

ASER Workshop

Waterfowl Task on the Oak Ridge Reservation (ORR)

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National Transportation Research Center



Waterfowl Project



Field

- **Annual Roundup**
 - Apply legbands and neck collars
 - Determine age (HY or AHY) and sex
 - Translocate geese
 - Weigh and conduct whole-body counts
- **Fixed route surveys**
 - Record observations (2-52 times/year)

Administrative

- Data management
- Compile reports
- Respond to calls



What we survey for . . .



Gaviidae
Loons



Ardeidae
Herons
Egrets
Bitterns



Podicipedidae
Grebes



Threskiornithidae
Ibises
Spoonbills



Phalacrocoracidae
Cormorants



Gruidae
Cranes



What we survey for . . .



Rallidae
Rails
Coots



Laridae
Gulls
Terns



Charadriidae
Plovers



Anatidae
Ducks
Geese
Swans



Scolopacidae
Sandpipers



Accipitridae
Hawks
Eagles



What we survey for . . .



Falconidae
Falcons



Stigidae
Owls



Alcedinidae
Kingfishers



- **State-listed species**
 - In need of management
 - Threatened
 - Endangered
- **Species of special concern**
 - Out of range
 - Out of season

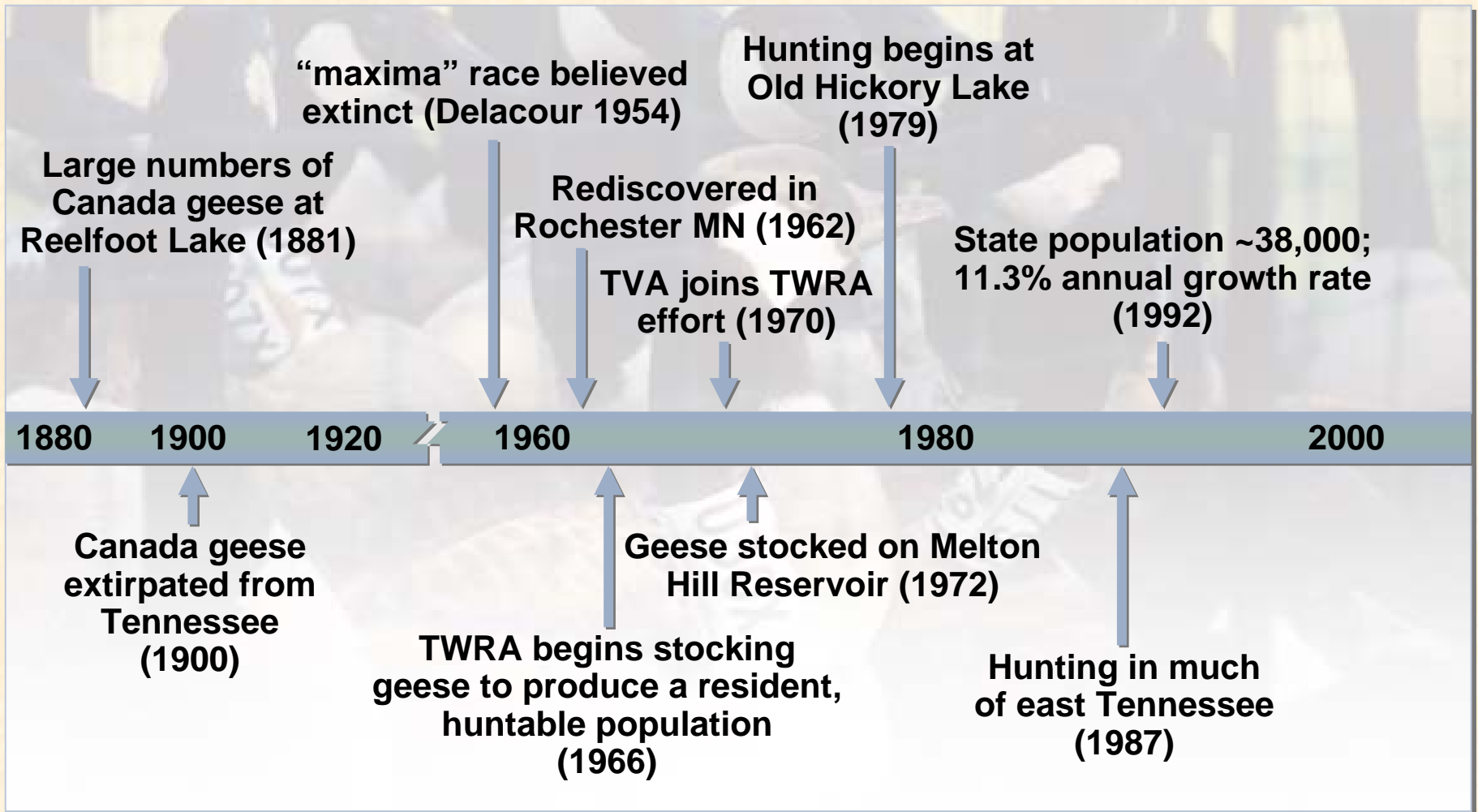


Canada Geese
Branta canadensis
11 recognized races

Canada Geese
Anser canadensis
Giant (*maxima*)
Interior
Atlantic
Dusky

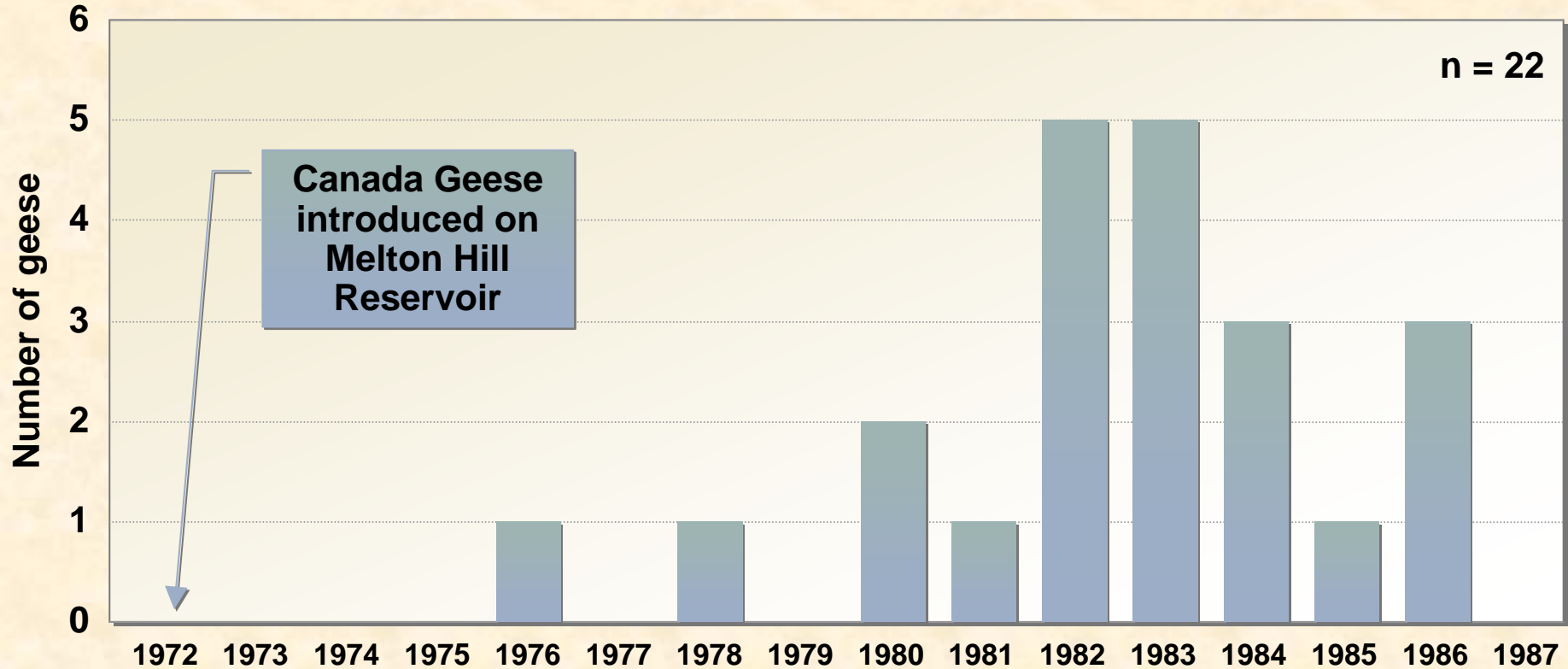
Cackling Geese
Anser hutchinsii
Richardson's
Aleutian
minima
Lesser (in part)

