

PART 2

METHODS

Sampling and Data Collection

The population for the study was all Iowans who purchased annual fishing or annual combination hunting and fishing licenses in 1994. At the time the sample was drawn, the DNR had reports of 364,246 such license sales. The overall goal of the sampling design was to interview a representative sample of these anglers in sufficient numbers to yield population estimates by region within acceptable statistical standards. Each of Iowa's 99 counties was treated as a separate strata from which a sample was drawn. DNR personnel used a systematic sampling process to select 8,849 license holders for possible inclusion in the sample. A sampling rate of 1 in 40 was used for all counties except those that are in the Missouri River Region, where the rate was 1 in 20 to compensate for the relatively lower population level in that region.

CSBR personnel successfully identified the telephone numbers for approximately 5,600 of the selected license holders using computerized data sources and local telephone directories. (Available information for the remainder of the sample was insufficient.) Using the identified telephone numbers, households were contacted. Permanent household residents with 1994 licenses were enumerated by age and gender, and a potential respondent was randomly selected.

Interviewing occurred in February and March of 1995, using a computer assisted administration of the questionnaire (see Appendix A). The interviewing continued until regional goals of at least 500 per region were filled. The final sample contained 3,104 individuals. The raw completion rate was 70% (3,104 interviews from 4,435 households that were attempted to be contacted). Only 7.5% of households contacted refused or terminated the interview. The remaining households were determined to be ineligible or their potential respondents were incapable of completing the interview due to illness, language difficulties, or similar reasons.

Weighting

To make estimates to the entire population of Iowa anglers from the sample, two sets of response weights were calculated. For each of the four main fisheries regions, a set of weights was calculated based on the proportion of that region's population of annual licensed, resident anglers who were interviewed. These weights were used to make estimates statewide as well as for the four main fisheries regions. On average, each respondent represented approximately 117 anglers. A second set of weights was calculated for those respondents in the two border river regions, based on the proportion of each river region's population of annual licensed, resident anglers who were interviewed. The weights for each of the six regions were as follows:

107.807	Region 1 (Northwest)
108.943	Region 2 (Northeast)
125.448	Region 3 (Southeast)
121.828	Region 4 (Southwest)
112.616	Region 5 (Mississippi River)
59.531	Region 6 (Missouri River)

The actual number of completed interviews and the population of anglers represented by that number are shown for each county in Figure 3 on the following page.

Comparability With Prior Studies

The weighting method for the 1994 study is different from the weighting used in the 1986 and 1981 studies. In the 1986 study each completed interview represented 129.8 anglers, and in 1981 each respondent represented 142.5 anglers. These weights were applied statewide and regional-specific weights were not used. The 1994 weighting methodology should provide more accurate estimates for the various regions. The difference in methodology does not affect statewide comparisons between the earlier studies and the 1994 study. However, regional differences may not entirely represent actual changes but may be due in part to the difference in weighting methodologies.

All differences among subgroups for 1994 data noted in this report are statistically significant at the .05 level unless otherwise indicated in the presentation of findings.

As with prior Iowa studies, the sample of anglers interviewed was drawn based on the county in which the angler purchased the fishing license. It is understood that these anglers are not necessarily residents of the county where they purchased their license.

