



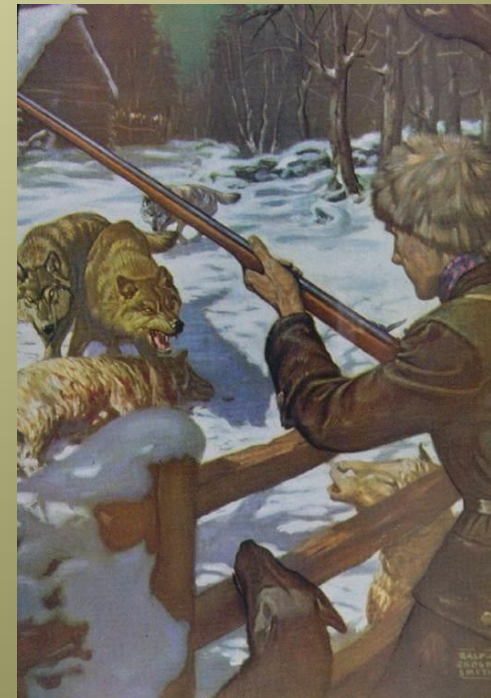
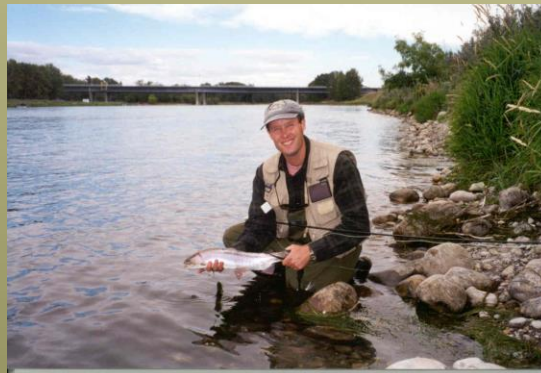
# Vermont Fish & Wildlife Department

Fish & Wildlife Board Orientation



# Outline

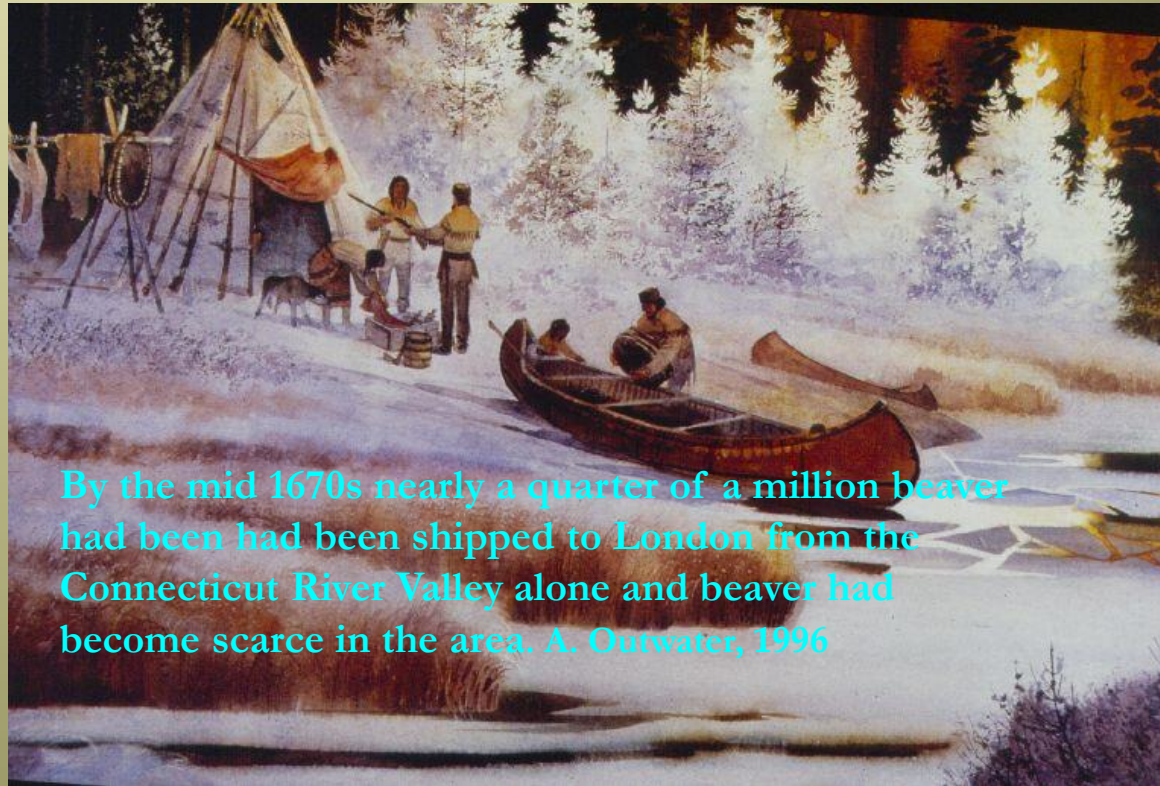
- Brief natural history of Vermont
- North American Wildlife Model
- Public Trust Doctrine and accountability
- Wildlife related activities in Vermont
- Department structure and funding
- Challenges for the future





# Vermont – Natural history

- Search for beaver drove exploration of New England
- 200 million beaver in U.S. pre-Columbus
- Due to unregulated taking beaver were extinct from Vermont by early 1700's

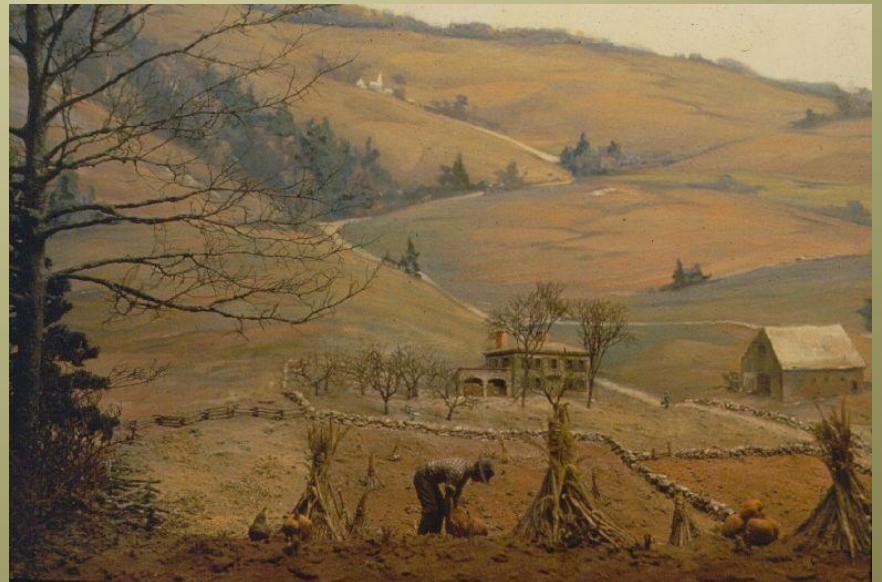


By the mid 1670s nearly a quarter of a million beaver had been had been shipped to London from the Connecticut River Valley alone and beaver had become scarce in the area. A. Outwater, 1996

# Vermont – Natural history

## Population (excluding Native Americans):

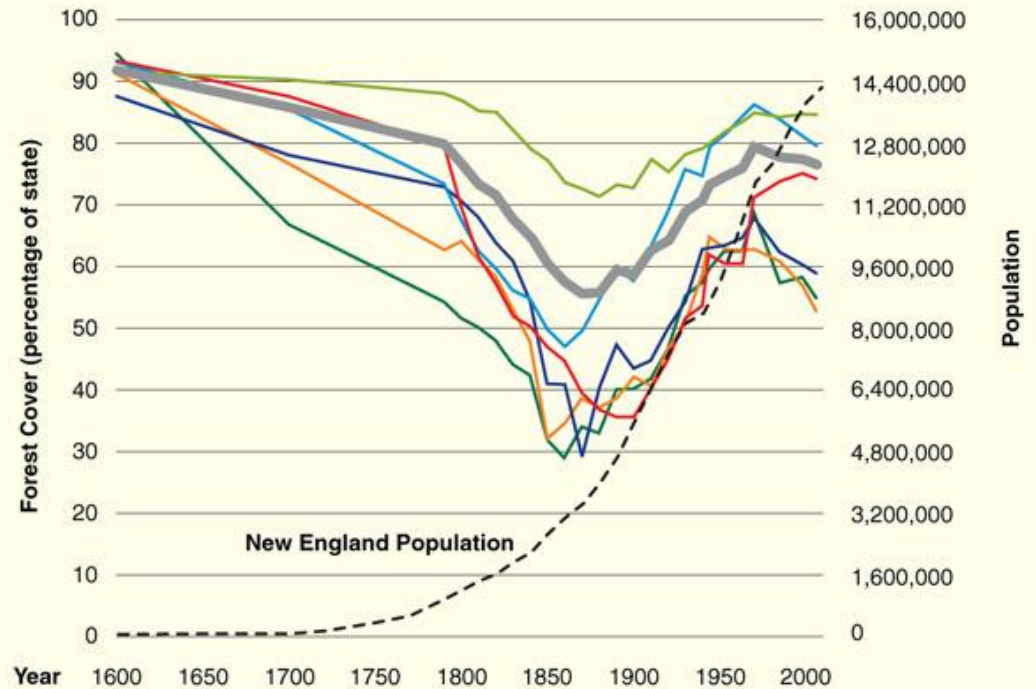
- 1760: <3,000
- 1790: 85,000
- 1800: 155,000



# Vermont – Natural history

## New England Forest Cover and Human Population

- Connecticut
- Maine
- Massachusetts
- New Hampshire
- Rhode Island
- Vermont
- All New England (% of all six states)





# Vermont – Natural history

- Deforestation, erosion, pollution, and creation of dams lead to loss of habitat on land and water. (sawdust from one lumber mill generated a 4'X4'X ¼ mile deposit in the adjacent stream). (1893-94 Biennial Commission Report)
- Loss of habitat lead to loss of species
- In 1866, in response to the devastation, the Vermont legislature appointed a Board of Fish Commissioners. *Focus:* the restoration of brook and lake trout which they understood to require “pure water”.



# Vermont – Natural history

## Species lost:

- Deer
- Turkey
- Otter
- Wolf
- Lynx
- Moose
- Bear
- Marten
- Osprey



- Peregrine falcons
- Bald eagles
- Atlantic salmon
- Mountain Lion
- Muskies
- Passenger pigeon
- Beaver
- Canada goose
- HOW MANY others?

