

**FAYETTEVILLE FORWARD ECONOMIC ACCOUNTABILITY COUNCIL – LAND USE/GREEN INFRASTRUCTURE GROUP
SEPTEMBER 17, 2009 MEETING**

ATTENDEES: Harriet Jansma/FNHA, Bob Caulk/FHNA, Pete Heinzelmann/FNHA, Sarah Lewis/Fvl Alderman, Connie Edmonston/Fvl Pks & Trails, Leif Oleson/Fvl City Assoc Planner, Frank Sharp, Daniel Schaap, Patti Erwin/AR Forestry Comm Urban Forestry Coord, Delia Haak/IRWP Exec Dir, Dot Neely/FNHA-GIPP/FFEAC

FFEAC LUGI GROUP OBJECTIVE:

Provide economic metrics/rationale/justification* for creation/implementation of City of Fayetteville Governmental and Planning Department policies which establish/promote/support/maintain Green Infrastructure Planning (GIP) and an Enduring Green Network at various levels of scale (to be defined/specified).

REVIEW OF PROPOSED GI PLANNING PROJECT TIMELINE:

- 2009 (and ongoing): Build public awareness of the critical role of Green Infrastructure
- Late 2009: Develop a detailed plan for an “Enduring Green Network” (EGN) for Fayetteville and pursue its adoption as part of the city’s land use plan
- Late 2011: Build tools to assemble and maintain an EGN for our city and region
- 2025: Assemble EGN

FFEAC LUGI GROUP GI, ECONOMICS, & POLICY COMMITTEES REPORTS

GREEN INFRASTRUCTURE COMMITTEE - Bob Caulk summarizes Fayetteville Natural Heritage Association’s Green Infrastructure Planning Project work in cooperation with, support of, and contribution to the advancement of FFEAC LUGI initiatives/goals

The 2006 Fayetteville Natural Heritage Association Urban Forestry Conservation Assessment (<http://www.siteground176.com/~fayettev/pdfs/24.pdf>) provides a “first pass” for identifying Green Infrastructure (GI) and defining an Enduring Green Network (EGN)

The primary drivers for designation of GI components are ecological.

The GIP/EGN designates natural/green space in terms of **CORES/HUBS/CORRIDORS:**

CORES – Natural/Undeveloped/Minimally disturbed parcels of 20 or more acres

HUBS – 1) Additional urban forested areas around CORES; 2) Prairie Remnants; 3) University of Arkansas land holdings

CORRIDORS – 1) Flood Plains of 2nd or higher order streams; 2) Karst Zones of highly sensitive recharge areas which join watersheds across watershed divides as depicted on the Nature Conservancy Karst Area Sensitivity Maps (<http://www.nwarpc.com/maps.htm>); 3) Right-Of-Ways for Short-Run Railroads and utility companies; 4) Abandoned roadbeds formerly used for logging or crop access

- Prime Farmland parcels with Fayetteville Sandy Loam soil type designation could qualify as CORES, HUBS, or CORRIDORS
- For Public Education purposes, Tim Snell/The Nature Conservancy Associate State Director (Fayetteville) could provide an excellent explanation of the significance of karst as pertains to water table recharge and water quality issues.
- Johnson land owner, Troy Parnell has expressed interest in conserving a portion of his property which features a bluff with cave bordered by Clear Creek.
- Threats to GI should be identified in addition to desired Land/Water features, policies, or management practices
- NW Arkansas Regional Planning Commission Sustainable Transportation Study incorporates consideration of Long Range Trail Master Plan which will include input from the FNHA GIPP. Bentonville, Farmington, Fayetteville, Greenland, Johnson, Rogers, Springdale City Administrations are all on board with Regional Trails concept. Lowell has not indicated interest in participation.
- U.S. Government support for transportation alternatives is gaining

FNHA GIPP PUBLIC INPUT MEETINGS

September 11-12 Wedington Woods

- 44 Total Participants
- Kim Hesse invited Katie Ward/NWA Times Reporter to cover the event. See 09/13/09 article: "Natural Heritage Association makes plans for a green future"
- Feedback POSITIVE from 39 participants. Families attending especially interested in parks & trails

Four more FNHA GIPP Public Meetings Scheduled with next 5:30-7:30 at Fayetteville Public Library on Thurs., Oct. 1, 2009. FNHA also has upcoming public meetings in Farmington, Johnson, and Greenland in addition to possibly 3 more meetings in Fayetteville, the next Barbara Boland has scheduled with the GREEN DRINKS gathering on Oct. 19 at Smilin' Jacks 5:30 - 7 PM.

ECONOMICS COMMITTEE - Pete Heinzemann presents research and information on health benefits and economic justification for GI

- Pete said a random poll for developing GI indicated broad public support. Responses to the poll were seen to cluster into two general statistical groups. One group supports GI overall. The second questioned the need for trails and more parks, but indicated broad-based support for watershed/riparian zone protection.
- Delia Haak/IRWP Exec Dir noted that while the IRWP wants to help educate the public re: Watershed dynamics and protection, the organization by-laws allow support of existing regulations, not promotion of proposed policies.

- Pete presented an overview of The Trust for Public Lands report entitled “The Health Benefits of Parks” (http://www.eastshorepark.org/HealthBenefitsReport_FINAL_010307pdf). He stated that once city planners and administrations read the document, there can be no argument against developing GI. The Trust report recommends that a GI plan provide for a ¼ mile access to parks, open space, or trails for all residents of a community. Fayetteville Parks & Recreation currently uses ½ mile GI access for Fayetteville residents.
- Additional information sources on GI Health Benefits:
 CDC - TRAILS FOR HEALTH -
http://www.cdc.gov/nccdphp/dnpa/physical/health_professionals/active_environments/trails.htm
 CDC FEATURES – National Trails Day is June 6 - <http://www.cdc.gov/Features/ParksandTrails/>
 NATIONAL TRAILS TRAINING PARTNERSHIP – BENEFITS OF TRAILS AND GREENWAYS
<http://www.americantrails.org/resources/benefits/HealthGrnwy.html>
- Joe Neal has observed increasingly abundant pedestrian and cyclist utilization of Scull Creek Trail between Wilson Park and WRMC. This activity includes individuals with walkers, as well as wheelchair-bound users. Joe indicated that the broader public would respond more favorably to promoting GI development by emphasizing “accessibility to the experience of nature” rather than an argument for species preservation/protection.
- Sarah Lewis related the case for developing GI as made by Richard Louv in his book “Last Child in the Woods” in which Louv coined the phrase “Nature Deficit Disorder” describing urban-dwellers’ disconnect with the natural environment. Sarah has witnessed enthusiastic response in school children participating in stream outings and Connie Edmonston/Fvl Pks & Trails reported capacity enrollments in outdoor day camps that facilitate youth interaction with Earth’s biological and physical functions.

POLICY COMMITTEE – Update provided via e-Mail by John Pennington to and reported by SARAH LEWIS re: work leading to a riparian zone protection and flood control ordinance and its implications for the larger FNHA GIP/FFEAC LUGI plan

- Sarah Wrede/Fayetteville Stormwater Engineer is the “point person” for crafting Riparian Ordinance language. She has been in the process of revising Geosyntech Nutrient Reduction Plan for City of Fayetteville. Geosyntech language on nutrient management is sparse so search is on for better source language on the topic which better conveys City Government intent for Riparian Zone regulation/protection. Work on the Riparian Ordinance is currently on hold as Sarah Wrede is now on maternity leave until January 2010.
- Delia Haak advised contacting Joe Woolbright regarding Siloam Springs Riparian Ordinance for Sager Creek. Sarah Lewis offered to look into the current status of a Riparian Ordinance submitted by Talequah.

- Leif Olson noted that the Riparian Ordinance would require a variance for future trail construction along streams. Sarah Lewis recommends trails further from streambanks.
- Research on GI development pros and cons / benefits and costs (i.e. social, environmental, economic) is in progress. FFEAC LUGI Group Green Infrastructure research team core consists of 5 FFEAC Environmental Action Committee (EAC) members, 2 UA representatives, and one FNHA member.

GI Research Team & Topics:

- 1) Pete Heinzelmann/FNHA – Wildlife corridor space and quality of life requirements
 - 2) James Barton (?)/EAC – Wildlife Corridor requirements, value to Fayetteville, birdwatching tourism revenue
 - 3) Phil Penny/EAC – Documented property values along with Infrastructure repair and replacement costs as associated with development including or excluding GI
 - 4) Angela Albright/EAC – Quality of Life, Social Values/Justice (recreation, health, aesthetic/intrinsic value)
 - 5) Nicole Hardiman (?)/EAC - Flood damage and prevention
 - 6) Nancy Varvil/EAC – Pollution removal
 - 7) John Pennington/UACES – Remaining undeveloped riparian corridor and water treatment costs
 - 8) Sarah Lewis/UA Environmental Dynamics Ph.D. Pgm – Facilitating this GI Research effort
- A One-Page summary of the GI Development research findings which includes GI Cost/Benefit comparisons with “fixed values” and information sources in layman’s terms is being prepared for Public Education purposes
 - The GI Research Team goal is to get various research items into report format to give to John Pennington to organize for the next FFEAC LUGI Group meeting in October
 - In light of Sarah Wrede’s situation, John recommends FFEAC LUGI focus “on getting the actual GI Development Plan approved by the City of Fayetteville, then follow through with the tools for implementation after the plan is adopted.”
 - The 2025 City of Fayetteville Master Plan update is to occur in Fall 2010. While the 2025 update presents an opportunity to include the FNHA GIP, Bob Caulk stressed the importance of getting the GIP approved by City Administration and incorporated into Administrative and Planning Department policies sooner rather than later.
 - Sarah Lewis mentioned the possibility of dovetailing GIP with LID discussions and policy.
 - Progress with creation of a Stormwater Utility is presently stalled due to complexity of categories and difficulties in organizing component facilities, systems, staff, functions, etc. . . to best achieve desired stormwater management results.

