

# Are Survey Respondents Representative of the Population?



Organization of Fish and Wildlife  
Information Managers  
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# Potential Population



- ❧ 4.5m licenses sold to 2.1m customers last year
- ❧ 95% give mailing address in correct format
- ❧ 189k have a non-blank email address
- ❧ Email submission is optional for online license purchases, but is required from drawn hunts applicants

# Mail vs. Online



- ✧ Mail surveys thought to be able to reach more people
- ✧ Online surveys are free, some people prefer contact that way, and allows more open-ended comments
- ✧ Online survey invites sent by automated system that allows opt-out to all TPWD emails
- ✧ Undeliverable rate is 3-6% for both at this time, but get ~10% opt-out

# Postcard Surveys



- ☞ Cheaper on per survey basis than mail surveys
- ☞ Can reach those without known email address
- ☞ Survey link printed on postcard; barcode or QR code will be included in future

# Representative Sample



- ❧ 5% with bad mail address format usually from physical address, and often rural in nature
- ❧ Those willing to give email during online purchase may be different from those that won't
- ❧ Only requiring email from hunt applicants biases email lists towards people that hunt public land

# Representative Sample



- ❧ Online survey respondents generally assumed in past to be younger, less rural, and more affluent
- ❧ Surveys to youths often answered by parent, who may or may not have correct info, or discarded by parent
- ❧ How trustworthy, valuable, or representative is the opinion of a 7-year-old?

# Non-response Bias



- ⌘ Respondents typically more likely to have gone hunting, more likely to have been successful, spent more days hunting, and harvested more animals
- ⌘ Respondents typically have stronger opinion about subject matter
- ⌘ Respondents typically older than general population

# Survey Comparisons



# Big Game Harvest Survey



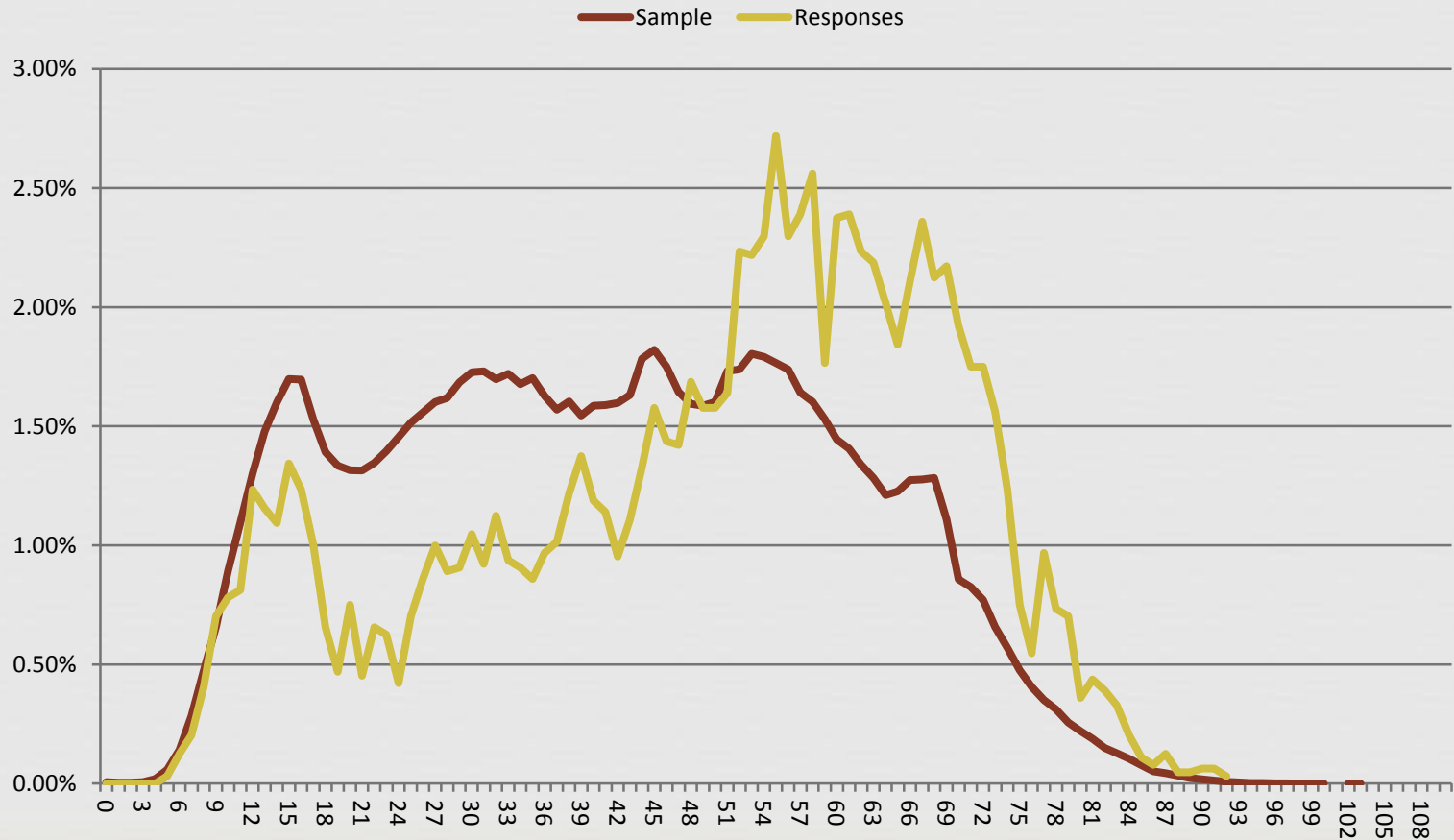
- ✧ Mail survey sent to 25k license buyers out of 1.2m
- ✧ Second survey sent to non-respondents after 1 month
- ✧ Response rate 35 - 40%
- ✧ Estimates hunters, harvest, and hunter days for white-tailed deer, mule deer, and javelina