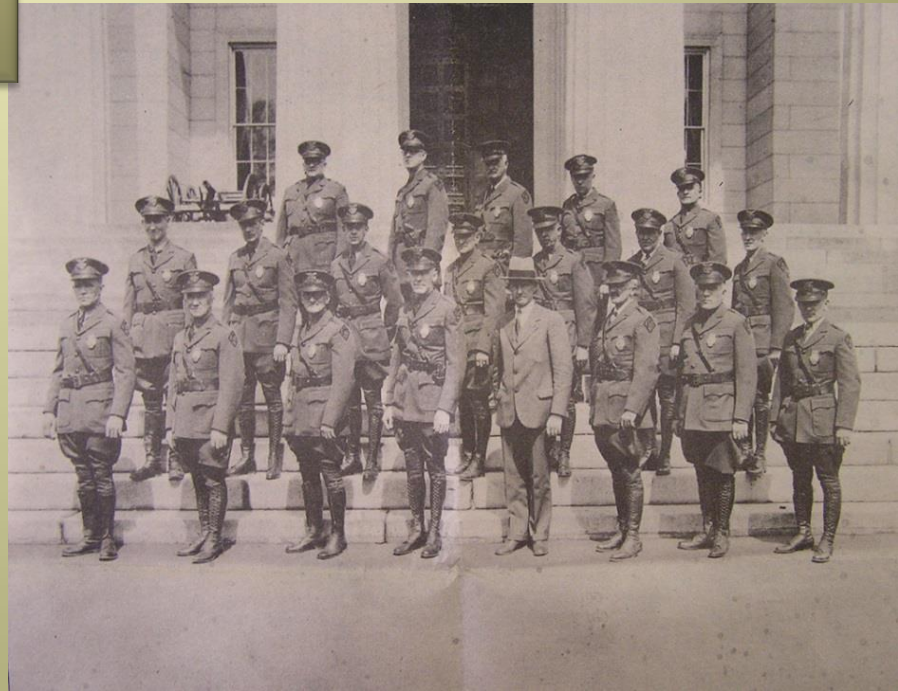


# Vermont – Natural history

- 1876 Fish & Game Commission
- 1906 Current F &W Dept Structure
- 1908 First hunting & fishing license

*The Commissioner of Fish and Wildlife shall manage and regulate the fish and wildlife of Vermont in accordance with the requirements of this part and the rules of the Fish and Wildlife Board. The protection, propagation control, management, and conservation of fish, wildlife, and fur-bearing animals in this State are in the interest of the public welfare. The State, through the Commissioner of Fish and Wildlife, shall safeguard the fish, wildlife, and fur-bearing animals of the State for the people of the State, and the State shall fulfill this duty with a constant and continual vigilance.*

-10 V.S.A. § 4081. Policy





# Vermont – Natural history

- Pittman-Robertson Funds established – 1937
- Created an excise tax on guns, ammo, archery
- Dingell-Johnson Funds followed in 1950
- Created excise tax on fishing equipment, boats, and motorboat gasoline



# Vermont – Natural history

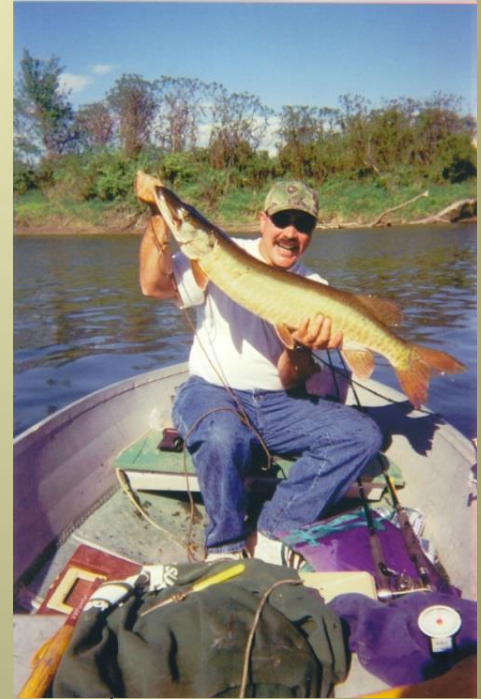




# Vermont – Natural history

## Other Fish and Wildlife restoration efforts:

- Moose
- Lake sturgeon
- Beaver
- Lake trout
- Peregrine falcon
- Lynx
- Bald eagles
- Atlantic salmon
- Osprey
- Muskies
- Walleye
- Land Conservation/Mgt

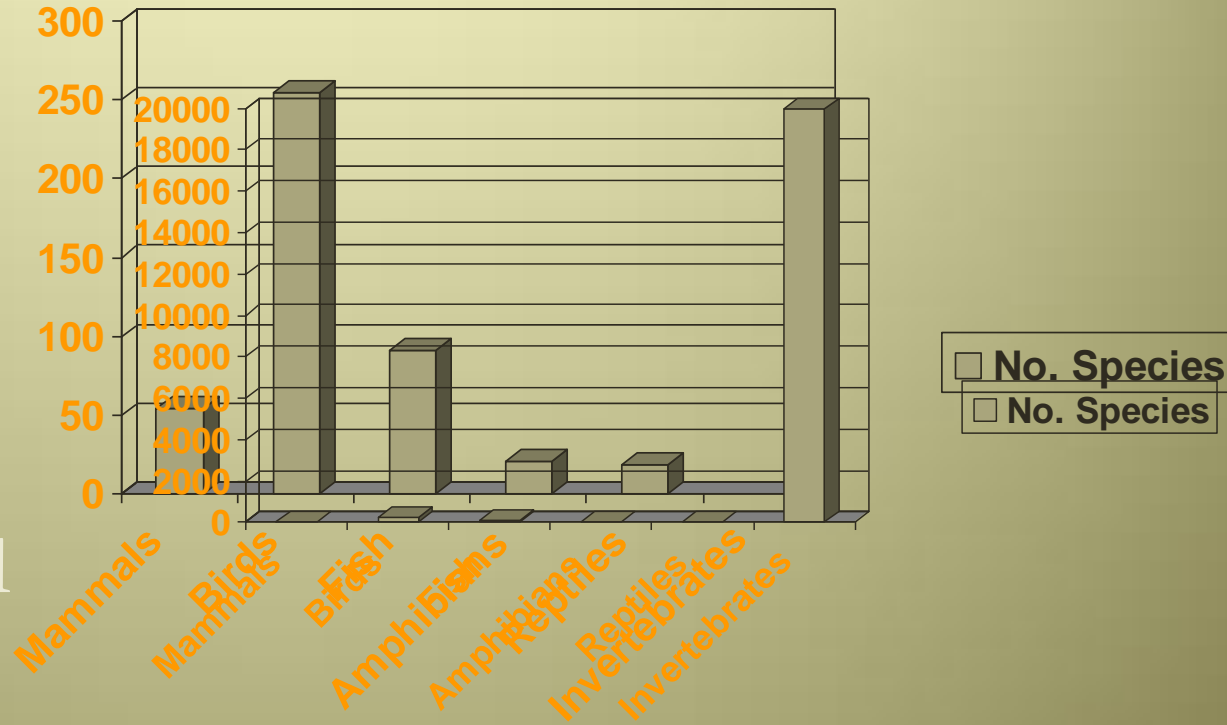






# Today Vermont is home to:

- Birds – 252
- Mammals – 58
- Fishes – 92
- Reptiles – 19
- Amphibians – 21
- Plants
- Habitats



# North American Model of Wildlife Conservation

- Developed in response to European model
  - Wildlife owned by royals and wealthy elite
  - Hunting only for the privileged few
  - Many species hunted or trapped to extinction



# North American Model of Wildlife Conservation

In North America, *all* fish and wildlife are owned by no one and held in trust for present and future generations by the Government. (Common Law basis: Public Trust Doctrine, Supreme Court 1842)



We are the stewards of Vermont's fish and wildlife populations for future generations.



# North American Model—Public Trust Common Law Basis

Legal Foundation for federal, provincial, and state wildlife agencies

- Supreme court decision in 1842 in NJ
- Decision based on an interpretation of the Magna Carta which, in turn, was based on Roman law “the Institutes of Justinian”(A.D. 529).

“By law of nature these things are common to all mankind— the air, running water, the sea, and consequently the shore of the sea. No one, therefore, is forbidden to approach, the seashore, provided that he respects habitations, monuments, and the building which are not, like the sea, subject only to the law of nations.” (Roman Law)

# Public Trust Doctrine—Central Tenet

*“The fish and wildlife of Vermont are held in trust by the State for the benefit of the citizens of Vermont and shall not be reduced to private ownership. The State of Vermont, in its sovereign capacity as a trustee for the citizens of the State, shall have ownership, jurisdiction, and control of all of the fish and wildlife of Vermont.”*

-10 V.S.A. 4081



# Grounded in our Hunting Heritage

## Section 67 of the Vermont Constitution

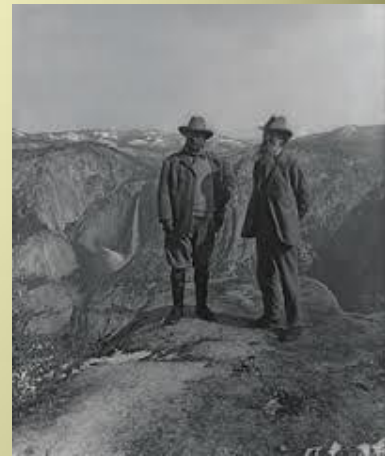
*The inhabitants of this State shall have liberty in seasonable times, to hunt and fowl on the lands they hold, and on other lands not enclosed, and in like manner to fish in all boatable and other waters under proper regulations, to be made and provided by the General Assembly.*





# North American Model

- Wildlife as public trust resources
- Elimination of markets for game
- Allocation of wildlife by law—sustainable harvests, habitat protection, access.
- Wildlife should only be killed for a legitimate purpose: fair chase/wanton waste/pioneer spirit
- Wildlife are considered an international resource—migratory wildlife, US/Canada tech committees
- Science (biological and social) is the proper tool for setting wildlife policy. (Wildlife Mgt Triad: wildlife, habitat, people)
- Democracy of hunting



# F&W Board Accountability

- Trustees (legislature, Board, Commissioner) responsible for decisions that serve the long-term interests of beneficiaries (resource and public)
- Transparency in decision-making process essential
- Stakeholders should be engaged throughout process
- Trustees accountable to whole, not particular interests



# North American Wildlife Model

- The model is not perfect
- It is not always applied in every situation, even in Vermont
- The Model's future rests on the adaptability and application of its principles to contemporary wildlife conservation needs.
- The Model must be dynamic to remain relevant