OTHER ITEMS OF NOTE:

- Harriet Jansma recommended the following article advocating GI Planning –

ARTICLE CITATION: Wheeler, Stephen (1998) Planning Sustainable and Livable Cities, The City Reader, 4th edition, Le Gates and Stout (eds.), London: Routledge, pp. 499-509. (http://jaclyn-jones.com/Readings/Sustainable_Cities.pdf)

Having read the article, Harriet suggested that “LIVABLE” be used in place of “SUSTAINABLE” where- and whenever conversation about or promotion of GI occurs, because the public can directly relate to “LIVABLE/LIVABILITY”, but may not have the same connection with “SUSTAINABLE/SUSTAINABILITY”. Connie scanned the article and converted it to PDF for circulation on the FFEAC e-Mail list.

- Attendance at the 1:30 PM Wed. Sept. 23, 2009 presentation of the SHINE Award to the City of Fayetteville on the Fayetteville Square north side was urged.
- Sarah Lewis praised Mark Boyer/UA Architecture Interim Chair for leading major changes in the School of Architecture curriculum and emphasizing focus on Sustainability, particularly as pertains to finding practical architectural design solutions to address economic, social, and environmental issues relating to expanding populations and development.

Meeting Adjourned 8:20 PM

Minutes prepared and submitted by Dot Neely/FFEAC LUGI Scribe 10/05/09

FAYETTEVILLE FORWARD ECONOMIC ACCOUNTABILITY COUNCIL – LAND USE/GREEN INFRASTRUCTURE GROUP
OCTOBER 21, 2009 MEETING

ATTENDEES: Fran Alexander/FFEAC LUGI Chair, Harriet Jansma/FNHA, Bob Caulk/FHNA, Pete Heinzelmann/FNHA, Leif Olson/Fvl City Assoc Planner, Dot Neely/FNHA-GIPP/FFEAC, John Pennington/CEA-Agri, Cindi Cope/BGO Pgm Chair, Mark Caldwell/Caldwell Stone, Inc. & E3 Regenesis Solutions, Inc., Leif Kindberg/National Center for Appropriate Technologies (Fayetteville Office) Energy Specialist (See - <http://www.entap.org/group/#leifk> & <http://attra.ncat.org/staff.html>)

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FFEAC LUGI 10/21/09 MEETING NOTES:

Meeting commenced at 7:00 PM

Fran Alexander/FFEAC LUGI Chair opens by focusing this meeting discussion on a plan to assemble and organize GI related information the FFEAC LUGI Group's Policy, Economic, and GI Committees have gathered so far.

As she sees it, her role as FFEAC LUGI Chair is to:

- Guide customizing of FNHA and other GIP information for adoption by and implementation in Fayetteville
- Serve as a conduit of information from the FFEAC LUGI Group to the Fayetteville Administration about ways in which GI will improve city economics

FFEAC LUGI Group information to convey to the FFEAC Advisory Board at the November 2009 meeting:

- Concrete examples of ways in which various elements of GI information are coming together
- Demonstrate that Quality of Life in NW Arkansas depends on quality of the environment and that both will decline if cities and counties do not take the initiative NOW to adopt a conscientious, comprehensive GI plan to guide future growth

Compilation of and accessibility to FFEAC LUGI information will help:

- Facilitate communication between individuals and groups working in the interest of GI planning
- Reduce duplication of effort and ensure the complementary contribution to the FNHA GIP Project by other agencies, entities, groups, or individuals
- Strengthen the case for adoption of a GIP by city, county, state administrations and planning divisions

Suggested FFEAC LUGI information structuring plan components include:

- List of Local/Regional/National/Global "Players"/Stake Holders /Government or Non-Government Agencies or Organizations /Special Interest Groups/Communities/Professionals/Citizens who are actively involved in creating, developing, promoting, researching, supporting GI/EGN Planning and Riparian Zone Protection Policies

(e.g. FNHA & FNHA GIPP Study Area Cities of Fayetteville-Farmington-Greenland-Johnson, IRWP, BWD, USDA Forest Service - Arkansas Forestry Commission – Urban &Community Forest Division, NW Arkansas Regional Mobility Authority, Friends of Lake

Fayetteville, White River Watershed Group, Camping-Canoeing-Cycling-Environmental-Equestrian-Hiking-Hunting-Recreational Sports-Running-Scouting Clubs or Groups, UA Faculty & Student Research & Interest Groups. Etc . . .)

- List of Economic Benefits to be realized through establishing a robust GI
- Creation of or Expanding Existing GI Database(s)

Mark Caldwell of Caldwell Stone, Inc. (<http://www.caldwellstone.com/>) and E3 Regenesi Solutions, Inc. – Sustainable Systems Integrator (<http://www.e3regenesi.com/>), who with his business partner brother is building a database for NWACC offered assistance with a NWACC database search for GI related entities and information, as well as creating a separate GI database to serve NWA GI planning interests.

E3R Business Model – “To create alliances among local businesses, community groups, and investors, help them create healthier communities and help them keep their alliances dynamically creative to anticipate and solve problems efficiently” (<http://www.e3regenesi.com/about.html>)

CATEGORICAL GI DISCUSSION POINTS & PROGRESS REPORTS:

- 1) FNHA GREEN INFRASTRUCTURE PLANNING PROJECT (GIPP); 2) PUBLIC OUTREACH;
3) GI BENEFITS – ECONOMIC & HEALTH; 4) GI RESEARCH; 5) GI POLICY**

1) FAYETTEVILLE NATURAL HERITAGE ASSOCIATION’S GREEN INFRASTRUCTURE PLANNING PROJECT (FNHA GIPP)

REVIEW OF FNHA GI PLANNING PROJECT PROPOSED TIMELINE:

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Bob Caulk summarized status of Fayetteville Natural Heritage Association’s Green Infrastructure Planning Project.

FNHA has made considerable and significant progress in getting together a draft regional GI plan and maps which municipalities and other groups will use

A. FNHA and Beaver Water District received a \$25,000 USDA Forest Service Grant from “the Arkansas Forestry Commission Urban and Community Forestry Program to develop a Plan for Green Infrastructure-Linking Arkansas Communities, 2009-2010” (<http://www.fayettevillenatural.org/whats-happening.php#Plan for Green Infrastructure>)

B. The DRAFT Regional GI Plan (GIP) consists of the following:

- i. The 2006 Fayetteville Natural Heritage Association Urban Forestry Conservation Assessment (<http://www.siteground176.com/~fayettev/pdfs/24.pdf>)
- ii. GIP/Enduring Green Network (EGN) defined according to input from FNHA GIPP Committees and public which designates natural/green space in terms of

CORES/HUBS/CORRIDORS:

- **CORES** – Natural/Undeveloped/Minimally disturbed parcels of 20 or more acres
- **HUBS** – 1) Additional urban forested areas around CORES; 2) Prairie Remnants; 3) University of Arkansas land holdings
- **CORRIDORS** – 1) Flood Plains of 2nd or higher order streams; 2) Karst Zones of highly sensitive recharge areas which join watersheds across watershed divides as depicted on the Nature Conservancy Karst Area Sensitivity Maps (<http://www.nwarpc.com/maps.htm>); 3) Right-Of-Ways for Short-Run Railroads and utility companies; 4) Abandoned roadbeds formerly used for logging or crop access ; 5) Regional Trails as proposed in NW Arkansas Regional Planning Commission Sustainable Transportation Study on Long Range Trail Master Plan

NOTE: Prime Farmland parcels with Fayetteville Sandy Loam soil type designation could qualify as CORES, HUBS, or CORRIDORS

C. FNHA GIPP is now in PUBLIC INPUT MEETING phase

- September 11-12 in Wedington Woods with 44 Total Participants. Received POSITIVE Feedback from 39 participants. Families attending especially interested in parks & trails (See NWA Times 09/13/09 article by Katie Ward: “Natural Heritage Association makes plans for a green future”)
- Oct. 1, 2009 at Fayetteville Public Library with 18 people in attendance. Daniel Schaap was publicity point-person for this meeting. Barbara Boland briefed Don Marr/Fayetteville Chief of Staff on GIPP
- Oct. 19, 2009 GREEN DRINKS at Smilin' Jacks was a gathering of approximately 24 individuals which generated positive interaction and additional support for regional GI/EGN
- Oct. 22, 2009 Bob Caulk meeting with John Gray in Greenland
- Two or more public meetings are to be scheduled in Fayetteville in addition to meetings in other GIPP Study Area Cities of Farmington, Johnson, and Greenland. As soon as they are scheduled, Bob is to convey upcoming FNHA GIPP Public Meeting info to Fran who will send on to FFEAC Groups, in general, and the FFEAC LUGI Group, in particular.

