



**Animals & Agriculture Work Group  
DRAFT Meeting Notes  
December 18, 2012  
1:00 pm to 3:00 pm  
H-GAC Conference Room A, Second Floor**

**Attendees**

Brian Koch (TSSWCB), Steven Mitchell (TPWD), Rachel Powers (H-GAC), Mary Purzer (AECOM)

**Call to Order/Welcome/Introductions**

Rachel called the meeting to order and initiated self-introductions.

**Review Notes from Last Year**

Rachel provided the notes from last year in case they were needed for reference.

**Update on I-Plan Approval Process**

The TCEQ unanimously approved the BIG I-Plan on January 30, 2013. The approved version included the changes to the I-Plan that had been discussed at previous BIG meetings. None of the changes were in the references sections.

**Review Annual Report format**

Rachel explained that the conceptual format for the annual report was developed in collaboration by the BIG and agreed to at the BIG mid-year meeting in October 2012. The report will consist of three main components:

- 1) **At-a-Glance:** The At-a-Glance section will be one 11x17 paper that includes cover page with a photo; a table of implementation activities, proposed milestones, and an evaluation of progress; and a sheet with background information, a map, and high-level review of progress overall.
- 2) **A printed report:** In addition to a narrative overview, the printed report will include information about progress and goals for each of the strategies in the plan. Each strategy will be described by a narrative description preceded by a tabular summary sheet, which will include recommendations from the workgroup to the BIG regarding progress, achievements, focus for the coming year, and revisions to the I-Plan.
- 3) **Web-based support documents:** If additional information, such as lengthy tables, are necessary, these will be provided in an on-line format.

**Review Implementation Progress--** The workgroup reviewed progress for each of the implementation activities, as follows.

Implementation Strategy 7.0: Animals & Agriculture

- 7.1: Increase Participation in Existing Programs for Erosion Control, Nutrient Reduction, and Livestock Management
  - Texas Water Resources Institute has created a series of publications as part of the new Lone Star Health Streams Program. One of the goals of the program is: "...the protection of Texas Waterways from bacterial contamination originating from livestock operations and feral hogs...." Brian Koch provided copies of some of the publications:
    - Reducing bacterial contamination of waterways
    - Beef Cattle Manual
    - Feral Hog Manual
    - Horse Manual
    - Improving Water Quality of Grazing Lands Fact Sheet
    - Lone Star Healthy Stream Program Fact Sheet
  - The group did discuss agricultural exemptions granted by appraisal districts, which may promote having more animals on a property than might be desirable for bacteria loading purposes. H-GAC will track progress resulting from other TMDL implementation activities.
  - Rachel provided a copy of the Ag BMP Effectiveness Table, developed by Texas Water Resources Institute for the Carter's Creek TMDL. Lone Star Healthy Streams has fact sheets about Ag BMPs for reducing bacteria. The program also provides fact sheets for agricultural BMPs for livestock: <http://lshs.tamu.edu/bmps/>.
  - Rachel attended meetings of many of NRCS Local Work Group Meetings, at which decisions are made at the county level regarding priorities for EQIP funding. She provided information about the BIG and encouraged the work groups to consider bacteria as decisions about funding priorities were made. While drought recovery was a common issue at the meetings, many of the priority practices are already among the recommended BMPs that are prioritized. Rachel plans to follow up and look at allocation of funds to see if relatively more funds are allocated to BMPs specific to reducing bacteria.
  - Rachel reminded the work group of the Inventory of Program Participation: Environmental Working Group Farm Subsidy Database, which has data at a more granular level than the NRCS reports. (<http://farm.ewg.org/>)
  - H-GAC has been participating in a project of The Conservation Fund to study the effectiveness of economic incentives to increase participation in voluntary programs. Hopefully, some of the study will be in the BIG project area.
- 7.2: Promote the Management of Feral Hog Populations
  - The TSSCB has awarded a grant to the AgriLife Extension to administer a statewide feral hog program. As part of the grant, an extension agent will be assigned to an area slightly larger than the H-GAC region to provide workshops and technical assistance. While the program is statewide, the special attention in the region is in part because of a similar grant application that H-GAC made for similar services. [Contact Mark Tyson at [mark.tyson@ag.tamu.edu](mailto:mark.tyson@ag.tamu.edu) (979) 845-4698.]
  - Texas A&M Agrilife Extension has developed a "Feral Hog Community of Practice" ([http://www.extension.org/feral\\_hogs](http://www.extension.org/feral_hogs)) that includes a website,

webinars, and publications. (The work group meeting was immediately preceded by a group viewing of one of the webinars.)

