Reproductive and Endocrine Biomarkers in Largemouth Bass (*Micropterus salmoides*) and Common Carp (*Cyprinus carpio*) from United States Waters

Steven L. Goodbred[1], Stephen B. Smith[2], Patricia S. Greene[3], Richard H. Rauschenberger[4], and Timothy M. Bartish[5]

[1] U.S. Geological Survey
Biological Resources Discipline
Sacramento, California

[2] U.S. Geological Survey
Biological Resources Discipline
Reston, Virginia

[3] U.S. Geological Survey
Water Resources Discipline
Reston, Virginia

[4] U.S. Fish and Wildlife Service
Jacksonville, Florida

[5] U.S. Geological Survey
Biomonitoring of Environmental Status and Trends
Biological Resources Discipline
Ft. Collins, Colorado

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Contents

Abstract 1
Introduction 1
Acknowledgments and Dedication 2
Materials and Methods 3
Site Locations 3
Sex Steroid Hormones 6
Vitellogenin 6
Histological Determination of Sexual Maturation 7
Results 7
References Cited 98

Figure

1. Map showing Regional boundaries and collection sites for common carp, largemouth bass, and both common carp and largemouth bass 3

Tables

1. Description of all study sites by region and species collected during 1994–97 4-6
2. National summary statistics (mean ± SE and ranges) for: fish size, biomarkers and reproductive stage for COMMON CARP and LARGEMOUTH BASS collected during non-reproductive (mid-August through March 1994–1997) and reproductive (April through mid-August 1995–1997) seasons 8
3. Site and regional mean values for biomarker and ancillary data for (A) COMMON CARP and (B) LARGEMOUTH BASS collections made at all sites in U.S. waters from March 1994 through August 1997 9-26
4. All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997 27-80
5. All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997 81-97

Selected Abbreviations and Acronyms

°C	degree Celsius
ELISA	Enzyme-Linked Immunosorbent Assay
g	gram
mL	milliliter
mm	millimeter
µg	microgram
µL	microliter
ng	nanogram
nm	nanometer
N	number of
pg	picogram
NaCl	sodium chloride
$NaPO_4$	sodium phosphate
TBST	tris-buffered saline
BEST	Biomonitoring of Environmental Status and Trends Program (of the USGS)
CERC	Columbia Environmental Research Center (of the USGS)
FISC	Florida Integrated Science Center (of the USGS)
NAWQA	National Water Quality Assessment Program (of the USGS)
USGS	U.S. Geological Survey

Reproductive and Endocrine Biomarkers in Largemouth Bass *(Micropterus salmoides)* and Common Carp *(Cyprinus carpio)* from United States Waters

By Steven L. Goodbred, Stephen B. Smith, Patricia S. Greene, Richard H. Rauschenberger, and Timothy M. Bartish

Abstract

A nationwide reconnaissance investigation was initiated in 1994 to develop and evaluate a suite of reproductive and endocrine biomarkers for their potential to assess reproductive health and status in teleost (bony) fish. Fish collections were made at 119 sites, representing many regions of the country and land- and water-use settings. Collectively, this report will provide a national and regional benchmark and a basis for evaluating biomarkers of endocrine and reproductive function. Approximately 2,200 common carp *(Cyprinus carpio)* and 650 largemouth bass *(Micropterus salmoides)* were collected from 1994 through 1997. The suite of biomarkers used for these studies included: the plasma sex-steroid hormones, 17β-estradiol (E_2) and 11 ketotestosterone (11KT); the ratio of E_2 to 11KT (E_2:11KT); plasma vitellogenin (VTG); and stage of gonadal development. This data report provides fish size, stage and reproductive biomarker data for individual fish and for site and regional summaries of these variables.

Introduction

Freshwater ecosystems have been shown to be the ultimate sink for many anthropogenic chemicals that can potentially affect aquatic communities and the terrestrial species that depend on them (Schmitt and others, 1999; Gross and others, 2003; Hoffman and others, 2003). Excess nutrients, runoff of pesticides from agricultural fields, industrial effluents, wastewater/sewage discharge, and urban nonpoint-source contamination may contribute to the deterioration of freshwater aquatic environments. Many field studies designed to assess the effects of environmental contaminants in aquatic ecosystems focus efforts at local "hot spots," to evaluate the occurrence of endocrine disruption or the prevalence of external and internal anomalies (Baumann and others, 1991; Smith and others, 2002a,b). Although these focused studies have great value in determining cause-and-effect on select fish species at specific sites, a different approach is required to describe geographic differences, which is critical to determine if contaminant-induced effects might threaten populations of aquatic species nationally or regionally (Stahl and Clark, 1998). These data and the development of a battery of biomarkers designed to monitor the health and/or reproductive status of fish populations contribute to our understanding the well-being of aquatic resources, and help generate hypotheses concerning cause-and-effect relationships between environmental stressors (e.g., chemical contaminants) and fish health.

A variety of fish species are frequently used as sentinels or bioindicators for monitoring environmental quality in aquatic ecosystems. Teleost (bony fish) species are frequently preferred because of their wide geographic distribution, are relatively easy to sample, have a high reproductive rate, are integral components of the aquatic ecosystem, and are both commercially and recreationally important. Teleost fish in temperate regions undergo a seasonal reproductive cycle that has two distinct phases: (1) gonadal recrudescence/development, and (2) spawning. Cycling between these two phases is governed by both photoperiod and temperature, rainfall, water flow, as well as by other environmental cues (Kime, 1998; Gross and others, 2002, 2003). Most temperate fish in North America, such as black bass (*Micropterus* spp.), spawn during spring and early summer, but spawning time varies widely across a range of climatic conditions. Some species, such as common carp (*Cyprinus carpio*), may spawn as early as March in the southern U.S. to as late as mid-August in the northern U.S. (Panek, 1987).

The two fish species selected for this study and described in this report, common carp and largemouth bass (*Micropterus salmoides*), are widely distributed across the United States. Although both species are oviparous (egg-laying), their reproductive strategies differ; common carp spawn by broadcasting eggs into the water column, whereas largemouth bass deposit eggs in nests. In addition, common carp are in the minnow family (Cyprinidae) and are omnivores, whereas largemouth bass are in the sunfish family (Centrarchidae) and are predators. Because they derive their food from different habitats, are in different trophic levels (Lee and others, 1980), and are in different families, they may also differ in their exposures to environmental contaminants at the same site and may have different physiological responses (Schmitt and others, 2002).

The biomarkers in this reconnaissance investigation were selected to measure a range of reproductively significant factors. The endocrine system is comprised of a wide variety of hormone-secreting cells, tissues, and ductless glands (e.g., the pituitary, thyroid, adrenal, and gonads), and each part plays an important role in growth, development, reproduction, and homeostasis of an organism. Endocrine hormones influence virtually every stage of the life cycle, from gametogenesis and fertilization, through development into a sexually mature organism. Other studies have reported correlations between specific impairment of reproduction (reduced fertility, hatchability and viability of offspring, impaired reproductive hormone activity, and/or altered sexual development and behavior) and elevated tissue concentrations of environmental contaminants (Hose and others, 1989; Tilitt and others 1992; Harrison and others, 1999; Gross and others, 2003). Abnormalities of these types may be caused by alteration of normal endocrine function either before or after hormone interactions with specific cellular receptors.

Concentrations of sex steroid hormones regulate important aspects of reproduction, such as spermatogenesis, follicular growth, and vitellogenesis. Initiation of these processes begins in the pituitary gland, which regulates gonadal hormone production in response to external cues (Kime, 1998; Gross and others, 2002, 2003). In most teleost fish, 17ß-estradiol is the major estrogenic hormone in females responsible for ovarian growth. The concentration of 17ß-estradiol increases in the late winter to early spring, immediately preceding the spawning season, but its concentration is lower during the rest of the year (Norris and Jones, 1987; Down and others, 1990; Kime, 1998; Gross and others, 2002). In teleost fish, the primary sex steroid hormone in males is an androgen, 11-ketotestosterone, which is responsible for spermatogenesis (Borg, 1994; Mylonas and others, 1997; Cavaco and others, 1998; Cavaco and others, 1999). Concentrations of estrogens and androgens, and the ratio of two sex steroid hormones, 17β estradiol/11-ketotestosterone (E2:11KT) have been utilized to assess the endocrine system in fish (Goodbred and others, 1997; Gross and others, 2002; Schmitt and others, 2002).

Vitellogenesis is the process of producing the protein vitellogenin in the liver in response to stimulation by estrogenic sex-steroid hormones. Vitellogenin is then processed by the

Acknowledgments and Dedication

This study was conducted by several U.S. Geological Survey (USGS) programs and research centers, including: the National Water Quality Assessment (NAWQA) Program, Biomonitoring of Environmental Status and Trends Program (BEST), the Florida Integrated Science Center (FISC), the Columbia Environmental Research Center (CERC), and personnel from both the Biological and the Water Resources disciplines. All biomarker analyses were conducted by the Joint Ecotoxicology Program of FISC and the University of Florida, College of Veterinary Medicine, Department of Physiological Sciences, and we wish to thank *Tim Gross, Carla Wieser, Jon Wiebe, Nancy Denslow,* and *Kevin Kroll* for these analyses. We also wish to thank members of NAWQA's biological team; *Rachel Muir* and R*od DeWeese* for their field efforts and the review of this document and *Wade Bryant* for the expertise and field efforts. We also wish to thank the members of the BEST Program, *Tim Bartish, Pat Anderson,* and *Jim Coyle* for their expertise and support. In addition, we wish to acknowledge the critical support of the U.S. Fish and Wildlife Service in the field efforts nationally. The authors also want to thank all of the personnel from the various USGS NAWQA study units involved with the fish collections. Additional thanks to *Steve Sorenson* and *Mike Yurewicz* from the Northeast Region, and *Christopher Schmitt* from CERC.

Finally, and most importantly, we dedicate this report to our close friend and colleague, *Tim Bartish,* who is missed by all who knew him.

ovary and transferred into developing follicles to form a large portion of the egg yolk. Male fish produce significant amounts of vitellogenin when exposed to estrogen or estrogenic chemicals (Purdom and others, 1994; Bromage and Cumaranatunga, 1998). Therefore, concentrations of vitellogenin have been recently recognized as an important biomarker for assessment of the reproductive status or health of fish (Denslow and others, 1999; Gross and others 2002, 2003; Schmitt and others, 2002). Vitellogenin provides an additional physiological biomarker for assessing reproductive health and predicting the ability of various compounds to alter the endocrine and reproductive systems. Males do not normally produce significant amounts of vitellogenin, but males treated with an estrogen produced significant vitellogenin concentrations. Therefore, it has been hypothesized that the elevated concentrations of plasma vitellogenin in males might serve as a reliable biomarker of exposure to environmental contaminants with estrogenic properties or endocrine effects (Heppell and others, 1995; Sumpter and Jobling, 1995; Palmer and Selcer, 1996; Denslow and others, 1996 a,b; 1997). Gonadal stage (stage of follicular or sperm maturation as determined by histological techniques) is also a potentially useful measure of the presence and effects of environmental stressors in teleost fish.

The purpose of this data report is to present multiple biomarkers of reproductive/endocrine function in common carp and largemouth bass on a national and regional scale in the United States.

Materials and Methods

Site Locations

This report brings together data from sites sampled by a combination of two USGS monitoring/research efforts: (1) a national network of water-quality and bed-sediment and tissue sites of the USGS National Water Quality Assessment (NAWQA) Program (Gilliom and others, 1995); and (2) the sites in the Mississippi and Columbia River basins that were sampled by the USGS Biomonitoring of Environmental Status and Trends (BEST) Program (Schmitt and others, 1999; 2000).

The collection sites (fig. 1, table 1) represent a wide range of environmental settings and biologically important aquatic ecosystems across the contiguous United States; they are characterized by flow regime (riverine or lacustrine) and land use (agricultural, urban, or reference). The regional boundaries are rough estimates for the geographic separation of sites based on river basin and site proximity. There were no collection sites in the Southeast Region.

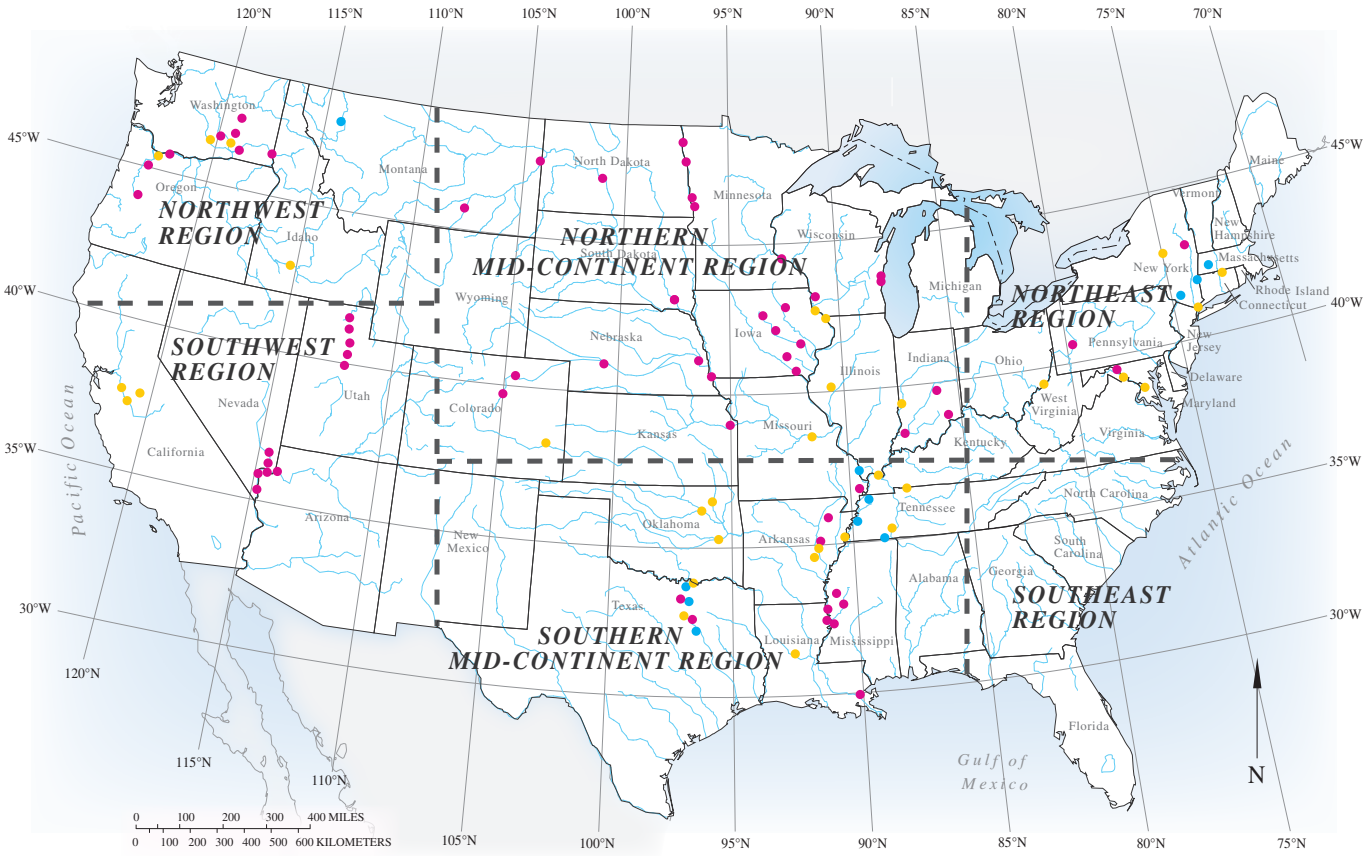

Figure 1. Regional boundaries and collection sites for common carp ● (magenta), largemouth bass ● (blue), and both common carp and largemouth bass ● (gold).

Table 1. Description of all study sites by region and species collected during 1994–97.

Site name and location	Site code	Latitude	Longitude	Flow regime		Land use			Species	
				Riverine	Lacustrine	Reference	Agriculture	Urban	Common carp	Largemouth bass
Northeast Region										
Connecticut Riv @ Thompsonville, CT	NECT-1	41° 59´ N	72° 36´ W	R				U	C	B
Potomac Riv @ Anacostia Riv	NEDC-1	38° 52´ N	76° 59´ W	R				U	C	B
Woods Pond at Lenox, MA	NEMA-1	42° 21´ N	73° 14´ W		L			U		B
Hudson Riv @ L Lazume, NY	NENY-1	43° 18´ N	73° 50´ W	R		R			C	
Mohawk Riv @ Frankfort, NY	NENY-2	43° 03´ N	75° 04´ W	R				U	C	B
Swinging Bridge Res nr Monticello, NY	NENY-3	41° 37´ N	74° 46´ W		L	R				B
Hudson Riv @ Poughkeepsie, NY	NENY-4	41° 42´ N	73° 55´ W	R				U	C	B
Hudson Riv @ Catskill, NY	NENY-5	41° 13´ N	73° 50´ W	R				U		B
Ohio Riv @ Marietta, OH	NEOH-1	39° 24´ N	81° 26´ W	R				U	C	B
Allegheny Riv @ Natrona, PA	NEPA-1	40° 39´ N	79° 41´ W	R		R			C	
Shenandoah Riv @ Melville, WV	NEWV-1	39° 16´ N	77° 46´ W	R			A		C	
Leetown Res at Leetown, WV	NEWV-2	39° 23´ N	77° 56´ W		L	R			C	B
Northern Mid-Continent Region										
South Platte Riv @ Denver, CO	NMCO-1	39° 44´ N	104° 58´ W	R				U	C	
South Platte Riv @ Kersey, CO	NMCO-2	40° 25´ N	104° 38´ W	R			A		C	
Arkansas Riv @ J Martin Res, CO	NMCO-3	38° 03´ N	102° 56´ W		L		A		C	B
Iowa Riv @ Morengo, IA	NMIA-1	41° 50´ N	92° 11´ W	R			A		C	
South Fork at Iowa Riv @ Rowan, IA	NMIA-2	42° 44´ N	93° 35´ W	R			A		C	
Iowa Riv nr New Providence, IA	NMIA-3	42° 19´ N	93° 09´ W	R			A		C	
South Skunk River Oskaloosa, IA	NMIA-4	41° 18´ N	92° 38´ W	R			A		C	
Cedar Riv @ St. Chas City, IA	NMIA-5	43° 03´ N	92° 40´ W	R			A		C	
Des Moines Riv @ Keosauqua, IA	NMIA-6	40° 44´ N	91° 59´ W	R			A		C	
Mississippi Riv @ Dubuque, IA	NMIA-7	42° 26´ N	90° 35´ W	R			A		C	B
Mississippi Riv @ Guttenburg, IA	NMIA-8	42° 43´ N	91° 01´ W	R			A		C	B
Illinois Riv @ Beardstown, IL	NMIL-1	40° 07´ N	90° 20´ W	R			A		C	B
Sugar Creek nr New Palistine, IN	NMIN-1	39° 43´ N	85° 53´ W	R				U	C	
Brushy Creek Res nr North Vernon, IN	NMIN-2	39° 01´ N	85° 36´ W		L	R			C	
White Riv @ Hazelton, IN	NMIN-3	38° 29´ N	87° 32´ W	R				U	C	
Wabash Riv @ N Harmony, IN	NMIN-4	38° 11´ N	87° 58´ W	R			A		C	B
Kansas Riv @ Bonner Sp, KS	NMKS-1	39° 02´ N	94° 47´ W	R			A		C	
Ottertail River nr Breckenridge, MN	NMMN-1	46° 15´ N	96° 32´ W	R		R			C	
Red Riv nr Breckenridge, MN	NMMN-2	46° 17´ N	96° 35´ W	R			A		C	
Mississippi Riv @ L City, MN	NMMN-3	44° 22´ N	92° 07´ W		L			U	C	
Missouri Riv @ Hermann, MO	NMMO-3	38° 42´ N	91° 26´ W	R			A		C	B
Big Horn Riv @ Hardin, MT	NMMT-1	45° 52´ N	107° 34´ W	R		R			C	
Yellowstone Riv @ Sidney, MT	NMMT-2	47° 34´ N	104° 13´ W	R			A		C	
South Platte Riv below No Platte, NE	NMNE-1	41° 08´ N	100° 54´ W	R			A		C	
Missouri Riv @ Nebraska City, NE	NMNE-3	40° 40´ N	95° 49´ W	R			A		C	
Red Riv @ Drayton, ND	NMND-1	48° 17´ N	97° 12´ W	R			A		C	
Red Riv nr Grand Forks, ND	NMND-2	47° 54´ N	97° 01´ W	R			A		C	
Missouri Riv @ Garrison Dam, ND	NMND-3	47° 28´ N	101° 26´ W		L	R			C	
James Riv @ Olivet, SD	NMSD-1	43° 13´ N	97° 41´ W	R			A		C	
Mullet Riv @ Plymouth, WI	NMWI-1	43° 46´ N	88° 05´ W	R			A		C	
North Br Milwaukee at Random Lake, WI	NMWI-2	43° 02´ N	87° 54´ W	R			A		C	
Wisconsin Riv @ Woodman, WI	NMWI-3	43° 05´ N	90° 48´ W	R		R			C	

Table 1. (Continued) Description of all study sites by region and species collected during 1994–97.

Site name and location	Site code	Latitude	Longitude	Flow regime		Land use			Species	
				Riverine	Lacu-strine	Refer-ence	Agricul-ture	Urban	Common carp	Large-mouth bass
Southern Mid-Continent Region										
Cache Riv @ Cotton Plant, AR	SMAR-1	35° 00´ N	91° 11´ W	R			A		C	
Cache Riv @ Egypt, AR	SMAR-2	35° 50´ N	90° 57´ W	R			A		C	
White River nr DeValls Bluff, AR	SMAR-3	34° 44´ N	91° 18´ W	R			A		C	
Arkansas Riv @ Pine Bluff, AR	SMAR-4	34° 16´ N	94° 57´ W	R			A		C	B
Ohio Riv @ Metropolis, IL	SMIL-2	37° 07´ N	88° 39´ W	R				U	C	B
Tensas Riv @ Tendell, LA	SMLA-1	32° 17´ N	91° 07´ W	R			A		C	
Mississippi Riv @ Luling, LA	SMLA-2	29° 59´ N	90° 25´ W	R				U	C	
Red Riv @ Alexandria, LA	SMLA-3	31° 20´ N	92° 27´ W	R			A		C	B
Little Riv Ditch at Moorehouse, MO	SMMO-1	36° 50´ N	89° 43´ W	R			A		C	B
Mississippi Riv @ Cape Girardeau, MO	SMMO-2	37° 18´ N	89° 31´ W	R			A		C	
Missouri Riv @ Hermann, MO	SMMO-3	38° 42´ N	91° 26´ W	R			A		C	B
Big Sunflower Riv @ Anguilla, MS	SMMS-1	32° 58´ N	90° 50´ W	R			A		C	
Boque Phalia at Leland, MS	SMMS-2	33° 24´ N	90° 54´ W	R			A		C	
Steele Bayou at Rolling Fork, MS	SMMS-3	32° 54´ N	90° 52´ W	R			A		C	
Yazoo Riv @ Redwood, MS	SMMS-4	32° 55´ N	90° 57´ W	R			A		C	
Arkansas Riv @ Keystone Res, OK	SMOK-1	36° 13´ N	96° 15´ W		L	R			C	B
Canadian Riv @ Eufaula, OK	SMOK-2	35° 16´ N	95° 34´ W		L		A		C	B
Verdigris Riv @ Oologah, OK	SMOK-3	36° 31´ N	95° 33´ W		L		A		C	B
Wolf River nr LaGrange, TN	SMTN-1	35° 02´ N	89° 15´ W	R			A			B
Mississippi Riv @ Memphis, TN	SMTN-2	35° 08´ N	90° 03´ W	R				U	C	B
Real Foot L NWR nr Union City, TN	SMTN-3	36° 21´ N	89° 58´ W		L	R				B
Cumberland Riv @ Clarksville, TN	SMTN-4	36° 32´ N	87° 22´ W	R		R			C	B
Tennessee Riv @ Savannah, TN	SMTN-5	35° 12´ N	88° 18´ W	R			A		C	B
Chickasaw L NWR nr Ripley, TN	SMTN-6	35° 44´ N	89° 32´ W		L	R				B
Ray Roberts L nr Gainesville, TX	SMTX-1	33° 45´ N	96° 40´ W		L			U		B
Mountain Creek L nr Dallas, TX	SMTX-2	32° 45´ N	96° 51´ W		L			U	C	B
Clear Creek nr Sanger, TX	SMTX-3	33° 20´ N	97° 11´ W	R			A		C	
Trinity River below Dallas TX	SMTX-4	32° 44´ N	96° 46´ W	R				U	C	
White Rock Lake, Dallas, TX	SMTX-5	32° 50´ N	96° 43´ W		L			U		B
Chambers L nr Corscama, TX	SMTX-6	32° 13´ N	96° 33´ W		L			U		B
Red Riv @ L Texoma, TX	SMTX-7	33° 52´ N	96° 47´ W		L		A		C	B
Northwest Region										
Snake Riv @ Hagerman, ID	NWID-1	42° 47´ N	114° 56´ W	R			A		C	B
Snake Riv @ Lewiston, ID	NWID-2	46° 24´ N	117° 02´ W	R			A		C	
Flathead Riv @ Creston, MT	NWMT-1	48° 09´ N	114° 11´ W	R			A			B
Willamette Riv below Portland, OR	NWOR-1	45° 28´ N	122° 39´ W	R				U	C	B
North Fork Willamette Riv @ Spgfield, OR	NWOR-2	44° 07´ N	123° 05´ W		L			U	C	
Columbia Riv @ Warrendale, OR	NWOR-3	45° 38´ N	121° 58´ W	R			A		C	
Willamette Riv @ Oregon Cty, OR	NWOR-4	45° 19´ N	122° 39´ W	R			A		C	
Billy Clapp L nr Stratford, WA	NWWA-1	47° 16´ N	121° 01´ W		L	R			C	
Royal L nr Othello, WA	NWWA-2	46° 54´ N	119° 54´ W		L		A		C	
Columbia Riv @ Pasco, WA	NWWA-3	46° 31´ N	119° 16´ W	R			A		C	B
Columbia Riv @ Vernita Bg, WA	NWWA-4	46° 37´ N	119° 51´ W	R			A		C	
Snake Riv @ Ice Harbor Dam, WA	NWWA-5	46° 14´ N	118° 53´ W	R			A		C	
Yakima Riv @ Granger, WA	NWWA-6	46° 20´ N	120° 12´ W	R			A		C	B

Table 1. (Continued) Description of all study sites by region and species collected during 1994–97.

Site name and location	Site code	Latitude	Longitude	Flow regime		Land use			Species	
				Riverine	Lacustrine	Reference	Agriculture	Urban	Common carp	Largemouth bass
Southwest Region										
Colo Riv inflo to L Mead @ Pearce Ferry, AZ	SWCZ-1	36° 15´ N	114° 00´ N	R		R			C	
Don Pedro Res nr La Grange, CA	SWCA-1	37° 39´ N	120° 56´ N		L	R			C	B
San Joaquin Riv @ Salt Slough, CA	SWCA-2	37° 34´ N	121° 09´ W	R			A		C	B
San Joaquin Riv @ Vernalis, CA	SWCA-3	37° 36´ N	121° 10´ W	R			A		C	B
Virgin Riv inflo to L Mead, NV	SWNV-1	36° 33´ N	114° 20´ W	R		R			C	
Muddy Riv inflo to L Mead, NV	SWNV-2	36° 17´ N	114° 30´ W	R			A		C	
Las Vegas Bay nr Las Vegas Wash, NV	SWNV-3	36° 06´ N	114° 48´ W		L			U	C	
Callville Bay, NV	SWNV-4	35° 16´ N	114° 24´ W	R		R			C	
Lake Mohave nr Laughlin, NV	SWNV-5	35° 28´ N	114° 40´ W		L			U	C	
Bear Riv @ Corinne, UT	SWUT-1	41° 33´ N	112° 06´ W	R		R			C	
Jordon Riv @ 17th Street, UT	SWUT-2	40° 41´ N	112° 06´ W	R				U	C	
Jordon Riv @ Cudahy, UT	SWUT-3	40° 39´ N	111° 58´ W	R			A		C	
Jordon Riv @ Utah Lake, UT	SWUT-4	40°22´ N	111°54´ W	R			A		C	
Weber Riv @ Ogden Bay, UT	SWUT-5	41°13´ N	112°40´ W	R				U	C	

Sex Steroid Hormones

Plasma samples from both species were analyzed for 17ß-estradiol and 11-ketotestosterone using radioimmunoassay procedures. Plasma samples (50 µL) were extracted twice with 5-mL diethyl ether prior to radioimmunoassay analysis. Each sample was analyzed in duplicate for both 17ß-estradiol and 11-ketotestosterone and corrected for extraction efficiencies of 92 ±2.8 percent and 86 ± 3.3 percent, respectively. Standard curves were prepared in a buffer with known amounts of radioinert 17ß-estradiol or 11-ketotestosterone (1, 5, 10, 25, 50, 100, 250, 500, and 1,000 pg). The minimum detectable concentration was 6.4 pg/mL for 17ß-estradiol and 8.1 pg/mL for 11-ketotestosterone. Cross-reactivities with other steroids for the 17ß-estradiol antiserum were as follows: 11.2 percent for estrone, 1.7 percent for estriol, less than 1.0 percent for 17alpha-estradiol and androstenedione, and less than 0.1 percent for all other steroids examined. Cross-reactivities of the 11-ketotestosterone antiserum with other steroids were: 9.7 percent for testosterone, 3.7 percent for a-dihydrotestosterone, less than 1.0 percent for androstenedione, and less than 0.1 percent for all other steroids examined. A pooled sample (approximately 275 pg of 17ß-estradiol/mL and 220 pg 11-ketotestosterone/mL) was assayed serially in 10, 20, 30, 40, and 50 µL volumes (final volume of 50 µL with charcoal-stripped plasma). Further characterization of the assays involved measurement of known amounts (1, 2, 5, 10, 25, 50, 100, 250, and 500 pg) of 17ß-estradiol or 11- ketotestosterone in 50 µL of charcoal-stripped plasma. Values of R^2 for correlations between actual and measured amounts during the calibration were 0.93 for 17ß-estradiol and 0.88 for 11-ketotestosterone. Interassay and intraassay coefficients of variation were 7.3 and 9.5 percent, respectively, for plasma 17ß-estradiol; and 9.1 and 8.7 percent, respectively, for plasma 11-ketotestosterone (Bevans and others, 1996; Goodbred and others, 1997; Schmitt and Dethloff, 2000).

Vitellogenin

Vitellogenin concentrations in plasma of both species were assayed and quantified by capture Enzyme-Linked Immunosorbent Assay (ELISA) as previously described by Goodbred and others (1997) and summarized below. Initially, vitellogenin from bass was purified by ion-exchange chromatography (Denslow and others, 1999) for use in the standard. The monoclonal antibody Mab HL 1080 1C8-3C11 was used in the ELISA assay. This antibody reacts specifically to bass vitellogenin and not with other plasma proteins. Purified antibody was diluted to 10 µg/mL in phosphate-buffer saline (0.01 M NaPO4, 150 mm NaCl, pH 7.4) and coated onto 96-well microlitre plates (50 µg/mL per well), and stored overnight at 4 °C. Plates were washed with tris-buffered saline (TBST) buffer (10 mM Tris, pH 7, 150 mM NaCl, 0.5% Tween), blocked with 0.1 percent bovine serum albumin in TBST for 2 hours at room temperature, and thoroughly

washed again three times with TBST. Plasma samples were diluted from 1:100 to 1:5,000 in 0.1 percent bovine serum albumin in TBST and 50 µg was added in duplicate to microtitre plate wells and incubated overnight. Standard curves were from 10 to 1,000 ng/mL, and were constructed in male plasma at the same dilution as the sample to be analyzed. Of this solution, only 50 µg were placed in the well. Although the assay itself is very sensitive, plasma samples must be diluted at least to 1:100 to eliminate interferences that affect the assay, thus making the assay sensitive to 0.001 mg/mL. Male control plasma was made from composites of plasma from fish collected at an uncontaminated site, which was shown by Western Blot assay to have no vitellogenin. The next day, plates were washed with TBST, incubated with 50 µg per well rabbit anti-vitellogenin polyclonal antibody UF114, produced and characterized by University of Florida, diluted to 1:500, and incubated for 2 hours at room temperature. This discloses the vitellogenin captured by the monoclonal antibody in the first step. The polyclonal antibody was, in turn, disclosed by a goat anti-rabbit immunoglobulin IgG linked to alkaline phosphatase and incubated for 2 hours at room temperature.

After a final series of washes with TBST, 100 µg of p-nitro-phenyl-phosphate in carbonate buffer (pH 9.6) was added to each well and incubated for 30 minutes. The intensity of yellow color that developed was quantified at 405 nm with an automated ELISA reader. Vitellogenin concentrations were calculated from standard curves after subtracting the small nonspecific color reaction (about 0.2 A, 405 nm) with male control plasma. The ELISA assay used in this study can detect between 10 to 100 ng of vitellogenin per well, resulting in a sensitivity of about 0.001 mg/mL. Each ELISA assay included a positive control, which was plasma with a known vitellogenin concentration, to test for interassay and intra-assay variation. The coefficient of variation was calculated for each duplicate sample and, if it exceeded 10 percent, samples were rerun. Standard curves fit by linear regression were used to calculate vitellogenin concentration, with R^2 values usually between 0.95 and 0.99 (Denslow and others, 1996 a,b; 1997; Schmitt and Dethloff, 2000).

Histological Determination of Sexual Maturation

Samples of male and female gonads were taken, fixed in the field with Bouins' solution or 10 percent buffered formalin, and transferred to 100 percent ethanol in the laboratory prior to processing. Testes were cut longitudinally and ovaries were cut transversely. Samples were embedded in paraffin, sectioned to 5 µm, and stained with hematoxylin and eosin for histological evaluation. All tissue slides were evaluated for reproductive stage, anomalies, and gonadal parasites.

Gonads of female fish were classified according to four stages of sexual maturation, based on evaluation of histological slides. Ovaries containing mostly perinucleolar oocytes at various stages of pre-vitellogenic growth were classified as undeveloped (stage 0). Ovaries showing a mixture of both perinucleolar and cortical alveoli oocytes were classified as early-vitellogenic (stage 1). Ovaries classified as early-mid vitellogenic (stage 2) had some vitellogenic oocytes of various sizes and development, with few to moderate numbers of vitelline granules, and few fully developed oocytes. Late vitellogenisis was classified as stages 3 and 4, ovaries in which most oocytes were at or near maximum size and contained numerous, densely packed vitelline granules. Stage 4 were considered vitellogenic but post-ovulatory. Stage 5 females were post-vitellogenic.

Male gonads were classified according to three stages of sexual maturation. Undeveloped testes with no spermatogenesis were considered stage 0. Testes that were classified as early spermatogenic (stage 1) had thick germinal epithelium, with diffuse pronounced proliferation and maturation of spermatozoa. Mid-spermatogenic (stage 2) testes had germinal epithelium of moderate thickness, with diffuse moderate proliferation and maturation of sperm. Testes classified as late spermatogenic (stage 3) had mostly thin germinal epithelium, with only scattered spermatogenic activity characteristic of full-grown testes and the latest stage of maturity (Goodbred and others, 1997; Schmitt and Dethloff, 2000).

Results

More than 2,200 common carp and nearly 650 bass were collected at over 100 sites nationally. This is a relatively large sample size, and data from all collected fish were utilized in the national summary. Common carp and largemouth bass were collected during both non-reproductive and reproductive seasons from 1994 though 1997. Largemouth bass were collected only from the northeastern region during the reproductive season.

Summary statistics are provided for fish size, biomarkers, and reproductive stage by species (table 2) and by region and site (tables 3a and 3b). Biomarkers and ancillary information for individual common carp and largemouth bass are listed in tables 4 and 5, respectively. This information may serve as a unique and useful set of baseline values for comparison and for planning future studies.

