



2010-2011 Annual Report

MISSOURI DEPARTMENT OF CONSERVATION



Serving nature and you®

Annual Report



Missouri Department of Conservation

Fiscal Year July 1, 2010 to June 30, 2011

Contents

Annual Report Summary	2
Missouri State Constitutional Language	6
The Conservation Commission, Director and Mission Statement	8
Conservation at a Glance	9
We Listen to Missourians	10
What Missourians Say About Conservation.....	11
The Economics of Conservation in Missouri	12
Hunting and Fishing	13
Wildlife Recreation	14
Forestry and Wood Products.....	15
Our Pledge to Serve Missourians	16
Bringing the Goals to Life	17
Conserving Plants, Animals and Their Habitats	17
Protecting Clean and Healthy Waters	25
Promoting Healthy Trees and Forests	28
Preserving Missouri’s Outdoor Recreation Heritage.....	30
Teaching Missourians About Fish, Forest and Wildlife Resources	34
Supporting Conservation in Our Communities	36
Helping Private Landowners Advance Conservation.....	39
Serving Nature and You on Conservation Areas	42
Accounting for Department Operations.....	42
Department Organization and Administrative Descriptions	45
Department Regions and Units	46
Department Organizational Chart	47
Director’s Office and Department Divisions	48
Conservation by the Numbers	81
Actual Funds Available and Disbursements	82
Number of Deer Harvested by County	83
Number of Turkeys Harvested by County	84
Acres of Conservation Land by County.....	85
Payment In-lieu of Taxes (PILT) by County	86
County Aid Road Trust (CART) Program	87
Capital Improvement Projects Funding by County.....	88
Number of Deer and Turkey Permit Holders by County of Residence.....	89
Number of Fishing Permit Holders by County of Residence	90
Number of Small Game Permit Holders by County of Residence	91
Number of Landowner Deer Permit Holders by County of Residence	92
Number of Landowner Turkey Permit Holders by County of Residence.....	93



FISCAL YEAR 2010-2011 Annual Report

This summary of the Annual Report highlights the Missouri Department of Conservation's accomplishments and expenditures from July 1, 2010, through June 30, 2011. These accomplishments are based on the nine goals established in *The Next Generation of Conservation*. Not only does this summary highlight the accomplishments of the Department, but it emphasizes that Missourians care about conserving forests, fish and wildlife; that we work with Missourians and for Missourians to sustain healthy forests, fish and wildlife; that we help people discover nature; that conservation makes Missouri a great place to hunt and fish; and that conservation pays by enriching our economy and quality of life.

Conservation Education

Discover Nature Schools

In 2011, more than 78,000 Missouri children were connected with nature through various Discover Nature Schools instructional units and grants. Thus far, 95 school districts adopted the elementary habitats unit, 115 districts taught the middle-school aquatic unit and 24 districts adopted the high school ecology unit. An additional 76 schools engaged students in learning about Missouri's fish, forest, wildlife or natural habitats through our Conservation K-3 Field Trip Grant. This year a kindergarten through second-grade unit was completed, and a pre-kindergarten unit is in development. Conservation grants supporting Discover Nature Schools totaled \$268,909.

Xplor kids' magazine

Targeted to Missourians age 7–12, *Xplor* magazine aims to connect kids with nature using fun, interesting stories, art and photography. The free bimonthly magazine and companion website were launched in February 2010. At the end of FY11, subscriptions to the magazine were at 80,000 and are slated to surpass 100,000 in the first quarter of FY12.

Social media

Social media plays an increasing role in sharing MDC information with Missourians. The Department's Facebook page reaches almost 1.5 million people per month from more than 33,000 fans who then share our information with their hundreds of thousands of online friends. Our Twitter feed has more than 1,600 followers who then pass MDC tweets along to thousands more. MDC's YouTube channels average about 140,000 views per month with more than 5 million total views. MDC online photos through Flickr offer about 1,500 images, which have had more than 25,000 views.

Plants & Animals

Elk restoration

Wild elk returned to Missouri after an absence of 150 years. On May 5, 2011, after all requirements of the health protocols were met, six bull elk and 28 cows and calves arrived at Peck Ranch Conservation Area (CA). This 23,000-acre conservation area is within the 346-square-mile elk restoration zone that encompasses parts of Carter, Shannon and Reynolds counties. The elk were captured in December 2010, and January 2011, by MDC staff in cooperation with biologists from the Kentucky Department of Fish and Wildlife Resources and the Virginia Department of Game and Inland Fisheries. The elk restoration plan includes monitoring elk movements, habitat use, and demographics, and addresses situations when elk move onto land where they are not welcome. Automobile routes have been opened on Peck Ranch CA to allow visitors to view free-ranging elk.

Black bear research

MDC, in cooperation with Mississippi State University and with funding from the Federal Aid in Wildlife Restoration Act, began the first ever black bear research project in Missouri. A total of 13 black bears were captured and fitted with GPS radio collars across the southwest portion of the state. All captured bears were outfitted with ear tags for identification. The average weight of adult male bears was 321 pounds. The average weight of adult female bears was 185 pounds.

Feral hog eradication

Since 2009, MDC has captured 502 and euthanized 486 feral hogs as part of the eradication effort. Eleven hogs were captured and released with tracking collars to provide information about their movement, which also aids in developing effective eradication plans.

Community Conservation

Venison donation

Conservation agents coordinate and support the Share the Harvest program with the Conservation Federation of Missouri, local charitable organizations and local meat processors. Together, these groups have supported the donations of more than 256 tons of meat during the past two years. In FY11, approximately 5,731 hunters donated 305,643 pounds of venison to less-fortunate Missourians.

Firewise Communities

The nine communities of the Redings Mill Fire Protection District are the first in Missouri to be recognized as Firewise Communities/USA. This is a National Fire Protection Association program co-sponsored by the U.S. Forest Service, the U.S. Department of the Interior and the National Association of State Foresters. The goal is to promote the use of technology, policy and practices that minimize the loss of life and property to wildfire, independent of firefighting.

Community tree care

Interest in the Tree Resource Improvement and Maintenance cost-share program continues to be strong as Missouri towns have experienced numerous severe weather events. In FY11, MDC spent \$206,386 funding 31 chosen applications. Applicants matched the MDC contribution by 48 percent providing \$194,059 in local match.

Outdoor Recreation

New hunters and anglers

MDC and volunteers provided more than 2,030 programs on hunting, fishing, trapping and shooting sports. More than 114,000 people took part in these programs. We offered about 877 Hunter Education classes and certified 22,852 students. More than 130,000 visitors attended programs or practiced firearms and archery shooting at our five staffed shooting ranges and 75 unmanned shooting ranges.

Quick Draw piloted

MDC piloted a new draw system for waterfowl hunters on three of 15 conservation areas that offer managed waterfowl hunting. Called Quick Draw, MDC conducted this Internet-based draw system twice a week during the waterfowl season to allocate hunting opportunities at three conservation areas: Eagle Bluffs, Grand Pass and Otter Slough. Quick Draw results were discussed and evaluated following the waterfowl season and will be used again for the upcoming season on the same three waterfowl areas.

Catfish

Blue catfish sampling continues on both Lake of the Ozarks and Truman Reservoir. Information is being collected to determine the population structure and growth rates of blue catfish. A companion tagging study is also underway. These data will be used to manage catfish these reservoirs.

Clean Water

Stream Teams

Missouri Stream Team grew to 4,321 teams (85 percent still active) statewide in 2010. A total of 146,361 hours were volunteered to enhance and restore Missouri streams.

Mississippi River monitoring

Through a cooperative effort among the U.S. Army Corps of Engineers, U.S. Geological Survey and states in the upper Mississippi River basin, long-term trends in fisheries, water quality, invertebrates, forest resources, land use and land cover for the entire upper river system are monitored. This work is done through a network of state-operated field stations. In Missouri, the Big Rivers and Wetlands Systems Field Station monitors conditions in the 25 river miles both north and south of Cape Girardeau. The program is involved in answering questions that come from analysis of water-quality and fisheries data that the field station collects.

Stream Stewardship Trust Fund

The Stream Stewardship Trust Fund is available to restore, enhance and/or protect stream systems and associated riparian habitats. The program and funds are administered by the Missouri Conservation Heritage Foundation, and MDC applies for grants. In FY11, four projects totalling \$158,585 were approved to protect Missouri's stream and riparian corridors.

Landowner Assistance

Financial assistance

Approximately 452 private landowners received more than \$661,000 in cost-share funds to implement beneficial habitat-management practices for fish, forest and wildlife resources.

Partnerships

MDC had approximately 60 partnership agreements in FY11 with federal, state and nongovernmental organizations. These relationships helped MDC enhance technical and financial assistance and equipment support to landowners interested in improving fish, forest and wildlife resources. Through the partnerships, we assisted United States Department of

Agriculture with developing and applying \$150 million in Farm Bill conservation programs. We also leveraged staffing, equipment and enhancement funds with partner organizations.

Technical assistance

MDC provided timely and responsive service through approximately 73,519 rural and urban landowner contacts, including more than 5,500 on-site visits. Technical assistance was offered to landowners who wanted help with habitat management plans. Staffers also answered 4,932 requests for wildlife nuisance or damage assistance, including 1,000 on-site visits. A survey completed in 2010 indicated that more than 90 percent of our cooperators were very satisfied with the assistance they received.

Places to Go

Land management

MDC has maintained a high level of active management on MDC lands—especially for quail and grassland birds. During FY11, we conducted habitat management activities on nearly 185,000 acres of public land including 43,000 acres of wetland, 21,000 acres of woodland/forest/savanna, 76,000 acres of cropland (64,000 acres through permittee farmers and 12,000 acres in food plots), 24,000 acres of grassland/prairie, 20,000 acres of old fields and 1,000 acres of glade.

Construction

MDC completed the following major construction projects: Eminence City Park access, Eagle Bluffs Conservation Area (CA) office and draw room, regional office storage at Charles W. Green CA, Kansas City Regional Office, Shepherd of the Hills Fish Hatchery sewage lift station, Lost Valley Fish Hatchery rearing pond underdrain system, Lost Valley Fish Hatchery roof, Powder Valley Conservaton Nature Center HVAC condensing unit, evaporator coil and controls, Jay Henges Shooting Range renovation, Roaring Rivers Fish Hatchery building improvements and Ten Mile Pond CA levee relocation around Blew Hole.

Land acquisition

Approximately 333 acres of land in two counties were purchased, and approximately 1,156 acres in three counties were donated. Acquisitions included an addition to LaBarque Creek Conservation Area that will provide additional protection of the LaBarque Creek watershed, land providing habitat for prairie chickens and the donation of a new conservation area consisting of restorable grasslands, forest and wetlands.

Healthy Forests

State forest nursery

The state forest nursery annually grows and distributes about 3.5 million seedlings generating \$953,000 in income. The seedlings are planted on both public and private land statewide. The nursery filled more than 9,600 orders involving more than 38,000 packages of seedling trees, with a customer satisfaction rate of more than 99 percent.

Timber harvesters

The Missouri Forest Products Association and MDC sponsor logger training courses about forest-management principles, introducing new techniques and concepts and enhancing safety. Eight workshops were held across the state, training 66 loggers. These 66 join 266 others for a total of 332 trained loggers in Missouri.

Storm-damaged timber

On May 8, 2009, a severe storm impacted the southern half of Missouri. On MDC lands, approximately 13,000 acres were impacted and damaged—timber volume was estimated at 33 million board feet. In FY11, 11 salvage sales were contracted covering 811 acres. To date, 31.9 million board feet have been salvaged, bringing in \$1.9 million in revenue to MDC. Salvage operations on MDC areas were completed in FY11.

Accounting for Department Operations

Listened to Missourians

We conduct a variety of scientifically sound, unbiased and representative efforts each year in an effort to understand public opinions, expectations and recreation participation. This information guides decisions about regulations and fish, forest and wildlife management. In FY10, there were 47 activities that involved 77,834 people. These included surveys, focus groups, public meetings and ombudsman contacts.

Vacancy management

In 2008, MDC anticipated a decline in revenues due to the downturn in the economy. A vacancy management plan was implemented to identify positions that would not be filled as they became vacant. By June 2011, the vacancy management plan had been fully implemented and 174 positions were vacated and held. The vacancy management plan has resulted in a savings of more than \$10 million.

Fiscal Year 2011 Summary

County Assistance Payments—\$1,478,695 Included payments to Missouri’s counties for levee and drainage district taxes, forest cropland payments, payments in lieu of real estate taxes and county aid road trust payments. Since 1980, more than \$15.17 million has been paid to Missouri counties in lieu of real estate taxes.

Capital Improvements—\$17,101,172 Work included fish hatchery improvements, river access development, wetland renovations, shooting range construction, nature center improvements, land acquisition transactions and renovation and repair of facilities statewide.

Fisheries—\$12,740,577 Maintained and improved sport fish populations, aquatic biodiversity and aquatic habitats. Managed 944 impoundments and stream areas for public fishing, and provided stream and lake management assistance to 5,679 private landowners. Stocked approximately 8.3 million fish in public lakes and streams.

Forestry—\$14,799,844 Fostered a healthy and growing forest resource. Examples include distributing about 3.5 million seedlings for planting to 9,600 landowners, provided forestry assistance on more than 42,200 acres of private land and to more than 100 municipalities, managing 438,700 acres of public forestland, monitoring insect and disease threats and facilitating development of the state’s forest industry.

Wildlife—\$17,095,531 Worked toward ensuring wildlife populations are in harmony with habitat and human enjoyment. Managed more than 525,000 acres of public land and implemented programs to maintain and restore natural communities and wildlife diversity across Missouri’s landscape.

Outreach and Education—\$14,389,507 Sustained Missourians’ connection to the outdoors through more than 1 million visitors to conservation nature centers and shooting-range/outdoor-education centers, nearly 500,000 subscribers to the *Missouri Conservationist* magazine, about 80,000 subscribers to the *Xplor* magazine, Web-based information, grants to schools exceeding \$200,000, conservation curriculums for schools, outdoor skills programs and hunter education.

Private Land Services—\$6,852,347 Helped private landowners to achieve long-term natural resource conservation objectives. Provided service through 31,400 rural and urban landowner contacts; affected 280,155 acres through technical assistance to landowners; provided habitat management workshops to 40,486 attendees; assisted USDA with enrolling 90,000 acres of cropland reflooding in the Migratory Bird Habitat Initiative; and assisted 5,607 private landowners in controlling nuisance wildlife.

Protection—\$13,860,700 Paid for law enforcement in every county as well as resource management, information, education and public service contact activities conducted by conservation agents who directly contacted more than 660,000 people. Coordinated the Share the Harvest program through which 5,731 deer hunters donated 305,643 pounds of venison to less-fortunate Missourians. Conservation agents, along with 1,800 volunteer instructors, conducted 877 hunter education classes, certifying 22,852 students.

Resource Science—\$10,415,660 Provided the science-based information needed to effectively manage Missouri’s natural resources. Resource Science monitors the status of Missouri’s fish, forests, plants and wildlife, recommends conservation actions, evaluates these actions and reports the results. In addition to surveys of fish and wildlife, tens of thousands of Missourians were contacted to determine their outdoor activities and opinions about conservation programs.

Regional Public Contact Offices—\$2,827,587 Provided regional public contact offices.

Administrative Services and Human Resources—\$26,420,875 Paid for human resources, hunting and fishing permit point-of-sale and e-Permits system, fiscal services, purchasing, distribution center, print shop, fleet management, vehicle and equipment maintenance centers and information management and technology. Also includes other agency appropriations, Department-wide equipment and other essential services.

Design and Development—\$10,254,894 Provided engineering, architectural, surveying and construction services for conservation programs and maintenance of conservation areas and facilities.

Administration—\$3,163,614 Paid for audits, legal counsel and the coordination of strategic planning, federal reimbursement administration, environmental policy development, cultural resource reviews, public involvement and river basin management.

RECEIPTS

Conservation Sales Tax	\$95,818,337
Permit Sales	\$31,590,358
Federal Reimbursements	\$22,653,214
Sales and Rentals	\$8,825,875
Other Sources	\$2,259,250
Interest	\$303,972
Total Receipts	\$161,451,006

DISBURSEMENTS

County Assistance Payments	0.98%
Capital Improvements	11.30%
Fisheries	8.42%
Forestry	9.78%
Wildlife	11.29%
Outreach and Education	9.49%
Private Land Services	4.53%
Protection	9.15%
Resource Science	6.88%
Regional Public Contact Offices	1.87%
Administrative Services & Human Resources	17.45%
Design and Development	6.77%
Administration	2.09%

MISSOURI STATE BUDGET

Health & Social Services	39.8%
Education	26.5%
Government Services	19.9%
Transportation	10.3%
Natural & Economic Resources	2.9%
Conservation	0.6%
<i>MDC represents less than 1% of the total state budget</i>	
Total State Budget	\$24,608,785,560

Missouri State Constitutional Language

Section 40(a). Conservation commission, members, qualifications, terms, how appointed—duties of commission—expenses of members.—The control, management, restoration, conservation and regulation of the bird, fish, game, forestry and all wildlife resources of the state, including hatcheries, sanctuaries, refuges, reservations and all other property owned, acquired or used for such purposes and the acquisition and establishment thereof, and the administration of all laws pertaining thereto, shall be vested in a conservation commission consisting of four members appointed by the governor, by and with the advice of and consent of the senate, not more than two of whom shall be of the same political party. The members shall have knowledge of and interest in wildlife conservation. The members shall hold office for terms of six years beginning on the first day of July of consecutive odd years. Two of the terms shall be concurrent; one shall begin two years before and one two years after the concurrent terms. If the governor fails to fill a vacancy within thirty days, the remaining members shall fill the vacancy for the unexpired term. The members shall receive no salary or other compensation for their services as members, but shall receive their necessary traveling and other expenses incurred while actually engaged in the discharge of their official duties.

Source: Const. of 1875, Art. XIV, Sec. 16 (as adopted November 3, 1936). (Amended August 8, 1972)

Section 40(b). Incumbent members.—The members of the present conservation commission shall serve out the terms for which they were appointed, with all their powers and duties.

Section 41. Acquisition of property—eminent domain.—The commission may acquire by purchase, gift, eminent domain, or otherwise, all property necessary, useful or convenient for its purposes, and shall exercise the right of eminent domain as provided by law for the highway commission.

Source: Const. of 1875, Art. XIV, Sec. 16.

Section 42. Director of conservation and personnel of commission.—The commission shall appoint a director of conservation who, with its approval, shall appoint the assistants and other employees deemed necessary by the commission. The commission shall fix the qualifications and salaries of the director and all appointees and employees, and none of its members shall be an appointee or employee.

Source: Const. of 1875, Art. XIV, Sec. 16.

Section 43(a). Sales tax, use for conservation purposes.—For the purpose of providing additional moneys to be expended and used by the conservation commission, department of conservation, for the control, management, restoration, conservation and regulation of the bird, fish, game, forestry and wildlife resources of the state, including the purchase or other acquisition of property for said purposes, and for the administration of the laws pertaining thereto, an additional sales tax of one-eighth of one percent is hereby levied and imposed upon all sellers for the privilege of selling tangible personal property or rendering taxable services at retail in this state upon the sales and services which now are or hereafter are listed and set forth in, and, except as to the amount of tax, subject to the provisions of and to be collected as provided in the “Sales Tax Law” and subject to the rules and regulations promulgated in connection therewith; and an additional use tax of one-eighth of one percent is levied and imposed for the privilege of storing, using or consuming within this state any article of tangible personal property as set forth and provided in the “Compensating Use Tax Law” and, except as to the amount of the tax, subject to the provisions of and to be collected as provided in the “Compensating Use Tax Law” and subject to the rules and regulations promulgated in connection therewith.

(Adopted November 2, 1976)

Section 43(b). Use of revenue and funds of conservation commission.—The moneys arising from the additional sales and use taxes provided for in section 43(a) hereof and all fees, moneys or funds arising from the operation and transactions of the conservation commission, department of conservation, and from the application and the administration of the laws and regulations pertaining to the bird, fish, game, forestry and wildlife resources of the state and from the sale of property used for said purposes, shall be expended and used by the conservation commission, department of conservation, for the control, management, restoration, conservation and regulation of bird, fish, game, forestry and wildlife

resources of the state, including the purchase or other acquisition of property for said purposes, and for the administration of the laws pertaining thereto, and for no other purpose. The moneys and funds of the conservation commission arising from the additional sales and use taxes provided for in § 43(a) hereof shall also be used by the conservation commission, department of conservation, to make payments to counties for the unimproved value of land for distribution to the appropriate political subdivisions as payment in lieu of real property taxes for privately owned land acquired by the commission after July 1, 1977, and for land classified as forest cropland in the forest cropland program administered by the department of conservation in such amounts as may be determined by the conservation commission, but in no event shall amount determined be less than the property tax being paid at the time of purchase of acquired lands.

Source: Const. of 1875, Art. XIV, Sec. 16. (Amended November 2, 1976) (Amended November 4, 1980)

Section 43(c). Effective date-self-enforceability.—The effective date of this amendment shall be July 1, 1977. All laws inconsistent with this amendment shall no longer remain in full force and effect after July 1, 1977. All of the provisions of sections 43(a)–(c) shall be self-enforcing except that the general assembly shall adjust brackets for the collection of the sales and use taxes.

(Adopted November 2, 1976)

Section 44. Self-enforceability-enabling clause-repealing clause.—Sections 40–43, inclusive, of this article shall be self-enforcing, and laws not inconsistent therewith may be enacted in aid thereof. All existing laws inconsistent with this article shall no longer remain in force or effect.

Source: Const. of 1875, Art. XIV, Sec. 16

Section 45. Rules and regulations-filing-review.—The rules and regulations of the commission not relating to its organization and internal management shall become effective not less than ten days after being filed with the secretary of state as provided in section 16 of this article, and such final rules and regulations affecting private rights as are judicial or quasi-judicial in nature shall be subject to the judicial review provided in section 22 of article V.

Section 46. Distribution of rules and regulations.—The commission shall supply to all persons on request, printed copies of its rules and regulations not relating to organization or internal management.

The Conservation Commission and Director

In 1936, the people of Missouri, through the initiative petition process, voted to amend the Missouri Constitution to establish the Conservation Commission. The four Commissioners, no more than two of whom may belong to the same political party, are appointed by the governor with the advice and consent of the senate. They serve with no compensation for six-year terms. The commission is responsible for management of the state's fish, forest and wildlife resources. The commission is also responsible for hiring the director.



Mr. Don C. Bedell
Sikeston
Term: 7/30/2009 to 7/1/2015
Party Affiliation: Republican



Mr. Don R. Johnson
Festus
Term: 7/18/2007 to 6/30/2013
Party Affiliation: Democrat



Mr. William F. McGeehan
Marshfield
Term: 7/11/2005 to 6/30/2011
Party Affiliation: Republican



Mrs. Becky L. Plattner
Grand Pass
Term: 8/7/2007 to 6/30/2013
Party Affiliation: Democrat

Director



Mr. Robert L. Ziehmer

Our Mission

To protect and manage the fish, forest and wildlife resources of the state; to serve the public and facilitate their participation in resource management activities; and to provide opportunity for all citizens to use, enjoy and learn about fish, forest and wildlife resources.

Conservation at a Glance

- ▲ We Listen to Missourians
- ▲ What Missourians Say About Conservation
- ▲ The Economics of Conservation in Missouri
- ▲ Wildlife Recreation
- ▲ Hunting and Fishing
- ▲ Forestry and Wood Products



Serving nature and you®

We Listen to Missourians

The Missouri Department of Conservation believes that all Missouri citizens are important, and we want to listen and act to earn their trust. Our job is to listen, understand and personally deliver programs and services in a manner that benefits all Missourians and the fish, forest and wildlife resources in Missouri.



To accomplish our mission we must listen to Missourians.

We do this in a variety of ways.

- The Conservation Commission meets regularly and anyone may contact the Conservation Commission with comments or request to appear at a Commission meeting.
- The Director of the Conservation Department may be personally contacted at Department headquarters in Jefferson City, by telephone or electronic mail.
- The Department Ombudsman works with citizens to resolve conflicts and answers a wide variety of questions by mail, telephone and electronic mail.
- The Department conducts a wide variety of statistically accountable mail surveys, telephone surveys and focus groups to determine the opinions and attitudes of Missourians about conservation and the Department of Conservation. The Department has conducted attitude, opinion, satisfaction and participation surveys for over 30 years.
- The Department has eight regional service centers with staff available to assist Missourians with their conservation requests and needs.
- The Department's monthly magazine, free to Missourians who request it, includes a letter-to-the-editor section and an "Ask the Ombudsman" column.
- The Department maintains an extensive Internet website with conservation information, how to contact the Department, and an online comment form.
- The Department conducts frequent public forums to obtain interactive feedback from all Missourians at locations throughout the state.
- Department regulations are formed and discussed in a public setting that invites citizen participation.



Serving nature and you®

What Missourians Say About Conservation

The majority of Missourians feel the Department of Conservation is doing an excellent or good job of providing services to themselves (73%), their families (71%), the community (69%) and the state (71%). Most Missourians say they are either very familiar (22%) or somewhat familiar (60%) with the Missouri Department of Conservation.

Information from the Missouri Department of Conservation, 2009.



- Most Missourians (91%) report they are interested in Missouri's fish, forests, and wildlife.
- Most Missourians (75%) agree that land should be acquired for fish, forest, and wildlife conservation.
- Most Missourians (91%) agree that "It is important for outdoor places to be protected even if you don't plan to visit the area."
- Most Missourians (79%) agree that the Department of Conservation should make an effort to restore animals that once lived or are currently very rare in the state.
- Most Missourians (80%) agree that the Department of Conservation should help private landowners who want to restore native communities of plants and animals.
- More than (78%) three-quarters agree that the Department "should assist communities that want to include trees and green spaces in housing, business, and shopping developments."
- Almost all Missourians (95%) approve of hunting for food.
- Two-thirds of Missourians (67%) approve of cutting down trees to make lumber, furniture, or other wood products.
- The majority of Missourians (66%) agree that trapping is OK as long as it is regulated.
- Time is mentioned as the biggest obstacle to the enjoyment of outdoor activities by Missourians.
- A majority of Missourians (78%) agree that the Missouri Department of Conservation is doing a good job of enforcing fish and wildlife laws.
- Most Missourians (85%) agree that the Missouri Department of Conservation "is a name I can trust."



Serving nature and you®



The Economics of Conservation in Missouri

The amount of state sales tax revenue generated from fish, forest and wildlife recreation spending is about the same amount of sales tax revenue received by the Department of Conservation from the one-eighth of one percent Conservation Sales Tax.

Conservation pays its way in Missouri.

Information from the Missouri Department of Conservation, the Missouri Forest Products Association, and the 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.

- In Missouri, the total economic impact of fish and wildlife recreation and the forest products industry is \$11.4 billion dollars annually.
- Since 1980, the Department has paid more than \$15 million dollars to Missouri counties in lieu of taxes. In fiscal year 2011, more than \$1.47 million was paid to Missouri counties for forest cropland payments, levee and drainage district payments, in-lieu-of-property-tax payments, and county aid road trust payments.
- The forestry and wood products industry in Missouri is a more than \$5.7 billion dollar activity and supports 31,700 jobs.
- Missourians and non-residents spend more than \$3.3 billion dollars annually related to fish, forest, and wildlife recreation. These expenditures generate \$5.7 billion dollars annually of economic impacts in Missouri.
- The annual expenditures related to fish, forest, and wildlife recreation support 64,186 jobs in Missouri.
- Fish, forest, and wildlife recreation spending generates \$382 million dollars annually of state and local tax revenue.
- In Missouri, 2.9 million residents and nonresidents, aged 16 years and older, participated in fishing, hunting, or wildlife-associated recreation.
- Collectively, resident anglers spend 15.3 million days afield, resident hunters 9.2 million, and resident wildlife-watchers 13.4 million days in away-from-home activities, in Missouri. Nonresident anglers add 1.3 million days and nonresident hunters 544,000 days.
- Nonresident expenditures for fishing and hunting in Missouri are well exceed \$211 million each year. Each nonresident angler and hunter spends an average of \$617 dollars each year in Missouri.
- Deer hunters in Missouri, age 16 years and older, spend \$690 million each year.
- Deer hunting in Missouri generates \$1.1 billion dollars of business activity annually. This results in \$83 million in state and local tax revenue each year.
- Deer hunting expenditures annually support over 11,824 jobs in Missouri.

