MANAGEMENT PROBLEMS AND OPPORTUNITIES

GOAL I: Maintain or improve aquatic habitat conditions to meet the needs of native aquatic biota while accommodating society's demands for agricultural production and economic development.

Status: Aquatic habitats, riparian areas, and the watershed are mostly in good condition in the upper subbasin. However, land management can be improved on public and private land. Through coordination and cooperation with other agencies, best management practices can be employed. The channelized sections of the lower subbasin have been drastically altered and need rehabilitation. Headcutting, erosion, and sediment deposition are serious problems. The U.S. Army Corps of Engineers (USCOE) has regulatory control over these channels. Improvements in the subbasin are possible through improved coordination with and assistance to the USCOE.

Objective 1. Maintain, expand, and restore riparian corridors; enhance watershed management; improve in-stream habitat; and reduce streambank erosion throughout the basin.

- * Provide technical assistance and recommendations about streams to all landowners, public agencies, and private contractors that request it.
- * Ensure that all Missouri Department of Conservation (MDC) conservation areas are examples of good watershed, riparian corridor, and stream management by including appropriate recommendations and prescriptions in area plans.
- * Encourage and assist other government agencies to use proper watershed, riparian corridor, and stream management on their lands.
- * Improve landowner stream stewardship by promoting and implementing MDC's incentive programs.
- * Work with the Natural Resource Conservation Service (NRCS), Farm Service Agency (FSA), and Soil and Water Conservation Districts (SWCD) to provide and promote incentive programs that will improve watershed, riparian corridor, and stream stewardship (*e.g.* fencing, corridor tree planting, livestock watering systems, pond construction).
- * Promote and participate in SALT and EARTH projects so that appropriate practices are available to landowners to improve watershed, riparian corridor, and stream stewardship.

- * Review Section 404 and other permit applications, comment on anticipated adverse impacts, and recommend measures to protect watershed and aquatic environments.
- * Periodically monitor habitat conditions; methods may include, but are not limited to SHAD surveys, GIS technology, aerial photography, or helicopter reconnaissance.
- * Encourage Missouri Department of Natural Resources (MDNR) to implement best reclamation techniques for mine tailing dams and ponds, and chat piles.

Objective 2. Reduce stream channel instability, sedimentation, and blockages in the lower subbasin.

Strategies

- * Encourage drainage districts and landowners to leave vegetated strips, preferably trees, along ditches and streams.
- * Encourage the USCOE to evaluate the headcutting that is occurring in the mainstem, tributaries, and lateral ditches and the resulting downstream sedimentation.
- * Encourage the USCOE to formulate and implement a plan that would eliminate further headcutting and excessive sedimentation. The plan should also include actions to restore in-stream and streambank habitats.
- * Provide recommendations to the USCOE concerning the project to remove the channel blockage/logjam in the mainstem below Highway 84, west of Kennett.

GOAL II. Maintain or improve water quality throughout the basin so that it is sufficient to support diverse aquatic biota.

Status: Water quality is generally good throughout the basin. However, mines, tailing ponds, chat piles, and inadequate waste water treatment facilities (*e.g.* Farmington's) can cause poor water quality. Lead smelting will continue to be a concern for Big Creek. High water temperatures in the channelized sections of the lower subbasin can pose problems for aquatic organisms.

Objective 1. Ensure that basin streams meet state water quality standards.

Strategies

* Review NPDES, Section 404, and other permit applications; assist with the enforcement of existing water quality laws; and recommend measures to protect aquatic communities.

- * Encourage Missouri Department of Natural Resources (MDNR) to implement best reclamation techniques for mines, tailing dams and ponds, and chat piles.
- * Support the upgrade of the Farmington waste water treatment facility.
- * Oppose the establishment of landfills in areas that may contaminate basin streams.
- * Cooperate with other state and federal agencies to investigate pollution events and fish kills.
- * Work with the Missouri Department of Health and MDNR to reduce contaminant levels in fish by collecting fish for contaminant analysis, advising the fishing public about contaminants, and identifying sources of contamination.
- * Encourage and assist the MDNR to monitor construction sites to ensure that best management practices are used to limit erosion and sediment input into streams.
- * Encourage and assist other government agencies to use proper watershed, riparian corridor, and stream management practices on their lands.
- * Improve landowner stream stewardship by promoting and implementing MDC's incentive programs.
- * Work with the Natural Resource Conservation Service, Farm Service Agency, and Soil and Water Conservation Districts to provide and promote incentive programs that will improve watershed, riparian corridor, and stream stewardship (e.g. fencing, corridor tree planting, livestock watering systems, pond construction).
- * Promote and participate in SALT and EARTH projects so that appropriate practices are available to landowners to improve watershed, riparian corridor, and stream stewardship.
- * Educate livestock producers by providing them with technical information about management practices (*e.g.* alternative watering systems, management intensive grazing) to keep livestock waste from entering streams..