D. Submission of the GI Plan to City Governments and Washington County Quorum Court will follow Public Input Phase and formalization of GIP

The stated goal of for GI Plan is adoption by study area cities by the end of 2009. Progress with the FNHA GI Planning Project has been steady, but slower than was anticipated, so the target date will most likely be reset for Spring 2010.

The bulk of GIP Grant funds went for training Barbara Boland/FNHA GIP Project Coordinator and to produce the FNHA GI 2009 Calendar for public education purposes. Remaining Grant funds will be used for public education and outreach.

2) PUBLIC OUTREACH

Pete Heinzelmann, who serves as FNHA GIPP Public Awareness Chair, advised creation of high quality yet succinct GIP programs on par with works of Ken Burns, UA's Larry Foley, Trey Marley, and Dale Carpenter in DVD documentary and PowerPoint Slide-Show formats which could be made available for viewing on-line or presented to diverse public groups at a moment's notice.

He noted that reports by The Trust for Public Lands (TFPL)* include information on "BIG TOPIC" GI categories and a sequence of interviews with local to international GI advocates and experts could provide a basic GIP program framework.

Additional GIP Program Specifications:

- Describe GI in clear, concise terms
- Demonstrate ways in which dollar figures are assigned to GI benefits
- Emphasize short and long term cash savings and returns to be realized from investing in GI now
- Define GI Topics & Tasks to optimize interview and editing process so informational content and quality is maximized

Potential Interview Topics & Interviewees

- Recreational Benefits – Wade Colwell/Fvl Parks & Rec on Lake Fayetteville, Gulley Park, etc. .
- Economic Benefits – Jenni Popp/UA Agri Economics, Bob McDonald/ CEO Proctor & Gamble - Fayetteville , Wade Colwell/VP Investments Wachovia Securities
- Health Benefits – (?)Pete Heinzelmann/Orthopedic Surgeon
- Municipal Planning – Rob Sharp
- Conservation Easements – Frank Sharp
- Ecologic Diversity & Quality –Doug James (See his Write-up on "Why Establish and Preserve Greenspace")
- Experiencing Nature - Joe Neal

Access TFPL Reports in PDF format listed below along with other related publications at Trust for Public Land News/Publications link - http://www.tpl.org/tier2_rp1.cfm?folder_id=174

- CITY PARK FACTS 2009
- CONSERVATION: AN INVESTMENT THAT PAYS
- MEASURING THE ECONOMIC VALUE OF A CITY PARK SYSTEM
- LANDVOTE 2008
- COMMUNITY FOREST REPORT

Also, available From the East Shore Park website (<http://www.eastshorepark.org/>):

- HEALTH BENEFITS OF PARKS - http://www.eastshorepark.org/HealthBenefitsReport_FINAL_010307pdf

3) GI BENEFITS – ECONOMIC & HEALTH – Refer to TFPL Reports listed previously in discussion on PUBLIC OUTREACH

NOTE: John Pennington pointed out that that there is a time lag between the period when GI benefits manifest and the phase in which public awareness reaches a tipping point leading to consensus support for GI.

A. ECONOMIC - As a result of general discussion by meeting participants, the following GI Economic Benefits were noted:

- Demand for and occupancy of rent houses and apartments adjacent to trails is up, approaching maximum occupancy.
- Increase in property values proximal to trails has been documented.
- Magnet for business and corporate regional headquarters - Proctor & Gamble/Fayetteville CEO chose to locate offices and to purchase home in Fayetteville, in part due to city’s trail system for recreation and transportation alternative, as well as its progressive commitment to more responsible sustainable management of growth.
- Improved Water Quality = Lower Processing Expense
- Developers, farmers, and the general public are becoming ever more aware of:
 - Erosion problems caused by increased volume and velocity of storm water runoff from paved/built areas (i.e. More paving up-stream = More flooding down-stream) (e. g. Neighborhoods in Town Branch, Clear Creek, Mud Creek Flood Plains)
 - Short to Long Term savings to be realized from LID and GI in spite of higher up-front engineering costs. Clear Creek project in progress will add to public understanding of GI Benefits.
- Potential athletic competition venue(s) – Wade Colwell is exploring possibility of staging annual bi- and triathlons at Lake Fayetteville where swimming is currently prohibited, in part due to high e. coli/fecal coliform bacteria counts in the waters of Clear Creek/Lake Fayetteville.

Wade is working with David Jurgens/Fvl Water & Sewer Division in setting up a bacteria monitoring program to determine if the problem is constant or periodic in nature. According to John Pennington, the primary source of e. coli/fecal coliform bacteria is pet and wildlife waste. The human population is the basis for estimating annual volume of pet waste generated in a watershed. The number of domestic pets (dogs in this scenario), based on demographics, is a percentage of the resident human population. Statistical studies indicate that each pet (i.e. dog) produces approximately 98 pounds of waste per year on average.

Example	People in Clear Creek/Lake Fayetteville Watershed	26,000
	Number of dogs estimated 46% of the human population	12,000
	Waste in Pounds per Year	98
	Total Pet Waste in Pound per Year	1,176,000
	Total Pet Waste in Kilograms per Year	533424.627

B. HEALTH

Pete Heinzelmann presented research and information on health benefits and economic justification for GI which included an overview of East Shore Park report entitled “The Health Benefits of Parks” (http://www.eastshorepark.org/HealthBenefitsReport_FINAL_010307pdf).

He stated that once city planners and administrations read the document, there can be no argument against developing GI. The Trust report recommends that a GI plan provide for a ¼ mile access to parks, open space, or trails for all residents of a community. Fayetteville Parks & Recreation currently uses ½ mile GI access for Fayetteville residents.

- Additional information sources on GI Health Benefits:
 - CDC - TRAILS FOR HEALTH -
http://www.cdc.gov/nccdphp/dnpa/physical/health_professionals/active_environments/trails.htm
 - CDC FEATURES – National Trails Day is June 6 - <http://www.cdc.gov/Features/ParksandTrails/>
 - NATIONAL TRAILS TRAINING PARTNERSHIP – BENEFITS OF TRAILS AND GREENWAYS
<http://www.americantrails.org/resources/benefits/HealthGrnwy.html>
- In a Philadelphia GI study Sarah Lewis displayed at the 09/17/09 FFEAC LUGI Group meeting, GI was shown to have demonstrably contributed to dramatic reduction in Heat Stress Mortality
- Pete Heinzelmann shared aspects of a conversation he had with Joe Neal prior to the 09/17/09 FFEAC LUGI meeting. According to Pete, Joe has observed increasingly abundant pedestrian and cyclist utilization of Scull Creek Trail between Wilson Park and WRMC. This activity includes individuals with walkers, as well as wheelchair-bound users. Joe indicated that the broader public would respond more favorably to promoting GI development by emphasizing “accessibility to the experience of nature” rather than an argument for species preservation/protection.
- At the 09/17/09 FFEAC LUGI meeting, Sarah Lewis related the case for developing GI as made by Richard Louv in his book “Last Child in the Woods” in which Louv coined the phrase “Nature Deficit Disorder” describing urban-dwellers’ disconnect with the natural environment. Sarah has witnessed enthusiastic response in school children participating in stream outings. Also in attendance at the 09/17/09 FFEAC LUGI meeting, Connie Edmonston/Fvl Pks & Trails reported capacity enrollments in outdoor day camps that facilitate youth interaction with Earth’s biological and physical functions.

4) GI RESEARCH

Following general discussion by meeting participants a recommendation was made to select the “best” 6-10 topic related references from respective report/article bibliographies to review/evaluate for FFEAC LUGI research purposes

A. Information Source Websites – Control/Click link to website, then KEYWORD SEARCH “Green Infrastructure”

- GOOGLE “Green Infrastructure” for broad overview of available GI Information
- TFPL - <http://www.tpl.org/>

- Urban Land Institute - <http://www.uli.org/>
- Brookings Institute - <http://www.brookings.edu/>
- TruCost - <http://www.trucost.com/newsweek/>
- Gund Institute for Ecological Economics - <http://www.uvm.edu/giee/>
- Green Cities - <http://greencities.com/>
- Cool Cities - <http://www.coolcities.us/>

B. Cities of Seattle, WA; Portland, OR; Chicago, IL; Minneapolis, MN; Davis, CA; Boulder, CO touted for GI Best-Practices

C. John Pennington’s Washington County (WaCo) Extension GI Research Team goal is to get various research items into report format by **Mon., Nov. 16** to give to John Pennington to organize for the next FFEAC Advisory Board and LUGI Group meetings in November

WaCo Ext GI Research Team & Topics:

1. Pete Heinzelmann/FNHA – Wildlife corridor space and quality of life requirements
2. James Barton (?)/EAC – Wildlife Corridor requirements, value to Fayetteville, bird watching tourism revenue
3. Phil Penny/EAC – Documented property values along with Infrastructure repair and replacement costs as associated with development including or excluding GI
4. Angela Albright/EAC – Quality of Life, Social Values/Justice (recreation, health, aesthetic value)
5. Nicole Hardiman (?)/EAC - Flood damage and prevention
6. Nancy Varvil/EAC – Pollution removal
7. John Pennington/UACES – Remaining undeveloped riparian corridor and water treatment costs
8. Sarah Lewis/UA Environmental Dynamics Ph.D. Pgm – Facilitating this GI Research effort

5) GI POLICY

John Pennington reported that the FFEAC LUGI Policy Committee exchanged information on GI issues/research pertaining to Wildlife, Health, Pollution, Cost Savings, etc . . . with Environmental Action group(s)

Fran asked Leif for a Proposed or In-Progress Policy Checklist to allow the FFEAC LUGI to proactively plan actions or target efforts to ensure that GI Plan is adopted and included in future policy creation or modification.