History of Canada Geese In Tennessee



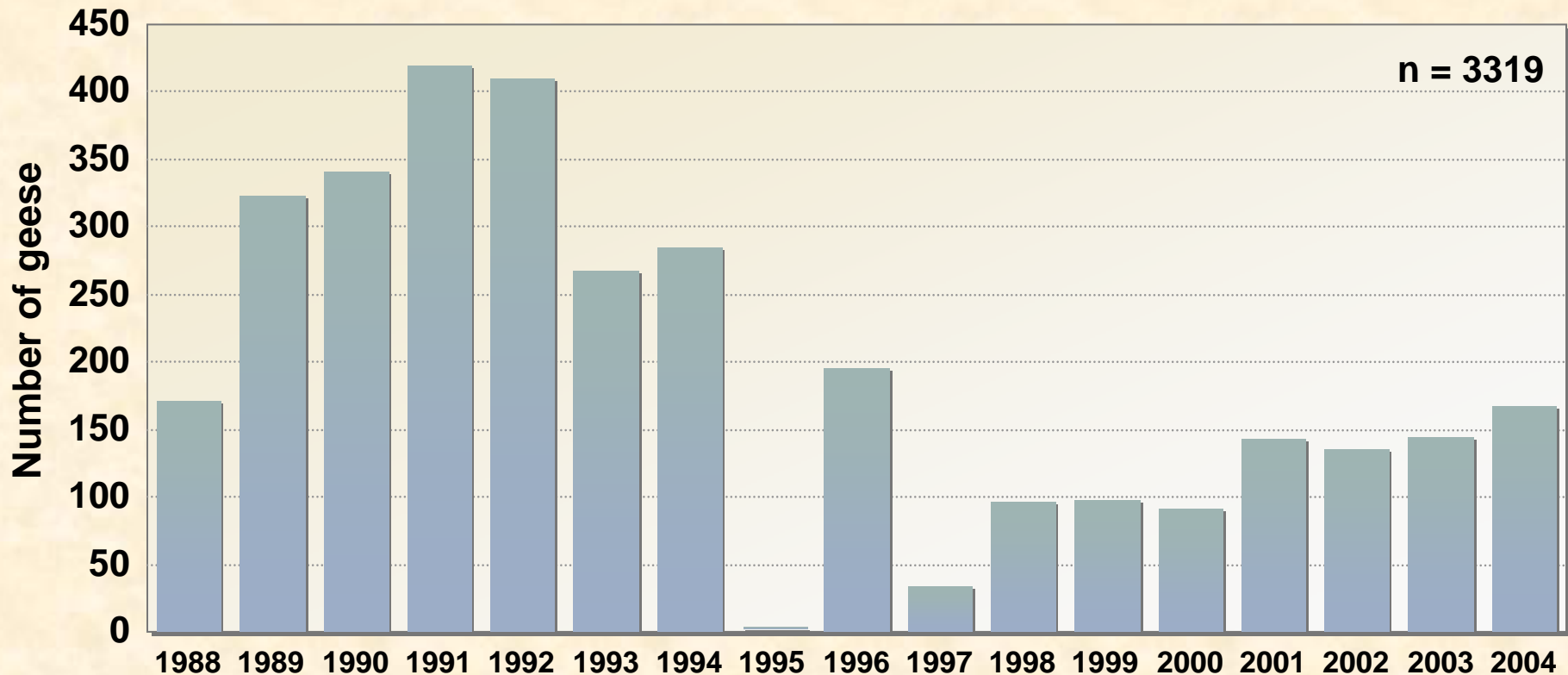
Canada Geese on the ORR

Year of initial legband application



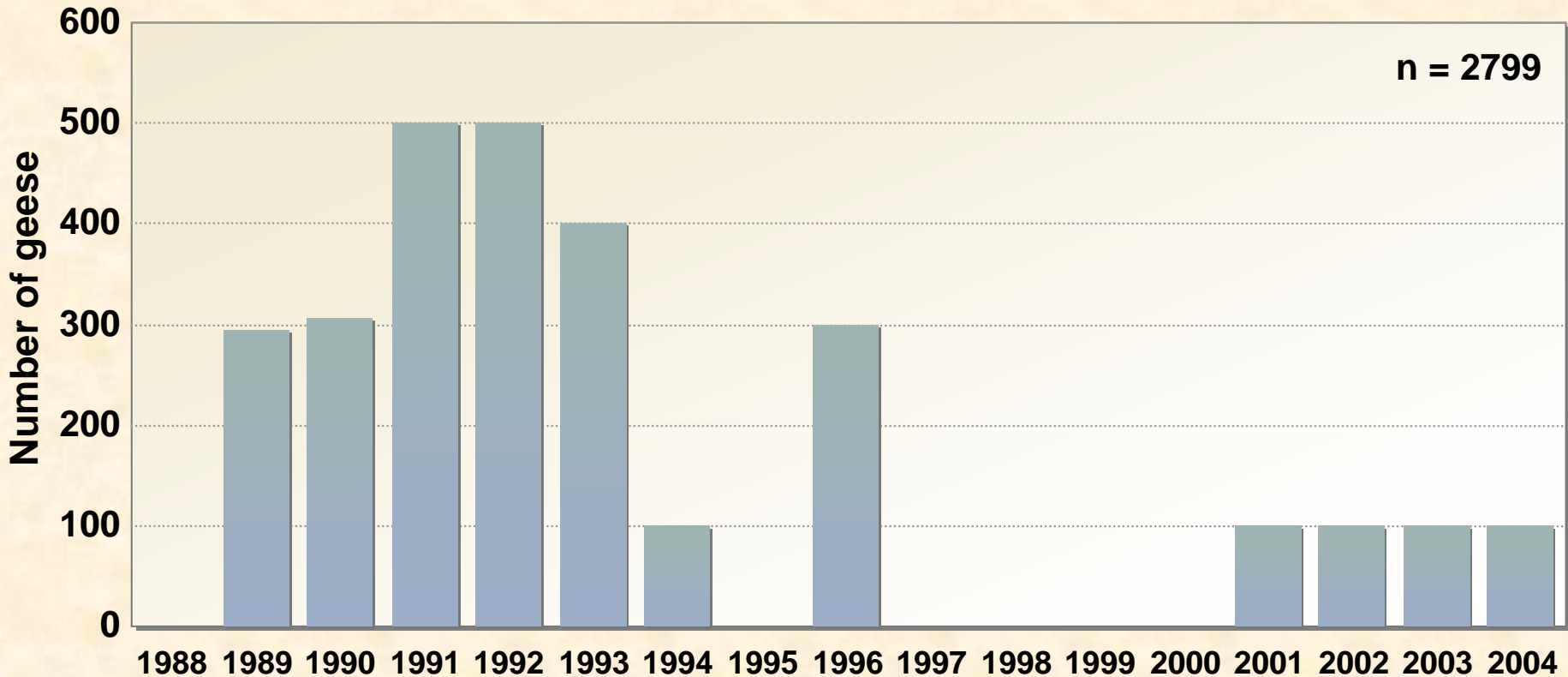
Canada Geese on the ORR

Year of initial legband application



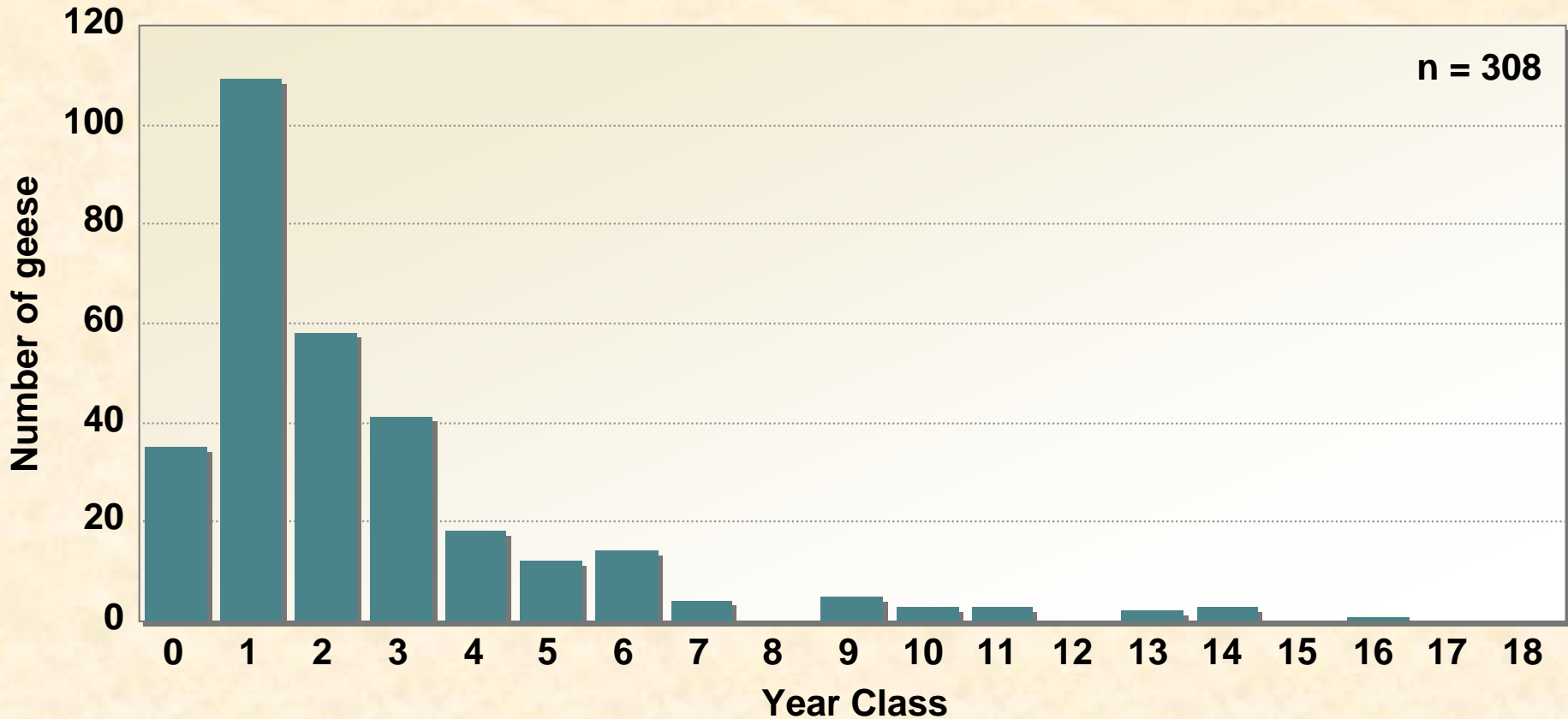
Canada Geese on the ORR

Application of neck collars



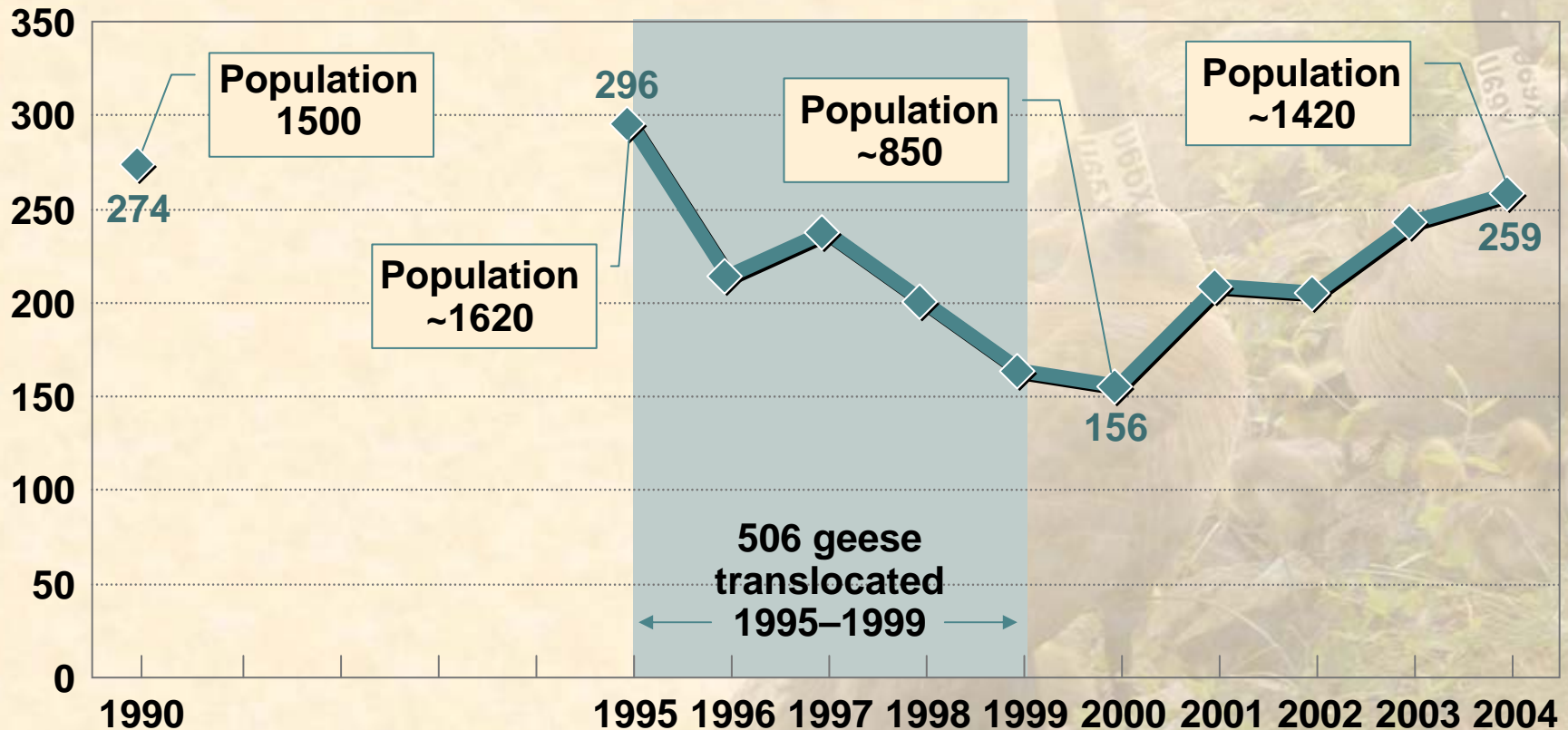
Canada Geese on the ORR

Age in years - current flock



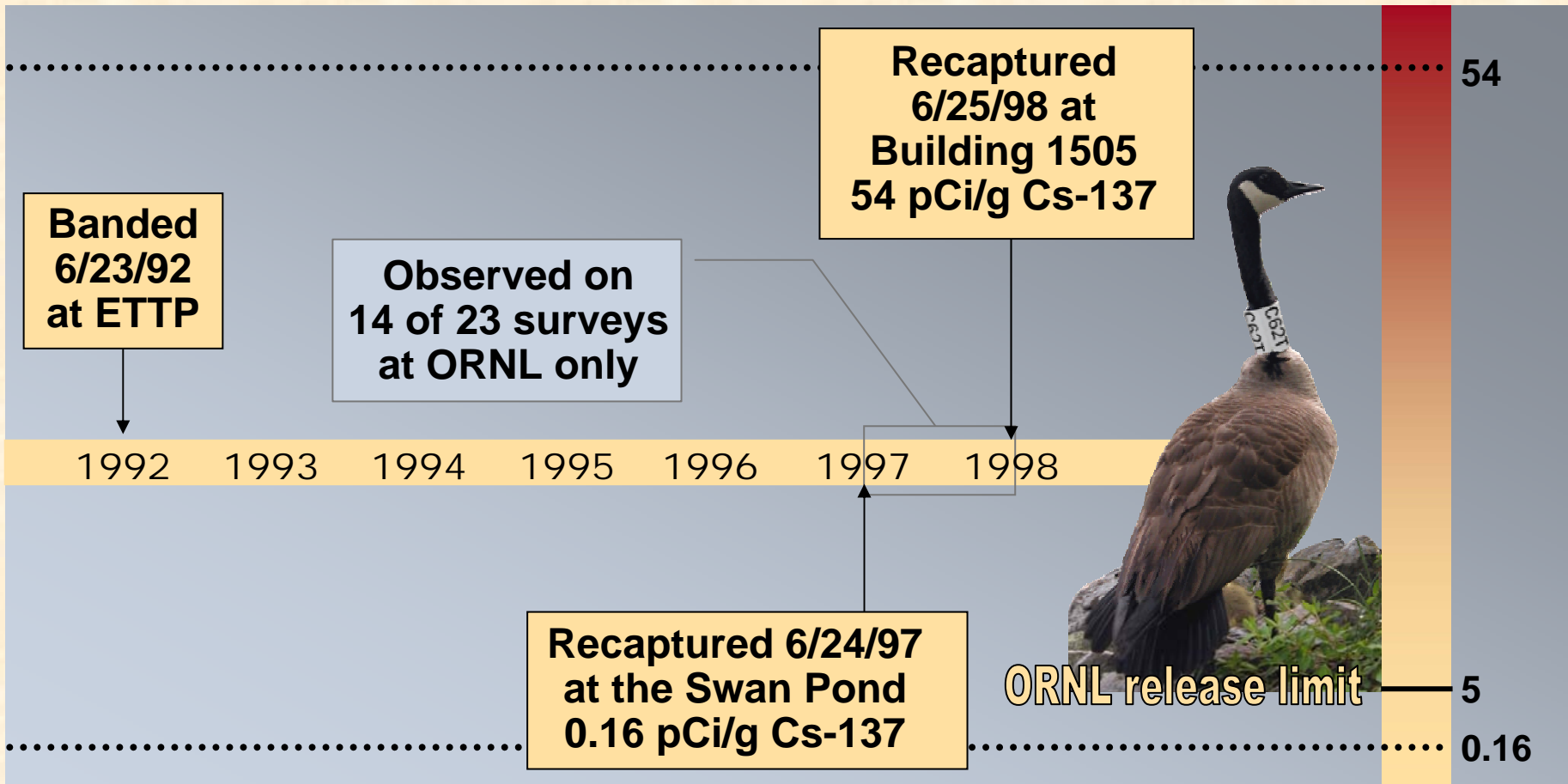
Canada Geese on the ORR