Table 2. National summary statistics (mean ± SE and ranges) for: fish size, biomarkers and reproductive stage for COMMON CARP and LARGEMOUTH BASS collected during non-reproductive (mid-August through March 1994–1997) and reproductive (April through mid-August 1995–1997) seasons.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Length (millimeter)	N	Weight (gram)	N	E_2 (picogram per milliliter)	N	11KT (picogram per milliliter)	N	Ratio of E_2 to KT	N	VTG (milligram per milliliter)	N	Developmental stage	N
COMMON CARP													
Female non-reproductive season													
535 ± 3.5 (278 – 920)	819	2380 ± 50.4 (288 – 10000)	819	1479 ± 44.4 (15 – 11401)	823	641 ± 27.5 (13 – 9066)	823	3.8 ± 0.15 (0.1 – 40.6)	823	12.6 ± 0.51 (ND – 108)	821	2.7 ± 0.02 (0 – 4)	822
Female reproductive season													
515 ± 6.3 (332 – 742)	233	2220 ± 93.1 (479 – 6300)	233	1070 ± 49.3 (17 - 4142)	234	659 ± 49.4 (45 – 5066)	234	2.6 ± 0.18 (0.0 – 24.8)	234	18.1 ± 1.64 (ND – 124.8)	234	2.8 ± 0.04 (0 – 4)	234
Male non-reproductive season													
507 ± 2.8 (278 – 779)	831	1868 ± 31.4 (324 – 6407)	831	502 ± 15.8 (17 – 4546)	833	1232 ± 42.1 (61 – 9699)	833	0.7 ± 0.04 (0.0 – 19.3)	833	0.1 ± 0.04 (ND – 25.4)	830	2.1 ± 0.03 (0 – 3)	828
Male reproductive season													
501 ± 5.4 (297 – 763)	254	1991 ± 72.2 (325 – 7300)	254	408 ± 22.1 (51 – 2565)	255	1000 ± 63.8 (74 – 6821)	255	0.7 ± 0.05 (0.0 – 6.9)	255	0.01 ± 0.05 (ND – 12.0)	255	2.5 ± 0.04 (1 – 3)	253
LARGEMOUTH BASS													
Female non-reproductive season													
369 ± 4.0 (231 – 595)	323	869 ± 30.8 (140 – 2920)	320	717 ± 40.1 (29 – 6330)	335	343 ±17.3 (12 – 2203)	335	3.3 ± 0.20 (0.0 – 27.8)	335	1.3 ± 0.38 (ND – 77.9)	335	1.7 ± 0.04 (0 – 3)	332
Female reproductive season													
378 ± 13.7 (286 – 478)	18	872 ± 97.1 (350 – 1648)	18	2710 ± 606.2 (384 – 9670)	18	704 ±154.3 (108 – 2306)	18	4.6 ± 0.68 (1.6 – 12.4)	18	4.8 ± 0.84 (ND – 12.4)	18	3.2 ± 0.15 (2 – 5)	18
Male non-reproductive season													
338 ± 3.2 (226 – 515)	294	616 ± 19.5 (114 – 1918)	283	375 ± 16.1 (11 – 1823)	302	703 ± 41.8 (15 – 7451)	302	1.0 ± 0.06 (0.0 – 6.9)	302	0.0 ± 0.02 (ND – 3.0)	302	2.3 ± 0.04 (0 – 3)	302
Male reproductive season													
305 ± 7.8 (276 – 386)	14	450 ± 43.0 (321 – 938)	14	781 ± 120.2 (280 – 1621)	14	1195 ± 115.2 (410 – 1706)	14	0.8 ± 0.21 (0.2 – 3.0)	14	0.0 ± 0.02 (ND – 0.3)	14	3.0 ± 0.0 (3 – 3)	14

Table 3A. Site and regional mean values for biomarker and ancillary data for COMMON CARP collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
COMMON CARP								
Northern Mid-Continent Region								
Female non-reproductive								
NMCO-1	32	572 ± 11.9	2827 ± 178.7	1376 ± 148.3	668 ± 69.2	2 ± 0.4	19 ± 2.5	3 ± 0.1
		(441-675)	(1200-4588)	(55-3249)	(127-1500)	(0-13)	(ND-53.904)	(1-3)
NMCO-2	25	533 ± 7.5	2214 ± 95.8	1519 ± 112.4	586 ± 67.6	3 ± 0.2	29 ± 1.4	3 ± 0
		(480-620)	(1559-3275)	(559-2320)	(185-1250)	(2-6)	(14.7-45.9)	(3-3)
NMCO-3	11	404 ± 19.7	928 ± 147.4	967 ± 154.6	238 ± 48.9	6 ± 1.7	3 ± 0.9	3 ± 0.2
		(342-555)	(550-2150)	(366-1901)	(31-633)	(2-22)	(0.001-9.285)	(1-3)
NMIA-1	10	461 ± 18.8	1353 ± 144.4	1819 ± 431.6	303 ± 42.2	6 ± 1	3 ± 0.5	3 ± 0.2
		(360-530)	(629-1970)	(334-4819)	(57-569)	(2-13)	(0.181-5.132)	(1-3)
NMIA-2	10	500 ± 24.4	1928 ± 284.5	1578 ± 312.1	818 ± 81.1	2 ± 0.7	4 ± 0.6	3 ± 0.1
		(402-595)	(970-3102)	(143-3377)	(272-1155)	(0-8)	(ND-6.93)	(2-3)
NMIA-3	3	645 ± 11.9	4166 ± 280.3	1521 ± 500.9	250 ± 117.5	7 ± 0.9	3 ± 0.4	3 ± 0
		(624-665)	(3751-4700)	(819-2491)	(112-484)	(5-8)	(2.736-4.159)	(3-3)
NMIA-4	10	422 ± 11.2	969 ± 73.6	1468 ± 256.8	287 ± 25.4	6 ± 1	3 ± 0.4	3 ± 0.2
		(381-482)	(717-1355)	(323-3276)	(121-397)	(1-11)	(0.027-4.999)	(1-3)
NMIA-5	10	490 ± 16.8	1534 ± 159	1846 ± 202.9	571 ± 108.7	6 ± 2.1	4 ± 0.7	3 ± 0
		(400-570)	(811-2398)	(1198-3190)	(135-1189)	(1-24)	(2.371-9.531)	(3-3)
NMIA-6	10	538 ± 14.3	2164 ± 175	654 ± 71.8	280 ± 45.2	3 ± 0.4	2 ± 0.5	3 ± 0.2
		(462-605)	(1310-2900)	(488-1220)	(132-522)	(1-5)	(0.045-5.482)	(1-3)
NMIA-7	10	510 ± 20.3	1964 ± 181.8	2262 ± 353.8	714 ± 75.4	3 ± 0.6	5 ± 1.6	3 ± 0.1
		(340-560)	(555-2500)	(1114-4852)	(351-1072)	(1-8)	(ND-15.47)	(2-3)
NMIA-8	10	483 ± 7.5	1595 ± 69.6	1576 ± 276.7	461 ± 71.9	4 ± 1.2	6 ± 1.2	3 ± 0
		(441-513)	(1230-1895)	(639-3172)	(224-863)	(1-14)	(2.465-16.201)	(3-3)
NMIL-1	10	421 ± 15.6	1053 ± 125.3	548 ± 92.2	471 ± 76.8	1 ± 0.3	4 ± 0.4	3 ± 0
		(366-529)	(616-1864)	(171-1051)	(101-846)	(1-3)	(2.316-6.344)	(3-3)
NMIN-1	9	627 ± 23.3	3582 ± 448.2	809 ± 110.2	810 ± 97.9	1 ± 0.1	28 ± 1.9	3 ± 0
		(524-742)	(1775-5600)	(504-1423)	(383-1257)	(1-2)	(16.9-33.4)	(3-3)
NMIN-2	10	633 ± 35.8	3691 ± 732.4	2367 ± 274.9	893 ± 162.8	3 ± 0.7	18 ± 1	3 ± 0.2
		(510-855)	(1610-8959)	(828-3833)	(248-1890)	(1-9)	(12.911-22.7)	(2-3)
NMIN-3	17	569 ± 13.9	2722 ± 202	1722 ± 133	1177 ± 116.6	2 ± 0.3	30 ± 1.2	3 ± 0
		(446-668)	(1314-4530)	(884-2799)	(325-1969)	(1-5)	(21.4-41.1)	(3-3)
NMIN-4	9	562 ± 24.8	3008 ± 542.7	570 ± 65.4	109 ± 11.1	6 ± 0.9	3 ± 0.7	2 ± 0.4
		(447-718)	(1800-7181)	(351-920)	(69-181)	(3-12)	(0.001-7.453)	(0-3)
NMKS-1	10	619 ± 20.3	3238 ± 374.1	934 ± 109.9	837 ± 44.3	1 ± 0.1	2 ± 0.4	3 ± 0.2
		(533-752)	(2075-5450)	(443-1583)	(637-1070)	(0-2)	(ND-3.761)	(1-3)

Table 3A. (Continued) Site and regional mean values for biomarker and ancillary data for COMMON CARP collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
NMMN-1	8	523 ± 3.3	1825 ± 64.5	3763 ± 1041.7	1198 ± 421.4	4 ± 0.8	31 ± 0.9	3 ± 0
		(510-530)	(1520-2020)	(1086-9942)	(187-3641)	(3-8)	(25.8-34.1)	(3-3)
NMMN-2	14	533 ± 8.8	2032 ± 112.2	1968 ± 424.9	284 ± 43.5	11 ± 2.8	33 ± 1.3	3 ± 0.1
		(485-610)	(1467-3164)	(462-6852)	(63-540)	(2-38)	(23.4-41)	(3-4)
NMMN-3	10	531 ± 14.1	1975 ± 139.8	1290 ± 149	870 ± 87	2 ± 0.2	4 ± 1.1	3 ± 0.2
		(439-600)	(1100-2800)	(797-2058)	(411-1221)	(1-2)	(0.054-11.701)	(1-3)
NMMO-1	10	528 ± 12.8	2150 ± 180	1706 ± 149.3	936 ± 159.1	3 ± 0.7	5 ± 0.7	3 ± 0
		(480-610)	(1519-3474)	(1143-2492)	(286-2008)	(1-7)	(1.455-8.291)	(3-3)
NMMO-4	6	494 ± 41.6	1758 ± 549.2	1472 ± 221.4	508 ± 122.6	4 ± 0.6	2 ± 0.2	3 ± 0.3
		(375-640)	(650-4000)	(456-1923)	(100-939)	(2-5)	(1.286-2.588)	(1-3)
NMMT-1	12	572 ± 18.1	2603 ± 239.5	2410 ± 264.3	634 ± 133.2	6 ± 1.1	3 ± 0.6	3 ± 0
		(474-681)	(1400-3900)	(1280-4285)	(132-1644)	(1-13)	(ND-6.821)	(3-3)
NMMT-2	12	479 ± 31.4	1538 ± 313.6	1919 ± 222.2	388 ± 94.5	9 ± 2.7	1 ± 0.2	2 ± 0.3
		(328-672)	(450-3850)	(917-3350)	(52-1274)	(2-33)	(ND-2.522)	(1-3)
NMND-1	11	714 ± 25	4514 ± 430.5	1399 ± 289.3	342 ± 77.5	5 ± 1.2	27 ± 3.3	3 ± 0.1
		(518-831)	(1640-6000)	(533-3530)	(123-832)	(2-11)	(ND-44.1)	(3-4)
NMND-2	10	488 ± 13.7	1575 ± 103.9	3543 ± 891	895 ± 250	6 ± 1.3	27 ± 7.2	3 ± 0.2
		(424-534)	(1182-2063)	(443-8075)	(57-2639)	(1-13)	(7.8-87.8)	(2-3)
NMND-3	9	505 ± 16	1770 ± 164.1	361 ± 33	129 ± 10.8	3 ± 0.3	3 ± 0.8	2 ± 0.3
		(409-565)	(1050-2500)	(227-502)	(94-188)	(2-4)	(0.032-7.699)	(1-3)
NMNE-1	17	533 ± 13.4	2035 ± 191.4	1077 ± 134.7	465 ± 109.9	3 ± 0.4	20 ± 3.3	3 ± 0.2
		(435-680)	(910-4000)	(232-1959)	(93-1988)	(1-8)	(ND-43.952)	(1-4)
NMNE-2	17	542 ± 21.4	2336 ± 221.5	397 ± 72.8	534 ± 115.5	1 ± 0.4	19 ± 4.7	2 ± 0.3
		(344-662)	(649-3702)	(15-1104)	(51-1789)	(0-6)	(ND-72.5)	(0-3)
NMNE-3	12	409 ± 20.5	1123 ± 220.9	445 ± 51.3	712 ± 161.5	2 ± 0.6	2 ± 0.5	3 ± 0.2
		(345-620)	(600-3500)	(287-789)	(124-1819)	(0-6)	(ND-5.774)	(1-3)
NMSD-1	10	420 ± 27.7	1078 ± 300	937 ± 161.2	804 ± 152.7	2 ± 0.7	3 ± 1	2 ± 0.2
		(316-588)	(400-3600)	(461-2112)	(110-1461)	(0-8)	(ND-9.328)	(1-3)
NMWI-1	10	441 ± 10.4	1242 ± 134.8	2370 ± 261	684 ± 118.2	5 ± 1.5	28 ± 1.5	3 ± 0.1
		(398-522)	(926-2405)	(1276-3830)	(72-1503)	(1-18)	(20.9-36.2)	(2-4)
NMWI-2	17	511 ± 14.6	1809 ± 160.9	2584 ± 404.8	633 ± 130.2	9 ± 2.6	25 ± 2.3	3 ± 0
		(402-630)	(892-2994)	(354-6147)	(84-2020)	(1-41)	(16-47.5)	(3-3)
NMWI-3	10	552 ± 9.3	2255 ± 108.9	1848 ± 297.6	463 ± 87.3	5 ± 0.8	3 ± 0.4	3 ± 0
		(508-600)	(1900-3000)	(578-3449)	(132-871)	(1-10)	(1.672-5.255)	(3-3)
Summary	401	524 ± 4.5	2136 ± 57.4	1540 ± 60.9	600 ± 23.4	4 ± 0.2	14 ± 0.7	3 ± 0
		(316-855)	(400-8959)	(15-9942)	(31-3641)	(0-41)	(ND-87.8)	(0-4)

Table 3A. (Continued) Site and regional mean values for biomarker and ancillary data for COMMON CARP collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Female reproductive								
NMIN-1	6	574 ± 28.5	3677 ± 612.5	415 ± 63.3	651 ± 155.3	1 ± 0.3	6 ± 0.4	3 ± 0.3
		(494-674)	(1590-5600)	(181-585)	(215-1344)	(0-2)	(4.215-6.894)	(2-4)
NMIN-3	11	588 ± 16.6	3389 ± 377.4	561 ± 66.1	290 ± 52.4	3 ± 0.7	64 ± 9	3 ± 0.2
		(510-667)	(1863-5239)	(261-882)	(93-646)	(1-8)	(27.875-124.8)	(1-4)
Summary	17	583 ± 14.3	3490 ± 316.5	509 ± 50.1	417 ± 75	2 ± 0.5	43 ± 9	3 ± 0.2
		(494-674)	(1590-5600)	(181-882)	(93-1344)	(0-8)	(4.215-124.8)	(1-4)
Male non-reproductive								
NMCO-1	31	569 ± 8	2464 ± 109	215 ± 27	1462 ± 279.6	0 ± 0.1	1 ± 0.9	2 ± 0.1
		(480-633)	(1400-3700)	(20-591)	(198-6796)	(0-2)	(ND-25.427)	(1-3)
NMCO-2	15	516 ± 11.4	1922 ± 149.5	118 ± 14.9	675 ± 113.6	0 ± 0.1	0 ± 0	3 ± 0.1
		(440-585)	(1077-3107)	(31-227)	(152-1733)	(0-1)	(ND-0.001)	(2-3)
NMCO-3	7	369 ± 4.2	663 ± 16.7	435 ± 14.9	783 ± 123.9	1 ± 0.5	0 ± 0	2 ± 0.2
		(347-382)	(600-720)	(390-505)	(138-1174)	(0-4)	(0.001-0.001)	(2-3)
NMIA-1	10	470 ± 20.2	1412 ± 190.3	491 ± 116.3	680 ± 167.9	1 ± 0.5	0 ± 0	2 ± 0
		(383-540)	(650-2265)	(235-1455)	(164-1348)	(0-5)	(ND-0.001)	(2-2)
NMIA-2	10	520 ± 21.4	1951 ± 215.1	162 ± 45.3	578 ± 177.2	1 ± 0.5	0 ± 0	2 ± 0.1
		(440-615)	(1190-2971)	(27-421)	(75-1872)	(0-6)	(ND-0.001)	(1-2)
NMIA-3	5	563 ± 20.6	2572 ± 329	545 ± 323.9	596 ± 225.3	1 ± 0.5	0 ± 0	2 ± 0
		(508-615)	(1744-3512)	(66-1790)	(69-1391)	(0-2)	(ND-0.001)	(2-2)
NMIA-4	10	432 ± 12.1	982 ± 123.6	347 ± 76.9	420 ± 97.7	1 ± 0.3	0 ± 0	2 ± 0
		(385-523)	(324-1768)	(47-890)	(204-1249)	(0-3)	(ND-0.001)	(2-2)
NMIA-5	10	480 ± 15.4	1377 ± 135.1	217 ± 16.2	1479 ± 317.6	0 ± 0.1	0 ± 0	2 ± 0.1
		(395-550)	(740-1965)	(156-296)	(406-3034)	(0-1)	(ND-0.001)	(1-2)
NMIA-6	10	460 ± 22	1269 ± 144.8	505 ± 15.1	2891 ± 328.4	0 ± 0	0 ± 0	2 ± 0.1
		(360-528)	(566-1760)	(441-567)	(1596-4301)	(0-0)	(ND-0.001)	(1.5-2.5)
NMIA-7	10	510 ± 10	1827 ± 138.7	1019 ± 197.2	1633 ± 244.3	1 ± 0.2	0 ± 0.3	2 ± 0.1
		(470-570)	(1396-2900)	(579-2713)	(985-3402)	(0-2)	(ND-2.645)	(1-2)
NMIA-8	10	458 ± 9.7	1277 ± 80.5	716 ± 86	2084 ± 511.3	0 ± 0.1	0 ± 0	1 ± 0.1
		(395-496)	(862-1672)	(321-1020)	(711-6341)	(0-1)	(0.001-0.001)	(1-2)
NMIL-1	10	405 ± 8	806 ± 37.3	309 ± 22.3	1522 ± 465.1	1 ± 0.3	0 ± 0	1 ± 0.2
		(376-441)	(629-961)	(220-442)	(113-5401)	(0-3)	(ND-0.001)	(1-3)
NMIN-1	7	586 ± 14.4	2347 ± 146.2	804 ± 140.6	1234 ± 126.1	1 ± 0.1	0 ± 0	1 ± 0.2
		(551-665)	(1797-3020)	(436-1491)	(726-1619)	(0-1)	(ND-0.001)	(1-2)
NMIN-2	10	573 ± 24.3	2744 ± 469.8	230 ± 26.9	922 ± 166.3	0 ± 0	0 ± 0	3 ± 0
		(446-722)	(1229-6407)	(50-364)	(402-1961)	(0-1)	(ND-0.001)	(3-3)
NMIN-3	19	540 ± 11.7	1970 ± 79.6	726 ± 84.6	1821 ± 147.4	0 ± 0.1	0 ± 0	1 ± 0.1
		(457-638)	(1389-2756)	(176-1728)	(755-2604)	(0-1)	(ND-0.83)	(1-2)

Table 3A. (Continued) Site and regional mean values for biomarker and ancillary data for COMMON CARP collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
NMIN-4	8	536 ± 18.1	2275 ± 181	411 ± 26.7	858 ± 261.2	1 ± 0.2	0 ± 0	2 ± 0.2
		(450-592)	(1300-2800)	(310-544)	(246-2202)	(0-2)	(0.001-0.001)	(2-3)
NMKS-1	10	573 ± 15.8	2438 ± 172.1	702 ± 108.2	1022 ± 39.1	1 ± 0.1	0 ± 0	2 ± 0.2
		(460-621)	(1200-2950)	(417-1445)	(828-1206)	(0-2)	(ND-0.013)	(1-3)
NMMN-1	9	490 ± 6.1	1435 ± 58.9	586 ± 141.5	1174 ± 339.3	1 ± 0.1	0 ± 0	3 ± 0.1
		(460-520)	(1253-1763)	(57-1105)	(77-2935)	(0-1)	(ND-0.09)	(2-3)
NMMN-2	10	505 ± 15.4	1604 ± 170	759 ± 118.2	822 ± 258.2	2 ± 0.6	0 ± 0	3 ± 0
		(450-620)	(998-2918)	(267-1573)	(105-2261)	(0-7)	(ND-0.05)	(3-3)
NMMN-3	10	504 ± 6.1	1975 ± 298.5	862 ± 78.7	1457 ± 111.5	1 ± 0.1	0 ± 0	1 ± 0.1
		(470-536)	(1450-4600)	(445-1258)	(1050-1963)	(0-1)	(ND-0.008)	(1-1.5)
NMMO-1	10	487 ± 14	1590 ± 132.4	429 ± 135.2	772 ± 92.4	1 ± 0.2	0 ± 0	2 ± 0.1
		(410-560)	(1158-2467)	(17-1457)	(287-1389)	(0-2)	(ND-0.001)	(2-3)
NMMO-4	9	524 ± 30.4	2078 ± 287.4	915 ± 107.9	1240 ± 302.3	3 ± 2.1	0 ± 0	2 ± 0.2
		(346-610)	(550-3050)	(413-1431)	(72-2954)	(0-19)	(ND-0.001)	(1-2.5)
NMMT-1	8	529 ± 15.6	1775 ± 161.8	1096 ± 86.8	2267 ± 245	1 ± 0.1	0 ± 0.1	2 ± 0.2
		(470-585)	(1250-2600)	(716-1418)	(1184-2970)	(0-1)	(ND-0.958)	(1-3)
NMMT-2	8	551 ± 26.3	2150 ± 220.6	1209 ± 255.8	2709 ± 371.8	0 ± 0.1	0 ± 0	1 ± 0.2
		(390-619)	(800-2800)	(709-2918)	(1191-4214)	(0-1)	(ND-0.001)	(1-2)
NMND-1	10	589 ± 16.6	2352 ± 203	444 ± 95	965 ± 129	1 ± 0.1	1 ± 0.5	3 ± 0.2
		(520-675)	(1645-3470)	(100-901)	(508-1947)	(0-1)	(ND-5)	(2-3)
NMND-2	4	471 ± 15.3	1252 ± 83.4	1431 ± 348.4	857 ± 238.1	2 ± 0.8	0 ± 0	3 ± 0.3
		(436-510)	(1079-1470)	(465-2104)	(387-1507)	(1-4)	(ND-0.07)	(2-3)
NMND-3	11	489 ± 23.1	1625 ± 226.6	300 ± 13	2249 ± 513.2	0 ± 0	0 ± 0	1 ± 0.2
		(299-595)	(420-3400)	(219-362)	(887-6760)	(0-0)	(ND-0.007)	(0-2)
NMNE-1	20	509 ± 11.1	1752 ± 88.3	308 ± 54.3	1432 ± 327.9	0 ± 0.1	1 ± 0.5	1 ± 0.1
		(390-615)	(838-2350)	(39-881)	(111-5303)	(0-2)	(ND-10.981)	(1-2)
NMNE-2	18	462 ± 20	1331 ± 137	294 ± 83.5	600 ± 123.1	1 ± 0.2	0 ± 0	2 ± 0.3
		(317-586)	(464-2456)	(17-1171)	(76-2007)	(0-2)	(ND-0.01)	(0-3)
NMNE-3	11	472 ± 34.5	1655 ± 331	363 ± 18.8	2205 ± 218.5	0 ± 0	0 ± 0	1 ± 0.1
		(352-680)	(600-3450)	(283-482)	(1142-3136)	(0-0)	(ND-0.001)	(1-2)
NMSD-1	9	494 ± 32.1	1692 ± 262.1	821 ± 94.6	1504 ± 301.3	1 ± 0.3	0 ± 0	1 ± 0.2
		(319-603)	(325-2775)	(446-1285)	(256-3062)	(0-3)	(ND-0.008)	(0.5-2)
NMWI-1	10	433 ± 8	980 ± 62.2	656 ± 51	707 ± 100	1 ± 0.2	0 ± 0	2 ± 0.3
		(405-490)	(712-1430)	(365-859)	(253-1306)	(0-3)	(ND-0.02)	(1-3)
NMWI-2	23	486 ± 8.9	1384 ± 74.6	775 ± 65.3	621 ± 55.5	1 ± 0.2	1 ± 0.7	3 ± 0.1
		(414-560)	(868-2154)	(214-1340)	(108-1118)	(1-4)	(ND-15)	(2-3)
NMWI-3	12	519 ± 8.3	1817 ± 81.7	582 ± 109.2	1661 ± 249.4	1 ± 0.6	0 ± 0	1 ± 0.1
		(468-578)	(1400-2400)	(145-1474)	(191-2893)	(0-8)	(ND-0.005)	(1-2)
Summary	384	505 ± 3.7	1752 ± 38.1	531 ± 21.1	1288 ± 54.9	1 ± 0.1	0 ± 0.1	2 ± 0
		(299-722)	(324-6407)	(17-2918)	(69-6796)	(0-19)	(ND-25.427)	(0-3)

Table 3A. (Continued) Site and regional mean values for biomarker and ancillary data for COMMON CARP collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Male reproductive								
NMIN-1	5	583 ± 4.9	2973 ± 95.8	173 ± 38.3	690 ± 148.2	0 ± 0	0 ± 0	3 ± 0
		(572-599)	(2675-3235)	(101-308)	(376-1092)	(0-0)	(ND-0.001)	(3-3)
NMIN-3	19	539 ± 13.9	2343 ± 158.5	278 ± 21.4	573 ± 77.5	1 ± 0.1	1 ± 0.6	3 ± 0.1
		(458-653)	(1340-3722)	(108-441)	(151-1267)	(0-2)	(ND-11.956)	(1-3)
Summary	24	548 ± 11.6	2475 ± 136.9	256 ± 20.3	597 ± 67.9	1 ± 0.1	1 ± 0.5	3 ± 0.1
		(458-653)	(1340-3722)	(101-441)	(151-1267)	(0-2)	(ND-11.956)	(1-3)
Northeast Region								
Female non-reproductive								
NECT-1	9	729 ± 19.8	6613 ± 581.2	3343 ± 644	1568 ± 191.3	2 ± 0.3	29 ± 4.2	3 ± 0.2
		(618-810)	(2423-8286)	(1646-7703)	(769-2740)	(1-5)	(ND-38.3)	(3-4)
NEDC-1	10	591 ± 22.8	3493 ± 373.2	787 ± 124	552 ± 129	3 ± 1.2	24 ± 3	3 ± 0.1
		(496-692)	(2032-5477)	(323-1765)	(66-1125)	(1-12)	(6.64-39.6)	(3-4)
NENY-1	7	556 ± 32	3023 ± 591.5	2694 ± 659.6	336 ± 101	11 ± 3	20 ± 2.5	3 ± 0
		(487-727)	(1569-6200)	(1002-5780)	(113-920)	(4-22)	(8-29)	(3-3)
NENY-2	16	561 ± 9.3	2774 ± 129	1746 ± 342.1	586 ± 101.1	5 ± 1.7	14 ± 1.4	3 ± 0
		(486-614)	(1813-3516)	(562-4741)	(115-1508)	(1-22)	(6.4-26.6)	(3-3)
NENY-4	11	635 ± 35.3	4104 ± 749.7	3329 ± 388.8	1102 ± 146.4	3 ± 0.5	35 ± 2.5	3 ± 0
		(513-920)	(2175-10000)	(435-4499)	(304-1702)	(1-8)	(19-50.2)	(3-3)
NEOH-1	2	623 ± 87.5	3225 ± 1425	424 ± 145.5	137 ± 13.5	3 ± 0.8	3 ± 1	3 ± 0.5
		(535-710)	(1800-4650)	(278-569)	(123-150)	(2-4)	(2.18-4.23)	(2-3)
NEPA-1	6	519 ± 35.9	1975 ± 463.3	1166 ± 452	467 ± 221.7	3 ± 0.7	2 ± 0.6	3 ± 0
		(429-660)	(1000-3900)	(259-2768)	(88-1504)	(1-6)	(0.314-4.671)	(3-3)
NEWV-1	14	629 ± 14.1	3740 ± 220	1159 ± 125.7	278 ± 53.1	9 ± 2.5	14 ± 1.5	3 ± 0.1
		(518-726)	(1834-5335)	(315-1760)	(13-700)	(1-28)	(ND-20.4)	(3-4)
NEWV-2	11	406 ± 8.7	875 ± 54.9	716 ± 92.8	262 ± 33.3	3 ± 0.4	1 ± 0.3	3 ± 0
		(362-442)	(584.4-1204.8)	(309-1231)	(103-481)	(1-6)	(ND-2.887)	(3-3)
Summary	86	581 ± 11.8	3319 ± 211.2	1783 ± 162.1	620 ± 60.1	5 ± 0.6	17 ± 1.4	3 ± 0
		(362-920)	(584.4-10000)	(259-7703)	(13-2740)	(1-28)	(ND-50.2)	(2-4)
Female reproductive								
NENY-1	3	575 ± 23.9	2990 ± 482.1	683 ± 147.3	799 ± 331.1	1 ± 0.6	57 ± 15.5	3 ± 0
		(529-610)	(2070-3700)	(433-943)	(167-1286)	(1-3)	(40.36-87.793)	(3-3)
NENY-2	12	585 ± 18.1	3392 ± 279.5	2753 ± 297.6	3333 ± 307.1	1 ± 0.1	37 ± 5.3	3 ± 0
		(455-689)	(2100-5300)	(1159-4142)	(1456-5066)	(0-2)	(13.348-65.612)	(3-3)
NENY-4	13	658 ± 14	4715 ± 346	1722 ± 234.2	1004 ± 195	3 ± 0.8	44 ± 6.1	3 ± 0
		(576-735)	(2800-6300)	(467-3662)	(199-2554)	(1-12)	(ND-89.456)	(3-3)
Summary	28	618 ± 12.5	3963 ± 242.6	2053 ± 209.9	1980 ± 276	2 ± 0.4	42 ± 4	3 ± 0
		(455-735)	(2070-6300)	(433-4142)	(167-5066)	(0-12)	(ND-89.456)	(3-3)

Table 3A. (Continued) Site and regional mean values for biomarker and ancillary data for COMMON CARP collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Male non-reproductive								
NECT-1	11	569 ± 37.9	3268 ± 632.8	744 ± 102.1	1349 ± 175.7	1 ± 0.1	0 ± 0	3 ± 0.1
		(339-690)	(601-6356)	(114-1227)	(442-2161)	(0-1)	(ND-0.001)	(2-3)
NEDC-1	22	508 ± 10.3	2068 ± 123.8	391 ± 24.8	911 ± 113.3	1 ± 0.1	0 ± 0	1 ± 0.1
		(401-615)	(1073-3545)	(204-601)	(341-2038)	(0-1)	(ND-0.001)	(1-3)
NENY-1	19	557 ± 14.1	2628 ± 250.9	506 ± 80.6	857 ± 91.8	1 ± 0.1	0 ± 0	3 ± 0.1
		(475-674)	(1356-5500)	(72-1183)	(254-1638)	(0-1)	(ND-0.57)	(2-3)
NENY-2	24	539 ± 5	2212 ± 66.7	190 ± 29.6	837 ± 113.8	0 ± 0.1	0 ± 0	2 ± 0.2
		(466-576)	(1582-3037)	(30-509)	(144-2186)	(0-1)	(ND-0.18)	(1-3)
NENY-4	18	607 ± 10.9	3461 ± 201	216 ± 45.5	1762 ± 142.5	0 ± 0	0 ± 0	3 ± 0
		(508-673)	(1946-5352)	(29-857)	(565-3012)	(0-0)	(ND-0.04)	(3-3)
NEOH-1	3	523 ± 22.5	1624 ± 246.8	458 ± 47.4	1760 ± 1620.8	2 ± 1.2	0 ± 0	1 ± 0
		(479-552)	(1150-1981)	(401-552)	(97-5001)	(0-4)	(0.001-0.013)	(1-1)
NEPA-1	5	472 ± 39.3	1870 ± 223.4	361 ± 23.6	2356 ± 564.7	0 ± 0	0 ± 0	2 ± 0.2
		(373-594)	(1500-2750)	(300-407)	(1319-4090)	(0-0)	(ND-0.027)	(2-3)
NEWV-1	22	577 ± 6.7	2802 ± 111.5	260 ± 39.2	421 ± 62.9	1 ± 0.1	0 ± 0	1 ± 0.1
		(507-637)	(1832-3764)	(50-872)	(75-1187)	(0-2)	(ND-0.27)	(1-2)
NEWV-2	8	389 ± 16.9	753 ± 97	301 ± 37.9	971 ± 196.5	0 ± 0.1	0 ± 0	3 ± 0
		(337-464)	(462.8-1129.5)	(135-419)	(371-1764)	(0-1)	(ND-0.001)	(2.5-2.5)
Summary	132	543 ± 6.6	2490 ± 94.8	350 ± 22.8	1038 ± 69.2	1 ± 0	0 ± 0	2 ± 0.1
		(337-690)	(462.8-6356)	(29-1227)	(75-5001)	(0-4)	(ND-0.57)	(1-3)
Male reproductive								
NENY-1	17	568 ± 17.7	2856 ± 306.5	827 ± 72	800 ± 102.8	1 ± 0.2	0 ± 0	3 ± 0.2
		(473-702)	(1375-5150)	(427-1786)	(222-1811)	(0-4)	(ND-0.001)	(1-3)
NENY-2	17	555 ± 8.3	2371 ± 113.7	435 ± 40.4	3480 ± 388.8	0 ± 0	0 ± 0	3 ± 0.1
		(445-595)	(1200-3200)	(83-686)	(1409-6821)	(0-0)	(ND-0.001)	(2-3)
NENY-4	13	648 ± 20.9	4585 ± 430.1	911 ± 219.5	1679 ± 349.6	1 ± 0.4	0 ± 0	2 ± 0.2
		(496-763)	(2500-7300)	(89-2565)	(205-4871)	(0-6)	(ND-0.202)	(1-3)
Summary	47	585 ± 10.6	3158 ± 211.2	709 ± 72.7	2012 ± 241.5	1 ± 0.2	0 ± 0	3 ± 0.1
		(445-763)	(1200-7300)	(83-2565)	(205-6821)	(0-6)	(ND-0.202)	(1-3)
Northwest Region								
Female non-reproductive								
NWID-1	10	399 ± 12.1	892 ± 80.8	1094 ± 160.3	289 ± 52.4	5 ± 1.1	1 ± 0.3	1 ± 0.2
		(355-464)	(603-1289)	(483-1990)	(89-612)	(2-12)	(0.009-2.805)	(0-2)
NWID-2	4	617 ± 11.8	3550 ± 266.1	1201 ± 48.7	535 ± 155.1	3 ± 1.1	4 ± 1.3	2 ± 0
		(585-639)	(2900-4200)	(1115-1341)	(186-844)	(2-6)	(1.437-7.368)	(2-2)
NWOR-2	14	404 ± 3.7	843 ± 33.1	538 ± 122.8	386 ± 78.5	2 ± 0.2	9 ± 2.9	2 ± 0.2
		(385-437)	(681-1022)	(67-1522)	(22-1030)	(1-3)	(0.31-36.9)	(1-3)
NWOR-3	10	573 ± 19.5	2724 ± 307.3	632 ± 83	431 ± 96.1	2 ± 0.6	0 ± 0.1	2 ± 0.1
		(500-696)	(1670-4500)	(88-1031)	(58-898)	(1-6)	(0-0.997)	(2-3)

Table 3A. (Continued) Site and regional mean values for biomarker and ancillary data for COMMON CARP collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
NWOR-4	4	677 ± 53.4	5313 ± 1252.1	578 ± 164	196 ± 58.9	3 ± 0.9	0 ± 0.2	2 ± 0
		(562-771)	(2650-8000)	(183-899)	(82-349)	(1-5)	(0.067-0.994)	(2-2)
NWWA-3	11	518 ± 19.4	2041 ± 257.7	1241 ± 139.5	270 ± 44.9	6 ± 0.8	2 ± 0.2	2 ± 0
		(439-626)	(1105-3750)	(512-1833)	(53-613)	(1-10)	(1.355-2.986)	(2-2)
NWWA-4	10	607 ± 19.3	3178 ± 303.8	512 ± 86.4	262 ± 51.6	3 ± 0.6	1 ± 0.2	2 ± 0.1
		(475-661)	(1376-4550)	(102-855)	(51-548)	(1-7)	(0.126-2.327)	(1-2)
NWWA-5	10	654 ± 23.3	4219 ± 551.1	958 ± 108.3	260 ± 41.2	5 ± 1	2 ± 0.2	2 ± 0
		(535-745)	(2150-6738)	(518-1462)	(79-447)	(1-10)	(1.457-3.109)	(2-2)
NWWA-6	10	520 ± 18.7	1818 ± 213.8	1063 ± 96.1	361 ± 67.5	4 ± 1	2 ± 0.2	2 ± 0.1
		(428-615)	(898-3150)	(587-1418)	(100-770)	(2-12)	(0.537-2.885)	(1-2)
Summary	83	531 ± 12	2386 ± 178.5	854 ± 50.5	329 ± 24.6	4 ± 0.3	3 ± 0.6	2 ± 0.1
		(355-771)	(603-8000)	(67-1990)	(22-1030)	(1-12)	(0.009-36.9)	(0-3)
Female reproductive								
NWOR-1	15	504 ± 9.4	1959 ± 129.4	823 ± 127.9	592 ± 87.8	2 ± 0.4	41 ± 8	3 ± 0.2
		(428-565)	(1052-2983)	(249-2069)	(168-1124)	(0-5)	(2.66-118.839)	(1-3)
NWOR-2	15	402 ± 7	939 ± 48.3	443 ± 89.8	458 ± 48	1 ± 0.5	25 ± 3.2	2 ± 0.2
		(345-445)	(550-1216)	(17-1105)	(144-744)	(0-6)	(0.001-40.04)	(2-4)
NWWA-1	10	505 ± 9.7	1945 ± 112.5	1289 ± 115.9	501 ± 77.3	3 ± 0.8	20 ± 5.1	3 ± 0
		(453-542)	(1454-2451)	(464-1875)	(45-934)	(2-10)	(4.596-62.448)	(3-3)
NWWA-2	15	650 ± 14.3	4190 ± 237	1517 ± 153.7	741 ± 68	2 ± 0.1	44 ± 6.9	3 ± 0.1
		(530-710)	(2192-5320)	(1005-3542)	(476-1507)	(2-3)	(16.589-86.521)	(3-4)
Summary	55	516 ± 13.6	2287 ± 184.7	993 ± 84.6	580 ± 38	2 ± 0.2	34 ± 3.4	3 ± 0.1
		(345-710)	(550-5320)	(17-3542)	(45-1507)	(0-10)	(0.001-118.839)	(1-4)
Male non-reproductive								
NWID-1	10	364 ± 8.7	683 ± 54.1	304 ± 56.2	777 ± 176.9	1 ± 0.2	0 ± 0	2 ± 0.2
		(321-406)	(397-900)	(135-575)	(128-1503)	(0-2)	(0-0)	(2-3)
NWID-2	9	540 ± 18.2	2300 ± 207.5	452 ± 75.1	778 ± 158.9	1 ± 0.3	0 ± 0	2 ± 0.2
		(440-601)	(1300-3300)	(171-792)	(260-1638)	(0-3)	(0-0)	(2-3)
NWOR-2	15	385 ± 8.1	742 ± 57.4	169 ± 53	730 ± 107.3	0 ± 0.1	0 ± 0	2 ± 0.1
		(339-482)	(454-1476)	(23-875)	(84-1738)	(0-2)	(ND-0.68)	(2-3)
NWOR-3	10	514 ± 20.3	1961 ± 221	384 ± 103.1	440 ± 103.6	1 ± 0.3	0 ± 0	3 ± 0
		(383-625)	(819-3400)	(118-1117)	(126-1156)	(0-4)	(0-0.035)	(3-3)
NWOR-4	10	563 ± 21.3	2586 ± 287.6	374 ± 84.2	316 ± 36.7	1 ± 0.3	0 ± 0	3 ± 0
		(465-677)	(1351-3800)	(63-882)	(147-556)	(0-3)	(0-0.01)	(3-3)
NWWA-3	9	501 ± 12.2	1473 ± 104.4	316 ± 70.8	663 ± 103	1 ± 0.1	0 ± 0	2 ± 0.2
		(461-581)	(1200-2200)	(109-798)	(195-1139)	(0-1)	(0-0)	(2-3)
NWWA-4	11	523 ± 25.4	1853 ± 224.2	237 ± 34.1	423 ± 64.1	1 ± 0.2	0 ± 0	2 ± 0.2
		(416-667)	(917-2950)	(102-432)	(103-703)	(0-2)	(0-0.037)	(2-3)