Figure 1
Configuration of Regions

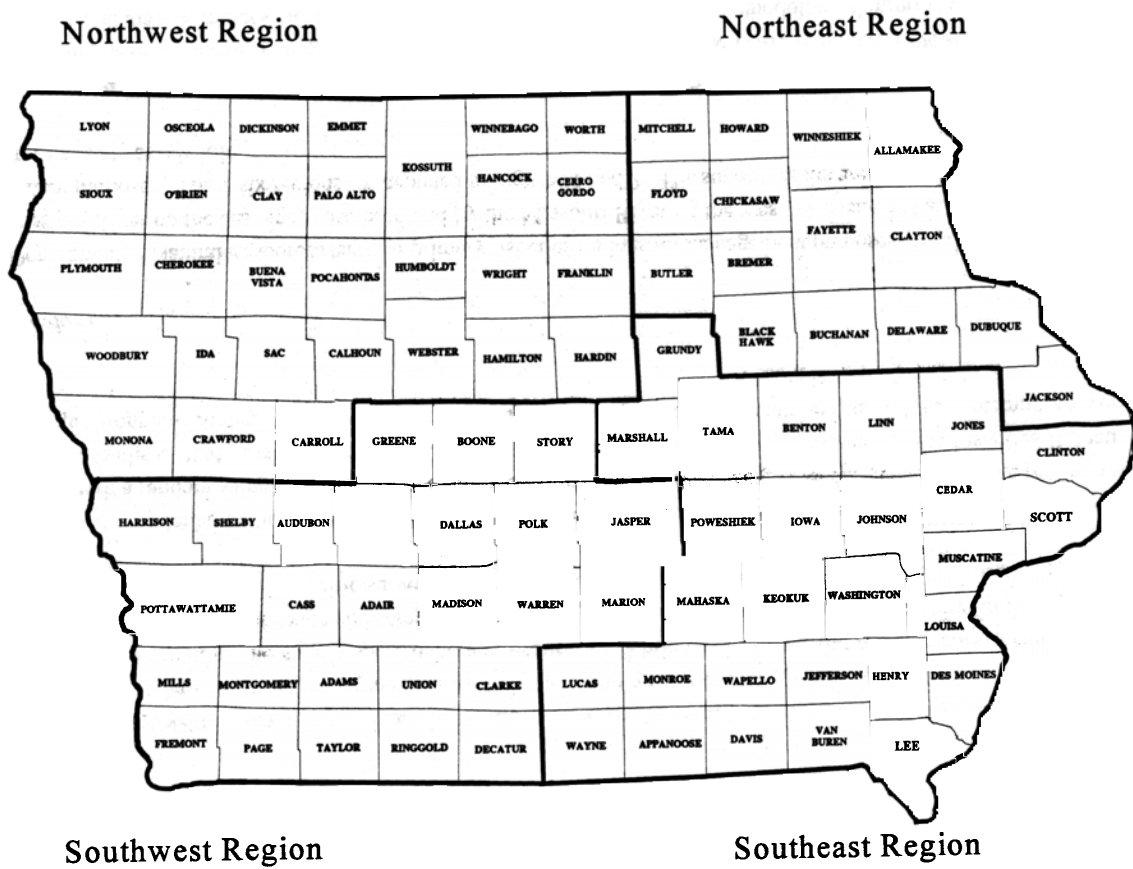
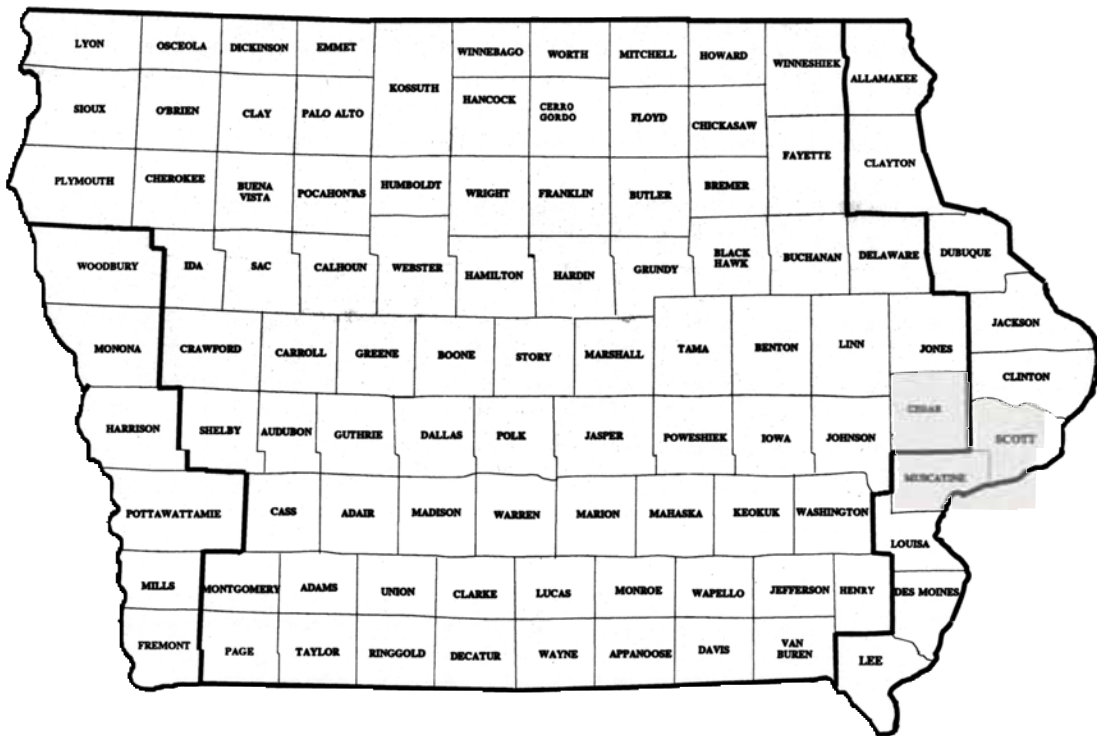


