U.S.* series is the only national source for estimates of the number of new golf courses under construction in each state. In 2012, NGF reported there was one 9-hole golf course opening in Utah and that 1.0 18-hole equivalent was under construction.

An estimate for the average investment for each new golf course in Utah is derived from the Golf Course Builders Association of America's (GCBA) *Golf Course Construction and Renovation Costing Guide, Version 6*. This database of golf course construction costs is based on a survey of golf course builders around the country. Using the values provided for Utah and the average ("normal") costs for each of the various construction categories (see box below), GCBA estimates the average investment required to build a new golf course in Utah is \$7.6 million (the average estimate across the various regions of Utah). However, according to golf course architecture and design consultants, golf course construction alone accounts for only half of the total cost of constructing a new golf facility. An equal amount is spent on the architectural/engineering services, construction of the clubhouse, pro shop, and maintenance buildings, and initial purchase of equipment and course amenities, etc. Therefore, we estimate the average cost of constructing a new 18-hole facility to be \$15.2 million.

Required Investments to Build a Golf Course:	
Mobilization	Greens Construction
Layout and Staking	Tees
Erosion Control	Bunkers
Clearing	Bridges
Selective Clearing	Bulk Heading
Topsoil	Cart Paths
Excavation	Fine Grading
Rough Shaping	Seeding and/or Grassing
Drainage	
Irrigation	

This investment, however, is not entirely expended over one year but is rather disbursed over several years. Assuming the average course takes approximately two years to complete, we estimate the average investment in construction per 18-hole equivalent course per year was \$7.6 million. We applied this figure to 1.5 18-hole equivalent courses that opened or were under construction in 2012. In total, SRI estimates that 2012 investment in new course construction in Utah was \$11.4 million.

C. GOLF-RELATED SUPPLIES

This section explains SRI’s methodology for calculating Utah manufacturers’ exports (out-of-state and overseas shipments) of golf apparel, turf maintenance equipment, and accessories. We also detail our methodology for calculating the retail margin for on-course and off-course purchases of golf equipment, golf apparel, and golf media.

Manufacturing Exports. The economic value created by golf-related supplies consists of two components: (1) value-added production, including design, and (2) retail sales margin. On the manufacturing side, we are concerned with the value-added production of golf-related equipment, apparel, and media. This is the value of the company’s wholesale revenue minus the cost of production inputs, and this value-added production is attributable to the state in which the golf club or golf mower is manufactured. We began by conducting database research to identify manufacturers of golf-related products in the state. Utah is home to a small number of companies that produce golf equipment and golf-related software: OGIO International, TruGolf, Swing Master Golf, Vision Perfect Software, etc. We estimated the value added of these companies’ out-of-state shipments of golf merchandise in 2012 using the U.S. Census Bureau’s *Annual Survey of Manufacturers* statistics.

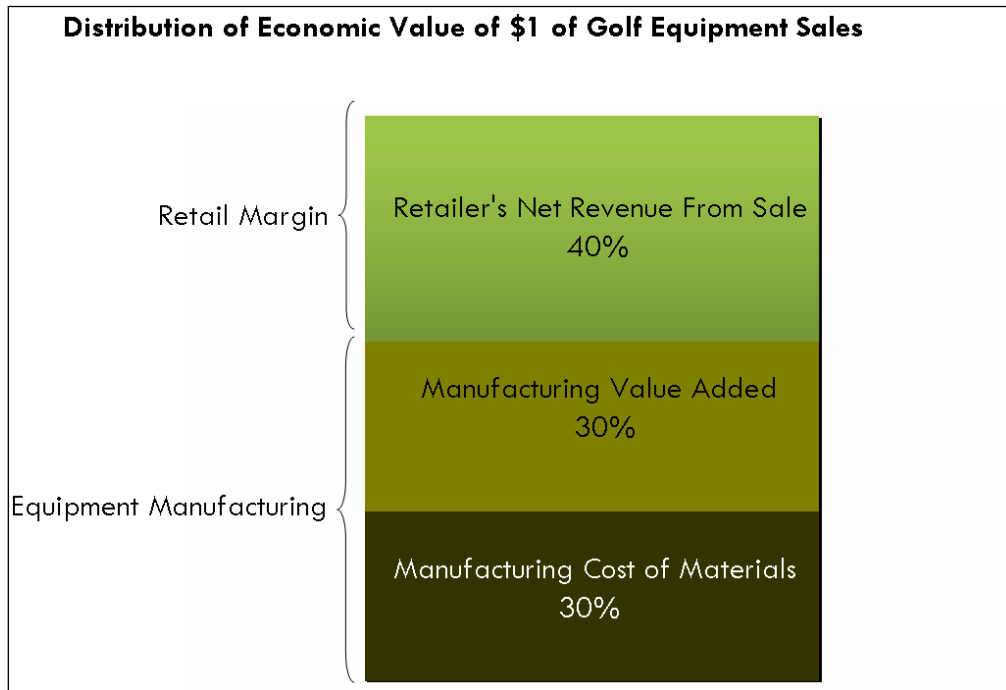
Utah Manufacturers’ Value-Added Exports of Golf-Related Products in 2012 (\$ millions)	
TOTAL	\$6.1