Table 3A. (Continued) Site and regional mean values for biomarker and ancillary data for COMMON CARP collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
NWWA-5	11	595 ± 11.6	2891 ± 174.6	179 ± 32.7	582 ± 125.4	0 ± 0.1	0 ± 0	2 ± 0.2
		(560-667)	(2200-4000)	(72-463)	(185-1648)	(0-1)	(0-0.009)	(2-3)
NWWA-6	10	489 ± 13.6	1437 ± 139.8	323 ± 77.2	651 ± 104	1 ± 0.2	0 ± 0	3 ± 0.1
		(444-590)	(1038-2500)	(76-783)	(123-1124)	(0-2)	(0-0)	(2-3)
Summary	95	492 ± 9.3	1726 ± 94.7	293 ± 23.2	598 ± 40.1	1 ± 0.1	0 ± 0	3 ± 0.1
		(321-677)	(397-4000)	(23-1117)	(84-1738)	(0-4)	(0-0.68)	(2-3)
Male reproductive								
NWOR-1	15	461 ± 9.2	1342 ± 75.9	561 ± 49.8	1473 ± 273.9	1 ± 0.1	0 ± 0	3 ± 0.1
		(379-521)	(690-1996)	(169-818)	(509-4310)	(0-1)	(ND-0.001)	(2-3)
NWOR-2	15	369 ± 7.1	726 ± 35.2	263 ± 13.9	509 ± 59.3	1 ± 0.1	0 ± 0	3 ± 0.2
		(327-446)	(547-1096)	(121-341)	(149-821)	(0-2)	(ND-0.09)	(1-3)
NWWA-1	10	511 ± 12.2	1713 ± 152	515 ± 101.2	1136 ± 139.1	0 ± 0.1	0 ± 0	2 ± 0.3
		(464-571)	(1056-2688)	(201-1179)	(549-2020)	(0-1)	(ND-0.001)	(1-3)
NWWA-2	15	624 ± 7.5	3404 ± 118.1	554 ± 78.9	1038 ± 129.1	1 ± 0	0 ± 0	3 ± 0
		(575-683)	(2750-4012)	(226-1129)	(393-2181)	(0-1)	(ND-0.001)	(3-3)
Summary	55	489 ± 13.7	1804 ± 148.6	469 ± 35.2	1030 ± 98.6	1 ± 0	0 ± 0	3 ± 0.1
		(327-683)	(547-4012)	(121-1179)	(149-4310)	(0-2)	(ND-0.09)	(1-3)
Southern Mid-Continent Region								
Female non-reproductive								
SMAR-1	7	471 ± 28	1582 ± 236.7	2021 ± 554.3	194 ± 20.5	11 ± 2.9	4 ± 0.5	3 ± 0.1
		(340-550)	(523-2278)	(821-5126)	(99-268)	(3-21)	(2.155-5.763)	(2-3)
SMAR-2	10	516 ± 12.6	2022 ± 187	1465 ± 214.9	615 ± 155	3 ± 0.9	4 ± 0.5	3 ± 0.2
		(465-600)	(1358-3472)	(151-2192)	(203-1956)	(0-11)	(0.421-5.804)	(1-3)
SMAR-3	7	599 ± 21.3	3241 ± 337.6	1105 ± 255.4	565 ± 233.7	3 ± 0.8	1 ± 0.6	3 ± 0
		(540-700)	(2052-4690)	(439-2265)	(172-1925)	(0-7)	(ND-4.28)	(3-3)
SMAR-4	9	525 ± 12.2	2026 ± 150.7	1755 ± 445.3	376 ± 65.7	4 ± 0.8	3 ± 0.5	3 ± 0
		(473-570)	(1480-2792)	(147-4537)	(166-779)	(1-9)	(1.122-5.995)	(3-3)
SMIL-2	5	640 ± 36.9	3304 ± 744.7	462 ± 77.9	409 ± 152.9	3 ± 1.2	2 ± 0.4	3 ± 0
		(510-736)	(1700-5720)	(349-769)	(108-779)	(0-7)	(0.845-3.24)	(3-3)
SMLA-2	7	577 ± 47.3	3790 ± 784.5	597 ± 68.9	290 ± 76.2	2 ± 0.3	2 ± 0.4	2 ± 0.4
		(350-720)	(720-6602)	(288-907)	(131-716)	(1-4)	(0.567-3.244)	(1-3)
SMLA-3	8	531 ± 38.1	2129 ± 469.1	1211 ± 125.3	335 ± 24	4 ± 0.5	2 ± 0.3	3 ± 0.1
		(435-750)	(1097-5000)	(591-1782)	(260-429)	(1-7)	(0.245-2.897)	(2-3)
SMMO-2	10	375 ± 7.7	663 ± 59.8	491 ± 94.8	226 ± 34.8	3 ± 0.6	2 ± 0.5	2 ± 0.3
		(344-415)	(304-990)	(181-984)	(123-461)	(1-7)	(0.006-3.998)	(1-3)
SMMS-3	1	495 ± 0	1638 ± 0	1149 ± 0	305 ± 0	4 ± 0	0 ± 0	3 ± 0
		(495-495)	(1638-1638)	(1149-1149)	(305-305)	(4-4)	(0.14-0.14)	(3-3)
SMOK-1	11	534 ± 17.7	2003 ± 282.4	1426 ± 218.6	419 ± 63.7	4 ± 0.6	1 ± 0.4	2 ± 0.4
		(473-670)	(1250-4350)	(271-2489)	(196-943)	(0-6)	(0.001-3.717)	(0-3)

Table 3A. (Continued) Site and regional mean values for biomarker and ancillary data for COMMON CARP collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
SMOK-2	10	490 ± 16.6	1603 ± 143.1	1453 ± 151.8	891 ± 86.4	2 ± 0.4	1 ± 0.3	3 ± 0.3
		(420-580)	(1000-2550)	(741-2466)	(464-1337)	(1-5)	(0.044-2.613)	(0-3)
SMOK-3	10	540 ± 20.5	2150 ± 249.4	1622 ± 116.7	960 ± 143.8	2 ± 0.6	2 ± 0.2	3 ± 0
		(470-656)	(1400-3750)	(1221-2303)	(199-1746)	(1-7)	(0.712-3.109)	(3-3)
SMTN-2	9	451 ± 15.5	1454 ± 165.2	444 ± 109.6	226 ± 36.6	2 ± 0.8	2 ± 0.7	2 ± 0.3
		(379-504)	(799-2200)	(186-1008)	(118-448)	(0-7)	(0.01-4.859)	(0-3)
SMTN-4	2	545 ± 0	2184 ± 216	550 ± 4.5	94 ± 25	5 ± 0.7	3 ± 0.4	3 ± 0
		(545-545)	(1968-2400)	(545-554)	(69-119)	(5-6)	(2.304-3.113)	(3-3)
SMTN-5	5	543 ± 38.7	2420 ± 469.5	1470 ± 327	712 ± 157	2 ± 0.4	0 ± 0.2	3 ± 0.2
		(455-662)	(1200-3600)	(583-2582)	(370-1249)	(1-3)	(0.001-1.24)	(2-3)
SMTX-3	5	534 ± 17.7	2110 ± 152.8	382 ± 77.4	119 ± 31.2	3 ± 0.6	12 ± 1.8	3 ± 0
		(472-575)	(1589-2423)	(110-558)	(57-237)	(2-5)	(7-16.5)	(3-3)
SMTX-4	5	626 ± 23.1	4106 ± 597.3	1708 ± 367.3	445 ± 63	4 ± 0.4	10 ± 1.2	3 ± 0
		(559-690)	(2690-5992)	(947-2922)	(265-654)	(2-4)	(7-12.8)	(3-3)
SMTX-7	13	635 ± 15.4	3292 ± 239.8	733 ± 48.6	246 ± 86.1	8 ± 1.9	1 ± 0.2	3 ± 0
		(535-730)	(1800-4600)	(538-1080)	(32-1136)	(1-26)	(0.265-3.142)	(3-3)
Summary	134	531 ± 8	2268 ± 107.3	1145 ± 69.4	441 ± 32.5	4 ± 0.3	3 ± 0.3	3 ± 0.1
		(340-750)	(304-6602)	(110-5126)	(32-1956)	(0-26)	(ND-16.5)	(0-3)
Female reproductive								
SMLA-1	5	479 ± 29	1588 ± 286.5	977 ± 317.1	441 ± 195.7	3 ± 0.8	3 ± 1.1	3 ± 0
		(404-554)	(868-2380)	(166-2122)	(154-1209)	(1-5)	(0.202-5.641)	(3-3)
SMMS-1	8	478 ± 21.6	1411 ± 189.2	1125 ± 207.7	299 ± 41.8	4 ± 1	0 ± 0	3 ± 0.3
		(413-558)	(907-2432)	(23-1634)	(165-479)	(0-9)	(ND-0.228)	(1-3)
SMMS-2	10	445 ± 19.5	1157 ± 160.3	1676 ± 215.9	539 ± 108.2	5 ± 2.2	1 ± 0.3	3 ± 0.2
		(356-528)	(613-2316)	(236-2318)	(88-1114)	(1-25)	(0.127-2.238)	(1-3)
SMMS-3	7	392 ± 16	843 ± 90.7	1534 ± 269.1	260 ± 23.2	6 ± 1.3	1 ± 0.4	3 ± 0
		(332-456)	(479-1175)	(338-2317)	(169-339)	(2-12)	(0.006-2.877)	(3-3)
SMMS-4	5	609 ± 42.2	3605 ± 699.2	834 ± 197.1	635 ± 155.5	1 ± 0.5	0 ± 0.3	3 ± 0.2
		(497-742)	(2071-6200)	(356-1391)	(427-1246)	(1-3)	(ND-1.473)	(2-3)
SMTX-2	16	499 ± 18.6	1681 ± 228.4	1158 ± 164.4	477 ± 79.7	3 ± 0.5	4 ± 2.9	2 ± 0.1
		(420-710)	(960-4521)	(119-2397)	(112-1291)	(1-9)	(ND-46.029)	(2-3)
Summary	51	479 ± 12	1599 ± 147.8	1256 ± 94.6	443 ± 42.7	4 ± 0.5	2 ± 0.9	3 ± 0.1
		(332-742)	(479-6200)	(23-2397)	(88-1291)	(0-25)	(ND-46.029)	(1-3)
Male non-reproductive								
SMAR-1	9	512 ± 15.1	1809 ± 146.5	626 ± 172	217 ± 19.3	3 ± 0.8	0 ± 0	2 ± 0
		(460-570)	(1189-2505)	(61-1472)	(158-317)	(0-7)	(ND-0.001)	(2-2)
SMAR-2	10	465 ± 13.5	1317 ± 100.3	410 ± 97.9	990 ± 190.2	1 ± 0.3	0 ± 0	2 ± 0
		(391-519)	(882-1758)	(83-946)	(109-1815)	(0-4)	(ND-0.001)	(2-2)

Table 3A. (Continued) Site and regional mean values for biomarker and ancillary data for COMMON CARP collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
SMAR-3	10	566 ± 23.5	2773 ± 382.2	535 ± 55.3	1265 ± 317	1 ± 0.2	0 ± 0	2 ± 0.2
		(430-674)	(1147-4996)	(358-945)	(248-3226)	(0-2)	(ND-0.001)	(1-3)
SMAR-4	10	545 ± 30.9	2016 ± 302.9	496 ± 116.1	3531 ± 924.1	0 ± 0.1	0 ± 0	1 ± 0.1
		(330-700)	(643-4200)	(80-1228)	(632-8492)	(0-1)	(0.001-0.014)	(1-1.5)
SMIL-2	6	578 ± 14.8	2550 ± 282.3	300 ± 47.7	2564 ± 1379.1	1 ± 0.2	0 ± 0	1 ± 0.2
		(515-620)	(1500-3600)	(170-469)	(271-7985)	(0-1)	(0.001-0.001)	(1-2)
SMLA-2	1	600 ± 0	3325 ± 0	491 ± 0	590 ± 0	1 ± 0	0 ± 0	2 ± 0
		(600-600)	(3325-3325)	(491-491)	(590-590)	(1-1)	(0.001-0.001)	(2-2)
SMLA-3	4	554 ± 45.3	2192 ± 428.8	584 ± 63.5	870 ± 215	1 ± 0.2	0 ± 0	2 ± 0.3
		(473-651)	(1410-2950)	(459-746)	(493-1296)	(0-1)	(0.001-0.001)	(2-3)
SMMO-2	10	401 ± 22.7	918 ± 167.6	369 ± 31	1767 ± 594.9	0 ± 0.1	0 ± 0	2 ± 0.2
		(300-550)	(336-2009)	(259-527)	(220-5991)	(0-1)	(0.001-0.001)	(1-2)
SMOK-1	9	494 ± 14.6	1578 ± 134.7	339 ± 21.4	865 ± 176.1	0 ± 0.1	0 ± 0	3 ± 0.3
		(432-575)	(1000-2500)	(246-461)	(359-2016)	(0-1)	(0.001-0.001)	(1-3)
SMOK-2	10	435 ± 10.1	1153 ± 73.3	1228 ± 146.2	1068 ± 152.1	1 ± 0.2	0 ± 0	2 ± 0.1
		(356-470)	(900-1700)	(464-1957)	(577-2348)	(0-3)	(0.001-0.001)	(2-3)
SMOK-3	9	485 ± 11.1	1500 ± 117.2	775 ± 98.5	1536 ± 191.7	1 ± 0.1	0 ± 0	3 ± 0
		(433-530)	(1000-2175)	(300-1148)	(652-2116)	(0-1)	(0.001-0.009)	(3-3)
SMTN-2	8	445 ± 14.5	1292 ± 115.5	413 ± 85.7	499 ± 159.3	1 ± 0.2	0 ± 0	2 ± 0.1
		(370-498)	(711-1778)	(205-828)	(167-1565)	(0-2)	(0.001-0.005)	(1-2)
SMTN-4	2	538 ± 32.5	2065 ± 335.5	246 ± 85.5	651 ± 513.5	1 ± 1.1	0 ± 0	2 ± 0
		(505-570)	(1729-2400)	(160-331)	(137-1164)	(0-2)	(0.001-0.025)	(2-2)
SMTN-5	10	505 ± 16.7	1745 ± 177.4	444 ± 99.8	1406 ± 284.4	1 ± 0.5	0 ± 0	2 ± 0.1
		(395-570)	(850-2500)	(138-1276)	(264-2783)	(0-5)	(0.001-0.001)	(1.5-3)
SMTX-3	2	518 ± 7	1749 ± 33	78 ± 0.5	85 ± 11	1 ± 0.1	0 ± 0	1 ± 0
		(511-525)	(1716-1782)	(77-78)	(74-96)	(1-1)	(ND-0.001)	(1-1)
SMTX-4	4	590 ± 22.6	2969 ± 107.4	303 ± 60	616 ± 47.8	0 ± 0.1	0 ± 0	2 ± 0.3
		(550-655)	(2718-3155)	(128-388)	(521-732)	(0-1)	(ND-0.001)	(1-2)
SMTX-5	1	490 ± 0	1550 ± 0	636 ± 0	1415 ± 0	0 ± 0	0 ± 0	2 ± 0
		(490-490)	(1550-1550)	(636-636)	(1415-1415)	(0-0)	(0.008-0.008)	(2-2)
SMTX-7	10	585 ± 15.4	2455 ± 202	632 ± 54.2	1046 ± 350.5	4 ± 1.5	0 ± 0	2 ± 0.1
		(521-670)	(1700-3700)	(403-1037)	(61-2983)	(0-13)	(0.001-0.093)	(2-3)
Summary	125	506 ± 7	1816 ± 74.6	538 ± 32.7	1305 ± 137.9	1 ± 0.2	0 ± 0	2 ± 0.1
		(300-700)	(336-4996)	(61-1957)	(61-8492)	(0-13)	(ND-0.093)	(1-3)
Male reproductive								
SMLA-1	9	518 ± 11.6	1730 ± 78.6	362 ± 88.7	243 ± 25.2	2 ± 0.7	0 ± 0	2 ± 0.1
		(445-555)	(1298-2065)	(71-792)	(111-355)	(0-7)	(ND-0.001)	(1-2)
SMMS-1	8	447 ± 20.6	1036 ± 176.2	286 ± 77.4	438 ± 71.1	1 ± 0.2	0 ± 0	1 ± 0
		(368-548)	(325-1829)	(78-786)	(201-738)	(0-1)	(ND-0.178)	(1-1)

Table 3A. (Continued) Site and regional mean values for biomarker and ancillary data for COMMON CARP collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
SMMS-2	10	444 ± 16	1119 ± 126.5	197 ± 69.3	688 ± 73.9	0 ± 0.1	0 ± 0	2 ± 0.1
		(383-546)	(685-1977)	(51-757)	(372-1093)	(0-1)	(ND-0.001)	(1-2)
SMMS-3	10	401 ± 10.6	824 ± 75	176 ± 46.1	553 ± 81.5	0 ± 0.1	0 ± 0	2 ± 0.1
		(362-460)	(649-1347)	(62-539)	(158-961)	(0-1)	(ND-0.001)	(1-2)
SMMS-4	7	527 ± 41.8	2289 ± 367.1	526 ± 96	465 ± 64.3	1 ± 0.4	0 ± 0	2 ± 0.1
		(297-657)	(407-3693)	(120-924)	(199-721)	(0-3)	(ND-0.001)	(1-2)
SMTX-2	9	434 ± 9.4	1066 ± 71.3	594 ± 139.6	1029 ± 204.9	1 ± 0.5	0 ± 0	2 ± 0.1
		(389-474)	(661-1400)	(158-1442)	(158-1945)	(0-5)	(ND-0.001)	(2-3)
Summary	53	459 ± 9.7	1309 ± 91	345 ± 41	578 ± 53.3	1 ± 0.2	0 ± 0	2 ± 0.1
		(297-657)	(325-3693)	(51-1442)	(111-1945)	(0-7)	(ND-0.178)	(1-3)
Southwest Region								
Female non-reproductive								
SWCA-1	22	551 ± 22	2413 ± 265.6	2669 ± 334.1	1225 ± 193	3 ± 0.4	32 ± 4.1	3 ± 0.1
		(410-766)	(943-5176)	(614-6398)	(215-2868)	(1-11)	(2.3-108.266)	(1-3)
SWCA-2	36	514 ± 18.1	2124 ± 244.8	1601 ± 257.3	1779 ± 403.2	2 ± 0.3	23 ± 2	3 ± 0.1
		(323-742)	(460-6356)	(129-8333)	(17-9066)	(0-9)	(1.04-42.6)	(1-4)
SWCA-3	36	584 ± 17.7	3255 ± 296.2	2328 ± 376.7	1278 ± 232	3 ± 0.5	32 ± 2.8	3 ± 0.1
		(411-795)	(913-7290)	(135-11401)	(121-5973)	(0-18)	(0.001-75.235)	(1-4)
SWUT-1	5	611 ± 41.4	3154 ± 611.8	1256 ± 240.4	464 ± 48.9	3 ± 0.6	4 ± 0.5	3 ± 0.2
		(495-700)	(1540-4572)	(791-2176)	(300-586)	(2-5)	(2.774-5.757)	(2-3)
SWUT-2	5	415 ± 22.5	1063 ± 147.3	784 ± 152.2	417 ± 62.1	2 ± 0.4	2 ± 1.2	2 ± 0.2
		(366-492)	(702-1572)	(366-1296)	(268-579)	(1-3)	(0.025-6.396)	(2-3)
SWUT-3	5	723 ± 29	5262 ± 708.2	939 ± 278.9	564 ± 111.2	2 ± 0.4	1 ± 0.3	3 ± 0
		(625-785)	(3397-7581)	(316-1816)	(311-838)	(1-3)	(0.581-2.198)	(3-3)
SWUT-4	6	438 ± 52.3	1427 ± 440.5	654 ± 154	231 ± 48.9	4 ± 1	1 ± 0.5	2 ± 0.4
		(278-560)	(288-2869)	(278-1207)	(34-364)	(1-8)	(0.042-3.172)	(1-3)
SWUT-5	4	604 ± 46.4	3082 ± 861	759 ± 166.8	400 ± 71	2 ± 0.1	2 ± 0.6	3 ± 0.3
		(498-718)	(1520-5500)	(575-1259)	(273-603)	(2-2)	(0.275-3.125)	(2-3)
Summary	119	549 ± 10.8	2642 ± 153.9	1866 ± 161.9	1237 ± 150.6	2 ± 0.2	23 ± 1.7	3 ± 0.1
		(278-795)	(288-7581)	(129-11401)	(17-9066)	(0-18)	(0.001-108.266)	(1-4)
Female reproductive								
SWAZ-1	10	422 ± 6.6	953 ± 31.5	450 ± 70.3	446 ± 59.1	1 ± 0.1	2 ± 0.5	3 ± 0.2
		(389-450)	(794-1118)	(187-904)	(171-857)	(1-2)	(0.317-5.816)	(2-4)
SWCA-3	11	642 ± 26.7	3692 ± 358.9	607 ± 84.5	839 ± 173.3	1 ± 0.2	21 ± 4.6	3 ± 0.2
		(415-720)	(1020-5256)	(115-1060)	(375-2309)	(0-3)	(2.347-56.932)	(1-4)
SWNV-1	19	444 ± 9.1	1237 ± 72.5	843 ± 112.8	424 ± 65	2 ± 0.3	1 ± 0.1	3 ± 0.3
		(385-526)	(719-1830)	(139-1766)	(112-992)	(0-6)	(0.15-2.423)	(0-4)
SWNV-2	18	480 ± 6.7	1568 ± 91	944 ± 85.1	402 ± 53.8	3 ± 0.4	1 ± 0.3	3 ± 0.1
		(441-533)	(1110-2462)	(163-1694)	(122-936)	(1-7)	(0.001-4.816)	(2-4)

Table 3A. (Continued) Site and regional mean values for biomarker and ancillary data for COMMON CARP collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
SWNV-3	24	471 ± 7.6	1427 ± 64.4	843 ± 76.5	311 ± 33.9	4 ± 0.7	3 ± 0.7	3 ± 0.1
		(403-526)	(745-2193)	(231-1401)	(56-707)	(1-16)	(0.001-16.124)	(2-3)
SWUT-5	1	720 ± 0	5000 ± 0	1159 ± 0	687 ± 0	2 ± 0	1 ± 0	3 ± 0
		(720-720)	(5000-5000)	(1159-1159)	(687-687)	(2-2)	(0.672-0.672)	(3-3)
Summary	83	487 ± 9.1	1700 ± 113.2	790 ± 44.1	447 ± 36	3 ± 0.3	4 ± 0.9	3 ± 0.1
		(385-720)	(719-5256)	(115-1766)	(56-2309)	(0-16)	(0.001-56.932)	(0-4)
Male non-reproductive								
SWCA-1	20	477 ± 10.8	1547 ± 102.7	1338 ± 220.2	3010 ± 385.9	0 ± 0	0 ± 0	3 ± 0.1
		(416-566)	(1009-2310)	(88-2542)	(152-5009)	(0-1)	(ND-0.12)	(2-3)
SWCA-2	28	455 ± 18.7	1340 ± 153.1	414 ± 98.8	1988 ± 460	0 ± 0.1	0 ± 0	3 ± 0.1
		(302-640)	(334-2905)	(51-2388)	(183-9699)	(0-2)	(ND-0.183)	(2-3)
SWCA-3	25	533 ± 13.1	2182 ± 177.6	894 ± 205.1	1531 ± 276	1 ± 0.1	0 ± 0.1	3 ± 0.1
		(420-660)	(477-3806)	(51-4546)	(149-4978)	(0-3)	(ND-3.148)	(2-3)
SWUT-1	5	472 ± 59.5	1585 ± 629.8	629 ± 55.5	875 ± 119.3	1 ± 0.1	0 ± 0	2 ± 0.2
		(336-674)	(552-3983)	(531-841)	(575-1263)	(1-1)	(ND-0.024)	(1-2)
SWUT-2	5	455 ± 42.9	1361 ± 285.6	286 ± 62	776 ± 212.8	0 ± 0.1	0 ± 0	3 ± 0
		(347-570)	(762-2168)	(168-468)	(347-1569)	(0-1)	(ND-0.043)	(3-3)
SWUT-3	5	559 ± 77.4	2635 ± 956	638 ± 97.2	1098 ± 343.2	1 ± 0.1	0 ± 0	2 ± 0.4
		(391-779)	(870-5700)	(281-835)	(329-2324)	(0-1)	(ND-0.019)	(1-3)
SWUT-4	4	403 ± 58.3	1506 ± 432.7	486 ± 40.8	580 ± 46.2	1 ± 0	0 ± 0	2 ± 0.4
		(278-515)	(473-2591)	(366-546)	(447-660)	(1-1)	(ND-0.061)	(1-3)
SWUT-5	5	465 ± 30.1	1291 ± 236.2	504 ± 68.8	944 ± 149.1	1 ± 0.1	0 ± 0	2 ± 0.4
		(380-552)	(740-2060)	(263-690)	(521-1317)	(0-1)	(ND-0.018)	(1-3)
Summary	97	485 ± 9.5	1688 ± 97.3	752 ± 82.8	1804 ± 185.4	1 ± 0	0 ± 0	3 ± 0.1
		(278-779)	(334-5700)	(51-4546)	(149-9699)	(0-3)	(ND-3.148)	(1-3)
Male reproductive								
SWAZ-1	10	430 ± 7.9	887 ± 53	95 ± 3.8	261 ± 60.9	1 ± 0.1	0 ± 0.1	3 ± 0.2
		(404-490)	(717-1294)	(77-118)	(74-731)	(0-1)	(ND-0.678)	(2-3)
SWCA-3	5	600 ± 17.9	2584 ± 283.9	355 ± 96.9	982 ± 268.7	1 ± 0.3	0 ± 0	3 ± 0.4
		(544-649)	(1923-3360)	(181-731)	(191-1866)	(0-1)	(ND-0.037)	(1-3)
SWNV-1	20	460 ± 8.3	1236 ± 70.6	404 ± 93.4	638 ± 127.3	1 ± 0.1	0 ± 0	3 ± 0.2
		(403-518)	(745-1830)	(71-1298)	(127-2481)	(0-2)	(ND-0.005)	(1-3)
SWNV-2	19	469 ± 7.9	1306 ± 72.7	180 ± 30.9	545 ± 83.3	0 ± 0	0 ± 0	3 ± 0.1
		(393-538)	(666-1885)	(63-519)	(109-1363)	(0-1)	(ND-0.233)	(2-3)
SWNV-3	22	467 ± 8.3	1542 ± 79	282 ± 27.1	1279 ± 166.4	0 ± 0	0 ± 0	3 ± 0.1
		(378-526)	(1033-2193)	(71-585)	(257-2804)	(0-1)	(0.001-0.128)	(2-3)
Summary	76	470 ± 5.8	1385 ± 58.1	269 ± 29.7	773 ± 76	0 ± 0	0 ± 0	3 ± 0.1
		(378-649)	(666-3360)	(63-1298)	(74-2804)	(0-2)	(ND-0.678)	(1-3)

Table 3B. Site and regional mean values for biomarker and ancillary data for LARGEMOUTH BASS collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
LARGEMOUTH BASS								
Northern Mid-Continent Region								
Female non-reproductive								
NMCO-3	8	332 ± 4.3	741 ± 32.7	977 ± 193.8	369 ± 107.2	3 ± 0.3	1 ± 1.1	2 ± 0
		(309-348)	(600-850)	(403-1883)	(111-1040)	(2-4.3)	(ND-8.833)	(2-2)
NMIA-7	10	382 ± 7.3	972 ± 59.2	750 ± 46.9	558 ± 46.5	1 ± 0.2	3 ± 1.1	2 ± 0.1
		(355-420)	(682-1272)	(604-1116)	(304-771)	(1-2.3)	(0.116-11.276)	(2-3)
NMIA-8	10	398 ± 10.4	1102 ± 96.3	997 ± 150.3	406 ± 66.5	3 ± 0.4	2 ± 1	2 ± 0
		(337-456)	(656-1726)	(202-1371)	(179-782)	(1-4.6)	(0.021-10.331)	(2-2)
NMIL-1	10	319 ± 19.3	618 ± 117.6	236 ± 26.6	473 ± 95.9	1 ± 0.2	0 ± 0	2 ± 0.1
		(251-408)	(228-1173)	(102-423)	(128-906)	(0-1.6)	(ND-0.072)	(1-3)
NMIN-4	4	297 ± 11.2	340 ± 59.4	681 ± 249.8	173 ± 55.1	4 ± 0.5	1 ± 1.3	2 ± 0.6
		(266-316)	(176-450)	(369-1426)	(97-337)	(3-5.1)	(ND-5.092)	(0-3)
NMMO-3	5	339 ± 25.2	645 ± 157.6	494 ± 77.7	369 ± 76.6	2 ± 0.3	0 ± 0.2	2 ± 0
		(296-426)	(375-1225)	(338-789)	(176-622)	(1-2.4)	(ND-1.21)	(2-2)
Summary	47	352 ± 7.4	796 ± 50.6	699 ± 65.1	422 ± 35.4	2 ± 0.2	1 ± 0.4	2 ± 0.1
		(251-456)	(176-1726)	(102-1883)	(97-1040)	(0-5.1)	(ND-11.276)	(0-3)
Male non-reproductive								
NMCO-3	10	331 ± 4.7	759 ± 31.5	448 ± 28.4	1369 ± 237.5	0 ± 0.1	0 ± 0	2 ± 0
		(295-349)	(550-875)	(329-544)	(561-2812)	(0-0.8)	(ND-0.001)	(2-2)
NMIA-7	10	337 ± 9.6	661 ± 59.6	551 ± 45.4	982 ± 87.3	1 ± 0.1	0 ± 0	2 ± 0.2
		(275-387)	(323-1030)	(340-857)	(432-1335)	(0-1.2)	(ND-0.026)	(1-2)
NMIA-8	10	367 ± 7.8	817 ± 53.8	220 ± 20.3	654 ± 46.2	0 ± 0.1	0 ± 0	2 ± 0.1
		(310-393)	(449-1008)	(99-291)	(386-901)	(0-0.8)	(ND-0.006)	(1-2)
NMIL-1	10	310 ± 17.3	539 ± 101.2	201 ± 11.8	750 ± 172.2	0 ± 0.1	0 ± 0	1 ± 0.1
		(234-404)	(192-1119)	(153-251)	(231-1755)	(0-1)	(ND-0.001)	(1-2)
NMIN-4	5	301 ± 10	385 ± 44.5	566 ± 197.8	717 ± 334.5	2 ± 1.1	0 ± 0	2 ± 0.2
		(265-318)	(258-500)	(315-1355)	(129-1681)	(0-6.2)	(ND-0.008)	(2-3)
NMMO-3	4	349 ± 31.8	800 ± 229.8	648 ± 108.4	1020 ± 438.7	1 ± 0.4	0 ± 0	2 ± 0
		(287-435)	(400-1450)	(395-923)	(191-2132)	(0-2.1)	(ND-0.001)	(2-2)
Summary	49	334 ± 5.8	671 ± 36.9	400 ± 33.1	923 ± 83.7	1 ± 0.1	0 ± 0	2 ± 0.1
		(234-435)	(192-1450)	(99-1355)	(129-2812)	(0-6.2)	(ND-0.026)	(1-3)
Northeastern Region								
Female non-reproductive								
NECT-1	3	295 ± 39.2	446 ± 169.2	730 ± 326.5	133 ± 31.4	5 ± 1.1	0 ± 0	(1-0)
		(254-373)	(273-784)	(307-1372)	(93-195)	(3-7)	(ND-0.008)	1 ± 1
NEDC-1	5	340 ± 22.9	597 ± 148.9	228 ± 84.9	267 ± 122.5	1 ± 0.2	0 ± 0.2	(1-0)
		(293-400)	(354-1164)	(51-546)	(35-731)	(1-1.8)	(0.0016-0.88)	1 ± 1

Table 3B. (Continued) Site and regional mean values for biomarker and ancillary data for LARGEMOUTH BASS collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
NEMA -1	12	310 ± 9	479 ± 51.5	387 ± 85.4	376 ± 63.3	1 ± 0.3	0 ± 0	(1-0)
		(264-375)	(288-886)	(33-958)	(123-729)	(0-2.5)	(0.0008-0.008)	1 ± 1
NENY-2	4	307 ± 1.9	478 ± 21.4	375 ± 99.7	118 ± 84.6	9 ± 3.9	0 ± 0.1	(1-0)
		(303-312)	(430-534)	(172-561)	(18-371)	(2-17.7)	(ND-0.4)	1 ± 1
NENY-3	7	413 ± 18.9	890 ± 53.2	444 ± 87.1	116 ± 25.1	5 ± 1.8	0 ± 0	(2-0.2)
		(359-495)	(785-956)	(124-741)	(46-244)	(1-15.2)	(0.006-0.4)	1 ± 2
NENY-4	2	439 ± 45.5	1414 ± 399	350 ± 92.5	97 ± 76	7 ± 4.8	0 ± 0	(1-0)
		(393-484)	(1015-1813)	(257-442)	(21-173)	(3-12.2)	(0.097-0.139)	1 ± 1
NEOH-1	2	330 ± 2	602 ± 38	322 ± 42.5	119 ± 32	3 ± 0.4	1 ± 0.4	(3-0)
		(328-332)	(564-640)	(279-364)	(87-151)	(2-3.2)	(0.245-1.003)	3 ± 3
NEWV -2	10	308 ± 4.3	352 ± 15.1	683 ± 121	335 ± 60.5	2 ± 0.3	0 ± 0.1	(2-0.1)
		(284-325)	(278-418.2)	(304-1403)	(84-601)	(1-3.6)	(ND-0.512)	1 ± 2
Summary	45	334 ± 8.3	541 ± 47.4	461 ± 48.5	251 ± 30.7	3 ± 0.6	0 ± 0	(1-0.1)
		(254-495)	(273-1813)	(33-1403)	(18-731)	(0-17.7)	(ND-1.003)	1 ± 3
Male non-reproductive								
NECT-1	4	314 ± 26.5	389 ± 37.8	709 ± 282.6	757 ± 259.4	1 ± 0.2	0 ± 0	3 ± 0
		(284-393)	(314-494)	(231-1500)	(257-1206)	(1-1.5)	(ND-0.002)	(3-3)
NEDC-1	7	339 ± 13.3	581 ± 65.5	121 ± 38	129 ± 42.2	1 ± 0.4	0 ± 0	3 ± 0
		(274-386)	(228-780)	(21-294)	(46-327)	(0-3.7)	(0.001-0.002)	(3-3)
NEMA -1	7	296 ± 10.7	393 ± 42.2	526 ± 122.3	383 ± 85.1	2 ± 0.5	0 ± 0	2 ± 0.4
		(251-335)	(248-542)	(107-1054)	(176-807)	(0-4.2)	(0.001-0.004)	(0-3)
NENY-2	6	292 ± 5.2	378 ± 15	200 ± 44.7	68 ± 15.2	3 ± 0.8	0 ± 0	3 ± 0
		(277-310)	(325-420)	(44-373)	(39-142)	(1-6.6)	(0.001-0.215)	(3-3)
NENY-3	12	339 ± 15.4	716 ± 134.5	60 ± 18.9	151 ± 31	0 ± 0.1	0 ± 0.2	3 ± 0
		(252-422)	(581-850)	(13-200)	(63-446)	(0-1)	(ND-3)	(3-3)
NENY-4	2	377 ± 7	874 ± 19	35 ± 23.5	41 ± 25.5	2 ± 1.9	0 ± 0	3 ± 0
		(370-384)	(855-893)	(11-58)	(15-66)	(0-3.9)	(ND-0.001)	(3-3)
NEOH-1	2	395 ± 15.5	945 ± 155.5	359 ± 50.5	300 ± 141.5	2 ± 0.9	0 ± 0	2 ± 0
		(379-410)	(789-1100)	(308-409)	(158-441)	(1-2.6)	(ND-0.001)	(2-2)
NEWV -2	10	300 ± 6.9	294 ± 16.6	313 ± 16.4	748 ± 64.7	0 ± 0	0 ± 0	2 ± 0.1
		(263-330)	(214-377.8)	(201-387)	(426-1087)	(0-0.6)	(ND-0.114)	(1-3)
Summary	50	321 ± 6.2	466 ± 34	264 ± 39.8	340 ± 47.3	1 ± 0.2	0 ± 0.1	3 ± 0.1
		(251-422)	(214-1100)	(11-1500)	(15-1206)	(0-6.6)	(ND-3)	(0-3)
Female reproductive								
NEMA -1	4	303 ± 7.9	420 ± 39.4	920 ± 120.6	531 ± 92.8	2 ± 0.1	4 ± 2	3 ± 0.4
		(286-318)	(350-497)	(732-1243)	(382-784)	(2-1.9)	(ND-8.242)	(2-4)
NENY-3	14	399 ± 12.5	1001 ± 99.8	3221 ± 725.6	754 ± 196.4	5 ± 0.7	5 ± 0.9	3 ± 0.2
		(325-478)	(478-1648)	(384-9670)	(108-2306)	(2-12.4)	(ND-12.441)	(3-5)
Summary	18	378 ± 13.7	872 ± 97.1	2710 ± 606.2	704 ± 154.3	5 ± 0.7	5 ± 0.8	3 ± 0.1
		(286-478)	(350-1648)	(384-9670)	(108-2306)	(2-12.4)	(ND-12.441)	(2-5)

Table 3B. (Continued) Site and regional mean values for biomarker and ancillary data for LARGEMOUTH BASS collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Male reproductive								
NEMA -1	12	296 ± 4.6	401 ± 21	823 ± 136.9	1149 ± 129.9	1 ± 0.2	0 ± 0	3 ± 0
		(276-328)	(321-541)	(280-1621)	(410-1706)	(0-3)	(ND-0.245)	(3-3)
NENY-3	2	359 ± 27.5	746 ± 192.5	526 ± 36.5	1475 ± 46	0 ± 0	0 ± 0	3 ± 0
		(331-386)	(553-938)	(489-562)	(1429-1521)	(0-0.4)	(ND-0.001)	(3-3)
Summary	14	305 ± 7.8	450 ± 43	781 ± 120.2	1195 ± 115.2	1 ± 0.2	0 ± 0	3 ± 0
		(276-386)	(321-938)	(280-1621)	(410-1706)	(0-3)	(ND-0.245)	(3-3)
Northwestern Region								
Female non-reproductive								
NWID-1	9	365 ± 22.8	891 ± 170.3	642 ± 91.4	287 ± 42.2	2 ± 0.4	0 ± 0.2	1 ± 0.1
		(257-492)	(253-2000)	(242-1134)	(167-481)	(1-4.2)	(0.026-1.535)	(1-2)
NWMT-1	10	407 ± 25.7	1320 ± 249.3	855 ± 125.4	383 ± 67.3	2 ± 0.2	1 ± 0.2	2 ± 0.2
		(279-496)	(280-2600)	(398-1585)	(112-805)	(2-3.7)	(0.158-2.355)	(1-3)
NWOR-1	5	328 ± 13.2	571 ± 84.7	588 ± 80.5	266 ± 75.6	3 ± 0.8	0 ± 0	1 ± 0
		(280-355)	(306-758)	(412-797)	(101-532)	(1-5.7)	(ND-0.138)	(1-1)
NWWA-3	7	355 ± 32.9	920 ± 316.7	684 ± 157.6	360 ± 110.5	2 ± 0.5	5 ± 4.8	1 ± 0.3
		(269-522)	(299-2600)	(239-1465)	(122-908)	(1-4.5)	(ND-33.665)	(1-3)
NWWA-6	4	363 ± 40.8	944 ± 329.2	1123 ± 164	404 ± 121.2	3 ± 0.5	1 ± 0.5	2 ± 0.3
		(263-450)	(272-1803)	(775-1406)	(193-689)	(2-4.3)	(0.299-2.631)	(1-2)
Summary	35	369 ± 12.7	980 ± 113.9	758 ± 61.1	340 ± 34.7	3 ± 0.2	2 ± 1	1 ± 0.1
		(257-522)	(253-2600)	(239-1585)	(101-908)	(1-5.7)	(ND-33.665)	(1-3)
Male non-reproductive								
NWID-1	7	344 ± 12.6	673 ± 79.4	341 ± 98	1540 ± 987.6	1 ± 0.2	0 ± 0	2 ± 0.3
		(314-397)	(444-970)	(131-815)	(349-7451)	(0-2)	(ND-0.001)	(1-3)
NWMT-1	10	339 ± 22.3	756 ± 198.3	251 ± 46.4	528 ± 88.6	1 ± 0.2	0 ± 0	3 ± 0.2
		(252-461)	(114-1880)	(113-591)	(121-976)	(0-2.3)	(ND-0.083)	(1-3)
NWOR-1	3	286 ± 25.1	373 ± 110.9	641 ± 210.2	813 ± 354.3	2 ± 1.2	0 ± 0	3 ± 0.3
		(255-336)	(224-590)	(310-1031)	(260-1473)	(0-4)	(ND-0.001)	(2-3)
NWWA-3	6	314 ± 35.7	534 ± 194.5	376 ± 107.2	661 ± 143.3	1 ± 0.1	0 ± 0.1	2 ± 0
		(240-440)	(144-1248)	(131-848)	(331-1307)	(0-1.2)	(ND-0.669)	(2-2)
NWWA-6	2	387 ± 31	915 ± 223.5	143 ± 36.5	317 ± 118	0 ± 0.1	0 ± 0	3 ± 0.5
		(356-418)	(691-1138)	(106-179)	(199-435)	(0-0.5)	(ND-0.001)	(2-3)
Summary	28	333 ± 12.1	658 ± 86.6	334 ± 46.7	825 ± 252.5	1 ± 0.2	0 ± 0	2 ± 0.1
		(240-461)	(114-1880)	(106-1031)	(121-7451)	(0-4)	(ND-0.669)	(1-3)