# Big Game Hunters



	Population	Respondents
Mean Age	41.36	49.53
% Adult	87.06%	89.88%
% Juvenile	12.94%	10.12%
% Male	88.89%	88.48%
% Female	11.11%	11.52%
% Urban	71.49%	72.06%
% Rural	28.51%	27.94%

# Big Game Harvest



# U.S. Forest Service Drawn Hunts User Survey



- ❧ Winners get to take 1 antlerless deer on USFS lands
- ❧ Email survey sent to all hunt winners (n ~ 2,600)
- ❧ Second survey sent to non-respondents after 2 weeks
- ❧ Response rate 45 - 55%
- ❧ Estimates hunters, harvest, days, and other activities

# U.S.F.S Antlerless Hunters

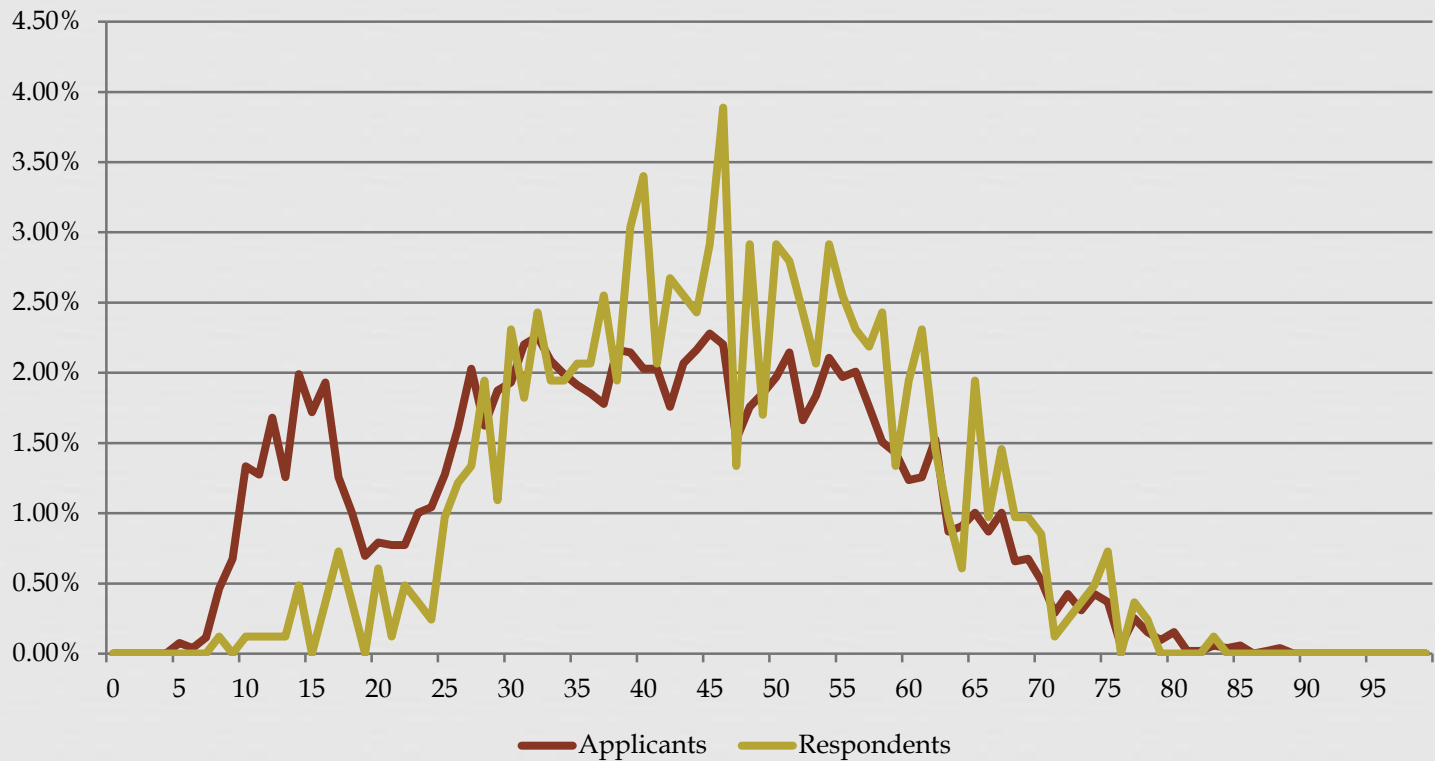


	Population	Respondents
Mean Age	39.95	45.94
% Adult	86.18%	67.59%
% Juvenile	13.81%	32.41%
% Male	91.56%	95.16%
% Female	9.44%	4.84%
% Urban	84.26%	87.99%
% Rural	15.74%	12.01%

# U.S.F.S Drawn Hunts



## Age Distribution



# Public Hunting Area Use Survey



- ❧ Sent to 15,000 permit buyers out of 38,000
- ❧ Second mailing after one month
- ❧ Estimates user days per area, and percent of users that did each type of activity

# Public Hunting Area Use Survey



- ❧ In 2016 also sent 15,000 permit buyers a postcard with online survey link
- ❧ Second postcard sent after 2 weeks
- ❧ Mail: 2,794 responses (19.18%)
- ❧ Postcard: 847 responses (5.84%)