MISSOURI

hunting and fishing

Hunters	608,000
Anglers	1.1 million
Total Expenditures	\$2.4 billion
Total Jobs Supported	45,939
Earnings from Expenditures	\$1.2 billion
State and Local Tax Revenue	\$269 million
Total Business-Generated Revenue	\$4.2 billion



STATE TAX REVENUE INFORMATION

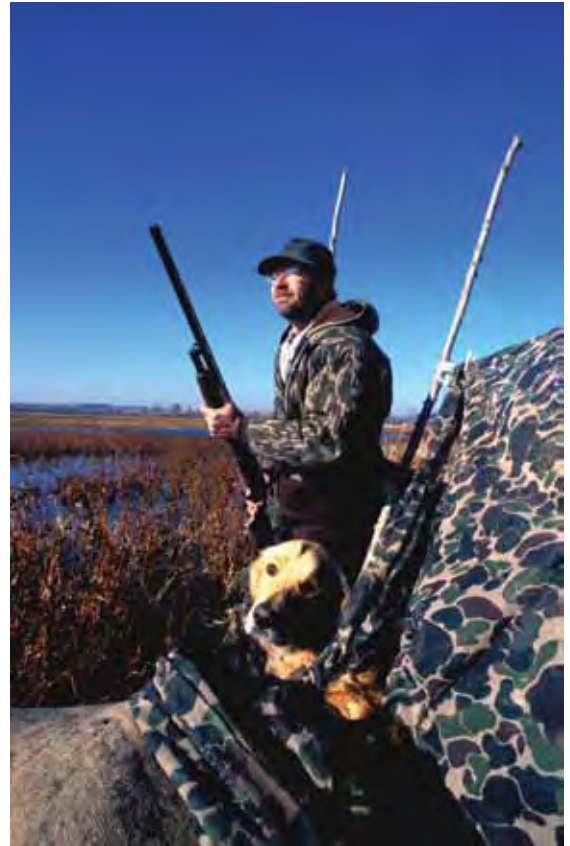
Hunters and anglers in Missouri generate \$269 million annually in state and local taxes.

JOBS

Hunters and anglers support 45,939 jobs each year.

TAKE A CLOSER LOOK

- More Missourians hunt or fish than the number who attend St. Louis Rams or Kansas City Chiefs games.
- One of every four Missouri residents hunts or fishes.
- Annual spending by hunters and anglers is more than the cash receipts for cattle production in Missouri.
- The amount of sales tax revenue generated by fish, forest and wildlife recreation is about the same amount of sales tax received by the Department of Conservation from the one-eighth cent sales tax—in other words, conservation pays its way in Missouri.



CONSERVATION PAYS ITS WAY IN MISSOURI



Information from the Missouri Department of Conservation and the U.S. Fish and Wildlife Service 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.



MISSOURI

wildlife recreation

Wildlife-Watchers	2.2 million
Total Expenditures	\$869 million
Total Jobs Supported	18,247
Earnings from Expenditures	\$493 million
State and Local Tax Revenue	\$113 million
Total Business-Generated Revenue	\$1.5 billion



STATE TAX REVENUE INFORMATION

Wildlife-watchers in Missouri generate \$113 million annually in state and local taxes.

JOBS

Wildlife-watching activities in Missouri support 18,247 jobs each year.

TAKE A CLOSER LOOK

- In Missouri, adults involved in wildlife watching would fill Arrowhead Stadium in Kansas City more than 28 times.
- Missourians are outdoor-oriented—each year they spend 13.4 million days in wildlife watching activities away from their home. Two million enjoy observing, feeding, and photographing wildlife near their homes.
- The amount of sales tax revenue generated by fish, forest, and wildlife recreation is about the same amount of sales tax received by the Department of Conservation from the one-eighth cent sales tax—in other words, conservation pays its way in Missouri.



CONSERVATION PAYS ITS WAY IN MISSOURI



Information from the Missouri Department of Conservation and the U.S. Fish and Wildlife Service 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.

MISSOURI

forestry and wood products

Total Forested Acres	14 million
Privately Owned Acres	85 percent
Publicly Owned Acres	15 percent
Wood-Using Industry Dollars	\$5.7 billion
Total Jobs Supported	31,700
Wood-Using Industry Labor Income	\$1.2 billion



STATE TAX REVENUE INFORMATION

Forestry and the wood-using industries in Missouri generate \$57 million each year in state sales tax.

JOBS

Wood industry firms and activities in Missouri support more than 31,700 jobs each year.

TAKE A CLOSER LOOK

- Each year, about 6 million tree seedlings are planted.
- More than 1 million acres of forests have been added to Missouri's landscape in the last 30 years.
- Forests in Missouri are increasing faster than they are being harvested.
- Most of the forests in Missouri are privately owned.
- Forests are important to Missourians who enjoy outdoor recreation such as camping, sightseeing, bird watching, canoeing, photographing nature, hunting or fishing. Many Department of Conservation areas have campsites or are open for primitive camping.
- Forests in Missouri are essential for healthy streams, clean water, wildlife habitat and environmental stability.



CONSERVATION PAYS ITS WAY IN MISSOURI



Information from the Missouri Department of Conservation and the Missouri Forest Products Association.

Our Pledge to Serve Missourians

The Missouri Department of Conservation's mission, vision and goals communicate our never-ending pledge to serve Missourians and to meet the requirements of the Missouri Constitution (Article IV, Section 40(a) through 46).

Our Mission

To protect and manage the fish, forest and wildlife resources of the state; to serve the public and facilitate their participation in resource management activities; and to provide opportunity for all citizens to use, enjoy and learn about fish, forest and wildlife resources.

Our Vision

- ▲ To have healthy, sustainable plant and animal communities throughout the state of Missouri for future generations to use and enjoy, and to have fish, forest and wildlife resources in appreciably better condition tomorrow than they are today.
- ▲ To have all Missourians understand the relationship and value of plant and animal communities to our social and economic well-being.
- ▲ To have citizens and government agencies work together to protect, sustain, enhance, restore or create sustainable plant and animal communities of local, state and national significance.

Our Goals

The Conservation Department's strategic plan, *The Next Generation of Conservation*, leads staff and resources into the future with nine goals. Like the strategic plans that preceded it, *The Next Generation* outlines how the Conservation Department will fulfill its constitutional mandate to serve Missourians by protecting the state's fish, forest and wildlife resources.

The strategic plan gives our generation of conservationists a path to success. Through partnerships, sound scientific data, respect for public opinion and a dedication to public service, we can fulfill our obligation to protect and manage our natural resources for the benefit of future generations.

The Next Generation Goals

- ▲ Conserving Plants, Animals and Their Habitats
- ▲ Protecting Clean and Healthy Waters
- ▲ Promoting Healthy Trees and Forests

- ▲ Preserving Missouri's Outdoor Recreation Heritage
- ▲ Teaching Missourians About Fish, Forest and Wildlife Resources
- ▲ Supporting Conservation in Our Communities
- ▲ Helping Private Landowners Advance Conservation
- ▲ Serving Nature and You on Conservation Areas
- ▲ Accounting for Department Operations

What We Believe

- ▲ Excellent public service is what we will provide. We are committed to providing excellent public service in a manner that benefits the fish, forests, wildlife and people of Missouri. We will be courteous, responsive and flexible in all of our actions. We will set the example we want others to follow as we responsibly manage the fish, forests, wildlife, lands and habitats under our stewardship.
- ▲ All citizens are important; we value their trust and their point of view. All Missouri citizens deserve respect. Our job is to listen, understand and personally deliver programs and services that will benefit each Missourian.
- ▲ Missourians are our partners to achieve conservation success. We will work together with Missourians, communities and organizations in our conservation efforts and we will encourage everyone to be active conservationists.
- ▲ Employees are the Department's most important resource. All employees deserve a safe, high quality work environment that promotes opportunities for professional and personal growth, teamwork and individual respect. We will empower employees to make timely and innovative decisions. We will encourage diversity and be open to new ideas. We will create an enjoyable workplace because we have a passion to help others and we believe in our conservation mission.
- ▲ Fairness, objectivity, sound science, integrity and accountability will guide our actions. Our decisions and behavior will be based on fairness, objectivity and the best scientific information. We will act with the highest degree of integrity and ethical consideration, expecting the best of ourselves and one another. We will be accountable to the citizens of Missouri to do what we say.

Bringing the Goals to Life



Conserving Plants, Animals and Their Habitats

Elk reintroduction

Wild elk returned to Missouri after an absence of 150 years. The elk were captured in December, 2010, and January, 2011, by MDC staff in cooperation with biologists from the Kentucky Department of Fish and Wildlife Resources and the Virginia Department of Game and Inland Fisheries. In a cooperative effort, MDC and the Missouri Department of Agriculture developed a health-testing protocol including a quarantine period to ensure the health of livestock and wildlife once elk were released to the wild. On May 5, 2011, after all requirements of the health protocols were met, the elk arrived at Peck Ranch Conservation Area. Six bull elk and 28 cows and calves were released into holding pens designed and constructed by MDC staff. Missouri's elk remained in the holding pens at Peck Ranch Conservation Area for nearly four weeks to allow them to acclimate to their new home and meet the agreed to veterinary-health protocols. When it was time to release the elk from the pens, the gates were opened, so the animals could leave on their own. This "soft release" reduces the risk of injury to the elk and encourages them to stay near the release site. Elk have spent the majority of their time in the vicinity of the wildlife food plots developed on Peck Ranch Conservation Area. This 23,000-acre conservation area is within the 346-square-mile elk restoration zone that encompasses parts of Carter, Shannon and Reynolds counties. MDC has conducted landscape-scale natural communities management for more than 30 years on Peck Ranch Conservation Area. This management has improved the area for elk and other species of wildlife. More than 300 acres of green browse have been planted on private land.

The elk restoration plan includes monitoring elk movements, habitat use, and demographics, and addresses situations when elk go onto land outside the zone where they are not welcome. Long-term plans call for hunting as a tool to manage the size of the elk herd. The Rocky Mountain Elk Foundation is a major supporter of Missouri's elk-restoration program.

There is a growing interest by local communities in promoting the wildlife viewing opportunities provided by Missouri's free-ranging elk herd. In other states where elk herds have been restored, increased tourism tied to the unique opportunity to observe elk and hear their bugling during the fall breeding season has occurred. Currently, automobile wildlife viewing routes have been opened on parts of Peck Ranch Conservation Area to allow Missourians and visitors to the state to view free-ranging elk.

Wildlife Code enforcement

MDC enforces laws in the *Wildlife Code*, as well as other state laws for the safe public use of MDC-owned lands. Conservation agents contacted 187,525 hunters and anglers in FY11 to ensure compliance and provide regulation information. During these contacts, agents noted 25,900 resource violations, issued 3,218 written warnings and made 7,285 arrests. This resulted in a 92 percent conviction rate.

In addition, the Special Investigation Unit is an integral part of MDC's efforts to ensure compliance of the *Wildlife Code*. The focus is on commercial wildlife violations, illegal internet activity dealing with wildlife and other major wildlife violations. Having a Special Investigation Unit dedicated to assisting conservation agents in the field with major wildlife crimes has enabled MDC to successfully apprehend several individuals in the last few years. These actions have resulted in nationwide positive press.

Hellbenders

In October 2007, a clutch of 400 fertilized hellbender eggs were found in the Big Piney River near Fort Leonard Wood. There was concern about how to care for the eggs. There were very few references for how to incubate, hatch and raise hellbenders. Hellbenders are the largest amphibian in North America and behave much like a fish in terms of habitat requirements and external fertilization of the eggs. Because of these similarities to fish, we decided to care for the eggs and subsequent larvae exactly as we do for trout eggs. The approach worked. More than 90 percent of the clutch hatched. The next challenge was to find out what to feed larval hellbenders and how

to obtain a reliable supply of food for more than 300 mouths. Aquatic invertebrates, plentiful in the outfalls of Shepherd of the Hills Hatchery, were the answer. After diversifying their diet with a variety of worms, crayfish and freeze dried krill, the hellbenders were large enough to have a pit tag injected just under the skin in the tail area. On July 12, 2010, after exactly 1,000 days of care, the Department made its first release into the wild of 100 juvenile hellbenders that were cultured in a state fish hatchery. The hellbenders averaged 9.5 inches long and weighed a little more than 3 ounces. The release of those 100 juveniles doubled the estimated eastern hellbender population in the Big Piney River. This release also provided additional space for the remaining hellbenders to grow at the hatchery. Subsequent sampling yielded a 20 percent recapture rate of the tagged hellbenders after almost a month in the wild. These animals will continue to be monitored. Finding the small individuals is a challenge, but we hope to learn much about their survival, behavior and distribution over the next few years.

Partnerships efforts also aid hellbender recovery efforts. Researchers from several universities, public zoos, fish hatcheries, herpetologists and state and federal agency representatives from Arkansas and Missouri have formed the Ozark Hellbender Working Group. The Ozark Hellbender Working Group pools their resources to prioritize reasons for the decline of the hellbender and coordinates recovery efforts among stakeholders. In addition to the MDC Shepherd of Hills Hatchery, the Ron Goellner Center for Hellbender Conservation, the Saint Louis Zoo WildCare Institute is devoted to long-term propagation efforts of the species.

Lake sturgeon stocking

MDC tagged and stocked 234 lake sturgeon into the Missouri River near the mouth of the Osage River. An additional 10,968 lake sturgeon, raised at the U.S. Fish and Wildlife Service's Genoa National Fish Hatchery, were stocked into the Missouri and Mississippi rivers to help restore populations. Some of the lake sturgeon were divided into groups and stocked into different habitat types to determine if stocking in any one of those habitats could increase survival. Some were also tagged with different tags to check on tag retention and to differentiate between stocking locations. Since 1984, Blind Pony Hatchery has raised and stocked 307,228 lake sturgeon into the Missouri and Mississippi rivers as part of MDC's lake sturgeon

restoration program. Lake sturgeon propagation is playing a significant role in the recovery of the population in Missouri.

Greater prairie chicken recovery

MDC moved 28 male and 53 female prairie chickens from the Smokey Hills in Kansas to Wah'Kon-Tah (WKT) Prairie spring 2011. Prevailing dry conditions, for the first time since translocations began in 2007, have improved production tremendously.

Staff and students from the University of Missouri-Columbia tracked 27 hens that attempted 29 nests within the WKT/Taberville Focus Area. Of the 29 nests, 23 successfully fledged chicks, for a very high nest success rate of 79 percent. A total of 52 chicks have been observed.

Ongoing telemetry monitoring shows that managed grazing is an effective habitat management tool for prairie chickens, as well as for quail and other declining grassland birds.

Black bear research

American black bears are an important wildlife resource, yet little information is known about their population status in Missouri. Black bears were believed to be extirpated from Missouri by the early 1900s due to overharvest and deforestation. However, they have been naturally recolonizing and increasing in abundance in southern areas of the state since the 1960s.

MDC, in cooperation with Mississippi State University and with funding from the Federal Aid in Wildlife Restoration Act, began the first ever black bear research project in Missouri. Black bears were captured and collared across the southwest portion of the state.

Trapping yielded a total of 25 captures. Of those, 13 bears (six males and seven females) were fitted with GPS radio collars. Eight of the bears trapped were recaptures and four were cubs too small to be collared. All captured bears were outfitted with ear tags in both ears for identification. Males were outfitted with blue ear tags and females with yellow ear tags.

The weights of the trapped bears varied greatly. Cubs weighed up to 70 pounds (a good indication of strong growth). Two adult males weighed more than 400 pounds. The largest bear trapped in the fall of 2010 in Douglas County weighed 485 pounds. The mean weight of adult male bears was 321 pounds. The mean weight of adult female bears was 185 pounds.

Pallid sturgeon propagation

Blind Pony Hatchery received more than 80 adult pallid sturgeon from MDC, U.S. Fish and Wildlife Service and Nebraska Game and Parks. MDC worked with the U.S. Geological Survey to determine the sex and reproductive state of each fish. From the more than 80 adult pallid sturgeon, four females and 12 males were reproductive this year and genetically determined to be wild pallid sturgeon. In total there were 66,500 fertilized eggs split over six family groups from this effort. Half of these eggs were sent to Gavin's Point National Fish Hatchery to "back up" production of each family group. Eight non-reproductive females were sent to Neosho National Fish Hatchery to overwinter and hopefully spawn next spring. The remaining adult sturgeon were returned to the river where they were collected.

Natural communities

By the end of FY11, there were 183 Natural Areas totaling 72,060 acres. During the last year, 1,266 acres were added to the Natural Areas System:

- LaBarque Creek Natural Area, a 639 acre natural area in Jefferson County encompasses the entire LaBarque Creek Conservation Area. This area lies at the heart of the LaBarque Creek Conservation Opportunity Area. LaBarque Creek supports 36 native fish species (including five native darters)—the highest diversity of native fishes found in tributaries to the Meramec River in Jefferson and St. Louis counties. The natural area also contains a mix of more than a dozen terrestrial natural communities that collectively support nine species of conservation concern, 499 vascular plant species, 115 moss and liverwort species, and 49 breeding bird species. Natural communities range from sandstone glades through dolomite woodlands to moist sandstone cliffs. Numerous scenic wet-weather waterfalls, box canyons and cliffs are carved in the area's sandstone bedrock.
- Little Niangua River Natural Area, a 240 acre natural area in Camden County lies within the Burnt Mill Cave Conservation Area. This site features more than a half mile of the Little Niangua River, its associated riparian corridor and adjacent bluffs and uplands with woodland and glade natural communities. This stretch of the Little Niangua River provides excellent habitat for the best known population of the federally listed Niangua darter (*Etheostoma nianguae*). The natural area's

aquatic habitats support a diverse darter community including two species found only in Missouri. The federally listed gray bat (*Myotis grisescens*) utilizes Lower Burnt Mill Cave as a maternity site. This property was purchased in 2009 by MDC using funds from the U.S. Fish and Wildlife Service specifically to protect habitat for the Niangua darter and gray bat.

- Spring's End Forest Natural Area, a 402 acre addition to the original 15 acre natural area is contained within Woodson K. Woods Conservation Area in Phelps and Crawford counties. This substantial addition recognizes one of the premier natural floodplain ecosystems in the Middle Meramec Conservation Opportunity Area. This site supports some 330 acres of mature bottomland forest and riparian corridor. These forests provide habitat for a wide variety of forest bird species including the Cerulean warbler (*Dendroica cerulea*), a species of conservation concern. A two and a half mile stretch of the Meramec River contains diverse aquatic habitats supporting 48 native fish species, including three species endemic to the Ozarks ecoregion and one endemic to the Meramec basin. Crayfish species present includes two endemic to Missouri and one endemic to the Ozark ecoregion. The river also provides habitat for the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a species of conservation concern.

Feral hog eradication

In Missouri, feral hogs are known to occur in 40 counties, with established populations in 19 counties. Feral hogs directly and indirectly damage natural communities, destroy agricultural crops, compete with native wildlife and serve as reservoirs of disease. The goal is to learn how to efficiently control feral hogs.

Since 2009, MDC has captured 502 and euthanized 486 feral hogs as part of the eradication effort. In another effort between the U.S. Department of Agriculture and private landowners 110 hogs were removed last fiscal year. Data collected from these hogs will be used to predict feral hog reproductive rates and population size.

We have also captured and released 11 hogs with tracking collars. The tracking collars provide information about feral hog movement that also aids in developing effective eradication plans.

New legislation — In the fall of 2007, Gov. Blunt created a special task force to address the concerns associated with feral hogs. The task

force, co-chaired by MDC and the Missouri Department of Agriculture, was composed of eight additional members, including other state, federal and private organizations. The task force completed a report in 2008 which outlined a response to the feral hog population in Missouri.

New legislation proposed by the Governor's Task Force was passed this year, adding the possibility of a felony for the illegal release of hogs. This legislation allows conservation agents to enforce the provisions of the feral hog statutes and prohibits the live capture and possession of live feral hogs on all public lands. In addition to criminal penalties and fines, violators may also face administrative fees of up to \$1,000 for each offense through the Department of Agriculture. According to the statute, each hog released constitutes a separate violation. Other components of the new legislation include fencing and health standards for those individuals possessing feral hogs on private land.

This new legislation is a significant advancement in the war on feral hogs and is much stronger language than the previous feral hog law. The importance of such legislation is exemplified by the discovery of two cases of brucellosis and one case of pseudorabies in feral hogs in Missouri through standard blood testing procedures.

Big river confab

A confab (an informal talk or gathering) of researchers, managers and educators that work on Missouri's portion of the Missouri and Mississippi rivers was held to enhance communication and collaboration and improve coordination of big river research and management. This confab featured two topics: sturgeon and Asian carp. Fifty-one participants attended representing the U.S. Fish and Wildlife Service (Missouri and Illinois), U.S. Geological Survey, U.S. Army Corps of Engineers (Rock Island, St. Louis, Kansas City districts, plus Engineer Research Development Center in Vicksburg, Mississippi), University of Missouri Coop Unit, Southern Illinois University, Nebraska Game and Parks, Iowa Department of Natural Resources, Missouri Department of Natural Resources and the Missouri Department of Conservation.

There was a total of 14 technical presentations including Asian carp biology, large river habitat assessments and recovery efforts, fish movement, sturgeon population assessments and the listing of shovelnose sturgeon (similarity of appearance) as

a federally threatened species. The confab ended with a break-out session to discuss sturgeon biology, sturgeon habitat and Asian carp issues.

Endangered species

Although no species were added to or removed from the state endangered species list, MDC conducted inventories and monitoring of some endangered species as well as species of conservation concern to determine their current status. These field studies may lead to adjustments to our state endangered list in the future.

Through the U.S. Fish and Wildlife Service "traditional" Section 6 Endangered Species Funds, one research project was completed, four new projects were initiated and six projects were ongoing.

Through the U.S. Fish and Wildlife Service "non-traditional" Section 6 funds, Missouri continued to participate in the Midwest multi-state project entitled *Development of a Multi-Species Habitat Conservation Plan for Wind Energy Development in U.S. Fish and Wildlife Service Region 3*. Staff also made progress toward acquiring land along the Mississippi River to aid in the recovery of pallid sturgeon, interior least terns and Indiana bats. The project to fund the purchase of the Burnt Mill Cave Conservation Area was completed and a new project to purchase conservation easements to benefit the recovery of Ozark cavefish was approved.

Through the use of U.S. Fish and Wildlife Service Landowner Incentive Program, one project was completed, and two grants are ongoing. The completed project, Assisting Land Trusts to Build Capacity, resulted in four significant accomplishments: 1) cooperative agreements with five partners resulting in more than 100 private landowners contacts leading to the permanent protection or restoration of about 10,000 acres on private land that will benefit more than 90 species of conservation concern inhabiting 11 high priority focus areas, 2) assistance to build the organizational capacity of several land trusts that will prepare them to continue to permanently protect high priority wildlife habitat and conservation landscapes, 3) the initiation of the Missouri Land Trust Coalition as a forum for land conservation partners to work cooperatively to increase land conservation and improve wildlife habitat management with private landowners in Missouri and 4) better informed and trained MDC staff about conservation easements as an additional tool to conserve declining species and their habitats.

Two ongoing Landowner Incentive Program projects resulted in 1) habitat restoration by 20 private landowners for the state endangered greater prairie chicken and other declining prairie species and 2) the purchase of one private land conservation easement to protect the Ozark cavefish and progress toward the purchase of a second conservation easement with the neighboring landowner. Both of these projects will be completed by December, 2011.

Partnerships aid birds

In 2011, the Missouri Bird Conservation Initiative (MoBCI) 60 partner organizations were involved in six projects across Missouri. MDC grant funds (\$98,500) were leveraged to produce a total contribution of \$136,000 dollars in cash and match for project work. Each of the six projects involved a broad range of interests but have a common goal to provide habitats suitable for a wide range of bird species. These projects provided additional habitat for 27 high priority bird species, including ruffed grouse, greater prairie chicken, Northern bobwhite, American woodcock, northern harrier, eastern whip-poor-will, red-headed woodpecker, Acadian flycatcher, Bell's vireo, Bewick's wren, cerulean warbler, field sparrow, grasshopper sparrow and Henslow's sparrow. Each year MoBCI plays a substantial role in linking Missourians with national and international bird initiatives.

The Avian Conservation Alliance, the Missouri Conservation Heritage Foundation and MDC have furthered bird conservation efforts in Mexico and Central America. A total of \$60,000 has been delivered through the American Bird Conservancy, to help the Amigos de Sian Ka'an of Mexico acquire 1,990 acres of tropical savanna woodlands and lagoons in Quintana Roo on the Yucatan Peninsula. This project is an effort to protect habitat for migratory songbirds and waterfowl that use this area as a stopover refueling site before migrating northward across the Gulf of Mexico to Missouri and beyond. This and other projects, through partnerships with the Southern Wings program of the Association of Fish and Wildlife Agencies, are part of a long term effort to protect and manage critical habitat in this region for birds that breed in Missouri and spend eight months of the non-breeding season south of the USA/Mexico border.

MDC and its Avian Conservation Alliance partners have also supported the formation of a national bird conservation organization in Honduras. The Honduran Ornithological Association has

already taken on an Important Bird Area program after receiving training from Bird Life International. They are well underway on a United Nations project in La Moskitia region.

The conservation area checklist (CACHE) online data-entry project of MDC and the Audubon Society of Missouri has been updated. This project receives online bird observation data entered by citizen scientists as well as MDC employees. All the data are shared with the eBirds online database at Cornell University that includes records from all states and many western hemisphere countries. CACHE currently has tallied 373,011 bird records from 21,169 field trips by registered participants (www.mobirds.org).

Deer Management

The Conservation Department's deer management goal is to maintain a statewide deer population level that provides adequate opportunities for hunters and people who enjoy watching deer, but low enough to minimize crop/landscape damage and deer-vehicle accidents. Because hunting regulations are our primary tools for managing Missouri's deer herd, our hunting seasons have evolved from very limited, bucks-only opportunities to the much more liberal regulations of today.

One of the goals of deer regulation liberalizations over the last decade has been to decrease deer numbers in many parts of Missouri. In addition to liberalization of antlerless harvest, an antler point restriction has been implemented in many counties in an effort to shift harvest pressure from bucks to does. Although there continue to be areas with greater than desirable deer numbers, deer overabundance is much less of an issue in rural Missouri today.

However, a deer management challenge area in Missouri is around cities. Deer are highly adaptable and can thrive in and adjacent to urban settings. Unfortunately, our ability to manage deer through hunting in these settings is often limited by city ordinances prohibiting the discharge of weapons and a lack of hunting access. We are working with certain cities to allow archery hunting or managed hunts to manage these deer populations.

Freshwater mussels

A greater proportion of freshwater mussels are on the federal threatened and endangered species list than any other group of animals in North America. For the past 11 years, MDC has worked with the

U.S. Fish and Wildlife Service and Missouri State University to conserve and manage this fauna. MDC, U.S. Fish and Wildlife Service and Missouri State University have cooperated to complete surveys for state and federal species of concern, refine propagation and culture techniques, assess impacts from hydroelectric dams and lead mining and conduct population research. In 2010, 19,187 freshwater mussels were produced at MDC's Chesapeake Hatchery. Using techniques developed at Missouri State University to raise the juvenile mussels to a larger size, we have the capability of producing several mussel species for reintroduction, leading up to the first large-scale augmentation of pink mucket to be conducted in the fall of 2011. With the completion of a mussel management plan, and future population assessment efforts, the stage is set for reestablishing some of Missouri's declining freshwater mussel populations.

Shovelnose sturgeon

MDC is continuing a study designed to better manage our native shovelnose sturgeon population. Sturgeon species in the Mississippi River basin have been declining since the early 1900s. Pallid and lake sturgeon are classified as federally and state endangered, respectively, and now the shovelnose sturgeon has become a species of concern. The only commercially harvested sturgeon in Missouri is the shovelnose, and the increase in harvest of this species may have affected the population. Recent studies have shown that the shovelnose sturgeon population is experiencing record harvest levels, declining catch rates and increasing mortality rates. With the closure of commercial harvest on the other sturgeon species worldwide and the continued high demand for caviar from wild caught roe fish, it is likely that harvest of shovelnose sturgeon will increase. The U.S. Fish and Wildlife Service listed the shovelnose sturgeon as a threatened species due to its similarity of appearance to the federally endangered pallid sturgeon. The U.S. Fish and Wildlife Service also enacted a special rule that prohibits commercial harvest of flesh or roe of shovelnose sturgeon and shovelnose-pallid sturgeon hybrids where they commonly coexist with the pallid sturgeon. In Missouri, this includes the Missouri River and the Mississippi River below Locks and Dam 26 near St. Louis. However, commercial harvest of shovelnose sturgeon is still permitted in the upper Mississippi River pools above Locks and Dam 26. We anticipate a shift in commercial fishing pressure for

shovelnose sturgeon to the upper Mississippi River pools. MDC will use the information from this study to determine the status of the shovelnose sturgeon population and better manage this species as a sustainable population.