Table 3B. (Continued) Site and regional mean values for biomarker and ancillary data for LARGEMOUTH BASS collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Southern Mid-Continent Region								
Female non-reproductive								
SMAR-3	10	333 ± 10.1 (294-379)	618 ± 93.2 (313-1255)	1405 ± 455 (256-5221)	355 ± 176.8 (55-1838)	9 ± 2.2 (0-24.7)	1 ± 0.7 (ND-6.942)	2 ± 0.2 (1-2)
SMAR-4	10	419 ± 25.9 (305-540)	1286 ± 245.4 (391-2400)	530 ± 71.8 (235-845)	288 ± 26.1 (144-429)	2 ± 0.3 (1-4.1)	0 ± 0 (ND-0.197)	2 ± 0 (2-2)
SMIL-2	9	341 ± 9.4 (310-377)	488 ± 46.8 (343-721)	926 ± 244.6 (245-2434)	779 ± 105.4 (95-1312)	2 ± 0.5 (0-4.6)	0 ± 0 (ND-0.001)	2 ± 0 (2-2)
SMLA-3	16	348 ± 17.8 (231-462)	702 ± 110.7 (140-1493)	689 ± 79.4 (404-1591)	480 ± 53 (210-899)	2 ± 0.2 (0-3.8)	0 ± 0 (ND-0.001)	1 ± 0.2 (0-2)
SMOK-1	7	411 ± 20.9 (332-495)	1161 ± 179.6 (500-1950)	1726 ± 368.1 (705-3386)	282 ± 60.4 (114-513)	7 ± 1 (4-11.3)	2 ± 0.8 (ND-5.443)	3 ± 0.1 (2-3)
SMOK-2	12	419 ± 15.2 (351-510)	1110 ± 132.3 (600-1900)	970 ± 147.2 (462-2417)	925 ± 144.6 (87-1999)	2 ± 0.5 (0-6)	3 ± 1.3 (ND-15.897)	3 ± 0.1 (2-3)
SMOK-3	9	393 ± 29.3 (280-510)	1228 ± 255.1 (350-2400)	1491 ± 204.8 (403-2356)	675 ± 219.3 (151-2203)	4 ± 0.9 (0-8.6)	1 ± 0.3 (ND-3.169)	3 ± 0.2 (2-3)
SMTN-1	4	311 ± 32.9 (250-400)	426 ± 149.5 (191-859)	4283 ± 1408.4 (121-6330)	1050 ± 303.5 (228-1512)	9 ± 6.3 (0-27.8)	52 ± 18 (ND-77.918)	3 ± 0.3 (2-3)
SMTN-2	7	348 ± 32.6 (231-469)	763 ± 249.4 (151-1822)	374 ± 79.5 (196-690)	183 ± 49.8 (44-422)	3 ± 0.8 (1-5.4)	0 ± 0 (ND-0.341)	2 ± 0 (2-2)
SMTN-3	11	421 ± 23.5 (285-543)	1196 ± 185.4 (340-2381)	386 ± 54.9 (189-779)	164 ± 23.9 (58-314)	3 ± 1.1 (1-13.4)	0 ± 0 (0.005-0.415)	1 ± 0.4 (0-3)
SMTN-4	4	286 ± 22.4 (231-325)	295 ± 65.2 (142-425)	362 ± 71.1 (230-563)	65 ± 9.2 (49-89)	6 ± 1 (4-8)	0 ± 0.2 (ND-0.925)	3 ± 0.3 (2-3)
SMTN-5	10	375 ± 31.3 (260-573)	963 ± 256.8 (232-2920)	657 ± 240.2 (52-2261)	248 ± 80 (70-869)	3 ± 0.8 (0-7.6)	0 ± 0.1 (ND-0.863)	2 ± 0.3 (1-3)
SMTX-1	6	339 ± 32.5 (306-371)	308 ± 3 (305-311)	313 ± 59.9 (154-566)	178 ± 30.4 (113-314)	2 ± 0.4 (1-3.9)	0 ± 0 (ND-0.001)	0 ± 0.2 (0-1)
SMTX-5	6	<—— Not available——>					0 ± 0 (ND-0.001)	1 ± 0.2 (0-1)
SMTX-6	1	<—— Not available ——>					0 ± 0 (ND-0.001)	0 ± 0 (0-0)
SMTX-7	13	403 ± 19.8 (309-540)	961 ± 136.1 (366-2100)	721 ± 68.3 (391-1061)	223 ± 52.2 (57-648)	6 ± 1.2 (1-16.1)	1 ± 0.4 (ND-4.874)	2 ± 0.1 (2-3)
Summary	135	377 ± 6.9 (231-573)	897 ± 53.6 (140-2920)	899 ± 86.9 (52-6330)	416 ± 35.5 (44-2203)	4 ± 0.4 (0-27.8)	2 ± 0.9 (ND-77.918)	2 ± 0.1 (0-3)

Table 3B. (Continued) Site and regional mean values for biomarker and ancillary data for LARGEMOUTH BASS collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Male non-reproductive								
SMAR-3	9	313 ± 9.3	428 ± 39.8	555 ± 87.7	832 ± 151.1	1 ± 0.6	0 ± 0.3	2 ± 0.1
		(275-370)	(269-655)	(277-1150)	(181-1544)	(0-6.4)	(ND-2.817)	(1-2)
SMAR-4	10	336 ± 17.5	563 ± 113.9	358 ± 36.3	1459 ± 464.4	0 ± 0.1	0 ± 0	2 ± 0.1
		(262-411)	(200-1251)	(249-550)	(319-5144)	(0-1.1)	(ND-0.001)	(1-2)
SMIL-2	14	352 ± 16.9	637 ± 122.1	344 ± 28.9	1191 ± 156.4	0 ± 0	0 ± 0	2 ± 0.1
		(249-515)	(176-1918)	(199-596)	(418-2648)	(0-0.6)	(ND-0.005)	(1-2)
SMLA-3	7	290 ± 20.2	361 ± 87.4	361 ± 37.5	500 ± 41.7	1 ± 0.1	0 ± 0	1 ± 0.2
		(235-372)	(149-733)	(198-450)	(340-689)	(0-1.2)	(ND-0.001)	(1-2)
SMOK-1	8	379 ± 6.4	800 ± 47.2	355 ± 22.5	1192 ± 185	0 ± 0.1	0 ± 0	2 ± 0.1
		(354-405)	(650-1000)	(280-427)	(421-1942)	(0-0.7)	(ND-0.01)	(2-3)
SMOK-2	10	394 ± 12.7	944 ± 105.1	645 ± 63.1	764 ± 141	1 ± 0.2	0 ± 0.2	2 ± 0.1
		(313-453)	(450-1500)	(341-1022)	(214-1420)	(0-2.1)	(ND-2.408)	(1-3)
SMOK-3	8	365 ± 21.8	849 ± 145.2	765 ± 168	1454 ± 113.4	1 ± 0.1	0 ± 0	2 ± 0.2
		(272-457)	(300-1500)	(329-1823)	(1044-1951)	(0-0.9)	(ND-0.001)	(2-3)
SMTN-1	7	320 ± 21	429 ± 114.8	415 ± 107.7	847 ± 199.5	1 ± 0.4	0 ± 0	2 ± 0
		(260-425)	(198-1075)	(143-958)	(333-1549)	(0-2.9)	(ND-0.003)	(2-2)
SMTN-2	4	353 ± 12.9	667 ± 73.2	489 ± 155.5	239 ± 59.3	3 ± 1.5	0 ± 0	2 ± 0
		(315-373)	(463-802)	(204-788)	(115-389)	(1-6.9)	(ND-0.001)	(2-2)
SMTN-3	4	414 ± 37.7	869 ± 242.9	431 ± 186.3	533 ± 141	1 ± 0.2	0 ± 0	2 ± 0
		(330-484)	(510-1332)	(124-969)	(208-852)	(0-1.3)	(ND-0.001)	(2-2)
SMTN-4	5	284 ± 18.5	330 ± 60.3	348 ± 65.7	144 ± 16.4	3 ± 0.6	0 ± 0	2 ± 0.2
		(230-335)	(167-525)	(214-594)	(106-198)	(1-4.9)	(ND-0.102)	(2-3)
SMTN-5	13	311 ± 17	458 ± 73.8	297 ± 19.7	907 ± 195.2	1 ± 0.2	0 ± 0	2 ± 0.2
		(233-415)	(170-964)	(196-426)	(88-2574)	(0-2.2)	(ND-0.008)	(1-3)
SMTX-1	4	262 ± 0	285 ± 0	227 ± 13.5	646 ± 134.4	0 ± 0.1	0 ± 0	3 ± 0.3
		(262-262)	(285-285)	(187-245)	(291-931)	(0-0.8)	(ND-0.001)	(2-3)
SMTX-5	2	387 ± 0	295 ± 0	188 ± 4	265 ± 33	1 ± 0.1	0 ± 0	3 ± 0.5
		(387-387)	(295-295)	(184-192)	(232-298)	(1-0.8)	(ND-0.001)	(2-3)
SMTX-6	5	317 ± 71.5	302 ± 34.5	237 ± 22	452 ± 96.4	1 ± 0.1	0 ± 0	2 ± 0.4
		(245-388)	(267-336)	(209-324)	(274-813)	(0-0.8)	(ND-0.001)	(1-3)
SMTX-7	13	381 ± 13.5	796 ± 92	657 ± 42.7	745 ± 168.9	1 ± 0.3	0 ± 0	2 ± 0.1
		(305-470)	(373-1467)	(479-936)	(205-2215)	(0-3)	(ND-0.001)	(2-3)
Summary	123	345 ± 5.7	617 ± 33.2	443 ± 22.5	875 ± 62.7	1 ± 0.1	0 ± 0	2 ± 0
		(230-515)	(149-1918)	(124-1823)	(88-5144)	(0-6.9)	(ND-2.817)	(1-3)

Table 3B. (Continued) Site and regional mean values for biomarker and ancillary data for LARGEMOUTH BASS collections made at all sites in U.S. waters from March 1994 through August 1997.

[N, number of fish; E_2, 17ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mg, milligram; mL, milliliter; ND, nondetected]

Regional site code (fig. 1)	N	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Southwest Region								
Female non-reproductive								
SWCA-1	23	398 ± 17.3	1068 ± 147.6	802 ± 77.1	221 ± 27.9	5 ± 0.9	0 ± 0	1 ± 0.1
		(273-580)	(222-2804)	(289-1539)	(38-662)	(1-20.8)	(ND-0.564)	(0-1)
SWCA-2	19	392 ± 17.3	1046 ± 116.2	455 ± 130.7	101 ± 22.5	5 ± 1	0 ± 0.1	1 ± 0.1
		(285-595)	(320-2020)	(54-2229)	(12-362)	(0-17.4)	(ND-1.123)	(1-2)
SWCA-3	31	376 ± 10.5	912 ± 80.8	374 ± 60.8	273 ± 36.6	2 ± 0.3	0 ± 0.1	1 ± 0.1
		(270-482)	(277-2010)	(29-1345)	(59-811)	(0-9.3)	(ND-3.541)	(1-2)
Summary	73	387 ± 8.3	996 ± 64.9	530 ± 53.2	212 ± 20.3	4 ± 0.5	0 ± 0.1	1 ± 0.1
		(270-595)	(222-2804)	(29-2229)	(12-811)	(0-20.8)	(ND-3.541)	(0-2)
Male non-reproductive								
SWCA-1	11	316 ± 20.1	514 ± 117.6	789 ± 119.4	904 ± 194.9	1 ± 0.3	0 ± 0.2	3 ± 0
		(252-448)	(197-1389)	(207-1370)	(98-1894)	(0-3.4)	(ND-1.8)	(3-3)
SWCA-2	21	351 ± 9.4	709 ± 57.1	187 ± 51.1	202 ± 72	2 ± 0.3	0 ± 0	3 ± 0
		(258-435)	(207-1333)	(19-821)	(18-1131)	(0-4.2)	(ND-0.039)	(2-3)
SWCA-3	20	354 ± 12.4	677 ± 56.4	197 ± 39	260 ± 37.9	1 ± 0.2	0 ± 0	3 ± 0
		(226-475)	(230-1263)	(35-761)	(97-656)	(0-4)	(ND-0.117)	(3-3)
Summary	52	345 ± 7.6	656 ± 40.7	318 ± 48.9	373 ± 64	1 ± 0.1	0 ± 0	3 ± 0
		(226-475)	(197-1389)	(19-1370)	(18-1894)	(0-4.2)	(ND-1.8)	(2-3)

Table 4. All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Allegheny Riv @ Natrona, PA	NE	1995	Oct	NR	F	660	3900	2379	522	4.56	1.326	3
Allegheny Riv @ Natrona, PA	NE	1995	Oct	NR	F	589	2800	658	118	5.58	1.510	3
Allegheny Riv @ Natrona, PA	NE	1995	Oct	NR	F	498	1450	584	465	1.26	4.671	3
Allegheny Riv @ Natrona, PA	NE	1995	Oct	NR	F	475	1500	259	105	2.47	0.314	3
Allegheny Riv @ Natrona, PA	NE	1995	Oct	NR	F	460	1200	347	88	3.94	1.247	3
Allegheny Riv @ Natrona, PA	NE	1995	Oct	NR	F	429	1000	2768	1504	1.84	1.016	3
Allegheny Riv @ Natrona, PA	NE	1995	Oct	NR	M	594	2750	300	1336	0.22	ND	2
Allegheny Riv @ Natrona, PA	NE	1995	Oct	NR	M	498	1700	407	4090	0.10	0.027	2
Allegheny Riv @ Natrona, PA	NE	1995	Oct	NR	M	495	1500	309	1319	0.23	ND	3
Allegheny Riv @ Natrona, PA	NE	1995	Oct	NR	M	401	1700	407	1741	0.23	0.008	2
Allegheny Riv @ Natrona, PA	NE	1995	Oct	NR	M	373	1700	383	3293	0.12	0.008	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	555	2150	1582	320	4.944	1.772	3
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	467	1375	1901	633	3.003	2.315	3
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	460	1250	1377	257	5.358	1.932	3
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	411	860	1380	221	6.244	8.369	3
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	385	850	589	221	2.665	2.921	3
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	382	680	489	213	2.296	9.285	3
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	373	690	743	117	6.350	1.800	3
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	364	598	538	158	3.405	ND	1
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	353	650	697	31	22.484	1.187	3
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	350	560	366	93	3.935	0.275	1
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	342	550	974	354	2.751	1.640	3
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	382	720	428	1174	0.365	ND	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	377	640	390	872	0.447	ND	3
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	373	700	424	639	0.664	ND	3
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	370	700	429	820	0.523	ND	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	368	650	403	985	0.409	ND	3
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	365	630	505	138	3.659	ND	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	347	600	469	856	0.548	ND	2
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	670	4350	365	294	1.241	3.586	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	570	2050	271	943	0.287	ND	0
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	541	2075	2489	482	5.164	1.996	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	537	2300	1536	249	6.169	0.143	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	533	1850	2317	497	4.662	ND	1
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	524	1700	1393	374	3.725	0.972	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	510	1700	1309	366	3.577	3.717	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	500	1250	2286	568	4.025	ND	0
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	481	1450	1277	423	3.019	1.130	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	473	1300	1239	196	6.321	0.477	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	NA	NA	1208	217	5.567	0.176	3

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	575	2500	285	566	0.504	ND	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	547	1550	246	359	0.685	ND	1
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	500	1650	461	1002	0.460	ND	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	495	1600	325	2016	0.161	ND	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	487	1650	385	1234	0.312	ND	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	483	1550	356	654	0.544	ND	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	470	1400	331	545	0.607	ND	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	457	1300	287	381	0.753	ND	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	432	1000	372	1031	0.361	ND	1
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	570	2365	474	172	2.76	2.299	3
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	565	2582	1788	296	6.04	2.985	3
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	552	1990	1013	295	3.43	5.995	3
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	550	2792	4537	510	8.90	1.523	3
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	530	1785	2927	779	3.76	2.317	3
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	510	1861	1859	338	5.50	3.042	3
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	490	1762	1888	531	3.56	2.502	3
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	485	1615	147	166	0.89	1.122	3
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	473	1480	1159	297	3.90	5.195	3
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	700	4200	339	1281	0.26	0.014	1
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	622	2933	1228	1599	0.77	ND	1
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	610	1858	107	2337	0.05	ND	1
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	580	2250	585	2017	0.29	ND	1.5
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	555	1560	327	7227	0.05	ND	1
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	521	1600	892	8492	0.11	ND	1
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	520	1794	501	3992	0.13	0.008	1
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	510	1660	196	6801	0.03	ND	1
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	505	1662	706	930	0.76	ND	1
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	330	643	80	632	0.13	ND	1
Bear Riv @ Corine UT	SW	1998	Aug	R	F	700	4572	2176	452	4.814	3.66	2
Bear Riv @ Corine UT	SW	1998	Aug	R	F	682	4206	977	586	1.667	4.742	3
Bear Riv @ Corine UT	SW	1998	Aug	R	F	647	3562	791	445	1.778	5.757	3
Bear Riv @ Corine UT	SW	1998	Aug	R	F	530	1890	1156	539	2.145	4.108	3
Bear Riv @ Corine UT	SW	1998	Aug	R	F	495	1540	1181	300	3.937	2.774	3
Bear Riv @ Corine UT	SW	1998	Aug	R	M	674	3983	632	1263	0.500	ND	2
Bear Riv @ Corine UT	SW	1998	Aug	R	M	524	1668	841	966	0.871	0.024	2
Bear Riv @ Corine UT	SW	1998	Aug	R	M	442	1031	558	686	0.813	ND	2
Bear Riv @ Corine UT	SW	1998	Aug	R	M	383	690	584	884	0.661	ND	2
Bear Riv @ Corine UT	SW	1998	Aug	R	M	336	552	531	575	0.923	ND	1
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	F	681	3900	3101	929	3.34	6.821	3
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	F	640	3600	2564	195	13.15	5.826	3

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	F	623	3600	1782	748	2.38	1.365	3
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	F	610	3150	1743	206	8.46	3.289	3
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	F	596	2800	3347	762	4.39	0.827	3
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	F	592	2600	4285	929	4.61	1.661	3
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	F	556	2440	1455	132	11.02	1.307	3
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	F	546	2250	2773	341	8.13	1.271	3
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	F	535	2000	1280	195	6.56	ND	3
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	F	522	2000	1540	462	3.33	1.523	3
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	F	487	1490	2086	1644	1.27	2.405	3
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	F	474	1400	2961	1061	2.79	3.974	3
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	M	585	1420	1038	2464	0.42	ND	2
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	M	577	2600	1136	2594	0.44	ND	2
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	M	565	2200	939	1184	0.79	0.007	3
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	M	542	2000	716	2970	0.24	ND	1
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	M	511	1730	899	1209	0.74	ND	1
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	M	493	1500	1388	2368	0.59	0.958	2
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	M	489	1500	1418	2884	0.49	ND	2
Big Horn Riv @ Hardin, MT	NMC	1995	Oct	NR	M	470	1250	1237	2464	0.50	0.010	2.5
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	F	558	2432	1564	264	5.924	0.012	3.0
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	F	557	1976	1137	165	6.891	0.199	3.0
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	F	518	1481	1630	479	3.403	0.130	3.0
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	F	489	1302	1634	183	8.929	0.128	1.0
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	F	436	991	484	227	2.132	ND	3.0
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	F	430	1103	1412	315	4.483	0.023	2.0
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	F	419	907	23	465	0.049	ND	3.0
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	F	413	1095	1113	297	3.747	0.228	3.0
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	M	548	1829	228	201	1.134	0.178	1.0
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	M	505	1625	101	590	0.171	0.012	.
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	M	455	1128	786	536	1.466	ND	1.0
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	M	449	1062	303	584	0.519	ND	1.0
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	M	443	930	78	269	0.290	ND	.
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	M	410	325	270	738	0.366	ND	1.0
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	M	398	714	301	375	0.803	0.007	1.0
Big Sunflower Riv @ Anguilla, MS	SMC	1995	Aug	R	M	368	671	223	213	1.047	ND	1.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	F	542	2111	1287	313	4.112	7.113	3.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	F	538	2451	1309	379	3.454	21.916	3.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	F	531	2265	1402	934	1.501	19.221	3.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	F	521	2367	1485	498	2.982	62.448	3.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	F	513	2049	1295	570	2.272	24.392	3.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	F	510	1795	1875	778	2.410	4.596	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Billy Clapp L nr Stratford, WA	NW	1995	July	R	F	490	1714	979	560	1.748	19.677	3.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	F	489	1754	464	45	10.311	16.836	3.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	F	462	1487	1309	518	2.527	11.563	3.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	F	453	1454	1481	415	3.569	11.746	3.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	M	571	2688	620	910	0.681	ND	3.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	M	555	2091	226	591	0.382	ND	2.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	M	546	1980	1179	2020	0.584	ND	3.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	M	538	1928	846	1477	0.573	ND	3.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	M	505	1817	730	1407	0.519	ND	3.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	M	494	1464	201	975	0.206	ND	2.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	M	491	1429	387	1272	0.304	ND	1.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	M	480	1345	304	549	0.554	ND	3.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	M	467	1056	301	961	0.313	ND	1.0
Billy Clapp L nr Stratford, WA	NW	1995	July	R	M	464	1327	356	1194	0.298	ND	2.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	F	528	2316	2117	1114	1.900	2.238	3.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	F	525	1026	1266	601	2.106	0.127	3.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	F	500	1617	1179	592	1.992	0.143	1.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	F	485	1385	236	92	2.565	0.140	3.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	F	440	1132	1185	954	1.242	0.217	3.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	F	428	1055	2141	424	5.050	0.433	3.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	F	421	921	2270	383	5.927	0.278	3.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	F	386	762	1866	797	2.341	2.023	2.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	F	383	745	2180	88	24.773	1.392	3.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	F	356	613	2318	346	6.699	0.332	3.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	M	546	1977	51	950	0.054	ND	2.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	M	500	1547	161	1093	0.147	ND	2.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	M	460	1159	757	634	1.194	ND	2.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	M	450	1137	70	704	0.099	ND	2.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	M	443	1101	55	458	0.120	ND	2.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	M	441	1177	355	624	0.569	ND	2.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	M	425	921	224	921	0.243	ND	1.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	M	404	774	52	644	0.081	ND	2.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	M	385	709	95	482	0.197	ND	2.0
Boque Phalia @ Leland, MS	SMC	1995	Aug	R	M	383	685	147	372	0.395	ND	2.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	F	855	8959	2572	1540	1.670	22.700	2.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	F	790	6577	1337	1050	1.273	17.091	2.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	F	667	3952	3833	1890	2.028	14.032	2.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	F	662	3175	1849	1101	1.679	18.749	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	F	622	2887	3187	627	5.083	12.911	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	F	558	3028	2208	248	8.903	19.131	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	F	557	2411	2503	672	3.725	13.777	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	F	555	2372	2733	728	3.754	20.559	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	F	551	1941	2620	744	3.522	19.590	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	F	510	1610	828	328	2.524	18.952	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	M	722	6407	218	831	0.262	ND	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	M	664	3981	272	553	0.492	ND	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	M	607	2818	50	402	0.124	ND	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	M	558	2495	226	614	0.368	ND	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	M	557	2515	173	988	0.175	ND	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	M	557	2414	364	716	0.508	ND	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	M	552	1960	321	1783	0.180	ND	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	M	551	1932	208	706	0.295	ND	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	M	511	1688	252	1961	0.129	ND	3.0
Brushy Cr Res nr N Vernon, IN	NMC	1995	Aug	R	M	446	1229	211	665	0.317	ND	3.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	F	550	2278	2122	99	21.43	2.155	3.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	F	513	2018	1359	169	8.04	3.175	3.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	F	511	1861	982	212	4.63	3.233	3.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	F	501	1916	2220	179	12.40	4.512	3.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	F	482	1497	5126	239	21.45	5.763	3.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	F	400	982	1515	193	7.85	3.412	3.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	F	340	523	821	268	3.06	5.192	2.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	M	570	2505	1472	212	6.94	ND	2.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	M	567	2257	61	291	0.21	ND	2.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	M	551	2127	791	192	4.12	ND	2.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	M	545	1987	942	164	5.74	ND	2.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	M	490	1665	252	259	0.97	ND	2.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	M	487	1367	267	187	1.43	ND	2.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	M	480	1466	380	158	2.41	ND	2.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	M	462	1715	1289	317	4.07	ND	2.0
Cache Riv @ Cotton Plant, AR	SMC	1995	Sept	R	M	460	1189	181	175	1.03	ND	2.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	F	600	3472	1124	631	1.78	3.474	3.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	F	555	2506	1198	378	3.17	5.804	3.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	F	529	1992	950	406	2.34	2.574	3.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	F	523	1937	2148	639	3.36	3.139	3.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	F	521	1918	1435	549	2.61	5.804	3.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	F	502	1977	2112	555	3.81	2.412	3.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	F	499	1749	2192	1956	1.12	3.929	3.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	F	482	1612	2159	203	10.64	4.134	3.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	F	482	1695	151	361	0.42	0.421	1.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	F	465	1358	1180	471	2.51	3.905	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	M	519	1758	101	1326	0.08	ND	2.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	M	506	1661	617	921	0.67	ND	2.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	M	498	1572	307	1520	0.20	ND	2.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	M	482	1430	83	109	0.76	ND	2.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	M	457	1186	861	1702	0.51	ND	2.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	M	454	1217	508	659	0.77	ND	2.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	M	445	1101	183	511	0.36	ND	2.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	M	431	1050	269	1815	0.15	ND	2.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	M	391	882	224	1088	0.21	ND	2.0
Cache Riv @ Egypt, AR	SMC	1995	Sept	R	M	NA	NA	946	251	3.77	ND	2.0
Calville Bay, L Mead, NV	SW	1997	May	R	F	507	1899	1694	936	1.810	1.057	3
Calville Bay, L Mead, NV	SW	1997	May	R	F	466	1232	1342	811	1.655	0.414	2
Calville Bay, L Mead, NV	SW	1997	May	R	F	493	1561	1400	607	2.306	1.307	3
Calville Bay, L Mead, NV	SW	1997	May	R	F	509	2193	1327	217	6.115	1.307	3
Calville Bay, L Mead, NV	SW	1997	May	R	F	472	1257	765	258	2.965	ND	2
Calville Bay, L Mead, NV	SW	1997	May	R	F	449	1324	732	219	3.342	1.924	3
Calville Bay, L Mead, NV	SW	1997	May	R	F	484	1392	1147	342	3.354	0.728	3
Calville Bay, L Mead, NV	SW	1997	May	R	F	445	1260	1186	547	2.168	1.799	3
Calville Bay, L Mead, NV	SW	1997	May	R	M	459	1239	303	528	0.574	ND	3
Calville Bay, L Mead, NV	SW	1997	May	R	M	512	1885	299	744	0.402	ND	3
Calville Bay, L Mead, NV	SW	1997	May	R	M	494	1704	236	792	0.298	0.175	3
Calville Bay, L Mead, NV	SW	1997	May	R	M	491	1489	237	984	0.241	0.233	3
Calville Bay, L Mead, NV	SW	1997	May	R	M	473	1338	519	1363	0.381	ND	3
Calville Bay, L Mead, NV	SW	1997	May	R	M	443	1085	214	759	0.282	ND	3
Calville Bay, L Mead, NV	SW	1997	May	R	M	457	1181	438	723	0.606	ND	3
Calville Bay, L Mead, NV	SW	1997	May	R	M	511	1851	236	1015	0.233	ND	3
Calville Bay, L Mead, NV	SW	1997	May	R	M	419	1118	136	917	0.148	ND	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	580	2550	2466	539	4.58	0.793	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	551	1950	1189	1037	1.15	0.940	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	522	1750	1258	785	1.60	0.322	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	513	1800	1368	1239	1.10	2.613	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	493	1450	1926	858	2.24	2.583	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	476	1400	1749	464	3.77	0.077	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	463	1120	741	901	0.82	0.044	0
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	457	1300	1366	802	1.70	1.989	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	422	1710	1306	1337	0.98	0.108	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	420	1000	1162	951	1.22	0.241	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	470	1250	948	1042	0.91	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	464	1325	1957	908	2.16	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	453	1100	1345	2348	0.57	ND	2

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	450	1150	1718	1065	1.61	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	443	1100	954	1062	0.90	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	435	1050	785	673	1.17	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	430	900	1448	988	1.47	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	428	1000	1590	577	2.76	ND	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	425	1700	1070	1068	1.00	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	356	950	464	953	0.49	ND	2
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	F	570	2398	3190	135	23.63	7.045	3.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	F	555	1935	1198	352	3.40	2.371	3.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	F	525	2056	2205	558	3.95	3.067	3.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	F	515	1844	1329	258	5.15	5.259	3.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	F	495	1500	2171	346	6.27	9.531	3.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	F	480	1282	1317	851	1.55	3.074	3.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	F	460	1200	2163	1189	1.82	3.516	3.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	F	460	1244	1418	759	1.87	3.084	3.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	F	435	1068	2175	334	6.51	2.899	3.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	F	400	811	1292	923	1.40	3.923	3.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	M	550	1965	210	1648	0.13	ND	1.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	M	535	1923	294	2699	0.11	ND	2.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	M	515	1848	184	556	0.33	ND	2.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	M	505	1424	226	589	0.38	ND	2.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	M	495	1472	204	3034	0.07	ND	2.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	M	470	1245	159	2664	0.06	ND	2.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	M	455	1135	296	406	0.73	ND	2.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	M	450	1083	156	1494	0.10	ND	2.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	M	430	933	182	1131	0.16	ND	2.0
Cedar Riv @ St. Chas City, IA	NMC	1995	Sept	R	M	395	740	258	572	0.45	ND	2.0
Clear Creek nr Sanger, TX	SMC	1994	Dec	NR	F	575	2423	415	115	3.61	14.000	3.0
Clear Creek nr Sanger, TX	SMC	1994	Dec	NR	F	555	2379	491	237	2.07	12.800	3.0
Clear Creek nr Sanger, TX	SMC	1994	Dec	NR	F	545	2188	337	79	4.27	7.000	3.0
Clear Creek nr Sanger, TX	SMC	1994	Dec	NR	F	522	1971	110	57	1.93	8.000	3.0
Clear Creek nr Sanger, TX	SMC	1994	Dec	NR	F	472	1589	558	109	5.12	16.500	3.0
Clear Creek nr Sanger, TX	SMC	1994	Dec	NR	M	525	1716	77	74	1.04	ND	1.0
Clear Creek nr Sanger, TX	SMC	1994	Dec	NR	M	511	1782	78	96	0.81	ND	1.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	F	450	969	383	354	1.082	0.642	3.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	F	444	1071	702	425	1.652	5.816	3.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	F	443	1118	391	401	0.975	1.752	2.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	F	428	995	311	296	1.051	1.047	3.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	F	428	902	307	541	0.567	3.016	2.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	F	428	949	626	435	1.439	3.504	4.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	F	411	995	402	596	0.674	3.129	3.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	F	402	834	187	171	1.094	3.096	3.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	F	401	794	290	381	0.761	0.317	3.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	F	389	907	904	857	1.055	2.341	4.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	M	490	1294	95	255	0.373	0.678	3.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	M	449	1038	87	132	0.659	ND	2.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	M	433	793	95	279	0.341	ND	2.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	M	431	878	89	731	0.122	ND	3.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	M	428	754	107	406	0.264	ND	3.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	M	427	828	118	259	0.456	0.350	3.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	M	423	899	85	154	0.552	ND	3.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	M	410	826	77	74	1.041	ND	3.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	M	408	847	89	95	0.937	ND	2.0
Colo R inflo L Mead @ Pearce Fy, AZ	SW	1996	May	R	M	404	717	105	229	0.459	ND	3.0
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	M	383	819	725	1156	0.63	ND	3
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	626	3750	556	178	3.12	1.731	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	613	3100	1535	208	7.38	1.603	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	560	2500	748	613	1.22	2.634	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	555	2450	512	53	9.66	1.882	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	541	2350	1407	338	4.16	2.004	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	492	1536	1067	241	4.43	2.242	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	490	1619	1833	351	5.22	2.986	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	468	1462	1186	118	10.05	2.526	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	459	1351	1524	362	4.21	1.355	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	459	1223	1672	246	6.80	2.972	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	439	1105	1608	260	6.18	2.317	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	581	2200	170	1139	0.15	ND	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	515	1600	465	820	0.57	ND	3
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	515	1520	798	588	1.36	ND	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	506	1200	381	419	0.91	ND	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	504	1600	205	195	1.05	ND	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	487	1287	253	1049	0.24	ND	3
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	471	1250	292	432	0.68	ND	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	467	1254	109	548	0.20	ND	3
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	461	1350	172	776	0.22	ND	3
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	F	661	3800	102	119	0.86	0.476	2
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	F	659	3600	184	212	0.87	0.714	2
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	F	645	4250	320	238	1.34	1.614	2
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	F	645	3400	711	548	1.30	1.319	2
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	F	641	3100	610	405	1.51	0.126	1

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	F	630	4550	832	231	3.60	1.701	2
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	F	604	3000	261	51	5.12	2.327	2
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	F	558	2400	652	205	3.18	1.340	2
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	F	548	2300	594	481	1.23	2.259	2
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	F	475	1376	855	131	6.53	1.954	2
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	M	667	2950	408	335	1.22	ND	3
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	M	617	2950	225	103	2.18	ND	2
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	M	610	2800	432	329	1.31	ND	3
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	M	575	2100	102	383	0.27	ND	3
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	M	523	1531	183	696	0.26	ND	2
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	M	516	1750	223	703	0.32	ND	2
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	M	500	1576	316	361	0.88	0.018	2
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	M	457	1246	118	695	0.17	0.007	3
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	M	440	1477	219	335	0.65	ND	2
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	M	435	1086	272	562	0.48	0.037	3
Columbia Riv @ Vernita Bg, WA	NW	1997	Oct	NR	M	416	917	105	151	0.70	ND	2
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	F	696	4500	882	782	1.13	0.997	2
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	F	635	4250	658	663	0.99	0.390	2
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	F	607	2600	791	567	1.40	ND	2
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	F	592	2700	727	124	5.86	0.139	2
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	F	582	3100	518	898	0.58	0.777	2
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	F	550	2400	1031	468	2.20	0.191	2
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	F	541	2250	416	486	0.86	0.367	2
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	F	520	1948	88	58	1.52	0.349	2
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	F	511	1821	661	149	4.44	0.120	3
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	F	500	1670	550	115	4.78	0.305	2
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	M	625	3400	118	396	0.30	ND	3
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	M	582	2600	197	126	1.56	0.008	3
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	M	539	2400	196	189	1.04	0.010	3
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	M	520	1878	119	294	0.40	0.035	3
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	M	517	1918	214	336	0.64	0.009	3
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	M	515	1679	1117	311	3.59	ND	3
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	M	495	1548	588	911	0.65	0.011	3
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	M	490	1736	291	335	0.87	0.007	3
Columbia Riv @ Warrendale, OR	NW	1997	Nov	NR	M	478	1630	274	349	0.79	ND	3
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	F	810	8286	4605	2740	1.68	36.000	3.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	F	765	7264	4358	1621	2.69	38.000	4.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	F	764	8172	7703	1663	4.63	26.600	4.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	F	745	7037	1646	769	2.14	ND	3.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	F	740	5902	2729	1962	1.39	25.600	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