- The Texas Department of Agriculture sponsors the "Hog Out Month County Challenge," with monetary awards for the counties that provide the most education (one point per person) and take the most hogs (half point per hog). The number of counties in the region increased this year, and included the following counties: Austin, Chambers, Fort Bend, and Montgomery. We are hopeful that BIG Counties will be among the top ten contestants next year.
- Pork Chopper: It is possible to get a list of landowner agreements and Aerial Wildlife Permits from the Texas Parks & Wildlife Department. Pork Choppers apparently are one of the most effective feral hog management tools.
- [Harris County informed us after the meeting that they had received a significant grant for feral hog management in the Addicks and Barker Reservoirs. More info next year!]

### **Confirm Recommendations to the BIG for Annual Report**

The work group reviewed the draft Implementation Strategy Cover Sheets for the two strategies: Stormwater & Land Development and Construction.

There were 3 attendees including no BIG members and 1 alternate (which is more than last year).

The group did not recommend changes for the At-a-glance table.

The proposed wording for Progress was appropriate.

The proposed wording for Achievements was appropriate.

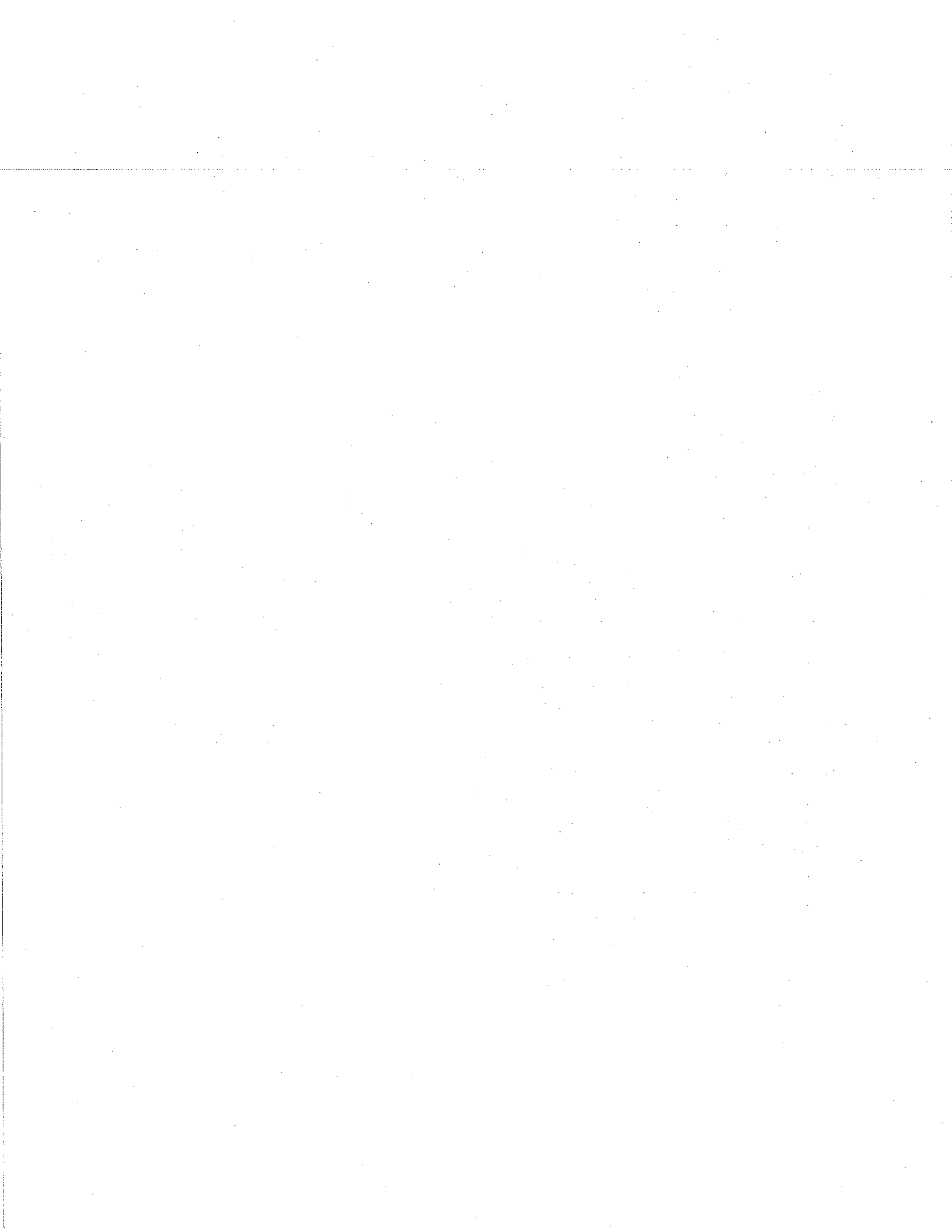
The proposed wording for Focus was appropriate.