Numbers of geese observed per survey



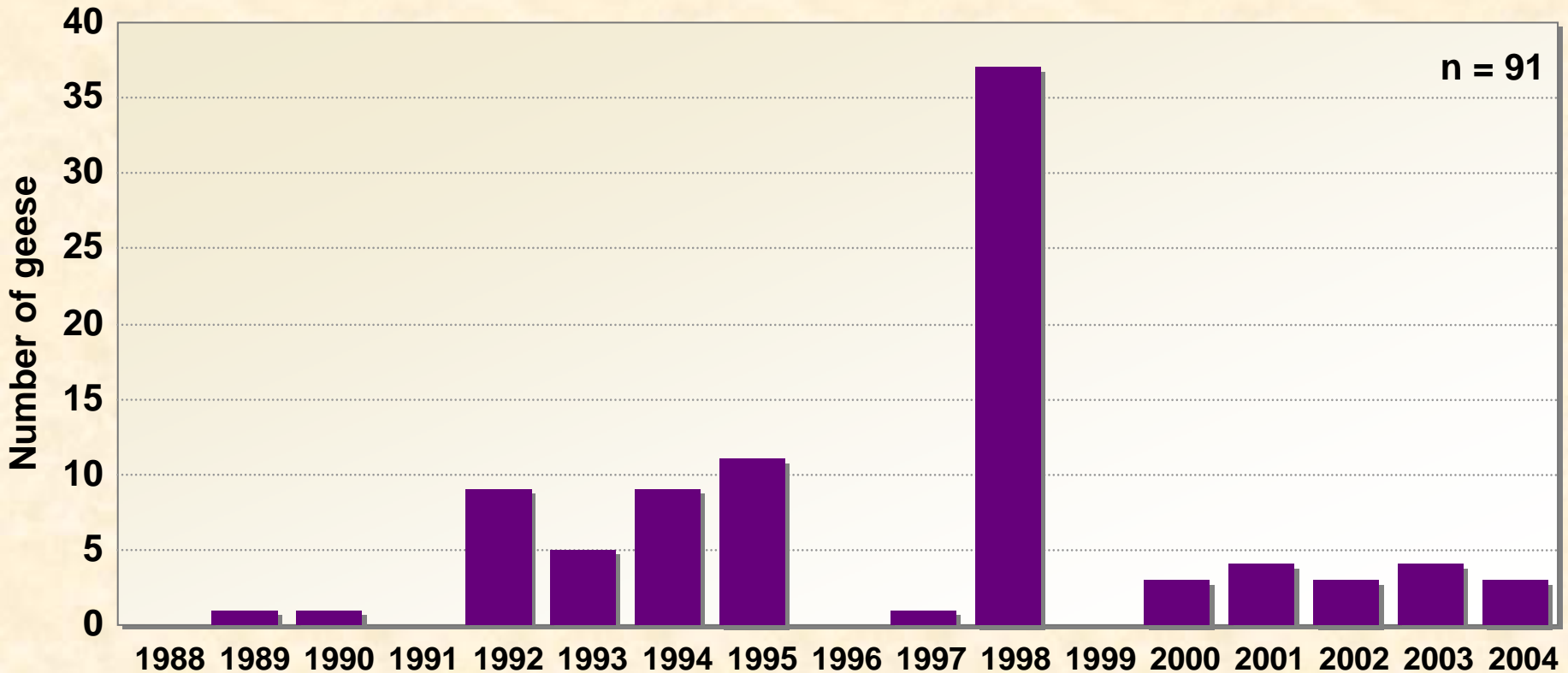


The story of Canada goose C62T

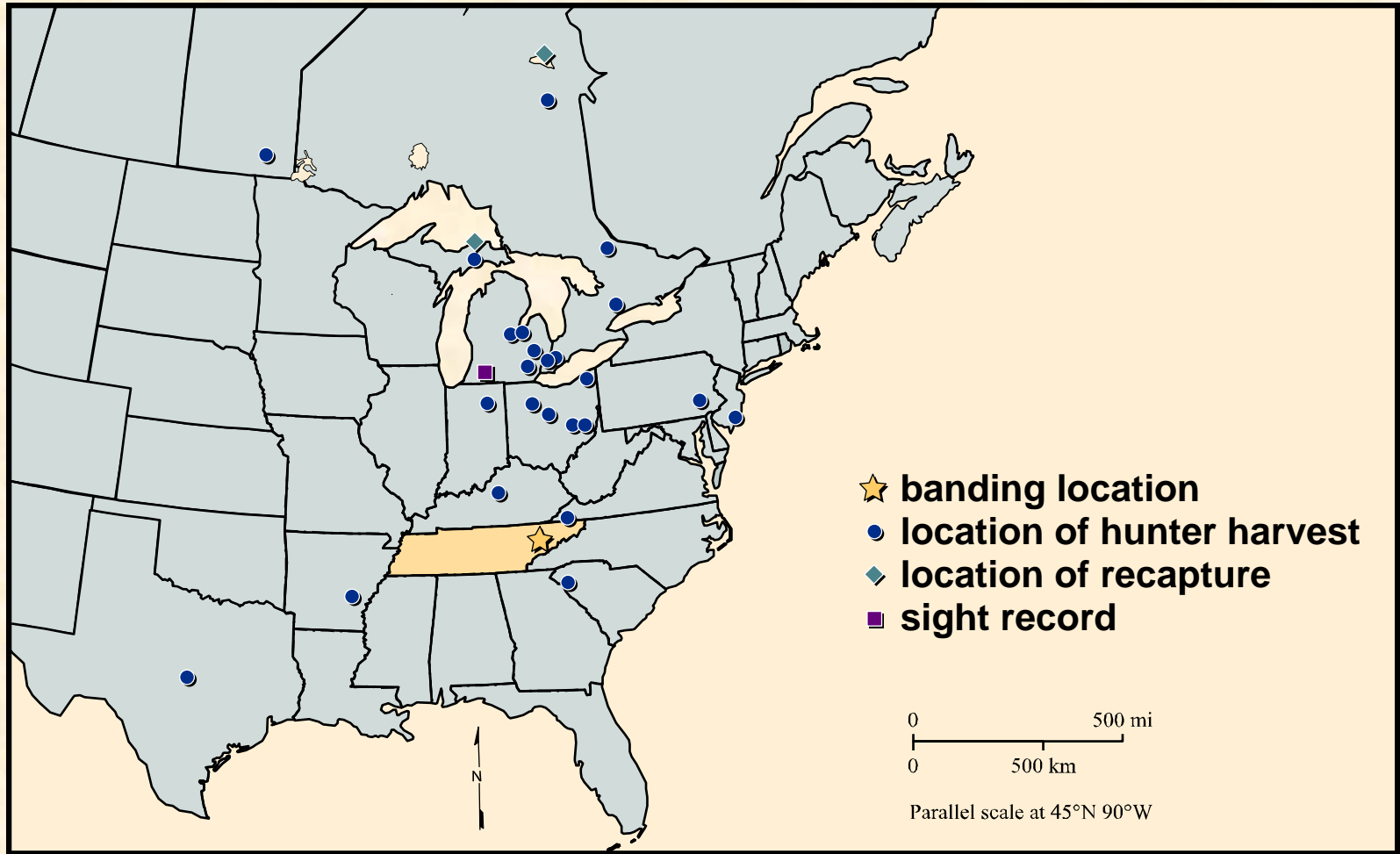


Canada Geese on the ORR

Numbers of geese sacrificed



Destinations of 28 Canada Geese banded on the ORR



ORR Canada Geese

Hunter harvest



$h=r/p$			17% of geese are known to be harvested
h	known hunter harvest rate	0.1736789	
r	reported harvest	516	
p	total population	2971	

$e=r/0.536p$			32% of geese are expected to be harvested