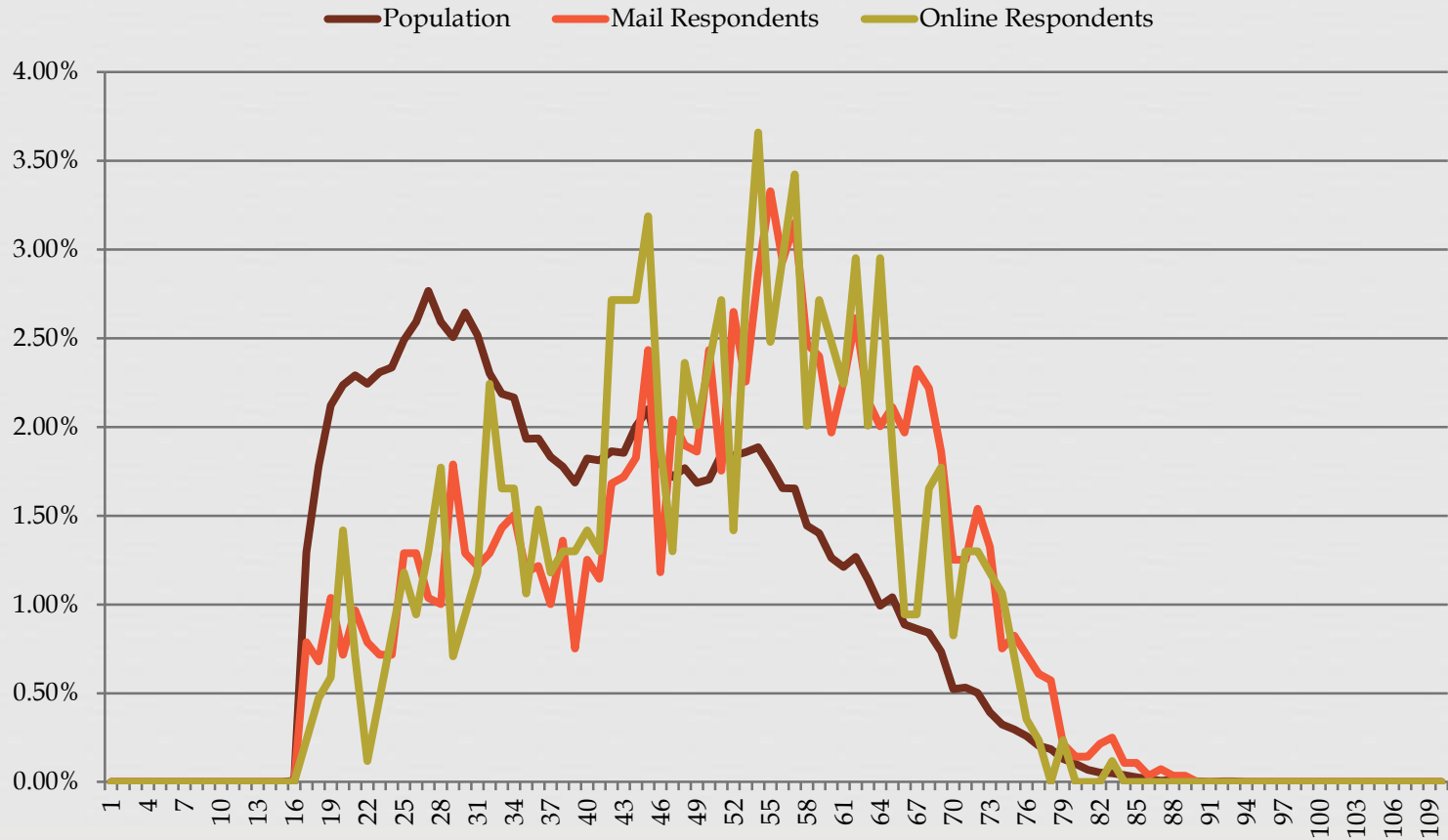


# Demographics



	Population	Mail	Online
Mean Age	40.88	50.65	49.54
% Adult	98.70%	99.21%	99.76%
% Juvenile	1.30%	0.79%	0.24%
% Male	94.76%	95.87%	96.68%
% Female	5.24%	4.13%	3.32%
% Urban	77.89%	77.38%	82.76%
% Rural	22.11%	22.62%	17.24%

# Age Distribution



# Survey Responses



	Mail	Online
Used Permit	83.97%	99.88%
Number Units Visited	1.53	1.78
Supervised Youth	20.62%	26.17%
Number Youth Supervised	0.32	0.40
Youth Days	5.44	2.52
Trip Expense	\$126	\$155

No difference: total trips, unit days, days per user, yearly equipment cost

# General Findings



- ❧ Respondents, regardless of survey method, tend to be older than license buying population
- ❧ Online survey respondents tend to be younger and more urban than mail survey respondents
- ❧ Females are less likely to answer online surveys, but amount varies greatly between surveys

# General Findings



- ❧ Postcards are much more expensive than a traditional mail survey on a per response basis
- ❧ Buyers of certain license types more likely to respond than others
- ❧ Responses to some questions may be different
- ❧ Why responses are different still unknown

# Future Plans



- ❧ Will send out email invites to Big Game, Public Hunting, Small Game, Light Goose, and White-winged Dove surveys over next 2-3 years
- ❧ Compare results between mail and online responses
- ❧ Create correction factors so that online results comparable to historic mail results

# Future Plans



- ❧ After online test project finished, place link to online survey on all mail surveys, and let respondents choose how to answer
- ❧ Switch all surveys to online-only once email submission rates raise enough