

## 2011 Bowhunter Observation Survey Iowa Department of Natural Resources

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The Iowa Department of Natural Resources (DNR) conducted the annual Bowhunter Observation Survey during October 1 – December 2, 2011. This was the eighth year of the survey, which was designed jointly with William R. Clark, Professor at Iowa State University. The two primary objectives for this survey are to: 1) determine the value of bowhunter observation data as a supplement to other deer data collected by the DNR; and 2) develop a long-term database of selected furbearer data for monitoring and evaluating population trends. Bowhunters are a logical choice for observational-type surveys because the methods used while bowhunting deer are also ideal for viewing most wildlife species in their natural environment. In addition, bowhunters typically spend a large amount of time in bow stands: more than 40 hours/season is not uncommon. We believe avid bowhunters are the best hunters to select for participation in this survey because they not only hunt often, but they also have the most experience in selecting good stand locations, controlling or masking human scent, using camouflage, identifying animals correctly, and returning surveys.

Participants for the 2011 survey were selected from a list of bowhunters who had purchased a license for each of the 3 years prior to 2011 (i.e., avid bowhunters). Our goal was to select approximately 999 bowhunters in each of Iowa's 9 climate regions. Each climate region contains approximately 11 counties, and approximately 91 bowhunters were selected per county in an effort to evenly distribute observations in each region. Selection of participants consisted of a 3-step process. In each county, participants were first selected from a core group of avid bowhunters who had previously indicated an interest in participating in this survey. If fewer than 91 core group participants existed in a county, additional participants were randomly selected from a separate list of avid bowhunters who were not in the core group. Finally, if the number of "core group" and "randomly selected" participants in a county was less than 91, additional avid hunters were selected from other counties in the region to reach the regional goal of 999 participants. A total statewide sample of 8,991 bowhunters was selected for participation.

Responses were obtained from 2,045 bowhunters who recorded their observations during 30,024 hunting trips, yielding 103,087.5 hours of total observation time ( $3.43 \pm 0.02$  hours/trip; mean  $\pm$  95% CL). Bowhunters reported a median of 14 trips during the 63-day season. Regionally, the number of bow hunting trips (and hours hunted) ranged from 1,750 (5601.5 hours) in northwest Iowa (Region 1) to 4832 (16,785.5 hours) in east-central Iowa (Region 6). The raw survey response rate was 22.7%.

Observations were standardized for each of the 12 species to reflect the number of observations per 1,000 hours hunted in each of the 9 regions. In addition, 95% confidence limits were calculated for each estimate. Precision among estimates for common species, such as deer, wild turkeys, and raccoons, was good: confidence limits were generally within  $\pm 15\%$  of the estimate. However, for less common species, such as badgers, bobcats, gray fox, and otters, the uncertainty associated with the estimate was quite large and occasionally exceeded the estimated value.

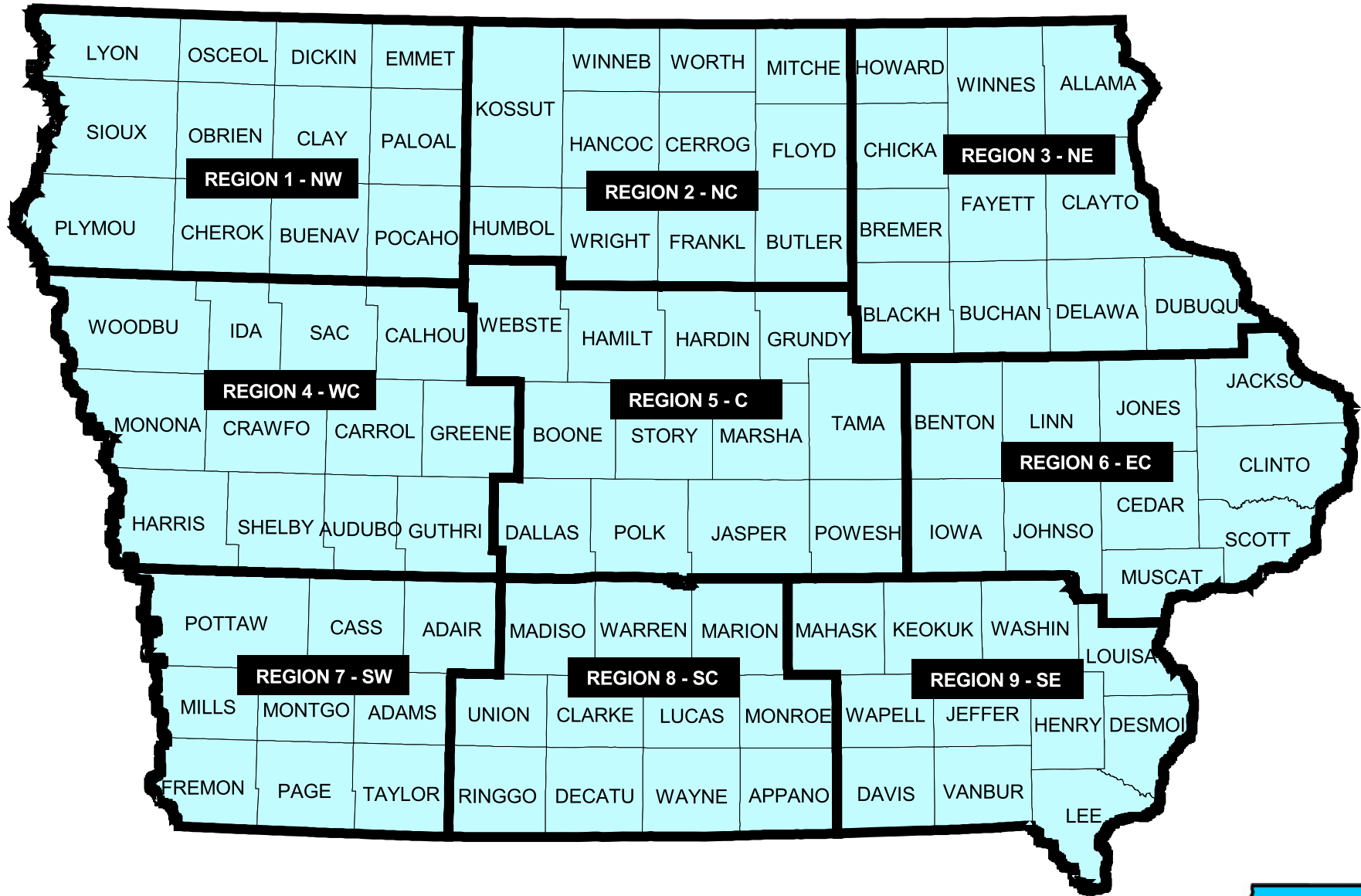
A comparison of results from 2010 and 2011 indicated that the number of total deer observed/1,000 hours declined significantly in the northeast, west-central, and east-central regions (3, 4, 6) of Iowa. No significant change in total deer observations/1,000 hours was detected in any other region. The number of wild turkeys observed/1,000 hours was unchanged in all regions compared to 2010. There were no year-to-year significant differences in bobcat nor river otter observations/1,000 hours regardless of region in 2011. Observations of opossums per 1,000 hours significantly increased in 2011 in the central and south-central regions of Iowa (regions 5 and 8). Raccoon observations/1,000 hours were unchanged in all regions except the east-central and southeast, where observations/1,000 hours declined.

The DNR thanks all hunters who participated in the 2011 Bowhunter Observation Survey. Iowa's bowhunters are the best group of hunters to provide this observational information, and their participation in this survey will play a major role in the conservation of these wildlife species in the future. The volume of information they have provided could never be duplicated by the staff of biologists, technicians, and conservation officers of the Iowa DNR.

***When looking at the following charts, we caution against making comparisons between regional estimates for any species. Any differences in observation rates between regions could be related to differences in many factors such as population size, habitat, topography, land use, or any other factor affecting the sightability of animals. For each of the selected species, any differences between regions are NOT entirely related to regional differences in population size.***