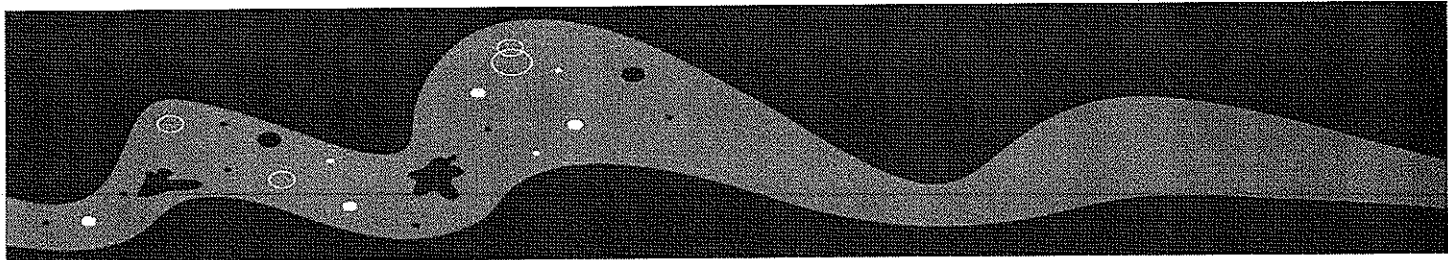
The group did not recommend revisions to the I-Plan.

### **Adjourn**

**BIG Annual Meeting: Tuesday, May 14, 2013**

**[Tentative date for next meeting: Early November 2013.]**









# Implementation Strategy 7.0: Animals & Agriculture

#	Activity	Target/ Objective/ Milestone	Status
7.1	Promote Increased Participation in Existing Programs for Erosion Control Nutrient Reduction, and Livestock Management	Each year, 5% increase in participation	Baseline identified; On schedule
7.2	Promote the Management of Feral Hog Populations	Two workshops each year for five years	Not started, On schedule

## Work Group Recommendations

*Meeting December 18, 2012. 3 attendees, including no BIG members and 1 alternate.*

 <p><b>Progress</b></p>	Progress has been adequate. Activity has begun and is ongoing for each of the implementation activities.
 <p><b>Achievements</b></p>	Baseline data has been collected from NRCS about EQIP funding related to BIG strategies. BIG concerns have been presented at NRCS Local Work Group meetings. TSSWCB has funded Texas AgriLife Extension to provide statewide technical assistance for feral hogs, including priority watersheds in the region.
 <p><b>Focus</b></p>	Focus in the coming year will be on encouraging stakeholder involvement in existing programs.
 <p><b>Revisions</b></p>	The work group does not recommend changes to the I-Plan.