- In preparation by John Pennington and Pete Heinzelmann for City Administrations, Business or Institution Governing Boards/Agencies, and Public Education purposes are One-Page summaries on:
 - Riparian Zone Significance which includes Flood Damage Cost/Benefit comparison between areas with GI vs. areas without GI over periods of 1, 5, 10, 25, 50 years
 - FFEAC LUGI research findings on GI Health Benefits and GI Economic Benefits which includes GI Cost/Benefit comparisons with “fixed values” and information sources in layman’s terms

Leif Olson provided insights on City of Fayetteville Administration and Planning Division GI related activities in progress:

- Sarah Lewis is working to update selected City Construction Codes and has proposed amendments pertaining to stormwater management, riparian zone protection, and flood plain modification to add to the Low Impact Development (LID) Code. She also mentioned the possibility of dovetailing GIP with LID policy discussions. It is expected that Jeremy Pate/Fvl Planning Division will request a Low Impact Development (LID) resolution from Fvl City Council which, if granted will give Planning Staff permission to move ahead on creating LID policy with incentives for incorporating GI in development projects.
- In considering potential negative impacts of flood plain development such as increased flood risk, accelerated erosion, sediment pollution, etc . . . , it is the opinion of stream or watershed protection advocate experts that no development should occur in flood plains leaving them undisturbed, but Leif commented that trade offs would be required in some instances, such as gravity flow sewer expansion/upgrades and trail construction in built environments transected or bounded by streams. Leif Olson also noted that a Riparian Ordinance (if enacted) would require a variance for future trail construction along streams.
- Timing for and progress with creation of a Stormwater Utility is presently not suitable due to complexity of categories and difficulties in organizing component facilities, systems, staff, functions, etc. . . to best achieve desired stormwater management results. Roads and Streets Division now oversees Storm Water Management.
- Brenda Thiel/Fvl Alderman is bringing forward vetoed portions of the Hillside Ordinance for review on October 28, 2009. Geotechnical Analysis for on-slope construction and engineered foundation requirements will be discussed. Tree preservation topic too complex to address at this time.

Cindi Cope will be meeting with Sarah Lewis and Chris Wilson/Fvl Tree and Landscape Advisory Committee

Mtg Adjourned 8:52 PM

Minutes prepared and submitted by Dot Neely/FFEAC LUGI Scribe 11/06/09

Announcement and Minutes Sent 01/05/10 by Fran Alexander

ATTENTION PLEASE !!!!

JANUARY 14,(Thursday), 6 PM, ROOM 326 (City Hall)
Land Use Planning and Green Infrastructure Meeting

If you could RSVP (to this email address or phone me at 442-5307) for this 6 pm start-up meeting time, I'd appreciate it. The reason for the earlier start is that the "Inclusion" Group, which is part of the Fayetteville Forward Economic Accountability Council that our committee is also part of, has asked to spend time with us to discuss methods for fostering inclusive feelings toward our work among citizens, who may be interested but not yet committed, and how to better convey what our hopes and plans are for our topic of interest. They are hoping to assist all the committees in the FFEA Council in order to involve as many people as possible in these community issues and projects.

If a very few or no one can make this meeting at 6pm, we need to know if we should reschedule. Thanks!

The main agenda item for this January meeting will be a review of our contact responses resulting from our request for help on biological, geological, and economic research in this area of the state, and planning how we will utilize this information. This is a very important step in the work of this committee, and I hope everyone can make it.

Fran

**FAYETTEVILLE FORWARD ECONOMIC ACCOUNTABILITY COUNCIL – LAND USE/GREEN INFRASTRUCTURE
GROUP NOVEMBER 19, 2009 MEETING**

Attendees: Delia Haak, Pete Heinzelmann,, Barbara Boland, John Pennington, Louise Mann, Mark Caldwell, Dirk Philipp, Greg Mitchell, Dave Jurgens, Sarah Lewis, Fran Alexander, Bob Caulk, Terri Lane, Katie Teague, Dawn Farver

Chair Fran Alexander-----began the meeting reminding the group that we need to continue to collect as many names of organizations as we can find that are working on riparian and watershed issues so that we will know who in Northwest Arkansas is doing work in this field. An incomplete list is attached at the end of these minutes. Please email Fran at : fran@deane-alexander.com or call at 442-5307 with additions.

- The agenda for this meeting tonight will concentrate mostly on reviewing the information gathering efforts of organizations like Fayetteville Natural Heritage, as well as from individuals and city staff members on topics relating to Land Use Planning and Green Infrastructure.
- This committee also has a great deal of material and links to information that members have unearthed. These links, etc. can be found referenced in the minutes of our past meetings, but we are in need of volunteers to research this material for specific information that might be helpful to this committee, especially in our effort to connect economic consequence to green infrastructure
- Some of our committee members are working on information sheets. For example, John Pennington, Extension Service, has produced a riparian info sheet which will be useful to this committee as well as others as an educational tool. In addition, Pete Heinzelmann has compiled a health benefits info sheet, which shows the connection of the health of citizens to their accessibility to Parks, Trails, and Greenways.

Opening the meeting to reports:

Dave Jurgens/Fayetteville Utilities Department Director

The city's feasibility study of stormwater utilities is still being researched and fleshed-out. Right now the department is integrating the details on its work order system of complaints city-wide regarding storm water issues. The system is still in a flood response/disaster plan mode, but is evolving at the same time toward environmental protection and watershed management aspects of a stormwater utility. One thing being looked at is a leaf vacuuming truck to keep leaves out of storm water drains. The leaves are composted through the solid waste department, but the most important aspect of this function is to keep leaves out of street drainage systems.

Jurgens hopes by the end of the year that there will be a draft of a stormwater feasibility study ready for internal review containing various pieces from engineering, transportation, maintenance, etc.

Fran urged Jurgens and others in city to let this committee know what is going on in other city projects. For example, she has heard about an ecosystem request from planning, comments on hillside ordinance issues, etc. but this committee has not been informed or asked about those things. We need to let the right hand know what the left hand is doing.

Mark Caldwell/E2 Genesis, Inc.

Mark, with his brother and a Dallas partner, formed E2 Genesis, Inc. He informed that they want to integrate energy with the economy and the environment. Their goal is to first find the technology, then an application that fits it, and then find someone who wants to invest in that sort of project and put it to work. Eco City green hub development (not local) started because of projects some people wanted to do, but the project ran into sewer problemsand since the economic decline, further work on the project has been delayed. The company is hoping to bring some green tech jobs to NWAC, but the details of specific jobs for specific training are needed first.

Pete Heinzelmann/FNHA Board Member

In the US we have serious obesity, diabetes, and heart problems. Research of the health benefits of parks trails, and greenspaces, show that when people exercise, health improves, and other studies show that people who live close to trails and parks use them to their health advantage. Many benefits occur when communities have these amenities assessable within ¼ mile to where people live. [This info sheet can be used by our committee in our work to inform leaders and the public of the need for green infrastructure.]

John Pennington

Provided copies of Nicole Hardiman's report on riparian protection, green space, LID, etc and how they relate to flooding costs, etc done for the city's Environmental Action Committee [EAC]-----and commented that it would probably be good to come up with some local examples that could be added. The facts, info, efforts, policies, etc that have come out of this committee---- whether it's green infrastructure planning, development trading rights, riparian protection, open space, etc.---are all things that fit into EPA and ADEQ regulations, are good responsible neighborly stormwater

management, and have a value to the city. Some other EAC committee reports being worked on at this time relate to how trees affect property values and how they relate to pollution prevention issues.

John also said that Greg Mitchell (city GIS) has said it's possible to come up with a GIS layer as an overlay visual tool for council and stakeholders which shows riparian buffers on various streams so it is easier see the differences in the varying buffer areas. It will be hard, however, to come up with a percentage number of the developed vs not developed areas on a map because that work is intensive project time.