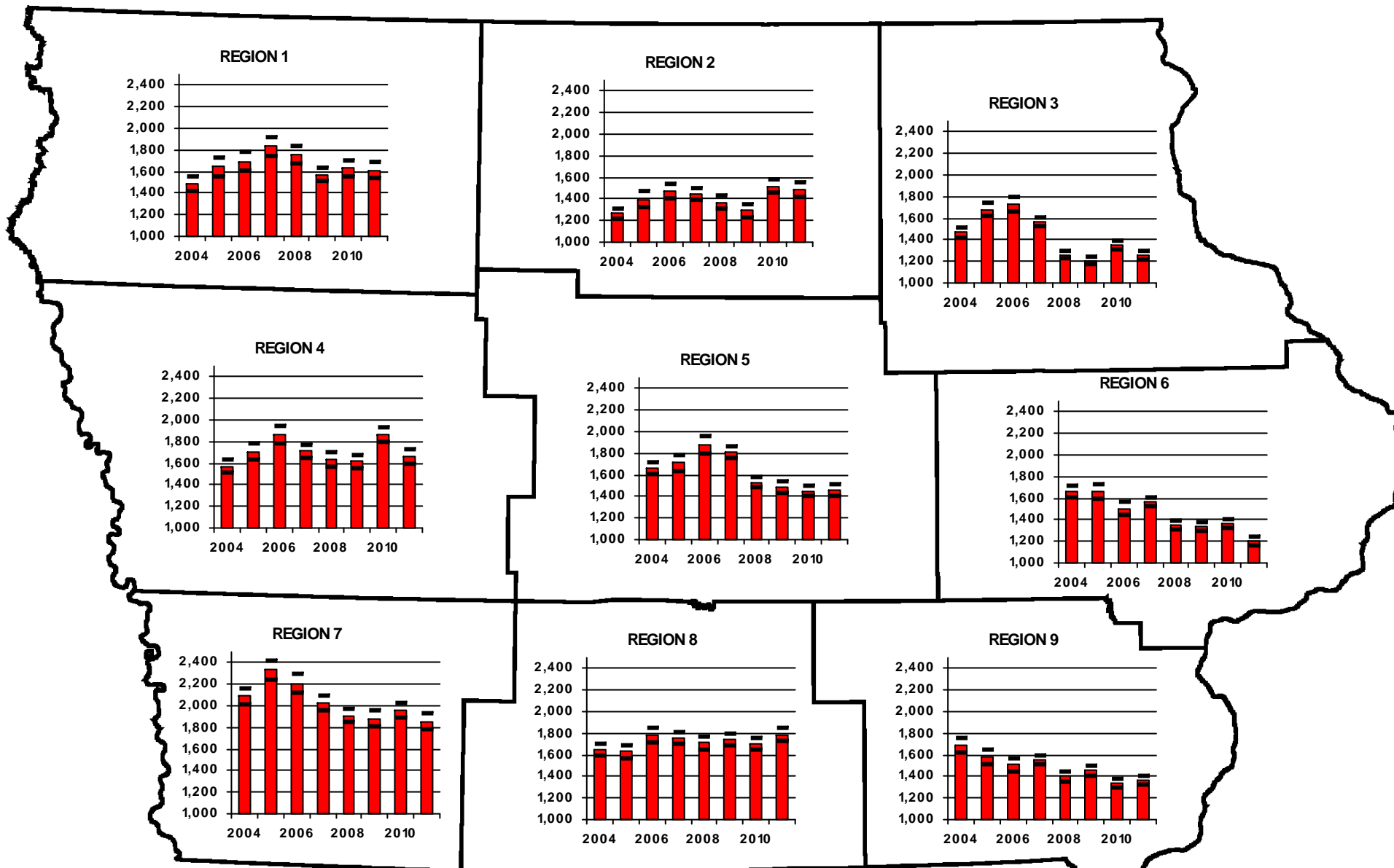
# Bowhunter Observation Survey, Iowa Dept. of Natural Resources

## Bowhunter Observation Regions



# Total Deer Observations Per 1,000 Hours Hunted

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources

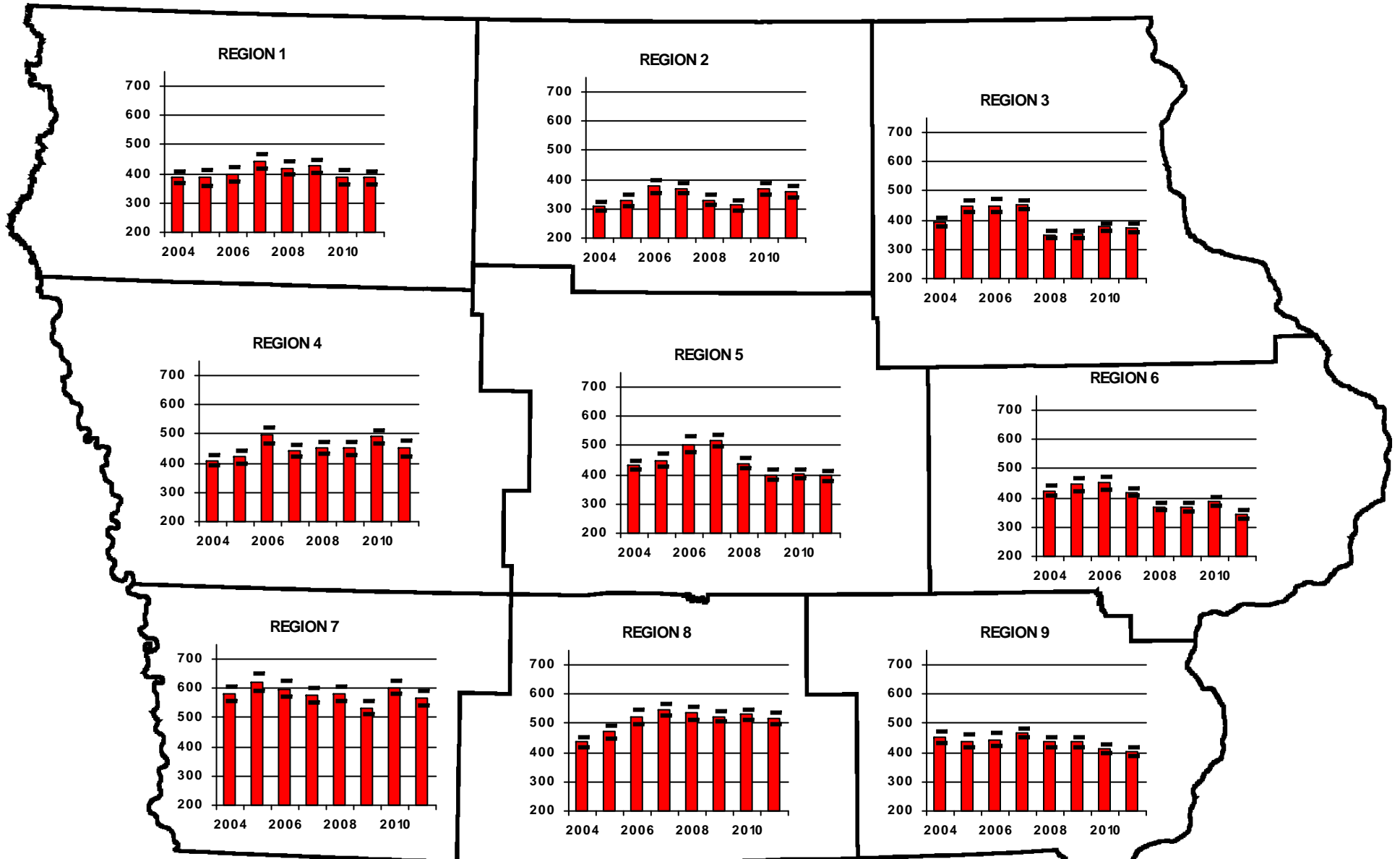


Many factors can influence the sightability of animals, such as population density, habitat characteristics, topography, land use, etc. As a result, differences between regions can NOT be attributed solely to population size/density.



# Antlered Deer Observations Per 1,000 Hours Hunted

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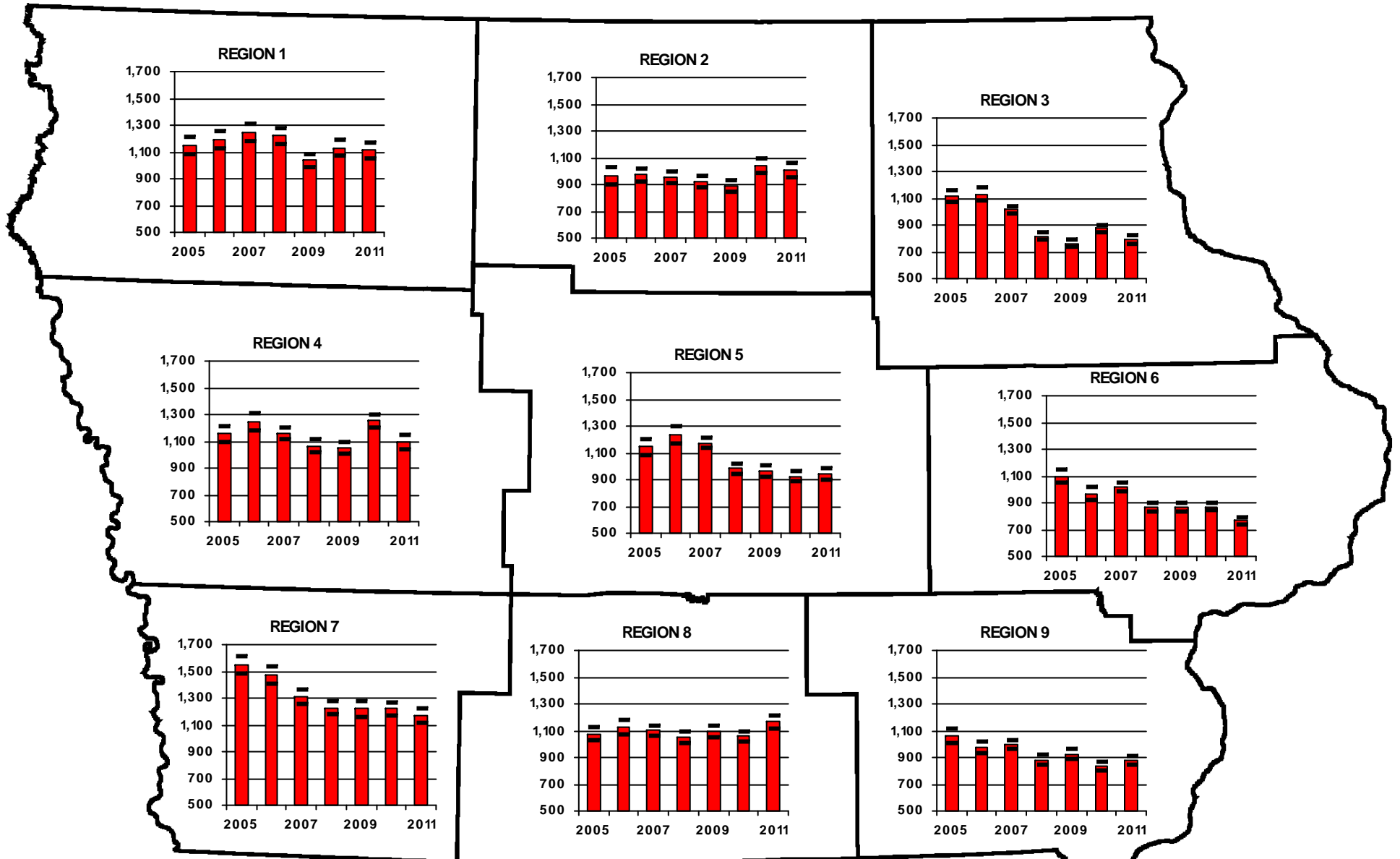