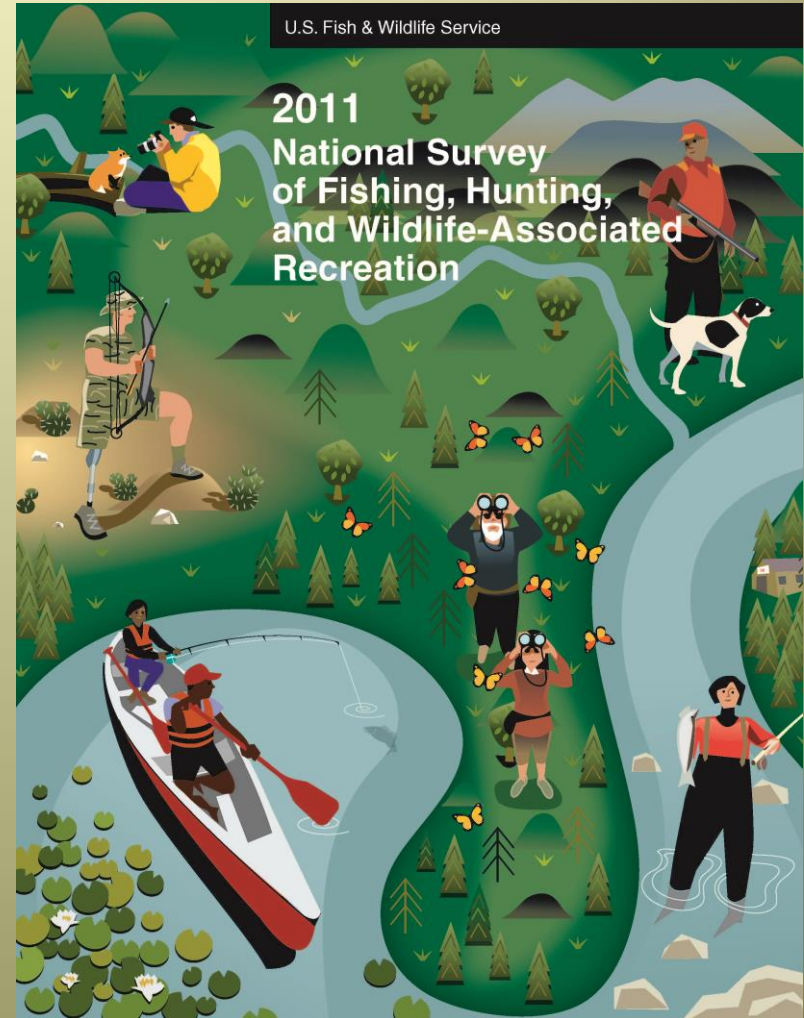




# Wildlife and Fish-Related Activities

## Vermonters who participate in:

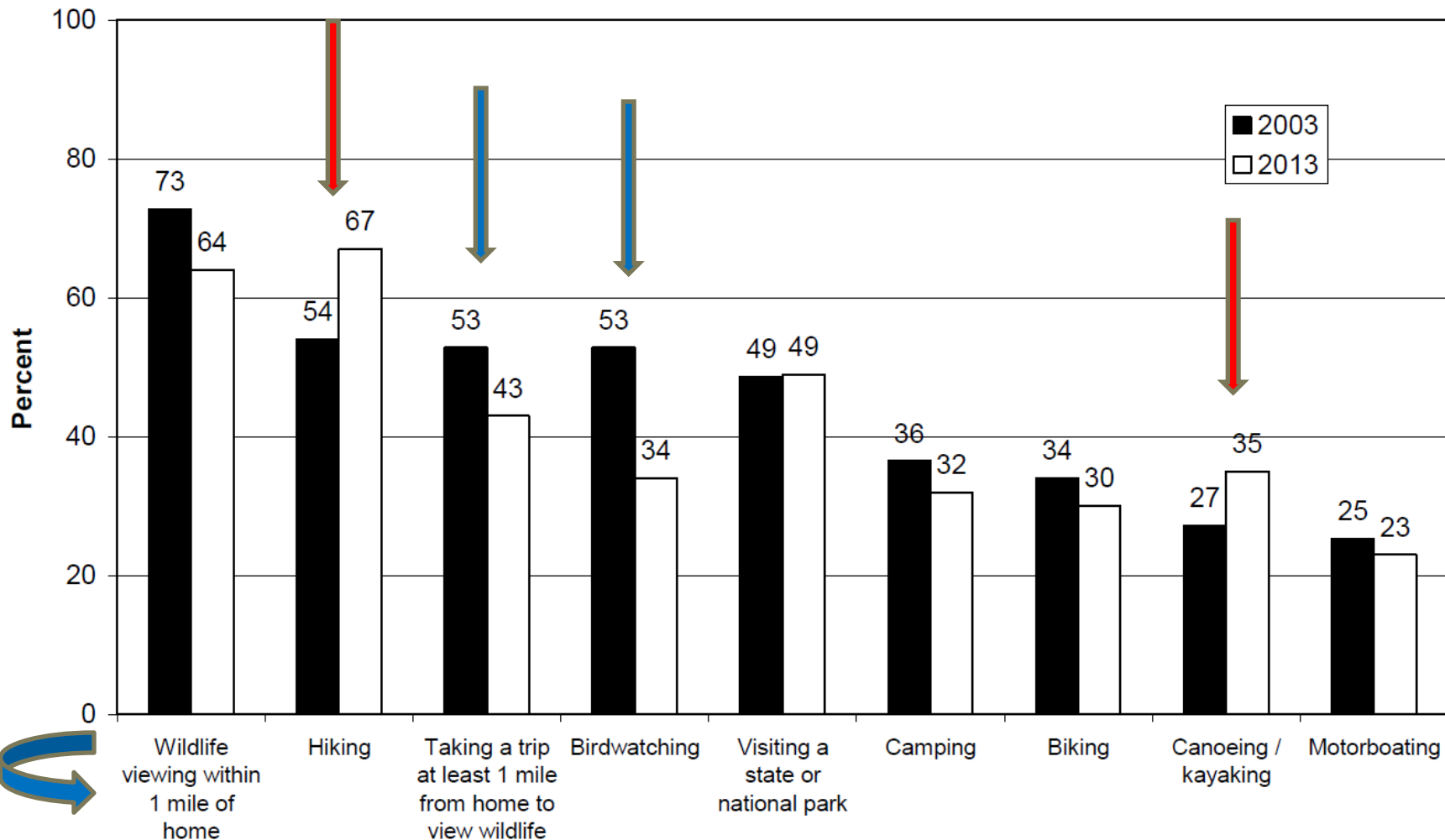
- Hunting (14%)
- Fishing (20%)
- Wildlife watching (53%, 3<sup>rd</sup>)
- All wildlife-related recreation (62% 2<sup>nd</sup>)



# Wildlife and Fish-Related Activities

## Non-consumptive

In the past 12 months, have you participated in...?  
(Residents)



# Wildlife and Fish-Related Activities

## Average Vermont Hunter

- He or she is white and 50 years old
- 91% male but percentage of women is on the increase
- Has a high school diploma
- Most (76%) fish
- Slightly less than the median Vt income
- Rural
- Lifelong Vermonter
- Not a techie nor a newspaper subscriber, but watches WCAX





# Wildlife and Fish-Related Activities

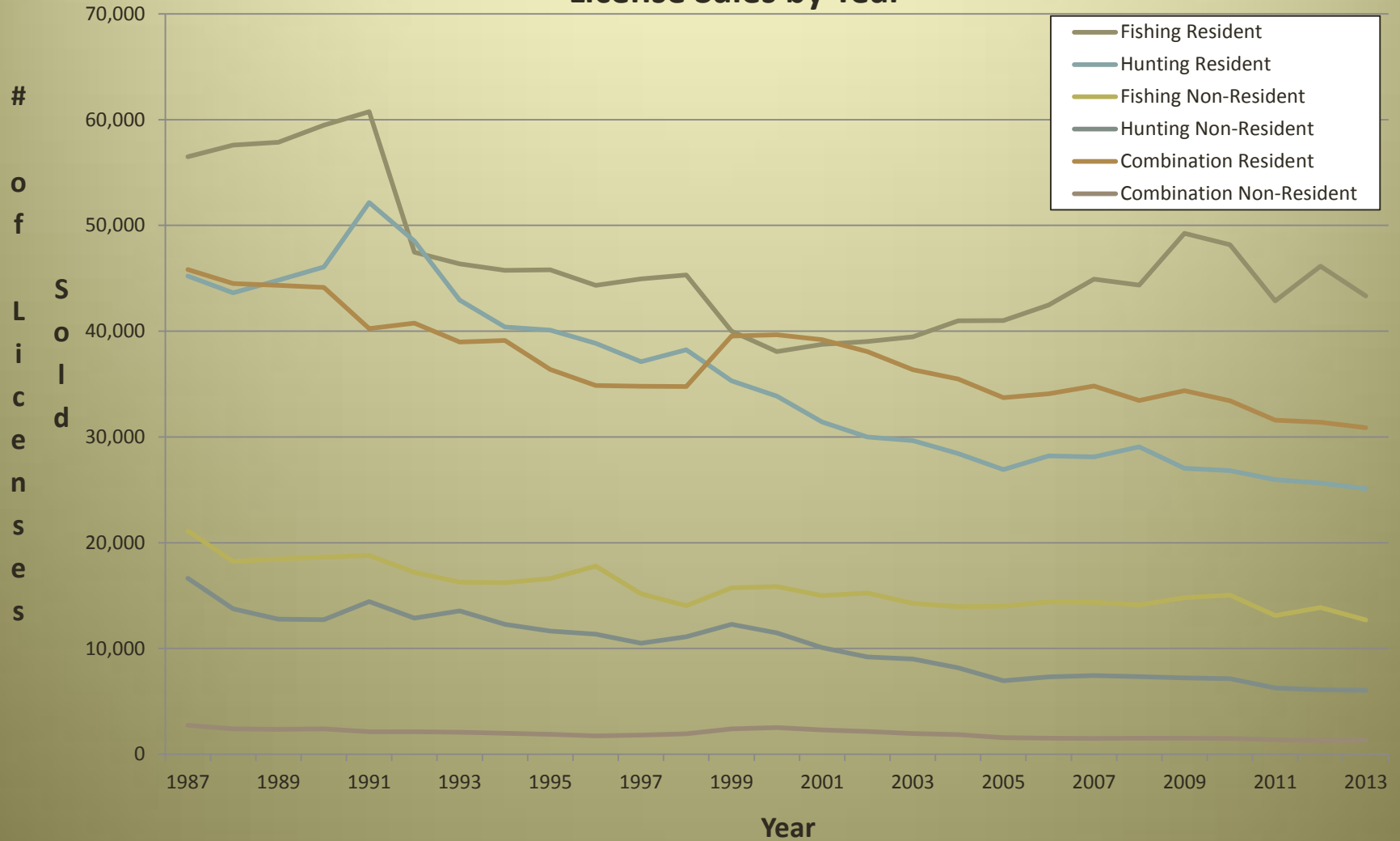
## Average Vermont Angler

- He or she (82% male) also has a median age of 50
- Median VT income, but angler-only tend to be more affluent
- About 50% hunt too
- Two-years of advanced education
- Small town
- Less likely to be a lifelong Vermonter than hunters



