RBFF State R3 Program Grants
OK Dept of Wildlife Conservation – Multi-phase License Evaluation

Overview

With a goal of ensuring its license options help optimize R3 efforts and remove purchasing barriers, the Oklahoma Department of Wildlife Conservation (ODWC) developed a two-phase project to determine whether its current licenses are priced and structured to serve customer and agency R3 needs optimally, or if new/different options would be ideal.

The ODWC was awarded a $16,000 grant from RBFF to conduct the first phase of the project, which employed Southwick Associates to create models for understanding the effect of price changes on sales and revenue for a number of current ODWC licenses.

Partners

Recreational Boating & Fishing Foundation
Oklahoma Department of Wildlife Conservation
Southwick Associates

Benefits

Phase 1 laid groundwork for Phase 2 which took place over the course of 2019 and evaluated constituent attitudes toward current licensing and identified potential barriers to purchasing. Phase 2 helped determine preferences for new license combinations, privileges and concepts, and the agency is considering that info for smart license pricing and consolidation considerations and discussions with legislators and stakeholders.

Overall, the multi-phase study is providing quantitative information on if and how licenses can be simplified and at what prices they should be set. The results will provide data-backed information and insights for considering legislative changes, with consideration of direct input from constituents.

Combined with other planning, the project is helping ODWC more fully realize its long-term R3-related goals (see "Lessons Learned & Future Plans").

Results

Southwick Associates successfully created pricing models that estimate the demand for seven important ODWC recreational licenses, among them several important fishing licenses such as the Resident Annual Fishing, Resident 2-Day Fishing, Nonresident 5/6-Day Fishing, and Resident Combination licenses. The results of the demand analysis are used to estimate potential changes in license revenues and units sold for a range of prices.

Southwick Associates produced an executive report presenting the models and associated sales and revenue projections, as well as an interactive tool that allows ODWC users to estimate the effect of raising or lowering prices on sales and revenue.

Models indicate some licenses offer potential for increased revenue at higher prices, whereas others are already at, near or above optimal pricing.

Some licenses were analyzed but could not be accurately modeled for varying reasons (see "Lessons Learned & Future Plans").

Figure 2. Actual vs. Predicted Sales of Resident Fishing Licenses
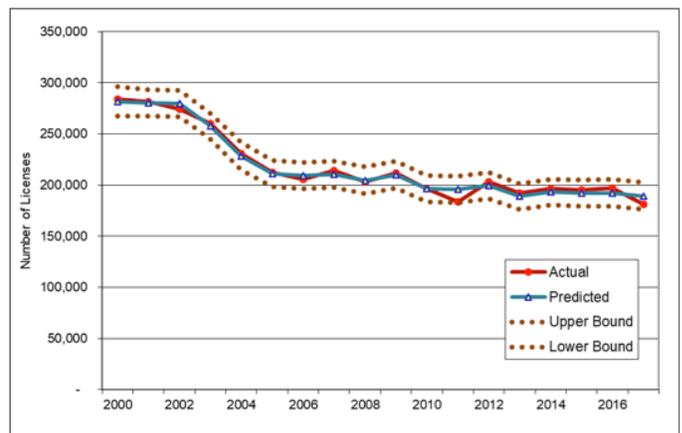
- The current price of $25.00 is below the revenue maximizing price, both in terms of direct license revenue and total revenue including federal aid (Figure 3).
- A 10% increase in the price of the Resident Fishing License would generate a 2.4% increase in total revenue including federal aid but would result in a 5.9% reduction in the number of licenses sold (Table 1).
- Direct license revenue would be maximized at a price of $34.00.
- Total revenue including federal aid would be maximized at a price of $31.00.
- The direct and total revenue maximizing prices reflect an increase in price that is outside the historical range of price changes used in the model.[2]

Support

"The RBFF State R3 Program Grants are playing a valuable role in helping ODWC better understand the effects of license pricing and structures on sportsmen participation, including our anglers. I'm confident these efforts will help ensure that our license options support our R3 efforts and remove barriers to greater outdoor participation. We're proud to partner with RBFF on this effort."
- J.D. Strong, Director, ODWC