# ANIMALS AND AGRICULTURE

## 7

### Main Summary

Animals and agricultural practices contribute to increased bacteria levels in sediment runoff and water bodies. Cattle and poultry operations are the most common animals of concern in the BIG project area. However, clusters of other animals – such as horses, swine, sheep, and goats – also contribute to lower water quality levels throughout the watershed. Of particular interest to BIG stakeholders are feral hogs, a state and national menace estimated to cause \$500 million in statewide economic damages each year. Feral hogs not only damage property due to their rooting, wallowing, and predatory tendencies. They also discharge large amounts of bacteria and nutrients into the environment through excrement.

Most agricultural management programs are either voluntary or only apply to confined animal feeding operations (CAFOs) designated by the U.S. Environmental Protection Agency (EPA). These operations are not present in the BIG project area. The I-Plan recommends that local initiatives focus on promoting increased participation in existing voluntary- and incentive-based programs that target erosion control, nutrient reduction, and livestock management. The expansion of these programs will help lower bacteria levels in waterways, particularly in subwatersheds where substantial areas of land are devoted to crop, pasture, and range use.

### Work Group Activities

Meeting December 18, 2012. Three attendees, including no BIG members and one alternate.

#### Progress

Progress has been adequate. Activity has been initiated for all of the implementation activities.

#### Achievements

- H-GAC presented BIG concerns at the Natural Resources Conservation Service's (NRCS) local work group meetings.
- H-GAC collected information about the NRCS' Environmental Quality Incentives Program (EQIP), a potential funding stream for financial and technical assistance.
- The Texas State Soil and Water Conservation Board (TSSWCB) funded Texas AgriLife Extension to provide statewide technical assistance for managing feral hogs in the project area's priority watersheds.
- Harris County Precinct 3 received a \$300,000 Coastal Impact Assistance Program grant to help build feral hog pens in the Addicks and Barker Reservoirs and to pay for processing.

#### Focus

- H-GAC and BIG stakeholders aim to encourage stakeholder involvement in existing programs.

#### Revisions

The work group does not recommend changes to the I-Plan.

## Implementation Strategies

### 7.1 Promote Increased Participation in Existing Programs for Erosion Control Nutrient Reduction and Livestock Management

- Each year, participation by farmers and ranchers in financial and technical assistance programs should increase by five percent.

- Not Started
- Initiated
- In Progress
- Completed
  
- Behind Schedule
- On Schedule
- Ahead of Schedule

#### Annual Progress and Applicable Programming:

- **EQIP Funding.** H-GAC staff attended NRCS local work group meetings to: share information about the BIG; encourage bacteria as a funding priority; and, gather information on NRCS' EQIP. This voluntary program provides financial and technical assistance to help manage natural resources in a sustainable manner. Meeting participants raised drought recovery as a common issue. However, many of the proposed solutions were already among BIG's recommended best management practices (BMPs).
- **Economic Incentives for Voluntary Programs.** H-GAC continued to provide data for a study by The Conservation Fund. The study uses behavioral economics to better understand if and how incentives increase participation in voluntary water quality programs.
- **Lone Star Healthy Streams Program.** As part of the Lone Star Healthy Streams Program, the Texas Water Resources Institute (TWRI) created a series of publications pertaining to bacterial contamination of waterways and related management of beef cattle, feral hogs, horses, grazing lands, and more. The program aims to educate Texas farmers, ranchers, and landowners about proper grazing, feral hog management, and riparian area protection to reduce the levels of bacterial contamination in streams and rivers.
  - **Agricultural BMPs.** The TWRI developed hands-on resources such as an Agricultural BMP Effectiveness Table for the Carter's Creek total daily maximum load (TMDL) and fact sheets on watering facilities, heavy use protection areas, and other livestock-related practices.
- **Farm Subsidy Database.** As a resource to understanding more about existing programs, the Environmental Working Group organization offers an online, 2012 Farm Subsidy Database ([www.farm.ewg.org/](http://www.farm.ewg.org/)) that tracks \$240 billion in farm subsidies from commodity, crop insurance, and disaster programs, and \$37 billion in conservation payments paid between 1995 and 2011. The database's level of detail is more granular than the NRCS reports.