Road crossings improved

A new crossing was completed at Williams Ford in Dallas County on the Niangua River, which is in Niangua darter critical habitat. A vented crossing was replaced with a clear span to facilitate aquatic organism passage. MDC worked with the U.S. Fish and Wildlife Service to get the majority of the funding from the American Reinvestment and Recovery Act of 2009. Additional funding was also secured from the Stream Stewardship Trust Fund and along with an in-kind contribution from the Dallas County Commission. The new bridge improved driving conditions for local residents by reducing inundation time during flood events and enhanced living conditions for the Niangua darter by reducing velocities during normal flow and allows access to habitat above the bridge.

MDC assisted the Shannon County Commission with installation of a low water articulating concrete mattress crossing on Mahan Creek, a priority watershed in the Ozark Region. Mahan Creek is a tributary to Jacks Fork River, which is part of the Ozark National Scenic Riverways. The original crossing used the natural stream gravel bed. The county had to repair the crossing by dumping truckloads of road rock after each high flow or flood event. A partnership was formed because of the county commission's concern for accessibility and safety for area residents and MDC's interest in maintaining healthy stream dynamics and water quality. The use of an articulating concrete mattress allows for the passage of sand and gravel over the crossing during high flow events while maintaining stability. In addition, the design of the articulating concrete mattress allows for adjustment to the natural shifting and settling of the stream bed during high flows and provides an ideal surface for aquatic organism passage as a low water crossing. MDC secured a grant from the Missouri Conservation Heritage Foundation through their Stream Stewardship Trust Fund to purchase materials. MDC provided engineering design and technical guidance. The Shannon County Commission installed the project. This project is a good example of how the goals of different agencies and organizations can overlap to create strong partnerships and provide new solutions.

Conservation genetics

The Statewide Conservation Genetics Program uses the principle that there is genetic diversity throughout Missouri's animal and plant species that determines their productivity and survival. By identifying this diversity, often through analysis of DNA, rare animal and plant species can be protected, sport fishing can be improved, hatchery strains can be selected and species can be restored. DNA "typing" often can be used to identify species, sources and sometimes "parents" of animals and plants in the wild. Species studies involve walleye, several darters and crayfish, black bass, shortleaf pine and hellbenders.

Crayfish bait industry

The introduction and invasion of non-native crayfish into lakes and streams is a serious problem. The presence of non-native crayfish has resulted in the loss of native crayfish, reduced amphibian and reptile numbers, changes in aquatic habitats and collapses of prized fisheries. The live-bait trade has been a primary source for the introduction of invasive non-native crayfishes. In response to this problem, some states have banned the use of live crayfish as bait.

MDC worked with bait shop owners and inspected crayfish sales records. This effort revealed that crayfish were supplied by commercial sources in Missouri and six other states, and that they also were obtained illegally from the wild. Subsequent MDC efforts have focused on removing illegal species from bait shops and educating bait vendors on bait regulations and invasive species. At the request of bait shop owners, we published a crayfish identification guide. We value our relationship with bait shop owners because they play an important role in Missouri's fishing industry.

Smallmouth on the move

We have always suspected that springs in Ozark rivers serve as a winter thermal refuge for fish. We partnered with the National Park Service on a smallmouth bass telemetry project near Big Spring on the Current River to further investigate. In January, 30 smallmouth bass were collected at the mouth of Big Spring and had radio transmitters surgically implanted in them. Tracking of these fish started immediately after release. Fish remained at Big Spring for several weeks before the movement started. Fish ranged from

10 miles downstream of the release site, to 50 miles upstream, including two smallmouth in the Jacks Fork River by mid-April. The most recent tracking event in mid-May accounted for 29 of the 30 fish with additional upstream and downstream movement noted. This is a very exciting time for smallmouth biology research in the state. We are a long way from formulating conclusions about smallmouth bass movement in spring influenced rivers, but these results could have some important implications for managing smallmouth bass in southern Missouri. It will be interesting to see how much further they travel, where they will spend the summer and whether they will return to Big Spring next winter.

Worked with industry, state and federal regulators to protect state's resources

MDC responded to requests for information regarding Missouri's Species and Communities of Conservation Concern—helping more than 1,000 projects needing federal permits or using federal funds to comply with provisions of the Endangered Species Act. Also, MDC participated in and responded to federal and state environmental review processes from those seeking to comply with the National Environmental Policy Act, Clean Water Act and other federal and state laws, rules and regulations. In order to comply with state and federal environmental laws and the National Historic Preservation Act, MDC reviewed and adopted plans for all of our construction and resource-restoration activities. These actions ensured that requirements were met for compliance and necessary permits and clearances obtained. Additionally, reviews provided helpful information to manage for species of concern. Most input was provided in planning phases, thereby reducing surprises and project delays once construction began.

MDC continues to participate in the environmental review and coordination of several licensing proposals to develop hydropower within the Mississippi River. Applicants submitted to the Federal Energy Regulatory Commission proposals to develop traditional hydropower at Locks and Dams 20, 21, 22, 24, 25 and 26, and to develop hydrokinetic projects at 11 locations in the portion of the river below Cairo, Ill. MDC worked with the Missouri Department of Natural Resources, state agencies from Illinois, Tennessee and Kentucky and several federal agencies to consider impacts to fish, forest and wildlife resources, including public lands. Coordination with the multiple agencies

and applicants to ensure adverse natural resource impacts are avoided, minimized and mitigated, as appropriate, will require multiple years, depending on the complexity of the proposed project.

MDC continues to provide input to the wind energy industry so that projects can avoid and minimize the potential to impact sensitive natural resources. MDC is working with other states, the U.S. Fish and Wildlife Service and the wind energy industry to develop a regional conservation plan that could be used by industry to meet most fish and wildlife resource concerns.

Conserving all wildlife

The Comprehensive Wildlife Strategy is guiding conservation action for all wildlife, with emphasis on proactive conservation that will prevent the need for additional listing of declining species of fish, wildlife and plants. The Missouri strategy is a tool for conservation planning and implementation, integrating priority projects and initiatives with partners and other agencies. Over the last year there has been activity in 25 of the priority Conservation Priority Areas. Recent progress includes prairie chicken restoration at WahKonTah Prairies COA, new leadership and elk restoration in the Current River COA, additional stream crossing improvements in the Niangua River COA, additional forb plantings and management at Grand River Grasslands, a change in leadership at Missouri River Hills COA, more land protection and a native plant program initiated at LaBarque Creek Watershed, summer long flooding in the Iatan/Weston Missouri River Corridor COA, significant acres of prescribed fire management in the glades of North Fork River COA.

Comprehensive Wildlife Strategy (CWS) implementation includes program level work activity as well as working directly with field staff and stakeholder groups. The Department of Conservation works closely with Conservation Federation of Missouri to integrate conservation actions in the priority geographies across the state. Some of these activities were supported by the Teaming With Wildlife Mini Grants program Coalition members. CWS progress in the priority geographies appears in the *Missouri Conservationist* and on the Missouri Teaming With Wildlife website.

Missouri has become one of the pilot states for the development of Wildlife TRACs, the new federal accomplishment reporting program being developed by the U.S. Fish and Wildlife Service and the states. Missouri is an important state to

participate on the Project Development Team because our Comprehensive Wildlife Strategy is spatially explicit and built around habitat conservation. These two features are not common for other action plan/strategies across the nation.

Ozark Cavefish Monitoring

We continued to monitor the distribution status of the federally-listed threatened Ozark Cavefish and associated water quality during 2010. There are currently 21 sites in southwest Missouri considered to be occupied and accessible, with eight new sites added since 2005. Sixteen sites are best described as caves with interior or spring streams, with five sites that are old, rock-lined wells. Ozark Cavefish have been observed within the last five years in 17 sites. Out of 19 fish that were marked in three sites, none were re-sighted though observation frequency of unmarked fish remained high suggesting a high density of fish in the surrounding groundwater relative to the number seen during a particular survey.

Invasive species

Emerald ash borer trapping was completed with no new signs of the insect outside the initial discovery in Wayne County. A U.S. Department of Agriculture Forest Service State and Private Forestry program grant has allowed MDC to implement focused outreach associated with emerald ash borer. These funds were used to secure air time to share information about the dangers associated with moving firewood, to purchase a tradeshow exhibit, and to conduct outreach to key groups such as the Missouri RV and Campground Association, the Missouri Municipal League, Missouri Community Forestry Council and others. In addition, MDC provided more than \$27,000 in matching funds to four communities interested in addressing problem ash trees through the Tree Resource Improvement and Maintenance cost-share program. The four completed projects included public tree inventory, ash tree removal and planting and an educational program for the public. The goal of the program is to help communities better manage their tree resource. Emerald ash borer outreach efforts have been coordinated in partnership with the Missouri Department of Agriculture. An emerald ash borer outreach coordinator employed by the Missouri Department of

Agriculture and jointly supervised by MDC and MDA has taken the lead coordinating messages and implementing all work.

MDC is elevating the awareness of invasive species in Missouri through outreach and education. An invasive plant workshop was organized at the 2010 Natural Areas Conference. Seven additional fact sheets were created about invasive species and how to identify and control them. A total of 19 fact sheets have been developed since 2009.

Educating anglers to check and clean or dry all of their fishing equipment between watersheds is an important step to slow or reduce the risk of spreading aquatic invasive species like zebra mussels, didymo or the New Zealand mud snail to Missouri waters. Wader wash station is a new tool to educate and prevent the introduction of aquatic invasive species into our valuable cold-water resources. Each of the four trout parks and the Shepherd of the Hills Hatchery now has at least one station. An aquatic invasive species grant was obtained to fund the project.

Work continued around the inventory and eradication of spotted knapweed in Missouri. Tingler Natural Area and Cover Memorial Wildlife Area are being evaluated to determine how effectively bioagent insects are at controlling spotted knapweed on these important Department areas. In cooperation with the Missouri Department of Transportation and Greene County's Resource Management Department, bioagent insects have been released on private and public property.

As part of a collaborative effort to evaluate the use and propagation of biofuel species, risk assessment screenings were conducted for giant miscanthus (*Miscanthus giganteus*) and common reed (*Phragmites australis ssp. australis*) to determine if these plants would have invasive tendencies in Missouri.

Coordination, planning and/or funding were provided for projects such as eradication of zebra mussels from Smithville Lake, intensive testing at Pomme de Terre Reservoir, drafting of Mark Twain Forest's Non-native Invasive Species Plant Plan, the Didymo public meeting at Bennett Springs State Park. Coordination with the Missouri Department of Agriculture continues to improve invasive plant regulation in Missouri.

Topeka shiner monitoring

Since 2000, we have monitored the federally endangered topeka shiners at 12 sites in the upper Moniteau Creek watershed. We have learned this

fish species is most abundant in upstream sites on the Moniteau Creek and in a headwater stream that flows into Moniteau Creek. Overall we concluded that the Moniteau Creek population of topeka shiners is stable or increasing since we started our monitoring efforts.

Neosho Madtom monitoring

Sampling occurred on the Spring River (Jasper County) during August, 2010, to monitor the federally-listed threatened Neosho madtom. Monitoring was conducted to 1) evaluate population status, 2) investigate trends in distribution and 3) describe habitat and characteristics related to Neosho madtom ecological requirements. Using an occupancy modeling approach, we estimated that Neosho madtoms occupied 47 percent of suitable habitat throughout the reach of river sampled with a higher frequency of occurrence from highway 171 downstream to the state line. The overall extent of the distribution was consistent with monitoring done since 2003.



Protecting Clean and Healthy Waters

Stream Stewardship Trust Fund

The Stream Stewardship Trust Fund is an in-lieu fee program created to restore, enhance and/or protect stream systems and associated riparian habitats. Since its inception in 1999, more than \$5.4 million had been collected through the program. The program and funds are administered by the Missouri Conservation Heritage Foundation, and MDC applies for grants to use toward protecting stream resources. In FY11, four projects costing \$158,585 were approved to protect Missouri's stream and riparian corridors.

Stream Teams

Missouri Stream Teams grew to 4,321 teams (85 percent still active) statewide in 2010. A total of 146,361 volunteer hours to enhance and restore Missouri streams were logged. There were 541 participants in 37 Volunteer Water Quality Monitoring workshops. The Missouri Stream Team Watershed Coalition continues to grow. It is made up of representatives from 14 associations throughout the state. Its mission is to serve as a resource for

information, education, stewardship and advocacy. The Coalition is an opportunity to unite the voices of thousands of Stream Team volunteers.

Stream Team Big Rivers Summit

The first Stream Team event focusing on Missouri's largest rivers, the Missouri and Mississippi, was held in Hannibal. Volunteers learned about stream processes, big river management, habitats and research. They spent time on the river running trotlines, hoop nets and a mussel trail. Volunteers also tracked fish with transmitters while getting a close look at a lock and dam.

Stream Crossing Workshop

Central and St. Louis region county government employees attended a Stream Crossing Workshop. Eight people from three counties attended the workshop. The workshop focused on educating participants on maintaining their stream crossings in an efficient and aquatic friendly way. Follow-up evaluations were overwhelmingly positive.

Streambank stabilization

Since 2004, MDC has been evaluating the effectiveness of several techniques for stabilizing the banks of streams and rivers to reduce soil erosion and bank caving. We have learned that the most promising bank stabilization techniques used either log weirs (a series of large logs anchored into a streambank to divert water from the bank), large rocks at the base or bottom of the streambanks or mechanical sloping of the streambank along with planting trees, shrubs and grasses. Any one technique might not be the best for all streambank erosion problems, but we learned that these three techniques worked best for most of the streambank caving and erosion situations studied.

Focusing on priority watersheds

We began choosing priority areas based on Strategies for Watershed Management. The objective is for each region to gather detailed information on their top three watersheds. This process is meant to focus efforts on priority watersheds where there is a high likelihood for success, including stakeholder involvement. This plan allows regions the flexibility to decide their top priorities and how and where to focus their resources. By taking a priority watershed approach and by collaborating with stakeholders, the Best Management Practices developed are more likely to be used.

Mississippi River monitoring

Through a cooperative effort among the U.S. Army Corps of Engineers, U.S. Geological Survey and states in the upper Mississippi River basin, long-term trends in fisheries, water quality, invertebrates, forest resources, land use and land cover for the entire upper river system are monitored. This work is done through a network of state-operated field stations.

Missouri's contribution is the Big Rivers and Wetlands Systems Field Station, which began operation in 1991 and monitors conditions in the 25 river miles both north and south of Cape Girardeau. Water-quality data are collected year-round and fisheries data are collected from June through October each year. This information is used by several agencies in and outside Missouri. The program also is involved in answering specific research or management questions that come to light from analysis of the monitoring data. These questions involve issues ranging from small invertebrates to birds.

River basin management

MDC participated in various interstate working groups to implement ecosystem-based management of the Missouri, Mississippi and White rivers and their floodplains. Management goals focus on the conservation of natural resources and the enhancement of recreational opportunities. MDC helped direct the implementation of funds through the Mississippi River Environmental Management Program for biological monitoring and habitat restoration, and planning efforts within the proposed Mississippi River Navigation and Ecosystem Restoration Program. Both programs are funded by the U.S. Army Corps of Engineers.

Three Environmental Management Program projects on MDC-managed lands include continued design of the Ted Shanks Conservation Area wetland-enhancement project, and forest and over-wintering fish habitat enhancements on the Upper Mississippi Conservation Area.

Fish kill notification and response

MDC and the Department of Natural Resources have streamlined the process of responding to reports of fish kills in Missouri's lakes and streams. As part of the new agreement, MDC supplies the Department of Natural Resources with contact lists for MDC fisheries and protection regional staff. All MDC staff learning or discovering a fish kill are to

notify Department of Natural Resources as soon as possible. These changes in procedure have aided in reducing response time for pollution and fish-kill incidents.

We plan to streamline the process even further by updating our historic fish-kill database. The updated program is expected to allow direct uploading of data from on-scene reports as well as provide fish value estimates into an integrated report provided to the Department of Natural Resources' enforcement branch. An additional planned database will map the fish-kill records in the historic database.

Reservoir habitat improvements

- **White River arm of Table Rock Lake**
Habitat work in this area represents a significant expansion of the National Fish Habitat Initiative project. From the Missouri Arkansas state line to the confluence of the White River and Kings River, about 20 lake miles, 128 new brush piles were placed. All of the brush piles were marked by GPS and were posted to the MDC website. Many of the brush piles placed will receive "Fish Attractor" signs for anglers who do not have access to GPS equipment.
- **Table Rock Lake**
New rock structures were placed in Table Rock Lake in two areas near the dam and one near Kimberling City. The 26 structures should improve shallow water fishing in these areas. Structures were built approximately four feet tall, three to four feet wide and 50 to 150 feet long and consisted of material ranging from large gravel to small boulders. The structures should provide fish with habitat to use during spawning and anytime they are moving to shallow areas. The structures should also attract crayfish and other bait species.
- **Smithville Lake**
MDC's portion of the Smithville 1135 Habitat Restoration Project has been completed. The project began in 2001 as a MDC funded habitat enhancement project. In 2005, we entered into an agreement with the U.S. Army Corps of Engineers for some structural improvements to the lake as well. Additional funding from the federal stimulus plan and increased efficiencies allowed the U.S. Army Corps of Engineers to build eight rock wave breaks to protect severely eroding points instead of just the five that were originally planned. The original project called for MDC to build 80 enclosures planted with native plants

and to plant 3,000 feet of shoreline in water willow. MDC was able to go beyond the original plan and built 180 enclosures and planted more than a mile of shoreline. Nine acres of planted area has expanded to more than 100 acres of established colonies and one mile of shoreline has expanded to more than 10 miles.

- **Stockton Lake**
A total of 51 new fish attractor structures were constructed at Stockton Lake. Focus was given to bank fishing opportunities due to a lack of accessible quality bank fishing locations. Twelve old fish attractors were also replenished during the project. GPS location points of new attractors were placed on the MDC website.
- **Pomme de Terre Lake**
A five-foot drawdown provided an opportunity to complete a shallow water habitat project on Pomme de Terre Lake. A total of 253 wood pallets at 22 sites were placed to make 164 shallow water habitat structures.

Fish contaminant monitoring

MDC annually solicits input from the Department of Health and Senior Services, Department of Natural Resources and other organizations to determine where MDC needs to evaluate contaminants in fish. MDC then develops a sampling plan and coordinates collection and evaluation of contaminants in fish. An annual report is compiled and provided to the Department of Health and Senior Services for evaluation relative to fish consumption advisories.

Recently, MDC has worked closely with the Missouri Department of Natural Resources and U.S. Fish and Wildlife Service to define contaminant levels associated with biological impacts to aquatic organisms from Big River in the Southeast Missouri Mining District and the Spring River basin in the Tri-States Mining District. These definitions will be used to estimate impacts to natural resources and develop damage claims as part of the Superfund process.

MDC continues to implement a long-term monitoring program for mercury in fish that uses small bits of muscle tissue from live fish. Research indicates that this small bit of muscle tissue is representative of the entire fillet and the removal of the tissue has no negative impact on fish survival.



Promoting Healthy Trees and Forests

Missouri Forest Action Plan

The 2008 Farm Bill recognized the need for forest planning by requiring states to complete a statewide forest resource assessment. States had to then develop a plan to address issues identified during the assessment in order to continue receiving federal funds through the Cooperative Forestry Assistance Act. In June 2010, MDC completed development of the Missouri Forest Action Plan. The Plan was collaboratively developed with help from more than 40 partner organizations and input from other stakeholders.

The Plan identifies desired future conditions for Missouri's forest resources, key threats and opportunities which impact our ability to achieve those conditions, and priority geographies for focusing limited resources. Subsequently, the plan details how MDC and partners intend to use limited existing resources to address assessment findings in order to maintain the health and productivity of our forests so they can continue to provide us with the ecological, environmental and economic benefits our society has come to expect from them.

During FY11 potential project areas were identified that would help meet the objectives of the Forest Action Plan. We are moving forward with an effort to integrate implementation of the Forest Action Plan, the Comprehensive Wildlife Strategy and the Priority Watershed Management.

Continuous Forestry Inventory

In 2010, we embarked on a mission to better monitor MDC forestry lands. The Continuous Forest Inventory program is designed to collect and report on the condition of the forest in a statistically sound manner and report the findings annually. The demand for timely, consistent and reliable information regarding the condition of MDC forest lands is in high demand. Data from the Continuous Forest Inventory will show how much growth occurs on MDC forest lands and then compared to harvest levels to demonstrate long term sustainability. Continuous Forest Inventory will also track the status and trends in forest extent, cover, growth, mortality, habit and overall health. MDC's Continuous Forest Inventory method is par-

allel to the national Forest Inventory and Analysis program. Consequently our data can be integrated into that program as well.

The objectives of Continuous Forest Inventory are to provide the following benefits to MDC:

- Change in the forest—long term trends.
- The missing link about forest health and what is occurring over time on state land.
- Calculate allowable harvest levels, including our harvest as a percentage of our growth.
- Demonstrate that the area control method of forest management is sustainable over time
- Real time reporting capability and data to use with forest growth modeling
- Customized reports on MDC forested ownership in addition to the 26 standard Forest Inventory and Analysis reports
- Improvement of overall precision of Missouri Forest Inventory and Analysis data

The Continuous Forest Inventory project is long range in nature. Our goal is to install 462 plots over five years. In FY11, we installed 93 plots.

State forest nursery

The state forest nursery annually grows and distributes about 3.5 million seedlings of more than 60 species. The seedlings include trees and shrubs suitable for reforestation and wildlife-habitat restoration. The seedlings are planted on both public and private land statewide. The nursery filled more than 9,600 orders involving more than 38,000 packages of seedling trees, with a customer satisfaction rate of more than 99 percent. In FY11, a new irrigation system was installed to improve tree survival.

Storm-damaged timber

On May 8, 2009, a severe storm impacted the southern half of Missouri. MDC classified 113,308 acres across all ownerships as having moderate to severe blow-down damage. A conservative estimate of 204 million board feet of volume was damaged. At least twice this many acres were affected and had some damage. This is approximately one-third of Missouri's annual forest-products harvest.

On MDC lands, approximately 13,000 acres were impacted and damaged-timber volume was estimated at 33 million board feet. In FY11, 11 salvage sales were contracted covering 811 acres. To date, 31.9 million board feet have been salvaged, bringing in \$1.9 million in revenue to MDC. Salvage operations on MDC areas were completed in FY11.

An estimated 68,102 acres was affected on private land, resulting in 123 million board feet of timber damaged.

Wildfire prevention

By way of endorsing a third-party U.S. Forest Service Hazard Mitigation grant to the Southwest Resource Conservation and Development Program, MDC supported an effort to promote wildfire prevention in southwestern Missouri. This area was severely hit by the January 2007 ice storm and a subsequent tornado. Heavy wood debris in the forests of this area makes wildfire suppression much more difficult and hazardous to firefighters. Educating residents about the increased risk of fire and how to properly manage or dispose of damaged trees helps reduce fuels in areas where trees were devastated by the storms.

Funding for fire departments working with communities to implement the Firewise program is included in this grant. Fire departments are compensated for working with local communities to perform risk assessments and to apply practices to reduce their fire risk.

Forest Ecosystem Project

The Missouri Ozark Forest Ecosystem Project (MOFEP) is a landscape-scale, long-term experiment designed to study the impact of even-aged, uneven-aged and no-harvest management on flora and fauna in Missouri oak-hickory forests. Project components include determining the effects of forest management on bird, reptile and amphibian communities, small mammals, insects and vegetation.

MOFEP helps resource managers adjust and improve their management systems during the course of the project. Results thus far suggest that harvesting did not adversely affect bird, amphibian, reptile or small-mammal species, but it reduced insect herbivore diversity. Harvested sites had greater species richness and ground flora cover, including soft mast, than no-harvest sites. Even-aged and uneven-aged management increased soft mast production. Uneven-aged management increased harvest damage. Economic benefits between even- and uneven-aged management were similar.

Our understanding of the effects of management prescriptions on ecosystem components and the value of the data derived from MOFEP will grow as we continue to monitor studies.

Effects of even-aged forest management on early successional bird species—The effects of different clear-cut sizes on species richness, abundance and reproductive success of birds were evaluated on the MOFEP study sites. Species richness was higher in larger clear-cuts than in smaller openings, and size had a significant effect on the abundance of four species: yellow-breasted chat, indigo bunting, white-eyed vireo and prairie warbler. There was no observed relationship between clear-cut size and reproductive success, but this study confirmed that the rate of brown-headed cowbird parasitism is low on the MOFEP sites. The results of this study suggest that it is beneficial to have a variety of sizes of openings when designing forest management plans.

Ground flora—While the use of prescribed fire is generally considered key to woodland management, it is not possible or practical to use fire in all of the woodlands we manage. The Missouri Ozark Forest Ecosystem Project (MOFEP) is helping to determine if timber management alone can maintain woodland ground plant biodiversity. Based on research conducted from 1993 to 2009, we found that stands on which trees were not harvested were exhibiting decreases in woodland plant species richness and cover. Stands that were thinned in 1996 showed increases in species richness and cover but conditions returned to pre-thinning levels by 2009. Forest stands that had been clear-cut showed large gains in woodland plant species richness and cover following the 1996 treatment. Woodland plant species richness remained 18 percent higher by 2009, but cover had declined to levels below 1996 because of the shade created by dense stands of young growing trees. These results indicate that the short-term gains in woodland plant species diversity within clearcuts were rapidly lost without further management.

Timber sales—MDC conducted seven timber sales covering 2,352 acres in FY11. These sales brought in \$1,090,723. Harvest activities were closely supervised to assure best management practices were used.

Logger of the Year

J&G Logging from Summersville were selected as the MDC State Logger of the Year for 2011. J&G Logging was honored at the Missouri Forest Products Association summer meeting in Branson. Each year foresters from all over the state nominate loggers that excel in their profession. This year Travis Yake from Ozark was chosen as

the Kansas City Regional Logger of the Year and Woody Haynes from Winona was selected as the MDC Southeast Regional Logger of the Year.

Criteria for choosing a logger for the award require evaluating several areas. Some of the criteria include: having a good working relationship with landowners and foresters, achieving minimal damage to remaining trees and resources, managing a harvest that prevents soil erosion and desirable aesthetics of the site after harvesting was completed, working safely and demonstrating proper use of equipment, maximizing the use of harvested trees, addressing wildlife management concerns and demonstrating proper use of forest management techniques. In order to be considered, loggers must complete the Professional Timber Harvester's Training Program sponsored by the Missouri Forest Products Association and MDC.

Master Logger Certification

MDC continues to support Missouri Master Logger Certification. To participate, loggers agree to uphold the standards set by the program. The Department awarded a \$7,000 grant to the Missouri Forest Products Association to aid the program. Loggers can be removed if they do not uphold the standards of the program.

The certifying board is composed of a state legislator, a wildlife professional, a master logger from another state, a soil scientist, a representative from an environmental organization and MDC.

This program gives an outstanding logger an opportunity to be recognized and their skills showcased. It is hoped that landowners would be encouraged to engage these loggers to harvest their timber sales. The state's fish, forest, wildlife, soils, water and air are better protected when harvesting is done by a certified logger.

Timber harvesters

We work closely with Missouri's forest products industry to monitor the use of our state's forest resource. The Missouri Forest Products Association and MDC sponsor logger training courses about forest-management principles, introducing new techniques and concepts and enhancing safety. Eight workshops were held across the state, training 66 loggers in FY11. These 66 join 266 others for a total of 332 trained loggers in Missouri.

Monitoring forest health

The Forest Health Program is a cooperative effort among MDC and other state and federal agencies to conserve Missouri's forest resources by monitoring and evaluating forest health and providing forest health management information to Missouri residents. Primary threats to forest health in Missouri are oak decline, oak wilt, sporadic insect outbreaks, weather-related disturbances and introductions of exotic invasive species.