# Wildlife and Fish-Related Activities

## License Sales by Year

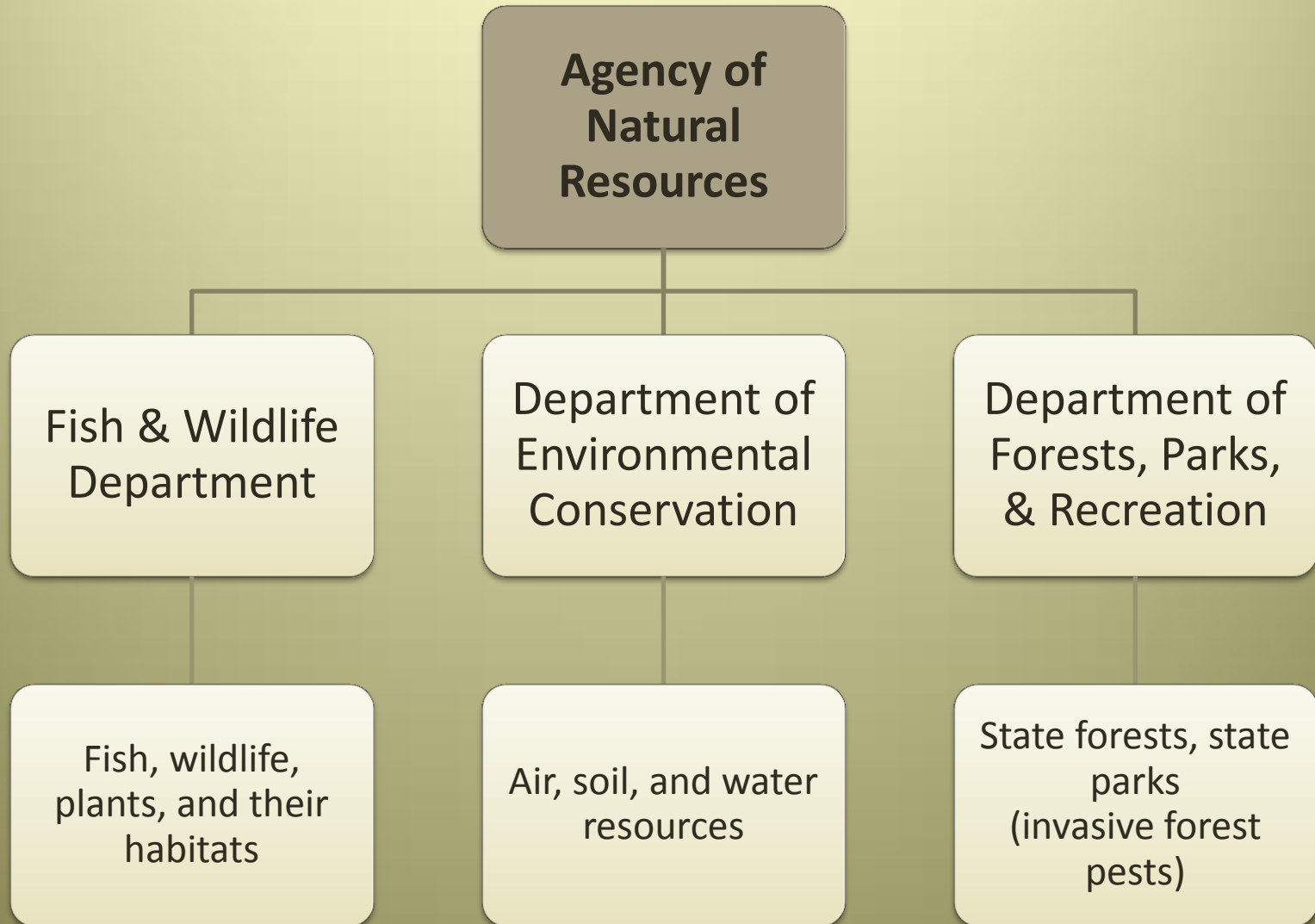


# Agency Structure

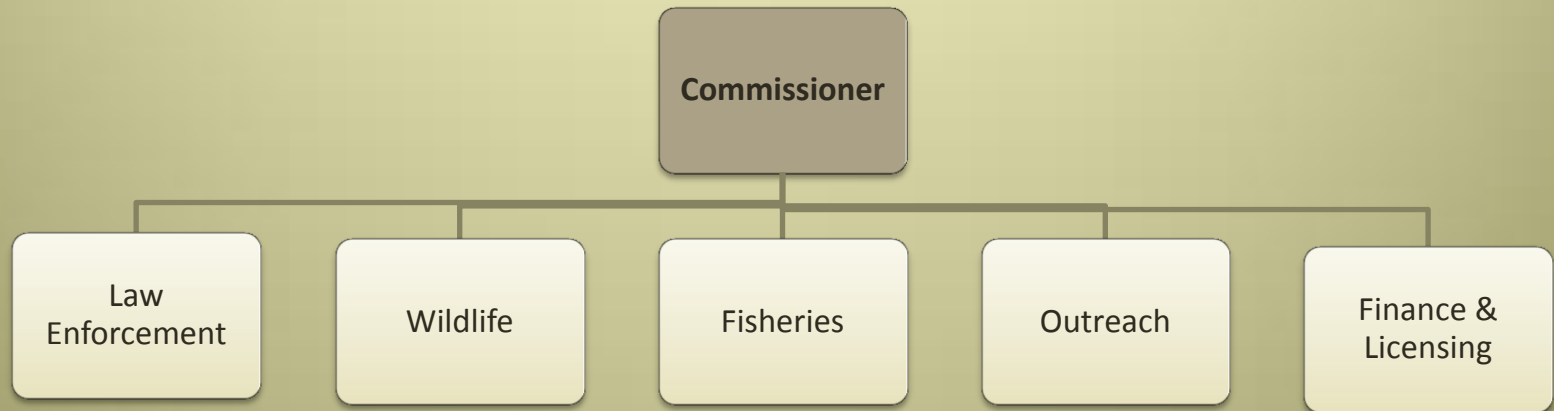




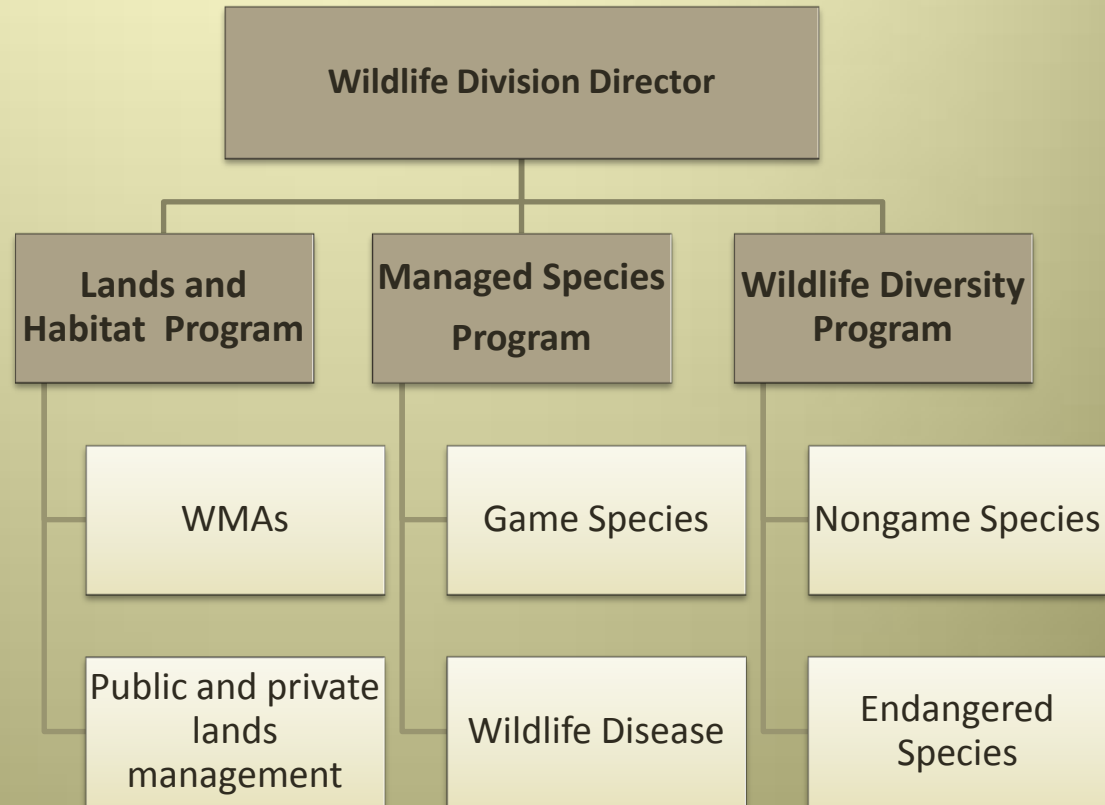
# Agency Structure



# DFW Organization Chart

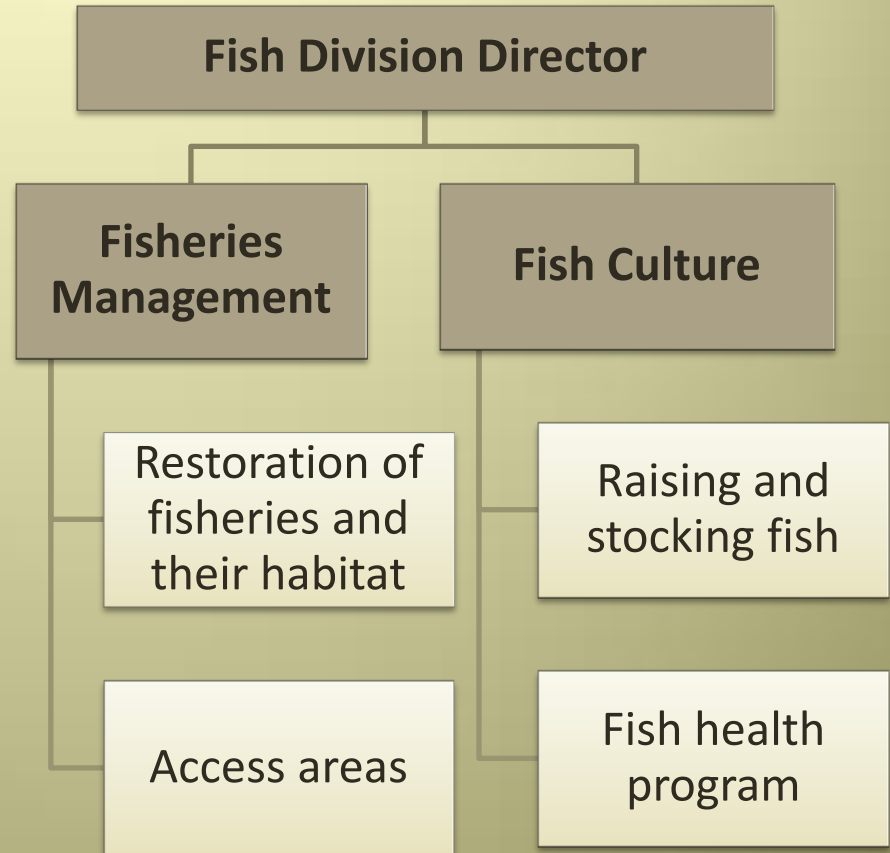


# Wildlife Division

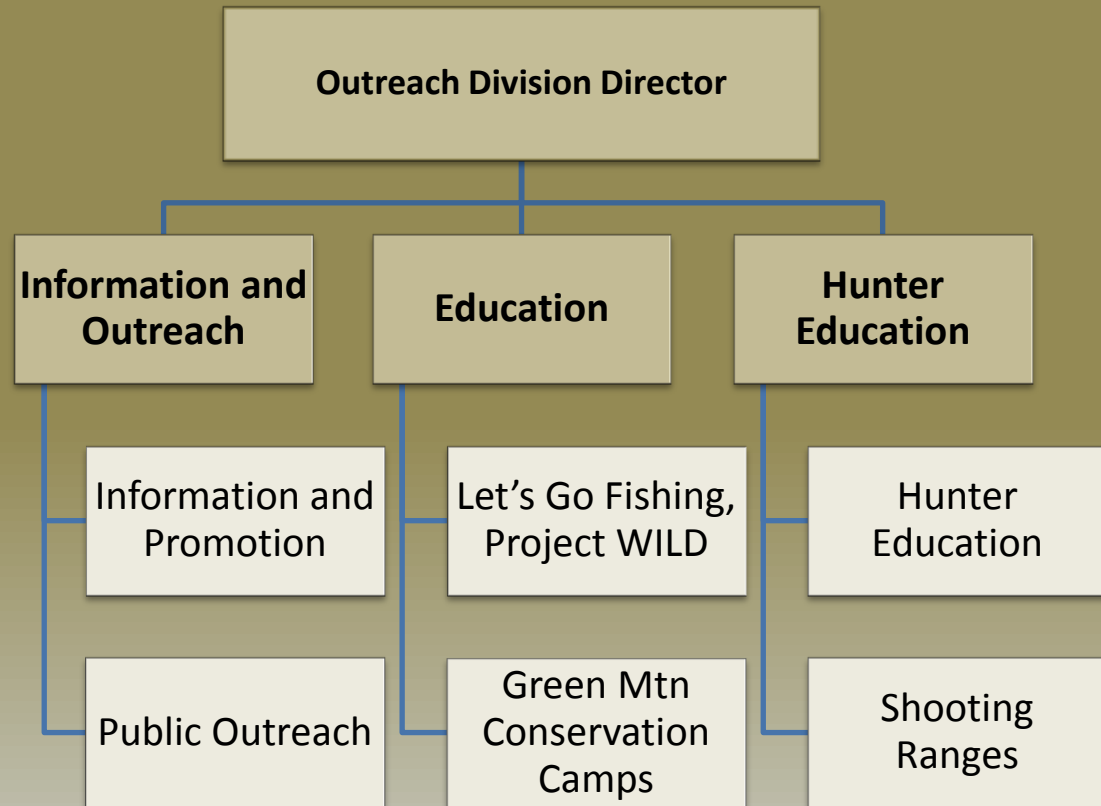