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# Antlerless Deer Observations Per 1,000 Hours Hunted

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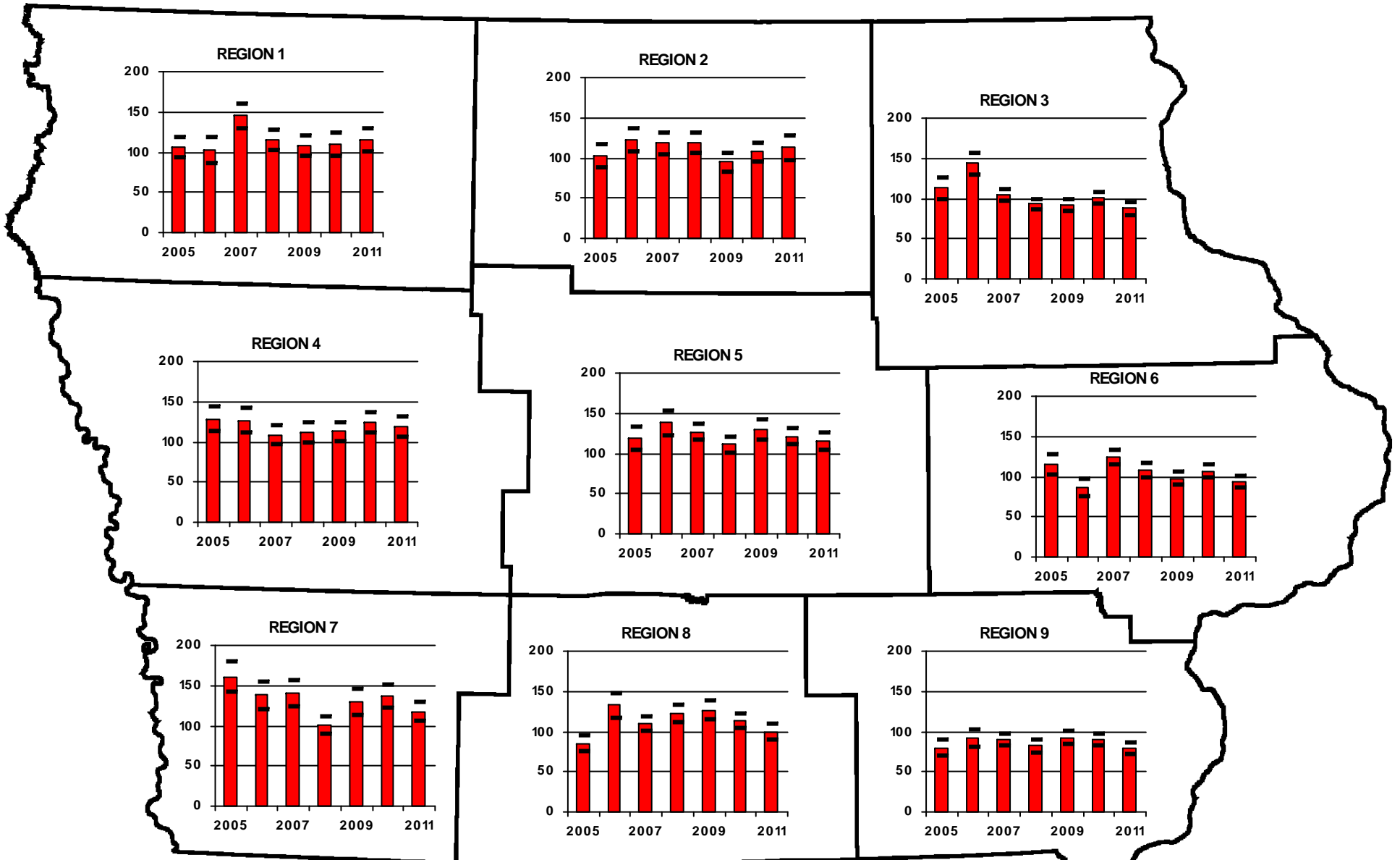


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# Unknown Deer Observations Per 1,000 Hours Hunted

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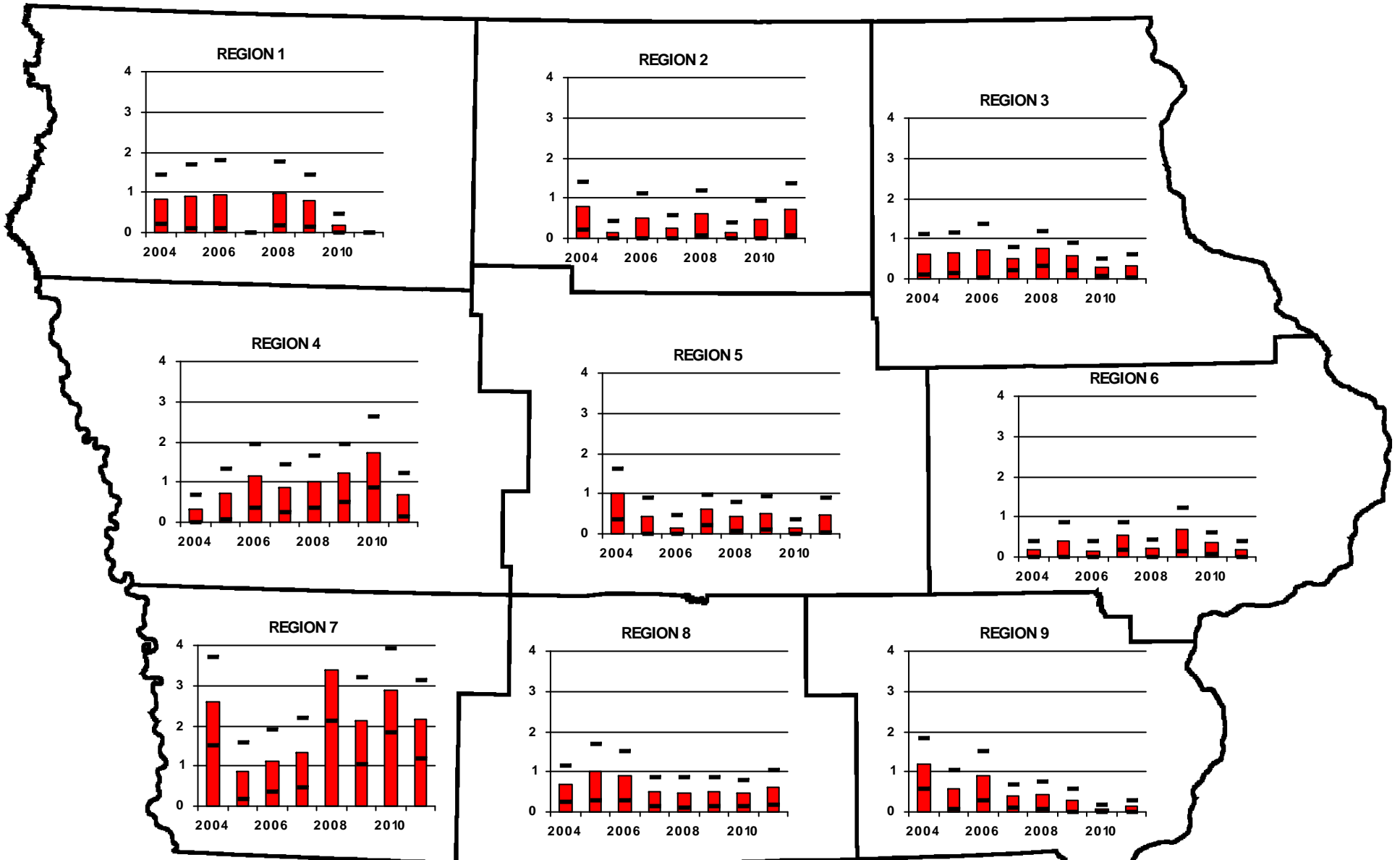


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# Badger Observations Per 1,000 Hours Hunted