Activities that help us prepare for and respond to invasive species threats comprise a major portion of our Forest Health Program. Our primary concerns include the spread of gypsy moth, emerald ash borer, thousand cankers disease of black walnut and other pests in firewood. MDC works in partnership with other state and federal agencies to develop response plans, reduce pest introduction risks, detect introductions and provide pest management expertise. We develop materials and presentations to raise public awareness about invasive species threats.

Citizens are encouraged to report suspected infestations through a toll-free phone number, a website or a dedicated email address (*forest.health@mdc.mo.gov*). These reports are investigated by Forest Health staff. During the past year, we have placed an increased emphasis on raising awareness of the threat of pests hitchhiking in firewood and developing multi-agency policies to address this threat. In addition, staff have participated in development of a national thousand cankers disease response plan.

The Forest Health staff also provides diagnostic services on all forms of forest insect and disease agents. Forest and pest management recommendations are developed based on monitoring and diagnostic activities and provided to private landowners, MDC, forest managers, arborists and the green industry. Forest health information is also provided through workshops, diagnostic reports, magazines, the Internet, media releases and newsletters.



Preserving Missouri's Outdoor Recreation Heritage

Trout sampling

A review of our trout sampling results indicates marked improvement in the population structure of our blue ribbon trout fisheries. High annual sur-

vival rates and spawning success of trout can be attributed to recent wetter than normal years. This provides more physical habitat and cooler water temperatures for both juvenile and adult trout to survive. The Lake Taneycomo sample results were also positive. Size structure for rainbow trout was excellent and the best on record. Body condition has also improved considerably from recent years. The increase in size structure and body condition of Taneycomo trout may be attributed to increased water levels in recent years.

Quick Draw piloted

MDC implemented a new, Internet-based pilot draw system for waterfowl hunters on three of our 15 conservation areas that offer managed waterfowl hunting.

Called Quick Draw, MDC conducted this Internet-based draw system twice a week during the waterfowl season to allocate hunting opportunities at the three pilot conservation areas: Eagle Bluffs, Grand Pass and Otter Slough. The three pilot areas still offer poor-line opportunities.

Quick Draw results were discussed and evaluated following the waterfowl season and will be used again for the upcoming season on the same three waterfowl areas.

Catfish

Blue catfish sampling continues on both Lake of the Ozarks and Truman Reservoir. Information is being collected to determine the population structure and growth rates of blue catfish. A companion tagging study is also underway.

Operation Game Thief/Forest Arson

Operation Game Thief/Forest Arson continue to be successful programs that help catch wildlife poachers and forest arsonists. The programs allow anonymous callers to report violations, and callers are eligible for rewards if arrests are made from their calls. Last year Operation Game Thief (OGT) produced 302 convictions from 819 telephone calls. This 36 percent arrest rate based on calls illustrates the high-quality of information from callers and the investigative skills of conservation agents. In calendar year '10, \$12,750 in reward money was paid to callers.

Interstate Wildlife Violator Compact

Missouri is a participating state in the Interstate Wildlife Violator Compact. The compact—an organization of 36 member-state wildlife agencies—agrees to reciprocally honor revocations/suspensions of hunting, fishing and trapping privileges for wildlife-related violations.

During the past fiscal year, 1,654 people from other states had their privileges revoked in Missouri through the compact. An additional 109 were revoked for cause by the Conservation Commission in Missouri and submitted to the Interstate Wildlife Violator Compact. Participation in the compact also benefits Missourians who travel to other member states for hunting and fishing activities. If found in violation, they may be given the opportunity to resolve the citation by mail rather than being required to post a bond before leaving the member state. They are subject to revocation by all compact states if the citation is ignored.

Warm-water fish hatcheries

MDC's warm-water hatcheries produced enough fish to meet stocking needs in Missouri and provide fish for trading. By the end of 2010, 6.8 million fish were stocked in public and private waters. Among the highlights of this past production year, Lost Valley and Blind Pony hatcheries collectively produced 890,435 hybrid striped bass for our Missouri reservoirs. Blind Pony also produced and stocked 2,974 pallid sturgeon and 38,000 paddlefish for Table Rock Lake, Truman Lake, Lake of the Ozarks and the Black River. Chesapeake produced and stocked more than 99,000 channel catfish statewide. Chesapeake also produced 12,600 advance-sized largemouth bass. Lost Valley produced more than 5,500 muskie for stocking in Pomme de Terre, Hazel Creek, Fellows Lake and Busch Area Lake 35. Hunnewell produced more than 6,000 hybrid sunfish for use in our kid's fishing clinics. Almost 74,000 channel catfish were harvested and distributed from the Lake Paho area ponds. Mature walleye were captured from Bull Shoals and Lake of the Ozarks and transported to Lost Valley and Chesapeake hatcheries. We had a good year of walleye production. As a result we were able to send 1.1 million surplus fry to the Arkansas Fish and Game Commission. In return from Arkansas, we received 5,328 grass carp fingerlings, 1 million hybrid striped bass fry and

800,000 striped bass fry. Almost 3 million fry and more than 2 million fingerlings were stocked in Missouri lakes and one river.

Several hatchery projects continue to span multiple years. The small pond harvest kettles were replaced at Blind Pony. Chesapeake improvements included an update to their 20-year-old pond monitoring system, flow meters for 12 of the rearing ponds and conversion of a well pump from diesel to electric. The under drain system for 44, 1-acre and 8, 0.5-acre rearing ponds at Lost Valley was replaced. Lost Valley also received a new roof on their main building. The water intake structure from the lake was replaced at Hunnewell.

Opening day at the Trout Parks

There were 6,360 anglers (total for all the trout parks combined) who participated in the March 1 trout season opener. Stocking occurs ahead of the opener with a ratio of at least three trout per anticipated daily tag sold, including an extra measure of lunker fish to add to the excitement. The stocking rate returns to 2.25 fish per daily tag sold for the rest of the season. No attendance records were set due to a weekday start.

Cold-water hatcheries floods

- **Shepherd of the Hills Fish Hatchery**
A six day rain event in the Table Rock watershed last April resulted in excess dam discharges. The U.S. Army Corps of Engineers notified the hatchery of a potential dam release of 80,000 cubic feet per second (cfs), virtually double the previous record release in 2008 of 48,000 cfs. Staff moved trout from lower raceways to higher elevation raceways, redistributed water discharges, moved equipment, eliminated power to the waste lift stations, chained propane tanks and salvaged area signage. The highest actual discharge from generation and flood gates was 68,000 cfs. Table Rock Lake crested at 935.47. In addition, staff were able to save about 300 rainbow and brown trout stranded in road ditches and low lying areas in the backyards of flooded houses. The rains came again, dumping more than 6 inches of rain in just a few days. On the Sunday of Memorial Day weekend, staff rescued approximately 500 more stranded trout and returned them to Lake Taneycomo.
- **Montauk Fish Hatchery**
Montauk experienced five high water events in less than a week in late April as a result of

10.2 inches of rain. This is a new record for the most flood events of this size in a period of four days. Hatchery improvements were put to the test. Raceway water was recirculated for 80 hours. Recirculation was used again for another 13 hours near the end of the flood event. The ability to recirculate water and inject oxygen at the mill raceways allowed us to keep oxygen levels at or above 9 ppm and water temperatures at or below 57 degrees. No fish were lost. A tremendous amount of debris was also kept out of the raceways. We did experience a loss of power, but the auxiliary generator provided power as planned. Stocking roads were damaged, however, temporary repairs allowed access for stocking most of the stream.

- **Roaring River Fish Hatchery**
A 6-inch rain followed 3.57 inches the day before in late April. The new driveway completed just a week prior received major damage. The hatchery building had two feet of water, but the trout fry were not lost. Some instream habitat projects and streamside access were damaged, but working with our partners at the Department of Natural Resources, initial repairs were quickly completed to the benefit of anglers.

Urban fishing

MDC strives to provide high-quality fishing opportunities for all Missourians, including those living in urban areas. With our current economic conditions, it has become even more important to provide close-to-home fishing opportunities. During 2010, more than 52 urban lakes were managed for fishing. More than 125,082 keeper-sized fish were stocked in these lakes; this included 75,001 channel catfish and 50,081 rainbow trout.

Hunting and fishing opportunities

During the past fiscal year, we issued 3,738 hunting-method exemptions to help disabled hunters enjoy Missouri's outdoors. We also issued 382 group-fishing permits to help Missourians who otherwise might not be able to participate and learn about outdoor fishing activities.

Angler recognition

MDC presented a First Fish certificate to 295 anglers. MDC issued new state records to anglers catching flathead catfish, blue catfish, shortnose gar, gizzard shad and northern hog sucker.

Kids' Fishing Days at the trout parks

For the ninth consecutive year, Kids' Fishing Day was held at the trout parks. Combined attendance of those 15 years of age or younger at the May 2011 events held at Bennett Spring, Maramec Spring, Montauk and Roaring River was 3,279.

Potential state record muskellunge

In our samples over the last several years, we have been seeing 46- to 49 ½-inch muskellunge. Then while sampling at Fellows Lake last spring, Department staff captured a 51-inch fish—a Missouri first. The current state record for muskellunge, 49 ½ inches, has stood for 30 years. Muskellunge are managed as a bonus species for anglers at Pomme deTerre, Hazel Creek Lake, Fellows Lake and Lake 35 (Busch Conservation Area).

Trout program

In 2010, cold-water hatcheries produced 1,321,412 trout. These fish were distributed in 5 trout parks, 12 stream special management areas and Lake Taneycomo. There were 337,986 daily adult and 66,933 daily youth tags sold. Anglers purchased 92,536 trout fishing permits.

Walleye

Anglers provided information about their walleye fishing trips to Bull Shoals. Regional staff analyzed fishing diary information collected by the Twin Lake Walleye Club. Participants in the effort reported 138 trips to Bull Shoals Lake with a total of 584.4 fishing hours. A total of 780 walleye were caught, of which 31 percent were legal. The average length for all walleye caught was 17.3 inches. Total walleye angling catch rates were 1.33 fish/hour and 0.42 fish/hour for legal-sized fish. Anglers documented that 42 percent of all legal walleye were harvested. The group also saved 195 walleye heads that can be used by MDC to obtain age and growth information.

Catch a rainbow

MDC assisted with a hopefully once in a lifetime event for the children who were affected by the Joplin tornado. The Joplin tornado upended a lot of children's lives through injury, lost homes, lost parents or lost siblings. The National Wild Turkey Federation chapter from McDonald County organized the event with the participation of many local agencies and businesses. The event was held

at the Neosho National Fish Hatchery. Many had never caught a fish before, and it was good to see their smiles and hear their laughter as they played and put their reality aside for a moment.

The Fall Classic of Fish Culture

The Lake Paho Rearing Station and Chesapeake Hatchery hosted annual fish harvest events to distribute channel catfish to public lakes across Missouri. In the fall of 2010, staff spent four days to harvest and distribute more than 161,541 catfish to more than 300 locations from the two facilities.

Archery in schools

Missouri students in grades 4–12 learn target archery in class in the Missouri National Archery in the Schools Program (MoNASP). The number of school enrolled in the program has grown tremendously since MoNASP began in 2007. There are now 186 schools in the program. As of this year, more than 83,000 students have participated in the program. More than 30,000 students participated in MoNASP this past school year. The National Archery in the Schools Program has proven to improve kids' lives not only at school, but also at home and in the community.

This year four regional tournaments were held with more than 700 participants. The MoNASP state tournament held at Linn State Technical College had more than 850 participants. For the past three years, Missouri kids have also participated in national and world tournaments. In May 2011, more than 280 Missouri students travelled to Louisville, Kentucky for the National Tournament. Many schools receive reimbursement grants up to \$500 toward approved archery equipment.

GO FISH!

The Go Fish! Program was presented to about 100 Boy Scout Leaders in the St. Louis area. A process was established to verify enrollment and attendance to earn the fishing merit badge. Boy Scouts who attend all seven hooks of the program will meet the requirements for the badge. Ozark Fly Fishers contributed to the Go Fish! Program by purchasing and organizing supplies for use during the winter trout fishing season. Ozark Fly Fishers provided additional support by providing all the volunteers, teaching the modules and maintaining equipment and supplies. In 2010, 1,079 students participated in 642 programs. Participants are expected to attend multiple programs.

New hunters and anglers

MDC and volunteers provided more than 2,030 programs with instruction in hunting, fishing, trapping and shooting sports. More than 114,000 people took part in these programs, which were aimed at increasing participation in and knowledge of traditional outdoor recreation. We offered about 877 Hunter Education classes, certified 22,852 students and began an online Hunter Education training. The online course, coupled with a five-hour field day, provides an alternative to the traditional 10 hours of lecture. It offers flexibility to busy people who want to meet the Hunter Education requirements. More than 130,000 visitors attended programs or practiced firearms and archery shooting at our five staffed shooting ranges and 75 unmanned shooting ranges.

Cold-water hatcheries renovations

- **Maramec Spring Fish Hatchery**
Staff retrofitted an overshot rolling screen for use in the round pool to keep the fish in place. The new one is self-cleaning and should be maintenance free. This improvement was needed to discontinue the full time staff coverage at the hatchery. Two of the original log structures in the spring branch failed. They were replaced with rock check dams.
- **Roaring River Fish Hatchery**
Phase one of the renovation was the construction of a new feed storage facility, a three bay shop with a workshop area and storage building. The new building has a concrete dock to allow trailer trucks easy access. The old feed room was converted to storage. Phase two was a complete hatchery office renovation. The building now includes two offices, laboratory, reception area, shower area, kitchen and a conference room. It was wired with state-of-the-art communication cable and a new phone system was installed.



Teaching Missourians About Fish, Forest and Wildlife Resources

Forestkeepers

The Missouri Forestkeepers Network is a volunteer, self-driven network of people interested in forests and forest monitoring. More than 2,400 individuals, groups and organizations were enrolled in the program in FY11. Members contrib-

uted 17,933 hours of volunteer time that can be valued at \$373,903 using the Independent Sector's value for volunteer time.

In FY11, Missouri Forestkeepers Network focused efforts in outreach to members to provide technical information, presenting annual awards for outstanding volunteer efforts and expanding the Heritage Wood program launched summer 2010. The Heritage Woods program was developed to appeal to landowners who are not interested in or not eligible to participate in other recognition programs. In FY11, 69 applications were received and 66 landowners enrolled in the free program.

Fire-suppression training

MDC supports volunteer fire departments in many ways. One way in particular is by providing annual wildland fire-suppression training to fire departments throughout the state. We conducted 23 sessions and trained more than 477 local firefighters in fire behavior, suppression techniques and safety at no cost to the fire departments or the volunteers. In addition, we also provided instructors and logistical support for the Midwest Wildfire Training Academy held in Jefferson City each year. This academy draws thousands of participants from throughout the state and the Midwest.

Discover Nature Schools

Discover Nature Schools helps teachers engage students in hands-on, outdoor, place-based learning. In 2011, more than 78,000 Missouri children were connected with nature through various Discover Nature Schools instructional units and grants. Thus far, 95 school districts adopted the elementary habitats unit, 115 districts taught the middle-school aquatic unit and 24 districts adopted the high school ecology unit. An additional 76 schools engaged students in learning about Missouri's fish, forest, wildlife or natural habitats through our Conservation K-3 Field Trip Grant. This year a kindergarten through second-grade unit was completed, and a pre-kindergarten unit is in development.

Along with student books and teacher guides for each unit, we provide grants for exploration equipment, outdoor classroom materials and field experiences. Conservation grants supporting Discover Nature Schools totaled \$268,909 and provided multiple opportunities for students to enjoy and learn about nature in nature.

Citizens enjoying nature

More than 850,000 visitors explored the trails, programs and exhibits at our conservation nature and education centers throughout the state. Discover Nature programs for women and families provided special opportunities for Missourians to learn new ways to enjoy the outdoors.

Natural communities

In FY11, MDC published the book *Discover Missouri Natural Areas—A Guide to 50 Great Places*. The 2011 *Missouri Natural Areas Newsletter* is also available on MDC's website. Both of these outreach efforts promote the natural areas program and the conservation of natural communities to both citizen conservationists and partner agencies and organizations. In addition, in FY11 the Missouri Natural Areas Committee hosted the 37th annual Natural Areas Conference held in Missouri on Oct. 26–29, 2010. This national conference brought together 400 conservation biologists, natural area managers, academicians and students to discuss and learn about the latest in natural community restoration and ecology; rare, threatened and endangered species recovery and biology; invasive species control and biology; and habitat assessment and management.

Free trees promote forest awareness

In conjunction with the Missouri Department of Transportation, we provided free trees to many nonprofit groups. Scout troops, stream teams, school groups, conservation groups and communities used them for tree-planting projects in both urban and rural areas. This program enhances the ability of both agencies to promote an awareness of Missouri's forests and to increase citizens' understanding of the many benefits trees provide.

For Arbor Day 2011, we distributed seedling trees to more than 102,000 fourth-grade students throughout the state. To better match tree to planting location, each region selected the tree to be shipped to schools in their area. Six different types of trees were distributed.

Social media

Social media plays an increasing role in sharing MDC information with Missourians, along with others around the country and world. The Department's Facebook page reaches almost 1.5 million people per month from more than 33,000 fans who

then share our information with their hundreds of thousands of online friends. Our Twitter feed has more than 1,600 followers who then pass MDC tweets along to thousands more. MDC's YouTube channels average about 140,000 views per month with more than 5 million total views. MDC online photos through Flickr offer about 1,500 images, which have had more than 25,000 views. To follow MDC on Facebook, Twitter, YouTube or Flickr, or to receive RSS feeds, visit www.mdc.mo.gov and click on the icons at the bottom of the page.

Grow Native!

Grow Native! is a program of the Missouri departments of Conservation and Agriculture, with help from the Missouri Botanical Garden's Shaw Nature Reserve. Workshops for the public and landscape professionals continue to be an important part of the program. In partnership with local community colleges, four Landscape Design with Missouri in Mind workshops were delivered in Farmington and Lee's Summit. Through the Landscape Challenge, two landowners in St. Joseph and St. Louis had part of their yards replanted with native plants.

Master Naturalist

The Master Naturalist program conducted seven training courses last year, adding another 175 participants to this community-based, volunteer service program that totals 680 people and 11 chapters. The St. Louis regional Chapter association hosted the annual state conference and advanced training at Cuivre River State Park. It was attended by more than 200 volunteers. A Leadership Academy was initiated this year that provided organizational development training for small teams from each chapter. A new chapter also started in St. Joseph. Volunteers participated in more than 8,000 hours of advanced training and donated more than 36,000 hours of volunteer service.

Xplor kids' magazine

Targeted to Missourians age 7–12, *Xplor* magazine aims to connect kids with nature using fun, interesting stories, art and photography. The free bimonthly magazine and companion website were launched in February 2010. At the end of FY11, subscriptions to the magazine were at 80,000 and are slated to surpass 100,000 in the first quarter of FY12.



Supporting Conservation in Our Communities

Venison donation

Conservation agents coordinate and support the Share the Harvest program with the Conservation Federation of Missouri, local charitable organizations and local meat processors. Together these groups have supported the donations of more than 256 tons of meat during the past two years. In FY11, approximately 5,731 hunters donated 305,643 pounds of venison to less-fortunate Missourians. Since the inception of the program, nearly 2.1 million pounds of deer meat have been donated to Missouri citizens. Hunters who wish to donate their entire deer may receive a \$60 reduction in the processing price. The \$60 is paid by the Conservation Federation of Missouri. Hunters also may designate part of their deer to be donated to the Share the Harvest program.

St. Louis Stewardship grants

The Community Stewardship Grant Program awarded \$49,907.78 to fund eight grant projects:

1. The College School, LaBarque Creek Restoration. \$ 6,537.78. The restoration project is located in a high priority watershed for MDC.
2. St. Louis County Parks. McDonnell Park Forest and Prairie Restoration. \$7,500. St. Louis County's McDonnell Park contains an 11 acre parcel that the Park Department plans to manage as wildlife habitat. The Parks Department is committing significant resources to the project and is working with a neighboring school that uses the area as an outdoor classroom.
3. Ferguson- Florissant School District. Little Creek Nature Area Terrestrial Habitat Restoration. \$7,500. Funds will be used to remove bush honeysuckle from 7 acres of forest and replant with native plants. This effort is a strong collaboration among agencies and community organizations who have committed more than \$300,000.
4. Town and Country Parks and Recreation. Discover Nature's Natives in Town & Country Parks. \$7,500.00. Funds will be used to remove and replace bush honeysuckle with native plants to improve habitat in three city parks.
5. River Des Peres Watershed Coalition, Riparian Habitat Restoration in the River Des Peres Watershed. \$7,500. Funds will be used to remove

and replace bush honeysuckle, Japanese knotweed and Johnson grass with native plants in the area alongside River Des Peres.

6. St. Charles County Parks, Towne Park Pond Habitat Improvement. \$5,500. Funds would be used to enhance the aquatic habitat of a small pond. Master Naturalists have committed volunteer time to this project.
7. South Grand Community Improvement District, South Grand Rain Garden Education & Upkeep. \$5,500. This area of St. Louis City is part of a "Great Streets" initiative to retrofit infrastructure to include bioretention areas and rain gardens. This is a massive effort in a highly visible area.
8. The Freedom School, The Freedom School Outdoor Extension & Enhancement Project. \$2,370. This private, urban school has an existing program to restore portions of school grounds to prairie and install a rain garden to collect storm water from the school roof. Funding will be used to purchase herbicide and native plants.

Volunteer fire departments

MDC, in cooperation with the USDA Forest Service, provided \$372,434 in grants to 185 volunteer fire departments. These grants help fund protective clothing, equipment and training.

We also provided equipment to fire departments through two federal programs. With the Federal Excess Property Program, which we are phasing out, we obtained equipment valued at \$165,000. The new Fire Fighter Program obtained equipment valued at \$12,615,667. Coordination of these programs is managed by our Rural Forest Fire Equipment Center located in Lebanon, Mo.

Community fisheries assistance

Through the Community Assistance Program (CAP) and the closely related Corporate and Agency Partnership Program (CAPP), MDC enters into agreements (usually 25-year) with cities, counties, state and federal agencies, businesses, foundations, schools and colleges. Under these agreements, MDC provides fisheries management at existing lakes and ponds and cooperatively develops and maintains facilities for anglers and boaters at lake and stream areas. MDC has agreements with 118 partners for the cooperative management of 170 public lakes (9,690 acres of water), 42 stream-access areas, four lake-access areas and nine aquatic resource education ponds.

MDC and its partners constructed fishing and motorboat access facilities at Joshua T. Chilton Memorial Access (Eminence, Shannon County), Lancaster City Lake (Schuyler County), Pine Ridge Lake (Salisbury, Chariton County) and A. Perry Phillips Park Lake (Columbia, Boone County). MDC executed a new agreement with Raymore (Cass County, one lake, 12 acres) for cooperative management of public fishing; and renewed the agreements with St. Louis County (11 lakes, 481 acres), Fredericktown (Madison County, one lake, 140 acres) and Clarksville (Pike County, Mississippi River access) for facilities development and cooperative management.

County Aid Road Trust

The County Aid Road Trust (CART) program enables MDC to cost share roadway maintenance with counties and other local area governments statewide. The program is designed to support maintenance of roads accessing department areas. While not all roads are eligible, the program annually provides about \$400,000 throughout the state.

Agent outreach efforts

Conservation agents represented MDC at 4,784 meetings with civic groups, schools, church groups and a wide variety of other organizations. Agents completed 6,528 radio and television programs, published 3,034 newspaper articles and conducted 1,297 public exhibits. As part of their community relations efforts, agents contacted more than 521,529 citizens and answered 11,672 phone calls.

Community conservation planning

Community Conservation Planners (CCPs) help communities create quality habitat for people and nature. They work with local governments, organizations, developers and citizens to integrate natural resources with the built environment to the benefit of both. Missouri's fish, forests and wildlife face habitat loss due to conventional development practices. Only when conservation needs are a key part of planning for community growth can we protect these valuable resources and improve the quality of life for present and future Missourians.

During FY11, CCPs reached 870 participants through 16 workshops; made 1,187 contacts with community organizations, partnerships and local governments; and responded to 648 inquiries. They assisted with conservation efforts at 12 Conservation Opportunity Areas and provided recom-

mendations and/or assisted with implementation of plans that affected 146 acres in urban and suburban communities. CCPs brought conservation information to 1,126 people through seven special events. These special events involved educating more than 3,000 people about rivers, aquatic wildlife, pollution and other conservation information.

Objectives for CCPs include: 1) Encouraging the integration of the built and natural environment in community planning; 2) Facilitating the conservation and restoration of native habitats for their social, economic and environmental services and 3) Advancing stormwater management that minimizes negative impacts to aquatic resources.

Outstanding forest stewards

MDC and the Missouri Community Forestry Council jointly sponsored the Missouri Arbor Award of Excellence program. This program recognizes those throughout the state that act as good stewards of their tree resources. Award categories include municipalities/governments, organizations, individuals and businesses. Those earning recognition in FY11 for their sustained effort to care for our community forests include the city of Hannibal, Missouri University of Science and Technology-Custodial and Landscape Services, Forest ReLeaf of Missouri and the Kirkwood Urban Forestry Commission - Junior Treekeeper Program. In addition, Raytown Tree Board was recognized with a Citation of Merit.

Community tree care recognized

In partnership with The National Arbor Day Foundation, MDC recognized 81 municipalities as Tree City USA communities. Four Standards must be met for a community to be certified as a Tree City USA. Those four Standards are 1) Have a tree board or forestry department, 2) Adopt an ordinance that outlines how trees on public property will be managed, 3) Spend a minimum of \$2 per capita on tree management and 4) Celebrate Arbor Day. Most Missouri communities far exceed these requirements with an average of \$7.77 per capita spent on tree care. A little more than 44 percent of Missouri's population lives in a Tree City USA community. Communities participating in this program range in size from Kansas City, with a population of 441,545, to Augusta, with a population of 218. Eleven communities invested time and effort to initiate or significantly improve existing tree programs, earning a Tree City USA Growth Award.

Kansas City deer management

MDC orchestrates 93 archery deer hunts in Kansas City, Mo. on approximately 14,830 acres of private and city owned land. Around 600 hunters participated in the hunts and harvested 559 deer. The partnerships aid urban deer management and increase public hunting opportunities.

Community tree care

Interest in the Tree Resource Improvement and Maintenance (TRIM) cost-share program continues to be strong as Missouri towns have experienced numerous severe weather events. The damage that publicly owned trees have sustained from the string of ice storms, high winds, flooding and/or straight-line winds has been phenomenal and has generated increased interest in tree care.

In FY11 we received 53 applications requesting \$423,267 in funding. A total of \$206,386 of MDC dollars was spent funding the 31 best applications. Successful applicants receive 60 percent or 75 percent of their total project in cost share within specified limits. The balance of the project was provided by the applicant as the local share. In FY11 applicants matched the MDC contribution by 48 percent providing \$194,059 in local match.

Fuels for Schools Grant

Nearly \$6 million in grants helped selected school districts reduce energy costs and create jobs by using wood products for heating and cooling. MDC in cooperation with the USDA Forest Service's State and Private Forestry program granted nearly \$6 million to six school districts for Fuels for Schools projects. The grants were funded through the American Recovery and Reinvestment Act.

These grants funded the installation of woody biomass boiler systems in schools to demonstrate small-scale bioenergy use and to demonstrate how this type of technology can lead to healthier forest conditions. Grant recipients were selected based on economic needs, dependence on the forest products industry, project feasibility and the ability to implement the project quickly, proximity to the public and private forestland and partnerships with other public entities that could benefit from the biomass energy system.

Schools selected to receive a grant included Perry County 32 School District, Steelville R-III School District, Gainesville R-V School District, Eminence R-1 Elementary, Southern Reynolds County R-II School District and Mountain View—

Birchtree Liberty High School. This grant did not require a match from the school district. By the end of the fiscal year all of the schools had completed a substantial portion of their project. All work will be completed by October 2011.

Utility providers recognized

In partnership with The National Arbor Day Foundation, MDC recognized 11 utility providers as TreeLine USA companies. Five Standards must be met in order for a utility provider to receive certification. Those five Standards are 1) Providing quality tree care 2) Annual worker training 3) Community tree planting and public education efforts 4) Tree-based energy conservation programs and 5) Arbor Day observance.

Tree Campus USA

MDC is proud to have three Tree Campus USA certified colleges for FY11. Saint Charles Community, Washington University and William Woods University have all completed extensive work to meet the Arbor Day Foundation's five standards required for certification. Those five standards are 1) Tree advisory committee, 2) Tree care plan, 3) Tree program with dedicated annual expenditures, 4) Arbor Day observance and 5) Completion of a service learning project which engages the students at the institution in tree management. These three institutions spent a total \$169,878 on tree care where a total of 27,000 students are enrolled.