Details, references, hard copy, etc. will be available. John emphasized that we also need to utilize the existing, well-known and respected government agencies and organizations that have a wealth of information to help us compile what we need. (ADEQ, EPA, USGS, Extension Service, Illinois River Watershed Partnership, etc.) We don't have all the pieces, but we're getting there.

Sarah Lewis/City Council alderman and chair of EAC

Fayetteville Environmental Action Committee meeting a week ago was productive, but there is still some confusion about the roles of various people involved in city projects and there also seems to be a lot of overlapping effort.

The Environmental Action Committee[EAC] is a city council appointed advisory board and has a role to play with the council when the committee supports a particular initiative. The EAC also wants to be active in reaching out to the community (ie, Nicole Hardiman's contribution of her research work to the EAC). Sarah pointed out that we have the UA Cooperative Extension doing demonstration projects, research, collaborating with property owners and stakeholders and getting input, and John Pennington is heading up that effort. The EAC, therefore, decided to help by contributing to that on-going project packet and build on its information. Planning, for instance, really needs lists of variables and the research outlined beneath each for reference. For example,an ordinance level need is knowing how wide to require buffers, on which streams, and a decision whether new guidelines will apply to all development or just new development—the city needs to decide on some very specific variables. And that is what is on the city side in ordinance creation, while citizen input can help to get those variables organized and help get the needed research accessible to staff. The goal for a draft is by next EAC meeting in Dec.

LID—low impact development =are design tools to deal with stormwater—there's a whole suite of them, and riparian buffers are just one of the areas where we need to know all the variables. Do we present LID at the legislative level as a riparian zone tool or do we just present a riparian zone ordinance and address LID separately? The staff is currently reviewing ordinances and eventually a resolution will come to the city council asking to allow staff to devote the time to this extensive project. –Sarah says her gut feeling is we should do the riparian zones and LID together in an ordinance, yet LID is many things and there will be many code changes associated with it conceptually they fit together, but legislatively each needs to be addressed very carefully so people can understand what's happening . Sarah has looked at ordinances from Huntersville, NC and cities in Maryland and Maine, which have water quality codes organized to address their goals. Right now in Fayetteville our codes are organized in such a way as to address tasks. For example we have building,

grading, road, sidewalk, trail, etc. codes all laid out as tasks which address each activity we want to do. Each affected code will have to be updated in each chapter that LID will affect, and the changes will have to be caught in all the pertinent codes, a complicated process that needs further discussion.

Bob Caulk/FNHA Board Member

Suggested that a Riparian Ordinance will wind up affecting the blue line streams, and only them, and a number of feet on either side of those based on the science/technology. That's going to end up missing HUGE quantities of areas that could benefit from LID and so from that point of view, Caulk believes since LID is something that people are talking about in details, it might be wise to slow down on the bigger issue of LID overall, in order for a riparian ordinance to be simplified as a "you will" instead of "you might" (use LID) in these riparian zones. He does not think a riparian ordinance has to be combined with an LID ordinance. He feels that defining LID along riparian zones winds up covering such a small part of our geography compared to where all LID should be applied that the ordinances should each stand alone.

Sarah Lewis ---

LID was highlighted earlier this year as one of this city council's 18 listed goals. Riparian zones are part of that, all the research on riparian zones needs to continue, and we need to figure how to communicate exactly what we expect for these zones. Sarah wants the concepts more than the specific tasks to be the focus in an ordinance, a different way to approach the process.

Pete Heinzelman asked if Sarah has information on the economic consequences if the city doesn't do these LID techniques?

Sarah responded that she'd just come from a meeting on Red Oak park, which is the best teachable moment you could possibly ask for as far as an economic impact from not utilizing LID. The city is estimating between \$100,00 and \$300,000 in costs if they engineer a gully that has been created from run-off from 100 acres of development, which uses conventional piping of stormwater out to one location. That concentration of water has now created a gully that runs into Hamstring Creek and onto the downstream landowner. The landowner is not happy because where he once had a low area there's now a trench. The estimate to fix this situation is over \$300,000 to fully engineer it. A lower cost fix would still be around \$100,000, but the maintenance would frequently need to be tended because of the deluge of water that comes through there. This never was a stream. It is a conventional stormwater dysfunction and a perfect example of the costs that go into repairing things that if done it right in the first place, we wouldn't be going in and spending \$300,000 to try and fix.

The Red Oak parkland dedication area receives the stormwater from these newer developments in 3 or 4 large 42" pipes. When the water leaves the park boundary it goes onto a farm, and the Hamstring Creek stream banks are eroding as well. Sarah says the current dilemma is in trying to figure out how and if to keep the park or if the water should be allowed to soak-in in multiple places, which will be left to grow up in vegetation. And, should there be a focus on putting the park amenities on the south side and not try and rebuild this park? So it's a balance between the human component of recreation and the environmental component of drainage. At the meeting about the park the participants were

brainstorming to figure out how to catch the water, slow it down, soak it into the ground, and to prevent erosion. It's a good example of economic problems from poor land use planning, and it's happening in other places too.

Delia Haak/Director of Illinois River Watershed Partnership

Reported that on Nov. 5, her organization hosted a Streambank Restoration Workshop with Bobby Hernandez from EPA and Jon Fripp from the Natural Resources Conservation Service in Texas. She said participants learned why there are times in streambank restoration when you need a concrete solution and times when you need a major restoration that is a more natural eco-bio engineering solution. There are also times when you can do volunteer projects with low technology like a jet stringer planting tool that private landowners can use to plant trees on streambanks for stabilization. The demonstration was on a drainage ditch with very steep sides. One goal is to try to get landowners to repair their own riparian areas, and they can be aided with low tech and low cost techniques such as the jet stringer to start their repair and restoration on streambanks.

Fran Alexander

Reported that she and Mayor Jordan agreed on an email that was sent to several University of Arkansas professors requesting input of data on biological, geological, and economic research in this area of our state, which they might have and also inviting them to look at the maps done by FNHA in order to advise the city of habitat, etc. that they might be aware of, which a green infrastructure plan might positively affect. Steve Boss responded and is interested in the sidewalk issues in F'ville. Sarah was going to encourage him to work with his students to do a tree canopy over sidewalks inventory within the city.

Others in the meeting mentioned what other sidewalk and tree studies have already been done, and Sarah will discuss these with Professor Boss. Also we heard back from both Jennifer and Michael Popp regarding economic studies, which she cannot help with at this time due to time constraints, and he recommended Fran contact Brian Haggard.

Biology professor Scott Longing wrote an extensive response to our request and is eager to participate. This is a paragraph from his letter:

We have conducted surveys to locate populations of an endemic aquatic insect (for a State Wildlife Grant funded, two-year survey) that occupies habitats related to these important cave and groundwater systems. Its habitat includes small headwater streams and spring seeps containing water year-round. It only occurs in the Boston Mountain and Ozark Highland ecoregions and nowhere else, and was first collected in Sulphur Springs, Arkansas in 1955. Accordingly, it was named the Sulphur Springs Diving Beetle. Its ecological requirements suggest that it might be a good bioindicator of overall stream stability including intact riparian corridors, undisturbed streambanks, and natural flow regimes.

Also, **Dot Neely**, who was unable to attend tonight's meeting, called Fran to report that she has talked to Van Brahana in the Geology Department, who has studied the Wilson Springs area, and she also spoke with Art Brown in biology and both professors are supportive of Green Infrastructure planning and are willing to provide additional input.

Barbara Boland/FNHA Green Infrastructure Planning Project GIS Expert

Reported that she had received an email from Kim Smith telling her that the city planning staff had contacted Dr. Don Steinkraus in the UA entomology department, about putting together a team to identify critical habitat areas, and he was excited about that and he recommended Kim Smith, Scott Longing, Steve Beaupre, and John Gentry. Smith questioned if FNHA already has this info, and Boland said it is actually information that they would like to have, that having species specific habitat data is ideal. She emailed Kim Smith and Dr. Steinkraus and offered to share the FNHA Green Infrastructure project materials and then got a call from John Goddard in GIS asking for access to the FNHA data. Greg Mitchell responded to Barbara that he and John Goddard are the ones who contacted Steinkraus to get the habitat data, and then asked Barbara for access to the FNHA data to add to the city's information -----so this effort has gone full circle.!

Bob Caulk

Said that when FNHA started off , they got biologists, etc. together to form their environmental working group, but most said they did not have that kind of data and wouldn't in the next year (which was pertinent to the FNHA grant) so instead of concentrating on biological data FNHA decided to study the land cover. Basically they went out and looked for prairies, wetlands, seasonal wetlands, riparian areas, upland forests, low land forests, springs, historic areas, etc.....

Barbara Boland added that the information on prairies was much more detailed in description, and FNHA used satellite land data for identification of upland forest, for instance, but the team also went out and analyzed prairie sites (Joe Neal, Aubrey Shephard, Bruce Shackleford, Tom Woolbright, etc.) and other land types as well.

Dirk Philipp

Asked how would the process be kept up to date and how would the compilation of the species and the tracking of land use changes be done? Barbara responded that it is hoped that the data will be overseen by CAST (Center for Advanced Spatial Technology) and hopefully, possibly that will be a means of keeping it stored and updated.