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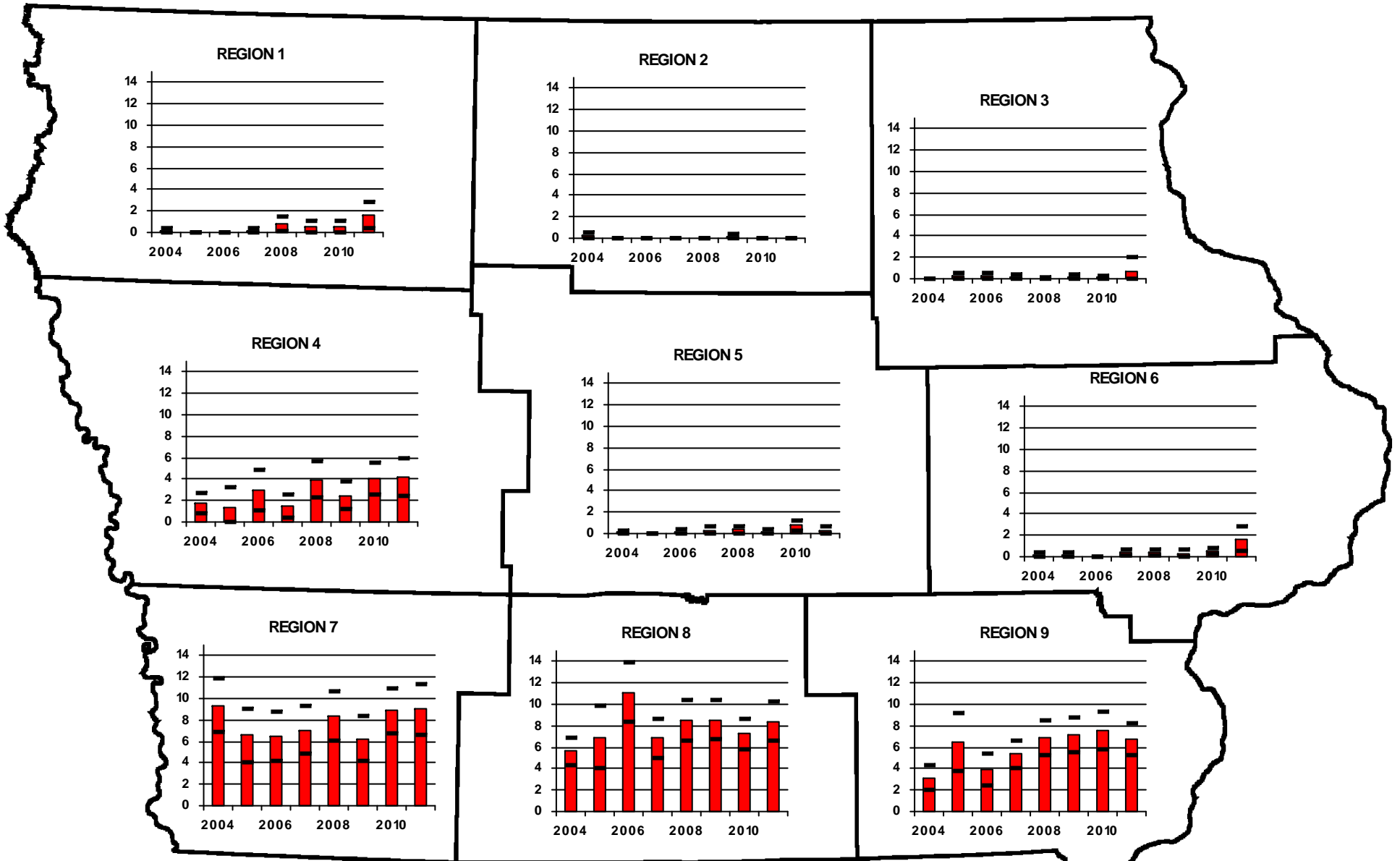


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# Bobcat Observations Per 1,000 Hours Hunted

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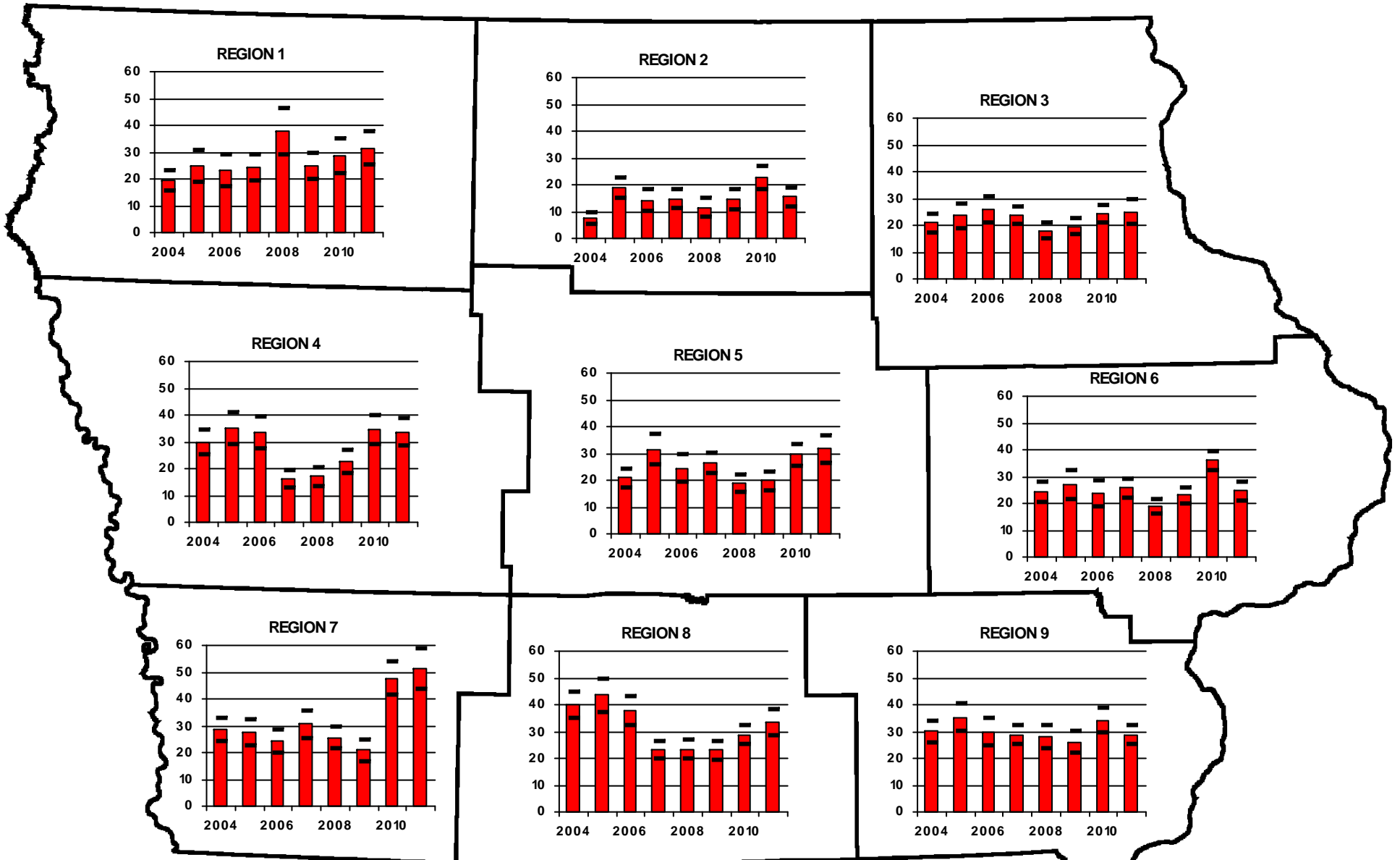
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# Coyote Observations Per 1,000 Hours Hunted