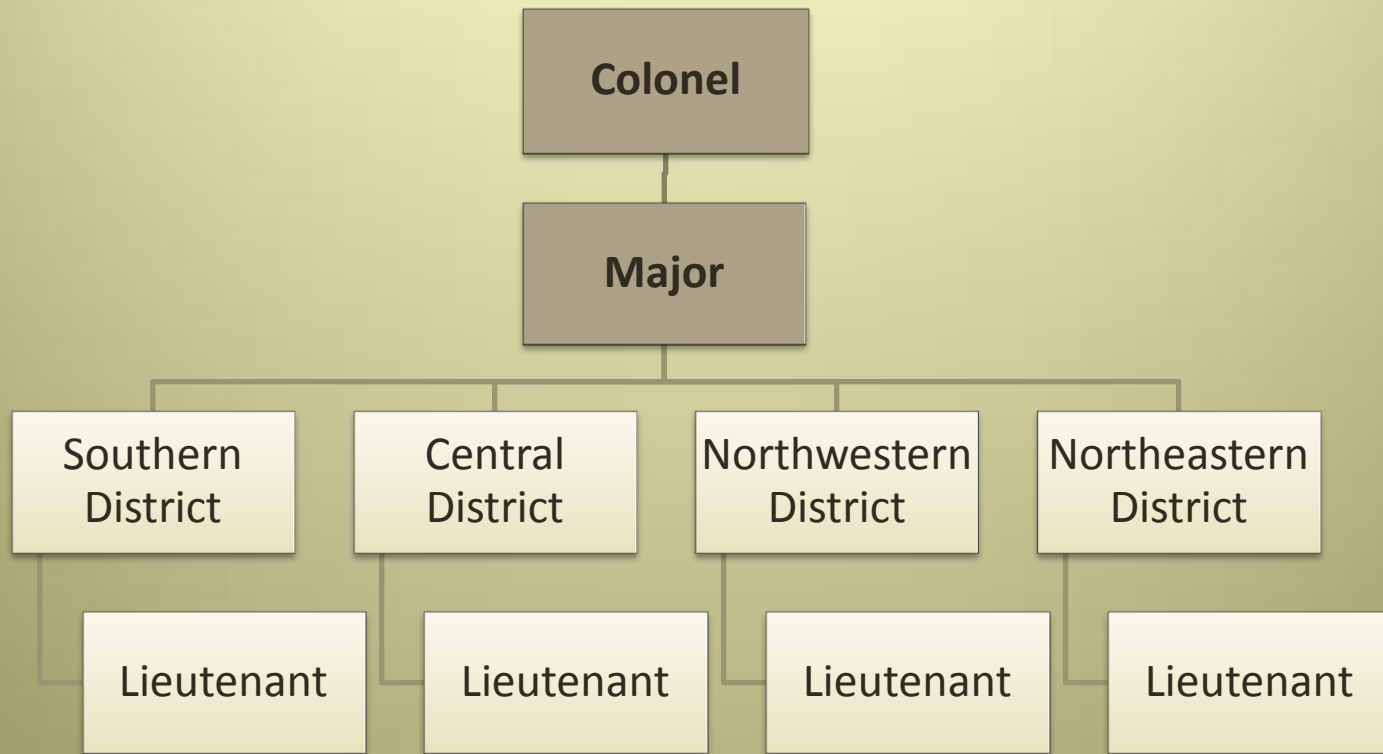
# Fisheries Division



# Outreach Division

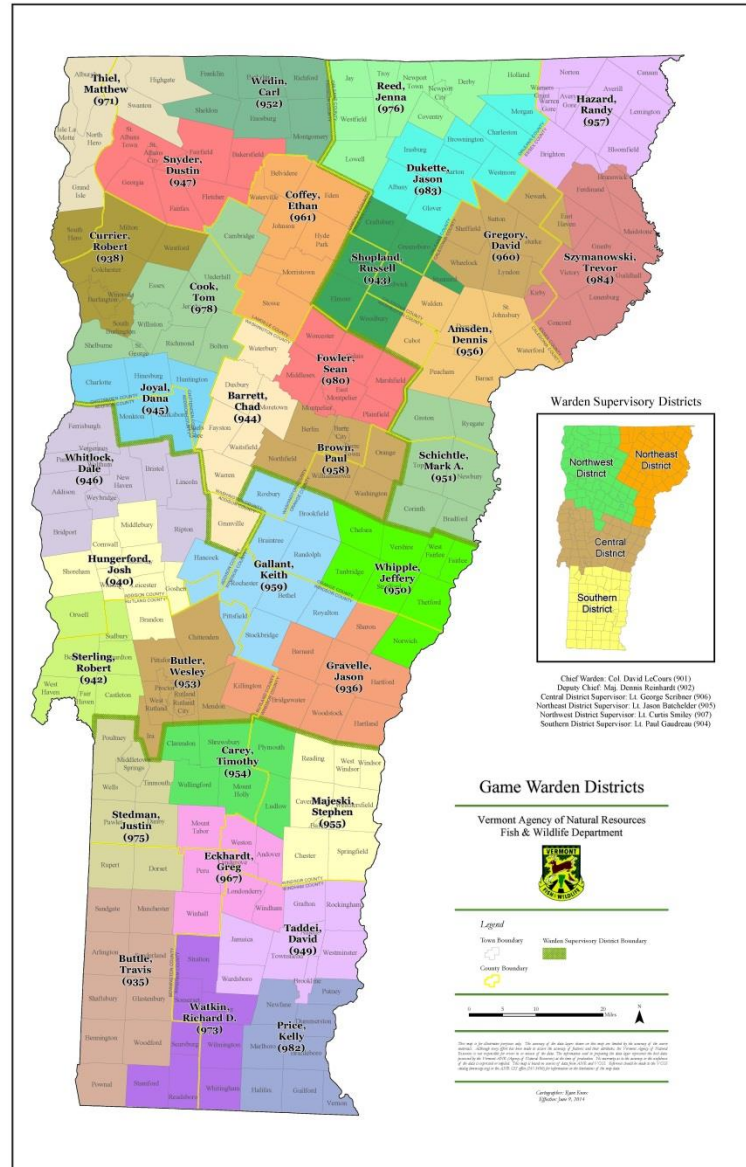


# Law Enforcement



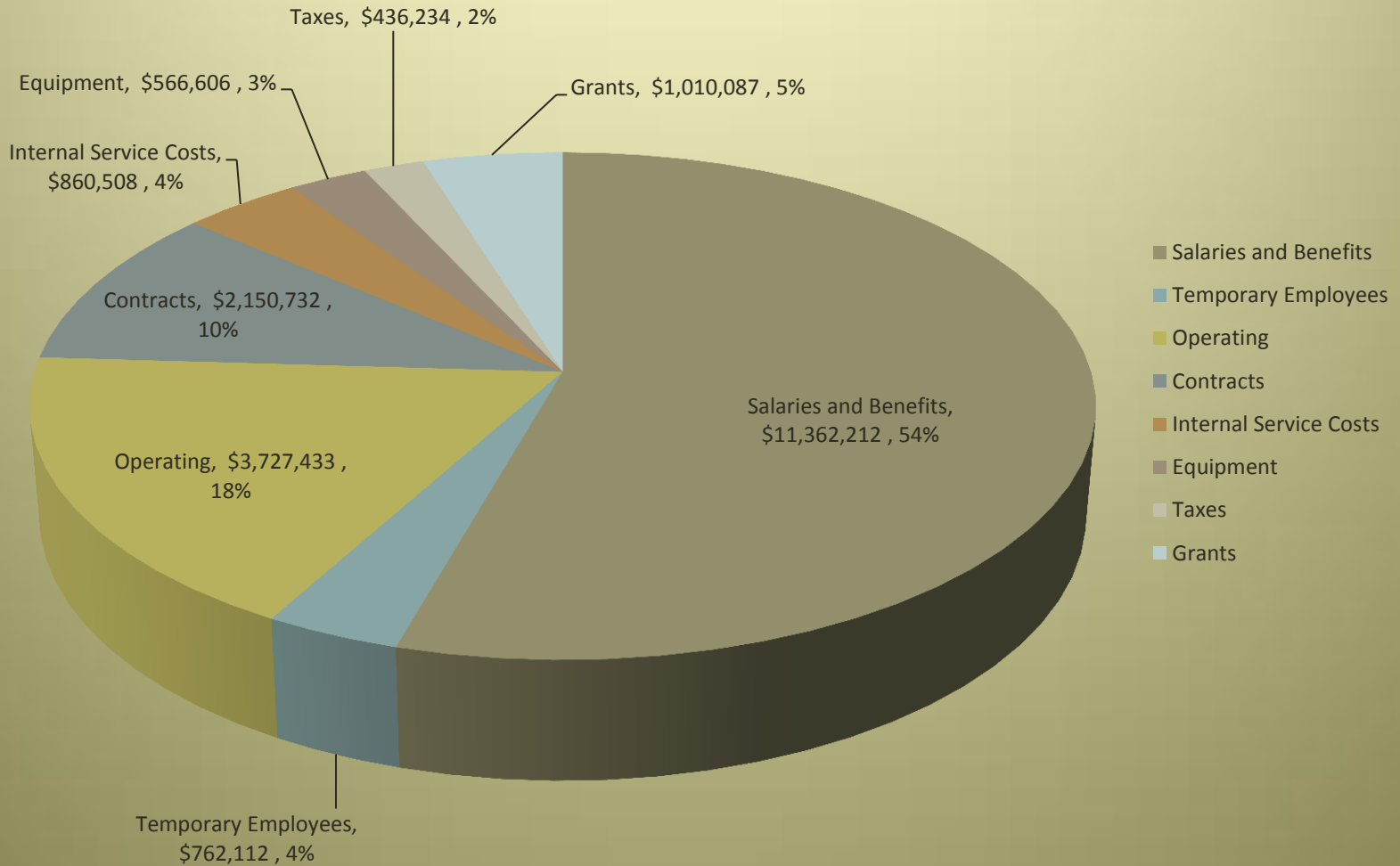


# Law Enforcement



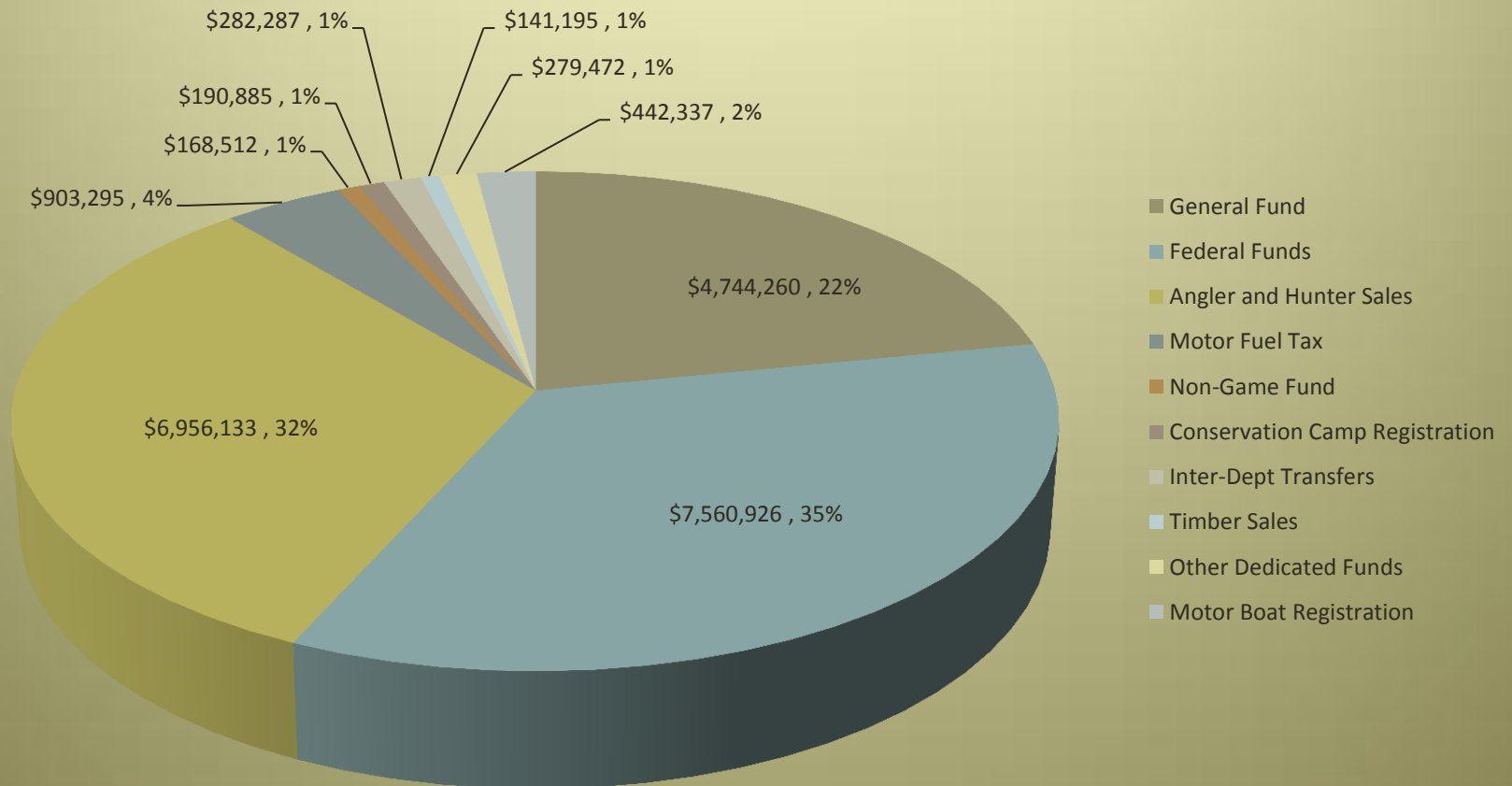
# Department Funding

## FY 2014 Department Expenditures



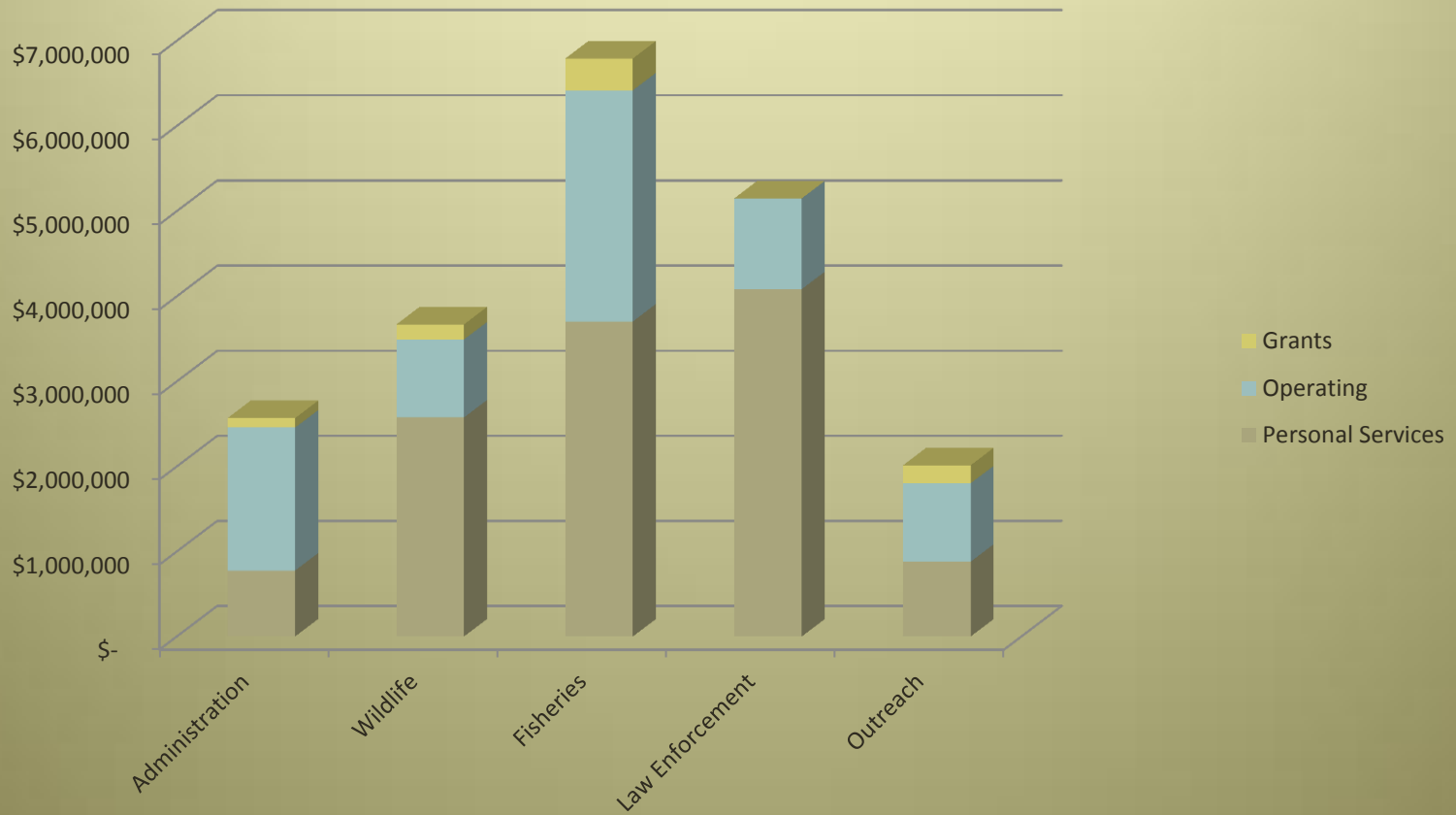
# Department Funding

## FY 2014 Department Revenues



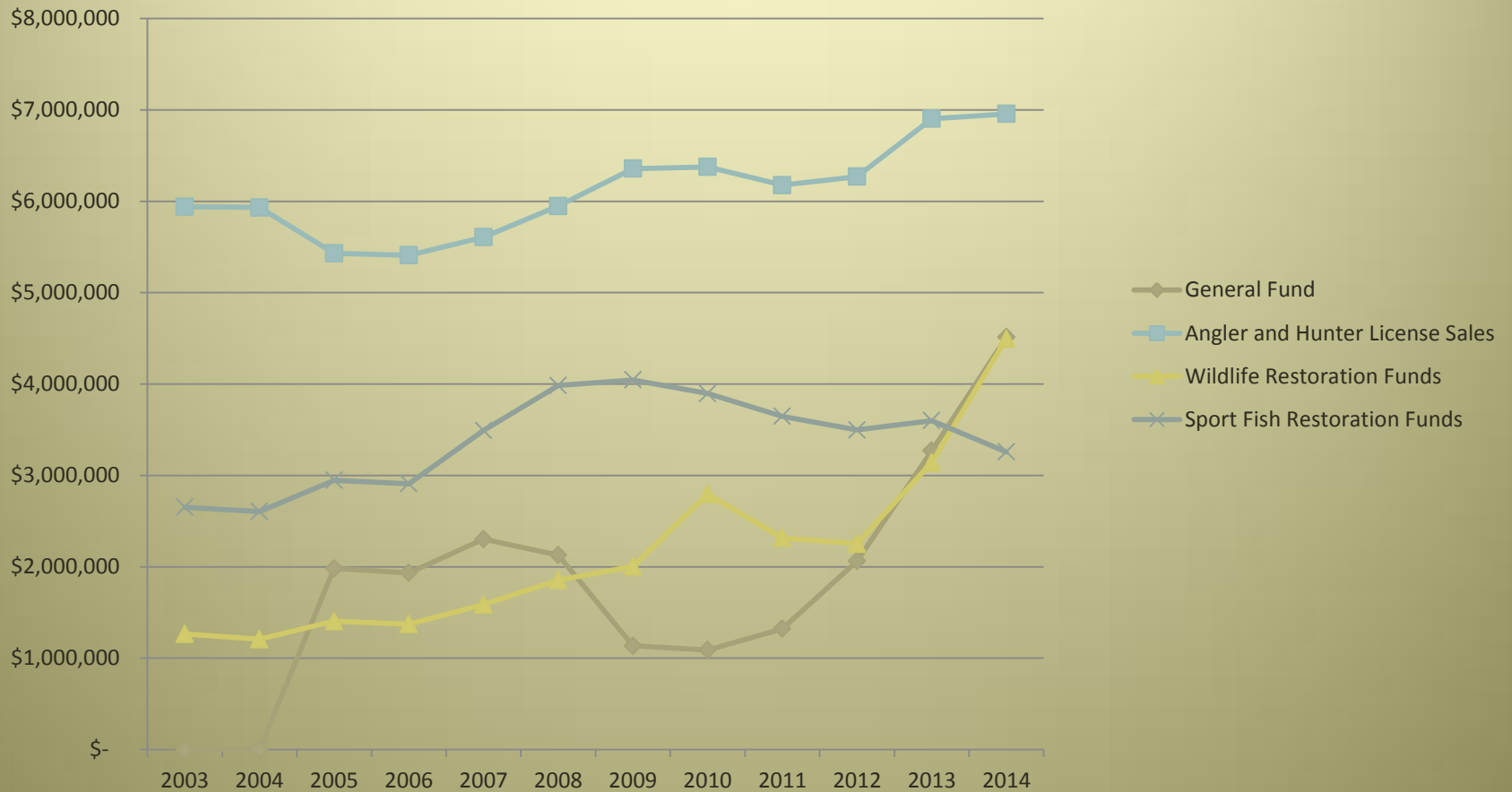
