

# Contribution of the Golf Industry to the Arizona Economy in 2014

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## Executive Summary

This study was conducted by the Department of Agricultural & Resource Economics and Cooperative Extension at the University of Arizona in conjunction with Cactus & Pine GCSA to determine the extent of the golf industry's contribution to the Arizona economy and its influence on the environment. The study is based on the results of a statewide survey, secondary data, and an economic contribution analysis using the IMPLAN model. Major findings of the study include:

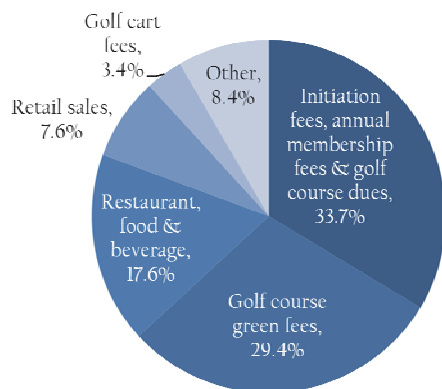
- The Arizona golf industry had a total economic contribution of **\$3.9 billion in sales** in 2014, including golf facility operations, golf tourism, and golf-related businesses.
- Including direct and multiplier effects, a total of more than **41,700 jobs** and **\$1.5 billion in labor income** were supported by the Arizona golf industry in 2014.
- An estimated **\$72 million in state and local taxes** was directly supported by golf facility operations in 2014.
- **11.6 million rounds** of golf were played in Arizona in 2014.
- Golf used **1.9% of Arizona's total freshwater withdrawals** in 2010.
- Residential real estate premiums associated with all homes ever built in golf course communities in Arizona was estimated to be nearly **\$2.1 billion**.

## Economic Contribution of Golf Industry

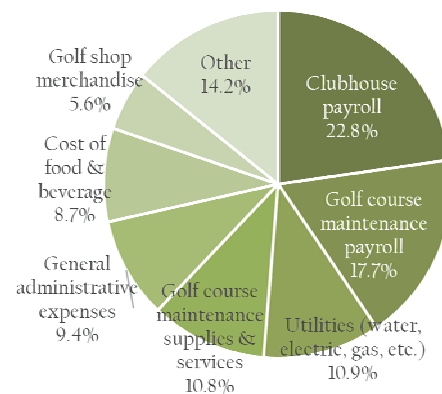
In 2014, the Arizona golf industry had a total economic contribution of \$3.9 billion in sales. This consisted of:

- \$1.1 billion in direct golf facility revenues
- \$1.4 billion in indirect and induced revenues resulting from golf facility operations
- \$1.1 billion in total sales supported by golf tourism, including golf travelers and professional golf tournament spectators
- \$347 million in total sales supported by golf-related businesses

### 2014 Revenues—\$1.1 billion



### 2014 Expenses—\$880 million



## Golf Facility Employment

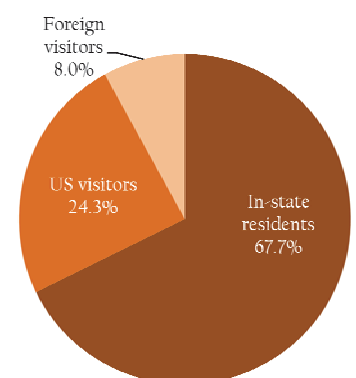
In 2014, golf facilities had the following direct contribution to state employment:

- Arizona golf facilities employed an estimated 18,700 full- and part-time employees
- 59% of employees were full-time while 41% were part-time
- \$356 million in wages and benefits, and \$268 million in business proprietor income and profits

## Golf Play

- An estimated 11.6 million rounds of golf were played in Arizona in 2014.
- 67.7% of rounds were played by in-state residents and 32.3% were played by out-of-state and foreign visitors.