Other points were made by attendees and the meeting was adjourned. The committee will meet again in January 2010, date and time to be announced.

Below are the names of groups involved in watershed and riparian issues---PLEASE add to this list any others that you know about.

Thanks, Fran

Minutes prepared and submitted by Fran Alexander, FFEAC LUGI Group Chair

GROUPS WORKING ON RIPARIAN AND WATERSHED ISSUES

- * **FAYETTEVILLE NATURAL HERITAGE ASSOCIATION** (Bob Caulk)
- * **LAKE FAYETTEVILLE WATERSHED PARTNERSHIP** (Jennifer Michaels)
- * **ILLINOIS RIVER WATERSHED PARTNERSHIP** (Delia Haak)
- * **CENTER FOR AGRICULTURAL AND RURAL SUSTAINABILITY (CARS)** (Sara Lewis, etc.)
- * **ENVIRONMENTAL ACTION COMMITTEE --CITY OF FAYETTEVILLE**
(Sarah Lewis, Chair) (Education outreach/Watershed Luncheons) (LID Ordinance, etc)
- * **UNIVERSITY OF ARKANSAS/WASH. CTY. COOPERATIVE EXTENSION SERVICE**
(John Pennington) (Clear Creek Riparian Management & Demonstration Project)
(Joint work between EAC and UACES on Riparian Ordinance)
- * **NATURAL RESOURCES CONSERVATION SERVICE**
- * **UNIVERSITY OF ARKANSAS**---hopes for Town Creek (Mullins) Creek restoration (Nick Brown)
- * **BEAVER LAKE/WHITE RIVER WATERSHED PARTNERSHIP** (NW Ark. Council and Beaver Lake Policy Advisory Group) (Nicole Hardiman)
- * **AUDUBON** (Wilson Springs project)

FFEAC LUGI GROUP ACTION ITEMS OUTLINE**Page 1 of 2****The FFEAC LUGI Group is in the process of:**

- I. Compiling quantitative GI data through collaboration with research experts within and outside of academia
- II. Assigning monetary values to GI elements and related features
- III. Formulating a Benefits of GI Public Education and Outreach Strategy

FFEAC LUGI ACTION ITEMS:**I. Compile quantitative GI data through collaboration with research experts within and outside of academia**

Arrange collaborative FNHA DRAFT GIPP WORKING MAP viewing/discussion sessions with UA Faculty/Researchers, Environmental Consultants/Organizations/Government Agencies, and City Administration(s)/Staff to:

A. Acquire Comment or annotation on:

- Critical Habitat
- Sensitive or impacted ecological areas or recharge zones
- Species assemblages (native, exotic, invasive, keystone, at risk, etc . . .)
- Benefit(s) provided by GI features/species “services”

B. Obtain Quantitative information from LUGI based research to:**1). Add to the FNHA GI Planning Project database**

- FNHA GIPP Map of GI Cores, Hubs, and Corridors has been completed
- Data on critical habitat, central to mapping and prioritizing GI Hubs, Cores, and Corridors soon, is necessary in order to work with governing bodies to create policy to save any habitat identified as critical

2). Fortify the case for defending/preserving/protecting NW Arkansas Natural Resources

- FNHA GIPP Maps displaying macro-scale data, show prairies as endangered, but detail provided by habitat or species specific studies generating micro-scale data is essential to strengthen the case to stop loss and reverse the trend
- Any data offered by researchers would be used to identify parts of the GI Network with the highest priority for preservation and will allow parcels defined as “Critical Habitat” to be targeted for saving
- Access to data would provide scientific basis, as well as ensure FNHA support, for saving threatened areas and/or species

C. Design and conduct systematic statistical surveys in sample areas (along trails, streams, urban forest edges, etc. . .) to characterize what species are here and to determine critical habitat that needs to be preserved.

- Understanding how to preserve natural habitat, as presented by Doug Tallamy in his book “Bringing Nature Home: How Native Plants Sustain Wildlife in Our Gardens”, is essential to the success of the GIPP and to saving critical areas
- GI information and Data has revealed a loss of 35% of cropland in NW Arkansas since 1998

FFEAC LUGI GROUP ACTION ITEMS OUTLINE (continued . . .)**Page 2 of 2****D. Locate Potential GI Research Project Funding Sources**

Critical Habitat and Species Survey research projects may prove favorable for possible research funding from sources such as:

- USDA Forest Service Urban and Community Forest Division
- Beaver Water District
- Illinois River Watershed Partnership
- The Nature Conservancy
- Audubon Society
- National Science Foundation
- . . . Other

II. Assign monetary values to GI elements and related features based on:

- Findings from similar studies conducted in other cities/locales
- Recommendations from City Administrators and Staff
- Communications with:
 - Washington County Extension Agents
 - UA Faculty/Researchers
 - USDA-Forestry-Urban Forests Division Staff
 - IRWP
 - TNC
 - Audubon Arkansas
 - Other

III. Formulate and Implement GI Public Education and Outreach Program(s)**A. Essential to the success of the GIPP and to saving critical areas is:**

- An understanding of how to preserve natural habitat, as presented by Doug Tallamy in his book "Bringing Nature Home: How Native Plants Sustain Wildlife in Our Gardens"
- Collaborative effort of Informed Citizens, City Administration/Staff, FFEAC, FNHA, UA Administration and Faculty/Research Scientists, Graduate-Undergraduate-Local school students.

B. Public Education and Outreach Resources

- FFEAC Inclusion and Public Relations Groups
- Washington County Extension Service
- FNHA Awareness and Community Representatives Working Groups
- USDA Forest Service Urban and Community Forest Division
- Beaver Water District
- Illinois River Watershed Partnership
- The Nature Conservancy
- Audubon Arkansas
- . . . Others

**FAYETTEVILLE FORWARD ECONOMIC ACCOUNTABILITY COUNCIL LAND USE-GREEN INFRASTRUCTURE
GROUP JANUARY 14, 2010 MEETING with INCLUSION GROUP REPRESENTATIVES**

ATTENDEES: Fran Alexander/FFEAC LUGI Chair, Pete Heinzelmann/FNHA Board, John Pennington/Washington County Extension Service (WaCo Ext Svc) Agent, Bob Caulk/Fayetteville Natural Heritage Association (FNHA) Chair, Katie Teague/WaCo Ext Svc, Colene Gaston/Beaver Water District (BWD) Attorney, Frank Sharp/FNHA-FFEAC-Ozark Mtn Smokehouse President, Harriett Jansma/FNHA Green Infrastructure Planning Project (GIPP), Cindi Cope/Botanical Garden of the Ozarks (BGO) Education Co-Chair, Dot Neely/FNHA GIPP-FFEAC LUGI-NW Arkansas Master Naturalist-In-Training (NWAMNiT), Leif Olson/Fvl City Planner, Ashton Martin/FFEAC Creative Economy Group, Val Gonzalez and Mark Larmoyeax/FFEAC Inclusion Group Representatives

. **Meeting with Inclusion Group Representatives called to order at 6:07 PM**

Chair Fran Alexander introduced FFEAC Inclusion Group, representatives, Val Gonzalez and Mark Larmoyeax.

The Inclusion Group purpose is to assist all FFEAC committees in involving as many people as possible in FFEAC community issues and projects. In the first hour of this meeting, Val and Mark led discussions on methods for fostering inclusive feelings toward our work among citizens, who may be interested but not yet committed, and how to better convey what our hopes and plans are for our topic of interest.

FFEAC Inclusion Group Statement of Mayoral Directive, Presentation Details, and Overall Goals:

“In the spirit of open government and citizen participation in Fayetteville economic development, the mayor of Fayetteville has encouraged the Fayetteville Forward Inclusion Group to develop a short presentation stressing the value of inclusion and diversity. This presentation has been developed by two experts in the field of diversity and inclusion, Val Gonzalez and Syard Evans.

The hour spent will include some examples and a very short presentation, but is largely interactive and designed to stimulate conversation on recognizing the need for inclusion and diversity, and how we can continue working toward an even more inclusive Fayetteville Forward organization.

This effort by the Inclusion Group is the first phase in a longer term effort. The overall goals are:

- Per the mayor’s wish, to assist the City of Fayetteville in having the most citizens possible involved in Fayetteville economic development,
- To increase awareness for all Fayetteville Forward groups on the value of including all stakeholders in their group meetings, efforts and initiatives,
- To provide tools and assistance when needed for indentifying stakeholders and bringing them into the economic development process. “

Val Gonzalez described herself as a Public Relations/Education resource whose role is to guide/assist other FFEAC Groups with the following:

- Defining specific group identity/purpose/task
- Envisioning ways to involve a larger, more diverse number of individuals in FFEAC processes through audience/recipient specific communications or contact

She drew attention to the fact that efforts to include others do not always meet with success initially, but may prove productive with repeated, varied approaches.

Val noted that feedback she receives from other FFEAC Group meetings is always about money/growing the economy. She agreed that a “Green” community will bring economic/financial and other benefits.