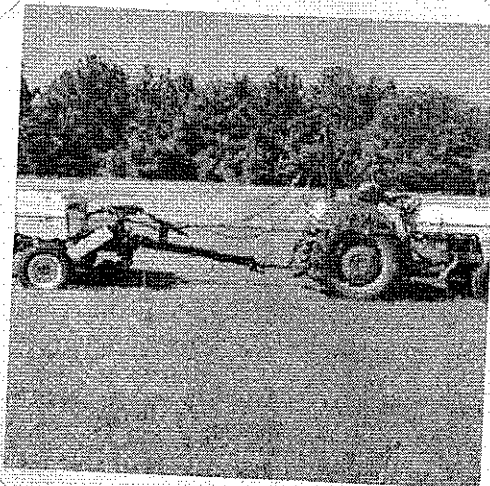
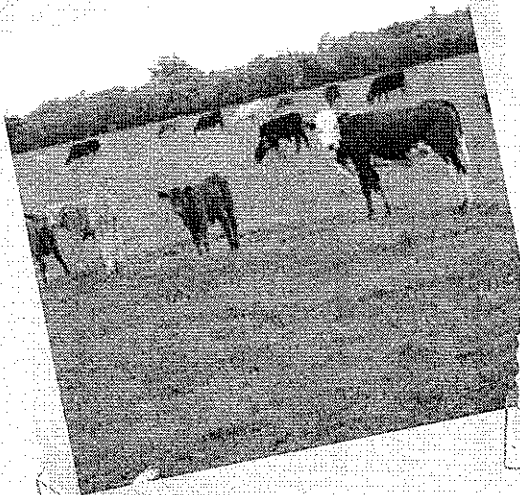
## 7.2 Promote the Management of Feral Hog Populations

– During the next five years, Texas AgriLife Extension will host two feral hog management workshops per year for landowners, local governments, and other interested people.

- Not Started
- Initiated**
- In Progress
- Completed
  
- Behind Schedule
- On Schedule**
- Ahead of Schedule

### Annual Progress and Applicable Programming:

- AgriLife Extension Workshops and Technical Assistance.** In 2012, Texas AgriLife Extension received a TSSWCB grant to administer a statewide feral hog program. An extension agent will be assigned to an area slightly larger than the 13-county H-GAC region to provide workshops and technical assistance. While the program is statewide, the BIG project area will receive special attention since the I-Plan and other local Watershed Protection Plans identify feral hog control as a priority.
- Feral Hog Management Grant.** In 2013, Harris County Precinct 3 received a \$300,000 Coastal Impact Assistance Program grant to help build feral hog pens in the Addicks and Barker reservoirs and to pay for processing. For the last eight years, off-duty county workers, Army Corps of Engineers staff, and contractors continuously trapped approximately 250 to 300 hogs in the reservoirs on an annual basis.
- AgriLife Extension Online Resources.** Texas AgriLife Extension developed a "Feral Hog Community of Practice." This educational resource includes a website ([www.extension.org/feral\\_hogs](http://www.extension.org/feral_hogs)), webinars, and publications.
- Education Outreach Contest.** The Texas Department of Agriculture continued to sponsor the "Hog Out Month County Challenge," which awards monetary prizes to counties that provide the most education opportunities and capture the most hogs. The number of participating BIG jurisdictions increased in 2012, including first-time participation from Austin, Chambers, Fort Bend, and Montgomery counties.





## 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 <sup>93</sup>	2,696	2,093
Lake Houston <sup>94</sup>	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.

<sup>93</sup> (University of Houston & Parsons 2009b)

<sup>94</sup> (James Miertschin & Associates, Inc. 2009)

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.<sup>95</sup> 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.<sup>96</sup>
- **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.<sup>97</sup>

### **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

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<sup>95</sup> (Taylor n.d.)

<sup>96</sup> See Tex. Agric. Code § 201.026

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

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.<sup>98</sup> Control methods include snaring, live trapping, shooting, hunting with dogs, aerial hunting, exclusion, and habitat management.<sup>99</sup>

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.

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<sup>98</sup> (Coping with Feral Hogs 2010)

<sup>99</sup> (Muir and McEwen 2007)