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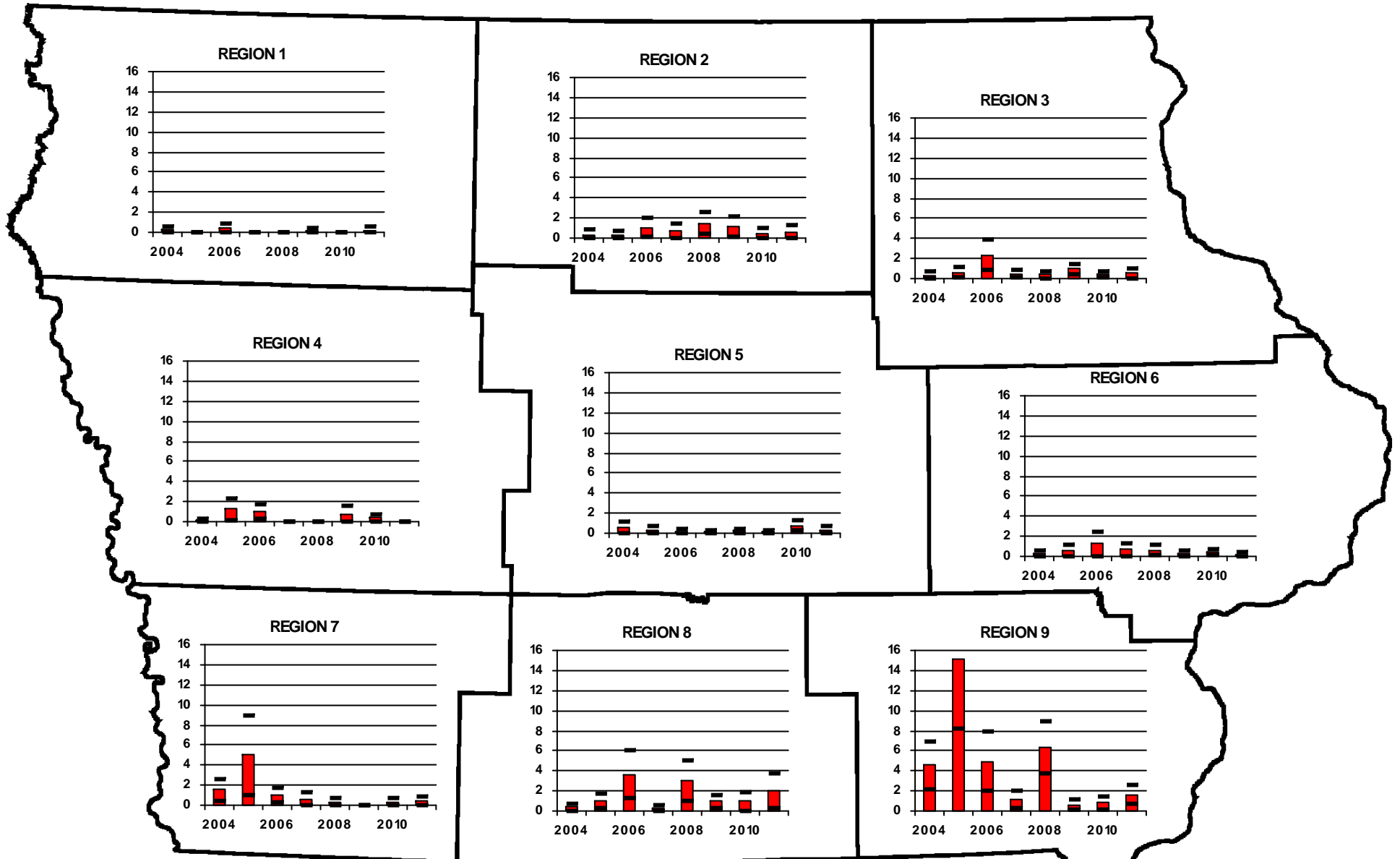


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# Gray Fox Observations Per 1,000 Hours Hunted

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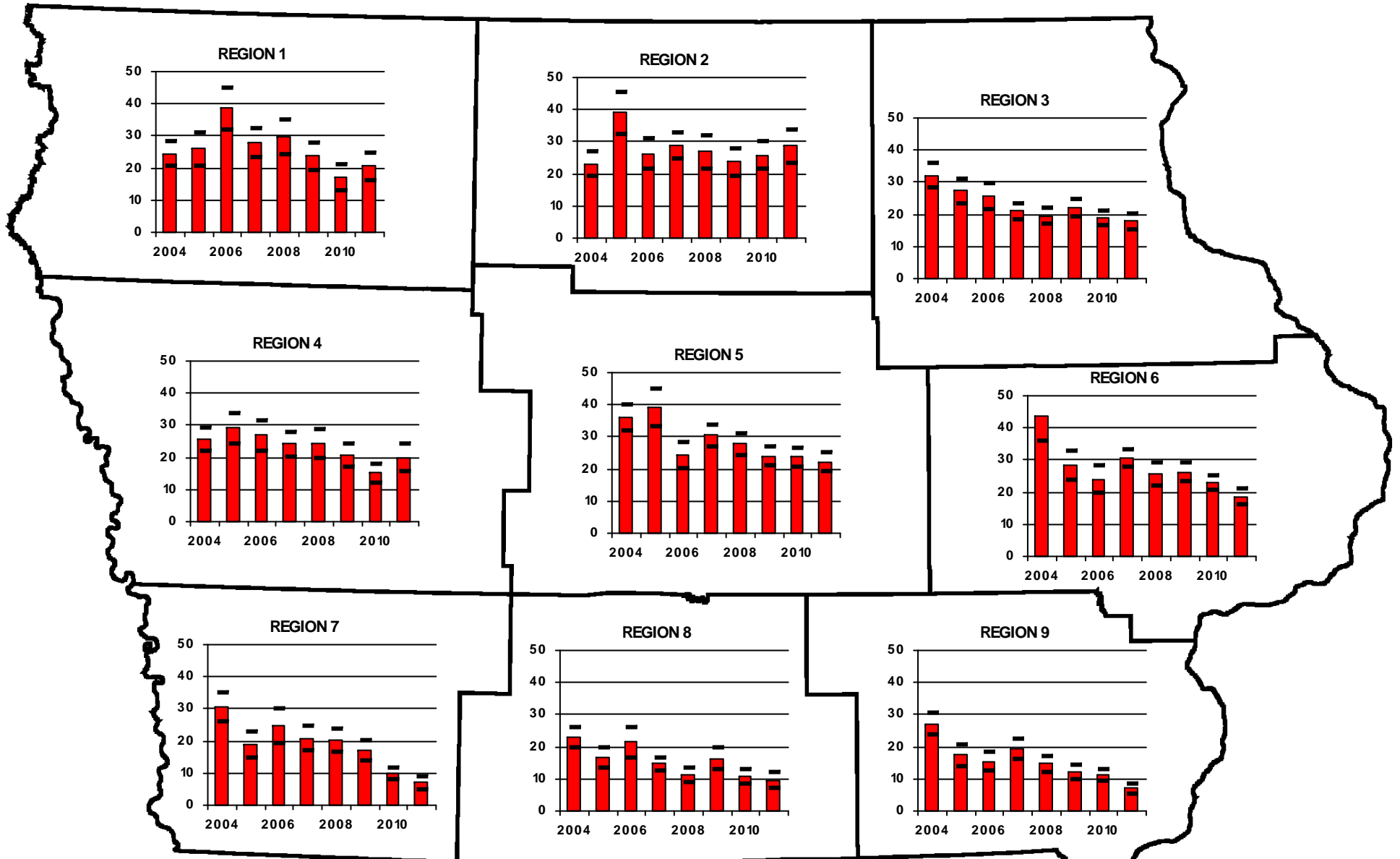


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# House Cat Observations Per 1,000 Hours Hunted

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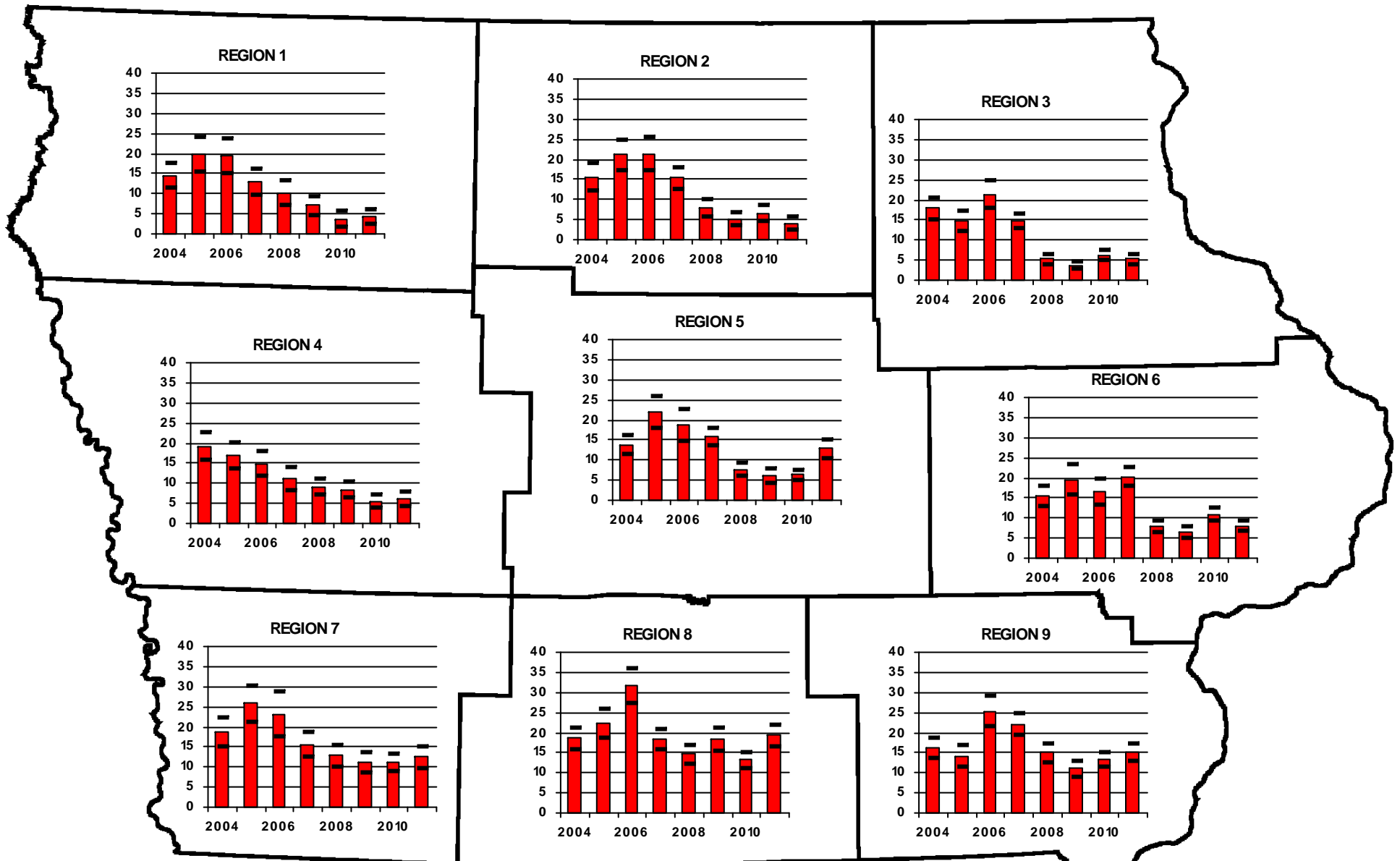