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Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	F	738	7037	2564	1532	1.67	38.000	4.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	F	732	6356	1982	1368	1.45	21.300	3.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	F	650	7037	1996	924	2.16	38.300	3.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	F	618	2423	2505	1537	1.63	37.700	3.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	M	690	6356	923	2161	0.43	ND	3.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	M	670	5902	995	1271	0.78	ND	3.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	M	652	4313	556	1043	0.53	ND	3.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	M	648	878	610	1937	0.31	ND	3.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	M	638	4540	869	1462	0.59	ND	3.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	M	632	4086	857	1593	0.54	ND	3.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	M	610	4313	1120	2109	0.53	ND	3.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	M	582	2918	1227	1394	0.88	ND	3.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	M	420	1167	327	803	0.41	ND	3.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	M	383	873	114	629	0.18	ND	2.0
Conn Riv @ Thompsonville, CT	NE	1994	Sept	NR	M	339	601	586	442	1.33	ND	3.0
Cumberland Riv @ Clarksville, TN	SMC	1995	Oct	NR	F	545	2400	554	69	5.91	2.304	3
Cumberland Riv @ Clarksville, TN	SMC	1995	Oct	NR	F	545	1968	545	119	4.58	3.113	3
Cumberland Riv @ Clarksville, TN	SMC	1995	Oct	NR	M	570	2400	160	1164	0.14	ND	2
Cumberland Riv @ Clarksville, TN	SMC	1995	Oct	NR	M	505	1729	331	137	2.42	0.025	2
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	M	360	667	567	4301	0.13	ND	2
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	F	605	2900	557	135	4.13	1.861	3
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	F	600	2900	541	224	2.42	1.317	3
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	F	555	2500	850	157	5.41	4.055	3
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	F	548	2350	517	446	1.16	1.900	3
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	F	547	2050	652	282	2.31	0.989	3
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	F	541	2100	1220	522	2.34	3.673	3
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	F	536	2400	488	163	2.99	1.967	3
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	F	497	1571	556	429	1.30	0.474	3
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	F	491	1555	673	305	2.21	5.482	3
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	F	462	1310	490	132	3.71	0.045	1
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	M	528	1756	498	2490	0.20	ND	2
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	M	522	1760	467	1613	0.29	ND	2
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	M	513	1563	533	2518	0.21	ND	2
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	M	511	1610	567	1596	0.36	ND	1.5
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	M	504	1556	441	1780	0.25	ND	1.5
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	M	480	1317	538	3068	0.18	ND	2
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	M	445	1115	452	3936	0.11	ND	2
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	M	369	777	459	4001	0.11	ND	2
Des Moines Riv @ Keosauqua, IA	NMC	1995	Oct	NR	M	365	566	525	3611	0.15	ND	2.5
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	766	5176	2929	1416	2.07	26.000	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	485	1536	5922	1854	3.19	30.400	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	484	1487	3121	2168	1.44	38.000	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	484	1398	3532	1691	2.09	22.900	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	457	1348	3623	1757	2.06	30.700	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	454	1310	6398	2851	2.24	34.900	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	437	1082	3156	2868	1.10	30.000	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	430	1066	4553	2542	1.79	41.300	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	415	1023	4344	2470	1.76	31.000	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	410	943	2493	1048	2.38	2.300	1.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	526	1853	2253	4141	0.54	ND	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	470	1448	2412	4421	0.55	ND	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	455	1272	2319	4478	0.52	ND	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	450	1294	2066	5009	0.41	ND	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	445	1127	1338	3589	0.37	ND	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	440	1264	2220	4722	0.47	ND	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	434	1183	2123	4121	0.52	ND	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	430	1153	2542	3882	0.65	0.010	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	426	1129	1376	3945	0.35	ND	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	425	1051	2218	3702	0.60	0.120	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	423	1009	2219	4978	0.45	ND	3.0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	416	1009	1950	4476	0.44	ND	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	733	4638	1032	405	2.55	19.166	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	671	3676	1809	1020	1.77	20.444	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	662	3769	1112	396	2.81	28.680	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	648	3848	2397	701	3.42	19.295	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	642	3592	1232	646	1.91	23.568	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	581	2760	2437	968	2.52	36.916	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	579	2734	1381	477	2.90	21.310	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	571	1990	614	245	2.51	24.846	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	560	2478	2289	215	10.65	108.266	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	555	2424	1505	354	4.25	33.650	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	554	2498	1443	235	6.14	44.584	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	540	2311	1398	615	2.27	30.526	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	M	566	2310	227	1553	0.15	ND	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	M	535	2088	267	744	0.36	ND	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	M	535	2132	132	705	0.19	ND	3.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	M	532	2054	167	682	0.24	ND	2.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	M	525	2117	422	615	0.69	ND	2.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	M	515	2098	88	152	0.58	ND	2.0
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	M	511	1882	152	1394	0.11	ND	2.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	M	481	1475	260	2885	0.09	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	F	727	6200	3964	920	4.31	20.000	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	F	583	3497	5780	261	22.15	29.000	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	F	580	3174	1002	217	4.62	23.000	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	F	515	2047	1372	272	5.04	24.000	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	F	503	1922	1281	346	3.70	22.000	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	F	500	2753	2216	113	19.61	17.000	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	F	487	1569	3244	220	14.75	8.000	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	674	5500	889	913	0.97	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	648	4007	409	578	0.71	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	645	3667	76	319	0.24	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	622	3743	446	510	0.87	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	601	3322	468	1211	0.39	0.240	2.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	600	3150	1070	1426	0.75	0.020	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	584	2554	1103	1638	0.67	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	575	2408	405	528	0.77	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	554	2436	742	1180	0.63	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	553	3367	654	729	0.90	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	532	2097	339	651	0.52	0.150	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	530	1919	182	254	0.72	0.160	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	518	2334	72	1410	0.05	0.090	2.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	508	1716	277	659	0.42	0.500	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	495	1356	1183	1081	1.09	0.080	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	490	1535	253	458	0.55	0.380	2.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	490	1519	623	995	0.63	0.180	2.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	488	1707	93	1125	0.08	0.570	3.0
Hudson Riv @ L Lazurne, NY	NE	1994	Sept	NR	M	475	1591	323	626	0.52	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	F	610	3700	433	167	2.593	87.793	3.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	F	585	3200	943	944	0.999	42.469	3.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	F	529	2070	673	1286	0.523	40.360	3.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	702	5000	846	1245	0.680	ND	2.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	684	5150	760	1281	0.593	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	662	4650	699	1811	0.386	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	636	4100	759	784	0.968	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	615	3920	644	468	1.376	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	600	3300	805	483	1.667	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	587	2950	1067	322	3.314	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	568	2550	634	426	1.488	ND	2.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	564	2550	817	222	3.680	ND	2.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	534	1950	1786	1378	1.296	ND	1.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	531	2100	839	479	1.752	ND	2.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	530	2100	909	807	1.126	ND	2.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	497	1800	427	584	0.731	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	497	1750	885	765	1.157	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	494	1650	432	753	0.574	ND	3.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	480	1650	832	949	0.877	ND	2.0
Hudson Riv @ L Lazurne, NY	NE	1995	May	R	M	473	1375	924	836	1.105	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	F	920	10000	3696	1702	2.17	19.000	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	F	762	7500	4426	1594	2.78	26.000	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	F	693	4858	3773	1007	3.75	33.900	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	F	623	3650	3626	1391	2.61	39.600	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	F	616	3737	2429	318	7.64	35.000	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	F	598	2492	435	304	1.43	31.000	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	F	578	3045	1756	916	1.92	43.500	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	F	574	2685	4499	1231	3.65	35.800	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	F	557	2407	3364	1168	2.88	35.600	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	F	554	2590	4476	1640	2.73	50.200	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	F	513	2175	4141	846	4.89	31.000	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	673	5352	37	1602	0.02	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	667	4521	105	1806	0.06	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	666	4623	105	1996	0.05	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	664	4278	183	1145	0.16	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	642	3449	158	1435	0.11	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	631	3998	186	2144	0.09	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	628	3797	186	1671	0.11	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	615	3498	857	1994	0.43	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	608	3627	503	3012	0.17	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	603	2786	29	565	0.05	0.020	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	602	3181	195	1381	0.14	0.040	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	587	3080	178	1809	0.10	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	578	2913	59	1049	0.06	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	577	2960	161	1120	0.14	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	573	3139	213	2128	0.10	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	560	2607	262	1754	0.15	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	545	2538	160	2572	0.06	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	508	1946	304	2528	0.12	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	F	735	6100	1334	1868	0.714	45.034	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	F	729	6300	1390	485	2.866	89.456	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	F	692	6200	1286	715	1.799	35.256	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	F	685	6100	467	199	2.347	ND	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	F	685	5100	1839	1589	1.157	40.491	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	F	682	5400	1787	922	1.938	43.649	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	F	679	4600	3662	312	11.737	38.154	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	F	651	4500	1646	1235	1.333	78.525	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	F	624	3900	3182	1431	2.224	45.337	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	F	613	3500	1231	902	1.365	30.064	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	F	609	3700	1257	541	2.323	29.717	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	F	598	2800	1384	303	4.568	49.750	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	F	576	3100	1917	2554	0.751	47.024	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	M	763	7300	1331	231	5.762	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	M	740	7100	160	714	0.224	0.202	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	M	713	6000	1701	1002	1.698	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	M	705	5600	1370	2313	0.592	ND	1.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	M	665	4700	1403	947	1.482	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	M	657	4100	191	1375	0.139	ND	1.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	M	654	4000	378	2658	0.142	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	M	651	4200	253	2380	0.106	ND	3.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	M	625	3400	89	1838	0.048	ND	2.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	M	624	4800	476	2243	0.212	ND	1.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	M	592	3300	310	205	1.512	ND	2.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	M	542	2600	2565	1047	2.450	ND	2.0
Hudson Riv @ Poughkeepsie, NY	NE	1995	May	R	M	496	2500	1621	4871	0.333	ND	2.0
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	F	529	1864	633	541	1.17	6.344	3
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	F	466	1421	767	846	0.91	3.885	3
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	F	443	1214	171	218	0.78	6.264	3
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	F	436	1368	390	547	0.71	3.129	3
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	F	411	819	1051	382	2.75	4.557	3
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	F	403	797	355	671	0.53	4.513	3
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	F	399	877	809	270	3.00	2.316	3
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	F	387	811	221	101	2.19	3.453	3
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	F	373	745	738	757	0.97	2.477	3
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	F	366	616	346	378	0.92	3.853	3
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	M	441	956	393	1948	0.20	ND	2
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	M	434	961	286	5401	0.05	ND	1
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	M	428	922	316	1389	0.23	ND	1
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	M	428	865	254	857	0.30	ND	1
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	M	397	684	291	605	0.48	ND	1
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	M	392	734	367	113	3.25	ND	3
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	M	390	754	442	1090	0.41	ND	1
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	M	381	833	279	1887	0.15	ND	1

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

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Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	M	379	721	220	1046	0.21	ND	1
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	R	M	376	629	246	881	0.28	ND	1
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	F	595	3102	2681	944	2.84	5.685	3.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	F	592	2984	2113	773	2.73	3.184	3.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	F	590	2960	912	651	1.40	2.697	3.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	F	570	2753	1219	844	1.44	3.454	3.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	F	470	1444	143	1155	0.12	6.930	3.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	F	458	1388	1472	830	1.77	3.567	3.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	F	455	1495	1092	640	1.71	4.528	3.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	F	435	1192	3377	1093	3.09	5.139	3.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	F	432	970	651	980	0.66	ND	2.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	F	402	994	2117	272	7.78	2.072	3.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	M	615	2720	57	310	0.18	ND	1.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	M	598	2971	142	672	0.21	ND	2.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	M	576	2618	151	295	0.51	ND	2.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	M	563	2303	214	296	0.72	ND	2.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	M	543	2119	421	75	5.61	ND	2.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	M	515	1688	46	158	0.29	ND	2.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	M	452	1205	401	261	1.54	ND	1.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	M	451	1407	27	1872	0.01	ND	2.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	M	451	1292	98	1192	0.08	ND	2.0
Iowa Riv @ Rowan, IA	NMC	1995	Sept	R	M	440	1190	61	644	0.09	ND	2.0
Iowa Riv @ S Fk nr N Providence, IA	NMC	1995	Sept	R	F	665	4700	819	112	7.31	3.228	3.0
Iowa Riv @ S Fk nr N Providence, IA	NMC	1995	Sept	R	F	647	4047	1253	155	8.08	2.736	3.0
Iowa Riv @ S Fk nr N Providence, IA	NMC	1995	Sept	R	F	624	3751	2491	484	5.15	4.159	3.0
Iowa Riv @ S Fk nr N Providence, IA	NMC	1995	Sept	R	M	615	3512	66	69	0.96	ND	2.0
Iowa Riv @ S Fk nr N Providence, IA	NMC	1995	Sept	R	M	602	3119	179	1391	0.13	ND	2.0
Iowa Riv @ S Fk nr N Providence, IA	NMC	1995	Sept	R	M	560	2441	1790	717	2.50	ND	2.0
Iowa Riv @ S Fk nr N Providence, IA	NMC	1995	Sept	R	M	528	2043	116	488	0.24	ND	2.0
Iowa Riv @ S Fk nr N Providence, IA	NMC	1995	Sept	R	M	508	1744	575	314	1.83	ND	2.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	F	530	1970	4819	569	8.47	3.760	3.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	F	510	1635	1298	249	5.21	3.927	3.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	F	500	1724	1208	378	3.20	4.899	3.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	F	500	1694	468	268	1.75	2.952	3.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	F	480	1476	1319	380	3.47	3.051	3.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	F	468	1370	3267	258	12.66	5.132	3.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	F	465	1363	1266	208	6.09	2.474	3.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	F	435	1033	2473	314	7.88	3.631	2.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	F	360	629	334	57	5.86	0.181	1.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	F	360	631	1735	346	5.01	1.980	2.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Iowa River nr Murengo, IA	NMC	1995	Sept	R	M	540	2265	307	361	0.85	ND	2.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	M	530	1621	430	255	1.69	ND	2.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	M	520	1985	235	263	0.89	ND	2.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	M	507	1860	746	1348	0.55	ND	2.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	M	505	1797	312	1253	0.25	ND	2.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	M	505	1598	249	1251	0.20	ND	2.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	M	410	838	1455	268	5.43	ND	2.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	M	405	772	417	312	1.34	ND	2.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	M	390	736	378	164	2.30	ND	2.0
Iowa River nr Murengo, IA	NMC	1995	Sept	R	M	383	650	383	1320	0.29	ND	2.0
James Riv @ Olivet, SD	NMC	1995	Sept	NR	F	588	3600	2112	1461	1.45	9.328	3
James Riv @ Olivet, SD	NMC	1995	Sept	NR	F	510	1600	741	1270	0.58	3.716	2
James Riv @ Olivet, SD	NMC	1995	Sept	NR	F	426	950	855	568	1.51	5.683	2
James Riv @ Olivet, SD	NMC	1995	Sept	NR	F	420	1000	1299	640	2.03	6.678	3
James Riv @ Olivet, SD	NMC	1995	Sept	NR	F	404	800	1281	463	2.77	0.390	1
James Riv @ Olivet, SD	NMC	1995	Sept	NR	F	388	675	503	152	3.31	3.122	2
James Riv @ Olivet, SD	NMC	1995	Sept	NR	F	384	650	907	110	8.25	0.059	1
James Riv @ Olivet, SD	NMC	1995	Sept	NR	F	347	500	716	988	0.72	2.531	2
James Riv @ Olivet, SD	NMC	1995	Sept	NR	F	316	400	492	1129	0.44	0.142	1
James Riv @ Olivet, SD	NMC	1995	Sept	NR	F	NA	600	461	1255	0.37	ND	2
James Riv @ Olivet, SD	NMC	1995	Sept	NR	M	603	2775	602	1186	0.51	ND	2
James Riv @ Olivet, SD	NMC	1995	Sept	NR	M	570	2300	1285	1230	1.04	ND	1.5
James Riv @ Olivet, SD	NMC	1995	Sept	NR	M	541	1900	589	1203	0.49	ND	2
James Riv @ Olivet, SD	NMC	1995	Sept	NR	M	535	1975	616	1652	0.37	0.008	1.5
James Riv @ Olivet, SD	NMC	1995	Sept	NR	M	517	1750	1084	2805	0.39	ND	1.5
James Riv @ Olivet, SD	NMC	1995	Sept	NR	M	509	1800	862	759	1.14	ND	1
James Riv @ Olivet, SD	NMC	1995	Sept	NR	M	504	1875	1092	3062	0.36	ND	1.5
James Riv @ Olivet, SD	NMC	1995	Sept	NR	M	348	525	811	256	3.17	ND	0.5
James Riv @ Olivet, SD	NMC	1995	Sept	NR	M	319	325	446	1387	0.32	ND	1
Jordan Riv @ 17th St, UT	SW	1998	Aug	R	F	492	1572	782	500	1.564	6.396	2
Jordan Riv @ 17th St, UT	SW	1998	Aug	R	F	421	1110	845	276	3.062	1.149	2
Jordan Riv @ 17th St, UT	SW	1998	Aug	R	F	421	1074	633	579	1.093	0.399	3
Jordan Riv @ 17th St, UT	SW	1998	Aug	R	F	374	858	1296	460	2.817	0.025	3
Jordan Riv @ 17th St, UT	SW	1998	Aug	R	F	366	702	366	268	1.366	2.163	2
Jordan Riv @ 17th St, UT	SW	1998	Aug	R	M	570	1885	225	768	0.293	ND	3
Jordan Riv @ 17th St, UT	SW	1998	Aug	R	M	532	2168	168	1569	0.107	ND	3
Jordan Riv @ 17th St, UT	SW	1998	Aug	R	M	447	1195	170	347	0.490	0.023	3
Jordan Riv @ 17th St, UT	SW	1998	Aug	R	M	378	796	399	720	0.554	0.023	3
Jordan Riv @ 17th St, UT	SW	1998	Aug	R	M	347	762	468	477	0.981	0.043	3
Jordan Riv @ Cudahy, UT	SW	1998	Aug	R	F	785	7581	888	822	1.080	1.057	3

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Jordan Riv @ Cudahy, UT	SW	1998	Aug	R	F	779	5963	316	311	1.016	0.581	3
Jordan Riv @ Cudahy, UT	SW	1998	Aug	R	F	715	4600	1816	838	2.167	1.728	3
Jordan Riv @ Cudahy, UT	SW	1998	Aug	R	F	710	4767	1270	466	2.725	2.198	3
Jordan Riv @ Cudahy, UT	SW	1998	Aug	R	F	625	3397	404	385	1.049	0.926	3
Jordan Riv @ Cudahy, UT	SW	1998	Aug	R	M	779	5700	610	678	0.900	ND	3
Jordan Riv @ Cudahy, UT	SW	1998	Aug	R	M	694	4000	776	2324	0.334	0.019	3
Jordan Riv @ Cudahy, UT	SW	1998	Aug	R	M	524	1725	281	329	0.854	ND	2
Jordan Riv @ Cudahy, UT	SW	1998	Aug	R	M	405	881	690	875	0.789	ND	1
Jordan Riv @ Cudahy, UT	SW	1998	Aug	R	M	391	870	835	1286	0.649	ND	1
Jordan Riv @ Utah L, UT	SW	1998	Aug	R	F	560	2089	1040	364	2.857	0.825	3
Jordan Riv @ Utah L, UT	SW	1998	Aug	R	F	560	2869	278	34	8.176	1.927	3
Jordan Riv @ Utah L, UT	SW	1998	Aug	R	F	535	2165	1207	269	4.487	3.172	3
Jordan Riv @ Utah L, UT	SW	1998	Aug	R	F	362	660	546	151	3.616	0.042	2
Jordan Riv @ Utah L, UT	SW	1998	Aug	R	F	331	493	428	313	1.367	1.114	1
Jordan Riv @ Utah L, UT	SW	1998	Aug	R	F	278	288	424	257	1.650	0.678	1
Jordan Riv @ Utah L, UT	SW	1998	Aug	R	M	515	2591	546	660	0.827	ND	3
Jordan Riv @ Utah L, UT	SW	1998	Aug	R	M	489	1455	527	615	0.857	ND	2
Jordan Riv @ Utah L, UT	SW	1998	Aug	R	M	331	473	366	447	0.819	0.061	1
Jordan Riv @ Utah L, UT	SW	1998	Aug	R	M	278	1504	504	597	0.844	0.024	2
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	F	752	5450	853	879	0.97	1.039	3
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	F	657	3250	979	637	1.54	ND	2
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	F	657	4850	1177	814	1.45	1.509	3
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	F	653	3850	1583	847	1.87	2.518	3
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	F	628	3450	1207	750	1.61	2.044	3
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	F	603	2800	1131	1025	1.10	3.761	3
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	F	586	2275	611	649	0.94	ND	2
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	F	568	2250	443	1070	0.41	1.677	3
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	F	555	2075	614	821	0.75	1.005	1
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	F	533	2125	739	875	0.84	3.207	3
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	M	621	2800	979	979	1.00	ND	1
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	M	621	2750	612	1090	0.56	ND	2
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	M	620	2950	1445	845	1.71	ND	1.5
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	M	596	2800	422	1034	0.41	ND	1.5
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	M	593	2700	417	1206	0.35	ND	1.5
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	M	565	2750	592	1124	0.53	0.013	1.5
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	M	563	2000	417	953	0.44	ND	1
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	M	557	2375	1027	1137	0.90	ND	2
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	M	533	2050	466	828	0.56	ND	1.5
Kansas Riv @ Bonner Sp, KS	NMC	1995	Nov	NR	M	460	1200	645	1026	0.63	ND	3
Lake Mojave, NV	SW	1997	May	R	F	483	1232	1003	316	3.174	1.122	3

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Lake Mojave, NV	SW	1997	May	R	F	506	1239	1401	516	2.715	3.818	3
Lake Mojave, NV	SW	1997	May	R	F	436	1561	1373	707	1.942	3.348	3
Lake Mojave, NV	SW	1997	May	R	F	403	1885	610	255	2.392	4.091	3
Lake Mojave, NV	SW	1997	May	R	F	486	2193	742	193	3.845	3.063	3
Lake Mojave, NV	SW	1997	May	R	F	474	1257	651	62	10.500	3.257	3
Lake Mojave, NV	SW	1997	May	R	F	501	1704	727	199	3.653	2.565	2
Lake Mojave, NV	SW	1997	May	R	F	468	1394	1307	340	3.844	2.537	3
Lake Mojave, NV	SW	1997	May	R	F	411	1035	1286	139	9.252	0.487	3
Lake Mojave, NV	SW	1997	May	R	F	475	1033	873	424	2.059	1.549	3
Lake Mojave, NV	SW	1997	May	R	F	493	1830	881	56	15.732	16.124	2
Lake Mojave, NV	SW	1997	May	R	F	512	1620	922	103	8.951	2.818	3
Lake Mojave, NV	SW	1997	May	R	F	509	1575	1301	356	3.654	1.265	3
Lake Mojave, NV	SW	1997	May	R	F	472	1620	1313	483	2.718	1.497	3
Lake Mojave, NV	SW	1997	May	R	F	505	1575	424	363	1.168	6.171	3
Lake Mojave, NV	SW	1997	May	R	F	483	1276	231	140	1.650	ND	3
Lake Mojave, NV	SW	1997	May	R	F	434	745	913	498	1.833	2.154	3
Lake Mojave, NV	SW	1997	May	R	F	416	1430	619	516	1.200	1.025	3
Lake Mojave, NV	SW	1997	May	R	F	526	1339	1220	249	4.900	3.256	3
Lake Mojave, NV	SW	1997	May	R	F	483	1495	408	300	1.360	0.141	3
Lake Mojave, NV	SW	1997	May	R	F	506	1481	930	416	2.236	1.427	3
Lake Mojave, NV	SW	1997	May	R	F	436	987	479	419	1.143	0.248	3
Lake Mojave, NV	SW	1997	May	R	F	403	1357	366	234	1.564	0.016	3
Lake Mojave, NV	SW	1997	May	R	F	486	1394	260	173	1.503	ND	3
Lake Mojave, NV	SW	1997	May	R	M	472	1035	211	1290	0.164	ND	2
Lake Mojave, NV	SW	1997	May	R	M	494	1033	404	2211	0.183	ND	3
Lake Mojave, NV	SW	1997	May	R	M	491	1830	585	2494	0.235	ND	3
Lake Mojave, NV	SW	1997	May	R	M	473	1620	418	2802	0.149	ND	3
Lake Mojave, NV	SW	1997	May	R	M	443	1575	391	2804	0.139	ND	3
Lake Mojave, NV	SW	1997	May	R	M	449	1232	342	1677	0.204	0.128	3
Lake Mojave, NV	SW	1997	May	R	M	457	1239	356	1698	0.210	0.065	3
Lake Mojave, NV	SW	1997	May	R	M	378	1561	273	1800	0.152	ND	2
Lake Mojave, NV	SW	1997	May	R	M	435	1885	187	257	0.728	ND	3
Lake Mojave, NV	SW	1997	May	R	M	512	2193	282	751	0.375	0.004	3
Lake Mojave, NV	SW	1997	May	R	M	493	1257	71	263	0.270	ND	3
Lake Mojave, NV	SW	1997	May	R	M	512	1704	281	522	0.538	ND	3
Lake Mojave, NV	SW	1997	May	R	M	509	1232	192	1327	0.145	0.026	3
Lake Mojave, NV	SW	1997	May	R	M	472	1239	198	652	0.304	0.034	3
Lake Mojave, NV	SW	1997	May	R	M	434	1561	497	1692	0.294	ND	2
Lake Mojave, NV	SW	1997	May	R	M	416	1885	100	369	0.271	ND	3
Lake Mojave, NV	SW	1997	May	R	M	526	2193	205	680	0.301	ND	3

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

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Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Lake Mojave, NV	SW	1997	May	R	M	483	1257	179	970	0.185	ND	3
Lake Mojave, NV	SW	1997	May	R	M	506	1704	163	859	0.190	ND	3
Lake Mojave, NV	SW	1997	May	R	M	436	1232	235	934	0.252	ND	2
Lake Mojave, NV	SW	1997	May	R	M	403	2193	363	1139	0.319	0.108	3
Lake Mojave, NV	SW	1997	May	R	M	486	1257	265	950	0.279	ND	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	F	465	1162	1297	749	1.732	1.047	0
Las Vegas Bay, L Mead, NV	SW	1997	May	R	F	444	1394	541	754	0.718	1.078	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	F	526	1830	139	527	0.264	1.069	0
Las Vegas Bay, L Mead, NV	SW	1997	May	R	F	468	1481	1484	758	1.958	1.105	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	F	411	987	1469	547	2.686	1.038	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	F	475	1357	1593	917	1.737	1.548	4
Las Vegas Bay, L Mead, NV	SW	1997	May	R	F	451	1022	679	482	1.409	0.206	1
Las Vegas Bay, L Mead, NV	SW	1997	May	R	F	451	1344	546	219	2.493	0.804	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	F	515	1822	1766	992	1.780	0.15	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	M	494	1608	1199	1121	1.070	ND	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	M	434	1035	616	366	1.683	ND	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	M	416	1033	118	725	0.163	ND	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	M	483	1620	372	1352	0.275	ND	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	M	506	1575	913	1248	0.732	ND	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	M	436	1276	151	671	0.225	ND	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	M	403	745	459	765	0.600	ND	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	M	486	1430	876	503	1.742	ND	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	M	474	1339	980	609	1.609	ND	3
Las Vegas Bay, L Mead, NV	SW	1997	May	R	M	501	1495	1298	2481	0.523	ND	3
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	442	1204.8	822	244	3.37	1.400	3
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	441	1050	904	225	4.02	ND	3
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	429	986.2	309	103	3.00	1.685	3
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	424	982.3	319	248	1.29	1.762	3
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	421	922.1	1160	187	6.20	2.875	3
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	416	908.2	602	183	3.29	2.887	3
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	388	797.3	1231	411	3.00	ND	3
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	387	798.4	543	285	1.91	1.446	3
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	386	742.2	622	179	3.48	ND	3
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	367	649.5	505	334	1.51	1.950	3
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	362	584.4	854	481	1.78	1.549	3
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	464	1129.5	419	1764	0.24	ND	2.5
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	448	1122	389	1366	0.29	ND	2.5
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	414	957.2	416	643	0.65	ND	2.5
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	381	677	135	489	0.28	ND	2.5
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	368	602.8	293	1646	0.18	ND	2.5

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	353	560.4	223	501	0.45	ND	2.5
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	346	513	197	371	0.53	ND	2.5
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	337	462.8	335	990	0.34	ND	2.5
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	F	610	3474	2114	419	5.05	4.834	3.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	F	580	2571	1143	2008	0.57	1.684	3.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	F	548	2559	1401	1102	1.27	6.222	3.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	F	525	1995	1735	1083	1.60	4.464	3.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	F	524	1828	1406	868	1.62	1.455	3.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	F	510	1986	1979	286	6.92	6.870	3.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	F	510	1912	1162	1366	0.85	5.837	3.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	F	500	1793	1409	982	1.43	8.291	3.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	F	495	1865	2217	675	3.28	7.039	3.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	F	480	1519	2492	575	4.33	7.607	3.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	M	560	2467	1457	610	2.39	ND	2.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	M	530	1953	229	287	0.80	ND	3.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	M	520	1921	47	823	0.06	ND	2.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	M	510	1748	62	565	0.11	ND	2.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	M	480	1293	604	836	0.72	ND	2.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	M	475	1399	364	646	0.56	ND	2.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	M	475	1400	335	731	0.46	ND	2.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	M	470	1302	632	826	0.77	ND	2.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	M	440	1158	17	1389	0.01	ND	2.0
Little Riv Ditch @ Moorehouse, MO	NMC	1995	Oct	NR	M	410	1256	539	1010	0.53	ND	2.0
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	F	415	990	181	149	1.21	3.821	3
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	F	413	915	984	285	3.45	2.132	3
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	F	390	723	361	175	2.06	3.753	2
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	F	375	664	520	207	2.51	2.219	3
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	F	370	607	976	147	6.64	0.006	1
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	F	370	575	212	246	0.86	0.058	1
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	F	362	648	660	344	1.92	3.972	3
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	F	360	603	505	123	4.11	3.998	2
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	F	350	601	283	461	0.61	0.010	1
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	F	344	304	232	124	1.87	2.476	3
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	M	550	2009	500	3805	0.13	ND	2
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	M	480	1678	291	2774	0.10	ND	1
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	M	415	861	396	5991	0.07	ND	2
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	M	413	968	268	478	0.56	ND	2
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	M	400	858	465	1440	0.32	ND	1
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	M	390	746	527	513	1.03	ND	2
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	M	375	698	318	342	0.93	ND	2

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	M	360	556	353	879	0.40	ND	2
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	M	330	466	259	220	1.18	ND	2
Mississippi R @ Cape Girardeau, MO	SMC	1995	Oct	NR	M	300	336	314	1225	0.26	ND	1
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	560	2500	2831	952	2.97	6.376	3
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	560	2200	1422	351	4.05	ND	3
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	540	2500	1114	606	1.84	4.767	3
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	540	2300	2473	491	5.04	3.488	3
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	540	2300	2082	717	2.90	10.725	3
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	510	2000	2261	935	2.42	0.270	3
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	510	1688	1576	1072	1.47	1.272	3
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	510	1783	2877	895	3.21	2.266	3
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	490	1809	4852	604	8.03	15.470	3
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	340	555	1128	513	2.20	3.778	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	570	2900	2713	1167	2.32	2.645	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	550	2100	761	1618	0.47	ND	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	530	1966	579	1097	0.53	ND	1
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	510	1781	1045	1838	0.57	ND	1
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	505	1744	598	2506	0.24	ND	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	500	1693	1081	1321	0.82	ND	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	495	1771	913	985	0.93	ND	1.5
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	485	1396	616	1065	0.58	ND	1.5
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	480	1483	908	3402	0.27	ND	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	470	1436	972	1327	0.73	ND	1.5
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	513	1648	1422	273	5.21	9.090	3
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	508	1895	639	312	2.05	4.662	3
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	497	1732	2799	494	5.67	2.465	3
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	496	1872	913	343	2.66	3.892	3
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	495	1685	2231	863	2.59	5.829	3
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	485	1458	827	556	1.49	6.049	3
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	470	1634	1515	836	1.81	4.534	3
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	465	1472	3172	224	14.16	16.201	3
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	455	1230	1341	325	4.13	3.546	3
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	441	1328	901	379	2.38	6.719	3
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	496	1672	555	3052	0.18	ND	1
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	490	1571	719	2108	0.34	ND	1
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	485	1487	1019	1558	0.65	ND	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	473	1391	906	1385	0.65	ND	1
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	470	1335	932	1561	0.60	ND	1
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	448	1119	345	1227	0.28	ND	1
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	445	1144	1020	6341	0.16	ND	1

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	442	1091	867	1482	0.59	ND	1
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	440	1101	479	711	0.67	ND	1
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	395	862	321	1418	0.23	ND	1
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	F	600	2800	1697	785	2.16	2.953	3
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	F	564	2200	1007	1006	1.00	4.490	3
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	F	562	2250	1654	958	1.73	0.054	1
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	F	542	2070	2058	1147	1.79	3.332	3
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	F	536	2000	989	980	1.01	3.169	3
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	F	533	2000	1859	994	1.87	11.701	3
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	F	531	1850	797	411	1.94	0.689	2
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	F	524	1900	907	777	1.17	6.734	3
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	F	482	1580	1049	1221	0.86	3.787	3
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	F	439	1100	881	421	2.09	0.157	2
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	M	536	4600	642	1050	0.61	ND	1.5
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	M	523	1900	1089	1241	0.88	ND	1.5
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	M	515	2050	843	1389	0.61	ND	1.5
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	M	511	1800	1047	1154	0.91	ND	1.5
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	M	510	1600	827	1799	0.46	ND	1
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	M	503	1800	1258	1915	0.66	ND	1.5
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	M	491	1600	599	1116	0.54	ND	1
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	M	490	1500	864	1706	0.51	ND	1
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	M	488	1450	1008	1963	0.51	0.008	1
Mississippi Riv @ L City, MN	NMC	1995	Sept	NR	M	470	1450	445	1235	0.36	ND	1.5
Mississippi Riv @ Luling, LA	SMC	1995	Nov	NR	F	720	6602	907	716	1.27	0.567	1
Mississippi Riv @ Luling, LA	SMC	1995	Nov	NR	F	680	5400	547	155	3.53	1.260	3
Mississippi Riv @ Luling, LA	SMC	1995	Nov	NR	F	650	5300	651	298	2.18	3.244	3
Mississippi Riv @ Luling, LA	SMC	1995	Nov	NR	F	585	3475	593	156	3.80	2.213	3
Mississippi Riv @ Luling, LA	SMC	1995	Nov	NR	F	550	2900	631	269	2.35	1.092	3
Mississippi Riv @ Luling, LA	SMC	1995	Nov	NR	F	505	2131	562	302	1.86	0.628	3
Mississippi Riv @ Luling, LA	SMC	1995	Nov	NR	F	350	720	288	131	2.20	1.782	1
Mississippi Riv @ Luling, LA	SMC	1995	Nov	NR	M	600	3325	491	590	0.83	ND	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	504	2200	284	139	2.04	0.010	3
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	500	1950	186	448	0.42	0.119	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	483	1700	228	118	1.93	0.013	3
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	480	1800	204	183	1.11	2.786	3
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	460	1450	225	232	0.97	1.168	3
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	455	1300	652	350	1.86	0.507	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	402	1020	926	176	5.26	4.859	3
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	400	799	280	250	1.12	0.136	0
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	379	870	1008	139	7.25	4.834	3

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	M	498	1650	346	305	1.13	ND	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	M	490	1778	389	1565	0.25	ND	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	M	458	1300	205	167	1.23	ND	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	M	450	1355	311	378	0.82	ND	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	M	447	1203	828	399	2.08	ND	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	M	422	1135	219	451	0.49	0.005	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	M	422	1200	251	172	1.46	ND	1
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	M	370	711	754	551	1.37	ND	2
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	F	620	3500	789	124	6.36	1.616	3
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	F	422	975	348	1092	0.32	0.768	3
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	F	419	1050	379	231	1.64	4.993	3
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	F	418	1200	355	735	0.48	1.473	3
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	F	405	1025	287	1452	0.20	2.715	1
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	F	400	1000	298	949	0.31	0.097	1
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	F	385	850	506	133	3.80	2.435	3
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	F	384	900	404	989	0.41	0.040	3
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	F	380	850	730	152	4.80	3.349	3
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	F	375	750	632	347	1.82	1.705	3
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	F	352	775	309	1819	0.17	5.774	3
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	F	345	600	302	526	0.57	ND	2
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	M	680	3350	335	2635	0.13	ND	1
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	M	620	3450	408	1432	0.28	ND	1
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	M	575	2800	424	2476	0.17	ND	2
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	M	530	2150	283	3136	0.09	ND	1.5
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	M	472	1350	371	2298	0.16	ND	2
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	M	457	1375	359	3108	0.12	ND	1
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	M	412	975	402	1485	0.27	ND	2
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	M	370	800	290	2294	0.13	ND	1.5
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	M	365	725	296	2841	0.10	ND	1.5
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	M	363	600	482	1142	0.42	ND	1
Missour Riveri @ Nebraska City, NE	NMC	1995	Oct	NR	M	352	625	346	1403	0.25	ND	1.5
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	F	565	2500	403	188	2.14	2.486	1
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	F	562	2400	299	137	2.18	3.551	3
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	F	535	1680	502	154	3.26	0.176	3
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	F	518	1950	246	160	1.54	3.007	3
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	F	502	2050	418	97	4.31	2.360	3
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	F	498	1550	342	94	3.64	0.826	1
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	F	485	1450	490	114	4.30	7.699	2
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	F	475	1300	322	118	2.73	4.561	3
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	F	409	1050	227	102	2.23	0.032	2