Objective 2. Encourage the public to become advocates for high-quality water.

- * Encourage formation of additional STREAM TEAMs and STREAM TEAM associations within the basin.
- * Encourage STREAM TEAMs to participate in the Volunteer Water Quality Monitoring Program and to report pollution, other water quality problems, and illegal trash dumping to the proper authorities.

- * Encourage and assist STREAM TEAMs in removing trash from all major basin streams.
- * Media contacts, presentations, special events, and literature distribution will be used to reach people throughout the basin to enhance their awareness of water quality problems and viable solutions.
- * Serve in an advisory role to STREAM TEAMs and other citizen organizations and local governments on water resource issues.

GOAL III. Maintain diversity of native aquatic organisms and improve the quality of fishing.

Status: The basin supports a diverse aquatic biota, including 130 fish species, 48 mussel species, and 16 crayfish species. Most streams support a diverse benthic invertebrate fauna.

Objective 1. Monitor, assess, and protect aquatic populations and communities.

Strategies

- * Encourage STREAM TEAMs to participate in the Volunteer Water Quality Monitoring Program to monitor aquatic invertebrates.
- * Assist the MDC malacologist with basin naiad surveys and help maintain or improve a diverse and healthy naiad community.
- * Encourage and support Protection Division personnel with the protection of mussels from illegal harvest.
- * Maintain proper habitat conditions (*e.g.* improved water quality, reduced siltation) through improved watershed, riparian corridor, and streambank management.

Objective 2. Provide diverse, high-quality angling opportunities.

- * Evaluate the status of the sport fish community by conducting periodic electrofishing surveys.
- * Propose and implement regulations, as needed, that might improve the quality of fishing for a variety of species (e.g. smallmouth bass, spotted bass, shadow bass, walleye, channel catfish).
- * Identify critical habitat areas for sportfish species and maintain or enhance these areas as needed.

- * Continue efforts to establish a self-sustaining walleye population in the upper St. Francis River.
- * Determine angler preferences through creel or angler opinion (mail-in or phone) surveys.

Objective 3. Improve access to basin streams.

Strategies

- * Acquire and develop public access and frontage sites for boating, canoeing, kayaking, and bank fishing at strategic points.
- * Improve bank fishing and other aquatic wildlife-based recreational opportunities on public lands.

GOAL IV. Improve the public's knowledge and appreciation of stream resources; recreational opportunities; and proper watershed, riparian corridor, and streambank management.

Status: Public education will continue through a variety of avenues. Stream management workshops for landowners, classes for teachers, seminars at Sports Shows and other events, and contacts with the news media will provide a variety of means to educate the public.

Objective 1. Educate the public on the value of healthy stream ecosystems and encourage advocacy on behalf of basin streams.

- * Assist with the University of Missouri's project, Sustaining Natural Resources on Private Lands in the Central Hardwood Region. This project will be conducted in the St. Francis River and Black River basins in Missouri.
- * Conduct aquatic education programs in cooperation with MDC Outreach and Education Division and local area schools.
- * Encourage basin STREAM TEAMs to promote the value and opportunities associated with basin streams.
- * Encourage formation of additional STREAM TEAMs and STREAM TEAM associations within the basin.
- * Provide technical assistance and recommendations about streams to all landowners, public agencies, and private contractors that request it.

- * Cooperate with other agencies (e.g. NRCS, MDNR, SWCD) to promote participation in watershed and stream incentive programs and SALT or EARTH programs.
- * Work with MDC's Outreach and Education Division staff to conduct stream management workshops for school teachers.
- * Work with MDC's Private Land Services (PLS) staff to promote good stream stewardship through workshops and one-on-one contacts with landowners.
- * Work with PLS staff to present workshops and programs to local government officials about stream dynamics and the importance of good watershed management and healthy riparian corridors.

Objective 2. Educate the public about aquatic-related recreational opportunities in the basin.

- * Promote angling opportunities through MDC's Fishing Prospects, media, presentations, and special events.
- * Increase awareness of the angling opportunities for non-game fishes (e.g. buffalo, gar, carp, drum).
- * Promote aquatic-related activities (e.g. angling, snorkeling, canoeing, kayaking, site-seeing) through the media, presentations, and special events.