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# Opossum Observations Per 1,000 Hours Hunted

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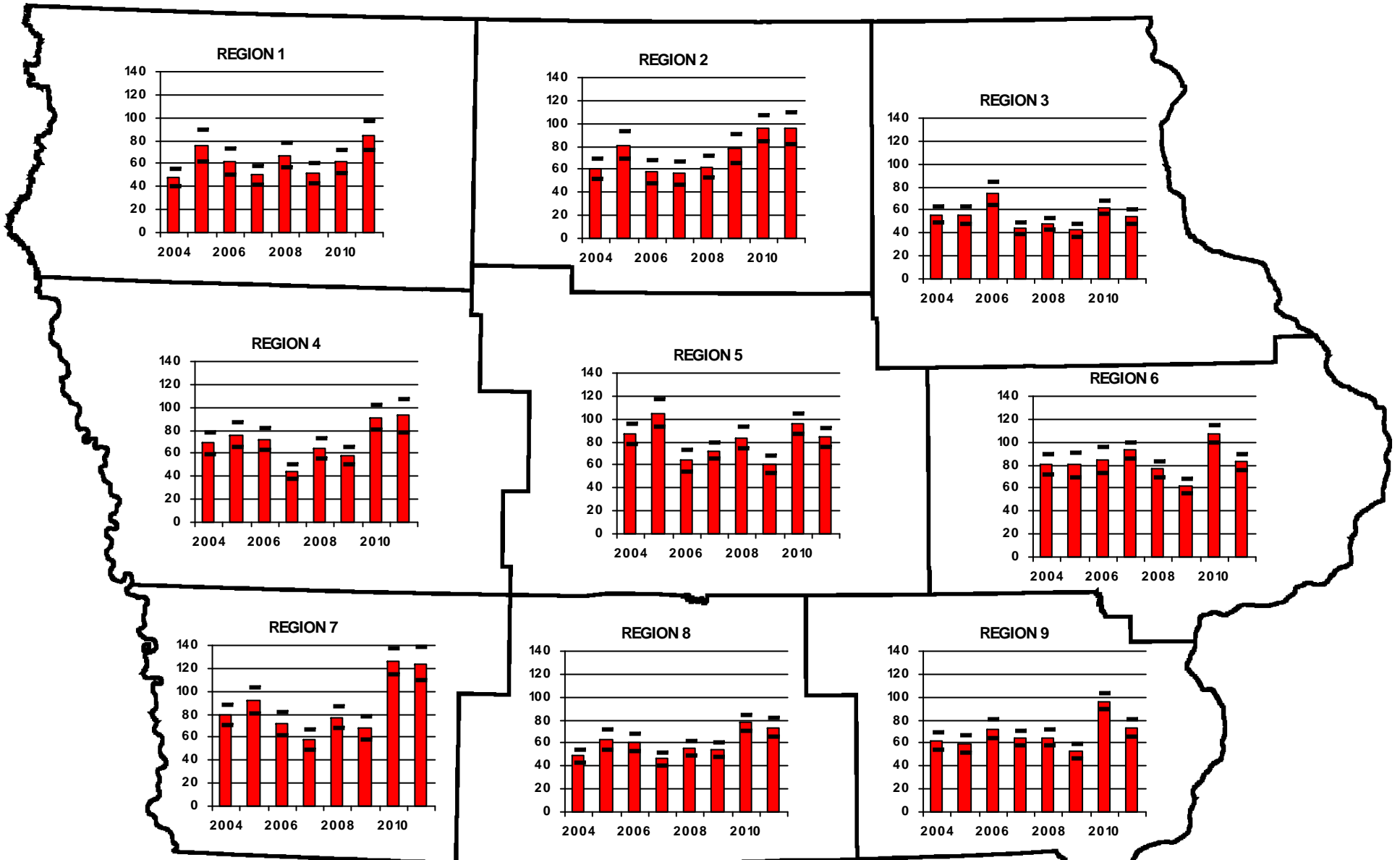


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# Raccoon Observations Per 1,000 Hours Hunted

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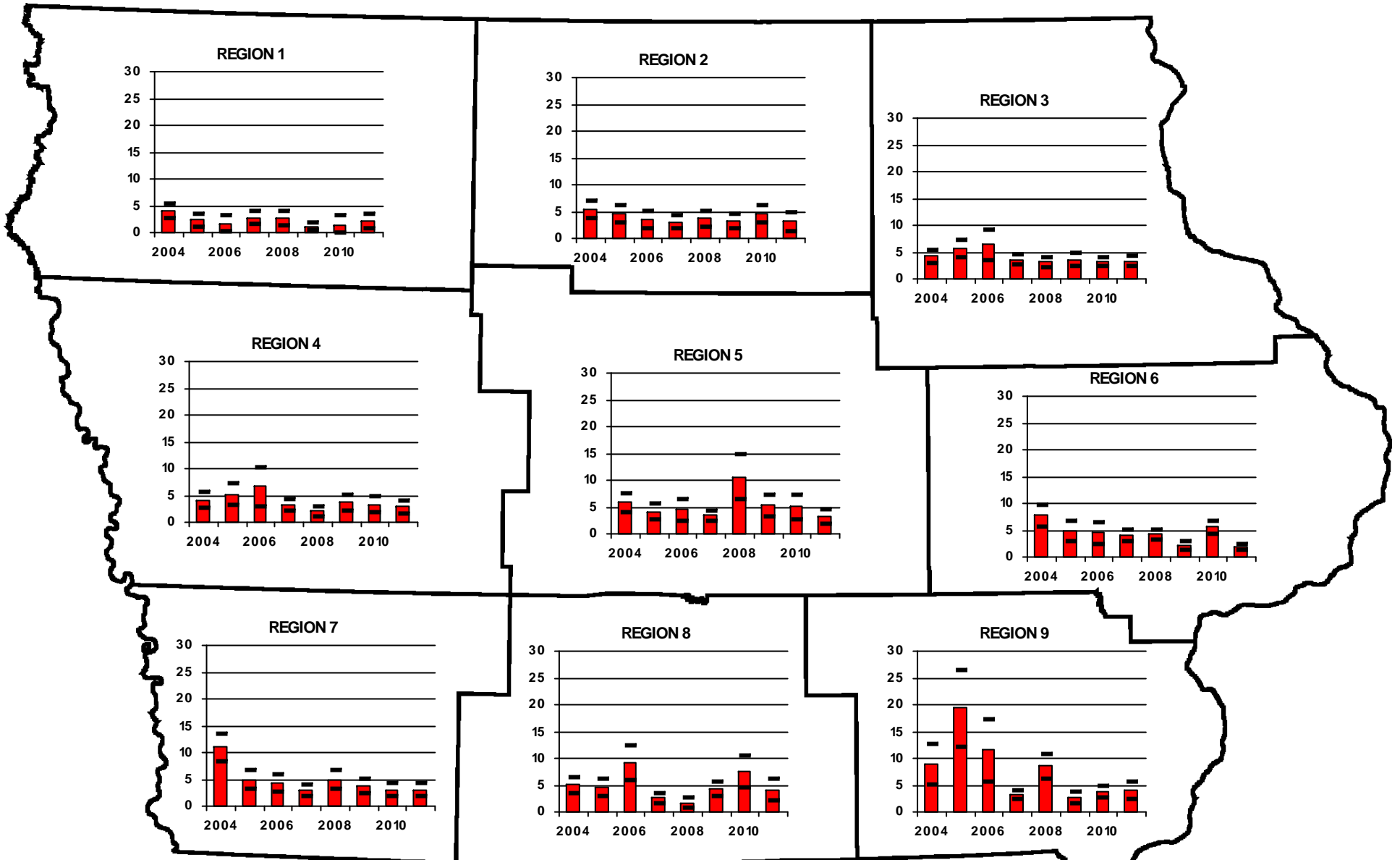


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# Red Fox Observations Per 1,000 Hours Hunted