Community Forestry Council

The Missouri Community Forestry Council, with financial and technical assistance from MDC, continued to actively support community forestry programs in the state. The council played a big part in using volunteers to educate the public about community forestry programs. The council's primary focus this year has been on obtaining self-sufficiency and improving the skill level of municipal tree managers.

The annual conference was held in Kirksville, attracting 103 people. Educational activities this year include maintenance of the organization's website, improving and hosting the statewide Arbor Day Poster Contest for fifth-grade students and displaying materials at statewide events like the Missouri Municipal League annual conference.

Firewise Communities

The Redings Mill Fire Protection District includes the nine communities of Cliff Village, Dennis Acres, Grand Falls, Leawood, Loma Linda, Redings Mill, Saginaw, Shoal Creek Estates and Silver Creek. Thanks in large part to efforts by the fire protection district these nine communities are the first in Missouri to be recognized nationally as Firewise USA communities.

Firewise Communities USA is a National Fire Protection Association program co-sponsored by the U.S. Forest Service, the U.S. Department of the Interior and the National Association of State Foresters. The program goal is to promote community participation in the use of technology, policy and practices that minimize the loss of life and property to wildfire, independent of firefighting efforts.

To qualify as a Firewise Communities/USA, a community must have met four standards. They are 1) Complete a community assessment and create a plan, 2) Form a Firewise Board, 3) Hold a Firewise Day event and 4) Invest a minimum of \$2/capita in local wildfire mitigation projects.

Joplin tornado assistance

Missouri experienced several natural disasters in FY11, but the devastation of the EF5 tornado that struck Joplin was unparalleled. MDC assisted in emergency response by providing chainsaw crews and assessing trees in the heart of the tornado's path. These efforts required collaboration with the cities of Joplin and Duquesne and agencies including the U.S. Army Corps of Engineers, Missouri National Guard, State Emergency Management, Federal Emergency Management to name a few. Numerous educational tree programs were offered focused on helping citizens assess their trees.



Helping Private Landowners Advance Conservation

Technical assistance to landowners

MDC provided timely and responsive service through approximately 73,519 rural and urban landowner contacts, including more than 5,500 on-site landowner visits. Technical assistance was offered to landowners who wanted help with habitat management plans. Staffers also answered 4,932 requests for wildlife nuisance or damage assistance, including 1,000 on-site visits. A survey

completed in 2010 indicated that more than 90 percent of our cooperators were very satisfied with the assistance they received.

Conservation agents provide technical assistance as well. During FY11, agents made 17,281 resource management contacts. They delivered 34,810 pounds of food-plot seed (obtained from free sources) to 300 Missouri landowners. Agents also assisted landowners with wildlife nuisance and damage problems.

Agricultural conferences

In an effort to connect with key agricultural leaders and agri-business in the state, MDC participated in all major agricultural conferences and trade shows. In addition to events such as the Farm Bureau Annual Conference, Governors Conference on Agriculture, Missouri State Fair and the Missouri Cattle Industry Annual Convention, MDC also supported technical efforts in partnership with agricultural commodity organizations.

Wildlife damage management

The Wildlife Damage Management Program provides technical advice to landowners experiencing wildlife conflicts. This is done through phone calls, mailings, workshops and on-site visits. This program directly serves more than 4,600 Missouri landowners annually. Wildlife damage biologists also assisted with projects such as the Cable Restraint Program, black bear research and elk reintroduction. The program also represented MDC on committees such as the Nuisance Urban Goose Implementation Team, the Feral Hog Task Force and the Mountain Lion Response Team.

The Wildlife Damage Management Program maintains partnerships with other agencies and organizations including the Missouri Trappers Association, USDA/Animal and Plant Health Inspection Service—Wildlife Services, Missouri Department of Agriculture, Missouri Department of Natural Resources and the USDA Forest Service.

Habitat Challenge Grant

The Habitat Challenge Grant (previously the Bobwhite Quail Challenge Grant) was established in 2007. The purpose of the grant is to encourage conservation organizations interested in creating and improving early successional open land habitat to form partnerships with private landowners statewide. Cost share is provided to private landowners for a variety of conservation practices that

will develop the targeted habitat. In FY11, more than \$130,000 was granted to four conservation partners: Quail and Upland Wildlife Federation, Pheasants/Quail Forever, the National Wild Turkey Federation and Quail Unlimited. These organizations matched the grants 1:1 to make more than \$260 million dollars available to landowners.

Purple loosestrife control

The annual Purple Loosestrife Control Program helps to keep the impact of invasive wetland plants to a minimum. During 2010, MDC worked with private landowners in the Kansas City zone, Central zone and Northeast zone. Spray crews visited 86 sites ranging in size from a few individual plants at some locations to about 3,500 acres. All control efforts were conducted on private land.

Bradford Farm

Since 2004, MDC has collaborated with the University of Missouri Bradford Farm to develop quail friendly demonstrations and management practices. Bradford Farm staff not only establish and maintain the demonstration plots, but also prepare and conduct an annual quail field day each June. About 150 people come each year from all across Missouri and several neighboring states to the field day. Bradford Farm staff give tours that include the wildlife demonstrations to more than 5,000 other agriculture producers and agriculture industry representatives throughout the year. We have reaped additional dividends with this partnership as the farm now has established a field border study to promote the economics of wildlife field borders to farmers. They are also involved in a pollinator habitat study and a number of biofuels studies looking at wildlife friendly mixes of biomass crops.

MDC's role is primarily to provide planning assistance to Bradford Farm staff for quail habitat restoration. We staff some of the tour stops during the field days and provide input for studies being conducted on the farm.

Timber harvest grant

In FY10 the Natural Resource Conservation Service awarded MDC a \$386,000 National Conservation Innovation Grant to establish a trial cost-share program. This cost share is a partnership between landowners and loggers to help pay for the installation of Best Management Practices to prevent soil erosion on private land timber sales. In FY11 the target area was expanded from six counties to

15. The counties included are Carter, Shannon, Ripley, Wayne, Reynolds, Iron, Oregon, Howell, Texas, Madison, Bollinger, Dent, Crawford, Washington and Butler. In FY11 four projects were completed providing \$20,255 in cost share.

Partnerships support landowners

MDC had approximately 60 partnership agreements in FY11 with federal, state and non-governmental organizations. These relationships helped MDC enhance technical and financial assistance and equipment support to landowners interested in improving fish, forest and wildlife resources. Through the partnerships, we assisted Missouri USDA with developing and applying \$150 million in Farm Bill conservation programs. We also leveraged staffing, equipment and enhancement funds with partner organizations.

Grants target susceptible habitats

In 2011, Missouri received two out of the 31 nationally awarded Cooperative Conservation Partnership Initiative grants. The first grant provides \$575,000 over the next five years to assist landowners within selected Conservation Opportunity Areas in Ste. Genevieve, St. Francois and Iron counties to restore glades, woodlands and associated natural communities for wildlife habitats. The second grant covers selected conservation opportunity areas within Reynolds, Shannon and Carter counties. Over five years, \$625,000 will be available to landowners who are interested in improving the quality of working grazing lands, forest land and glade/woodland natural communities.

Call Before You Cut

Call Before You Cut, a voluntary forest landowner information program, was launched in May 2009. Landowners are urged to call a toll-free phone number or visit a website to receive information about the benefits of involving a professional forester in the management of their forest lands. Information was requested by 81 landowners covering 7,968 acres this year. Since the program's inception 206 landowners who control more than 19,900 acres of forest have been sent information.

Habitat-management workshops

MDC conducted or participated in more than 700 habitat management workshops for private landowners. More than 43,000 people attended the workshops that focused on management tech-

tics to benefit early successional wildlife such as quail, rabbits and grassland birds. Wildlife damage biologists gave 76 public programs on trapping and damage prevention to 7,470 participants.

Wetland restoration assistance

Since 1992, MDC has assisted the U.S. Department of Agriculture Natural Resources Conservation Service in restoring critical wetland habitat back into the agricultural landscape. Over the past two years, Missouri has received approximately \$43 million to assist landowners in wetland restoration. To date, Missouri has recorded 1,000 easements covering 139,815 acres through the Wetland Reserve Program. The majority of these easements are permanent. These restored wetlands not only provide critical habitat, but also store water during flood events—alleviating pressure downstream on levies, communities and agricultural crops.

Private lake and stream management

We responded to 4,873 requests for watershed, floodplain, riparian corridor, stream or lake management information and/or technical assistance. We made 704 on-site visits and wrote 102 recommendation letters or management plans. On-site work included 107 fish-population surveys, 133 stocking inspections, 23 renovations and 63 fish-kill investigations. Staff conducted 17 stream or lake management workshops attended by 520 people. We also coordinated or participated in 27 active watershed-focused resource-management projects.

Farm Bill conservation programs

Through CP33, or Habitat Buffers for Upland Birds, more than 34,000 acres of native-grass field borders have been established along crop field edges. Under CP33, landowners receive cost share for establishing vegetative cover and an annual rental payment. Approximately 13,100 acres of Missouri's allocation remains, proving the popularity of this program. As a part of a national monitoring project, MDC is sampling quail and songbirds on 60 fields enrolled in CP33 and 60 fields not enrolled. Nationwide, quail and several songbirds have responded positively to CP33 compared to crop fields without buffers.

In 2008, the USDA Farm Service Agency announced the State Acres for Wildlife Enhancement (SAFE) practice of the Conservation Reserve Program, which will bring an additional 21,600 acres of quail friendly habitat to Missouri. This new practice provides cost share, incentives and

annual rental payments for landowners interested in creating habitat for quail, prairie chickens and other declining wildlife. SAFE or CP38 already has resulted in 18,703 acres of quail and grassland bird friendly habitat. The practice is also targeting greater prairie chicken focus areas in southwest and northwest Missouri and sand prairie restoration efforts in southeast Missouri.

The USDA Natural Resource Conservation Service held statewide sign-ups for the Environmental Quality Incentive Program (EQIP) and Wildlife Incentive Program (WHIP). Since 2008, more than \$11 million in cost share has been provided to Missouri landowners to improve forests and habitats for wildlife. In fact, since 2008 almost \$3 million in cost share was allocated to landowners through EQIP and WHIP for forestry related practices alone. Through both programs, field staff provide technical assistance to private landowners and USDA staff responsible for implementing prairie, glade, savanna and woodland restoration projects, developing forest stewardship plans and enhancing quail habitat. Since 2002, more than 10,000 acres of prairie, glade, savanna and woodland have been restored through EQIP and WHIP on private land.

In 2010, Missouri was the northern most state with the opportunity to be involved in the Migratory Bird Habitat Initiative. The initiative was developed in response to the Deepwater Horizon oil spill in the Gulf of Mexico with the objective to provide habitat and foraging refuge for migrating waterbirds headed towards oil impacted habitat. The initiative provided \$1.27 million to assist Missouri landowners with implementing early successional management practices on existing WRP easements and another \$3.77 million to assist with costs associated with flooding a total of 76,000 acres of harvested crop fields in order to provide foraging habitat.

Forest and Woodland Association

The Forest and Woodland Association of Missouri is a membership based organization launched in 2010. Any Missourian with an interest in trees, forests and forest management is invited to participate. The association provides members an opportunity to network, receive training and respond to emerging forestry issues and challenges. A cooperative agreement between MDC and the association was finalized in FY11 providing \$30,000 in support. MDC's greatest efforts have been to explore a partnership with the Conservation Federation of

Missouri and to secure funding from the national American Tree Farm program. A search for an Executive Director was begun late in FY11.



Serving Nature and You on Conservation Areas

Golden Anniversary Wetlands

MDC continues to rehabilitate five of our oldest wetland management areas (Fountain Grove, Duck Creek, Montrose, Schell-Osage and Ted Shanks conservation areas). Ted Shanks Conservation Area (CA) restoration is complete and future development plans are underway for sections owned by the U.S. Army Corps of Engineers. Work at Fountain Grove CA is nearing completion and initial planning efforts are underway at Montrose CA. The use of Light Detection and Ranging (LiDAR) at Duck Creek CA has proven to be a valuable tool. The ability to locate historical wetland features and model sheet flow has allowed a more efficient placement of water control structures to mimic natural water flow while reducing infrastructure.

Forest and woodland improvements

We conducted forest and woodland habitat improvements on 22,289 acres of state land. This included thinning young trees on 2,730 acres, post-sale cultural work on 2,007 acres, prescribed fires on 9,356 acres, 186 acres of tree planting and harvest of 8,010 acres. Area plans were written on six conservation areas totaling 4,161 acres and 14,085 acres of forest land were inventoried. Salvage sales from conservation areas as a result of the May 8, 2009, wind event were completed.

Land management

MDC has maintained a high level of active management on MDC lands—especially for quail and grassland birds. During FY11, we conducted habitat management activities on nearly 185,000 acres of public land to including 43,000 acres of wetland, 21,000 acres of woodland/forest/savanna, 76,000 acres of cropland (64,000 acres through permittee farmers and 12,000 acres in food plots), 24,000 acres of grassland/prairie, 20,000 acres of old fields and 1,000 acres of glade

Forest Best Management Practices

Implemented and maintained soil and water conservation Best Management Practices for all forest-management practices on conservation areas. MDC monitors and documents compliance on all MDC timber sales. In addition, approximately 10 percent of these sales are audited each year. In FY11 we reviewed 80 sites on 24,165 acres for proper implementation and effectiveness.

Land acquisition

Approximately 333 acres of land in two counties were purchased and approximately 1,156 acres in three counties were donated. Acquisitions included an addition to LaBarque Creek Conservation Area that will provide additional protection of the LaBarque Creek watershed, land providing habitat for prairie chickens and the donation of a new conservation area.

Construction

MDC continued to connect citizens with nature through the completion of the following major construction projects: Eminence City Park access, Eagle Bluffs Conservation Area (CA) office and draw room, regional office storage at Charles W. Green CA, Kansas City Regional Office, Shepherd of the Hills Fish Hatchery sewage lift station, Lost Valley Fish Hatchery rearing pond underdrain system, Lost Valley Fish Hatchery roof, Powder Valley Conservaton Nature Center HVAC condensing unit, evaporator coil and controls, Jay Henges Shooting Range renovation, Roaring Rivers Hatchery building improvements and Ten Mile Pond CA levee relocation around Blew Hole.



Accounting for Department Operations

Vacancy management

In 2008, MDC anticipated a decline in revenues due to the downturn in the economy. In 2009 a vacancy management plan was implemented to identify positions that would not be filled as they became vacant. An insurance premium incentive was offered to employees eligible for retirement as well as the opportunity to continue temporary employment for 450 hours—173 employees agreed to the incentive. By June 2011, the vacancy management plan

had been fully implemented and 174 positions were vacated and held. The vacancy management plan has resulted in a savings of more than \$10 million.

Internships encourage diversity

MDC has a long-standing commitment to understanding the needs of Missouri citizens and accepts the challenge of staying in tune with our diverse stakeholders. One way to remain focused is through various diversity programs.

MDC began its eighth year of an internship program that creates experiences for students in the area of conservation, while addressing recruitment needs of MDC. Objectives are threefold: expose students to a variety of professional tasks and MDC's culture, mentor promising students in disciplines in which job candidates are scarce and attract students with diverse cultural backgrounds to contribute to MDC's workforce and mission accomplishment. Internships are provided at both the undergraduate and graduate levels.

In FY11, 11 students worked in a variety of internship positions, which were diverse in both location and job responsibilities. The students represented seven colleges and universities.

Listened to Missourians

The Department of Conservation believes that all Missouri citizens deserve respect and that part of delivering excellent public service is to listen and understand what Missourians say about conservation programs and services. We conduct a variety of scientifically sound, unbiased and representative efforts each year in an effort to understand public opinions, expectations and recreation participation. This information guides decisions about regulations and fish, forest and wildlife management.

In FY11 there were 47 activities that involved 77,834 people. These included surveys, focus groups, public meetings and contacts with MDC's ombudsman. Examples of efforts included a survey of firearm deer hunters, a landowner and deer survey, a survey of small game hunters, a survey of spring turkey hunters, 16 waterfowl season meetings, three elk reintroduction open house meetings, a timber price survey and visitor surveys at Springfield and Powder Valley Conservation Nature Centers. In addition, the staff of Missouri Conservationist magazine received a wide variety of questions and comments throughout the year.

Disaster relief/response

MDC's promise to serve the public extends beyond our traditional goal to provide exceptional customer service. Equally important are our activities instrumental to the safety of our stakeholders, and our responses to catastrophes within and outside our state borders. During FY11, we assisted in two Missouri flood disaster relief/response situations and three tornado disaster relief/response situations.

At the request of Missouri's State Emergency Management Agency (SEMA), MDC employees provided a variety of services to affected communities. They used heavy equipment, ATVs, and boats and vehicles to maintain levees, transport sandbags and assist with water rescue. Staff provided security details and traffic control when needed.

Missouri Forest Resource Advisory Council provides forum

The Missouri Forest Resource Advisory Council (MoFRAC) entered into its fourth year. The group, with representatives from throughout the state, provides a forum for communication and coordination among Missouri's various forestry interest groups. MoFRAC also provides an excellent way for MDC to interact with a group of its stakeholders.

Internal audits

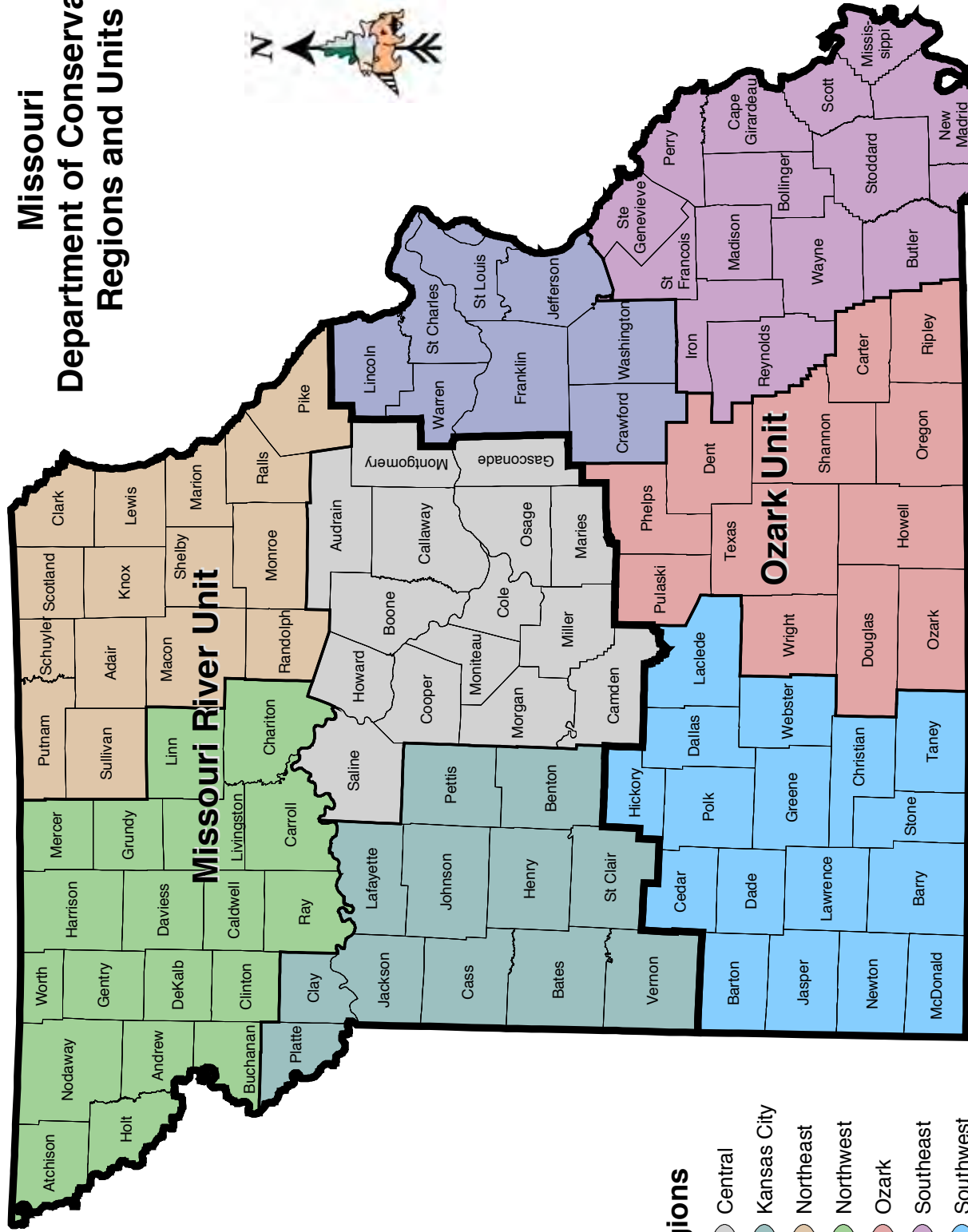
MDC employs one full-time internal auditor who performs regular, independent audits to ensure that public funds are expended in a responsible manner. During the year ended June 30, 2011, there were no major findings noted with the business practices reviewed.



Organization and Administrative Descriptions

- ▲ Department Regions and Units
- ▲ Department Organizational Chart
- ▲ Director's Office and Department Divisions

Missouri Department of Conservation Regions and Units



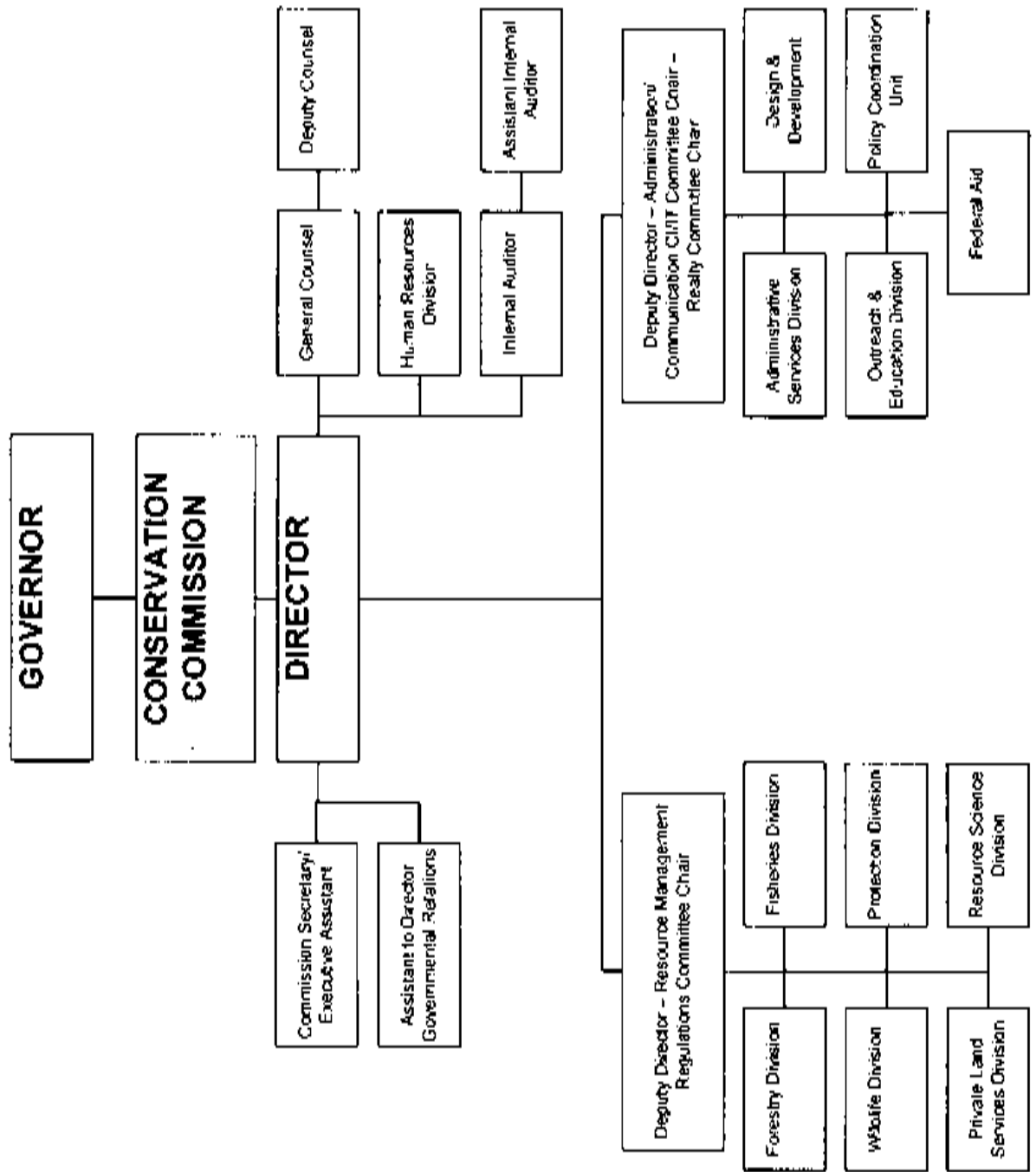
Regions

- Central
- Kansas City
- Northeast
- Northwest
- Ozark
- Southeast
- Southwest
- St. Louis
- Unit Boundaries

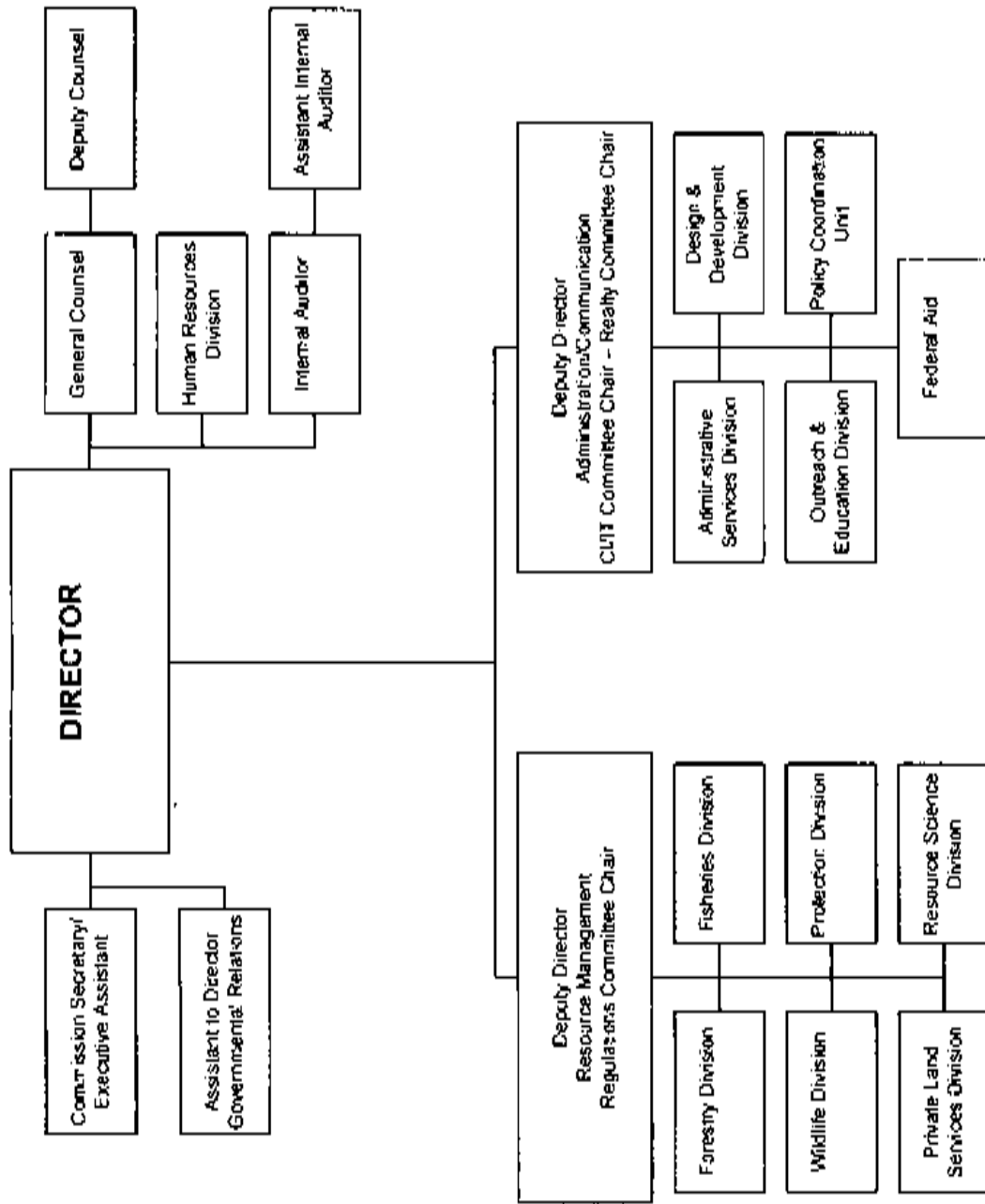


Cartography by: Kevin Borisenko, January 2003 | N:\MAPS\RegionUnitsNoShade.pdf.