The following questions were posed to provide a stimulus and framework for discussion on public out-reach:

- **How do you, the FFEAC LUGI Group . . .**
 - . . . Define yourselves? What’s your “Brand”?
 - . . . Identify stakeholders?
 - . . . Recognize and address those who oppose your interests/efforts?
 - . . . Approach getting information to the public without requiring attendance at all meetings?
 - . . . Reach individuals or groups not represented in the present mix of participants?
 - Tap into diverse consumer groups based on age, ethnicity, socio-economics, abilities/disabilities, religion, profession, special interests, etc . . . ?
 - Draw in people with diverse backgrounds/origins/ties such as Low Income, Physically Challenged, Immigrant/English as a Second Language (ESL) Citizens?
 - . . . Build trust?
 - . . . Expect public buy in to Green Infrastructure Planning (GIP) if large segment of population is excluded from the planning process?
- **Is the mix of individuals in this meeting representative of the City and/or surrounding area?**
- **Who is not here?**
- **What aspects of GI would latent FFEAC LUGI Group participants value/support?**
- **What led to a turn-out of over 400 people for the first FFEAC Meeting? 116 participants, including some from Little Rock, at the Mt. Sequoyah FNHA GI Project Kick-Off?**

Responses to questions posed -

- **Group Definition:** The FFEAC LUGI Group is a component of an organizational framework having an aspect of environmental work at local and regional levels, and involving the UA, focused on defining Green Infrastructure and bringing together, for the public, governing bodies, and ourselves, a guide for future growth that recognizes the value of our Natural Heritage and emphasizes all benefits (aesthetic, cultural, economic, health, social, etc . . .) to be realized through preservation-protection-incorporation of Natural Areas in the planning process. - *Fran Alexander, Pete Heinzelmann*
 - Part of the problem with defining the FFEAC LUGI Group is due to the fact that we’re still trying to figure out what we want to do. People don’t know what we want or need, so they are reluctant to get involved. – *Fran Alexander, Harriet Jansma*
 - Some difficulty has been experienced in assimilating information partly due to the following:
 - 1) Uncertainty regarding expertise in the area of GI and related benefits
 - 2) Not knowing if the GI structure would work - *Fran Alexander*
- **Stakeholders:** Neighborhood Associations, City Administrators, Children, “Welcome Any Participant”, Residents from within and outside of Fayetteville, “All who like to breathe clean air and drink clean water”, People using trails and parks, People who attend neighborhood or other public meetings
- **Opposition:** Large segment of Business Leaders/Developers/Property Rights Devotees committed to Status Quo planning practices due to lack of or limited understanding of benefits (including economic gains/financial profits) to be realized from establishing and maintaining a robust GI.

- **Approaches to Disseminating Information:** Val recommends utilization of all public outreach methods such as: Direct Contact (e.g. Word-of-Mouth, Door-to-Door Canvassing); Internet (Facebook, eMail, etc . . .); Public Service Announcements through Local/Regional Media including Spanish or other stations/publications; Telephone; Letters; Church and Special Interest Group Newsletters/Bulletins
 - Interviews with Frank Sharp, John Pennington, and others on the value of GI were video recorded and are available for presentations or broadcast. - *Pete Heinzelmann*
 - FNHA is in the process of going to the GIPP Study Area community meetings asking citizens what they want. – *Bob Caulk, Pete Heinzelmann*
- **Tapping In to Diverse Groups:** Identify, Inform, and Include Persons of Influence in various groups/communities
 - “Our diversity is limited to our life interests.” - *Katie Teague*
 - “Green Infrastructure and the local/regional economy are issues of importance to you attending this meeting or you would not be here.”– *Val Gonzalez*
- **Drawing in Individuals of Diverse Groups:** Be aware of the characteristics of current contributor mix then consider who/what from the greater community is missing. – *Val Gonzalez*
 - I. Arrange a casual introductory meeting of volunteer(s) or appointed FFEAC LUGI Group Representative(s) and Persons of Influence and/or individuals from under-represented groups to exchange information relating to: 1) FFEAC LUGI Group purposes, activities, goals; 2) The prospective party’s views on features or elements of value to include in GIP.
 - II. Invite Persons of Influence and/or individuals from under-represented groups to attend and contribute to discussion in FFEAC LUGI meeting(s)
 - The Washington County Extension Service has an Equal Opportunity mandate to work with all county residents without bias. Through Welcoming Activities and Public Service Announcements WaCO Ext Svc works to build relationships and networks so non-traditional folks are also included in efforts and programs. – *John Pennington*
- **Building Trust:** FFEAC LUGI Group members volunteer participation in support of other Special Interest Groups events
 - The IRWP Riparian Zone Restoration Project is raising public awareness about stream health and water quality. – *Harriet Jansma*
 - Botanical Garden of the Ozarks provides educational opportunities to area residents and has a program especially designed for school groups including classroom and Garden activities. – *Cindi Cope*
 - Audubon Annual Backyard Bird Count popular with large cross-section of the populace
- **Inclusion for Broad-based Public Buy-In to GIP:**
 - Two issues/items the FFEAC LUGI Group needs to address/be aware of are:
 - 1) Involve early-on anyone expressing interest in participating/working. Usually this group of volunteers consists of individuals who are semi- or fully retired, self-employed, or employed with flexible schedules.

2) Have a good finished “product” which sells itself and a knowledgeable “sales-force” to promote it. - *Bob Caulk*

- “FNHA has identified GI in Study Area (Farmington, Fayetteville, Greenland, Johnson, Wedington Wildlife Management Area) with citizen input. Barbara Boland/FNHA GIPP Coordinator-Geographic Information Systems (GIS) Expert has assembled a large GIS database and generated DRAFT Working Maps depicting aspects/components/elements of Green Infrastructure to facilitate public understanding/visualization of GI.

The FFEAC LUGI Group is in the process of:

1) Working with experts within and outside of academia to:

- Identify/survey/document Critical Habitats, Species Assemblages, etc . . .
- Compile information/data/research references

2) Assigning monetary values to GI elements and related features based on:

- Findings from similar studies conducted in other cities/locales
- Recommendations from City Administrators and Staff
- Communications with Washington County Extension Agents, UA Agricultural Economics Faculty, UA Walton College of Business/Applied Sustainability Center, USDA-Forestry-Urban Forests Division Staff, IRWP, etc . . .

3) Formulating a Benefits of GI Public Education and Outreach Strategy” – *Dot Neely*

- Public participation is greatest at the point in which major policy decisions are to be made. - *Leif Olson*

- A clear timeframe is needed for receiving recommendations, analyzing input, developing the product, and promoting the project to the public. - *Colene Gaston*

- The best approach may be to develop a comprehensive plan before pushing for public inclusion. - *Ashton Martin*

. Meeting with Inclusion Group Representatives adjourned at 7:00 PM

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GROUP JANUARY 14, 2010 MEETING**

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. **FFEAC LUGI Group Meeting called to order at 7:10 PM**

Chair Fran Alexander provided copies of the RIPARIAN AND WATERSHED Interest Group Contact List she has compiled to date.

Also, in progress is expanding Sarah Lewis' list of UA Faculty/Staff contacts and interdisciplinary research expertise relating to GI.

Fran hopes to acquire quantitative information from UA Faculty with LUGI related research interests in fields such as Agriculture, Agricultural Economics, Architecture/Landscape Architecture, Biology, Business, Engineering – Biological/Chemical/Civil, Geosciences, History, etc . . . to add to the GI Planning Project database and to fortify the case for defending/preserving/protecting NW Arkansas Natural Resources.

In order for FFEAC LUGI to begin to “pull all the pieces” of information together in such a way that the components, dynamics, and benefits of GI can be best understood and the information put to best use, it is necessary “to learn more about what is known and what is not known.”

One suggested approach for gathering input is to arrange FNHA DRAFT Working Map viewing sessions with UA Faculty during which researchers could provide comment or annotation on critical habitat; sensitive or impacted ecological areas or recharge zones; species assemblages (native, exotic, invasive, keystone, at risk, etc . . .), benefit(s) provided by GI features/species “services”, other

Response from UA Faculty (Kim Smith/BIOL, Art Brown/BIOL, Johnny Gentry/BIOL, Doug James/BIOL, Van Brahana/GEOL, Steve Boss/ENDY, Jennie Popp/AG ECON, Michael Popp/AG ECON) contacted so far has been positive.

Scott Longing/Aquatic Entomologist – UA BISC Technical Assistant III wrote an extensive response to a request by Fran and Mayor Jordan for input or data he or his colleagues may have on biological, geological, and economic research in NW Arkansas. An excerpt from his letter follows:

We have conducted surveys to locate populations of an endemic aquatic insect (for a State Wildlife Grant funded, two-year survey) that occupies habitats related to these important cave and groundwater systems. Its habitat includes small headwater streams and spring seeps containing water year-round. It only occurs in the Boston Mountain and Ozark Highland ecoregions and nowhere else, and was first collected in Sulphur Springs, Arkansas in 1955. Accordingly, it was named the Sulphur Springs Diving Beetle. Its ecological requirements suggest that it might be a good bioindicator of overall stream stability including intact riparian corridors, undisturbed streambanks, and natural flow regimes.