# Department Funding

## FY 2014 Expenditures by Division



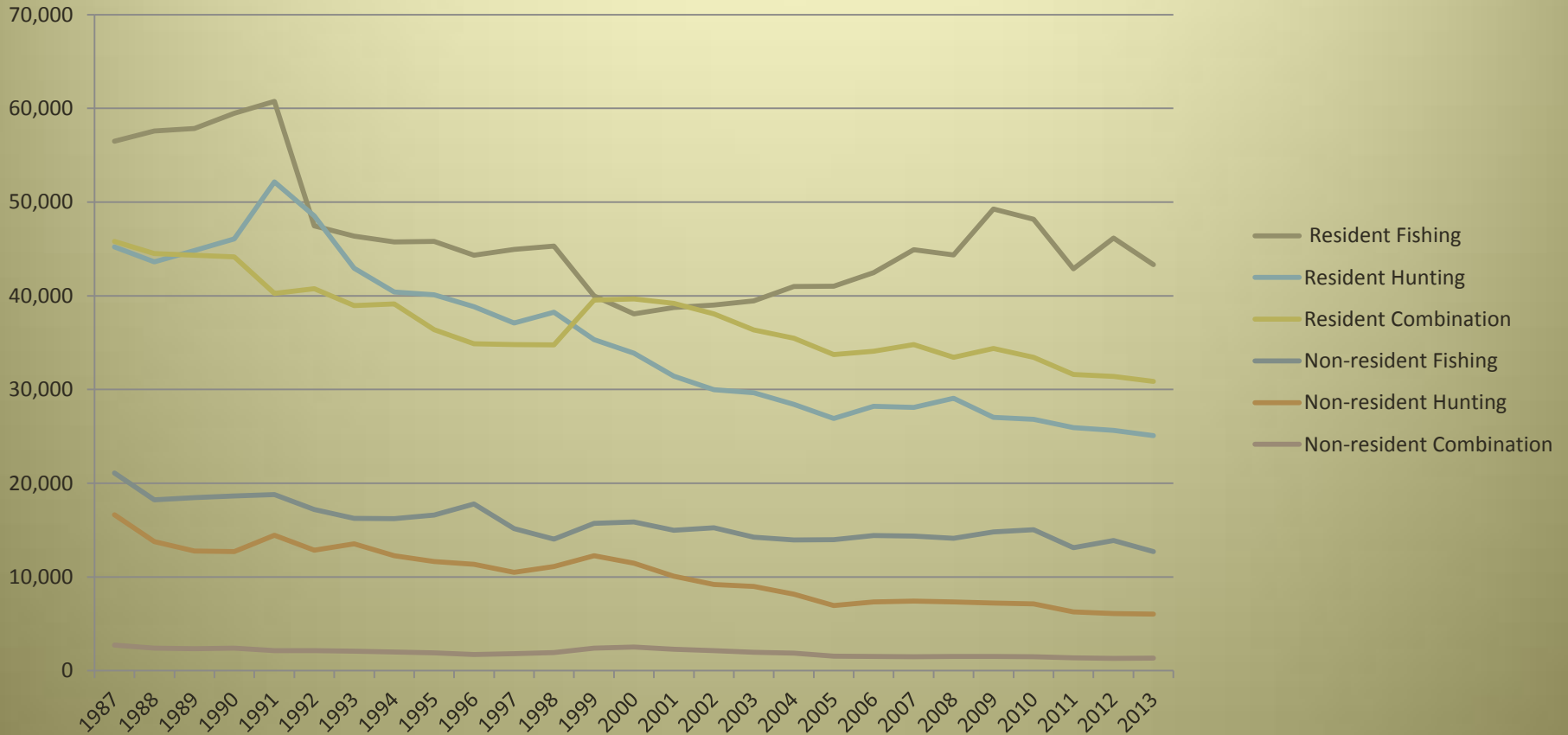


## Trend of Major Revenue Sources FY 2003 – FY 2014



# Department Funding

## License Sales 1987-2013



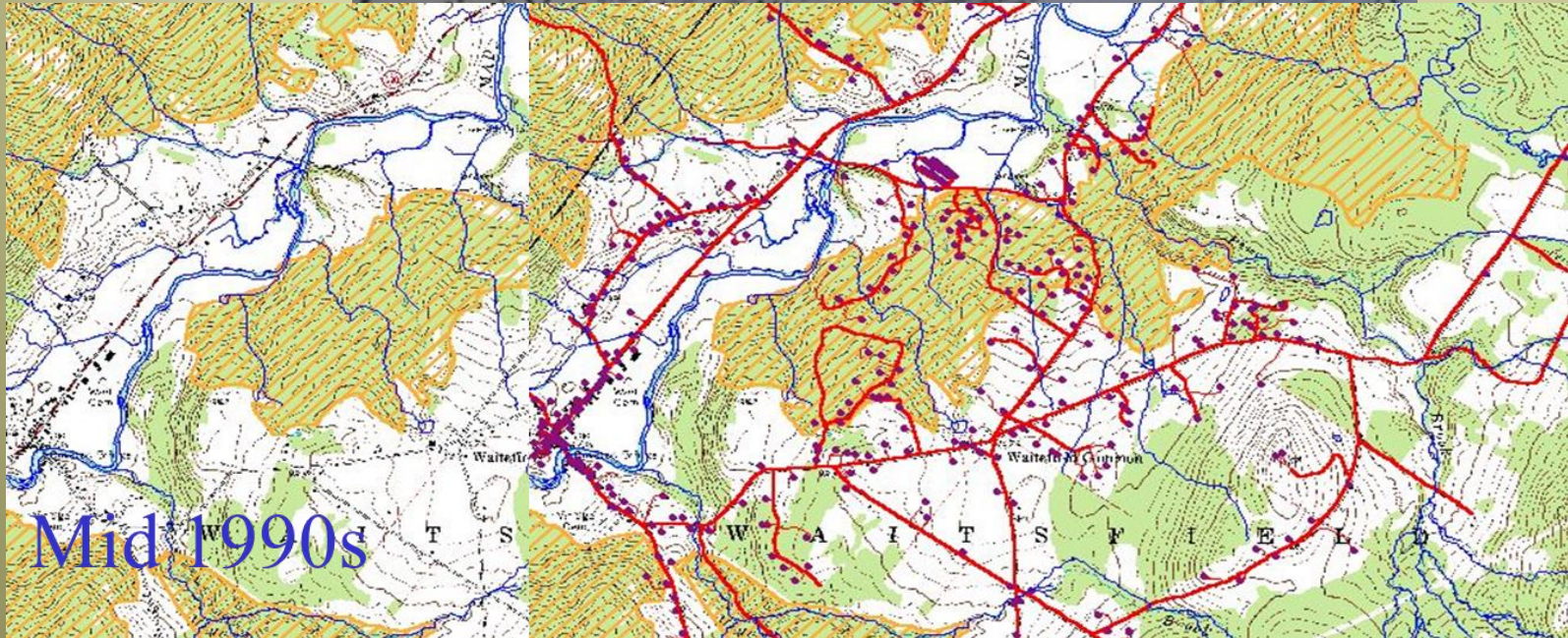
# Future Challenges/Threats to the North American Model

Vermont is at a crossroads...





