

## Maryland Blue Crab License Buybacks



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# Background

## Disaster relief funds

- By 2008, scientific studies had conclusively shown a steady decline in the Chesapeake blue crab population (by as much as 70% since the mid-1990s).
- That year the U.S. Commerce Department declared the Chesapeake Bay blue crab fishery a federal disaster, making Maryland and Virginia eligible for special disaster relief funds.
- \$30 million were split between the two states, and both decided to use part of the funds to buy back fishing licenses.
- The main objective of the 2009 Maryland buyback was to retire unused crabbing licenses (latent effort).

# Background

## The problem of latent effort

- As of 2009 only one-third of the 6,000 commercial license holders in Maryland were using their licenses annually to harvest blue crab.
- Maryland DNR sets bushel limits and implements seasonal closures each year to restrict landings and meet its harvest target of 46% of the population.
- If even a fraction of the inactive licenses re-entered the fishery, these restrictions would not be effective in keeping the fishery sustainable.

# Maryland License Buybacks

## Two distinct approaches

Maryland DNR conducted two license buybacks:

- (a) **The Limited Crab Catcher (LCC) license buyback in 2009.** The LCC license authorizes fishing of up to 50 crab pots per day and use of unlimited trotline.
  
- (b) **The Unlimited Tidal Fish (TFL) license buyback in 2011.** The TFL allows fishing of up to 300 crab pots (or up to 900 if combined with other authorizations) and use of unlimited trotline. Also authorizes catch of finfish, clams and oysters.

# Maryland License Buybacks

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Maryland DNR conducted two license buybacks:

- (a) The LCC buyback was initially implemented as a reverse auction but later converted into a fixed-price offer.
- (b) The TFL buyback used a novel design based on a pair of fixed prices and a lottery.

# The Limited Crab Catcher (LCC) license buyback

## The reverse auction

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- **What was the total amount of money available for the buyback?** A total of \$3 million.

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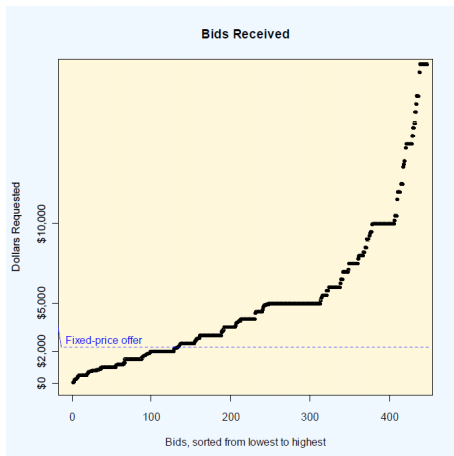
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- **Were there penalties for not participating in the buyback?** Only for the license holders declared as “latent”.

# The LCC Buyback results

## The distribution on bids

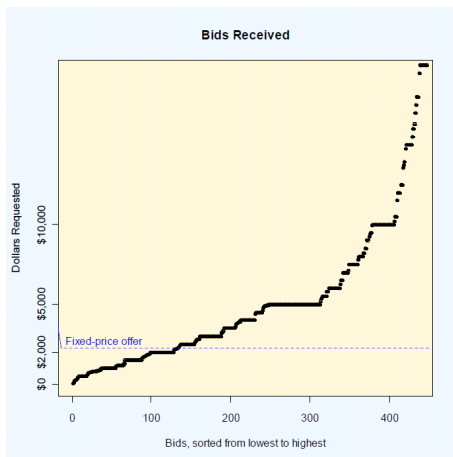
Participation lower (14%) and bids much higher than DNR anticipated (asking prices ranged from \$30 to \$300,000).



# The LCC Buyback results

## The distribution on bids

→ DNR decided to reject all bids and offered a fixed price of \$2,260 per license.



# Reverse auction versus fixed-price offer

## LCC buyback results

Higher participation of latent watermen than active watermen in the reverse auction.