e	expected harvest rate	0.3240278	
r	reported harvest	516	
p	total population	2971	

$x=y/0.536$			47 geese expected to be harvested out-of-state
x	expected harvest of migrant geese	47	
y	known harvest of migrant geese	25	

ORR Canada Geese

Migrants in the population/migrant harvest



$m=x/e$			145 geese expected to migrate out-of-state
m	number of migrant geese in the population	145	
x	expected harvest of migrant geese	47	
e	expected harvest rate	0.3240278	
$g=m/p$			4.9% of ORR Canada geese migrate out-of-state
g	% of geese that migrate	0.0488051	
m	number of migrant geese in the population	145	
p	total population	2971	
$z=y/r$			4.8% of ORR Canada goose harvest occurs out-of-state
z	reported migrant harvest	0.0484496	
y	known harvest of migrant geese	25	
r	reported harvest	516	

Tennessee birds

In need of management



ORR record

Anhinga
Little Blue Heron
Snowy Egret
Great Egret
Bald Eagle
Northern Harrier
Sharp-shinned Hawk
Barn Owl
Yellow-bellied Sapsucker
Olive-sided Flycatcher
Loggerhead Shrike
Golden-winged Warbler
Cerulean Warbler
Vesper Sparrow

ORR (1950-1953)

Common Moorhen
King Rail
Black-capped Chickadee



No ORR record

Least Bittern
Mississippi Kite
Swainson's Warbler
Henslow's Sparrow



Tennessee birds

Threatened and Endangered



ORR record

Peregrine Falcon (E)

Bachman's Sparrow (E)



ORR (1950-1953)

Northern Saw-whet Owl (T)

Bewick's Wren (E)



No ORR record

Least Tern (E)

Golden Eagle (T)

Common Raven (T)

Lark Sparrow (T)