Retail Margin. On the retail side, the economic value is derived from the margin the retailer makes from the sale of the golf club, i.e., the net revenues accruing to retailers after covering the cost of purchasing the golf equipment or apparel from the wholesaler/producer.

To calculate this margin, we first estimate total sales of golf apparel and equipment at the state level and then apply the requisite retail margin percentage for economic impact analysis. In our national-level study for GOLF 20/20, SRI was able to collect national sales data from a number of sources: (1) the NGF, (2) the National Sporting Goods Association (NSGA), (3) Golf Datatech, and (4) the Census Bureau. Unfortunately, the relatively small sample size for the majority of these surveys do not allow for publication of reliable state-level estimates by these organizations. However, each year, the NSGA conducts a 100,000-household consumer panel survey for its annual *The Sporting Goods Market* publication. SRI uses these data in conjunction with the PGA’s golf facilities data for each state to derive state-level estimates of golf equipment and apparel sales.

For example, in 2012, NSGA reported total U.S. off-course and on-course purchases of individual golf clubs to be \$637.8 million. The NSGA survey found the Mountain region accounted for 6.9% of these purchases, or \$44.0 million. Within the Mountain region, one can estimate Utah’s share of purchases by creating a rounds- or courses-based weight. Using either approach yields similar weights, since the

number of rounds played is highly correlated with the number of 18-hole equivalent courses in a state ($r=0.93$). SRI used the number of 18-hole equivalent courses in each state, as it was easier to verify than estimated number of rounds played. Utah represents 10.2% of total 18-hole equivalent courses in the Mountain region, so this weight was applied to the region total (\$44.0 million) to estimate \$4.5 million of individual golf club sales in the state of Utah in 2012. Further, retail margins on final sales suggest that 40.4%, or \$1.8 million, of total sales was retained in the Utah economy. (See graphic below.)



Utah On-Course and Off-Course Golf Equipment & Apparel Purchases in 2012 (\$ millions)		
Category	Calculation	Estimate
Golf club sets	Mountain region's sales	\$159.2
	UT's courses-based weight	10.2%
	UT's share of sales [1]	\$16.2
Golf apparel	Mountain region's sales	\$243.9
	UT's courses-based weight	10.2%
	UT's share of sales, [2]	\$24.9
Golf balls	Mountain region's sales	\$47.8
	UT's courses-based weight	10.2%
	UT's share of sales, [3]	\$4.9
Golf clubs	Mountain region's sales	\$44.0
	UT's courses-based weight	10.2%
	UT's share of sales, [4]	\$4.5
Golf bags	Mountain region's sales	\$12.0
	UT's courses-based weight	10.2%
	UT's share of sales, [5]	\$1.3
Golf shoes	Mountain region's sales	\$12.3
	UT's courses-based weight	10.2%
	UT's share of sales, [6]	\$1.3
TOTAL	Sum of [1] to [6]	\$53.0
Retail sales margin	Multiply TOTAL by 40.4%	\$21.4

Source: National Sporting Goods Association (2013). *The Sporting Goods Market in 2012*, Mt. Prospect, IL: NSGA.

