

Implementation Strategy 7.0: Agriculture and Animal Sources

Bacteria loads from agricultural practices and animals are identified in the TMDLs as nonpoint sources of concern. Areas of concern include the potential for bacteria to attach to sediment in runoff, the potential effect that nutrients will have on bacteria growth rates in water bodies, and livestock's direct deposition of fecal waste in waterways. Existing management programs are traditionally voluntary, unless large populations of animals are involved. The expansion of existing programs could help lower bacteria levels in waterways, particularly in subwatersheds where substantial areas of land are devoted to crop, pasture, and range. (See Figure 6.) According to the technical documents for each of the TMDLs, there are no Concentrated Animal Feeding Operations (CAFOs) in the areas covered by this I-Plan. However, livestock populations have been estimated for the area for the Clear Creek and the Lake Houston TMDLs. Cattle and poultry are most abundant livestock in the region. Estimated populations are described in Table 7.

Table 7: Estimated Livestock Populations

TMDL	Cattle	Poultry
Clear Creek ⁹³	2,696	2,093
Lake Houston ⁹⁴	52,510	50,293

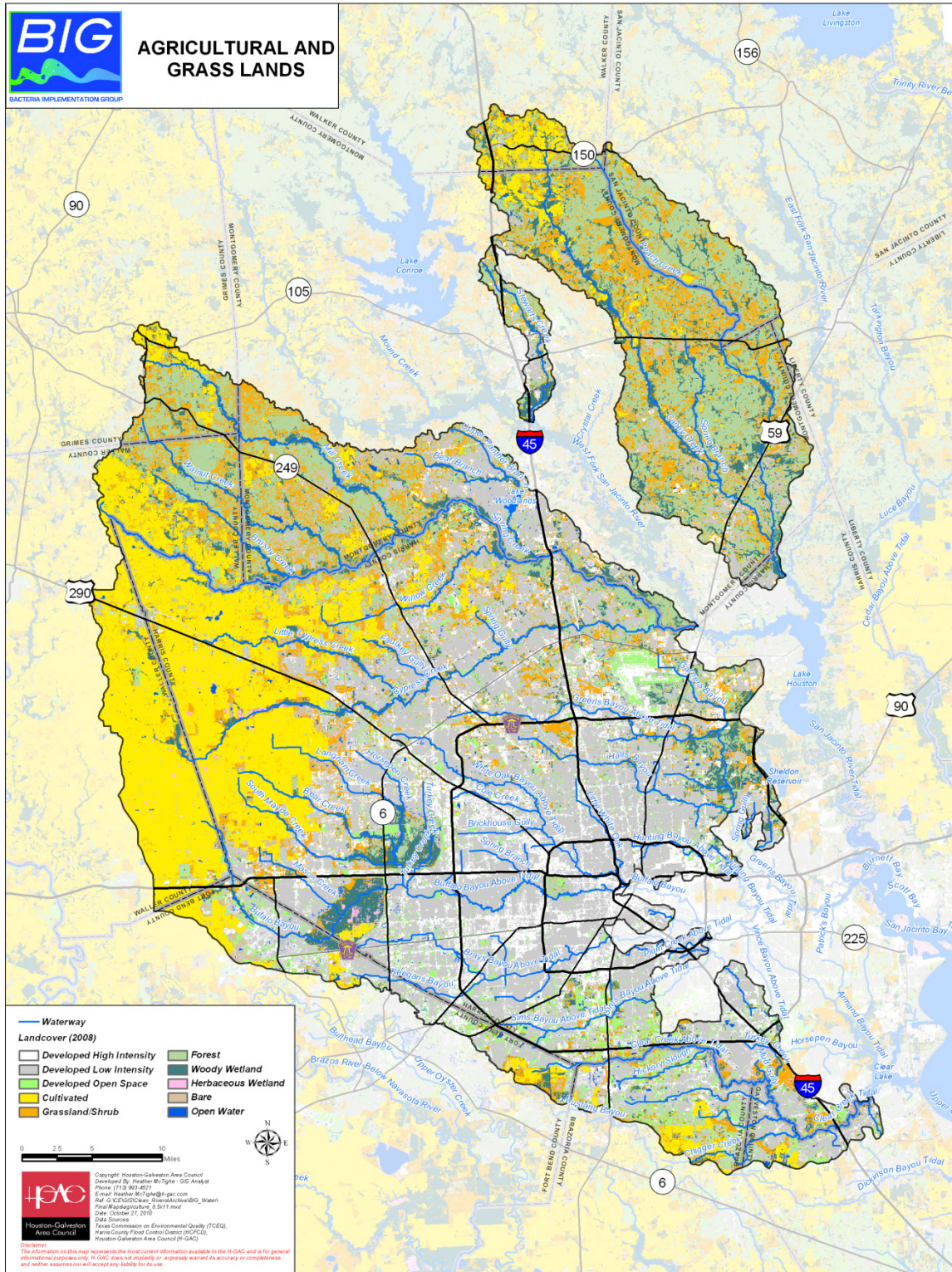
Other animals of concern throughout the region include horses, swine, sheep, and goats, with their densities varying by watershed. For example, horse populations are prevalent in the Cypress Creek and Spring Creek watersheds.