MISSOURI DEPARTMENT OF CONSERVATION



Director's Office



Director's Office

Robert L. Ziehmer, Director

Director Ziehmer, appointed by the Conservation Commission, directs all programs and activities of the Department of Conservation and directly oversees two deputy directors, an assistant to the director, the general counsel, an internal auditor and the Human Resources Division chief.

Tom Draper, Deputy Director for Resource Management

Deputy Director Tom Draper is responsible for the divisions of Fisheries, Forestry, Wildlife, Private Land Services, Protection and Resource Science. He also chairs the Regulations Committee, a standing committee that recommends statewide regulations for the *Wildlife Code of Missouri* to the Conservation Commission.

Tim Ripperger, Deputy Director for Administration/Communication

Deputy Director Tim Ripperger is responsible for the Administrative Services Division, Design and Development Division, Outreach and Education Division the Policy Coordination Unit and the Federal Aid Program. He also chairs the Capital Improvements and Information Technology Committee and the Realty Committee.

Aaron Jeffries, Assistant to Director

Assistant to Director Aaron Jeffries is responsible for governmental liaison with the state legislature, other elected officials, state agencies in the Executive Branch and the governor's office staff. He also represents the director on the Land Reclamation Commission.

Tracy McGinnis, General Counsel

General Counsel Tracy McGinnis is legal advisor for the Conservation Commission, the director and department staff. She oversees the deputy counsel, who manages Realty Services and the Grants and Donations program.

Nancy Dubbert, Internal Auditor

Internal Auditor Nancy Dubbert provides independent audit of Department operations, policies, procedures, records and compliance with laws and regulations to ensure effectiveness and accountability. She also serves as the Custodian of Records.

Policy Coordination Unit

The Policy Coordination Unit serves the director's office and department staff by managing department, statewide and interagency issues. Examples of coordination include:

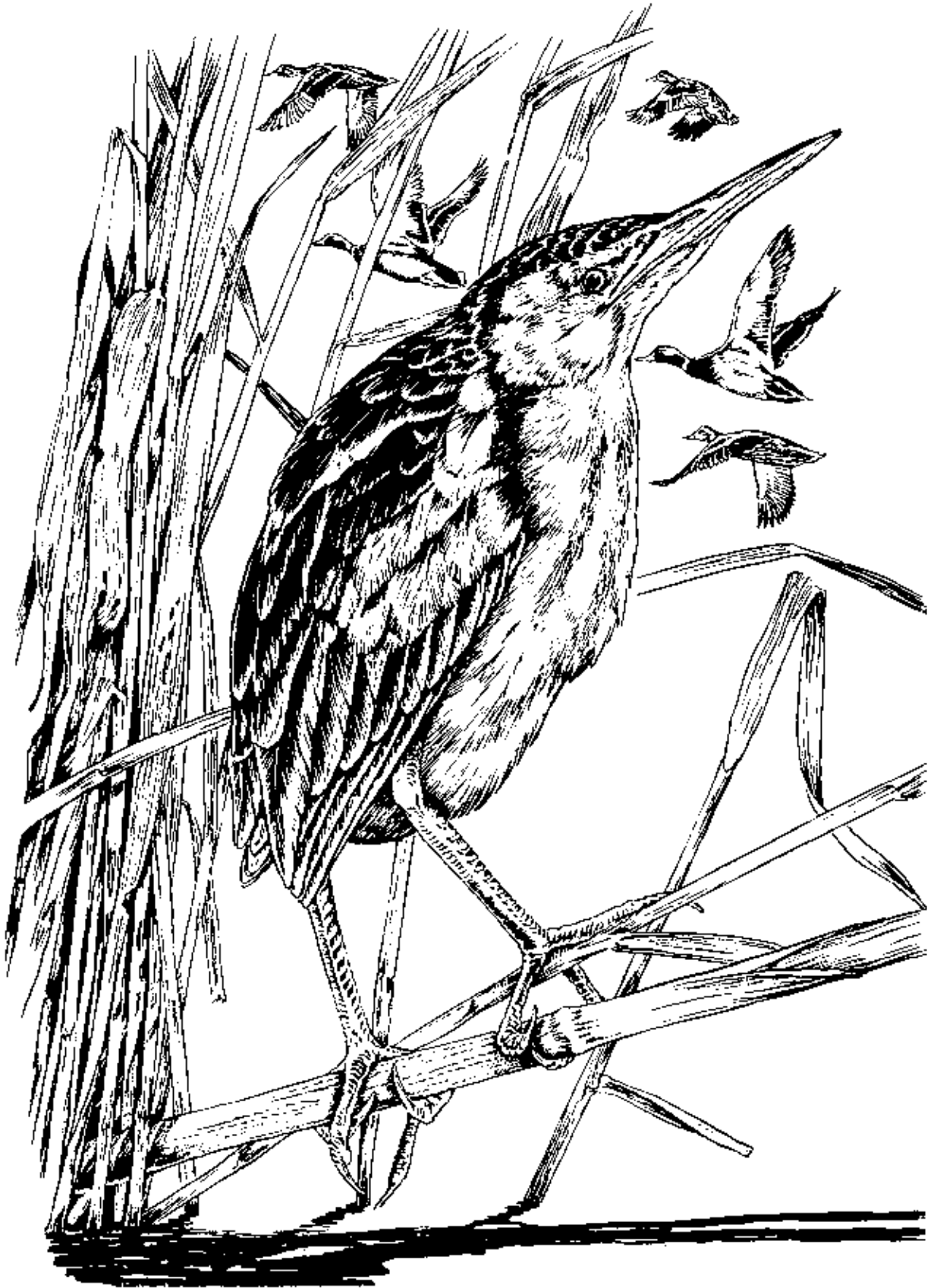
- Coordinating environmental and resource management policy issues;
- Representing public fish, forest and wildlife interests by coordinating and providing comments and recommendations to federal and other agencies authorized to conduct environmental reviews;
- Coordinating intra- and inter-state fish, forest and wildlife resources associated with the Mississippi, Missouri and White River basins;
- Coordinating multi-agency resource issues;
- Administering and coordinating department resource policies, procedures, and strategic planning;
- Coordinating public involvement activities and applying human dimensions of conservation information to Department issues, including social and economic facts, analyses and citizen input opportunities.

Federal Aid

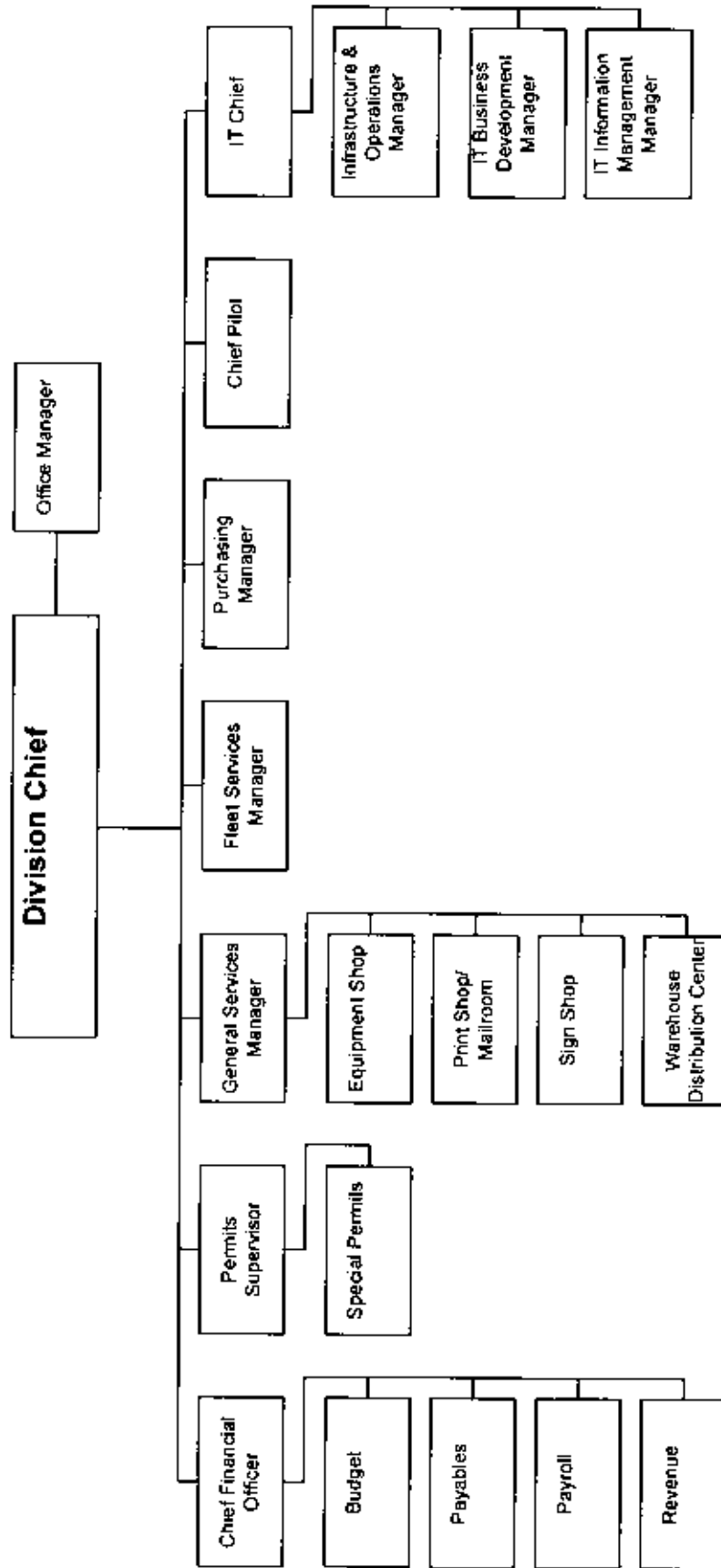
Federal Aid staff administer the Department's federal aid and grant revenue. Some agencies from which the Department receives revenue include the U.S. Fish and Wildlife Service, U.S. Forest Service, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency and Natural Resource Conservation Service. The Department's Federal Aid staff administer approximately 85 grants with the most significant from the Sport Fish and Wildlife Restoration program.

Realty Services

Realty Services is responsible for: handling the acquisition of land and land rights for the Department; resolving boundary, encroachment, trespass or access issues; handling easement requests; maintaining records of real estate inventory and distributing annual in-lieu tax payments to Missouri counties.



Administrative Services Division



Administrative Services Division

Mission: *Serving MDC staff to provide agency-wide support and expertise in a manner that ensures financial accountability, promotes wise use of assets, provides ancillary services and offers technological solutions for satisfying Department responsibilities and needs that meet public expectations.*

Administrative Services Division fulfills its mission by serving MDC's internal and external stakeholders through the following sections that comprise this division.

Programs

Financial Services—This section provides a broad range of financial functions that support MDC's operations, while carefully managing the agency's assets, which have been entrusted to its care. Revenue projections and management, internal and executive budget management, financial analytical support, agricultural crop management, accounts payable and MDC's payroll are the functions this unit oversees.

Permit Services—This unit is responsible for the distribution and management of point-of-sale automated permits, managed hunt/special permits and commercial and landowner permits.

Fleet Services—The unit is responsible for ordering Department vehicles and fixed-asset inventory. We seek ways to improve and minimize the traveling performed with state vehicles.

Information Technology Services—Communication responsibility for the entire agency is entrusted to this section. Better known as IT, employees provide a wide range of services which include data, telecommunications and radio system management, helpdesk operations, software support, network operations and business- and application-development functions.

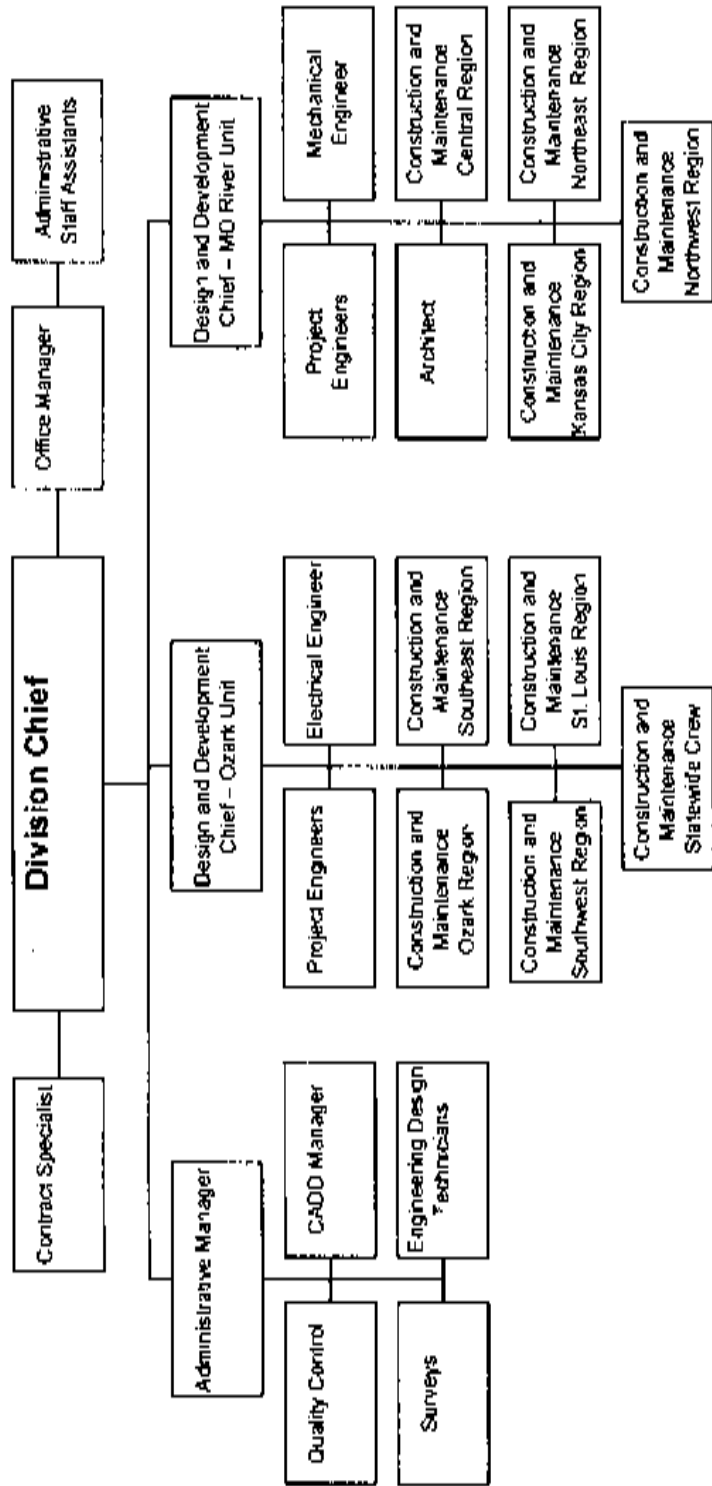
General Services—This unit oversees equipment management and maintenance, sign production, distribution center operations and printing and mailing functions.

Flight Services—This unit provides flight services for MDC resource functions such as wildlife management, fire control and enforcement. Flight Services is responsible for the upkeep and maintenance of MDC-owned aviation equipment.

Purchasing Services—This unit provides support for purchases of services and commodities. We ensure compliance with state purchasing laws and MDC policies and procedures.

Administrative Services Division makes every effort to achieve its mission by maintaining the financial integrity of MDC and ensuring prudent and frugal use of its assets. We provide a broad range of high-quality support services to MDC's staff and programs. Not only do we lead and facilitate the effective use of technology in MDC operations, but we also acquire and maintain MDC equipment.

Design and Development Division



Design and Development Division

Mission: *To provide high-quality professional engineering, architectural, surveying and construction/maintenance services to assist MDC in carrying out its mission.*

Goals

- Design and construct public-use facilities that are in harmony with the environment and enhance public use of our natural resources
- Provide sound conservation engineering assistance to other MDC divisions and outside partners (communities, counties and landowners)
- Provide high-quality maintenance to MDC facilities and conservation areas
- Provide excellent and timely customer service

Organization

The division is organized into three units, with administrative and design staff located in the central office and construction and maintenance staff located in each of the eight regions.

Programs

Engineering and Architecture—The division provides engineering and architectural designs to implement capital improvement (CI) budget. Staff handles all aspects of design and development on projects which may include performing investigations, conducting feasibility studies and/or environmental assessments, preparing design drawings with associated contract specifications and construction management services. Types of projects include boat accesses, docks, roads, parking areas, office and storage buildings, fish hatcheries, fishing lakes and ponds, nature centers, shooting ranges, trails and wetlands.

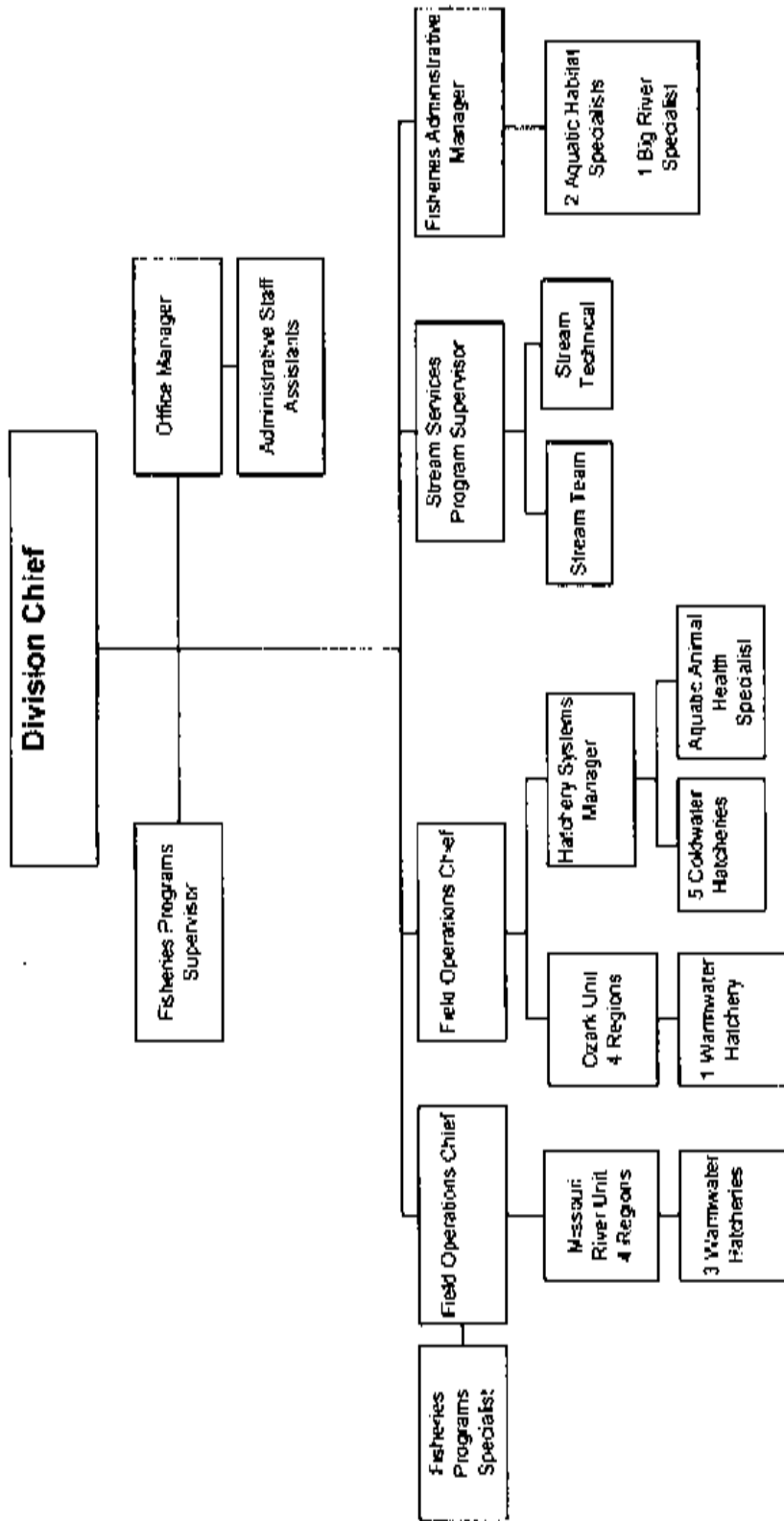
Technical Support—In addition to handling the CI projects, engineering staff also provides support and design expertise on non-capital improvement projects to MDC divisions. Staff also provides design drawings and estimated quantities on MDC's repair and renovation projects; these efforts support our regional construction and maintenance superintendents and field resource staff.

Surveys—Employees in this unit are responsible for engineering and construction surveys and land boundary surveying for property boundary delineation.

Construction and Maintenance—In each region, the division maintains superintendents, carpenters, equipment operators and facility maintenance technicians. This staff is responsible for the construction of capital-improvement projects assigned to it, as well as small construction projects, and repair and renovation projects needed by other MDC divisions. They provide facility maintenance to nature centers and regional offices, and perform routine maintenance at unstaffed department areas. Other maintenance tasks include mowing grass, grading parking areas and entry roads, cleaning boat ramps and performing minor maintenance on privies, docks and pavilions.

County Aid Road Trust (CART)—The division administers the Department's CART Program, which involves cost sharing of roadway maintenance with counties and other governmental subdivisions to help ensure that roads accessing Department areas are properly maintained and provide adequate access.

Fisheries Division



Fisheries Division

Mission: *To professionally manage the fish and associated aquatic plants and animals of Missouri for the use and enjoyment of the people.*

Goals

- Maintain aquatic biodiversity
- Reduce the effects of aquatic nuisance species
- Provide enjoyable fishing trips
- Protect aquatic habitat
- Inform and educate the public about Missouri's aquatic resources

Missouri's aquatic resources are vast and diverse. Missouri has almost 17,000 miles of permanent rivers and streams and another 39,000 miles of intermittent streams. The state also has about 780,000 acres of lakes (36 percent public). Each year, millions of people use and enjoy our waters, and fishing continues to be one of our most popular outdoor activities. About 22 percent of our residents aged 16 and older fish sometime during the year. During 2010, MDC sold 1,333,753 fishing permits and tags of all types. Fishing is big business and very important to the state's tourism industry.

Organization: To carry out its mission and achieve its goals, the division has fisheries management staff deployed in MDC's eight regions. Management efforts are supported by four warmwater fish hatcheries, five coldwater fish hatcheries, an aquatic animal health specialist, the Stream Unit and central office staff.

Programs

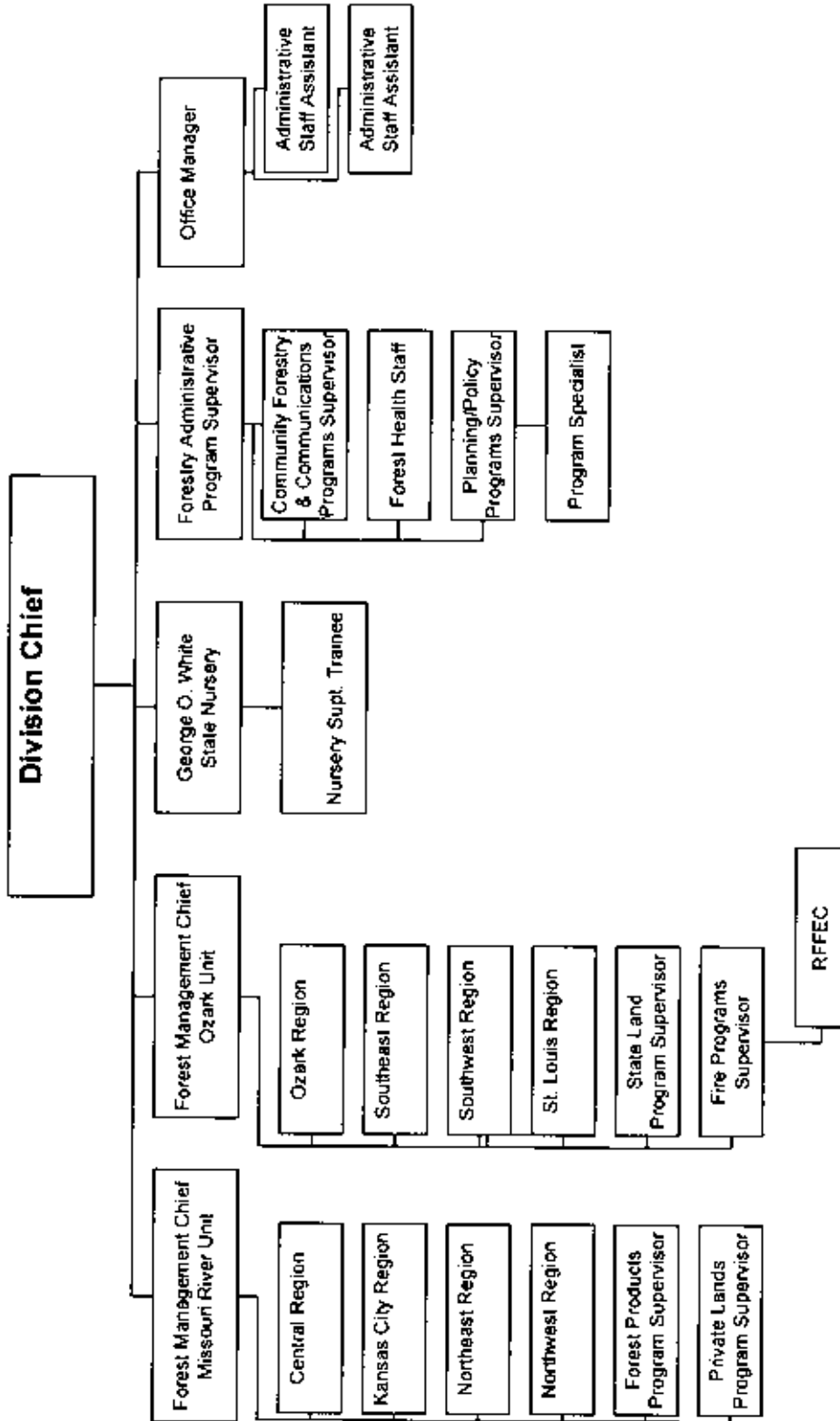
Regional staff is responsible for monitoring and maintaining the quality of the aquatic resources, managing the public fisheries resources, providing technical guidance in lake and stream management to private landowners and other state and federal agencies, providing and assisting with public information and education and representing the division and MDC on matters pertaining to the aquatic resources of their region.

The staffs of the four warmwater hatcheries are responsible for rearing the fish needed to stock public waters, waters used for special fishing events and aquatic resource education. They also play a vital role in our efforts to restore state and federally endangered species. The five coldwater hatcheries rear the trout needed to stock public waters. Their employees are also responsible for stocking and managing the four trout parks that are enjoyed by more than 410,000 anglers each year.

The Stream Unit is responsible for the Missouri Stream Team and Volunteer Water Quality Monitoring public-involvement programs, which consisted of more than 73,000 citizen volunteers in 2010. Both are cosponsored by the Missouri Department of Natural Resources and the Missouri Conservation Federation. It also oversees a Stream Technical Unit, which provides technical stream services to MDC staff, other state and federal agencies and private landowners.

Central office staff directs and administers division programs, works on the acquisition and development of public fishing and boat access areas, coordinates angler recognition programs, coordinates the production of technical and popular written materials and provides administrative support for division and MDC staff and programs.

Forestry Division



Forestry Division

Mission: *To protect and manage the forests of the state for long-term resource health and sustainability and for the use and enjoyment of Missouri's citizens.*

Goals

- Implement the strategies outlined in the recently completed Missouri Forest Action Plan as approved by the United States Secretary of Agriculture.
- Engaging Missouri landowners to actively care for their woods through education, technical service and development of partnerships with other agencies, organizations and forest products industry.
- Raise the performance bar of the Forest Products Industry.
- Conduct public-land management activities that are scientifically based and aimed at developing and maintaining healthy forest and woodland ecosystems.