Golf media. Similar to golf equipment, golf media's economic contribution to the state economy has two components: value-added production and the retail sales margin. On the production side, the economic impact created by the publication of magazines or books is attributable to the state in which the magazine or book is published. On the retail side, the economic impact is derived from the margin the retailer makes from the sale of golf media, i.e., the net revenues accruing to retailers after covering the cost of purchasing the media from the wholesalers/producers. For golf magazines, we identified national golf publications with the largest circulations and the state in which they are published—no national golf magazines were published in Utah in 2012. Similarly, no major publishers of golf books are located in the state. However, we calculated a weight to estimate the percentage of book retailers' sales attributable to the sale of golf books in stores. Total retail golf book sales in 2012 were estimated to be \$171,400 with a retail sales margin of \$69,300. Golf videos and DVDs are more difficult. In SRI's previous national-level study, we were not able to identify a source with data on the annual sales of golf-specific videos/DVDs. In the case of this current state-level study, this category was also omitted due to the

absence of a reliable data source. Note that Utah is home to a small number of golf-related software producers, and the estimate of this economic activity is included in manufacturing exports above.

Utah On-Course and Off-Course Sales of Golf Books in 2012	
Category	Estimate
Utah retail book sales ¹	\$85,719,593
Golf books as % of total book sales	0.2%
Total retail golf book sales	\$171,439
Retail sales margin	\$69,261

Note: ¹Adjusted for inflation into 2012 dollars using the appropriate GDP deflator.

Sources: Utah retail book sales data from the 2007 Economic Census. Estimated percentage of golf books among total book sales derived from Book Industry Study Group/Association of American Publishers (2012), *BookStats 2012*, and SRI International (2012), *The 2011 Golf Economy Report*, Menlo Park, CA: SRI International.

Utah Retailers' Net Revenues on Consumer Purchases of Golf-Related Supplies in 2012 (\$ millions)		
	Total purchases	Retail sales margin
Golf Equipment (retail margin)	\$28.1	\$11.3
Golf Apparel (retail margin)	\$24.9	\$10.1
Golf Media (retail margin)	\$0.2	\$0.1
TOTAL	\$53.1	\$21.5

Note: This includes on-course and off-course purchases of golf equipment, apparel, and media.

D. ASSOCIATIONS, MAJOR TOURNAMENTS & CHARITABLE GIVING

Associations. SRI gathered association revenue data for the largest national, state, and regional golf organizations from these organizations' 990 income tax filings. These include the Utah Golf Association, the Utah Section of The PGA, the Utah Junior Golf Association, and the Intermountain Golf Course Superintendents Association. Also included are the expenditures of a number of golf foundations, as well as women's, senior, junior, and regional member golf associations.

Major Tournaments. In 2012, one major golf championship, a Web.com Tour event, was played in Utah. We subtracted the tournament purse and cost of television broadcasting from total tournament revenues to estimate the direct event-related spending that remained in the state. Accommodation and tourism-related expenditures from this event are captured in the Hospitality/Tourism segment of the report.

Utah Major Tournament & Association Revenues in 2012 (\$ millions)	
TOTAL	\$4.3

Charitable Giving. Overall, SRI estimates that the amount of charitable giving attributed to the game of golf in Utah to be \$11.2 million in 2012. This estimate is derived from a national study³⁸ based on the number of golf facilities that hold charitable golf events, the average number of events held by each facility, and the average net proceeds donated to charities from these events. It also includes the charitable giving associated with professional golf tournaments. Charitable giving is not included in economic impact estimation because it is a direct transfer of income. Nevertheless, it is an important golf industry contribution to the state.

Utah Golf Industry's Charitable Giving in 2012 (\$ millions)	
TOTAL	\$11.2

E. GOLF REAL ESTATE

In analyzing golf-related residential real estate, SRI collected data on two components: (1) new golf-related residential construction and (2) the “golf” premium associated with the sale of golf community homes.

Utah's Golf Real Estate Revenues in 2012 (\$ millions)	
Golf-Related Residential Construction	\$54.4
Realized Golf Premium	\$10.3
TOTAL	\$64.7

Note: The sale of existing homes is considered a transfer of assets rather than new economic output, so the golf premium that is realized in the sale of an existing home is not included in the economic impact analysis.