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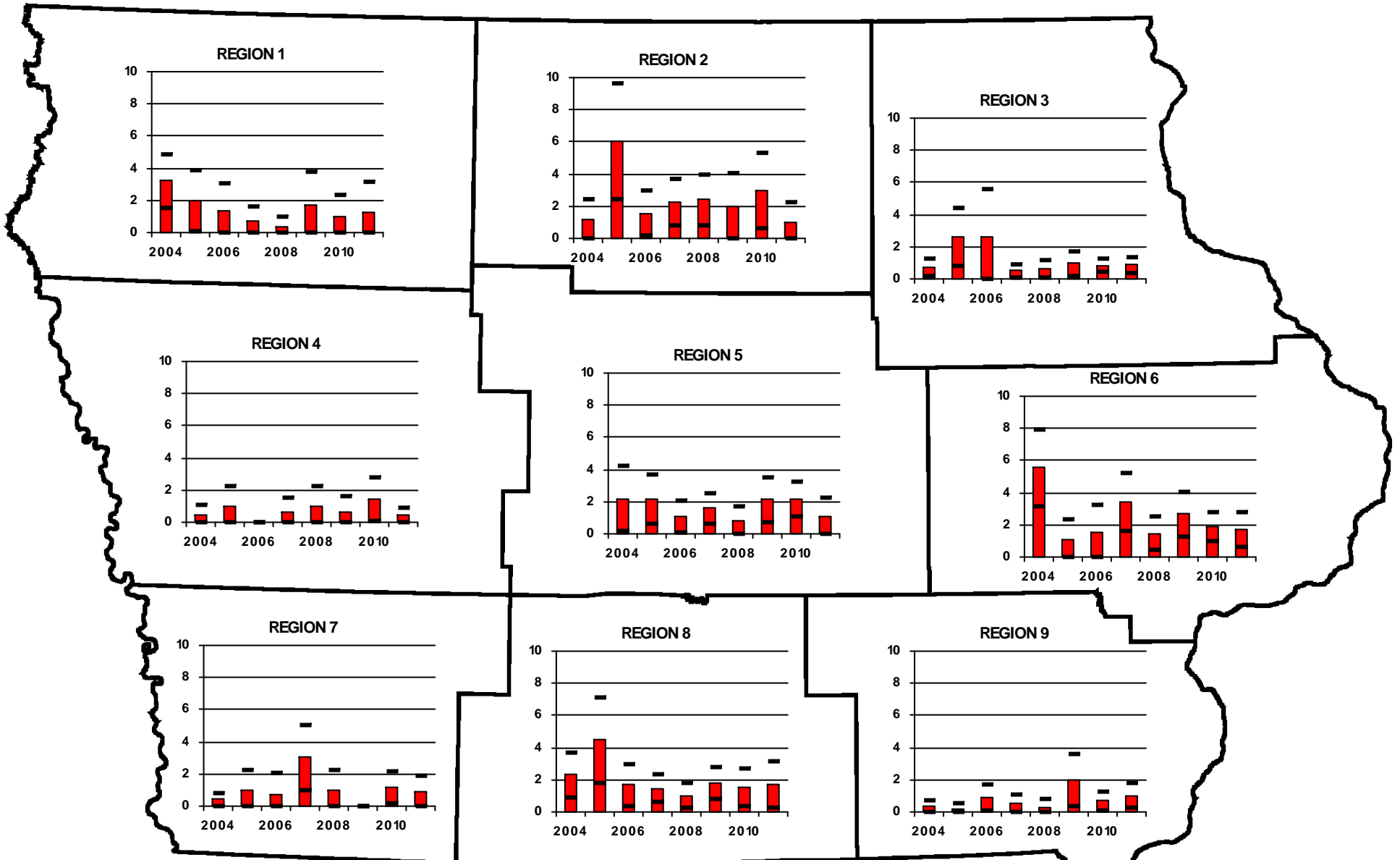


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# River Otter Observations Per 1,000 Hours Hunted

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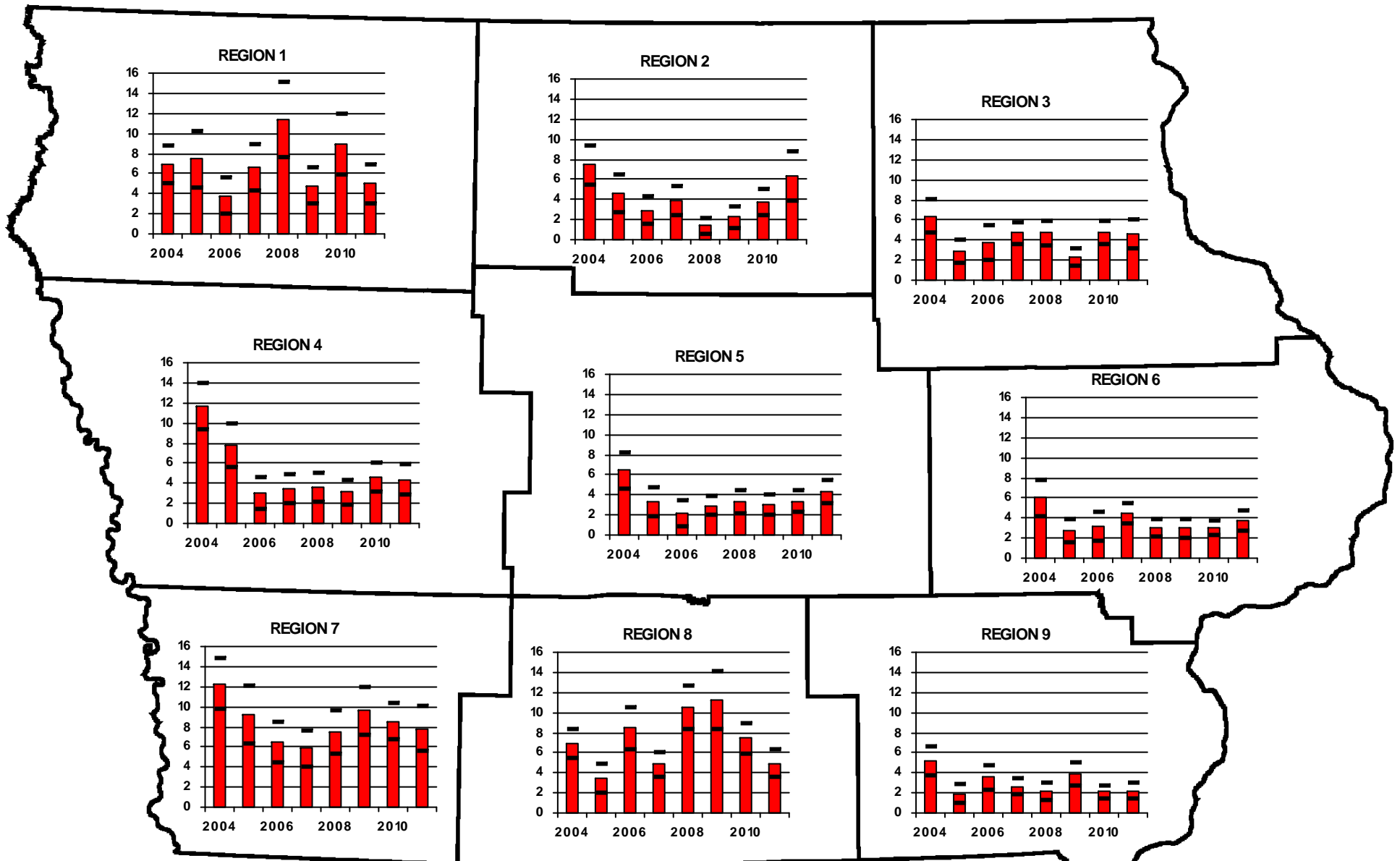


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# Striped Skunk Observations Per 1,000 Hours Hunted

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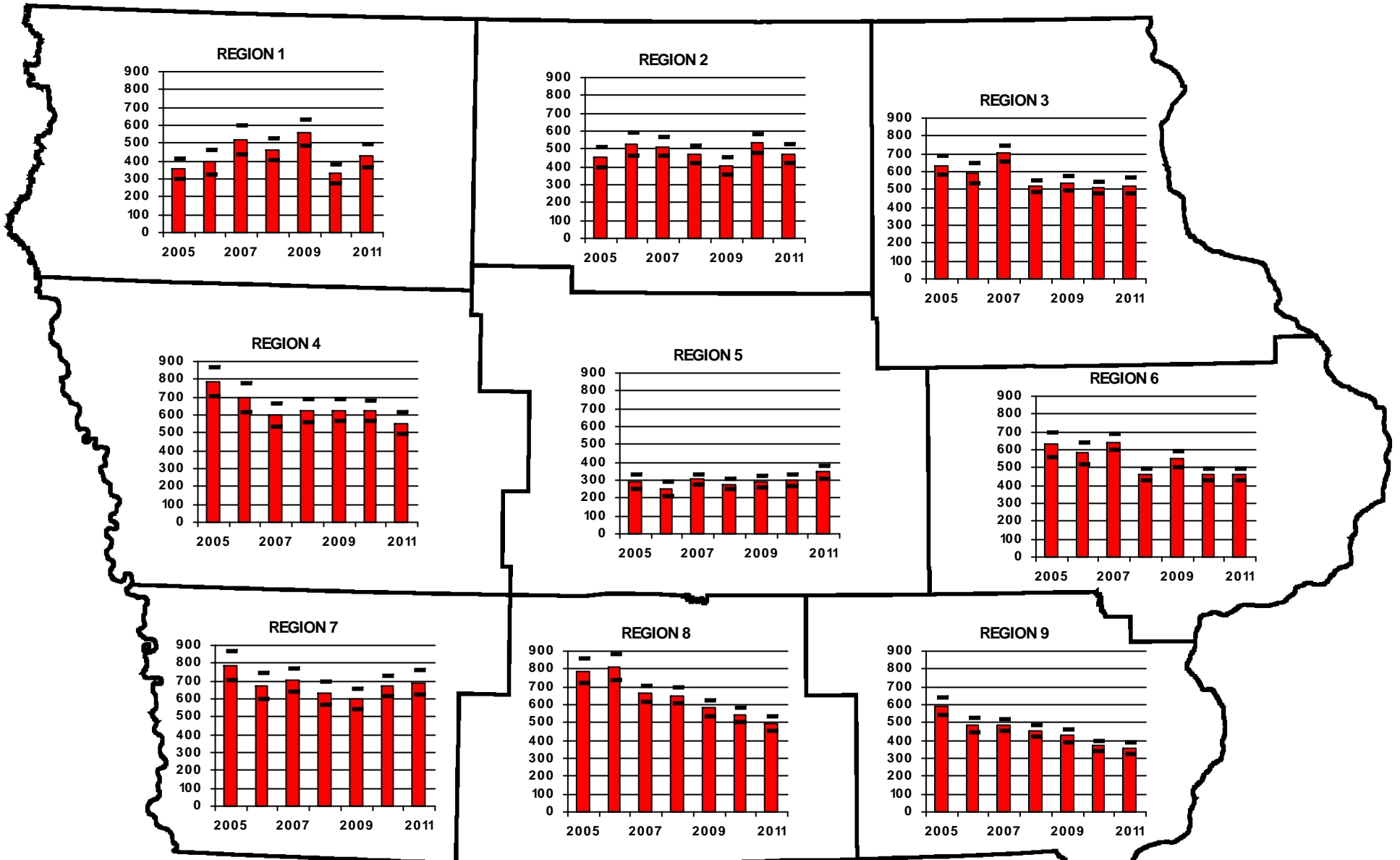
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# Wild Turkey Observations Per 1,000 Hours Hunted