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	M	595	3400	356	887	0.40	ND	0
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	M	541	1850	292	923	0.32	ND	1
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	M	539	1850	323	3554	0.09	ND	1
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	M	524	1950	219	1526	0.14	0.006	2
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	M	522	2000	283	2143	0.13	ND	2
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	M	495	1450	316	1181	0.27	ND	1
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	M	488	1400	296	6760	0.04	ND	0.5
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	M	478	1300	280	1730	0.16	0.006	1
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	M	465	1200	323	2631	0.12	ND	1
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	M	432	1050	362	1145	0.32	ND	1
Missouri Riv @ Garrison Dam, ND	NMC	1995	Sept	NR	M	299	420	245	2263	0.11	0.007	1
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	F	640	4000	1845	397	4.65	2.588	3
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	F	592	2800	1325	655	2.02	1.286	3
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	F	472	750	1734	939	1.85	1.390	3
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	F	460	1250	1548	301	5.14	2.490	3
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	F	422	1100	1923	657	2.93	1.820	3
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	F	375	650	456	100	4.56	2.023	1
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	M	610	3050	964	2954	0.33	ND	2
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	M	603	2950	848	1065	0.80	ND	1.5
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	M	572	2500	1431	1332	1.07	ND	2
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	M	572	2600	413	989	0.42	ND	2
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	M	566	2000	838	1510	0.55	ND	2
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	M	550	2400	1392	72	19.33	ND	1
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	M	490	1650	763	2109	0.36	ND	1
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	M	409	1000	913	1030	0.89	ND	2.5
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	M	346	550	676	99	6.83	ND	1
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	614	3210	834	972	0.86	9.200	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	606	3516	1559	145	10.75	9.400	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	600	3311	4741	1508	3.14	9.500	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	598	3147	1544	441	3.50	7.700	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	586	3357	2512	115	21.84	26.600	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	586	3405	1425	969	1.47	15.600	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	570	2686	730	608	1.20	17.400	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	563	2834	562	435	1.29	19.900	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	560	2925	625	153	4.08	10.800	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	547	2480	594	771	0.77	13.100	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	542	2439	1062	320	3.32	12.200	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	541	2443	4347	213	20.41	6.400	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	540	2432	656	804	0.82	11.600	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	538	2322	1279	419	3.05	19.300	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	497	2068	3713	377	9.85	19.600	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	486	1813	1753	1130	1.55	11.500	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	576	3037	377	638	0.59	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	574	2826	449	377	1.19	ND	1.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	570	2601	290	978	0.30	0.100	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	561	2264	59	365	0.16	0.050	1.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	560	2452	172	275	0.63	0.010	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	558	2206	509	526	0.97	ND	2.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	557	2465	116	639	0.18	ND	2.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	557	2414	77	1259	0.06	0.170	2.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	554	2310	189	2186	0.09	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	540	2160	198	1904	0.10	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	539	2119	149	1653	0.09	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	537	2264	114	679	0.17	ND	2.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	536	2245	292	610	0.48	0.060	1.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	536	2207	508	850	0.60	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	534	2242	47	167	0.28	0.180	1.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	531	1989	39	1685	0.02	ND	2.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	530	2236	216	1071	0.20	ND	1.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	529	2013	30	144	0.21	ND	1.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	524	1886	69	319	0.22	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	520	1954	91	728	0.13	ND	2.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	518	2011	218	431	0.51	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	514	1924	166	1143	0.15	ND	2.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	513	1688	89	895	0.10	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	466	1582	99	558	0.18	ND	2.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	F	689	5200	3375	3425	0.985	53.761	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	F	685	5300	3661	3108	1.178	15.682	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	F	620	3700	3590	3823	0.939	14.507	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	F	596	3300	4142	3797	1.091	50.535	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	F	590	3000	2818	5066	0.556	48.860	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	F	585	3200	3004	4860	0.618	14.430	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	F	580	3500	2873	2315	1.241	51.156	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	F	570	3200	1582	2704	0.585	13.348	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	F	551	2900	2014	1456	1.383	65.612	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	F	548	2500	1159	3110	0.373	32.139	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	F	547	2800	1172	4045	0.290	44.579	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	F	455	2100	3651	2291	1.594	40.484	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	595	3200	561	5211	0.108	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	585	2700	521	6821	0.076	ND	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	584	2400	83	3560	0.023	ND	2.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	583	3200	414	2096	0.198	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	579	2500	454	4287	0.106	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	570	2600	470	5762	0.082	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	567	2500	273	1692	0.161	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	565	2200	369	3697	0.100	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	560	2100	511	1409	0.363	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	555	2500	112	2725	0.041	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	552	2400	386	5048	0.076	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	546	2000	662	3719	0.178	ND	2.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	545	2300	433	1642	0.264	ND	2.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	540	2500	447	1866	0.240	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	535	2100	620	4106	0.151	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	530	1900	388	3520	0.110	ND	3.0
Mohawk Riv @ Frankfort, NY	NE	1995	May	R	M	445	1200	686	2001	0.343	ND	3.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	M	389	661	726	1562	0.465	ND	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	710	4521	1322	599	2.207	46.029	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	570	1550	571	159	3.591	ND	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	543	2133	1250	711	1.758	0.299	3.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	525	1680	574	315	1.822	0.150	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	505	1481	204	202	1.010	ND	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	500	1789	1208	518	2.332	0.360	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	490	1510	1461	290	5.038	9.150	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	485	1405	1100	129	8.527	1.456	3.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	480	1014	1239	622	1.992	0.332	3.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	480	1352	2397	631	3.799	0.420	3.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	470	1310	1892	569	3.325	ND	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	448	1152	1501	518	2.898	ND	3.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	435	964	119	112	1.063	0.058	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	425	960	1945	831	2.341	ND	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	420	2392	1458	1291	1.129	0.295	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	F	NA	NA	280	133	2.105	ND	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	M	474	1400	183	391	0.468	ND	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	M	460	1169	158	158	1.000	ND	3.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	M	455	1120	907	1945	0.466	ND	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	M	445	1224	493	1031	0.478	ND	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	M	435	1126	1442	311	4.637	ND	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	M	430	1000	747	1233	0.061	ND	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	M	420	1033	183	1391	0.132	ND	2.0
Mountain Crk Lake, Dallas, TX	SMC	1995	June	R	M	398	860	511	1241	0.412	ND	2.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

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Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	F	533	2121	732	438	1.671	0.679	2.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	F	529	2462	561	514	1.091	0.831	3.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	F	502	1697	909	373	2.437	0.300	4.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	F	497	1695	831	282	2.947	1.198	4.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	F	485	1628	1047	149	7.027	4.816	3.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	F	466	1532	721	184	3.918	0.131	3.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	F	462	1309	922	528	1.746	0.498	3.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	F	453	1120	163	210	0.776	0.402	4.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	F	449	1431	670	122	5.492	1.446	3.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	F	441	1110	841	491	1.713	1.436	3.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	M	538	1591	112	468	0.239	ND	2.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	M	492	1539	98	248	0.395	ND	2.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	M	491	1520	70	341	0.205	0.019	2.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	M	464	1198	78	109	0.716	ND	3.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	M	463	1181	65	179	0.363	ND	3.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	M	462	959	67	135	0.496	0.015	3.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	M	452	1076	89	290	0.307	ND	3.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	M	449	1130	63	362	0.174	0.010	3.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	M	445	1070	91	142	0.641	0.005	3.0
Muddy Riv inflo to L Mead, NV	SW	1996	May	R	M	393	666	64	256	0.250	ND	2.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	F	522	2405	2976	590	5.04	29.600	4.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	F	450	1223	3830	503	7.61	26.200	3.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	F	448	1260	2419	441	5.49	30.800	3.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	F	445	1111	2398	686	3.50	24.600	3.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	F	444	1184	1837	779	2.36	32.300	3.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	F	436	1265	1276	72	17.72	28.600	2.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	F	422	966	1725	782	2.21	36.200	3.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	F	421	1020	1410	948	1.49	24.600	3.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	F	421	1056	2580	1503	1.72	22.400	3.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	F	398	926	3245	532	6.10	20.900	3.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	M	490	1430	715	253	2.83	ND	1.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	M	450	1012	735	882	0.83	ND	1.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	M	445	1103	399	255	1.57	0.020	1.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	M	438	1070	820	940	0.87	ND	3.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	M	430	985	701	1306	0.54	ND	1.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	M	428	838	365	829	0.44	ND	2.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	M	423	907	620	691	0.90	ND	2.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	M	410	891	638	549	1.16	ND	3.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	M	409	855	859	726	1.18	0.020	2.0
Mullet River nr Plymouth, WI	NMC	1994	Sept	NR	M	405	712	704	634	1.11	ND	1.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	630	2994	4466	323	13.83	29.500	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	582	2408	6147	2020	3.04	30.500	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	570	2717	354	223	1.59	22.500	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	560	2818	2233	985	2.27	43.000	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	550	2186	2877	114	25.24	19.000	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	543	1964	4128	254	16.25	16.000	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	536	1838	1707	364	4.69	18.700	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	520	1773	5719	141	40.56	16.000	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	519	1866	1926	373	5.16	22.000	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	510	1822	1254	564	2.22	20.500	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	502	1854	3094	192	16.11	16.500	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	470	1344	1178	731	1.61	16.000	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	462	1163	2253	1062	2.12	29.500	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	452	1085	876	84	10.43	47.500	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	441	979	1117	984	1.14	19.500	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	438	1048	1853	945	1.96	31.500	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	F	402	892	2742	1400	1.96	32.000	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	560	2154	1032	699	1.48	ND	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	548	1889	759	732	1.04	ND	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	541	1860	751	628	1.20	0.010	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	537	1740	690	609	1.13	ND	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	530	1763	811	484	1.68	0.060	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	517	1490	464	108	4.30	ND	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	517	1610	822	985	0.83	ND	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	509	1643	222	423	0.52	0.030	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	508	1518	302	518	0.58	ND	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	494	1524	951	225	4.23	ND	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	491	1392	653	942	0.69	ND	2.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	490	1354	899	792	1.14	ND	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	480	1312	483	422	1.14	ND	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	478	1294	214	262	0.82	ND	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	475	1242	862	668	1.29	ND	.
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	465	1090	1340	1118	1.20	ND	2.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	452	1044	571	267	2.14	ND	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	450	1250	708	779	0.91	ND	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	443	1075	1064	977	1.09	0.020	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	441	868	1285	736	1.75	0.020	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	430	950	1296	449	2.89	ND	2.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	418	892	828	619	1.34	ND	3.0
N Br Milwaukee R @ Random L, WI	NMC	1994	Sept	NR	M	414	880	821	842	0.98	15.000	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	F	437	1022	670	398	1.68	7.829	1.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	F	424	1022	335	191	1.75	6.900	3.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	F	416	908	67	22	3.05	2.300	1.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	F	410	908	215	311	0.69	12.043	2.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	F	404	1022	860	603	1.43	3.600	3.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	F	403	795	222	72	3.08	36.900	1.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	F	403	681	1522	752	2.02	1.500	2.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	F	402	795	279	258	1.08	22.345	1.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	F	400	681	199	61	3.26	1.000	1.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	F	400	795	1232	670	1.84	3.214	2.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	F	396	908	227	414	0.55	0.570	1.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	F	390	795	1044	1030	1.01	20.400	3.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	F	390	681	536	445	1.20	3.093	1.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	F	385	795	125	174	0.72	0.310	1.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	482	1476	875	1738	0.50	ND	2.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	411	795	213	886	0.24	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	394	795	135	321	0.42	ND	2.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	394	795	217	590	0.37	ND	2.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	393	681	124	869	0.14	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	387	795	124	783	0.16	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	380	681	185	1218	0.15	0.680	2.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	379	681	132	84	1.57	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	378	681	174	1122	0.16	ND	2.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	373	681	30	382	0.08	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	372	681	23	723	0.03	ND	2.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	370	681	79	751	0.11	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	368	681	46	558	0.08	ND	2.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	362	568	135	649	0.21	0.160	3.0
N F Willamette Riv @ Spgfield, OR	NW	1994	Oct	NR	M	339	454	47	279	0.17	ND	2.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	445	1216	40	416	0.096	32.565	2.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	442	1213	846	627	1.349	29.971	2.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	436	1079	33	374	0.088	32.622	2.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	416	1103	129	321	0.402	22.857	2.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	411	920	17	404	0.042	19.372	2.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	411	991	405	432	0.938	28.112	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	411	1006	514	297	1.731	ND	2.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	403	1049	288	737	0.391	29.958	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	400	931	314	744	0.422	24.994	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	396	901	1105	190	5.816	33.366	4.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	389	873	356	707	0.504	40.040	2.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	382	783	940	494	1.903	33.082	2.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	376	795	795	144	5.521	ND	2.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	373	676	597	528	1.131	39.614	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	F	345	550	259	459	0.564	11.924	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	446	1096	284	756	0.376	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	385	865	305	532	0.573	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	382	773	265	327	0.810	0.090	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	380	714	269	149	1.805	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	377	774	341	379	0.900	ND	2.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	374	714	262	241	1.087	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	374	749	241	662	0.364	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	371	719	340	804	0.423	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	369	677	252	488	0.516	ND	1.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	363	621	208	391	0.532	0.028	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	362	666	299	458	0.653	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	354	611	261	671	0.389	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	341	547	121	186	0.651	ND	3.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	336	553	231	775	0.298	ND	2.0
N F Willamette Riv @ Spgfield, OR	NW	1995	July	R	M	327	806	265	821	0.323	ND	3.0
Ohio Riv @ Marietta, OH	NE	1995	Oct	NR	F	710	4650	278	123	2.260	2.180	3
Ohio Riv @ Marietta, OH	NE	1995	Oct	NR	F	535	1800	569	150	3.793	4.230	2
Ohio Riv @ Marietta, OH	NE	1995	Oct	NR	M	552	1981	421	5001	0.084	0.013	1
Ohio Riv @ Marietta, OH	NE	1995	Oct	NR	M	539	1740	401	97	4.134	ND	1
Ohio Riv @ Marietta, OH	NE	1995	Oct	NR	M	479	1150	552	181	3.050	ND	1
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	F	736	5720	387	774	0.500	1.302	3
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	F	665	4050	349	267	1.307	2.220	3
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	F	660	1850	374	779	0.480	3.240	3
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	F	630	3200	769	115	6.687	0.845	3
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	F	510	1700	431	108	3.991	1.442	3
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	620	3600	469	841	0.558	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	604	2800	170	7985	0.021	ND	1
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	580	2450	292	5635	0.052	ND	1
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	580	2700	397	337	1.178	ND	1
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	566	2250	285	316	0.902	ND	1
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	515	1500	185	271	0.683	ND	1.5
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	530	2020	1086	372	2.92	33.200	3.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	530	2008	2154	471	4.57	32.400	3.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	530	1960	5162	1810	2.85	29.600	3.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	530	1926	9942	3641	2.73	32.100	3.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	525	1654	3213	978	3.29	30.000	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	515	1520	1288	187	6.89	34.100	3.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	510	1775	2143	262	8.18	25.800	3.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	510	1735	5114	1863	2.75	30.900	3.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	520	1763	57	77	0.74	ND	3.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	510	1640	123	383	0.32	ND	3.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	500	1420	1097	1017	1.08	ND	3.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	490	1540	308	599	0.51	ND	3.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	490	1265	682	1988	0.34	ND	2.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	482	1370	1096	2404	0.46	0.050	2.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	480	1306	376	329	1.14	ND	3.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	475	1356	426	837	0.51	ND	3.0
Ottertail Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	460	1253	1105	2935	0.38	0.090	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	662	3702	166	295	0.56	26.000	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	635	2386	271	547	0.50	40.500	1.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	606	3603	385	992	0.39	23.000	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	600	3137	1104	515	2.14	20.000	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	595	3094	40	180	0.22	ND	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	592	2948	243	536	0.45	72.500	2.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	588	3004	550	87	6.32	24.500	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	587	2984	129	152	0.85	30.000	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	581	2581	321	323	0.99	18.500	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	545	1738	132	214	0.62	0.240	1.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	539	1948	505	200	2.53	ND	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	515	2181	538	986	0.55	28.000	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	485	1520	862	1789	0.48	28.000	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	362	834	15	51	0.29	0.040	0.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	F	344	649	208	166	1.25	0.120	0.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	M	586	2456	53	2007	0.03	ND	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	M	584	2344	19	76	0.25	ND	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	M	563	1378	22	615	0.04	ND	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	M	536	1845	17	262	0.06	ND	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	M	505	1690	127	123	1.03	0.010	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	M	502	1758	36	132	0.27	ND	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	M	470	1130	21	987	0.02	ND	2.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	M	464	1069	19	166	0.11	ND	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	M	421	952	59	1109	0.05	ND	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	M	370	880	19	968	0.02	ND	3.0
Platte Riv @ Louisville, NE	NMC	1994	Sept	R	M	317	464	79	99	0.80	ND	3.0
Platte Riv @ Louisville, NE	NMC	1995	Oct	NR	F	512	2050	685	1033	0.66	2.087	3
Platte Riv @ Louisville, NE	NMC	1995	Oct	NR	F	462	1350	587	1017	0.58	1.628	3

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Platte Riv @ Louisville, NE	NMC	1995	Oct	NR	M	543	1750	642	512	1.25	0.008	0
Platte Riv @ Louisville, NE	NMC	1995	Oct	NR	M	517	1850	607	428	1.42	0.008	2
Platte Riv @ Louisville, NE	NMC	1995	Oct	NR	M	440	1000	444	424	1.05	ND	1.5
Platte Riv @ Louisville, NE	NMC	1995	Oct	NR	M	404	1100	709	1416	0.50	ND	1
Platte Riv @ Louisville, NE	NMC	1995	Oct	NR	M	396	1000	1171	517	2.26	ND	1
Platte Riv @ Louisville, NE	NMC	1995	Oct	NR	M	362	750	505	664	0.76	ND	2
Platte Riv @ Louisville, NE	NMC	1995	Oct	NR	M	343	550	742	299	2.48	ND	0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	F	692	5477	1765	1089	1.62	17.200	3.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	F	689	4703	633	359	1.76	20.600	4.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	F	670	5038	323	338	0.96	6.640	3.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	F	605	3356	540	944	0.57	19.700	3.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	F	584	3280	631	1125	0.56	32.200	3.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	F	573	2853	605	159	3.81	16.300	3.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	F	557	3210	696	90	7.73	28.400	3.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	F	521	2636	1018	746	1.36	31.800	3.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	F	519	2343	782	66	11.85	24.300	3.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	F	496	2032	877	605	1.45	39.600	3.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	615	3545	484	851	0.57	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	574	2660	528	1380	0.38	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	555	2346	589	1579	0.37	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	544	2335	226	895	0.25	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	540	2870	309	358	0.86	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	540	2345	204	1663	0.12	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	535	2902	325	495	0.66	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	530	2286	430	395	1.09	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	530	2224	323	737	0.44	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	521	2126	218	341	0.64	ND	2.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	516	1878	450	996	0.45	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	515	2222	421	434	0.97	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	509	1858	318	788	0.40	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	498	1692	601	1375	0.44	ND	2.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	488	1498	425	440	0.97	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	477	1713	320	407	0.79	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	472	1720	298	514	0.58	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	472	1711	511	758	0.67	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	463	1526	411	2038	0.20	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	455	1446	526	1877	0.28	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	435	1525	369	1220	0.30	ND	1.0
Potomac R @ Anacostia R, DC	NE	1994	Nov	NR	M	401	1073	317	495	0.64	ND	3.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	F	831	6000	670	231	2.90	31.200	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Red Riv @ Draton, ND	NMC	1994	Sept	NR	F	782	6000	2740	248	11.05	24.800	3.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	F	770	>6000	1352	123	10.99	44.100	3.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	F	768	6000	3530	311	11.35	23.500	3.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	F	730	4506	723	410	1.76	31.400	3.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	F	720	5180	1290	825	1.56	21.200	3.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	F	710	4035	1822	832	2.19	35.000	3.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	F	698	4025	1212	206	5.88	22.000	3.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	F	665	3690	533	124	4.30	30.200	3.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	F	660	4060	552	127	4.35	ND	4.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	F	518	1640	970	327	2.97	29.400	3.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	M	675	3470	901	826	1.09	ND	2.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	M	665	3160	641	706	0.91	ND	3.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	M	615	2640	233	1245	0.19	0.060	3.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	M	610	2585	342	658	0.52	ND	2.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	M	585	2298	812	868	0.94	0.400	3.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	M	580	2509	199	1077	0.18	ND	3.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	M	560	1755	750	1947	0.39	ND	2.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	M	547	1652	308	508	0.61	5.000	2.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	M	535	1810	156	771	0.20	ND	2.0
Red Riv @ Draton, ND	NMC	1994	Sept	NR	M	520	1645	100	1048	0.10	ND	3.0
Red Riv @ Grand Forks, ND	NMC	1994	Sept	NR	F	534	1783	4811	563	8.55	8.500	3.0
Red Riv @ Grand Forks, ND	NMC	1994	Sept	NR	F	533	1888	673	57	11.81	23.500	3.0
Red Riv @ Grand Forks, ND	NMC	1994	Sept	NR	F	530	2063	4249	1329	3.20	19.000	2.0
Red Riv @ Grand Forks, ND	NMC	1994	Sept	NR	F	526	1825	4697	806	5.83	28.000	3.0
Red Riv @ Grand Forks, ND	NMC	1994	Sept	NR	F	507	1707	1774	307	5.78	26.000	3.0
Red Riv @ Grand Forks, ND	NMC	1994	Sept	NR	F	485	1599	8075	1656	4.88	30.000	2.0
Red Riv @ Grand Forks, ND	NMC	1994	Sept	NR	F	455	1296	443	149	2.97	87.800	2.0
Red Riv @ Grand Forks, ND	NMC	1994	Sept	NR	F	453	1193	7763	596	13.03	7.800	3.0
Red Riv @ Grand Forks, ND	NMC	1994	Sept	NR	F	436	1209	1226	848	1.45	25.000	3.0
Red Riv @ Grand Forks, ND	NMC	1994	Sept	NR	F	424	1182	1720	2639	0.65	16.000	3.0
Red Riv @ Grand Forks, ND	NMC	1994	Sept	NR	M	510	1470	1457	387	3.76	ND	3.0
Red Riv @ Grand Forks, ND	NMC	1994	Sept	NR	M	472	1280	1696	1507	1.13	ND	3.0
Red Riv @ Grand Forks, ND	NMC	1994	Sept	NR	M	464	1180	465	868	0.54	ND	2.0
Red Riv @ Grand Forks, ND	NMC	1994	Sept	NR	M	436	1079	2104	665	3.16	0.070	2.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	610	3164	1208	467	2.59	35.300	4.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	580	2338	6852	178	38.49	36.600	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	550	2315	1475	117	12.61	31.000	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	550	2187	1013	445	2.28	41.000	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	540	2215	2291	240	9.55	31.900	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	535	2040	462	143	3.23	29.900	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	525	2040	2609	117	22.30	27.800	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	520	1954	2953	208	14.20	38.500	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	520	1900	808	443	1.82	23.400	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	520	1728	1728	190	9.09	28.600	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	520	1758	2534	481	5.27	35.000	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	512	1730	1090	540	2.02	28.800	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	490	1609	1154	337	3.42	35.100	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	F	485	1467	1368	63	21.71	33.500	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	620	2918	489	427	1.15	ND	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	535	1887	714	303	2.36	ND	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	520	1689	267	264	1.01	ND	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	510	1757	778	404	1.93	ND	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	495	1497	694	105	6.61	ND	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	495	1370	1112	466	2.39	ND	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	495	1468	1573	1340	1.17	0.050	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	480	1351	925	2221	0.42	ND	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	450	1106	463	431	1.07	ND	3.0
Red Riv nr Breckenridge, MN	NMC	1994	Sept	NR	M	450	998	579	2261	0.26	ND	3.0
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	750	5000	918	260	3.531	1.801	3
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	619	3000	1190	365	3.260	1.613	2
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	549	2322	1189	323	3.681	2.140	3
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	500	1605	1782	261	6.828	2.490	3
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	495	1540	591	399	1.481	2.023	3
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	454	1265	1198	264	4.538	1.602	3
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	442	1205	1374	382	3.597	2.897	3
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	435	1097	1445	429	3.368	0.245	3
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	M	651	2950	618	493	1.254	ND	2
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	M	610	2918	746	1296	0.576	ND	3
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	M	480	1490	459	507	0.905	ND	2
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	M	473	1410	511	1185	0.431	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	730	4300	611	49	12.47	0.265	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	692	4000	907	237	3.83	1.428	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	683	4600	538	257	2.09	1.065	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	680	4100	657	1136	0.58	1.365	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	660	3150	588	70	8.40	0.946	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	645	3400	755	89	8.48	1.263	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	630	3600	1080	81	13.33	0.632	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	628	3000	817	32	25.53	0.883	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	621	3400	860	113	7.61	2.463	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	610	3000	583	56	10.41	0.561	3

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	590	2600	956	227	4.21	1.137	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	553	1800	626	229	2.73	2.875	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	535	1850	557	622	0.90	3.142	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	670	3700	506	2718	0.19	ND	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	660	3000	558	90	6.20	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	612	2750	1037	107	9.69	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	580	2500	403	416	0.97	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	580	2500	571	1084	0.53	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	566	2800	626	2983	0.21	0.093	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	565	1900	769	61	12.61	ND	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	555	1800	659	1632	0.40	ND	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	540	1900	609	75	8.12	ND	2.5
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	521	1700	583	1292	0.45	ND	2.5
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	490	1550	636	1415	0.45	0.008	2
Royal Lake, nr Othello, WA	NW	1995	July	R	F	710	5190	1211	628	1.928	55.468	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	F	705	5320	1487	564	2.637	57.608	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	F	704	4557	1209	541	2.235	23.570	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	F	700	4915	1162	622	1.868	16.589	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	F	698	4859	1284	716	1.793	21.934	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	F	660	4438	1005	476	2.111	25.553	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	F	660	4349	1475	619	2.383	57.608	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	F	652	4542	1392	695	2.003	82.643	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	F	648	3913	1717	543	3.162	26.206	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	F	643	4011	1418	916	1.548	17.480	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	F	642	4625	1245	601	2.072	86.521	4.0
Royal Lake, nr Othello, WA	NW	1995	July	R	F	638	3980	1688	1041	1.622	21.701	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	F	631	3666	1299	778	1.670	60.555	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	F	535	2296	1621	874	1.855	86.521	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	F	530	2192	3542	1507	2.350	18.485	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	M	683	4012	731	1426	0.513	ND	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	M	654	3825	243	558	0.435	ND	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	M	649	3692	265	409	0.648	ND	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	M	648	3810	944	2181	0.433	ND	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	M	634	3955	565	1239	0.456	ND	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	M	632	3395	383	1488	0.257	ND	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	M	630	3560	325	820	0.396	ND	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	M	628	3196	930	1161	0.801	ND	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	M	623	3448	645	830	0.777	ND	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	M	619	3870	572	989	0.578	ND	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	M	612	3020	249	937	0.266	ND	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Royal Lake, nr Othello, WA	NW	1995	July	R	M	595	2794	226	393	0.575	ND	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	M	592	2750	850	1308	0.650	ND	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	M	583	2960	1129	1429	0.790	ND	3.0
Royal Lake, nr Othello, WA	NW	1995	July	R	M	575	2770	249	396	0.629	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	625	3186	1400	855	1.64	21.900	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	620	3295	333	769	0.43	34.500	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	614	2998	1996	1172	1.70	42.600	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	599	2442	896	864	1.04	31.200	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	548	2028	456	856	0.53	34.800	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	531	2148	2299	778	2.96	38.000	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	513	1726	1379	970	1.42	33.800	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	500	1355	411	441	0.93	35.600	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	495	1488	1390	861	1.61	31.300	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	473	1386	1847	1079	1.71	31.200	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	470	1410	1451	634	2.29	30.800	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	460	1208	1006	1085	0.93	36.000	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	442	1121	875	391	2.24	39.600	4.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	404	970	287	414	0.69	38.500	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	350	635	253	224	1.13	22.900	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	338	499	392	189	2.07	29.800	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	323	460	204	177	1.15	2.000	2.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	640	2665	90	983	0.09	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	595	2657	279	2040	0.14	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	537	2234	136	1451	0.09	ND	2.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	529	1865	189	2008	0.09	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	523	1689	336	787	0.43	ND	2.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	503	1232	126	517	0.24	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	475	1328	129	981	0.13	ND	2.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	475	1472	309	1100	0.28	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	445	986	151	2010	0.08	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	437	1066	295	687	0.43	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	350	580	157	677	0.23	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	330	480	122	1035	0.12	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	315	408	130	287	0.45	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	311	396	139	462	0.30	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	304	334	454	355	1.28	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	302	407	272	951	0.29	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	742	6356	3234	1745	1.85	17.842	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	700	5549	2019	1113	1.81	27.223	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	660	4637	1654	1390	1.19	16.576	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	656	5142	1739	5152	0.34	11.662	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	627	3026	2596	7511	0.35	20.941	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	625	2915	3117	9066	0.34	13.306	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	598	3365	2344	1582	1.48	37.459	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	580	2680	8333	2004	4.16	16.670	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	550	2287	1164	1405	0.83	16.462	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	532	2203	3530	8965	0.39	15.631	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	525	1713	1101	2204	0.50	22.072	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	475	1382	4047	6369	0.64	12.021	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	472	959	1110	488	2.27	8.600	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	467	1248	861	152	5.66	14.166	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	463	1459	2353	1187	1.98	15.999	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	445	1221	303	698	0.43	NA	NA
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	423	984	970	1024	0.95	5.812	2.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	598	2905	337	1223	0.28	0.093	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	580	2700	1241	9699	0.13	NA	NA
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	553	2263	188	1703	0.11	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	516	1745	431	9379	0.05	0.183	2.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	450	1318	356	6440	0.06	ND	2.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	443	1090	199	2538	0.08	ND	2.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	435	1038	1695	1011	1.68	NA	NA
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	427	1015	641	1164	0.55	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	422	882	285	1637	0.17	ND	3.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	401	787	51	183	0.28	ND	2.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	388	641	454	2084	0.22	0.011	2.0
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	NA	NA	2388	2284	1.05	NA	NA
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	755	6840	1334	2093	0.64	14.341	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	745	5765	5214	284	18.36	75.235	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	700	5489	518	4603	0.11	20.790	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	697	5701	5496	1675	3.28	52.152	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	684	5365	3586	1520	2.36	30.321	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	680	4154	1797	1371	1.31	11.662	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	617	3519	11401	5973	1.91	53.811	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	616	3606	315	1606	0.20	2.943	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	616	3367	4312	3054	1.41	16.541	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	615	2992	3403	3921	0.87	21.187	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	600	3039	5102	3025	1.69	16.431	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	596	2963	5777	3124	1.85	62.377	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	586	3148	3448	2030	1.70	45.384	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	479	1561	449	706	0.64	35.445	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	411	919	1952	274	7.12	13.544	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	F	720	5256	577	800	0.721	56.932	2.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	F	707	4836	763	2309	0.330	9.472	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	F	692	4846	951	375	2.536	19.341	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	F	690	3923	206	385	0.535	34.561	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	F	684	4050	640	1270	0.504	5.624	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	F	675	4110	583	466	1.251	25.678	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	F	664	3108	115	427	0.269	2.347	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	F	658	3634	738	1114	0.662	12.540	2.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	F	588	3040	1060	689	1.538	24.359	4.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	F	569	2789	506	909	0.557	14.924	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	F	415	1020	542	487	1.113	22.934	1.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	618	2928	4546	3652	1.24	0.041	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	613	3300	51	686	0.07	0.310	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	585	2498	373	3894	0.10	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	574	2348	721	1871	0.39	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	570	2736	1484	2081	0.71	0.183	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	558	2344	250	656	0.38	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	541	2164	301	423	0.71	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	533	2163	2605	1356	1.92	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	530	2420	2326	1087	2.14	ND	2.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	514	1658	463	486	0.95	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	510	1795	2233	1604	1.39	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	479	477	457	4978	0.09	ND	2.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	445	1239	198	2667	0.07	ND	2.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	424	1085	177	1327	0.13	3.148	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	420	1022	801	4569	0.18	ND	2.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	M	649	3360	731	826	0.885	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	M	619	2992	326	942	0.346	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	M	610	2690	181	1866	0.097	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	M	580	1923	280	191	1.466	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1995	May	R	M	544	1955	257	1087	0.236	0.037	1.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	340	486	146	17	8.59	6.300	1.0
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	328	498	129	209	0.62	1.040	1.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	795	7290	2735	994	2.75	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	718	5175	2384	971	2.46	34.800	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	695	5175	3196	1144	2.79	37.400	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	632	4608	2778	807	3.44	37.900	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	623	3329	1159	659	1.76	40.700	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	610	3880	2503	808	3.10	42.200	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	588	3035	2298	514	4.47	42.600	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	584	3207	1445	497	2.91	40.200	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	575	2967	2784	520	5.35	32.500	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	522	1975	2126	834	2.55	44.700	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	518	1978	377	152	2.48	41.400	1.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	510	1773	500	407	1.23	25.700	2.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	502	1979	939	439	2.14	28.600	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	495	1817	658	238	2.76	36.300	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	485	1557	135	121	1.12	47.900	4.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	447	1242	210	161	1.30	9.200	1.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	438	1277	808	354	2.28	34.300	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	436	1294	1032	401	2.57	46.400	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	429	1043	377	232	1.63	39.600	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	425	913	473	169	2.80	3.600	1.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	NA	NA	784	325	2.41	31.400	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	660	3650	601	739	0.81	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	605	3559	596	1511	0.39	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	590	2825	804	1354	0.59	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	586	2790	563	473	1.19	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	580	3806	871	790	1.10	ND	2.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	508	1993	242	762	0.32	ND	2.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	500	1676	434	408	1.06	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	498	1360	514	305	1.69	ND	2.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	455	1493	307	458	0.67	ND	3.0
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	440	1221	431	149	2.89	ND	3.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	F	726	5335	880	183	4.81	12.900	3.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	F	705	3942	1298	86	15.09	11.800	4.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	F	661	4320	1580	85	18.59	13.100	3.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	F	654	4151	1639	520	3.15	14.800	3.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	F	648	4192	1294	443	2.92	18.000	3.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	F	646	4028	315	271	1.16	13.600	3.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	F	643	4272	1366	385	3.55	18.300	3.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	F	618	3333	1760	430	4.09	19.300	3.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	F	615	3720	1448	700	2.07	14.300	3.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	F	602	3287	536	250	2.14	20.400	3.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	F	596	3878	348	13	26.77	ND	3.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	F	594	3276	1440	237	6.08	18.500	3.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	F	574	2787	1045	37	28.24	8.900	3.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	F	518	1834	1275	245	5.20	5.800	3.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	637	3764	50	75	0.67	ND	1.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	630	3744	158	249	0.63	ND	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	609	3530	201	869	0.23	ND	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	608	2751	113	226	0.50	ND	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	607	3418	468	259	1.81	ND	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	599	3010	219	133	1.65	ND	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	587	2855	872	682	1.28	ND	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	585	3126	479	565	0.85	ND	2.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	585	2891	234	672	0.35	0.020	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	583	2777	433	323	1.34	ND	2.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	580	2811	206	646	0.32	ND	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	577	3041	111	344	0.32	ND	2.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	574	2846	69	138	0.50	ND	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	570	2361	190	161	1.18	ND	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	564	2446	204	140	1.46	ND	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	563	2120	203	307	0.66	ND	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	561	2584	301	427	0.70	0.270	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	555	2406	326	277	1.18	ND	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	548	2242	217	166	1.31	ND	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	548	3003	393	1187	0.33	ND	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	520	2086	157	842	0.19	0.210	1.0
Shenandoah Riv @ Melville, WV	NE	1994	Nov	NR	M	507	1832	107	577	0.19	ND	1.0
Snake @ Ice Harbor Dam, WA	NW	1997	Oct	NR	F	745	5817	777	79	9.84	1.626	2
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	464	1270	562	264	2.13	0.111	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	451	1289	701	251	2.79	2.805	2
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	425	1090	797	227	3.51	0.009	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	423	1017	483	94	5.14	1.490	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	386	681	852	286	2.98	0.009	0
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	382	701	1292	491	2.63	0.016	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	372	841	1990	191	10.42	1.406	2
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	368	708	1458	381	3.83	0.184	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	368	717	1094	89	12.29	0.013	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	355	603	1712	612	2.80	0.962	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	406	882	239	1397	0.17	ND	2
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	390	900	145	1440	0.10	ND	2
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	380	829	575	1503	0.38	ND	3
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	373	669	135	846	0.16	ND	2
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	370	707	453	1174	0.39	ND	2
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	366	800	152	495	0.31	ND	2
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	365	600	498	215	2.32	ND	3
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	340	538	495	279	1.77	ND	2