**Table 1.** Maryland LCC auction bids

| Status | Obs | Mean           | Median        | SD             | Min         | Max             | Bid         |
|--------|-----|----------------|---------------|----------------|-------------|-----------------|-------------|
| Active | 210 | (\$)<br>16,749 | (\$)<br>5,000 | (\$)<br>40,077 | (\$)<br>250 | (\$)<br>300,000 | (%)<br>8.11 |
| Latent | 282 | 7,667          | 3,675         | 16,761         | 30          | 150,000         | 26.96       |
| Total  | 492 | 11,543         | 4,950         | 29,405         | 30          | 300,000         | 13.38       |

**Table 2.** Maryland LCC posted offer buyback results.

| Status | Accepted | Acceptance  | Bid          | Mean Bid      | SD Bid        |
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| Active | 249      | (%)<br>9.69 | (%)<br>40.56 | (\$)<br>4,928 | (\$)<br>6,798 |
| Latent | 434      | 41.02       | 48.39        | 4,602         | 9,100         |

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As anticipated, asking prices lower for latent licenses in the reverse auction.

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Participation in the buyback increased substantially among latent license holders when DNR switched to the fixed-price offer.

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- Results in line with general trend of low participation rates and high variability in bids found throughout fishery buybacks.
- 11% of the non-participants in the auction accepted the fixed price offer.
- 683 crabbers sold their licenses for the fixed price, even though only 133 individuals had submitted bids less than or equal to \$2,260 during the auction phase.
- For those individuals who bid above \$2,260 yet accepted the offer of \$2,260, the average reduction in asking price was \$4,703.
- Results suggest a great amount of heterogeneity in the expected profits from winning the auction.



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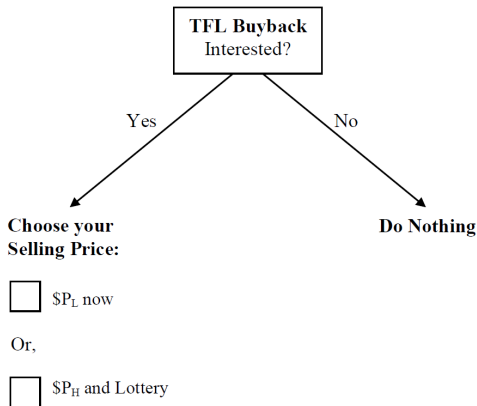
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- → A follow-up survey confirmed uncertainty among sellers' views about the distribution of values across other participants (DePiper, 2012).

# The Unlimited Tidal Fish (TFL) License buyback

## The “Sell It Now” scheme

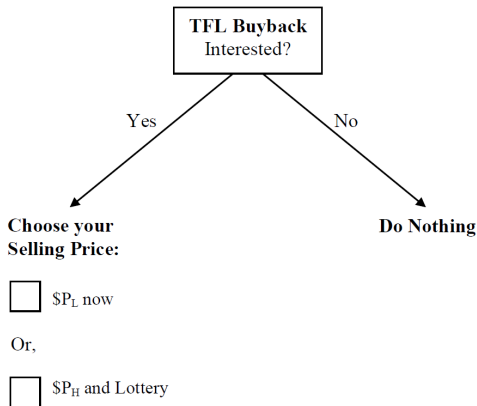
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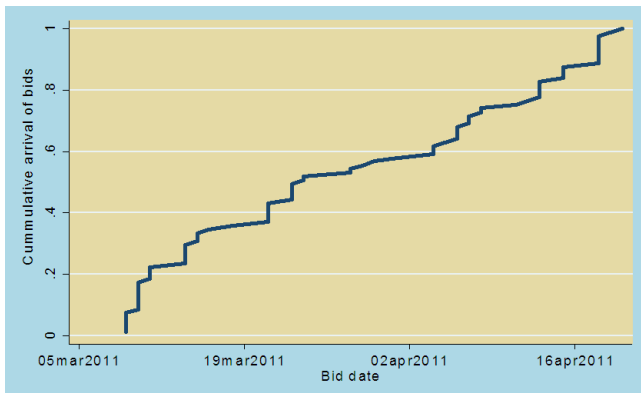
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# The Timing on Bids

## TFL buyback results

A total of 98 TFL licenses were bought back, 80% of them at the baseline price. No lottery required.