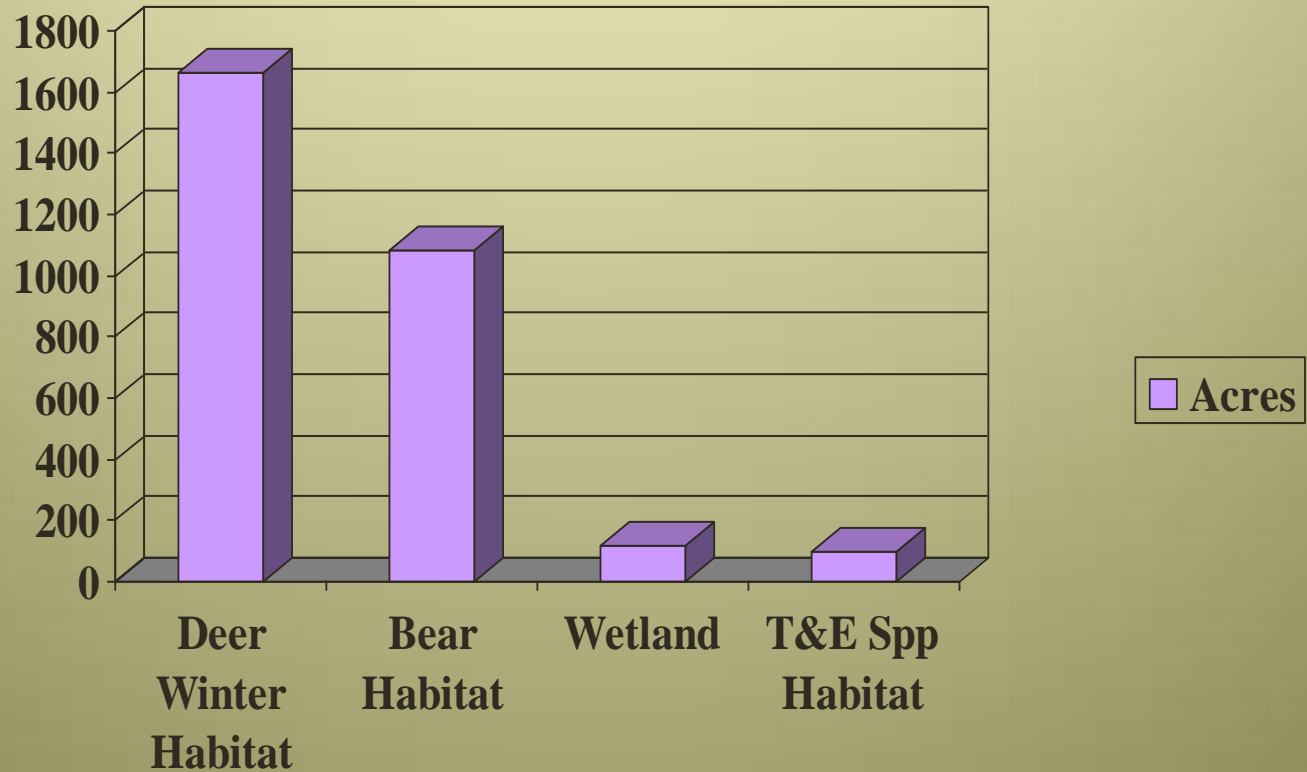
# Habitat Loss





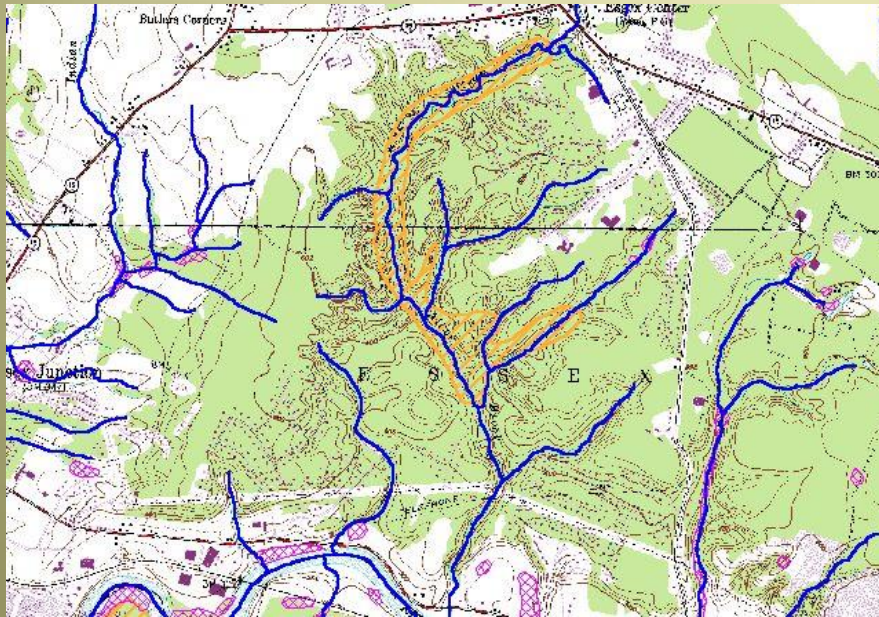
# Habitat Loss

- Vermont is losing a square mile of critical habitat to regulated development every year.
- Nationally, we are losing 365 acres per hour.