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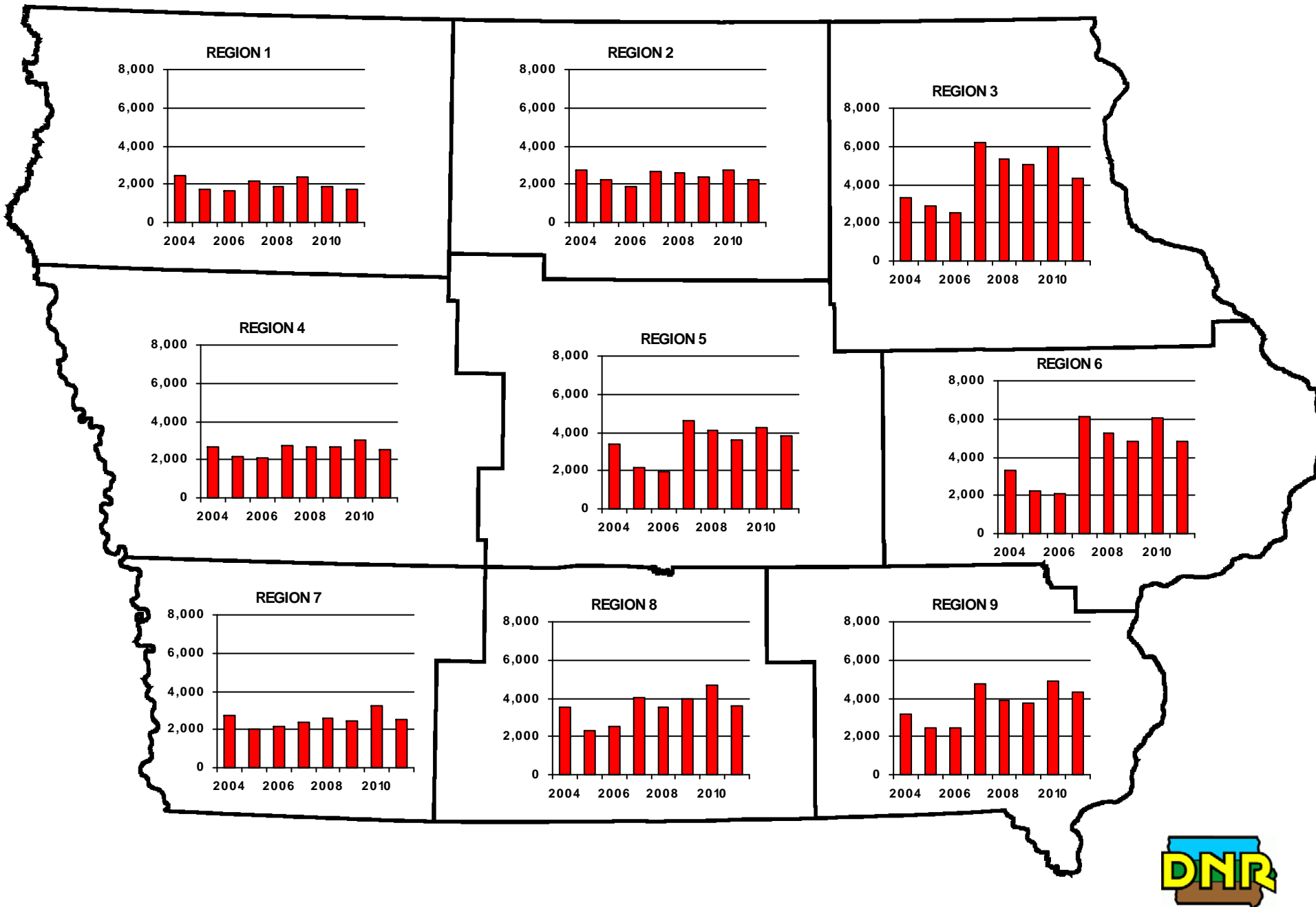


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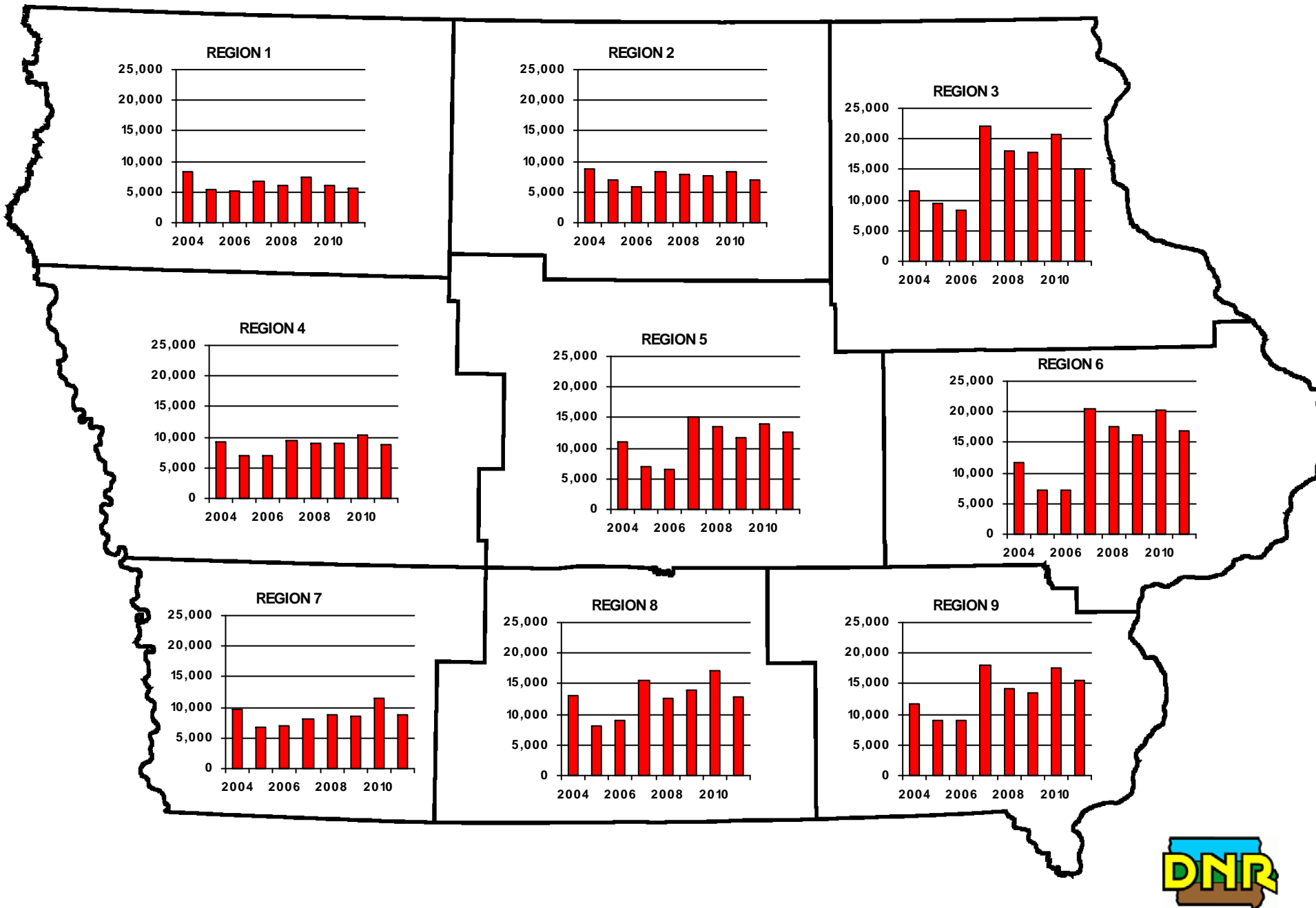
# Bowhunting Trips by Survey Participants

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources



# Hours Hunted by Survey Participants

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources



# Average Hours Hunted/Bowhunting Trip

## Bowhunter Observation Survey, Iowa Dept. of Natural Resources