Golf-related residential construction. For this industry segment, SRI conducted research and interviews with golf real estate developers to arrive at estimates of the number of courses with active real estate development, the size of the development, the number of homes under construction in a given year, and the average construction costs per type of home (i.e., townhouse, condo or single family

³⁸ National Golf Foundation (2011). *The Charitable Impact Report*.

home). The number of courses with active development was derived from new course openings over the past five years and online research. Construction values varied considerably depending on such factors as the location of golf communities within the state, the proportion of townhouses versus single family homes and overall real estate market conditions (e.g., high-growth metro regions versus more rural parts of the state).

SRI estimates that approximately 10 golf communities were under development, to varying degrees, in Utah in 2012. Developments ranged from the planned 1,000-unit Red Ledges development near Park City to the 250-home Lakes at Sleepy Ridge development in Orem. In 2012, an average of 17 single family homes were constructed per course due to the overall economic situation and particular difficulty in securing financing for new home construction. The new homes built in 2012 had an average construction cost of \$330,000. Multiplying the total number of units under construction at each course by their average construction cost and summing all of these values yielded a total 2012 golf-related residential construction figure of \$54.4 million.

Realized golf premium. The “golf” premium is the extra value a homeowner can expect to receive on the sale of a housing unit located in a golf community that is above and beyond the premium associated with a home’s other features or amenities (e.g., square footage, fixtures, landscaping, etc.). Through industry interviews, SRI arrived at a conservative estimate of this premium of \$25,000 per unit in 2012. Multiplying the approximately 25 existing Utah golf communities by 500, the average number of housing units per golf course, we arrive at a total of 12,500 golf community homes. In 2012, the home turnover rate (percentage of homes sold relative to the total housing stock) was 3.3 percent in Utah. Therefore, the realized golf premium was calculated by multiplying the home turnover rate by the total number of golf community homes by the average golf premium per unit. SRI estimates Utah’s golf real estate premium was \$10.3 million in 2012.

F. GOLF-RELATED HOSPITALITY/TOURISM

Although a large and critical golf industry segment, there are no national sources of state-level golf tourism data. SRI calculates a state’s total golf tourism revenues by collecting data for two types of figures: (1) the annual number of golf-related stays and (2) average spending per stay.

Number of golf-related trips. SRI defines a “golf trip” as a Utah resident or non-resident traveling 50-plus miles to, through, or within the state to a unique destination and playing golf while at this destination. Golf-related trips include both overnight and day trips (an overnight trip is a trip which includes at least one overnight stay at the destination, while a day trip does not). This figure includes trips to Utah golf resort destinations, golf outings while on vacation or business travel, as well as trips by

Utah residents to play golf courses in other parts of the state. People also travel to watch professional and amateur golfers compete in tournaments played in Utah.³⁹

SRI used the Utah Office of Tourism estimate for Utah domestic visits: 23.5 million. D.K. Shifflet & Associates estimated that approximately 2.5% of Utah's domestic visitors played golf while on a trip.⁴⁰ By applying this percentage to the number of Utah domestic visitor trips in 2012, SRI estimated that there were approximately 587,500 golf trips in 2012. No information was available from the Utah Office of Tourism on the breakdown between day and overnight trips in Utah, and the distinction is important since people who make day trips tend to have a markedly different spending profile than those on overnight trips. Based on input from the Utah golf task force, SRI estimated that there were 356,100 golf day trips and 231,400 golf overnight trips made in Utah in 2012, totaling 587,500 golf trips.

Average spending per golf stay. SRI estimated that average spending per golf trip in Utah in 2012 was \$56 per person per *day* trip and \$309 per person per *overnight* trip. This includes spending on accommodation (for overnight trips), local transportation, food and beverage, entertainment, gifts, and other miscellaneous expenses. Green fees and cart fees are not included as they are already captured in the Golf Facility Operations revenues. The spending profiles of people who make day trips to play different courses or participate in amateur golf events are markedly different from those who play golf during an overnight night for work or leisure. To estimate average golf trip expenditure, we began with national golf trip survey data from the National Golf Foundation's *The U.S. Golf Travel Market, 2003 Edition* report⁴¹ and adjusted average trip spending based upon online research of Utah golf packages and relative price levels in Utah vis-à-vis the rest of the country. Multiplying the total number of golf trips (day and overnight) by average spending per golf trip (day and overnight), SRI found that total golf-related tourism spending in Utah was \$91.3 million in 2012.