⁹³ (University of Houston & Parsons 2009b)

⁹⁴ (James Miertschin & Associates, Inc. 2009)

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Figure 6: Map of Agricultural and Grass Lands



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A prominent concern raised by stakeholders pertains to feral hogs. In addition to being a nuisance to landowners because of their rooting and wallowing and occasional predation of small livestock, feral hogs discharge large amounts of bacteria and nutrients into the environment through fecal waste. No precise estimate of the number of feral hogs is available for the BIG project area, yet anecdotal evidence suggest a large hog population in the region. Hogs are known to reproduce quickly, have no natural predators, and spend the majority of their time either in or around water.⁹⁵ Hogs are likely a significant source of bacteria for some of the impaired waterways encompassed by this I-Plan.

The four governmental agencies in the following list will be responsible for implementing management measures aimed at reducing nonpoint source loadings from agricultural operations. Their duties and activities related to this I-Plan are described in greater detail in Appendix H.

- **Texas State Soil and Water Conservation Board (TSSWCB)** – The TSSWCB is the lead agency in Texas responsible for planning, implementing, and managing programs and practices for preventing and abating agricultural and silvicultural (forestry) nonpoint source pollution.⁹⁶
- **Natural Resources Conservation Service (NRCS)** – The NRCS provides conservation planning and technical assistance to landowners, groups, and units of government to develop and implement conservation plans that protect, conserve, and enhance their natural resources.
- **Soil and Water Conservation Districts (SWCDs)** – Through decades-old agreements, SWCDs offer agricultural landowners and operators technical assistance through partnerships with the NRCS and the TSSWCB.
- **Texas AgriLife Extension Service** – AgriLife Extension, an agency of the Texas A&M University System, provides quality, relevant outreach and continuing education programs and services to Texans.

Additional agencies may be able to facilitate voluntary actions pertaining to wildlife and property management activities. Agencies include Texas Parks and Wildlife Department, the U.S. Fish and Wildlife Service, wildlife management associations and co-ops, and other entities.⁹⁷

⁹⁵ (Taylor n.d.)

⁹⁶ See Tex. Agric. Code § 201.026

⁹⁷ The Private Landowner Network maintains a comprehensive list of resources available to private landowners at <http://www.privatelandownernetwork.org/grantprograms/>.

Implementation Activity 7.1: Promote Increased Participation in Existing Programs for Erosion Control, Nutrient Reduction, and Livestock Management

A variety of programs provide farmers and ranchers with the technical and financial assistance necessary to combine agricultural production with environmental control actions. These actions may address water quality, reduction of soil erosion and sedimentation, livestock waste management, and other issues that are likely to reduce bacteria in regional waterways.