*% of 2014 Arizona Golf Rounds Played By Origin of Golfer*



# Golf and the Environment in Arizona

## Water Use

### Statewide Golf Irrigation Water Use

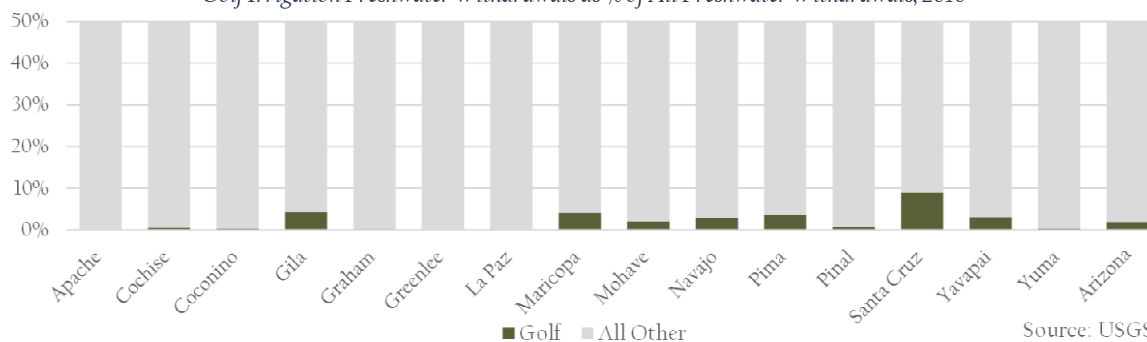
#### Golf Facility Survey

- AZ golf facilities used an estimated 167,397 acre-feet (AF) of irrigation water in 2014.

#### US Geological Survey Data (2010)

- 130,116 AF of self-supplied freshwater was used to irrigate golf courses, 1.9% of Arizona's total freshwater withdrawals, excluding effluent use.
- An additional 49,488 AF of reclaimed wastewater was used for golf irrigation, representing 28% of total golf water use, and 34% of total statewide effluent use for irrigation.
- Golf irrigation accounted for 3% of state groundwater and 1.1% of state surface water withdrawals.

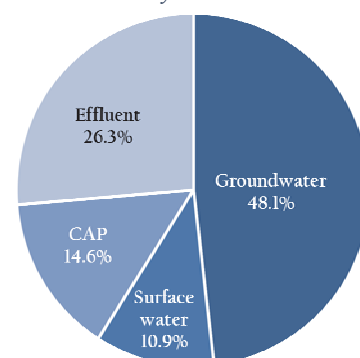
Golf Irrigation Freshwater Withdrawals as % of All Freshwater Withdrawals, 2010



### Active Management Area (AMA) Golf Irrigation Water Use

- Golf water use represented 3.5% of total AMA water use in 2014.
- In 2014, groundwater represented 48.1% of AMA golf water use; surface water, 10.9%; CAP, 14.6%; and effluent, 26.3%.
- Use of effluent in AMAs was 33,977 AF in 2014, increasing by 27%, from 26,675 AF since 2004.
- Between 2004 and 2014, the Arizona Department of Water Resources reported a net increase of 24,736 AF of golf water use in AMAs, with all types of water use increasing. The number of facilities in Arizona's AMAs also increased, from 239 to 252.

% of 2014 Golf AMA Water Use by Source



## Land Use

- Golf facilities occupied an estimated 55,000 acres in Arizona in 2014, including golf courses, clubhouses, parking, and other facilities.
- 83% of the total golf facility acreage was dedicated to golf courses and 70% of the golf course acreage (roughly 32,000 acres) was maintained turfgrass.

## Conservation & Management Practices

Conservation and management practices at golf facilities aim to balance the use of natural resources with the economic viability of the courses.

**19.5** acre-feet *....Average annual water savings per facility that made adjustments as a result of irrigation audits performed. 51% of responding facilities reported performing irrigation audits for their irrigation systems, 95% of which made adjustments.*

**10.4** acres *....Average area of turfgrass removed by responding facilities that indicated having removed turfgrass in past 5 years. 31% of respondents reported having removed turfgrass in past 5 years.*

**75.8** acres *....Average area overseeded in 2014 by responding facilities, down from 89.3 acres in 2009.*

**39%** *....Percent of responding facilities that report having a partnership with a conservation organization, the most common of which was Audubon International.*

Most commonly reported management practices include....

Aerification of fairways and/or greens • Use of soil wetting agents • Scouting for insect pests, weeds, and diseases  
Adjusting fertilization practices • Hand watering greens and/or area in fairways  
Modifying irrigation scheduling to manage insects, weeds, or diseases • Using automated weather stations  
Installing or improving drainage systems on the golf course on fairways, greens, bunkers  
Modifying current irrigation system

## How Was the Study Conducted?

This study relies on the results of a statewide survey of golf facilities performed between April and August of 2016. Survey data was complemented with secondary data on golf business establishments, golf tourism, real estate, and golf water use from a variety of sources. The economic multiplier effects of the golf industry were estimated using IMPLAN 3.1, the premier input-output model used for regional economic impact analysis.

## Acknowledgments

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<https://cals.arizona.edu/arec/publication/contribution-golf-industry-arizona-economy-2014>