Organization: To fulfill its mission, the division is organized into eight main program areas as described below. Administrative staff members are assigned to specific program areas, while field staff work across all program areas.

Programs

Private Land—Foresters assist Missouri landowners with forest management through one-on-one contacts. Foresters often use the Tree Farm program, Forest Stewardship program, state and federal cost-share programs and offer technical advice to assist landowners. We help more than 1,200 landowners with management on 45,500-plus acres annually.

Public Land—The division manages more than 440,000 acres of public forest land. Foresters also provide technical assistance on lands managed by the Wildlife Division. We annually complete more than 49,880 acres of active management. This includes forest inventory, tree planting, timber sales, forest-stand improvement, wildlife-management practices and glade and savanna management.

Fire—We have statutory responsibility for the state's wildfire suppression. Last year, 2,532 fires burned 32,109 acres in Missouri. Division personnel work closely with more than 776 fire departments to offer training, provide federal excess property, provide grants for the purchase of fire equipment and promote wildfire-prevention activities.

Urban and Community Forestry—This program provides planning and technical assistance to communities and homeowners. In addition, the Tree Resource Improvement and Maintenance (TRIM) program provided cost-share assistance to more than 30 Missouri communities for tree planting and maintenance of their community forest resources. In partnership with the National Arbor Day Foundation we promote and administer the Tree City USA program certifying 81 communities for dedicated care of their tree resource, the TreeLine USA program recognizing 11 utility providers in the state for quality tree care and the Tree Campus USA program recognizing 3 colleges and universities in the state for dedicated care of their tree resource.

Forest Products—This program provides technical assistance to the wood products industry and statewide promotion of Best Management Practices (BMPs) for water quality on timber sales. We work with the Missouri Forest Products Association to provide programs such as the Professional Timber Harvesters and Master Logger Certification programs. We work with entities interested in the emerging bio-energy field and provide technical training for field foresters regarding wood use, timber harvesting techniques, contracting and implementing BMPs. A \$6 million American Recovery & Reinvestment Act grant funded the construction of wood-burning boiler systems in six select Missouri schools.

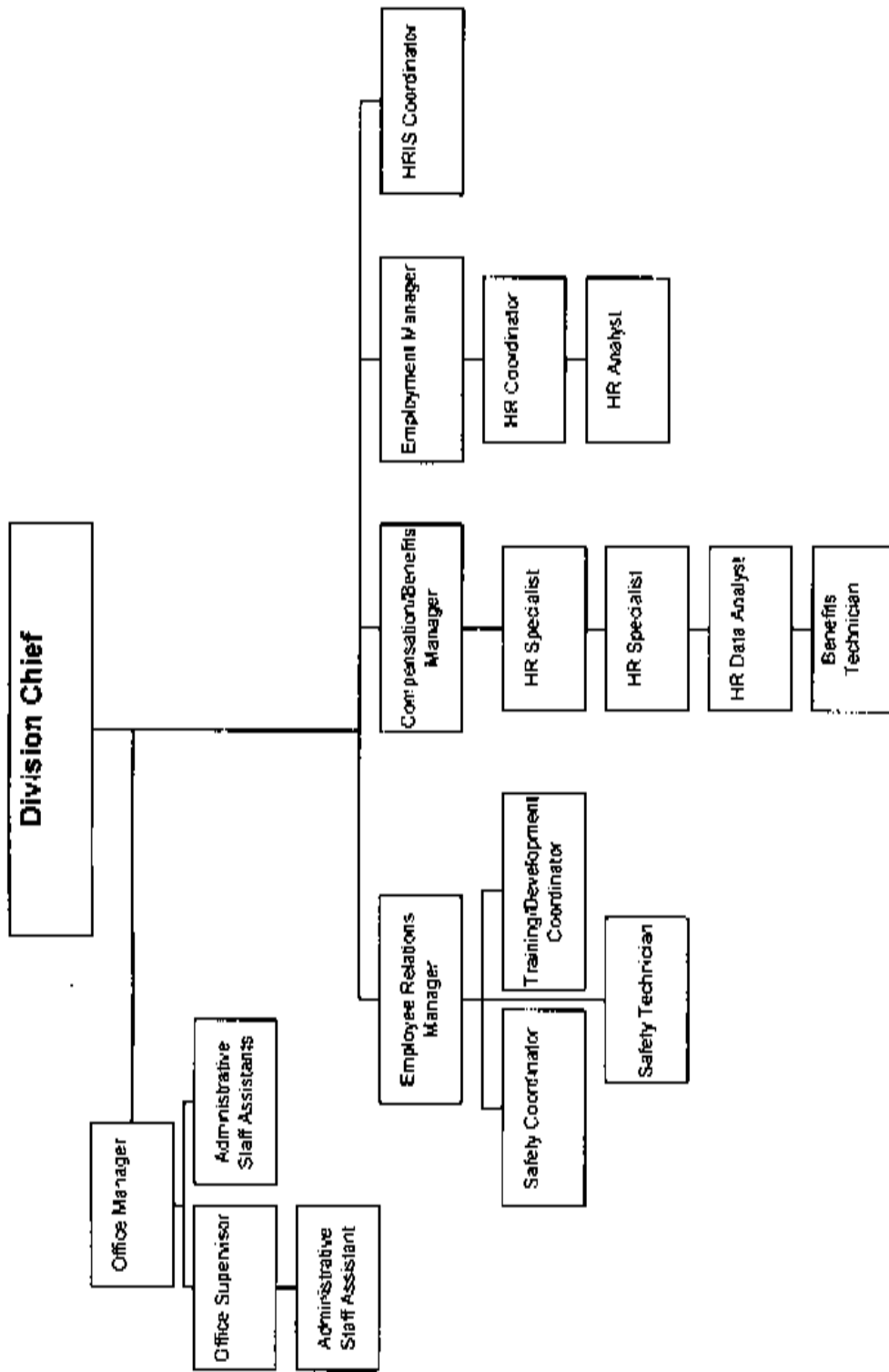
Outreach and Education—Forestry Division works closely with our Outreach and Education Division to increase Missourians' understanding about their state's forest resources and proper forest-management activities. In addition, foresters conduct programs, field days and workshops for schools, special-interest groups and the general public on a wide range of forest-management issues.

State Forest Nursery—The nursery annually grows and distributes approximately 3.5 million seedlings of more than 60 species. The seedlings include trees and shrubs suitable for reforestation and wildlife-habitat restoration activities. The seedlings are planted on both public and private land throughout the state.

Forest Health — Assuring that Missouri has a healthy and growing forest resource is the goal of the forest health program. Diagnosing, monitoring and providing management solutions for a wide range of routine pests are components of this program. A significant amount of time and effort is expended in overseeing monitoring efforts for invasive pests like gypsy moth and thousand cankers disease of black walnut.



Human Resources Division



Human Resources Division

Mission: *Sustains human resources services and programs necessary to recruit and retain a diversified, dynamic workforce and ensures we are considered an employer of choice.*

Goals

- Assist MDC in hiring and retaining a highly trained and diverse workforce
- Advance practices that encourage employee empowerment and recognize job accomplishments
- Ensure ongoing employee training and development programs are predicated on important job competencies and offered in the most efficient and cost-effective manner
- Reinforce safety-conscious attitudes and practices in all aspects of employee work

Programs

Compensation—Staff performs compensation and classification activities that are used to support an employee-compensation program, which is both competitive and fiscally responsible. Staff also administers significant employee-benefits programs such as a comprehensive medical and life-insurance program.

Employee Relations—Staff coordinates activities promoting employee relations such as programs that recognize years of service, special achievement and retirement, and administers employee health and wellness programs that include health screenings and health education. Staff also assists employees and supervisors during grievance and corrective action processes to ensure that objective, fair and appropriate actions occur.

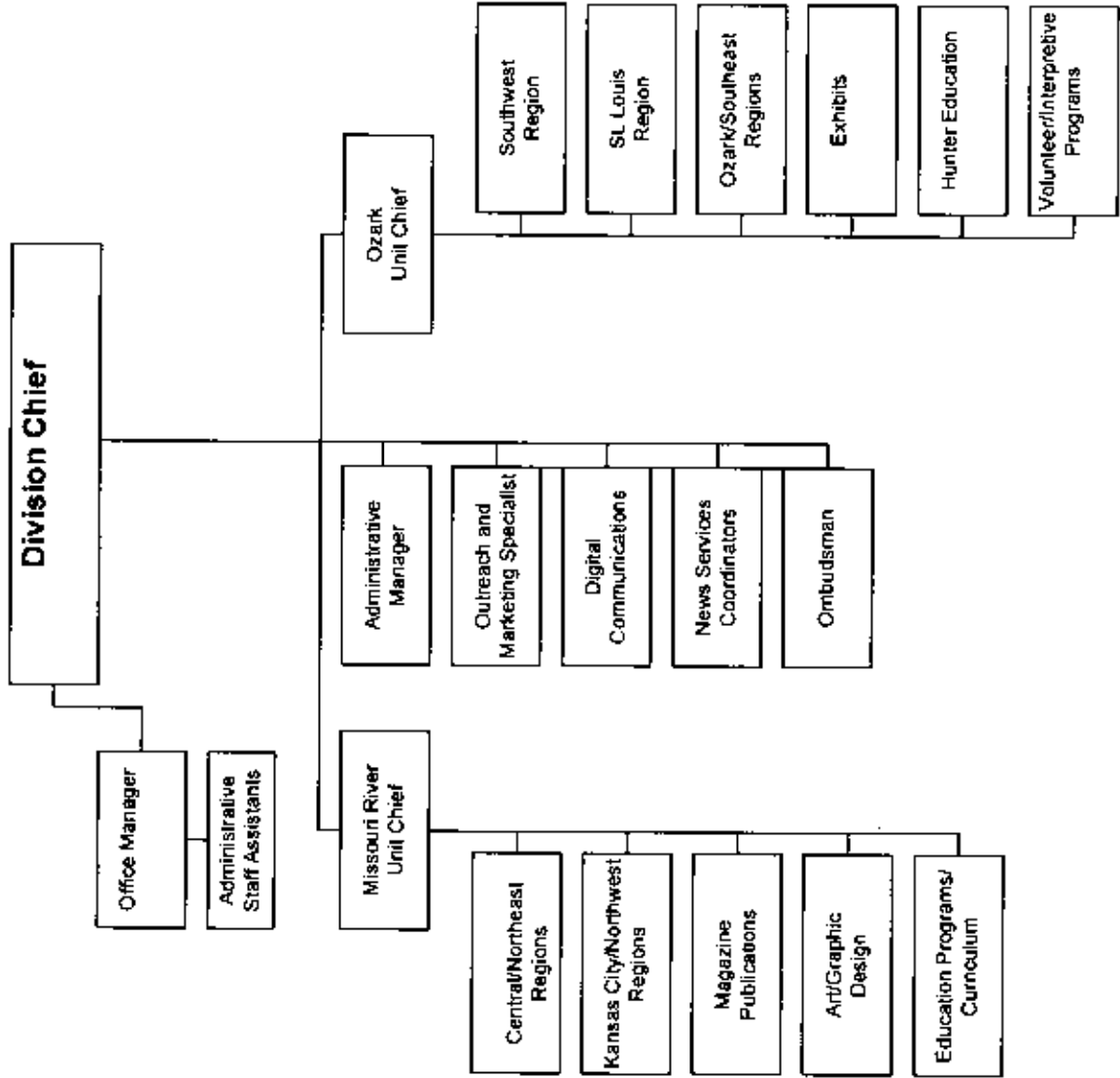
Policy Administration—Staff maintains MDC's Human Resources Policies by developing new or revised employment-related policies that help supervisors guide employees uniformly and fairly. Staff also tracks state and federal laws, executive orders and regulations that address human resources management issues, and works to ensure MDC is in compliance.

Recruitment and Selection—Staff uses a variety of recruitment methods to attract qualified applicants for job vacancies and assists supervisors with all activities during the evaluation and recommendation processes. In addition, staff monitors MDC's affirmative-action effort to ensure equal-employment opportunities.

Training and Development—Staff administers MDC's employee development and leadership-training programs. Among them is the Professional Development Academy, which provides training for all employees. The training is based on specifically identified competencies (knowledge, skills, behaviors and attitudes) that MDC considers important to success.

Safety—Staff administers loss-control programs including safety training, hazard identification on public lands, chemical safety and personal injury, vehicle accident and public-mishap reporting and monitoring.

Outreach and Education Division



Outreach and Education Division

Mission: *O&E will be the catalyst in telling the stories of Missouri's fish, forest and wildlife resources in ways that energize and empower all Missouri citizens to participate in our recreation activities.*

Goals

- Teach Missourians about healthy plant and animal communities
- Provide all Missourians with the skills and knowledge to enjoy the outdoors
- Communicate the many benefits people get from conserving our fish, forests and wildlife
- Teach the importance of science-based decisions and ethical behavior in balancing how we live with our fish, forests and wildlife
- Help Missourians understand these key concepts of conservation:
 - a. A healthy environment needs a diverse mix of plants and animals.
 - b. Forests, grasslands, rivers and wetlands are always changing—with or without us. To live in balance with the natural world, we must understand how it works and work with it.
 - c. It's natural for what's on the ground to flow downhill into streams and ponds. To protect the health of our waters and the life that depends on them, we must be mindful of what we put on the land and how we change it.
 - d. Hunting, fishing, trapping and harvesting wood are part of our heritage, provide us with valuable resources and, perhaps most important are tools that can be used to improve and maintain the health of our fish, forests and wildlife long into the future.

Programs

Outreach—The *Missouri Conservationist* magazine is mailed to more than 500,000 readers each month and covers a variety of nature, conservation and outdoor-recreation subjects. *Xplor*, a kids' magazine, reaches more than 100,000 readers and offers suggestions for family oriented outdoor activities. We serve up millions of Web pages each year, produce free publications, for-sale books and news releases on topics as diverse as bird identification, hunting and fishing regulations and how to create wildlife habitat. The ombudsman helps answer citizens' questions and helps to investigate concerns and resolve complaints.

Conservation Nature Centers, Education Centers and Visitor Centers—These are located in Jefferson City, Kirkwood, Blue Springs, Springfield, Cape Girardeau, St. Charles, Winona, St. Louis, Branson and Glencoe. Exhibits and naturalist-led programs, as well as walking trails, offer about a million visitors each year a variety of opportunities to learn about and enjoy Missouri's nature. These facilities host programs for families, women and other target audiences that teach skills to enjoy the outdoors.

Hunter Education—Since 1988, hunter-education training has been mandatory for all hunters born on or after Jan. 1, 1967. O&E staff works with the conservation agents to coordinate volunteer hunter-educators, who provide about 950 classes each year. These result in hunter certification of about 25,000 people annually. Online training, with its required hands-on field day experience, expands the training opportunities.

Shooting Range/Outdoor Education Centers—Five staffed shooting ranges provide safe, inviting places for hunters and others to practice shooting rifles, shotguns, handguns and archery equipment. Classes are offered to the public and designed to give beginning hunters the skills they need. More than 130,000 people each year use the staffed ranges. In addition, more than 75 unstaffed ranges (including both firearms and archery ranges) serve Missourians throughout the state.

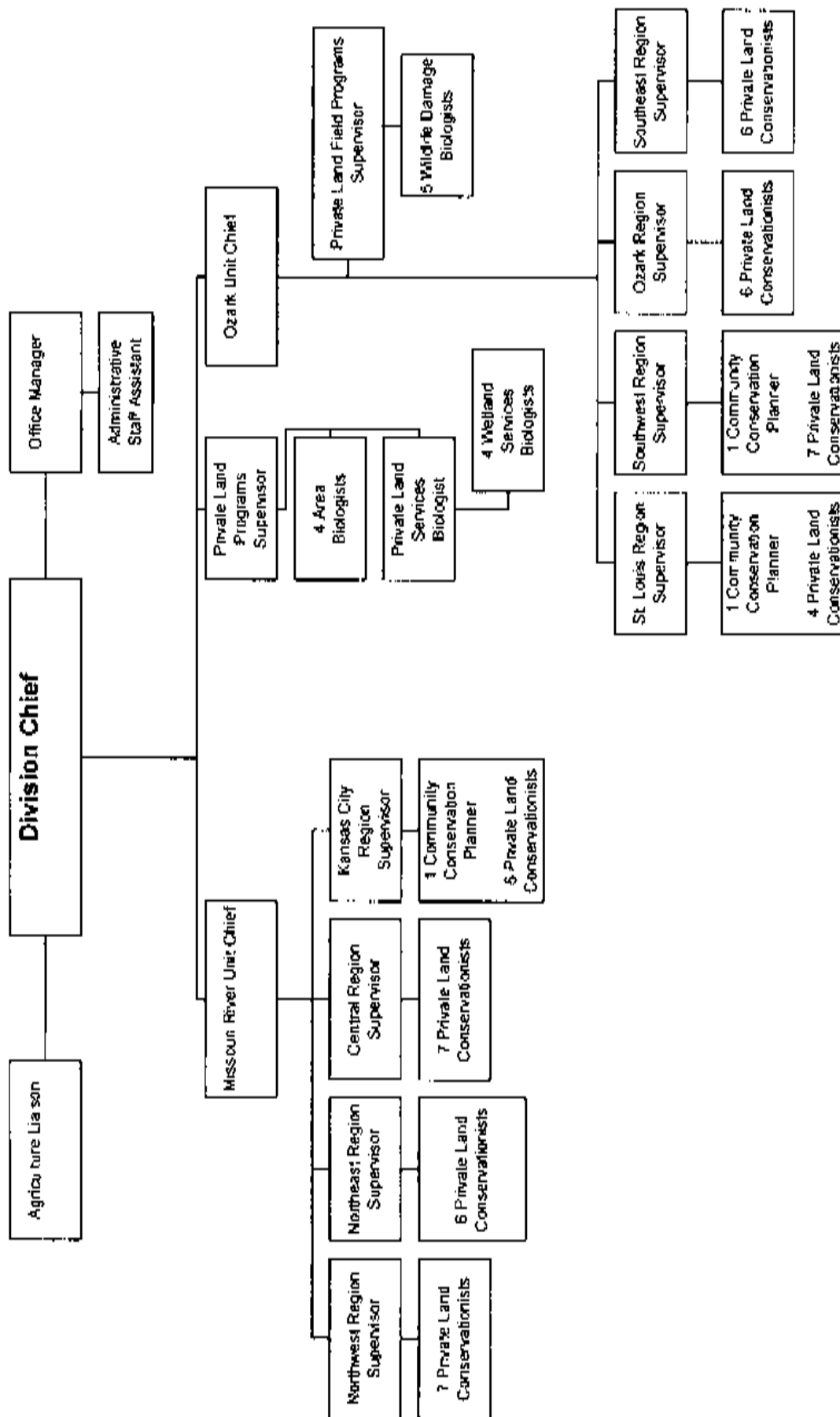
Citizen Involvement (MDC Volunteers, Missouri Master Naturalist)—Several programs help Missourians promote conservation at a statewide and grassroots level. More than 2,500 citizens volunteer through a number of different O&E programs. One hundred and twelve citizens volunteer at staffed shooting ranges, 395 at MDC nature centers, more than 1,000 through the Master Naturalist program and more than 1,000 citizens are involved in the Volunteer Hunter Education program.

Discover Nature Schools—Missouri's children are the key to Missouri's future. Working closely with the Missouri Department of Elementary and Secondary Education, we have developed curriculum materials for grades kindergarten through 12. These curriculums use Missouri examples to teach science-based concepts. The materials are available to all Missouri schools at no charge.



David
Besenquer

Private Land Services Division



Private Land Services Division

Mission: *Help landowners meet their land management objectives in ways that enhance fish, forest and wildlife conservation.*

Organization: With 93 percent of Missouri land in private ownership, the health of our natural resources will be determined by private landowners. In recognition of the need to provide enhanced support to traditional agricultural producers, as well as growing numbers of people who own land for recreation, Private Land Services Division was established in 1999. The division contains fish, forest, wildlife and agriculture professionals who provide conservation assistance to private landowners in Missouri.

Goals

- To provide timely technical advice to private landowners who request assistance
- To help interested private landowners provide meaningful benefits to fish, forest and wildlife resources that need attention
- To increase awareness of conservation importance by connecting with agriculture and communities

Programs

Technical Support—Private Land Conservationists are available to evaluate resource needs and provide advice/recommendations to private landowners through in-office or on-ground visits, as well as workshops, field days and other initiatives. Most of these positions are co-located in USDA service centers to make contact easy for private landowners throughout the state.

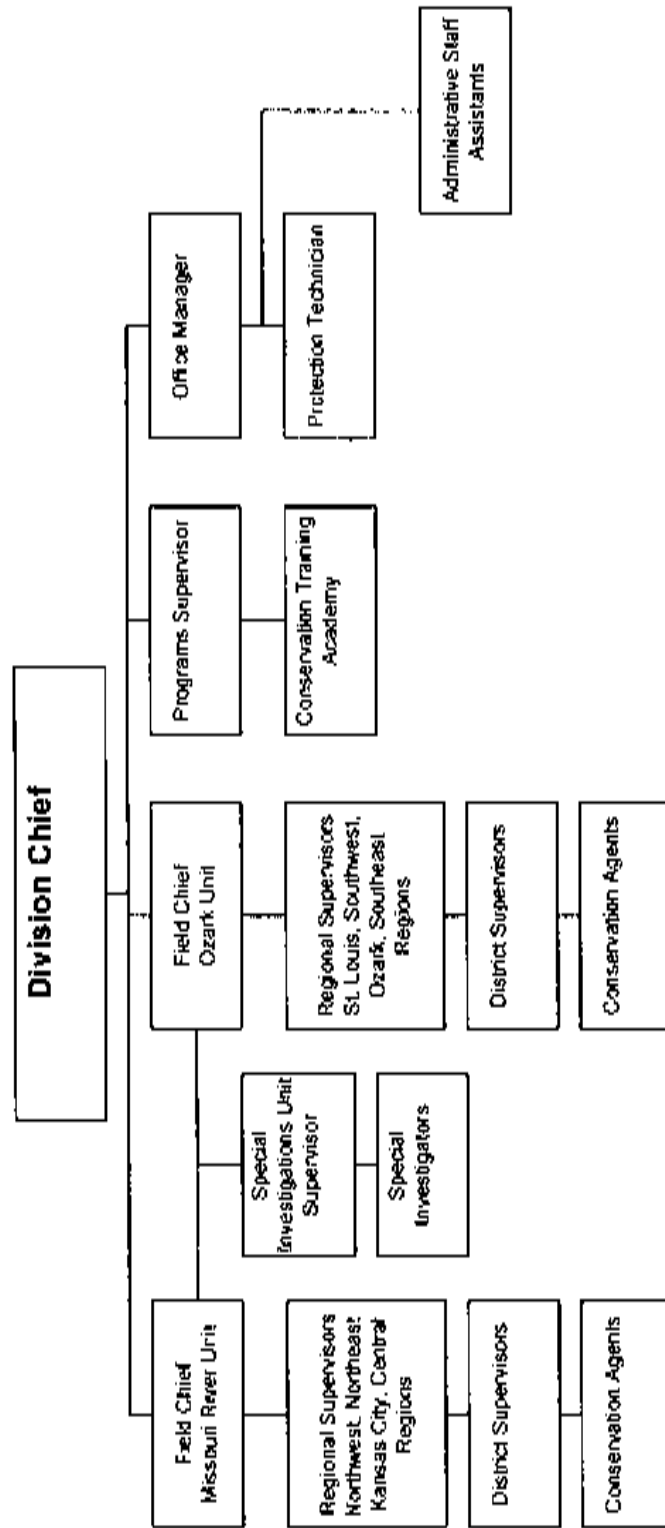
Financial Assistance—MDC has established effective working partnerships with the Natural Resources Conservation Service and Farm Service Agency to integrate fish, forest and wildlife considerations into implementation of Farm Bill programs that include Conservation Reserve Program, Wetland Reserve Program, Environmental Quality Incentives Program, Grassland Reserve Program, Conservation Stewardship Program and Wildlife Habitat Incentives Program. MDC is also in partnership with non-governmental organizations such as Ducks Unlimited, Quail Unlimited, the National Wild Turkey Federation, Quail Forever, Pheasants Forever and Quail and Upland Wildlife Federation to develop cost-share and other initiatives through matching agreements.

Wildlife Damage Assistance—Wildlife damage-control biologists provide expert and specialized technical assistance to private landowners who experience problems with wildlife including beaver, coyote, otter, Canada geese, deer and other species.

Agriculture Liaison—Liaison efforts with agricultural agencies and groups foster communication and understanding of fish, forest and wildlife issues as they relate to agriculture. These efforts are important since 65 percent of the land area of Missouri is included in farms.

Community Conservation—Community Conservation Planners in Kansas City, St. Louis and Springfield/Branson/Joplin areas are available to deliver natural-resource technical services at the municipal, county and regional levels. Their job focus is to work with communities, urban planners and developers to help them make informed land-use decisions that incorporate the conservation of Missouri's forest, fish and wildlife resources.

Protection Division



Protection Division

Mission: *To protect and conserve Missouri fish, forest and wildlife resources and to serve citizens through a coordinated program of resource law enforcement, education, information and one-on-one contacts.*

Goals

- To provide high-quality resource law-enforcement services to the public for protection and conservation of Missouri's fish, forest and wildlife, as well as for safe and proper public uses of conservation areas
- To provide opportunities for all citizens to use, enjoy and learn about fish, forests and wildlife through educational and informational programs and habitat management advice
- To represent the Conservation Commission, Department of Conservation and the state with knowledgeable, respectful, well-trained and professional employees versed in all general MDC programs in every county

Programs

Conservation Agents—Agents carry out a variety of programs for MDC within their county assignments. Major job components are resource law-enforcement activities, hunter education, local media liaison duties (many with regular radio/TV programs and newspaper articles), educational and informational presentations to adult and youth groups, wildlife surveys, response to fish kills, wildlife-nuisance and damage complaints and basic fish-, forest- and wildlife-management advice and services to private landowners.

Conservation agents contacted 187,525 hunters and anglers in FY11 to ensure compliance and to provide regulation information. During these contacts, agents noted 25,900 resource violations issued 3,218 written warnings and made 7,285 arrests. From those 7,285 arrests, 92 percent resulted in a guilty plea or verdict. This high conviction rate indicates excellent public support and high-quality work by agents.

Operation Game Thief—Operation Game Thief provides a way for citizens to anonymously report poaching incidents with the opportunity for a monetary reward. In the calendar year 2010, OGT produced 302 convictions from 819 telephone calls, which resulted in \$12,750 in reward money being paid to informants. The Operation Game Thief traveling exhibit was used at 12 events throughout Missouri this past year.

Revocations—Missouri is a participating state in the Interstate Wildlife Violator Compact (IWVC). The compact is a legal organization of the wildlife agencies of 36 member states that agree to reciprocally honor revocations/suspensions of hunting, fishing and trapping privileges for wildlife-related violations. During the last fiscal year, 1,654 people from other states had their privileges revoked in Missouri through provisions of the Interstate Wildlife Violator Compact; an additional 109 were revoked for cause by the Conservation Commission in Missouri and submitted to the IWVC. Participation in the compact also benefits Missourians who travel to other compact member states for hunting and fishing activities. If found in violation, they may be given the opportunity to resolve the citation by mail rather than being required to post a bond before leaving the member state. They are subject to revocation by all compact states if the citation is ignored.