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	325	506	185	128	1.45	ND	3
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	321	397	164	290	0.57	ND	2
Snake Riv @ Lewiston, ID	NW	1997	Oct	NR	F	639	4200	1168	367	3.183	5.043	2
Snake Riv @ Lewiston, ID	NW	1997	Oct	NR	F	630	3600	1115	743	1.501	7.368	2
Snake Riv @ Lewiston, ID	NW	1997	Oct	NR	F	615	3500	1341	844	1.589	1.437	2
Snake Riv @ Lewiston, ID	NW	1997	Oct	NR	F	585	2900	1181	186	6.349	2.527	2
Snake Riv @ Lewiston, ID	NW	1997	Oct	NR	M	601	2500	792	601	1.318	ND	2
Snake Riv @ Lewiston, ID	NW	1997	Oct	NR	M	600	3300	733	260	2.819	ND	2
Snake Riv @ Lewiston, ID	NW	1997	Oct	NR	M	565	2500	642	277	2.318	ND	2
Snake Riv @ Lewiston, ID	NW	1997	Oct	NR	M	562	2500	493	619	0.796	ND	3
Snake Riv @ Lewiston, ID	NW	1997	Oct	NR	M	550	2300	262	709	0.370	ND	3
Snake Riv @ Lewiston, ID	NW	1997	Oct	NR	M	547	2700	401	1214	0.330	ND	3
Snake Riv @ Lewiston, ID	NW	1997	Oct	NR	M	530	2200	268	1638	0.164	ND	3
Snake Riv @ Lewiston, ID	NW	1997	Oct	NR	M	468	1300	171	458	0.373	ND	2
Snake Riv @ Lewiston, ID	NW	1997	Oct	NR	M	440	1400	302	1230	0.246	ND	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	F	745	6055	1241	133	9.33	1.676	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	F	707	6738	913	272	3.36	2.945	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	F	704	5634	1411	447	3.16	1.711	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	F	659	4200	834	427	1.95	2.983	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	F	645	4000	1172	295	3.97	1.457	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	F	633	2300	658	81	8.12	2.391	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	F	613	2900	1462	257	5.69	1.857	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	F	551	2150	589	261	2.26	3.109	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	F	535	2400	518	348	1.49	1.635	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	M	667	4000	141	696	0.20	ND	3
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	M	644	3450	131	294	0.45	ND	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	M	635	3600	133	261	0.51	ND	3
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	M	617	3200	252	746	0.34	ND	3
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	M	586	2750	127	470	0.27	ND	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	M	572	2600	72	472	0.15	ND	3
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	M	569	2500	127	735	0.17	ND	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	M	568	2600	463	694	0.67	ND	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	M	567	2500	249	1648	0.15	ND	2
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	M	563	2400	124	185	0.67	0.009	3
Snake R @ Ice Harbor Dam, WA	NW	1997	Oct	NR	M	560	2200	152	197	0.77	ND	2
So Platte R below No Platte, NE	NMC	1994	Sept	R	F	573	2708	1074	343	3.13	30.100	3.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	F	570	2571	561	424	3.12	31.000	3.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	F	566	2415	1005	383	2.62	19.200	3.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	F	542	2511	1356	338	4.01	23.600	3.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	F	540	1869	1889	352	5.37	27.600	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
So Platte R below No Platte, NE	NMC	1994	Sept	R	F	536	2105	1873	421	4.45	28.600	3.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	F	510	1729	838	427	1.96	29.600	3.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	F	505	1457	1682	217	7.75	14.000	3.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	F	500	1607	813	227	3.58	37.400	3.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	F	495	1441	719	433	1.66	24.000	3.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	F	490	1129	484	167	2.90	0.720	1.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	F	480	1142	1469	409	3.59	23.300	4.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	F	435	910	745	278	2.68	1.760	3.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	M	615	2074	396	254	1.56	ND	2.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	M	540	1942	627	629	1.00	ND	2.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	M	528	2152	466	723	0.64	ND	1.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	M	429	1041	451	538	0.84	ND	1.0
So Platte R below No Platte, NE	NMC	1994	Sept	R	M	390	838	691	352	1.63	ND	1.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	675	4588	1787	694	2.57	34.000	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	655	4535	2851	1500	1.90	16.000	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	651	4030	3249	1270	2.56	33.500	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	650	4200	952	182	5.23	39.500	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	646	3908	1943	970	2.00	14.700	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	640	4175	1477	829	1.78	26.000	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	640	3200	1983	1040	1.91	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	632	3827	1666	808	2.06	15.800	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	622	3640	1863	674	2.76	41.500	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	615	3400	971	436	2.23	12.200	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	615	3720	2863	1127	2.54	16.000	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	612	3099	1312	1192	1.10	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	604	2900	1449	343	4.22	0.700	1.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	600	3158	2643	1243	2.13	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	566	2800	1523	708	2.15	15.200	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	542	1949	1249	440	2.84	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	537	2300	1724	610	2.83	28.000	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	504	1700	1536	296	5.19	46.500	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	500	2000	1416	517	2.74	12.700	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	498	1920	791	360	2.20	30.700	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	468	1400	1829	1092	1.67	14.600	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	F	441	1200	1297	992	1.31	31.500	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	633	3243	118	894	0.13	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	628	3700	20	805	0.03	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	625	3200	25	494	0.05	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	616	2971	419	1528	0.27	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	582	2500	42	913	0.05	ND	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	578	2719	231	1339	0.17	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	574	2800	413	316	1.31	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	570	2766	306	804	0.38	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	570	2500	189	1093	0.17	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	566	2200	247	221	1.12	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	535	2200	102	399	0.26	0.020	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	523	1995	235	818	0.29	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	522	2316	448	1249	0.36	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	514	1700	362	585	0.62	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	508	1900	591	902	0.66	ND	3.0
So Platte Riv @ Denver, CO	NMC	1994	Sept	R	M	496	1700	368	550	0.67	0.030	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	F	636	3700	539	265	2.03	17.494	3.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	F	587	2950	286	242	1.18	7.334	3.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	F	580	2700	393	365	1.08	11.958	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	F	577	2700	1038	661	1.57	12.911	3.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	F	527	2120	219	1213	0.18	53.904	3.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	F	515	2200	112	253	0.44	18.631	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	F	513	1800	2143	171	12.53	9.380	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	F	505	1550	55	127	0.43	3.158	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	F	496	1750	545	346	1.58	17.824	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	F	457	1350	330	423	0.78	18.631	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	625	3050	23	4536	0.01	ND	3.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	615	2700	52	745	0.07	14.787	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	610	2600	146	2387	0.06	ND	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	605	3700	487	198	2.46	25.427	1.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	603	2750	126	6796	0.02	0.052	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	602	2700	169	5735	0.03	ND	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	601	2600	200	633	0.32	0.013	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	595	3150	259	1702	0.15	0.263	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	567	2100	300	680	0.44	ND	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	562	2100	113	740	0.15	ND	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	555	1990	86	1949	0.04	ND	1.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	545	1800	225	2488	0.09	ND	2.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	536	1820	88	1451	0.06	ND	1.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	490	1500	151	378	0.40	0.013	1.0
So Platte Riv @ Denver, CO	NMC	1995	Sept	R	M	480	1400	113	2009	0.06	ND	1.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	620	3275	2038	1250	1.63	27.000	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	598	3028	819	244	3.36	39.900	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	580	2775	559	205	2.73	38.800	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	572	2510	1329	748	1.78	27.700	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	570	3176	1177	261	4.51	25.700	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	564	2466	951	365	2.61	38.000	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	554	2444	2163	780	2.77	21.400	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	554	2598	2195	910	2.41	32.700	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	545	2284	1438	383	3.75	21.000	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	543	2186	1094	302	3.62	25.100	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	540	2186	2288	1111	2.06	29.100	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	533	2075	2150	958	2.24	32.500	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	529	2133	1546	536	2.88	14.700	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	526	2092	1976	649	3.04	32.700	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	522	2030	2152	478	4.50	34.000	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	519	2010	851	198	4.30	25.800	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	515	2044	1428	363	3.93	29.300	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	510	2041	1464	875	1.67	23.800	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	500	2098	1885	332	5.68	25.300	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	494	1683	762	253	3.01	45.900	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	493	1559	1518	394	3.85	28.700	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	492	1676	1891	895	2.11	21.600	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	484	1733	1349	782	1.73	33.800	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	483	1576	2320	1198	1.94	37.400	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	F	480	1676	633	185	3.42	25.200	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	585	2933	112	454	0.25	ND	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	573	3107	196	326	0.60	ND	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	565	2556	85	450	0.19	ND	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	560	2164	227	1136	0.20	ND	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	540	2033	129	788	0.16	ND	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	532	1972	91	701	0.13	ND	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	515	1837	75	612	0.12	ND	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	510	1846	31	723	0.04	ND	2.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	510	1824	211	1733	0.12	ND	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	502	1678	118	609	0.19	ND	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	496	1611	131	183	0.72	ND	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	492	1623	103	614	0.17	ND	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	460	1312	149	284	0.53	ND	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	455	1262	51	152	0.34	ND	3.0
So Platte Riv @ Kersey, CO	NMC	1994	Sept	R	M	440	1077	66	1353	0.05	ND	3.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	F	680	4000	347	251	1.38	9.296	3.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	F	591	3000	1959	1988	0.99	ND	3.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	F	555	2300	1258	1158	1.09	43.952	2.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	F	500	1700	232	93	2.49	2.935	2.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	577	2350	179	1581	0.11	ND	2.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	550	2150	276	2543	0.11	ND	1.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	544	2100	153	1658	0.09	ND	2.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	535	2200	103	744	0.14	ND	2.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	525	1600	58	271	0.21	10.981	1.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	521	1950	881	5303	0.17	ND	2.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	520	1650	101	707	0.14	ND	2.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	513	1700	92	2296	0.04	ND	1.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	512	2000	124	998	0.12	ND	1.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	495	1500	301	1052	0.29	ND	1.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	491	1450	303	647	0.47	ND	1.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	481	1750	239	618	0.39	ND	2.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	477	1500	77	111	0.69	ND	1.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	471	1400	39	4892	0.01	ND	1.0
So Platte Riv below No Platte, NE	NMC	1995	Sept	R	M	471	1700	609	2714	0.22	ND	1.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	F	482	1355	1245	223	5.58	2.683	3.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	F	472	1336	1241	274	4.53	1.962	3.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	F	437	1013	1383	397	3.48	2.074	3.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	F	430	991	893	262	3.41	0.027	1.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	F	423	1071	3276	336	9.75	4.999	3.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	F	414	820	323	386	0.84	2.873	3.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	F	410	883	1295	121	10.70	2.587	3.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	F	385	772	1341	310	4.33	3.238	2.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	F	382	727	2385	295	8.08	4.101	2.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	F	381	717	1302	263	4.95	2.355	3.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	M	523	1377	517	310	1.67	ND	2.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	M	460	1109	343	1249	0.27	ND	2.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	M	445	1081	366	341	1.07	ND	2.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	M	432	324	890	343	2.59	ND	2.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	M	425	932	47	252	0.19	ND	2.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	M	420	1768	252	254	0.99	ND	2.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	M	418	803	447	243	1.84	ND	2.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	M	408	907	174	487	0.36	ND	2.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	M	404	805	85	204	0.42	ND	2.0
So Skunk Riv @ Oskaloosa, IA	NMC	1995	Sept	R	M	385	717	346	517	0.67	ND	2.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	F	495	1638	1149	305	3.767	0.140	3.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	F	456	1175	1165	339	3.437	0.006	3.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	F	422	1027	2104	169	12.450	1.349	3.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	F	400	821	338	208	1.625	0.017	3.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	F	396	848	1612	271	5.948	0.115	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	F	394	946	2317	301	7.698	2.877	3.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	F	347	603	2111	308	6.854	2.003	3.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	F	332	479	1090	224	4.866	0.975	3.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	M	460	1347	104	158	0.658	ND	2.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	M	430	959	62	892	0.070	ND	2.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	M	411	779	137	281	0.488	ND	1.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	M	410	910	135	961	0.140	ND	2.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	M	400	658	100	566	0.177	ND	2.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	M	395	711	92	501	0.184	ND	2.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	M	380	731	539	369	1.461	ND	2.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	M	362	669	321	589	0.545	ND	2.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	M	362	649	111	753	0.147	ND	2.0
Steele Bayou @ Rolling Fork, MS	SMC	1995	Aug	R	M	NA	NA	156	460	0.339	ND	2.0
Steele Bayou @ Rolling Fork, MS	NMC	1994	Aug	R	F	742	5600	1423	925	1.538	28.400	3.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	F	682	5160	601	383	1.569	16.900	3.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	F	672	3426	656	1257	0.522	NA	3.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	F	670	4500	827	670	1.234	31.600	3.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	F	618	3600	1245	797	1.562	33.300	3.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	F	600	3750	525	737	0.712	33.400	3.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	F	567	2280	504	436	1.156	24.100	3.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	F	565	2151	924	1146	0.806	29.200	3.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	F	524	1775	577	942	0.613	27.100	3.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	M	665	3020	891	1004	0.887	ND	1.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	M	590	2200	488	726	0.672	ND	1.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	M	588	2340	946	986	0.959	ND	1.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	M	580	2540	871	1524	0.572	ND	1.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	M	575	2455	436	1474	0.296	ND	1.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	M	554	2080	502	1306	0.384	ND	2.0
Sugar Ck nr New Palistine, IN	NMC	1994	Aug	R	M	551	1797	1491	1619	0.921	ND	2.0
Sugar Ck nr New Palistine, IN	NMC	1995	June	R	F	674	5600	566	1344	0.421	5.971	4.0
Sugar Ck nr New Palistine, IN	NMC	1995	June	R	F	617	3515	462	215	2.149	5.928	2.0
Sugar Ck nr New Palistine, IN	NMC	1995	June	R	F	587	3360	314	701	0.448	5.241	3.0
Sugar Ck nr New Palistine, IN	NMC	1995	June	R	F	573	2800	380	505	0.752	5.952	2.0
Sugar Ck nr New Palistine, IN	NMC	1995	June	R	F	497	5195	585	659	0.888	6.894	3.0
Sugar Ck nr New Palistine, IN	NMC	1995	June	R	F	494	1590	181	479	0.378	4.215	3.0
Sugar Ck nr New Palistine, IN	NMC	1995	June	R	M	599	3110	308	1003	0.307	ND	3.0
Sugar Ck nr New Palistine, IN	NMC	1995	June	R	M	588	2890	146	376	0.388	ND	3.0
Sugar Ck nr New Palistine, IN	NMC	1995	June	R	M	583	3235	204	1092	0.187	ND	3.0
Sugar Ck nr New Palistine, IN	NMC	1995	June	R	M	574	2675	108	518	0.208	ND	3.0
Sugar Ck nr New Palistine, IN	NMC	1995	June	R	M	572	2955	101	463	0.218	ND	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	F	662	3600	1485	554	2.681	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	F	604	3400	1142	370	3.086	ND	3
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	F	505	2200	2582	1249	2.067	1.240	3
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	F	490	1700	1559	517	3.015	0.624	3
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	F	455	1200	583	869	0.671	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	570	2500	555	2783	0.199	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	560	2300	138	317	0.435	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	545	2500	419	1333	0.314	ND	3
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	540	2000	319	1767	0.181	ND	1.5
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	510	1600	467	1720	0.272	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	500	1600	374	2767	0.135	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	492	1500	209	1249	0.167	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	478	1400	365	523	0.698	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	460	1200	319	1337	0.239	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	395	850	1276	264	4.833	ND	2
Tensas Riv @ Tendell, LA	SMC	1995	Aug	R	F	554	2380	925	258	3.585	0.202	3.0
Tensas Riv @ Tendell, LA	SMC	1995	Aug	R	F	519	2047	166	203	0.818	0.786	3.0
Tensas Riv @ Tendell, LA	SMC	1995	Aug	R	F	500	1592	2122	1209	1.755	4.256	3.0
Tensas Riv @ Tendell, LA	SMC	1995	Aug	R	F	420	1054	851	379	2.245	4.960	3.0
Tensas Riv @ Tendell, LA	SMC	1995	Aug	R	F	404	868	822	154	5.338	5.641	3.0
Tensas Riv @ Tendell, LA	SMC	1995	Aug	R	M	555	1941	792	355	2.231	ND	2.0
Tensas Riv @ Tendell, LA	SMC	1995	Aug	R	M	545	1706	415	236	1.758	ND	2.0
Tensas Riv @ Tendell, LA	SMC	1995	Aug	R	M	540	1792	770	111	6.937	ND	2.0
Tensas Riv @ Tendell, LA	SMC	1995	Aug	R	M	535	1903	121	188	0.644	ND	1.0
Tensas Riv @ Tendell, LA	SMC	1995	Aug	R	M	532	1704	361	171	2.111	ND	2.0
Tensas Riv @ Tendell, LA	SMC	1995	Aug	R	M	518	1690	71	264	0.269	ND	2.0
Tensas Riv @ Tendell, LA	SMC	1995	Aug	R	M	514	2065	161	263	0.612	ND	2.0
Tensas Riv @ Tendell, LA	SMC	1995	Aug	R	M	482	1475	191	292	0.654	ND	2.0
Tensas Riv @ Tendell, LA	SMC	1995	Aug	R	M	445	1298	376	308	1.221	ND	2.0
Trinity Riv below Dallas, TX	SMC	1994	Dec	NR	F	690	5992	1527	413	3.70	7.100	3.0
Trinity Riv below Dallas, TX	SMC	1994	Dec	NR	F	650	4950	1036	265	3.91	12.300	3.0
Trinity Riv below Dallas, TX	SMC	1994	Dec	NR	F	640	3466	2110	480	4.40	7.000	3.0
Trinity Riv below Dallas, TX	SMC	1994	Dec	NR	F	590	3434	947	412	2.30	12.800	3.0
Trinity Riv below Dallas, TX	SMC	1994	Dec	NR	F	559	2690	2922	654	4.47	10.500	3.0
Trinity Riv below Dallas, TX	SMC	1994	Dec	NR	M	655	3155	128	521	0.25	ND	2.0
Trinity Riv below Dallas, TX	SMC	1994	Dec	NR	M	580	3140	388	732	0.53	ND	2.0
Trinity Riv below Dallas, TX	SMC	1994	Dec	NR	M	575	2861	324	654	0.50	ND	1.0
Trinity Riv below Dallas, TX	SMC	1994	Dec	NR	M	550	2718	373	557	0.67	ND	1.0
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	656	3750	1471	1044	1.409	2.138	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	609	2800	2028	1187	1.709	3.109	3

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

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Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	555	2200	1237	1176	1.052	1.397	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	554	2350	2303	942	2.445	1.462	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	538	1950	1401	199	7.040	1.973	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	505	1750	1965	1746	1.125	1.134	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	495	1700	1607	754	2.131	2.012	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	480	1450	1313	285	4.607	2.421	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	470	1400	1221	1153	1.059	1.679	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	NA	NA	1674	1115	1.501	0.712	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	530	2175	355	1765	0.201	ND	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	530	1850	689	1905	0.362	ND	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	505	1700	1148	2116	0.543	ND	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	494	1400	900	813	1.107	0.006	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	480	1400	982	2028	0.484	ND	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	480	1400	763	1944	0.392	ND	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	462	1275	1076	1683	0.639	0.009	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	452	1300	300	652	0.460	ND	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	433	1000	759	914	0.830	ND	3
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	F	469	1390	861	265	3.249	2.423	2.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	F	461	1417	921	318	2.896	0.381	3.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	F	453	1582	1120	192	5.833	1.697	3.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	F	441	1224	761	268	2.840	1.740	3.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	F	427	1129	512	112	4.571	1.374	2.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	F	417	947	219	212	1.033	0.581	3.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	F	402	947	694	175	3.966	0.585	4.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	F	392	870	321	179	1.793	0.815	3.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	F	388	719	257	171	1.503	2.071	3.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	F	385	886	831	227	3.661	0.871	2.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	M	518	1830	117	361	0.324	ND	2.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	M	491	1263	71	229	0.310	ND	3.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	M	491	1256	73	182	0.401	0.005	1.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	M	487	1383	107	217	0.493	ND	3.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	M	460	1066	88	174	0.506	ND	2.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	M	454	1376	134	268	0.500	ND	3.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	M	426	946	139	235	0.591	ND	3.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	M	422	849	94	326	0.288	ND	1.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	M	421	815	205	798	0.257	0.005	2.0
Virgin Riv inflo to L Mead, NV	SW	1996	May	R	M	406	771	76	127	0.598	0.005	3.0
Wabash Riv @ New Harmony, IN	NMC	1995	Oct	NR	M	450	1700	405	246	1.65	ND	3
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	F	718	7181	589	101	5.83	2.924	3
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	F	600	2700	463	92	5.03	3.270	0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

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Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	F	585	3300	358	131	2.73	7.453	1
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	F	574	2600	765	100	7.65	ND	2
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	F	563	2800	537	181	2.97	1.230	3
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	F	539	2500	719	123	5.85	2.726	3
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	F	530	2190	920	77	11.95	1.505	3
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	F	506	2000	429	104	4.13	2.139	3
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	F	447	1800	351	69	5.09	3.606	3
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	M	592	2800	544	1200	0.45	ND	2
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	M	570	2600	310	339	0.91	ND	2
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	M	565	2600	430	534	0.81	ND	2
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	M	561	2400	348	2202	0.16	ND	2
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	M	544	2500	450	391	1.15	ND	3
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	M	542	2300	347	302	1.15	ND	3
Wabash Riv @ N Harmony, IN	NMC	1995	Oct	NR	M	465	1300	455	1646	0.28	ND	2
Weber Riv @ Ogden Bay UT	SW	1998	Aug	R	F	720	5000	1159	687	1.687	0.672	3
Weber Riv @ Ogden Bay UT	SW	1998	Aug	R	F	718	5500	591	370	1.597	1.723	3
Weber Riv @ Ogden Bay UT	SW	1998	Aug	R	F	627	3000	1259	603	2.088	3.125	3
Weber Riv @ Ogden Bay UT	SW	1998	Aug	R	F	572	2306	575	273	2.106	1.625	3
Weber Riv @ Ogden Bay UT	SW	1998	Aug	R	F	498	1520	612	353	1.734	0.275	2
Weber Riv @ Ogden Bay UT	SW	1998	Aug	R	M	552	2060	263	521	0.505	ND	1
Weber Riv @ Ogden Bay UT	SW	1998	Aug	R	M	501	1575	690	736	0.938	ND	1
Weber Riv @ Ogden Bay UT	SW	1998	Aug	R	M	472	1123	515	914	0.563	ND	3
Weber Riv @ Ogden Bay UT	SW	1998	Aug	R	M	421	957	505	1317	0.383	0.018	2
Weber Riv @ Ogden Bay UT	SW	1998	Aug	R	M	380	740	546	1231	0.444	ND	2
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	668	4530	2125	1474	1.44	32.900	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	638	3834	948	1342	0.71	41.100	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	620	3227	1559	791	1.97	34.700	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	617	3287	1521	325	4.68	30.800	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	612	3225	2087	1152	1.81	24.400	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	600	3300	1939	1429	1.36	23.800	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	589	2866	884	862	1.03	27.000	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	587	2219	2799	794	3.53	32.500	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	575	3300	1328	1665	0.80	31.000	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	564	2208	1283	681	1.88	26.100	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	550	2292	2485	1126	2.21	28.900	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	539	2463	1957	1881	1.04	21.400	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	538	2614	2313	1969	1.17	29.200	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	530	2122	1890	1621	1.17	31.500	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	508	1800	1130	440	2.57	33.900	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	484	1671	1248	1091	1.14	37.200	3.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
White Riv @ Hazelton, IN	NMC	1994	Sept	R	F	446	1314	1774	1373	1.29	29.700	3.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	638	1909	176	1140	0.15	ND	2.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	610	2200	1145	2604	0.44	ND	1.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	598	2530	430	2441	0.18	ND	2.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	589	2045	655	1417	0.46	0.010	1.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	573	2756	546	1515	0.36	0.830	1.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	568	2120	733	2514	0.29	ND	1.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	565	2350	693	1284	0.54	0.050	1.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	553	2050	1728	2075	0.83	ND	2.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	551	2135	659	2288	0.29	ND	1.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	550	1658	564	1314	0.44	ND	1.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	543	2130	652	2580	0.25	0.020	1.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	519	1928	389	2448	0.16	ND	1.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	519	1736	737	2446	0.30	ND	1.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	510	1827	1049	1067	0.98	ND	1.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	500	1877	869	1720	0.51	0.060	1.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	490	1691	443	2416	0.18	ND	1.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	466	1556	598	836	0.72	ND	1.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	465	1547	396	755	0.53	ND	2.0
White Riv @ Hazelton, IN	NMC	1994	Sept	R	M	457	1389	1324	1743	0.76	ND	1.0
White Riv @ Hazelton, IN	NMC	1995	June	R	F	667	4760	369	225	1.640	46.332	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	F	642	5239	862	212	4.066	27.875	1.0
White Riv @ Hazelton, IN	NMC	1995	June	R	F	636	3916	882	215	4.102	36.650	2.0
White Riv @ Hazelton, IN	NMC	1995	June	R	F	631	3568	575	318	1.808	41.443	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	F	625	3185	774	93	8.323	63.292	2.0
White Riv @ Hazelton, IN	NMC	1995	June	R	F	579	5175	687	553	1.242	74.175	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	F	576	2496	340	294	1.156	33.309	4.0
White Riv @ Hazelton, IN	NMC	1995	June	R	F	551	2184	261	355	0.735	124.800	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	F	526	2924	383	160	2.394	84.320	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	F	524	1863	601	646	0.930	83.153	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	F	510	1964	434	117	3.709	85.648	2.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	653	3718	229	924	0.248	ND	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	648	3252	359	191	1.880	ND	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	616	3722	267	234	1.141	ND	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	605	2935	441	660	0.668	ND	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	581	2217	357	617	0.579	ND	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	581	2509	255	484	0.527	11.956	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	570	2595	232	1267	0.183	ND	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	564	2645	391	1176	0.332	ND	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	517	2180	306	335	0.913	ND	2.0

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
White Riv @ Hazelton, IN	NMC	1995	June	R	M	512	2180	351	347	1.012	ND	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	511	2240	271	881	0.308	ND	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	504	1990	108	151	0.715	ND	1.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	504	2490	182	436	0.417	1.389	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	491	2020	198	844	0.235	ND	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	490	1635	363	377	0.963	ND	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	486	1586	295	228	1.294	ND	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	485	1747	143	919	0.156	ND	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	471	1524	159	432	0.368	ND	3.0
White Riv @ Hazelton, IN	NMC	1995	June	R	M	458	1340	368	380	0.968	ND	1.0
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	F	700	4690	2265	611	3.71	2.364	3
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	F	645	4084	855	1925	0.44	ND	3
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	F	600	3142	822	274	3.00	ND	3
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	F	590	3264	439	187	2.35	0.011	3
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	F	566	2845	1735	369	4.70	ND	3
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	F	553	2611	465	419	1.11	ND	3
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	F	540	2052	1151	172	6.69	4.280	3
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	M	674	4996	551	248	2.22	ND	2
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	M	657	4417	501	3226	0.16	ND	2
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	M	632	3470	358	949	0.38	ND	1
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	M	581	2860	367	2036	0.18	ND	2
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	M	571	2673	945	1657	0.57	ND	2
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	M	560	2428	474	311	1.52	ND	2
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	M	526	2003	574	2338	0.25	ND	1
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	M	523	1867	461	769	0.60	ND	1
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	M	510	1867	428	532	0.80	ND	3
White Riv nr DeValls Bluff, AR	SMC	1995	Sept	R	M	430	1147	689	579	1.19	ND	2
Willamette Riv @ Oregon Cty, OR	NW	1997	Nov	NR	F	771	8000	899	222	4.05	0.110	2
Willamette Riv @ Oregon Cty, OR	NW	1997	Nov	NR	F	765	6800	439	82	5.35	0.994	2
Willamette Riv @ Oregon Cty, OR	NW	1997	Nov	NR	F	611	3800	183	129	1.42	0.735	2
Willamette Riv @ Oregon Cty, OR	NW	1997	Nov	NR	F	562	2650	789	349	2.26	0.067	2
Willamette Riv @ Oregon Cty, OR	NW	1997	Nov	NR	M	677	3800	63	419	0.15	ND	3
Willamette Riv @ Oregon Cty, OR	NW	1997	Nov	NR	M	645	3650	257	305	0.84	0.010	3
Willamette Riv @ Oregon Cty, OR	NW	1997	Nov	NR	M	604	3700	789	257	3.07	ND	3
Willamette Riv @ Oregon Cty, OR	NW	1997	Nov	NR	M	580	2750	273	276	0.99	ND	3
Willamette Riv @ Oregon Cty, OR	NW	1997	Nov	NR	M	570	2800	179	194	0.92	ND	3
Willamette Riv @ Oregon Cty, OR	NW	1997	Nov	NR	M	555	2350	426	382	1.12	ND	3
Willamette Riv @ Oregon Cty, OR	NW	1997	Nov	NR	M	535	2100	414	302	1.37	ND	3
Willamette Riv @ Oregon Cty, OR	NW	1997	Nov	NR	M	520	1867	256	147	1.74	ND	3
Willamette Riv @ Oregon Cty, OR	NW	1997	Nov	NR	M	481	1351	197	556	0.35	ND	3

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

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Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Willamette Riv @ Oregon Cty, OR	NW	1997	Nov	NR	M	465	1494	882	324	2.72	ND	3
Willamette Riv below Portland, OR	NW	1995	July	R	F	565	2983	822	215	3.823	118.839	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	F	554	2724	1176	1042	1.129	52.296	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	F	533	2354	804	168	4.786	20.342	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	F	533	2254	505	843	0.599	23.752	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	F	521	2150	621	309	2.010	11.689	2.0
Willamette Riv below Portland, OR	NW	1995	July	R	F	512	1910	577	241	2.394	73.179	2.0
Willamette Riv below Portland, OR	NW	1995	July	R	F	509	1844	249	695	0.358	60.231	2.0
Willamette Riv below Portland, OR	NW	1995	July	R	F	507	1706	2069	410	5.046	45.768	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	F	501	2209	560	681	0.822	56.516	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	F	496	1760	325	1124	0.289	13.902	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	F	487	1846	1156	384	3.010	40.971	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	F	486	1646	1514	1036	1.461	17.885	2.0
Willamette Riv below Portland, OR	NW	1995	July	R	F	482	1573	982	280	3.507	17.202	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	F	448	1375	687	487	1.411	66.651	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	F	428	1052	295	972	0.303	2.660	1.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	521	1996	659	3140	0.210	ND	2.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	505	1581	718	639	1.124	ND	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	486	1596	818	1087	0.753	ND	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	484	1375	392	986	0.398	ND	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	484	1494	448	1248	0.359	ND	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	477	1360	215	2178	0.099	ND	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	477	1492	635	1554	0.409	ND	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	462	1271	169	625	0.270	ND	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	450	1261	754	1177	0.641	ND	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	447	1384	627	975	0.643	ND	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	443	1156	642	2076	0.309	ND	2.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	442	1220	771	4310	0.179	ND	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	440	1252	471	695	0.678	ND	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	416	999	560	895	0.626	ND	3.0
Willamette Riv below Portland, OR	NW	1995	July	R	M	379	690	538	509	1.057	ND	3.0
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	F	600	2600	2439	871	2.80	4.650	3
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	F	585	3000	1777	305	5.83	1.724	3
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	F	578	2200	855	621	1.38	3.101	3
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	F	556	2500	3449	869	3.97	4.537	3
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	F	555	2200	2632	668	3.94	3.447	3
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	F	548	2100	1134	447	2.54	2.806	3
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	F	535	2050	2782	285	9.76	2.690	3
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	F	533	2050	1214	226	5.37	1.672	3
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	F	520	1900	1617	208	7.77	3.458	3

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

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Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	F	508	1950	578	132	4.38	5.255	3
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	M	578	2400	1151	2688	0.43	0.005	1
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	M	544	1900	502	1345	0.37	ND	2
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	M	538	1900	395	2167	0.18	ND	1.5
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	M	535	2000	583	2893	0.20	ND	1.5
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	M	533	1900	1474	191	7.72	ND	NA
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	M	518	1950	456	1291	0.35	ND	1
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	M	514	1950	293	1196	0.24	ND	1.5
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	M	510	1850	578	2770	0.21	ND	1
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	M	502	1550	295	694	0.43	ND	2
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	M	495	1450	694	2182	0.32	ND	1
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	M	494	1550	145	1244	0.12	ND	1
Wisconsin Riv @ Woodman, WI	NMC	1995	Sept	NR	M	468	1400	416	1267	0.33	ND	1
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	F	615	2500	623	100	6.23	0.537	1
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	F	591	3150	1251	107	11.69	2.030	2
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	F	535	2150	1418	358	3.96	2.245	2
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	F	535	1678	587	167	3.51	1.741	2
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	F	534	1850	1146	440	2.60	2.642	2
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	F	524	1457	772	384	2.01	1.538	1
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	F	521	1900	1142	596	1.92	0.919	2
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	F	476	1635	1244	277	4.49	1.944	2
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	F	440	898	1037	415	2.50	1.944	2
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	F	428	966	1407	770	1.83	2.885	2
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	M	590	2500	207	123	1.68	ND	3
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	M	519	1889	88	612	0.14	ND	2
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	M	501	1370	683	712	0.96	ND	3
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	M	497	1450	113	851	0.13	ND	3
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	M	490	1339	401	711	0.56	ND	3
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	M	475	1255	211	220	0.96	ND	2
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	M	464	1273	783	1101	0.71	ND	3
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	M	462	1038	374	497	0.75	ND	3
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	M	446	1150	76	555	0.14	ND	3
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	M	444	1107	296	1124	0.26	ND	3
Yazoo Riv @ Redwood, MS	SMC	1995	Aug	R	F	742	6200	356	478	0.745	1.473	3
Yazoo Riv @ Redwood, MS	SMC	1995	Aug	R	F	660	3571	1391	427	3.258	ND	3
Yazoo Riv @ Redwood, MS	SMC	1995	Aug	R	F	583	3380	673	593	1.135	ND	3
Yazoo Riv @ Redwood, MS	SMC	1995	Aug	R	F	563	2805	1198	1246	0.961	0.820	2
Yazoo Riv @ Redwood, MS	SMC	1995	Aug	R	F	497	2071	551	433	1.273	ND	2
Yazoo Riv @ Redwood, MS	SMC	1995	Aug	R	M	657	3693	496	347	1.429	ND	2
Yazoo Riv @ Redwood, MS	SMC	1995	Aug	R	M	566	2623	438	721	0.607	ND	2

Table 4. (Continued) All individual COMMON CARP values for biomarker and ancillary data from collections made at sites in U.S. waters from August 1994 through October 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Develop-mental stage
Yazoo Riv @ Redwood, MS	SMC	1995	Aug	R	M	560	2401	688	199	3.457	ND	2
Yazoo Riv @ Redwood, MS	SMC	1995	Aug	R	M	550	2411	120	612	0.196	ND	2
Yazoo Riv @ Redwood, MS	SMC	1995	Aug	R	M	542	2279	627	425	1.475	ND	2
Yazoo Riv @ Redwood, MS	SMC	1995	Aug	R	M	520	2206	390	466	0.837	ND	2
Yazoo Riv @ Redwood, MS	SMC	1995	Aug	R	M	297	407	924	487	1.897	ND	1
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	F	672	3550	1981	1274	1.55	1.661	3
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	F	662	3850	2939	297	9.90	1.857	3
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	F	556	1750	2119	91	23.29	0.810	3
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	F	519	1700	1184	286	4.14	2.522	3
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	F	473	1300	1563	501	3.12	0.947	3
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	F	468	1300	3350	674	4.97	1.676	3
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	F	458	1150	2505	240	10.44	ND	1
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	F	442	1050	2399	261	9.19	1.318	3
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	F	419	950	917	385	2.38	0.074	1
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	F	415	900	1691	52	32.52	0.571	2
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	F	339	500	1296	408	3.18	ND	2
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	F	328	450	1083	188	5.76	ND	1
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	M	619	2600	2918	4214	0.69	ND	1
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	M	619	2800	967	3811	0.25	ND	1
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	M	596	2450	758	2754	0.28	ND	1.5
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	M	566	2150	1198	2532	0.47	ND	1
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	M	562	2400	709	3389	0.21	ND	1.5
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	M	539	2200	1255	2136	0.59	ND	1
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	M	519	1800	736	1191	0.62	ND	2
Yellowstone R @ Sidney, MT	NMC	1995	Sept	NR	M	390	800	1129	1644	0.69	ND	2

Table 5. All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	405	1000	280	421	0.6651	ND	2
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	400	1000	427	1563	0.2732	ND	2
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	380	800	396	661	0.5991	ND	2
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	375	800	327	1515	0.2158	ND	2
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	386	750	301	1942	0.1550	ND	2
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	354	700	402	1365	0.2945	ND	2
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	357	650	281	1313	0.2140	ND	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	M	378	700	422	755	0.5589	0.01	2
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	332	500	1094	149	7.3423	ND	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	464	1400	1268	337	3.7626	0.641	2
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	410	1150	2252	439	5.1298	0.939	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	495	1950	3386	299	11.3244	2.117	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	378	900	2396	513	4.6706	2.3	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	421	1400	705	114	6.1842	4.697	3
Arkansas Riv @ Keystone Res, OK	SMC	1995	Dec	NR	F	378	825	978	121	8.0826	5.443	3
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	335	750	1432	488	2.9344	ND	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	309	600	1453	460	3.1587	0.01	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	333	775	475	111	4.2793	0.021	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	344	850	403	179	2.2514	0.043	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	330	600	758	278	2.7266	0.047	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	323	800	899	213	4.2207	0.131	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	336	750	514	181	2.8398	2	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	F	348	800	1883	1040	1.8106	8.833	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	349	875	544	1491	0.3649	ND	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	337	850	343	2541	0.1350	ND	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	343	825	330	561	0.5882	ND	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	336	825	482	1081	0.4459	ND	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	332	800	329	766	0.4295	ND	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	337	752	388	1187	0.3269	ND	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	327	750	535	1171	0.4569	ND	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	322	700	494	1368	0.3611	ND	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	328	660	493	2812	0.1753	ND	2
Arkansas Riv @ J Martin Res, CO	NMC	1995	Oct	NR	M	295	550	537	711	0.7553	ND	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	392	980	498	429	1.1608	ND	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	305	397	308	144	2.1389	ND	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	315	391	235	329	0.7143	ND	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	405	970	749	319	2.3480	0.008	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	370	794	719	330	2.1788	0.009	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	525	2321	470	213	2.2066	0.018	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	415	1156	845	205	4.1220	0.019	2

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	415	1145	249	285	0.8737	0.031	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	505	2308	458	277	1.6534	0.061	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	F	540	2400	766	348	2.2011	0.197	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	411	1251	550	1491	0.3689	ND	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	395	825	434	2597	0.1671	ND	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	380	783	523	622	0.8408	ND	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	358	640	249	1447	0.1721	ND	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	330	423	265	727	0.3645	ND	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	305	346	261	484	0.5393	ND	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	308	328	414	5144	0.0805	ND	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	278	273	347	319	1.0878	ND	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	262	200	263	448	0.5871	ND	2
Arkansas Riv @ Pine Bluff, AR	SMC	1995	Oct	NR	M	NA	NA	277	1306	0.2121	ND	1
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	453	1500	466	1206	0.3864	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	430	1300	842	1393	0.6045	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	370	1250	469	252	1.8611	ND	1
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	410	1000	704	1420	0.4958	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	410	950	745	909	0.8196	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	380	800	683	641	1.0655	ND	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	410	750	341	214	1.5935	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	357	550	574	619	0.9273	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	313	450	604	503	1.2008	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	M	410	889	1022	484	2.1116	2.408	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	455	1500	1198	398	3.0101	ND	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	390	800	1064	1402	0.7589	ND	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	385	750	2417	509	4.7485	ND	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	388	600	978	1069	0.9149	ND	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	361	800	518	87	5.9540	0.287	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	385	775	605	1999	0.3027	0.675	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	473	1800	918	904	1.0155	1.581	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	351	650	945	881	1.0726	2.804	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	490	1400	462	1045	0.4421	3.414	2
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	510	1900	1022	1201	0.8510	4.244	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	400	1000	833	1001	0.8322	4.276	3
Canadian Riv @ Eufaula, OK	SMC	1995	Nov	NR	F	444	1350	678	599	1.1319	15.897	3
Chambers L nr Croscama, TX	SMC	1996	Sept	NR	F	NA	NA	298	272	1.0956	ND	0
Chambers L nr Croscama, TX	SMC	1996	Sept	NR	M	388	336	209	439	0.4761	ND	1
Chambers L nr Croscama, TX	SMC	1996	Sept	NR	M	245	267	226	433	0.5219	ND	2
Chambers L nr Croscama, TX	SMC	1996	Sept	NR	M	NA	NA	211	274	0.7701	ND	3
Chambers L nr Croscama, TX	SMC	1996	Sept	NR	M	NA	NA	324	813	0.3985	ND	3

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Chambers L nr Croscama, TX	SMC	1996	Sept	NR	M	NA	NA	214	299	0.7157	ND	1
Chickasaw NWR, TN	SMC	1996	Jan	NR	M	405	964	247	218	1.1330	ND	3
Chickasaw NWR, TN	SMC	1996	Jan	NR	M	361	624	314	186	1.6882	ND	1
Chickasaw NWR, TN	SMC	1996	Jan	NR	M	351	595	277	135	2.0519	ND	3
Chickasaw NWR, TN	SMC	1996	Jan	NR	M	341	567	196	88	2.2273	ND	3
Chickasaw NWR, TN	SMC	1996	Jan	NR	F	282	454	173	101	1.7129	0.005	.
Chickasaw NWR, TN	SMC	1996	Jan	NR	F	395	851	535	70	7.6429	0.023	1
Chickasaw NWR, TN	SMC	1996	Jan	NR	F	573	2920	322	219	1.4703	0.034	3
Chickasaw NWR, TN	SMC	1996	Jan	NR	F	465	1616	90	79	1.1392	0.141	1
Chickasaw NWR, TN	SMC	1996	Jan	NR	F	365	680	214	104	2.0577	0.141	1
Chickasaw NWR, TN	SMC	1996	Jan	NR	F	440	1304	132	115	1.1478	0.213	3
Chickasaw NWR, TN	SMC	1996	Jan	NR	F	354	737	52	174	0.2989	0.412	.
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	323	556	468	141	3.3191	ND	1
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	364	744	1465	387	3.7855	0.006	1
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	269	299	881	908	0.9703	0.155	1
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	320	452	833	581	1.4337	0.172	1
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	283	337	239	173	1.3815	0.172	1
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	522	2600	351	208	1.6875	0.61	1
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	F	407	1450	553	122	4.5328	33.665	3
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	440	1248	298	654	0.4557	ND	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	261	282	182	331	0.5498	ND	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	245	250	131	504	0.2599	ND	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	240	250	306	750	0.408	ND	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	290	144	491	422	1.1635	ND	2
Columbia Riv @ Pasco, WA	NW	1997	Oct	NR	M	407	1032	848	1307	0.6488	0.669	2
Connecticut R @ Thompsonville, CT	NE	1994	Sept	NR	F	254	273	1372	195	7.0359	ND	1
Connecticut R @ Thompsonville, CT	NE	1994	Sept	NR	F	257	280	510	111	4.5946	0.0036	1
Connecticut R @ Thompsonville, CT	NE	1994	Sept	NR	F	373	784	307	93	3.3011	0.008	1
Connecticut R @ Thompsonville, CT	NE	1994	Sept	NR	M	295	379	1500	1203	1.2469	ND	3
Connecticut R @ Thompsonville, CT	NE	1994	Sept	NR	M	284	314	718	1206	0.5954	ND	3
Connecticut R @ Thompsonville, CT	NE	1994	Sept	NR	M	284	370	231	361	0.6399	0.0014	3
Connecticut R @ Thompsonville, CT	NE	1994	Sept	NR	M	393	494	386	257	1.5019	0.002	3
Cumberland Riv @ Clarksville, TN	SMC	1995	Oct	NR	F	268	235	563	70	8.0429	ND	3
Cumberland Riv @ Clarksville, TN	SMC	1995	Oct	NR	F	231	142	230	49	4.6939	ND	2
Cumberland Riv @ Clarksville, TN	SMC	1995	Oct	NR	F	325	425	313	89	3.5169	0.156	3
Cumberland Riv @ Clarksville, TN	SMC	1995	Oct	NR	F	320	379	341	52	6.5577	0.925	2
Cumberland Riv @ Clarksville, TN	SMC	1995	Oct	NR	M	335	525	318	162	1.9630	ND	2
Cumberland Riv @ Clarksville, TN	SMC	1995	Oct	NR	M	300	370	265	106	2.5	ND	2
Cumberland Riv @ Clarksville, TN	SMC	1995	Oct	NR	M	256	250	594	121	4.9091	ND	3
Cumberland Riv @ Clarksville, TN	SMC	1995	Oct	NR	M	230	167	214	198	1.0808	ND	2

