

IMPACTS OF DROUGHT ON WILDLIFE

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Impacts at a Glance – It's all about Habitat

- Habitat for wildlife is food, water, cover, and useable space
- Drought causes poorer habitat conditions
- Lower habitat quality leads to increased mortality through starvation, predation, reduced production and recruitment (fewer young survive)
- Continued drought accelerates negative impacts to all wildlife populations because habitat gets worse
- Impacts tend to be cumulative = fewer critters

Variation of Impacts on Wildlife

- Severity of impacts varies by wildlife species
- K-selected species (long-lived, few large well-developed young, good parental care) and sensitive species populations are typically impacted more drastically. Abundance tends to show definite trends in response to habitat condition. Habitat carrying capacity can dictate population size (e.g., deer, elk, predators).
- r-selected species populations (short-lived, many young, less parental care) are more resilient to annual impacts. They show wide variation year-year in abundance. Carrying capacity for these species is rarely (if ever) achieved (e.g., quail, rodents)

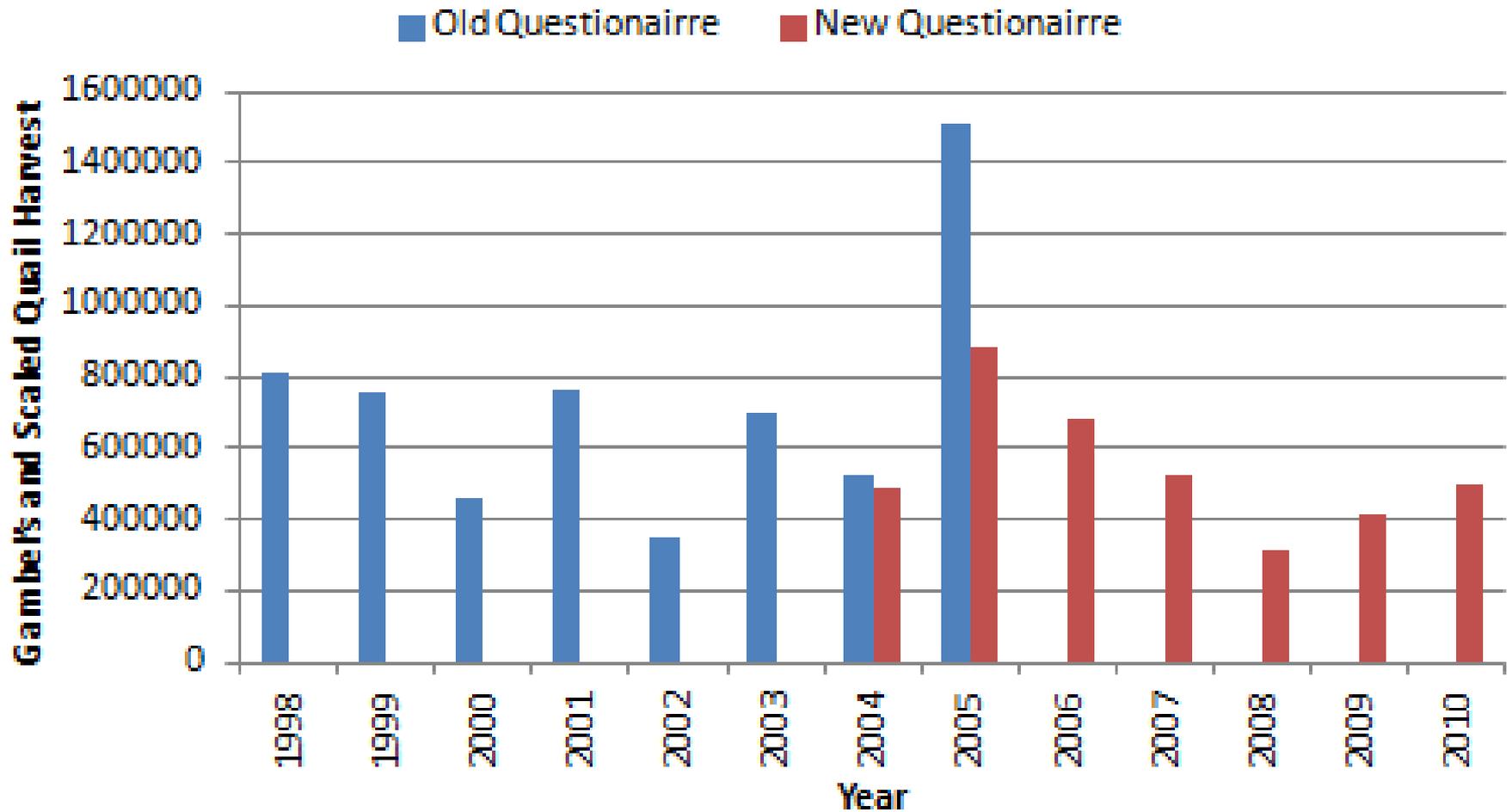
Mule Deer



White-Tailed Deer



Quail Harvest by Year



Impacts to all Wildlife

- Similarities exist regarding impacts to game and nongame, terrestrial and aquatic, predators and prey
- Sensitive species (T&E, others) are greatly impacted by long-term drought since this represents another major limitation to population increase
- Some species of fish, birds, mammals, reptiles, and amphibians have lost crucial habitats as a direct or indirect result of long-term drought.
- Drought tends to concentrate wildlife, making them much more susceptible to disease and predation
- Drought + Habitat Fragmentation = reduced wildlife populations and increased challenges for Wildlife Agencies

Economic Impacts of Declining Wildlife

- Loss of direct and indirect \$ for local Arizona communities from hunters and non-hunters alike
- Reductions in customer outlay for sporting goods, etc.
- Fewer Federal \$ for Wildlife Management
- Represents a direct loss to Arizona Game and Fish Department in license revenues
- Times of poor habitat quality require increased management actions from AGFD and others, despite reduced \$

Increased Management Actions

- During periods of low wildlife abundance, survey efforts must increase
- More effort and \$ for population maintenance
- Water catchment maintenance/water hauling costs increase
- Habitat maintenance costs increase
- Many species move into town in search of water and food
- ‘Nuisance’ wildlife calls increase as human-wildlife conflicts in urban settings increase

Water Developments and Water Management





Total Number of AGFD Water Developments Statewide

Development Type	
Typical Collection Catchments	987
Pot Holes	100
Storage Tank/Drinker Only	5
Spring	86
Well/Windmill	9
TOTAL	1187

Water Hauling Data

- 1996 and 2002 – AGFD hauled approximately 1.4 million gallons of water
- A typical year sees approximately 400,000 gallons of water hauled to wildlife
- 2008 – AGFD SSDV hauled 173,200 gallons.
- 2009 – AGFD SSDV hauled 214,000 gallons.
- 2010 – AGFD SSDV hauled 311,000 gallons
- 2011 – AGFD SSDV hauled 308,160 gallons
- 2012 – AGFD SSDV hauled 264,160 gallons









GAME WATER

NO CAMPING
WITHIN 1/4 MILE OF
WATER
ARIZONA
GAME & FISH DEPT.

SPORTSMEN
THIS DEVELOPMENT
WAS CONSTRUCTED
FOR YOUR GAME
WITH YOUR MONEY
HELP PROTECT YOUR
INVESTMENT
ARIZONA GAME & FISH
DEPARTMENT

Questions?