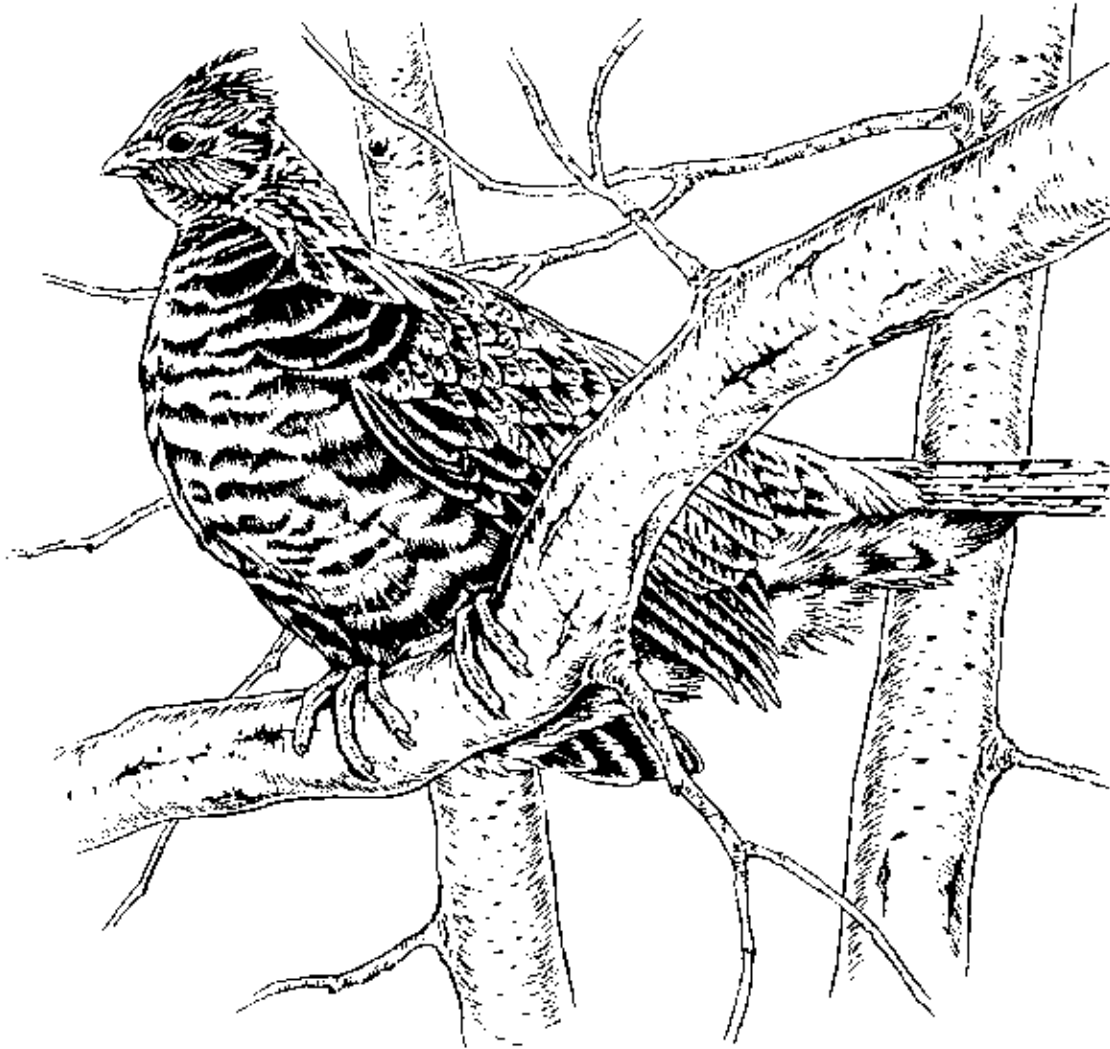
Habitat Program—Conservation agents provide habitat-planning information and food-plot seed (obtained from free sources) to Missouri landowners. The goals of the program are to improve the quality of wildlife habitat on private lands and promote better farmer and landowner relations. Conservation agents distributed 34,810 pounds of seed to 300 landowners in FY11. The program is an avenue through which to contact private landowners regarding wildlife-management programs, as well as other programs which MDC offers.

Hunter Education—Hunter-education certification is required for purchasing any type of Missouri firearm-hunting permit for people born on or after Jan. 1, 1967 (except the youth deer-and-turkey hunting permit). Conservation agents work with Outreach and Education Division personnel and approximately 1,400 volunteer instructors to coordinate hunter education courses in all 114 Missouri counties. Protection Division personnel also are heavily involved in investigating every hunting incident in the state.

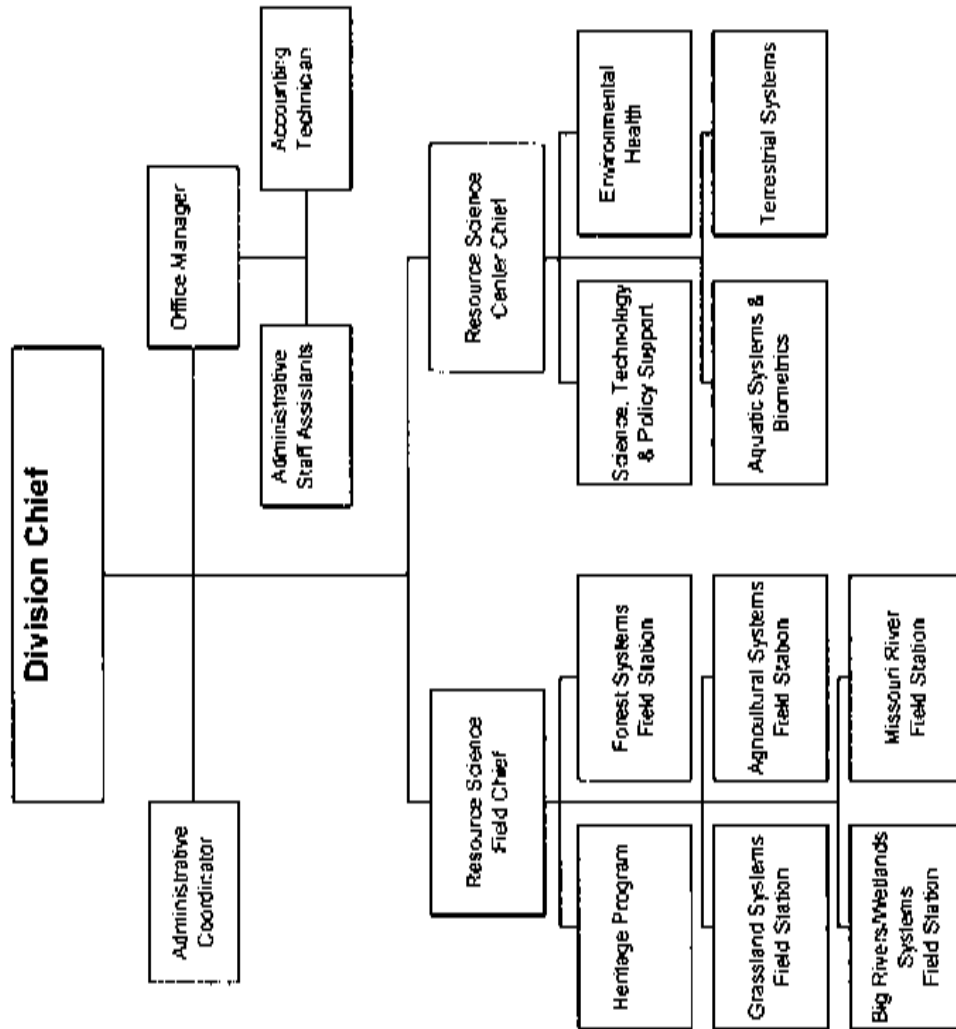
Hunting Method Exemption Program—The Hunting Method Exemption program provides special exemptions to physically disabled people by allowing them to hunt and take wildlife by methods not otherwise legally permitted. During FY11, 3,738 hunter method exemptions were approved.

Group Fishing Permit Exemptions—Protection Division administers permit-exemption authorizations to supervised groups involved in rehabilitation programs or groups of hospital patients or people with disabilities under therapy or for educational purposes. During this past fiscal year, 382 group-fishing permits were issued for outings—providing fishing experiences to people who otherwise may not be able to participate in outdoor fishing activities.

Share the Harvest—Conservation agents and the Conservation Federation of Missouri coordinate the Share the Harvest program, in which hunters may donate deer meat to those in need through established charitable organizations. During FY10, approximately 5,731 hunters donated 305,643 pounds of venison to needy Missourians. Since the inception of the program, nearly 2.1 million pounds of deer meat have been donated to Missouri citizens. Hunters donating venison to the program pay for the processing and tell the processor how many pounds of meat they want to donate. Hunters who wish to donate their entire deer may receive a \$60 reduction in the price of processing, which is paid to the processor by the Missouri Conservation Federation. In some cases, local organizations provide additional funds for processing so there is no cost to hunters who wish to donate deer.



Resource Science Division



Resource Science Division

Mission: *Provide the science-based information needed to conserve, appreciate and effectively manage the living resources of Missouri.*

Goals

Natural-resource management is based on sound biological, geographical and sociological information. An objective to establish a nationally recognized, science-based model for conservation will be accomplished by:

- Ensuring ongoing development of a comprehensive and integrated understanding of Missouri's living resources and their values to society
- Using accumulated knowledge to inform and recommend conservation actions
- Evaluating the biological and social impacts of conservation actions
- Reporting emerging knowledge of Missouri's living resources

Resource Science Division is organized around five integrated units and functions rather than traditional disciplines, and is dedicated to delivery of management assistance through five field stations; this approach was the basis for the following organizational units within the division (see organizational chart):

Terrestrial Systems scientists strive to understand plant and animal habitat relationships, monitor population status and develop harvest and species-management recommendations. Staff is regularly involved with specialized projects to monitor wildlife, plant diversity, population changes and forest silviculture.

Aquatic Systems and Biometrics scientists conduct research and surveys that focus on issues involving fisheries management, wetland and waterfowl management, fish communities, watersheds, stream-riparian-floodplain systems, reservoirs, in-stream flow, species of conservation concern and interactions among predators and prey. Harvest management recommendations for statewide fish populations, waterfowl and other migratory birds are developed by this group. Biometricians ensure statistically sound study designs and the use of appropriate statistical techniques to analyze and interpret complex natural resources questions.

Science, Technology and Policy Support staff works to link and improve access to databases which document Missouri's rich biodiversity and support research and management objectives. Post-season hunter and angler harvest surveys, attitude surveys and public-use surveys are conducted to better understand the opinions and behaviors of Missouri resource users and to ensure that human-dimensions information is integrated with biological information to inform management decisions. Natural-resource economics data are collected in conjunction with the public use-and-attitude information. GIS staff use geospatial technology and products to support natural-resource management and policy decisions, archive the processes and evaluate the results. The GIS program supports ArcGIS users though out the Department. Training courses are conducted to help train new ArcGIS users and improve the skills of existing users.

The **Environmental Health** unit primarily provides the services that ensure monitoring and protection of Missouri's fish and wildlife resources. Primary functions include protecting aquatic biodiversity such as mussel conservation and genetics research, water quality and providing responsive service to agency staff, the public and other agencies and entities. Staff coordinates pollution and fish-kill investigations with the Department of Natural Resources, and monitors contaminants in fish with the Department of Health.

The **Heritage Program** unit provides expertise and location information to MDC, its partners and the public on plants, reptiles and amphibians, karst communities, mammals and species of conservation concern. Our vehicles are workshops, publications, personal contact and Missouri's Natural Heritage program. Through this program, the status and presence of 1,145 species of conservation concern and natural communities are tracked. Scientists survey for species presence and population trends, develop life-history information and make management evaluations. Staff ensure accurate documentation and archiving of occurrences of species of conservation concern and natural communities that can be used for regulation purposes and management.

The **Field Unit of Resource Science Division** is leading regional management evaluations by developing protocols and study designs with the goal of learning by doing. Field stations, actively integrated with the division's centralized functions, focus on improving understanding of ecological systems, functions and processes by working with regional staff throughout the state.

- 1) The **Grasslands Systems Field Station in Clinton** focuses on ecological processes and management implications for cool- and warm-season grass pastures and hay lands, native prairie, savannas and glades and grassland-associated fish, invertebrate, wildlife species of conservation concern and all streams and impoundments fed by grassland watersheds.
- 2) The **Forest Systems Field Station in West Plains** focuses on ecological processes and management implications for upland forests, glades, savannas, springs, karst, fens and cold- and warm-water streams and impoundments drained by forested watersheds and management of forest-associated fish, invertebrate and wildlife species of conservation concern.
- 3) The **Big Rivers and Wetlands Systems Field Station in Jackson and Puxico** focuses on Missouri's large rivers and associated floodplains to understand landscape-level ecological processes. Staff develops tools and strategies to improve channel and floodplain habitats, bottomland forests and wetlands for fish, invertebrate and wildlife communities including species of conservation concern.
- 4) The **Agricultural Systems Field Station in Kirksville** emphasizes annually cropped lands that produce cereal grains, oil crops, crops for human consumption and annually planted livestock forages. Also included in the field station's focus are retired crop lands including CRP plantings, cool-season grass pastures and old fields, concentrated-livestock operations and streams and impoundments drained by agricultural watersheds and management for agriculturally associated fish, invertebrate and wildlife species of conservation concern.
- 5) The **Missouri River Field Station in Chillicothe** focuses on issues directly related to management of the Missouri River. Many aspects of large-river ecology are addressed by the Big Rivers and Wetlands Field Station, including some important to the Missouri River. However, several active restoration and recovery programs are being conducted along the Missouri River, and this field station brings a focused and coordinated monitoring approach among agencies to help ensure the success of these activities.

Programs

Population management—Manage for, and when feasible, restore viable populations of plants, fish and wildlife compatible with the ecological capability of the land and balanced with the desires of resource users and the public.

Resource Science Division identifies priority population management challenges and develops recommendations, in collaboration with resource divisions, to manage harvested species, species of concern and invasive species.

Ecological processes—Increase our understanding of the processes that determine habitat conditions for native and introduced animals and plants.

Erosion and deposition through water, wind and fire are the natural disturbance and renewal processes that are essential to maintaining healthy systems and functions. The division focuses investigations on how to effectively re-establish or mimic these processes in Missouri's contemporary landscape to ensure restoration and management of plant and animal communities.

Management evaluation—Ensure that results of management and policy actions are measured and appropriately linked to resource-related outcomes, budgets and staff time.

Ongoing evaluation of resource responses and resource uses are essential to determine whether goals are met and to understand when change is needed. Resource Science Division promotes learning by doing to improve resource-management programs and to ensure accountability of staff and budget resources.

Human dimensions—Provide and promote the use of human-dimensions information in the management decision process.

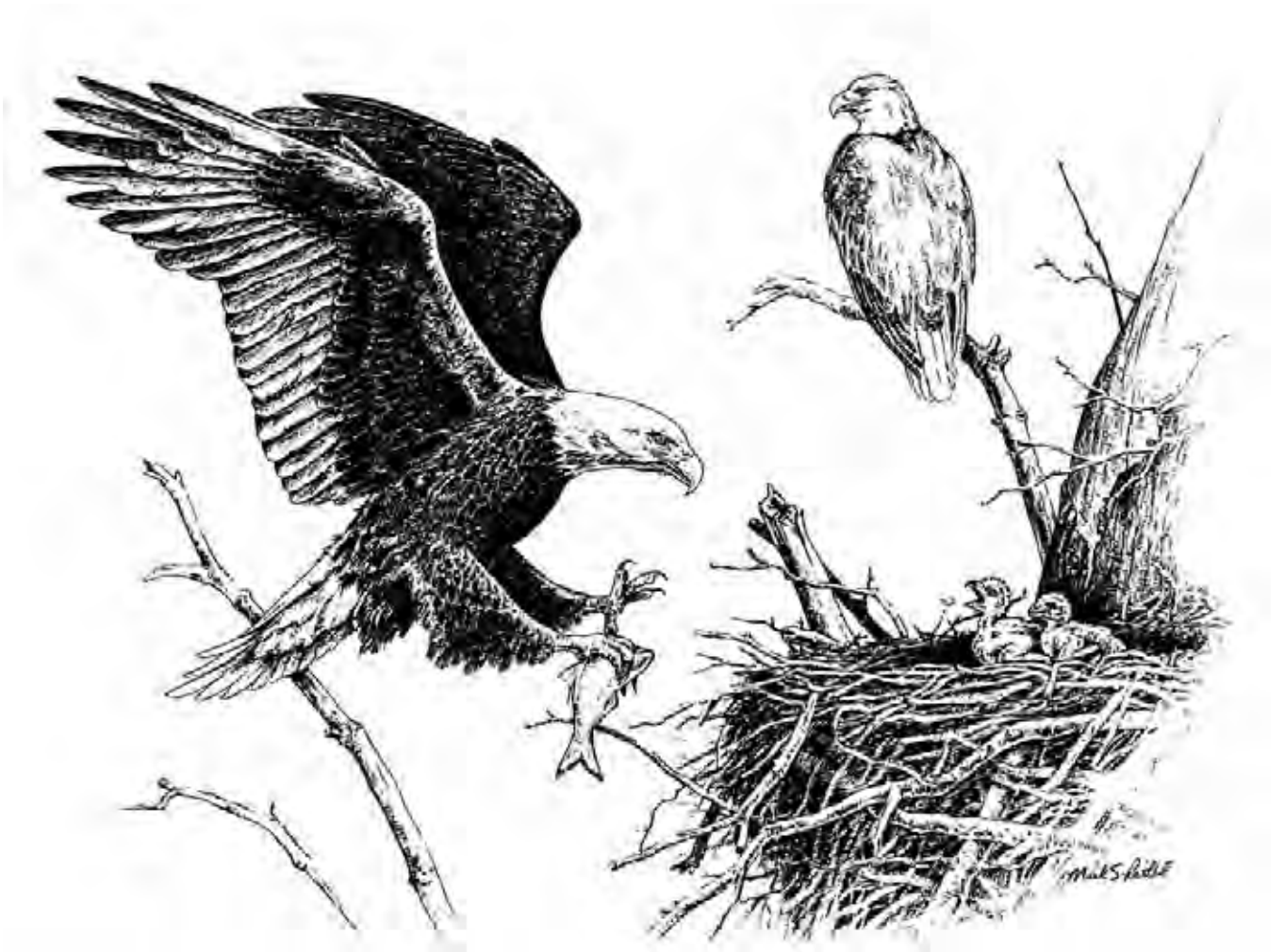
Resource Science Division collaborates with other divisions to ensure that human-dimensions information is acquired and used in policy and management decisions. This information is used to track changing public expectations, anticipate demographic trends, and ultimately provide the information needed to make sound resource policy and management decisions.

Large-scale planning—Ensure that all planning and program efforts are based on sound science and include evaluation measures.

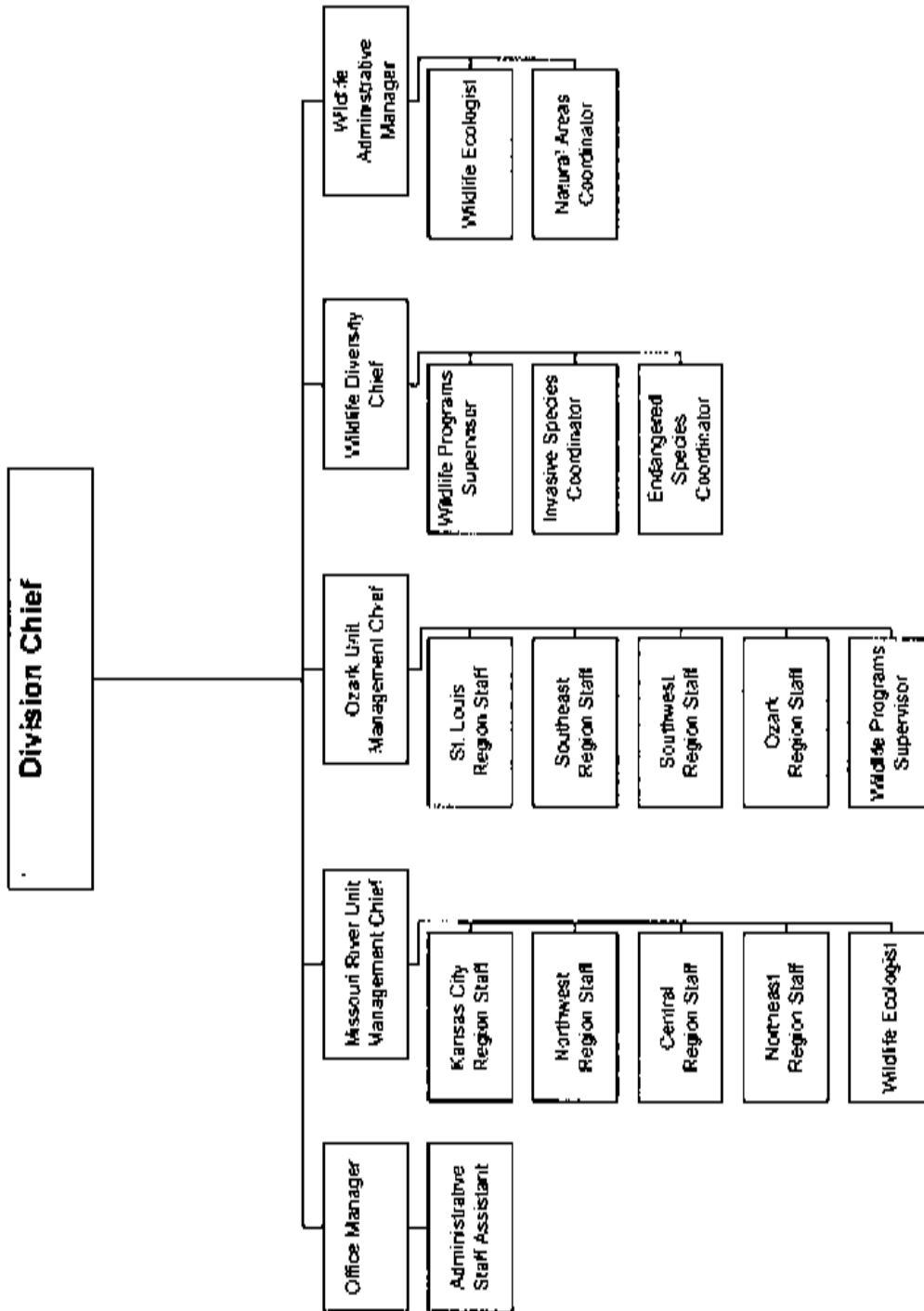
Advances in Geographic Information Systems and associated ecological and geospatial applications (e.g., Ecological Classification Systems) are used to inventory, assess and monitor resource condition and management results at national, state, regional and area scales.

Information transfer—Manage, share and transfer data collected in a useful, archivable and easily obtainable format.

The division ensures that information about resource investigations, population status, harvest and public use is timely, current, accurate and available in a form that is useful.



Wildlife Division



Wildlife Division

Mission: *To conserve for public benefit Missouri's wildlife resources and the landscapes on which wildlife depend, and to manage public lands to conserve and enhance their natural resources, provide vital ecosystem services, and invite public use and enjoyment.*

Goals

- Balance wildlife resource needs with public expectations
- Advocate wildlife and biological diversity in conservation efforts
- Actively seek ways to inform peers, cooperators and citizens about wildlife stewardship
- Provide opportunity for all citizens to use, enjoy and learn about wildlife and their habitats
- Manage conservation areas that provide opportunities for citizens to recreate and enjoy the outdoors

Programs: Wildlife Division is responsible for the management of Missouri's wildlife resources and the habitats upon which they depend to best serve the long-term interests of the people of the state. Fulfilling this role involves a wide range of programs and activities on public, as well as private, land.

Strive for wildlife diversity through natural community management/restoration on MDC lands

- Manage MDC's Wildlife Diversity program in a way that benefits the full range of MDC programs and Missouri landscapes
- Continue support of the Missouri Natural Areas program
- Continue to coordinate MDC's endangered species program
- Restore natural communities on MDC lands, especially native grasslands and wetlands
- Continue a renewed focus on the active management of wildlife habitats and plant/animal communities on MDC lands
- Ensure that aquatic species are profiled in agency wildlife diversity efforts, especially the State Wildlife Grant and Landowner Incentive programs
- Implement management programs on conservation lands that feature priority focus areas for bird conservation as outlined in Partners in Flight, Joint Venture plans, and Important Bird Area recommendations

Develop and strengthen effective conservation partnerships

- Administer Missouri's Comprehensive Wildlife Strategy, an approach to conservation planning and implementation within a framework of partnerships to integrate conservation action for all wildlife statewide
- Administer state wildlife grants to improve opportunities for MDC to work with conservation partners to conserve species with the greatest conservation needs
- Continue to promote all-bird conservation in Missouri through participation in the Missouri Bird Conservation Initiative, within the framework of 62 organizations and private-citizen partners
- Through the Golden Anniversary Wetlands Initiative, assemble the conservation partnerships necessary to secure grants and other funding for rehabilitation of wetland-management structures on the oldest wetland-management areas
- Form partnerships with landowners for wildlife stewardship on private land through the Landowner Incentive program and provide technical support through personal landowner contacts
- Continue to focus on grassland birds, especially prairie chickens, to enhance existing and future partnerships with communities near their habitat

Coordinate MDC invasive-species activities in conjunction with other affected/involved divisions

- Integrate the coordination of invasive/exotic species control into agency and Wildlife Diversity programs
- Control invasive/exotic species on conservation lands, especially in natural communities, while taking actions where appropriate to control the introduction of new invasive/exotic species to MDC lands

Public Resources Management—MDC area facilities/infrastructures maintained and operated in a way that invites public use

- Ensure that conservation area facilities are clean and operated in ways that welcome citizen visitors to the areas
- Maintain infrastructures of all types in ways that enable them to meet their use expectations
- Administer the Wildlife Restoration Grant in ways that provide federal support for operations, maintenance, habitat management and resource planning on conservation lands
- Develop mourning-dove habitats as a means to attract doves and hunters to MDC lands
- Provide special recreational opportunities through deer, dove, turkey and waterfowl managed hunts

Deer populations balanced with the interest and tolerance of landowners, hunters and the general public

- Manage conservation area deer-hunting programs in ways that provide a range of hunting opportunities for deer hunters as outlined in the deer strategic-direction statement
- Ensure that deer populations on conservation areas do not create problems for neighbors
- Assist private landowners with deer-harvest management programs on private lands

Manage forests on MDC lands that promote forest health, sustainable wood products, wildlife habitat and ecosystem restoration

- Continue efforts to assist Forestry Division staff in the attainment of agency timber-management objectives
- Actively pursue opportunities to use timber harvests as a means to attain natural-community restoration objectives, especially for woodlands, savannas, glades and prairies
- Assist Forestry in natural area management activities, such as prescribed burning, on Forestry areas

Conservation by the Numbers

- ▲ Actual Funds Available and Disbursements
- ▲ Number of Deer Harvested by County
- ▲ Number of Turkeys Harvested by County
- ▲ Acres of Conservation Land by County
- ▲ Payment In-lieu of Taxes (PILT) by County
- ▲ County Aid Road Trust (CART) Program
- ▲ Capital Improvement Projects Funding by County
- ▲ Number of Deer and Turkey Permit Holders by County of Residence
- ▲ Number of Fishing Permit Holders by County of Residence
- ▲ Number of Small Game Permit Holders by County of Residence
- ▲ Number of Landowner Deer Permit Holders by County of Residence
- ▲ Number of Landowner Turkey Permit Holders by County of Residence

MISSOURI DEPARTMENT OF CONSERVATION

Actual Funds Available and Disbursements
For Fiscal Year 2011

RECEIPTS

Sales Tax	\$95,818,337
Hunting, Fishing & Commercial Permit Sales	30,209,926
Federal Reimbursements	22,653,214
Agricultural Sales	2,152,399
Timber Sales	3,625,946
Other Miscellaneous Receipts	1,820,614
Miscellaneous Fees & Tags	1,380,432
Surplus Property	880,144
Interest	303,972
Publication Sales	745,212
Nursery Stock Sales	826,456
Grants, Gifts, Bequests & Donations	97,272
Contractual Services	98,303
Rentals	26,286
Miscellaneous Sales	535,022
Land Sales	21,900
Yield Tax & Other taxes	5,795
Refunds	210,999
Damage Reimbursements	26,267
Concession Income	12,510
TOTAL RECEIPTS	<u><u>\$161,451,006</u></u>

DISBURSEMENTS

County Assistance Payments	1,478,695
Capital Improvements	17,101,172
Fisheries	12,740,577
Forestry	14,799,844
Wildlife	17,095,531
Outreach & Education	14,389,507
Private Land Services	6,852,347
Protection	13,860,700
Resource Science	10,415,660
Regional Public Contact Offices	2,827,587
Administrative Services and Human Resources	26,420,875
Design & Development	10,254,894
Administration	3,163,614
TOTAL DISBURSEMENTS	<u><u>\$151,401,003</u></u>

Excellent public service is
what we will provide.

Employees are
the Department's most
important resource.



All citizens are important;
we value their trust and
their point of view.

Fairness, objectivity, sound science,
integrity and accountability will
guide our actions.

Missourians are our
partners to achieve
conservation success.