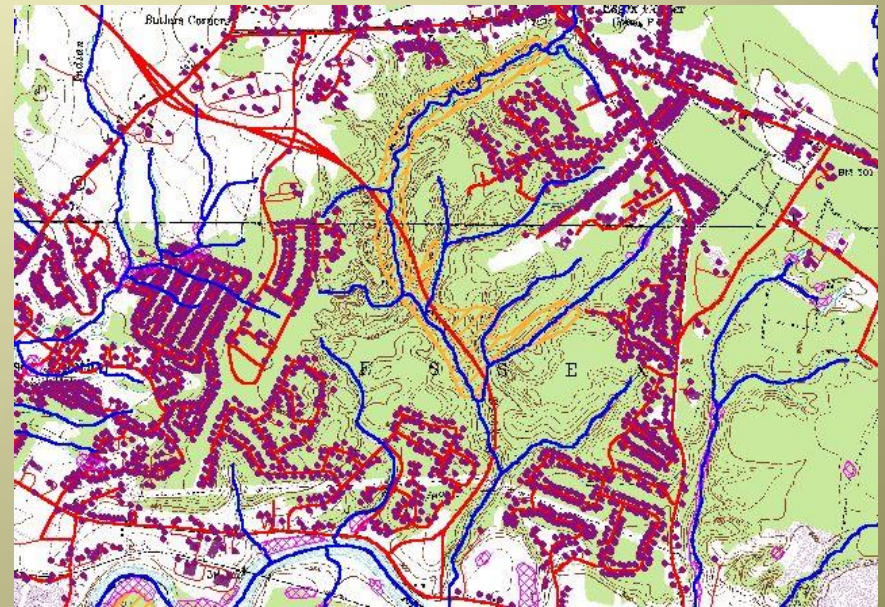


# Shifts in Land Use/Urbanization

Early 1980's

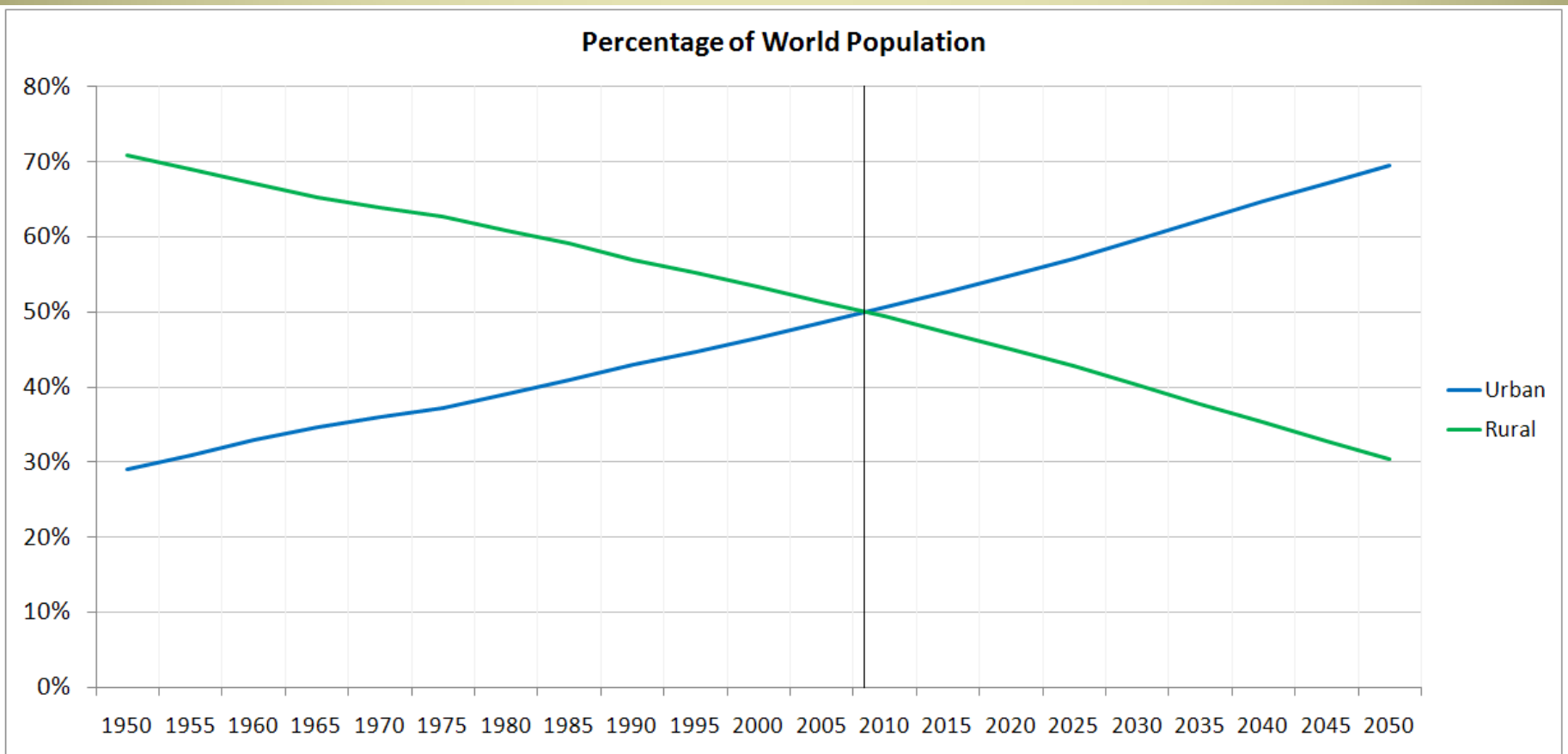


Mid 1990s



# Loss of connection to the land

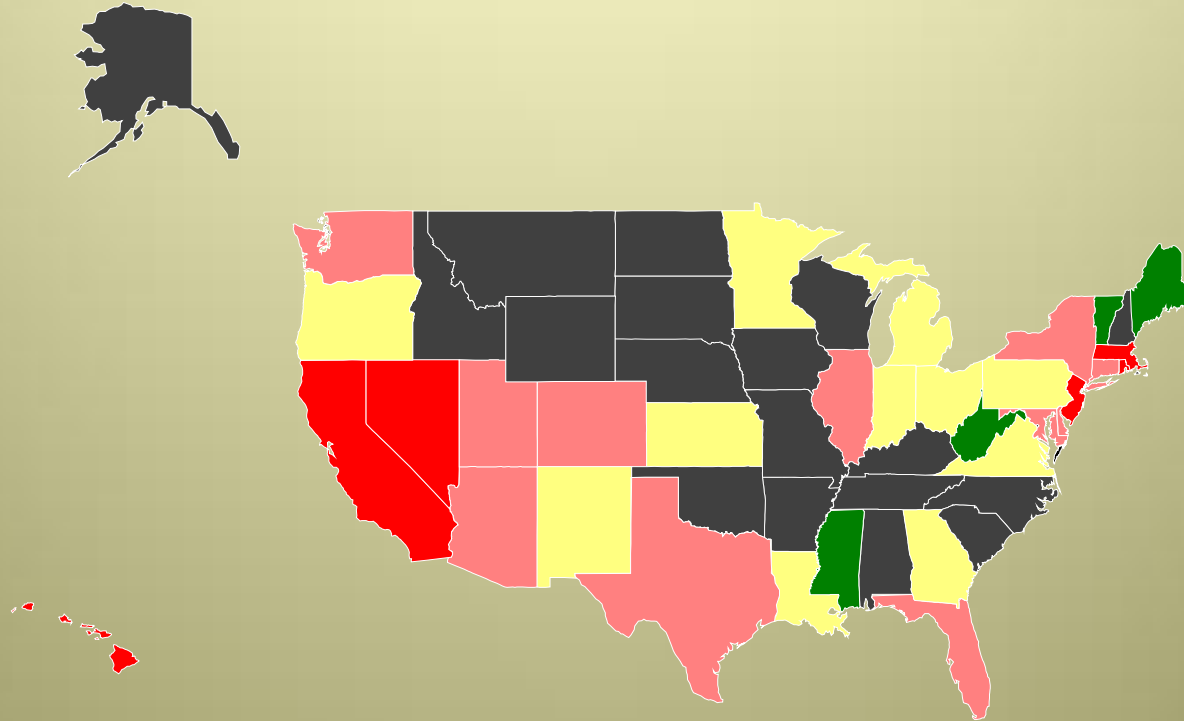
“The greater the proportion of state residents who live in urban areas, the lower the proportion who hunt.” Decker et al. 2001



Data Source: United Nations, <http://esa.un.org/unup/p2k0data.asp>

# Loss of connection to the land

Percent of population living in urban areas

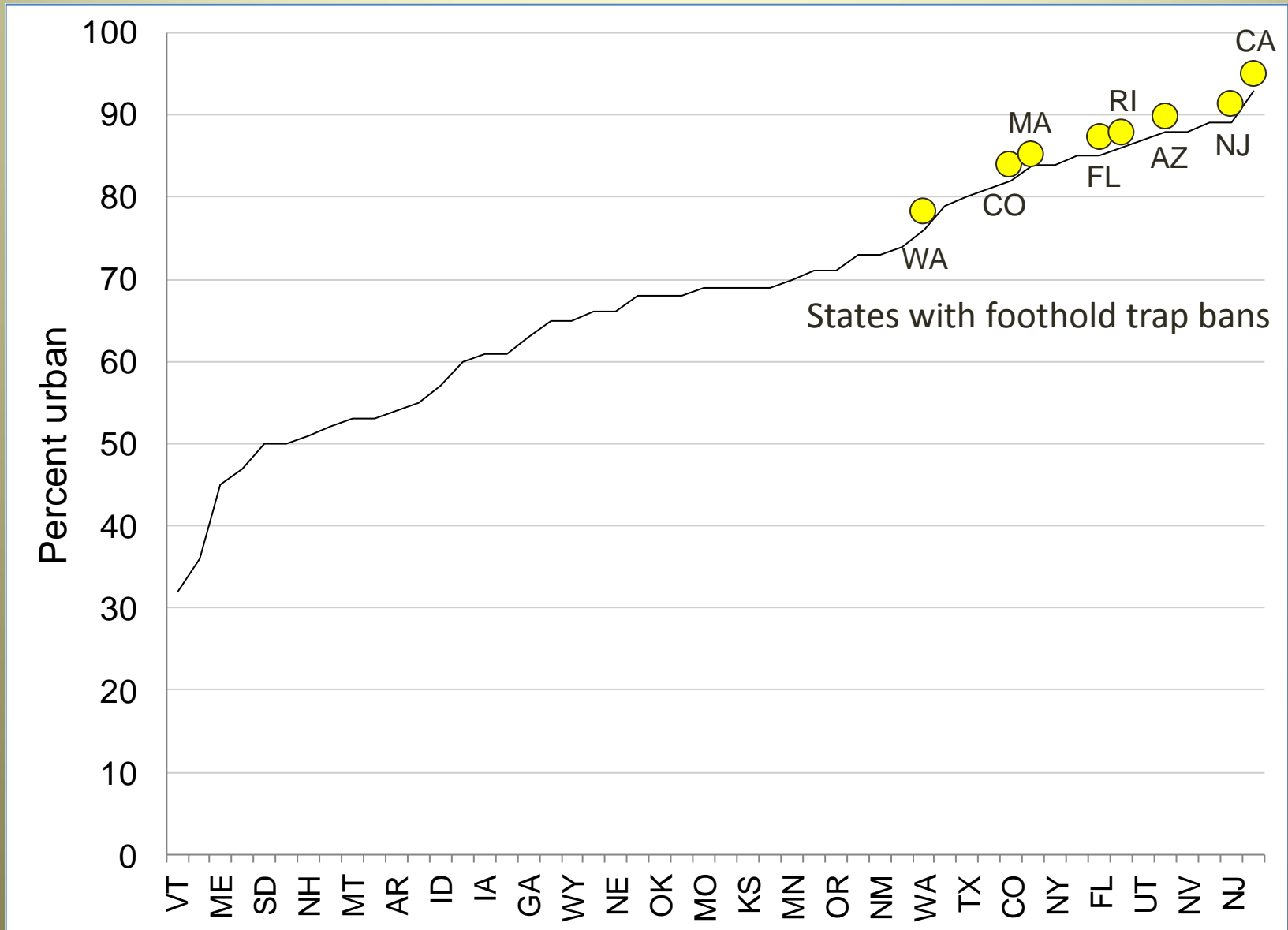


Green <50%   Gray 50-70%   Yellow >70%   Pink >80%   Red >90%

(from DeStefano et al. 2005)



# Changing Cultural Values



# Recruitment and Retention





# Public Education





# Invasive Species



Barberry



*Copyright Matthew E. Fagan,  
Dartmouth College, 2003*

Buckthorn





# Climate Change

Increase in diseases and parasites



Warmer weather during hunting seasons



# Privatization of Wildlife

## Pet trade



Elimination of markets for fish and wildlife?



# Captive Hunting Facilities



*Democracy of hunting?*

*Wildlife as public trust resources?*

# Lack of Access

Posted land



*Democracy of hunting?*

*Wildlife as public trust resources?*



# Long-term Funding

## Species at Risk





# Information super-highway

- Instantaneous spread of ideas
- Information and *mis-information* spread just as quickly
- Need to keep the public informed with correct, current information

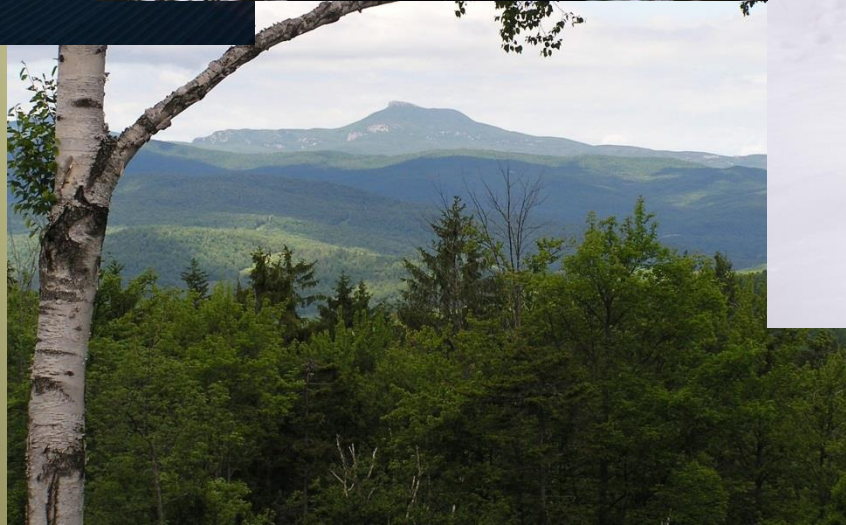
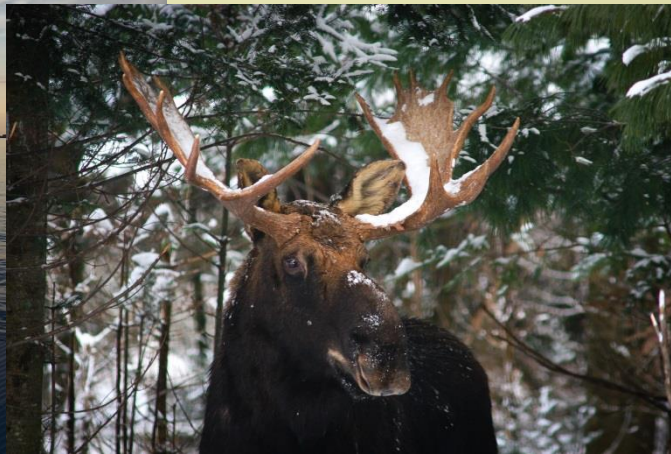
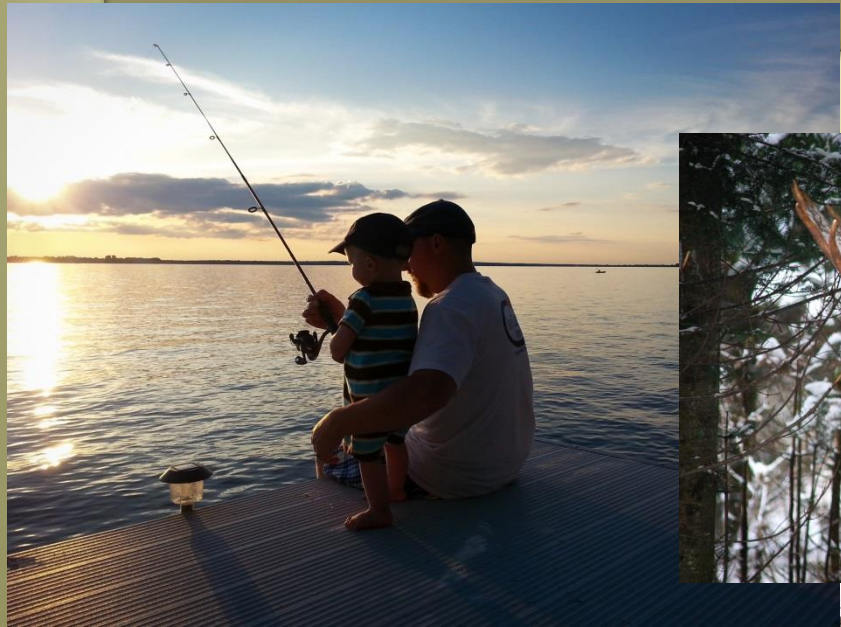


# The Future--Could we use the NA Model to help address these and other challenges?

- What is in the best interest for the wildlife resource?
- What may be best for constituent groups?
- What is in the long-term best interest of the Department/Agency?



Thank you for working to ensure the future of hunting, fishing, trapping and wildlife conservation in Vermont





The End



**VERMONT**

**respect. protect. enjoy.**