Figure 2
Configuration of River Regions



Missouri River Counties

Mississippi River Counties

Appendix C: Supplementary Tables and Figures

Table C-1

Counties Included in Iowa Fisheries Regions

Northwest		Northeast	Southeast		Southwest	
Buena Vista	Kossuth	Allamakee	Appanoose	Louisa	Adair	Montgomery
Calhoun	Lyon	Black Hawk	Benton	Mahaska	Adams	Page
Carroll	Monona	Bremer	Cedar	Marshall	Audubon	Polk
Cerro Gordo	O'Brien	Buchanan	Clinton	Monroe	Boone	Pottawattamie
Cherokee	Osceola	Butler	Davis	Muscatine	Cass	Ringgold
Clay	Palo Alto	Chickasaw	Des Moines	Poweshiek	Clarke	Shelby
Crawford	Plymouth	Clayton	Grundy	Scott	Dallas	Story
Dickinson	Pocahontas	Delaware	Henry	Tama	Decatur	Taylor
Emmett	Sac	Dubuque	Iowa	Van Buren	Fremont	Union
Franklin	Sioux	Fayette	Jefferson	Wapello	Greene	Warren
Hamilton	Webster	Floyd	Johnson	Washington	Guthrie	
Hancock	Winnebago	Howard	Jones	Wayne	Harrison	
Hardin	Woodbury	Jackson	Keokuk		Jasper	
Humboldt	Worth	Mitchell	Lee		Madison	
Ida	Wright	Winneshiek	Linn		Marion	

Table C-2

Counties Included in Iowa River Regions

Mississippi River Region	Missouri River Region
Allamakee	Fremont
Clayton	Harrison
Clinton	Mills
Des Moines	Monona
Dubuque	Pottawattamie
Jackson	Woodbury
Lee	
Louisa	
Muscatine	
Scott	

PART 5

APPENDICES

Appendix A: Abbreviated Version of Questionnaire

- Can you tell me how many people in your household purchased an Iowa fishing license in 1994?
2. What type of license did you purchase in 1994, was it a fishing license only or a combination fishing/hunting license?
 3. During 1994, on about how many days did you fish in the state of Iowa?
 4. About how many fish did you catch, including those you threw back, while fishing in the State of Iowa?
 5. Of the fish you caught in 1994 how many (*insert fish*) did you catch? (bluegill, crappie, bullhead, catfish, largemouth bass, smallmouth bass, white bass, northern pike, walleye, yellow perch, carp, trout, sheepshead)
 6. Did you catch any other kinds of fish, such as sauger, in Iowa during 1994?
 7. What other kind of fish did you catch?
 8. How many (*insert fish named in Q7*) did you catch?
 9. Of all the fish mentioned, which one type do you prefer to fish for the most?
 10. During 1994, in Iowa, on how many days did you fish in (*insert type of water*)? (Mississippi River, Missouri River, inland streams & rivers, trout streams, public man-made lakes, natural lakes, farm ponds, federal reservoirs)
 11. When you usually fish, what kind of water do you prefer to fish on?
 12. How many miles did you usually have to drive in 1994 each time you went fishing -- that is, how far, one way from your home, did you go to fish?
 13. Last year, how many days did you fish from a boat?
 14. Of all the fishing you did last year, about how much time did you fish from a boat, would you say all of the time, at least half but not all of the time, or less than half of the time?
 15. Fishing license money is used to maintain and improve fishing in Iowa. Do you feel you are currently getting your money's worth with an Iowa fishing license?
 16. How old were you when you started fishing?
 17. In general, do you believe the quality of fishing in Iowa over the past ten years has improved, stayed the same or declined?
 18. What do you think is the one most important reason it has declined?
 19. How much effect does (*insert list*) have on fish populations in Iowa? (overall quality of the fish habitat, water quality, regulations on size and number of fish that can be kept, actual number of fish that anglers keep, amount of fish stocking an area receives)
 20. How important to you is (*insert list*)? (actually catching fish when you go fishing, catching a particular kind of fish when you go fishing, catching a particular size of fish, catching more than one kind of fish on a trip, catching and releasing fish, keeping fish to eat)
 21. Compared to ten years ago, do you fish more, the same, or less often?
 22. Which of the following is the one most important reason you fish less often now than you did ten years ago?
 23. How often do you eat the fish you catch? Would you say most of the time, some of the time, only rarely?
 24. What type of fish do you eat most often? Tell me your top 3 kinds in order.
 25. How safe from contamination do you consider fish caught in Iowa to be for eating? Would you say very safe, mostly safe, somewhat unsafe, or very unsafe?
 26. In what county do you live?
 27. What was your age on your last birthday?
 28. You are (male/female), correct?

Appendix B: Typology of Fish Species

Bluegill
Crappie
Bullhead
Catfish (blue, channel, flathead)
Largemouth Bass (black bass)
Smallmouth Bass
White Bass (silver bass, wiper)
Northern Pike
Walleye
Yellow Perch
Carp
Trout
Sheepshead (drum, silver perch)
Sturgeon (sand sturgeon, shovel nose sturgeon)
Dogfish
Sucker (buffalo, redhorse, white sucker)
Other sunfish (green sunfish, redear sunfish, rock bass, warmouth)
Gar
Sauger
Other fish (eel, goldfish, grass carp, mooneye, muskie, paddlefish, spoonbill, yellow bass)

Figure 3
Completed Interviews and Estimated Number of Annual Licensed Resident Anglers