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Cumberland Riv @ Clarksville, TN	SMC	1995	Oct	NR	M	300	336	348	131	2.6565	0.102	2
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	526	2231	1198	265	4.5208	ND	1
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	429	1337	329	294	1.1190	ND	1
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	391	939	775	307	2.5244	ND	1
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	408	938	916	175	5.2343	ND	1
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	375	749	479	238	2.0126	ND	1
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	333	636	365	193	1.8912	ND	1
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	356	629	532	194	2.7423	ND	1
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	338	579	1142	232	4.9224	ND	1
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	276	245	720	72	10	ND	1
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	293	322	1183	304	3.8914	0.0014	0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	546	2603	461	38	12.1316	0.0016	1
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	433	1104	523	123	4.2520	0.0016	1
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	309	406	1539	74	20.7973	0.0016	1
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	273	222	551	189	2.9153	0.0016	0
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	492	1710	1155	274	4.2153	0.002	1
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	580	2804	548	74	7.4054	0.003	1
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	354	600	1089	662	1.6450	0.021	1
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	F	440	1293	1219	409	2.9804	0.026	1
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	374	959	923	182	5.0714	0.085	1
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	387	901	289	159	1.8176	0.282	1
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	448	1455	954	145	6.5793	0.292	1
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	423	1265	1243	323	3.8483	0.326	1
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	F	362	644	318	161	1.9752	0.564	1
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	M	356	788	1028	1221	0.8419	ND	3
Don Pedro Res nr La Grange, CA	SW	1995	Oct	NR	M	334	638	301	1501	0.2005	ND	3
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	279	272	777	227	3.4229	ND	3
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	275	260	1370	662	2.0695	ND	3
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	255	217	1119	1543	0.7252	ND	3
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	414	970	207	98	2.1122	0.001	3
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	448	1389	1300	1894	0.6864	0.0012	3
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	271	273	565	551	1.0254	0.0014	3
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	252	197	612	527	1.161	0.0018	3
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	326	420	446	188	2.372	0.002	3
Don Pedro Res nr La Grange, CA	SW	1994	Oct	NR	M	268	235	958	1527	0.6274	1.8	3
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	F	315	441	574	297	1.9327	0.158	1
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	F	279	280	1143	495	2.3091	0.158	1
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	F	290	341	1092	292	3.7397	0.334	2
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	F	421	1281	1585	805	1.9689	0.398	1
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	F	426	1050	598	318	1.8805	0.837	2

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	F	440	1577	1210	608	1.9901	1.047	3
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	F	470	1779	557	185	3.0108	1.117	2
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	F	475	2100	398	112	3.5536	1.469	2
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	F	461	1750	446	230	1.9391	1.516	2
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	F	496	2600	942	488	1.9303	2.355	2
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	M	430	1756	242	191	1.2670	ND	2
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	M	410	1171	113	456	0.2478	ND	2
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	M	330	619	326	976	0.3340	ND	2
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	M	330	540	371	607	0.6112	ND	3
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	M	315	486	146	623	0.2343	ND	3
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	M	306	399	182	695	0.2619	ND	3
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	M	280	299	127	121	1.0496	ND	3
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	M	279	291	251	849	0.2956	ND	3
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	M	252	114	161	501	0.3214	ND	3
Flathead Riv @ Creston, MT	NW	1997	Oct	NR	M	461	1880	591	256	2.3086	0.083	1
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	F	393	1015	257	21	12.2381	0.097	1
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	F	484	1813	442	173	2.5549	0.139	1
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	384	893	11	66	0.1667	ND	3
Hudson Riv @ Poughkeepsie, NY	NE	1994	Sept	NR	M	370	855	58	15	3.8667	ND	3
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	F	400	1160	223	249	0.8956	ND	1
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	F	302	492	239	683	0.3499	ND	2
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	F	280	345	168	138	1.2174	ND	2
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	F	258	267	102	475	0.2147	ND	2
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	F	251	228	205	128	1.6016	0.008	2
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	F	408	1173	423	869	0.4868	0.015	3
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	F	275	375	220	735	0.2993	0.048	2
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	F	285	410	305	204	1.4951	0.057	2
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	F	391	1026	248	906	0.2737	0.064	2
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	F	343	708	231	343	0.6735	0.072	2
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	M	389	1119	251	261	0.9617	ND	1
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	M	404	1058	244	295	0.8271	ND	1
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	M	340	643	243	715	0.3399	ND	2
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	M	320	548	180	231	0.7792	ND	1
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	M	313	516	173	1755	0.0986	ND	1
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	M	287	398	229	1488	0.1539	ND	2
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	M	274	342	153	391	0.3913	ND	1
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	M	284	291	197	1127	0.1748	ND	1
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	M	258	285	184	404	0.4554	ND	1
Illinois Riv @ Beardstown, IL	NMC	1995	Sept	NR	M	234	192	159	828	0.1920	ND	1
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	325	418.2	304	84	3.619	ND	2

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	322	403	1237	544	2.274	ND	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	310	387	801	466	1.719	ND	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	312	379	723	399	1.812	ND	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	315	372.8	542	378	1.434	ND	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	305	341.8	304	84	3.619	ND	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	295	305.5	1403	601	2.334	ND	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	284	296.7	304	84	3.619	ND	1
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	318	335.6	520	316	1.646	0.173	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	F	292	277.5	688	390	1.764	0.512	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	306	377.8	270	504	0.536	ND	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	318	363.8	295	849	0.347	ND	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	321	331.4	387	665	0.582	ND	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	305	306.4	335	837	0.4	ND	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	304	297	296	693	0.427	ND	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	290	277.8	359	618	0.581	ND	1
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	268	267.2	335	1087	0.308	ND	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	330	238.5	312	960	0.325	ND	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	263	213.8	201	426	0.472	ND	2
Leetown Res @ Leetown, WV	NE	1996	Oct	NR	M	296	265.6	341	841	0.405	0.114	3
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	360	816	569	676	0.8417	0.026	1
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	382	971	236	697	0.3386	0.006	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	365	777	640	583	1.0978	0.116	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	370	968	788	376	2.0957	0.157	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	375	994	806	462	1.7446	0.609	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	405	1272	1116	604	1.8477	1.045	3
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	355	682	604	771	0.7834	1.048	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	355	846	802	704	1.1392	1.304	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	390	1021	659	507	1.2998	1.529	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	375	864	742	584	1.2705	3.964	NA
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	420	1223	711	304	2.3388	4.688	3
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	F	410	1072	633	681	0.9295	11.276	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	387	1030	554	1056	0.5246	ND	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	350	720	857	1335	0.6419	ND	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	350	706	638	1024	0.6230	ND	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	343	670	634	1272	0.4984	ND	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	332	635	400	942	0.4246	ND	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	340	620	461	1229	0.3751	ND	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	325	620	546	978	0.5583	ND	2
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	309	471	508	432	1.1759	ND	1
Mississippi Riv @ Dubuque, IA	NMC	1995	Oct	NR	M	275	323	340	875	0.3886	ND	1

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	337	656	1266	782	1.6189	0.021	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	425	1435	357	199	1.7940	0.059	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	392	1016	1268	306	4.1438	0.09	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	375	900	1277	477	2.6771	0.192	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	376	910	380	320	1.1875	0.778	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	411	1174	202	179	1.1285	0.874	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	423	1223	1285	463	2.7754	1.025	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	390	1043	1371	314	4.3662	1.108	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	390	940	1289	739	1.7442	1.471	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	F	456	1726	1279	277	4.6173	10.331	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	382	1008	199	536	0.3713	ND	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	393	931	266	753	0.3533	ND	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	387	918	132	736	0.1793	ND	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	375	867	291	386	0.7539	ND	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	372	843	210	719	0.2921	ND	1
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	365	783	289	675	0.4281	ND	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	363	771	99	627	0.1579	ND	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	342	630	215	507	0.4241	ND	2
Mississippi Riv @ Guttenburg, IA	NMC	1995	Oct	NR	M	310	449	266	901	0.2952	ND	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	301	328	196	132	1.4848	ND	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	295	318	367	422	0.8697	ND	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	231	151	199	44	4.5227	ND	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	447	1822	690	127	5.4331	0.061	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	469	1555	269	119	2.2605	0.077	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	372	720	651	130	5.0077	0.103	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	F	320	447	249	305	0.8164	0.341	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	M	373	802	204	271	0.7528	ND	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	M	362	734	788	115	6.8522	ND	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	M	361	667	238	389	0.6118	ND	2
Mississippi Riv @ Memphis, TN	SMC	1995	Oct	NR	M	315	463	727	182	3.9945	ND	2
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	F	426	1225	436	289	1.5087	ND	2
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	F	300	375	789	447	1.7651	0.205	2
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	F	366	725	338	309	1.0939	0.352	2
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	F	307	500	493	622	0.7926	0.562	2
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	F	296	400	416	176	2.3636	1.21	2
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	M	435	1450	395	191	2.0681	ND	2
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	M	353	775	662	2132	0.3105	ND	2
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	M	320	575	612	463	1.3218	ND	2
Missouri Riv @ Hermann, MO	NMC	1995	Oct	NR	M	287	400	923	1295	0.7127	ND	2
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	303	430	561	371	1.5121	ND	1

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	306	470	237	18	13.1667	0.064	1
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	305	479	172	54	3.1852	0.075	1
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	F	312	534	531	30	17.7	0.4	1
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	310	409	373	142	2.6268	0.001	3
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	286	378	154	59	2.6102	0.001	3
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	285	345	44	61	0.7213	0.001	3
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	288	388	256	39	6.5641	0.0012	3
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	305	420	190	59	3.2203	0.0016	3
Mohawk Riv @ Frankfort, NY	NE	1994	Sept	NR	M	277	325	180	48	3.75	0.215	3
Ohio Riv @ Marietta, OH	NE	1995	Oct	NR	F	332	564	364	151	2.4106	0.245	3
Ohio Riv @ Marietta, OH	NE	1995	Oct	NR	F	328	640	279	87	3.2069	1.003	3
Ohio Riv @ Marietta, OH	NE	1995	Oct	NR	M	410	1100	308	441	0.6984	ND	2
Ohio Riv @ Marietta, OH	NE	1995	Oct	NR	M	379	789	409	158	2.5886	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	F	377	721	2434	788	3.0888	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	F	374	615	245	816	0.3002	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	F	373	613	1384	731	1.8933	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	F	345	520	391	856	0.4568	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	F	344	499	1313	957	1.3720	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	F	320	368	469	754	0.6220	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	F	316	366	355	702	0.5057	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	F	310	346	1310	1312	0.9985	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	F	310	343	435	95	4.5789	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	515	1918	320	2009	0.1593	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	415	1120	302	1138	0.2654	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	420	1090	269	594	0.4529	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	360	657	391	641	0.6100	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	354	611	261	2648	0.0986	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	340	470	297	1077	0.2758	ND	1
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	340	424	297	1338	0.2220	ND	1
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	321	409	509	1397	0.3644	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	325	405	396	653	0.6064	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	315	378	596	1039	0.5736	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	325	377	226	1185	0.1907	ND	2
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	305	321	385	1236	0.3115	ND	1
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	249	176	199	418	0.4761	ND	1
Ohio Riv @ Metropolis, IL	SMC	1995	Oct	NR	M	350	555	365	1298	0.2812	0.005	2
Potomic Riv @ Anacostia Riv	NE	1994	Nov	NR	F	293	354	235	232	1.0129	0.0016	1
Potomic Riv @ Anacostia Riv	NE	1994	Nov	NR	F	298	365	172	97	1.7732	0.056	1
Potomic Riv @ Anacostia Riv	NE	1994	Nov	NR	F	320	503	546	731	0.7469	0.117	1
Potomic Riv @ Anacostia Riv	NE	1994	Nov	NR	F	400	1164	136	240	0.5667	0.18	1

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Potomic Riv @ Anacostia Riv	NE	1994	Nov	NR	F	390	598	51	35	1.4571	0.88	1
Potomic Riv @ Anacostia Riv	NE	1994	Nov	NR	M	386	780	205	247	0.8300	0.001	3
Potomic Riv @ Anacostia Riv	NE	1994	Nov	NR	M	357	658	36	46	0.7826	0.001	3
Potomic Riv @ Anacostia Riv	NE	1994	Nov	NR	M	360	651	77	55	1.4	0.001	3
Potomic Riv @ Anacostia Riv	NE	1994	Nov	NR	M	338	619	151	87	1.7356	0.001	3
Potomic Riv @ Anacostia Riv	NE	1994	Nov	NR	M	328	607	294	79	3.7215	0.0012	3
Potomic Riv @ Anacostia Riv	NE	1994	Nov	NR	M	330	524	60	59	1.0169	0.0012	3
Potomic Riv @ Anacostia Riv	NE	1994	Nov	NR	M	274	228	21	327	0.0642	0.0016	3
Ray Roberts L nr Gainesville, Tx	SMC	1996	Sept	NR	F	371	311	386	206	1.8738	ND	0
Ray Roberts L nr Gainesville, Tx	SMC	1996	Sept	NR	F	306	305	249	123	2.0244	ND	0
Ray Roberts L nr Gainesville, Tx	SMC	1996	Sept	NR	F	NA	NA	219	314	0.6975	ND	1
Ray Roberts L nr Gainesville, Tx	SMC	1996	Sept	NR	F	NA	NA	566	144	3.9306	ND	1
Ray Roberts L nr Gainesville, Tx	SMC	1996	Sept	NR	F	NA	NA	154	113	1.3628	ND	0
Ray Roberts L nr Gainesville, Tx	SMC	1996	Sept	NR	F	NA	NA	304	169	1.7988	ND	0
Ray Roberts L nr Gainesville, Tx	SMC	1996	Sept	NR	M	262	285	243	291	0.8351	ND	2
Ray Roberts L nr Gainesville, Tx	SMC	1996	Sept	NR	M	NA	NA	231	740	0.3122	ND	3
Ray Roberts L nr Gainesville, Tx	SMC	1996	Sept	NR	M	NA	NA	245	622	0.3939	ND	3
Ray Roberts L nr Gainesville, Tx	SMC	1996	Sept	NR	M	NA	NA	187	931	0.2009	ND	3
Real Foot NWR, TN	SMC	1996	Jan	NR	M	470	1332	124	661	0.1876	ND	2
Real Foot NWR, TN	SMC	1996	Jan	NR	M	370	765	261	208	1.2548	ND	2
Real Foot NWR, TN	SMC	1996	Jan	NR	M	330	510	969	852	1.1373	ND	2
Real Foot NWR, TN	SMC	1996	Jan	NR	M	484		368	412	0.8932	ND	2
Real Foot NWR, TN	SMC	1996	Jan	NR	F	508	1928	193	138	1.3986	0.005	3
Real Foot NWR, TN	SMC	1996	Jan	NR	F	415	1021	451	314	1.4363	0.0056	3
Real Foot NWR, TN	SMC	1996	Jan	NR	F	377	680	406	94	4.3191	0.0056	1
Real Foot NWR, TN	SMC	1996	Jan	NR	F	420	1049	529	243	2.1770	0.023	0
Real Foot NWR, TN	SMC	1996	Jan	NR	F	385	936	219	243	0.9012	0.023	0
Real Foot NWR, TN	SMC	1996	Jan	NR	F	285	340	323	112	2.8839	0.024	1
Real Foot NWR, TN	SMC	1996	Jan	NR	F	543	2381	554	120	4.6167	0.045	3
Real Foot NWR, TN	SMC	1996	Jan	NR	F	466	1446	189	129	1.4651	0.061	3
Real Foot NWR, TN	SMC	1996	Jan	NR	F	325	539	279	125	2.232	0.215	1
Real Foot NWR, TN	SMC	1996	Jan	NR	F	414	1162	779	58	13.4310	0.217	0
Real Foot NWR, TN	SMC	1996	Jan	NR	F	495	1673	319	224	1.4241	0.415	0
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	462	1493	989	260	3.8038	ND	1
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	425	1380	998	500	1.996	ND	2
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	439	1301	745	236	3.1568	ND	1
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	414	1108	411	365	1.1260	ND	0
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	402	995	459	260	1.7654	ND	1
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	386	899	794	439	1.8087	ND	2
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	373	720	722	582	1.2405	ND	2

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	350	615	408	210	1.9429	ND	1
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	347	556	404	801	0.5044	ND	1
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	340	520	589	263	2.2395	ND	2
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	292	395	735	422	1.7417	ND	0
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	310	345	526	669	0.7862	ND	1
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	290	344	1591	556	2.8615	ND	1
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	262	254	819	698	1.1734	ND	0
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	244	174	405	518	0.7819	ND	2
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	F	231	140	422	899	0.4694	ND	0
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	M	372	733	445	689	0.6459	ND	1
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	M	330	590	433	464	0.9332	ND	2
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	M	320	416	254	435	0.5839	ND	2
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	M	295	316	450	492	0.9146	ND	1
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	M	240	164	391	340	1.15	ND	1
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	M	241	158	198	502	0.3944	ND	1
Red Riv @ Alexandria, LA	SMC	1995	Oct	NR	M	235	149	355	579	0.6131	ND	1
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	470	1467	936	313	2.9904	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	405	1148	825	409	2.0171	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	420	1044	479	346	1.3844	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	400	1025	597	812	0.7352	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	419	959	562	209	2.6890	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	415	929	788	1235	0.6381	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	395	750	534	205	2.6049	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	375	658	496	273	1.8168	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	354	602	649	1569	0.4136	ND	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	352	577	584	848	0.6887	ND	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	320	426	896	2215	0.4045	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	318	388	654	441	1.4830	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	M	305	373	544	809	0.6724	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	497	1200	560	91	6.1538	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	330	460	466	497	0.9376	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	320	432	965	170	5.6765	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	309	366	842	648	1.2994	ND	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	540	2100	721	182	3.9615	0.006	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	340	494	391	123	3.1789	0.047	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	400	1103	1061	168	6.3155	0.119	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	425	1011	419	57	7.3509	0.165	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	380	817	1031	64	16.1094	0.202	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	370	769	858	71	12.0845	0.238	2
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	410	1004	512	309	1.6570	0.622	2

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	472	1469	975	412	2.3665	0.977	3
Red Riv @ L Texoma, TX	SMC	1995	Nov	NR	F	440	1265	569	102	5.5784	4.874	2
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	441	1459	1181	362	3.2624	ND	2
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	383	937	69	167	0.4132	ND	2
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	393	1000	129	12	10.75	0.024	1
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	405	1061	87	71	1.2254	0.045	1
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	285	320	207	79	2.6203	0.099	1
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	467	1515	135	35	3.8571	0.135	1
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	412	1200	100	35	2.8571	0.137	1
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	F	595	2009	152	86	1.7674	0.2	1
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	385	972	199	85	2.3412	0.207	2
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	300	474	224	285	0.7860	0.31	1
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	343	619	704	117	6.0171	0.321	1
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	306	548	54	21	2.5714	0.344	1
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	322	468	295	45	6.5556	0.355	1
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	481	2020	1083	101	10.7228	0.42	2
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	417	1260	112	17	6.5882	0.43	2
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	380	947	1076	62	17.3548	0.437	2
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	451	1667	514	52	9.8846	0.724	2
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	342	749	96	38	2.5263	0.9546	2
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	F	335	647	2229	254	8.7756	1.123	2
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	435	1333	168	562	0.2989	ND	3
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	410	1018	118	85	1.3882	ND	3
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	370	807	715	1131	0.6322	ND	3
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	374	796	106	245	0.4327	ND	3
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	380	769	74	18	4.1111	ND	3
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	360	678	80	46	1.7391	ND	3
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	336	665	284	93	3.0538	ND	3
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	344	650	19	42	0.4524	ND	3
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	335	641	66	52	1.2692	ND	3
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	322	623	88	39	2.2564	ND	3
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	335	594	72	117	0.6154	ND	3
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	323	570	640	152	4.2105	ND	3
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	304	485	131	65	2.0154	ND	3
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	302	307	66	140	0.4714	ND	3
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	375	830	32	47	0.6809	0.001	3
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	390	826	85	69	1.232	0.001	3
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	258	207	56	48	1.167	0.001	3
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	295	419	120	47	2.5532	0.005	3
San Joaquin Riv @ Salt Slough, CA	SW	1994	Oct	NR	M	383	1021	27	31	0.935	0.016	3

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	402	1063	821	1131	0.7259	0.036	2
San Joaquin Riv @ Salt Slough, CA	SW	1995	Oct	NR	M	328	596	151	91	1.6593	0.039	3
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	442	1401	377	165	2.2848	ND	1
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	410	1048	29	109	0.2661	ND	1
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	384	947	418	619	0.6753	ND	2
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	357	627	187	148	1.2635	ND	1
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	324	522	1345	241	5.5809	ND	1
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	320	457	281	132	2.1288	0.002	1
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	376	800	284	111	2.5586	0.004	1
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	290	326	321	190	1.6895	0.004	1
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	270	277	629	202	3.1139	0.018	1
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	455	1609	156	59	2.6441	0.029	1
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	320	419	116	127	0.9134	0.039	1
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	350	678	200	114	1.7544	0.046	1
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	270	809	170	137	1.2409	0.049	1
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	482	2010	93	117	0.7949	0.05	1
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	F	349	643	175	204	0.8578	0.052	1
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	311	463	95	159	0.5975	0.209	2
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	422	1043	405	527	0.7685	0.21	2
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	361	605	1243	133	9.3459	0.21	2
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	465	1583	344	310	1.1097	0.217	1
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	478	1986	206	516	0.3992	0.223	1
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	390	864	171	519	0.3295	0.244	2
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	375	875	421	699	0.6023	0.331	2
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	387	817	477	811	0.5882	0.379	2
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	355	733	236	89	2.6517	0.455	2
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	350	628	747	269	2.7770	0.566	2
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	426	1125	310	85	3.6471	0.597	1
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	373	851	259	353	0.7337	0.853	1
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	356	773	208	429	0.4848	0.956	2
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	448	1292	326	515	0.6330	1.259	2
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	346	674	1245	267	4.6629	1.288	2
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	F	428	1395	114	110	1.0364	3.541	2
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	378	870	141	144	0.9792	ND	3
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	356	761	243	403	0.6030	ND	3
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	354	732	131	181	0.7238	ND	3
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	354	678	761	190	4.0053	ND	3
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	375	654	77	323	0.2384	ND	3
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	357	627	439	618	0.7104	ND	3
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	328	553	77	128	0.6016	ND	3

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	354	549	50	279	0.1792	ND	3
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	311	467	339	197	1.7208	ND	3
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	291	360	209	656	0.3186	ND	3
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	433	1263	109	97	1.1237	0.001	3
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	475	914	85	176	0.4830	0.001	3
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	406	993	154	573	0.2688	0.0016	3
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	355	692	148	152	0.9737	0.0016	3
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	356	646	35	181	0.1934	0.0018	3
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	355	789	257	103	2.4951	0.002	3
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	273	267	116	160	0.725	0.002	3
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	330	530	387	231	1.6753	0.024	3
San Joaquin Riv @ Vernalis, CA	SW	1995	Oct	NR	M	416	958	49	208	0.2356	0.025	3
San Joaquin Riv @ Vernalis, CA	SW	1994	Oct	NR	M	226	230	141	207	0.6812	0.117	3
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	430	1150	743	179	4.1508	0.026	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	492	2000	412	167	2.4671	0.031	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	318	484	1134	481	2.3576	0.031	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	334	714	591	454	1.3018	0.058	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	367	914	413	377	1.0955	0.059	2
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	394	1125	797	208	3.8317	0.069	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	330	531	242	191	1.2670	0.071	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	257	253	871	342	2.5468	0.408	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	F	359	850	576	188	3.0638	1.535	2
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	397	970	215	867	0.2480	ND	3
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	385	900	815	414	1.9686	ND	1
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	341	781	159	349	0.4556	ND	3
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	335	606	177	424	0.4175	ND	2
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	324	510	131	565	0.2319	ND	2
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	314	500	310	7451	0.0416	ND	2
Snake Riv @ Hagerman, ID	NW	1997	Oct	NR	M	315	444	582	711	0.8186	ND	3
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	F	448	NA	446	244	1.8279	0.006	2
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	F	391	956	211	129	1.6357	0.09	1
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	F	383	930	503	75	6.7067	0.136	2
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	F	359	NA	701	46	15.2391	0.196	2
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	F	442	NA	380	75	5.0667	0.2	2
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	F	495	NA	124	92	1.3478	0.24	2
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	F	370	785	741	148	5.007	0.4	1
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	M	374	850	63	76	0.8289	ND	3
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	M	345	581	20	63	0.3175	ND	3
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	M	350	NA	14	149	0.0940	ND	3
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	M	343	NA	52	212	0.2453	ND	3

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	M	327	NA	30	210	0.1429	ND	3
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	M	322	NA	191	446	0.4283	ND	3
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	M	252	NA	15	78	0.1923	ND	3
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	M	350	NA	55	98	0.5612	0.0014	3
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	M	420	NA	33	82	0.4024	0.0016	3
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	M	305	NA	29	116	0.25	0.0016	3
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	M	422	NA	13	92	0.1413	0.0018	3
Swinging Brg Res nr Monticello, NY	NE	1994	Oct	NR	M	254	NA	200	194	1.0309	3	3
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	F	424	1127	776	228	3.4035	ND	3
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	F	417	1139	1734	230	7.5391	0.631	3
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	F	325	478	3229	261	12.3716	0.776	3
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	F	362	643	384	108	3.5556	0.907	3
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	F	390	800	9670	2087	4.6334	5.023	3
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	F	468	1637	2694	1437	1.8747	5.05	3
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	F	342	664	1682	372	4.5215	5.176	4
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	F	441	1269	8074	2306	3.5013	5.506	3
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	F	348	584	1789	319	5.6082	5.9	3
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	F	404	1025	5143	1185	4.3401	6.864	3
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	F	362	688	3575	720	4.9653	7.206	3
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	F	422	1218	3281	905	3.6254	7.358	3
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	F	478	1648	1215	211	5.7583	8.474	3
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	F	400	1098	1846	188	9.8191	12.441	5
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	M	386	938	489	1521	0.3215	ND	3
Swinging Brg Res nr Monticello, NY	NE	1995	May	R	M	331	553	562	1429	0.3933	ND	3
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	F	260	300	2261	501	4.5130	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	F	355	534	1309	869	1.5063	0.098	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	F	260	232	1479	251	5.8924	0.863	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	415	900	354	1390	0.2547	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	300	400	227	871	0.2606	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	272	281	426	921	0.4625	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	271	281	314	614	0.5114	ND	1
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	265	231	341	2574	0.1325	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	242	216	395	1327	0.2977	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	233	184	196	773	0.2536	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	252	170	272	1306	0.2083	ND	2
Tennessee Riv @ Savannah, TN	SMC	1995	Oct	NR	M	335	540	299	1385	0.2159	0.008	2
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	457	1500	653	1470	0.4442	ND	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	407	1215	331	1499	0.2208	ND	2
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	403	1000	329	1140	0.2886	ND	2
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	370	950	578	1664	0.3474	ND	3

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

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Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	367	825	947	1712	0.5532	ND	2
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	355	650	739	1149	0.6432	ND	2
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	287	350	722	1044	0.6916	ND	2
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	M	272	300	1823	1951	0.9344	ND	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	280	350	1015	2203	0.4607	ND	2
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	285	400	1728	671	2.5753	0.012	2
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	308	450	1651	907	1.8203	0.05	2
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	505	2150	2319	1056	2.1960	0.09	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	455	1800	2356	334	7.0539	0.136	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	403	1150	1370	271	5.0554	0.194	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	510	2400	403	233	1.7296	0.513	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	395	1000	1295	151	8.5762	1.129	3
Verdigris Riv @ Oologah, OK	SMC	1995	Dec	NR	F	394	1350	1286	251	5.1235	3.169	3
Wabash Riv @ N Harmony, IN	NMC	1995	Nov	NR	F	310	450	369	132	2.7955	ND	0
Wabash Riv @ N Harmony, IN	NMC	1995	Nov	NR	F	295	335	431	127	3.3937	ND	2
Wabash Riv @ N Harmony, IN	NMC	1995	Nov	NR	F	266	176	496	97	5.1134	ND	2
Wabash Riv @ N Harmony, IN	NMC	1995	Nov	NR	F	316	398	1426	337	4.2315	5.092	3
Wabash Riv @ N Harmony, IN	NMC	1995	Nov	NR	M	314	500	315	1372	0.2296	ND	2
Wabash Riv @ N Harmony, IN	NMC	1995	Nov	NR	M	314	435	389	183	2.1257	ND	2
Wabash Riv @ N Harmony, IN	NMC	1995	Nov	NR	M	318	424	1355	218	6.2156	ND	3
Wabash Riv @ N Harmony, IN	NMC	1995	Nov	NR	M	265	258	393	129	3.0465	ND	3
Wabash Riv @ N Harmony, IN	NMC	1995	Nov	NR	M	293	306	378	1681	0.2249	0.008	2
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	F	379	816	463	1838	0.2519	ND	1
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	F	365	791	1322	96	13.7708	ND	1
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	F	294	313	496	125	3.968	ND	1
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	F	321	427	807	68	11.8676	0.032	2
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	F	348	702	256	86	2.9767	0.162	2
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	F	312	399	927	71	13.0563	0.311	2
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	F	302	358	5221	721	7.2413	0.911	1
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	F	NA	1255	1169	169	6.9172	2.604	2
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	F	360	715	1361	55	24.7455	3.177	2
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	F	320	407	2027	322	6.2950	6.942	2
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	M	370	655	583	649	0.8983	ND	2
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	M	332	538	481	1544	0.3115	ND	1
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	M	320	464	277	295	0.9390	ND	2
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	M	310	460	398	1189	0.3347	ND	2
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	M	320	441	279	618	0.4515	ND	2
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	M	300	345	545	958	0.5689	ND	2
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	M	275	269	644	1279	0.5035	ND	2
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	M	285	324	639	775	0.8245	0.007	2

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
White Riv @ Devall's Bluff, AR	SMC	1995	Sept	NR	M	302	359	1150	181	6.3536	2.817	2
White Rock L, Dallas, TX	SMC	1996	Sept	NR	F	NA	NA	400	327	1.2232	ND	1
White Rock L, Dallas, TX	SMC	1996	Sept	NR	F	NA	NA	402	289	1.3910	ND	1
White Rock L, Dallas, TX	SMC	1996	Sept	NR	F	NA	NA	390	311	1.2540	ND	1
White Rock L, Dallas, TX	SMC	1996	Sept	NR	F	NA	NA	292	225	1.2978	ND	0
White Rock L, Dallas, TX	SMC	1996	Sept	NR	F	NA	NA	248	267	0.9288	ND	1
White Rock L, Dallas, TX	SMC	1996	Sept	NR	F	NA	NA	284	284	1	ND	1
White Rock L, Dallas, TX	SMC	1996	Sept	NR	M	387	295	184	232	0.7931	ND	2
White Rock L, Dallas, TX	SMC	1996	Sept	NR	M	NA	NA	192	298	0.6443	ND	3
Willamette Riv @ Portland, OR	NW	1997	Nov	NR	F	280	306	576	101	5.7030	ND	1
Willamette Riv @ Portland, OR	NW	1997	Nov	NR	F	345	739	743	191	3.8901	0.045	1
Willamette Riv @ Portland, OR	NW	1997	Nov	NR	F	321	472	413	326	1.2669	0.052	1
Willamette Riv @ Portland, OR	NW	1997	Nov	NR	F	355	758	412	182	2.2637	0.116	1
Willamette Riv @ Portland, OR	NW	1997	Nov	NR	F	338	582	797	532	1.4981	0.138	1
Willamette Riv @ Portland, OR	NW	1997	Nov	NR	M	336	590	1031	260	3.9654	ND	2
Willamette Riv @ Portland, OR	NW	1997	Nov	NR	M	268	306	582	1473	0.3951	ND	3
Willamette Riv @ Portland, OR	NW	1997	Nov	NR	M	255	224	310	705	0.4397	ND	3
Wolf River nr LaGrange, TN	SMC	1995	Oct	NR	F	250	191	121	1505	0.0804	ND	2
Wolf River nr LaGrange, TN	SMC	1995	Oct	NR	F	320	379	5501	1512	3.6382	54.137	3
Wolf River nr LaGrange, TN	SMC	1995	Oct	NR	F	275	274	6330	228	27.7632	74.905	2
Wolf River nr LaGrange, TN	SMC	1995	Oct	NR	F	400	859	5181	956	5.4195	77.918	3
Wolf River nr LaGrange, TN	SMC	1995	Oct	NR	M	425	1075	143	1116	0.1281	ND	2
Wolf River nr LaGrange, TN	SMC	1995	Oct	NR	M	340	462	483	335	1.4418	ND	2
Wolf River nr LaGrange, TN	SMC	1995	Oct	NR	M	300	329	355	1549	0.2292	ND	2
Wolf River nr LaGrange, TN	SMC	1995	Oct	NR	M	260	198	235	853	0.2755	ND	2
Wolf River nr LaGrange, TN	SMC	1995	Oct	NR	M	305	276	958	333	2.8769	0.002	2
Wolf River nr LaGrange, TN	SMC	1995	Oct	NR	M	340	449	555	1409	0.3939	0.003	2
Wolf River nr LaGrange, TN	SMC	1995	Oct	NR	M	270	211	173	333	0.5195	0.003	2
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	F	264	288	171	178	0.9607	0.0008	1
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	F	295	375	228	400	0.57	0.0012	1
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	F	375	886	57	162	0.3519	0.0014	1
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	F	290	382	94	183	0.5137	0.0014	1
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	F	301	409	401	705	0.5688	0.0016	1
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	F	282	342	570	536	1.0634	0.0016	1
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	F	351	718	33	729	0.0453	0.002	1
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	F	302	419	692	272	2.5441	0.002	1
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	F	293	341	958	456	2.1009	0.003	1
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	F	311	460	405	201	2.0149	0.0032	1
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	F	320	489	720	564	1.2766	0.004	1
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	F	335	635	309	123	2.5122	0.008	1

Table 5. (Continued) All individual LARGEMOUTH BASS values for biomarker and ancillary data from collections made at sites in U.S. waters from March 1994 through August 1997.

[Region: NE, northeast; NW, northwest; SE, southeast; SW, southwest; NMC, northern mid-continent; SMC, southern mid-continent. Season: NR, non-reproductive. R, reproductive. Sex: F, female, M, male. E_2, 17 ß Estradiol; 11KT, 11 ketotestosterone; VTG, vitellogenin; mm, millimeter; g, grams; pg, picograms; mL, milliliter; mg, milligram; ND, not detected; NA, not available]

Site name (fig. 1)	Region	Year	Month	Season	Sex	Length (mm)	Weight (g)	E_2 (pg/mL)	11KT (pg/mL)	Ratio of E_2 to KT	VTG (mg/mL)	Developmental stage
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	M	308	440	1054	412	2.5583	0.001	3
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	M	251	248	795	190	4.184	0.0012	3
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	M	335	542	107	217	0.4931	0.0014	3
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	M	294	351	347	373	0.9303	0.0016	3
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	M	292	358	503	176	2.8580	0.0017	3
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	M	318	519	275	509	0.5403	0.002	0
Woods Pond @ Lenox, MA	NE	1994	Sept	NR	M	272	290	601	807	0.745	0.0036	2
Woods Pond @ Lenox, MA	NE	1995	May	R	F	286	354	732	402	1.8209	ND	3
Woods Pond @ Lenox, MA	NE	1995	May	R	F	293	350	965	554	1.7419	0.718	2
Woods Pond @ Lenox, MA	NE	1995	May	R	F	318	479	1243	784	1.5855	5.972	4
Woods Pond @ Lenox, MA	NE	1995	May	R	F	315	497	739	382	1.9346	8.242	3
Woods Pond @ Lenox, MA	NE	1995	May	R	M	328	541	763	1248	0.6114	ND	3
Woods Pond @ Lenox, MA	NE	1995	May	R	M	307	510	449	583	0.7702	ND	3
Woods Pond @ Lenox, MA	NE	1995	May	R	M	315	453	560	684	0.8187	ND	3
Woods Pond @ Lenox, MA	NE	1995	May	R	M	293	437	1209	1545	0.7825	ND	3
Woods Pond @ Lenox, MA	NE	1995	May	R	M	290	408	379	1706	0.2222	ND	3
Woods Pond @ Lenox, MA	NE	1995	May	R	M	308	405	280	1117	0.2507	ND	3
Woods Pond @ Lenox, MA	NE	1995	May	R	M	305	389	1621	845	1.9183	ND	3
Woods Pond @ Lenox, MA	NE	1995	May	R	M	280	345	1246	410	3.0390	ND	3
Woods Pond @ Lenox, MA	NE	1995	May	R	M	276	335	531	1679	0.3163	ND	3
Woods Pond @ Lenox, MA	NE	1995	May	R	M	282	331	1372	1114	1.2316	ND	3
Woods Pond @ Lenox, MA	NE	1995	May	R	M	283	338	1184	1690	0.7006	0.043	3
Woods Pond @ Lenox, MA	NE	1995	May	R	M	289	321	286	1165	0.2455	0.245	3
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	F	263	272	910	212	4.2925	0.299	1
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	F	403	1065	775	193	4.0155	1.255	1
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	F	334	634	1406	689	2.0406	1.767	2
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	F	450	1803	1399	521	2.6852	2.631	2
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	M	418	1138	106	199	0.5327	ND	3
Yakima Riv @ Granger, WA	NW	1997	Oct	NR	M	356	691	179	435	0.4115	ND	2

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