³⁹ In 2012, one major golf championship was played in Utah, the Utah Championship Web.com Tour event, which attracts thousands of spectators from across the state and country, and also generates an economic impact of \$4-6 million. Refer to:

http://www.area-info.net/articles/show.php?cty=Lewiston&st=Utah&article_id=5954&t=Web.com_Tour_Utah_Championship_In_Town_This_Week_Bringing_Benefit_To_Utah

⁴⁰ D.K. Shifflet & Associates, 2012, courtesy of the Utah Office of Tourism.

⁴¹ See "Average Travel Spending" table on p.16 in NGF (2003), *U.S. Golf Travel Market*, available at: <http://www.ngf.org/cgi/catalogsearchdetail.asp?ITEMNUMBER=99MR002>. SRI adjusted for inflation from 2002-2011, since 2002 is NGF's most recent on golf travel survey.

Utah Golf-Related Travel Expenditures in 2012	
# Golf person day trips	356,100
Average travel \$ per person per day trip	\$55.62
# Golf person overnight trips	231,400
Average travel \$ per person per overnight trip	\$309.17
Total	\$91.3 million

G. GOLF'S ECONOMIC IMPACT







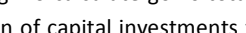
The impact of golf on a state's economy includes both the direct impact of the sector itself (its core and enabled industries), as well as the indirect and induced (or multiplier) impacts that are supported by golf industry employment and expenditures.

Direct economic impact. The direct economic impact of golf is simply the size of the golf industry cluster within the state economy in terms of revenues. The "state golf economy" can be calculated by adding together the size of each of the core and enabled industries calculated in the sections above:

Direct Impact of the State Golf Economy	
+	Golf Facility Operations
+	Golf Course Capital Investments
+	Golf-Related Supplies
+	Associations, Major Tournaments & Charitable Giving
+	Golf Real Estate
+	Golf Hospitality/Tourism
=	Size of State Golf Economy

Indirect/induced economic impact (multiplier impact). Golf course facilities and the companies that provide goods and services to the golf industry, in turn, purchase goods and services from other companies. These purchases are considered the "indirect" impacts of the golf sector. Furthermore, the employees directly employed by the golf sector will spend much of their incomes in the region, creating more spending and more jobs in the economy. These impacts are considered "induced" impacts. Together, the indirect and induced impacts make up the multiplier impact of the golf economy.

Multiplier values vary from region to region, based on the unique characteristics of the state's or region's economy. Industries with more extensive linkages to other industries within the local economy will have a greater multiplier effect on final economic activity relative to the initial, direct effect. Conversely, economies and industry sectors dependent on a large share of imported supply will have smaller multiplier effects. For this study, the RIMS II (Regional Input-Output Multipliers), calculated by the U.S. Bureau of Economic Analysis, were used to calculate the multiplier impact of Utah's golf economy.

Golf's Impact on Utah's Economy in 2012						
INDUSTRY	DIRECT (\$ millions)	INDIRECT	INDUCED	TOTAL OUTPUT (\$ millions)	TOTAL JOBS	TOTAL WAGE INCOME (\$ millions)
Golf Facility Operations	\$186.9			\$386.4	5,106	\$119.0
Golf Course Capital Investments*	\$24.5			\$27.0	255	\$8.9
Golf-Related Supplies	\$27.6			\$46.9	535	\$14.7
Tournaments & Associations	\$4.3			\$10.2	107	\$3.2
Real Estate **	\$64.7			\$128.5	1,216	\$42.2
Hospitality/Tourism	\$91.3			\$206.6	2,405	\$62.1
TOTAL	\$399.2			\$805.6	9,625	\$250.1

Note: Columns may not sum due to rounding. To calculate golf's total economic impact, SRI subtracted from the direct golf economy impact of \$399.2 million the portion of capital investments that is investment in existing facilities (\$13.1 million of \$24.5 million) and the portion of real estate that is the realized golf premium associated with the sale of real estate in existing developments (\$10.3 million of \$64.7 million). This is because:

*Golf Facility Capital Investments—Only new course construction has an indirect and induced economic impact. Other types of facility capital investments are typically financed through facility revenues and, therefore, are omitted to avoid double-counting.

**Real Estate—Only golf residential construction has an indirect and induced impact. The golf premium associated with golf real estate is considered a transfer of assets rather than new economic activity.

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