Funding mechanisms identified by stakeholders include:

- Environmental Quality Incentives Program (EQIP), administered by the NRCS;
- Water Quality Management Plan Program (WQMP), a part of the Texas Non-Point Source Management Program administered by the TSSWCB through the SWCDs;
- Conservation Innovation Grants, administered by the NRCS;
- Conservation Security Program (CSP), administered by the NRCS;
- Farm and Ranch Lands Protection Program, administered by the NRCS;
- Grassland Reserve Program, administered by the NRCS;
- Wetlands Reserve Program, administered by the NRCS; and
- Wildlife Habitat Incentives Program, administered by the NRCS.

The funding mechanisms in the preceding list should not be considered an exhaustive list. Additional programs may be added as this I-Plan is updated.

These voluntary programs provide technical and financial assistance. Program participation levels should be increased by increasing familiarity with the program through marketing. Primary methods for disseminating information and increasing participation include:

- Texas AgriLife Extension Service agents' contact with the public;
- Public outreach from local SWCDs;
- Information distribution through local 4-H clubs, rodeos, the Texas Farm Bureau, the Texas and Southwestern Cattle Raisers Association, the Independent Cattleman's Association of Texas, Future Farmers of America, and at Agricultural Field Days; and
- Word of mouth.

Implementation of erosion control, nutrient reduction, and livestock management programs likely will not result in immediate cost savings to the landowner. However, implementation does have other benefits that should be promoted, including increased plant health, increased infiltration, reduced erosion, and increased filtration and trapping of nutrients. Additionally, participation should help landowners avoid violating water quality regulations and the associated fines. If a participating landowner violates water quality regulations while following an approved plan, the regulating agency

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may give the landowner an opportunity to implement BMPs to come into compliance. Also, when new mandatory implementation practices come into effect, participating landowners are often not forced to update their operations, as they are already in compliance with water quality regulations. Success stories should be highlighted.

The Montgomery County and Harris County SWCDs have informational materials for small landowners regarding environmental best practices for agriculture. These could be updated and made available to landowners in all watersheds. Providing landowners with clear and practical information may increase the likelihood of them implementing agricultural management measures, whether independently or through an existing program.

Targeted program promotion will increase through word-of-mouth campaigns and Extension Agent involvement. Additional promotion methods include emails; notices in newsletters and local newspapers; participation in local festivals, rodeos, and fairs; and development of school programs. Promotion efforts will be conducted by TSSWCB, local SWCDs, NRCS, AgriLife Extension, H-GAC, and other agencies as appropriate with a goal of increasing participation in the programs each year. The BIG will provide this I-Plan to the implementing agencies along with a formal request for their assistance in encouraging program participation in accordance with this Implementation Activity.

Implementation Activity 7.2: Promote the Management of Feral Hog Populations

With continuous effort, feral hogs can be managed. The Texas Wildlife Damage Management Service, a division of the Texas AgriLife Extension Service, is a valuable resource for training, technical assistance, and direct control in wildlife damage management including feral hog populations.⁹⁸ Control methods include snaring, live trapping, shooting, hunting with dogs, aerial hunting, exclusion, and habitat management.⁹⁹

The BIG region will take advantage of the services provided by the Texas Wildlife Damage Management Service by arranging two feral hog management workshops for landowners, local governments, and other interested individuals annually for five years. H-GAC will request that workshops be held in strategic locations throughout the BIG region. Workshops will be heavily promoted in the Extension Service newsletter, local newspapers, and radio stations. Management activities, as described, can also be implemented by local governments as appropriate. If interest in workshops remains strong after five years, H-GAC will continue to arrange workshops throughout the area covered by this I-Plan.

⁹⁸ (Coping with Feral Hogs 2010)

⁹⁹ (Muir and McEwen 2007)