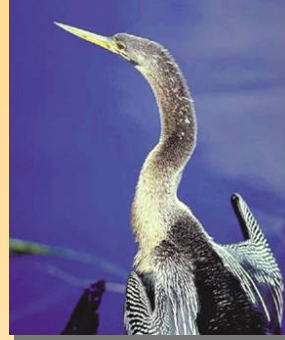


ORR Waterfowl

One known occurrence on the ORR



White-rumped Sandpiper
May 1994



Anhinga
June 1994



Eared Grebe
Mar 1995



Snowy Egret
Apr 1996



White Ibis
Aug 1996



Least Sandpiper
Aug 1996



Ross's Goose
Feb 2002

ORR Waterfowl Population trends



ORR

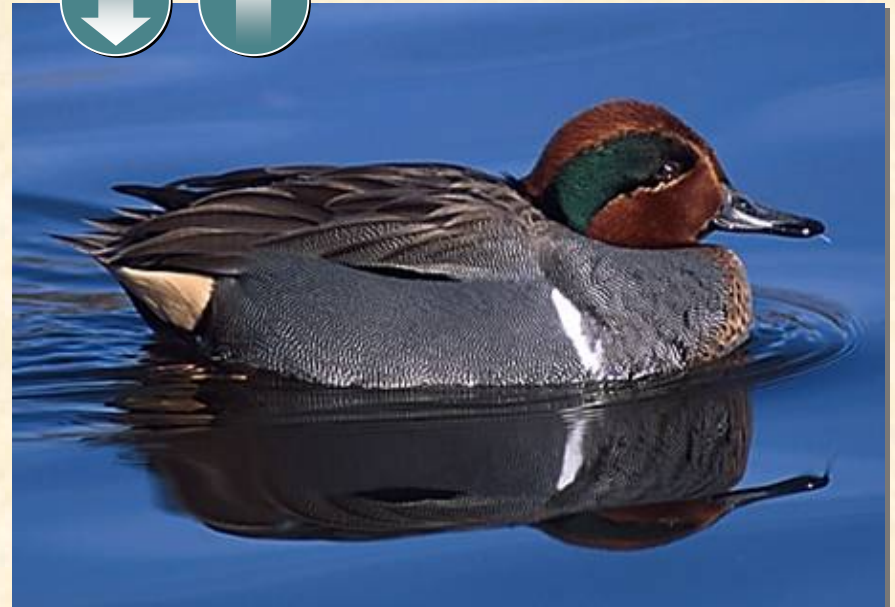
NA



Blue-winged Teal

ORR

NA



Green-winged Teal

ORR Waterfowl Population trends



Northern Shoveler



Northern Pintail

ORR Waterfowl Population trends



ORR

NA



Wood Duck

ORR

NA



American Wigeon

ORR Waterfowl Population trends



ORR

NA



Hooded Merganser

ORR

NA



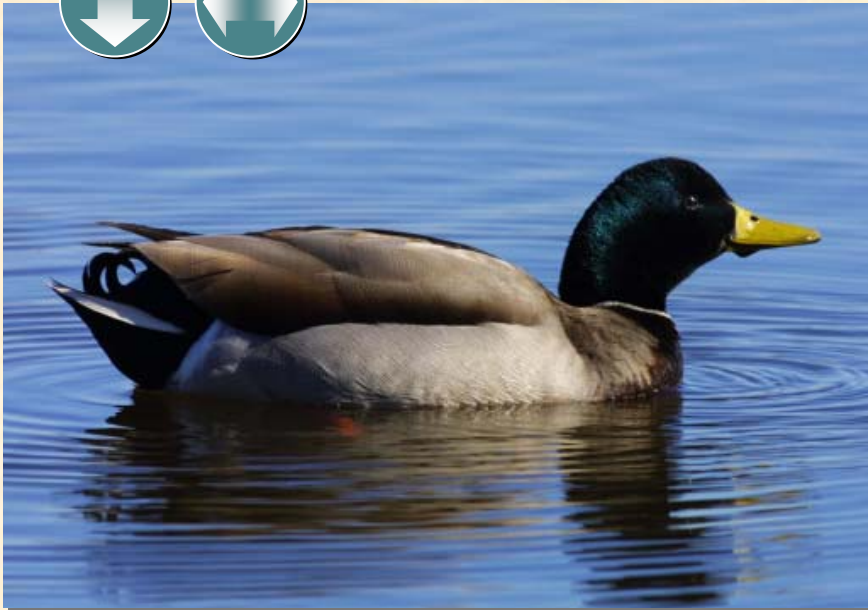
Ring-necked Duck

ORR Waterfowl Population trends



ORR

NA



Mallard

ORR

NA



Gadwall

ORR Waterfowl Population trends



ORR

NA



Canada Goose

ORR

NA



Snow Goose

ORR Waterfowl Population trends



ORR

NA



Killdeer

ORR

NA



Kingfisher

ORR Waterfowl Population trends



ORR

NA



Great Egret

ORR

NA



Great Blue Heron

ORR Waterfowl Population trends



Double-crested Cormorant



Black-crowned Night-Heron

ORR Waterfowl Population trends



ORR

NA



Bonaparte's Gull

ORR

NA



Ring-billed Gull

ORR Waterfowl Project

Why it is important



- **Reduce/eliminate human consumption of contaminated geese (C62T story)**
- **Ability to monitor individual geese**
 - Local movements
 - Migration
 - Translocation and returns
- **Barometer of wetland habitat and health**
- **Indicators of diversity and relative abundance**
- **Identification of “new” ORR bird species**
- **Management of nuisance geese**

BMAP Waterfowl Project

Cooperating Agencies



- Appalachian Regional Commission
- Bechtel Jacobs Company, LLC
- Oak Ridge National Laboratory
- Tennessee Department of Environment and Conservation
- Tennessee Technological University
- Tennessee Wildlife Resources Agency
- USDA Wildlife Services
- U.S. Department of Energy
- U.S. Fish and Wildlife Service
- USGS Bird Banding Laboratory
- University of Tennessee
- UT-Battelle, LLC