Table 1. Predictions of the Resident Annual Fishing License Model

Price Scenario	Price	Change in Licenses Sold		Change in License Revenue		Change in Total Revenue	
		#	%	$	%	$	%
Current Price	$25.00						
Max License Revenue	$34.00	-39,712	-21.2%	377,796	8.4%	128,403	2.9%
Max Total Revenue	$31.00	-26,475	-14.1%	331,289	7.4%	165,026	3.7%
10% Price Increase	$27.50	-11,031	-5.9%	176,646	3.9%	107,370	2.4%

Lessons Learned & Future Plans

Despite efforts, a variety of factors limited the ability to model price effect on some licenses. Such factors included lack of price changes in the license history and sales fluctuations with no visible pattern through time (potentially due to non-price factors like wildlife population swings or weather/habitat events, etc). In some cases, lack of sensitivity among buyers can stifle efforts to model price effect, or at other times suggest that buyers have not been adversely impacted by price changes and that price increases could be sustained with insignificant impact on sales.

Phase 2 has provided insight into customer attitudes toward new license consolidation efforts. The ODWC launched a comprehensive license data restructuring and Customer Resource Management system in January 2019 and is currently implementing a long-term, agency-wide strategic plan to inform and guide future efforts, including R3 prioritization. These tools will pair with knowledge and insight gained from this project to inform and prioritize future R3 efforts.

ODWC legislative liaisons and leaders are actively engaged with the Oklahoma State Legislature on wildlife topics and specifically on issues related to fishing and hunting license structure and pricing. Information from this Multi-Phase License Evaluation Project will inform discussion, proposals and considerations for optimum license structures and pricing.

Overall the project will enhance ODWC's capabilities to develop and implement effective angler R3 efforts.
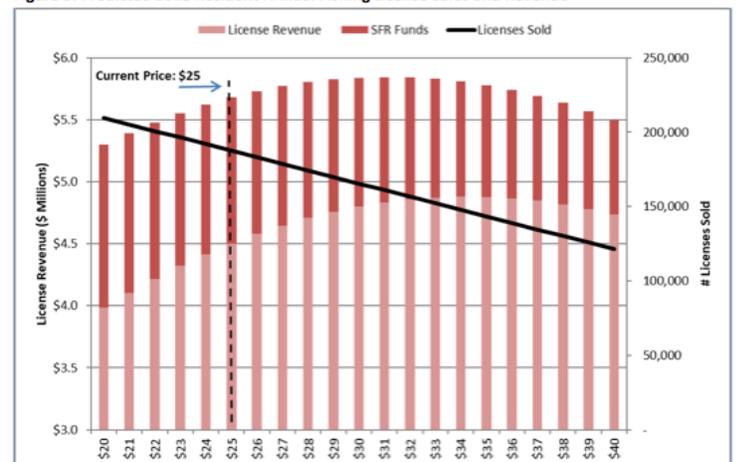
For any license changes informed by this project, ODWC will utilize surveys to assess constituent satisfaction both prior to and after implementation.

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Methodology

ODWC employed Southwick Associates to conduct a two-phase study. The RBFF-funded Phase 1 included the development of multivariate statistical regression-based models that use existing data to show how much revenue and customer numbers will change at different price points for certain licenses. License sales were examined for both resident and non-resident fishing and hunting licenses using estimated equations where the annual number of each license type sold is a function of the license price and other relevant variables. These equations were then used to predict license sales in 2018 at various price levels. License sales are predicted under the assumption that the non-price factors included in the models (e.g., population, per capita income, etc.) continue to change at long-term historical rates. The predicted unit sales were then multiplied by the portion of the license prices that is retained by the ODWC to project annual direct license revenue to the ODWC. The results also project the total revenue to the ODWC that includes federal aid under the U.S. Fish and Wildlife Service (USFWS) Sport Fish Restoration and Wildlife Restoration programs.

Figure 3. Predicted 2018 Resident Annual Fishing License Sales and Revenue