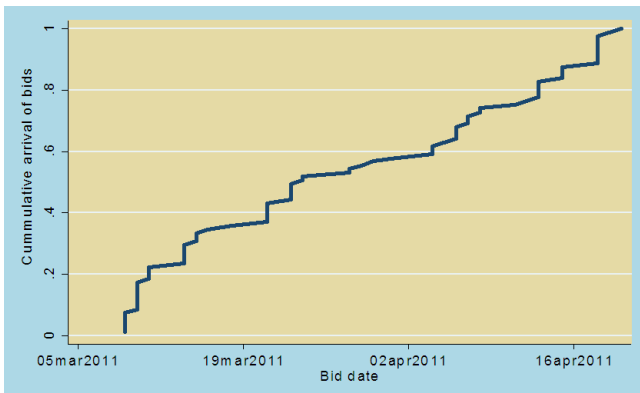




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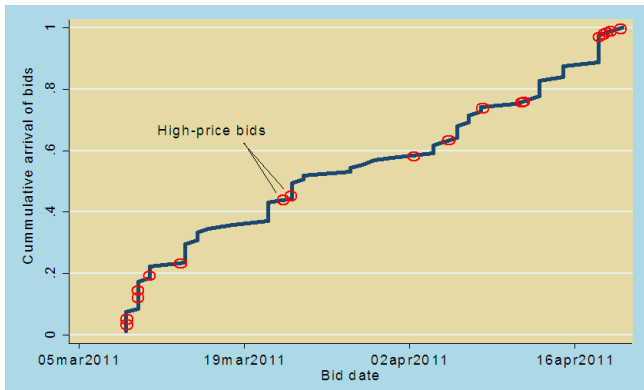
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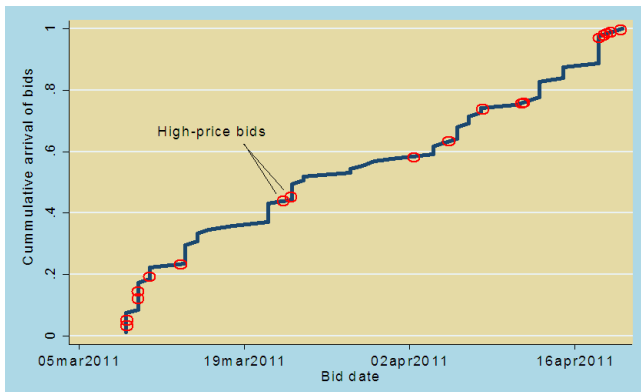
Bids at the high price arrived fairly steadily during the period rather than at the end.



# The Timing on Bids

## TFL buyback results

→ **Thus, information on potential participation was either costly to obtain or simply disregarded by most participants.**



# Conclusions

## When planning a buyback:

- Define clear priorities for the program (procurement costs versus participation, etc).
- Design your mechanism to meet the program's priorities.
- Reduce policy uncertainty prior to the buyback.
- Know your target audience!
- In particular, what factors does your audience perceive will drive the value of the asset you are trying to acquire?

# Did watermen learn from the reverse auction?

A classified ad from the Watermen's Gazette

**For Sale By Sealed Bid: Unlimited TFL and all associated gear** with 900 crab pot allocation. Licensee owned by the Estate of John G. McNaughton. Minimum bid of \$7,500 required. Sealed bids to be accompanied by a cashier's check or money order for 25% of amount bid and submitted to Elise Davis, Attorney, P.O. Box 2431, Easton, MD 21601 by not later than 4:00 p.m. April 30, 2012. Bid opening to occur May 1, 2012 at 12:00 noon. If high bidder does not close within fifteen days of bid opening the 25% deposit shall be forfeited. For more information call 410-763-4877. (Posted 3.21.12)