At this juncture, Fran introduces Don Steinkraus/Ph. D. Insect Pathology - UA AGRI Entomology, then invites him to share aspects of his research and to comment on ways GI Planning would help to protect his research interests.

Don/Dr. Steinkraus has resided in NW AR for 21 years. In 1993 he started the Arkansas Insect Festival, the goal of which is “to educate and entertain the people of Arkansas, particularly its children, about the beauty, value, and interest of insects and other arthropods.” (<http://entomology.uark.edu/3833.htm>)

Recommended reading: “Bringing Nature Home: How Native Plants Sustain Wildlife in Our Gardens” by Doug Tallamy/Ph. D. Entomology & Wildlife Ecology - University of Delaware (<http://bringingnaturehome.net/>). The book has great data on co-dependent species (e.g. plants – insects – birds – animals) and explains negative impacts of exotic (non-native) and invasive species.

The primary focus of Dr. Steinkraus’ research is on Honey bees and pollinators, as well as pollinator critical habitat.

Cindi Cope noted that even though pollinators (e.g. butterflies) are popular with the public, most people do not understand the importance of pollinators in regard to ensuring the viability of food crops and flowering plants.

Bob Caulk suggested that part of the public’s lack of appreciation of pollinators is due to the fact that field crop cultivation is not common in NW Arkansas.

Don/Dr. Steinkraus is hopeful that the increasing interest in the Local Food Movement will lead to a resurgence of small scale farming in home and/or community gardens and, in the process, raise public awareness pertaining to the plight of pollinators.

In the meantime, there is a need for biologists, entomologists, aquatic entomologists, botanists to help characterize what species are here and to determine critical habitat that needs to be preserved.

Conducting a systematic statistical survey in sample areas is the best way to identify critical habitat in any given area such as along trails, streams, urban forest edges, etc . . .

Bob Caulk informs re: United States Department of Agriculture – Forest Service/Urban and Community Forestry Division research grant bestowed on FNHA for the GIPP. Critical Habitat and Species Survey research projects may prove favorable for possible research funding from the same source.

Don/Dr. Steinkraus thinks funding may exist for species inventory surveys and related graduate student projects. Schools and students could be involved in catch-release native bee species inventories.

Similar programs with area schools already exist.

Cindi Cope described Monarch Butterfly Demonstration Program popularity with schoolchildren.

Dot Neely mentioned Beaver Water District “Building Blocks to Water Education” Drinking Water Quality and Treatment K-12 Curriculum development which follows State Department of Education Frameworks (in progress). A focus of these programs is experiential Hands-On learning. For more on this program go to: The Beaver Water District Website (<http://www.bwdh2o.org/>) and click the “EDUCATION” link.

Julie McQuade suggested that the FFEAC Public Relations Group could assist with Public Education in order for the Species Inventory Programs to function in and outside of the FFEAC LUGI Group.

Bob Caulk said that the FNHA GIPP Map of GI Cores, Hubs, and Corridors is done and that data on critical habitat, central to mapping and prioritizing GI Hubs, Cores, and Corridors soon, is necessary in order to work with governing bodies to create policy to save any habitat identified as critical.

At Bob's request, *Dot Neely* brought out the FNHA GIPP DRAFT ENVIRONMENTAL and HERITAGE GROUPS WORKING MAPS to visually orient meeting participants to specific GI areas, features, and details identified by and deemed to be of significant importance to FNHA GIPP Working Groups, as well as citizens of Study Area Communities.

Through the process of compiling a GI GIS database and comparing data sets visually, FNHA GIPP Coordinators *Barbara Boland* (GIS tech), *Bob Caulk* and *Karen Rollet-Crocker* have noted some anecdotal correlation between areas identified as "Prairie/Prairie Remnants" or "Heritage" Farms on GIPP Working Group maps and Prime Agricultural Soils distributions on the SSURGO soils maps.

Similarly, in examining Land Use Land Cover maps it was decided that the class "cool season grasses" could effectively be used as a proxy for "Active Farms", since in this region most "farming" is actually cattle ranching where fescue fields are planted for grazing and hay production.

Please note that a statistical analysis would be required to determine actual degree of correlation between the soil types or cool season grasses with other Land Use designations.

Also, a single **pixel*** on standard scale LULC maps represents roughly a 30m x 30m area which may justify calling areas with fescue ground-cover farmland. ***Pixel** - the smallest discrete component of an image or picture on a CRT screen (<http://www.onelook.com/?w=pixel&ls=a>)

Barbara's work with GI information and Data has revealed a loss of 35% of cropland in NW Arkansas since 1998.

Bob pointed out that the maps, displaying macro-scale data, show prairies as endangered, but detail provided by habitat or species specific studies generating micro-scale data is essential to strengthen the case to stop loss and reverse the trend.

Don/Dr. Steinkraus inquired as to whether the City of Fayetteville is doing anything (e.g. providing tax incentives) to help small farms.

Fran Alexander asked *Don/Dr. Steinkraus* if, by bringing the FNHA GIPP Working Maps to a designated UA Campus location and making them available to a select group of UA professors/researchers, a discussion could be stimulated on past/current/future studies that have/are/will been/being/be conducted in the FNHA GIPP Study Area and/or surrounding regions.

John Goddard and *Greg Mitchell* said that the room in which we were meeting (Fayetteville City Hall Room 326) was equipped with the technology to project, zoom in-out on, and interact with the FNHA DRAFT GIPP Working maps and individual map (data) layers making it a suitable option for GIPP discussion(s) with UA researchers.

Dot Neely offered that *Dr. Steinkraus* and his colleagues could, at their convenience, view the FNHA GI PLAN and DRAFT WORKING MAPS by going to the FNHA Website and clicking on the "What's Happening?" link (<http://www.fayettevillenatural.org/whats-happening.php>).

Don/Dr. Steinkraus indicated that getting such a group together would be interesting and worthwhile, although potential scheduling conflicts may add to the difficulty of arranging time(s) to meet.

Colene Gaston and *Bob Caulk* noted that any data offered by UA researchers would be used to identify parts of the GI Network with the highest priority for preservation and will allow parcels defined as “Critical Habitat” to be targeted for saving.

Access to data would provide scientific basis, as well as ensure FNHA support, for saving threatened areas and/or species.

The goal is to see if opportunities exist to identify Critical Habitat for various species.

Science-based contribution(s) to the FNHA GIPP thus far have come mainly from Doug James/UA BIOL, Delia Haak/Executive Director - Illinois River Watershed Partnership, Bruce Shackelford/President - Environmental Consulting Operations, Inc. & Woolsey Wet Prairie Restoration Project Coordinator, Chris Wilson/The Nature Conservancy Nickel Preserve Director, Sarah Lewis/UA Environmental Dynamics Ph. D. Candidate & Fayetteville Alderwoman, Barbara Boland/FNHA GIPP Coordinator & GIS Expert, etc . . .

Don/Dr. Steinkraus acknowledged the stated goal and added that an attempt would be made to define what is critical from the UA faculty’s point of view followed by collaborative work with City Staff, FFEAC LUGI, FNHA, graduate-undergraduate-local school students.

Understanding how to preserve natural habitat, as presented by Doug Tallamy in his book “Bringing Nature Home: How Native Plants Sustain Wildlife in Our Gardens”, is essential to the success of the GIPP and to saving critical areas.

Fran Alexander moved the meeting to conclusion with a summary question: Are we on track to collaborate with the UA in looking at the FNHA DRAFT GIPP WORKING MAPS to determine research and laboratory project(s) potential?

Don/Dr. Steinkraus will coordinate with Greg Mitchell and John Goddard re: UA Researcher/GIPP discussions.

Katie Teague volunteered Washington County Extension Service assistance with the Educational component of the GIPP.

Fran Alexander addressed need for name correction on GI Contact List from “Tom” to “Joe Woolbright” and announced NEXT FFEAC LUGI MEETING on Thursday, February 18, 2010 in Fayetteville City Hall Room 111.

. Meeting of FFEAC LUGI Group adjourned at 9:03 PM

Meeting Minutes prepared and submitted by Dot Neely/FFEAC LUGI Scribe 02/01/10

**FAYETTEVILLE FORWARD ECONOMIC ACCOUNTABILITY COUNCIL LAND USE-GREEN INFRASTRUCTURE
(FFEAC LUGI) GROUP FEBRUARY 18, 2010 MEETING**

ATTENDEES: Fran Alexander/FFEAC LUGI Chair, Bob Caulk/Fayetteville Natural Heritage Association (FNHA) Chair, Frank Sharp/FNHA-FFEAC-Kessler Mtn Property Owners Association-Ozark Mtn Smokehouse President, Harriett Jansma/FNHA Green Infrastructure Planning Project (GIPP), Delia Haak/IRWP Executive Director, Cindi Cope/Botanical Garden of the Ozarks (BGO) Education Co-Chair, Dot Neely/FNHA GIPP-FFEAC LUGI-NW Arkansas Master Naturalist-In-Training (NWAMNiT), Mark Caldwell/Caldwell Stone, Inc. & E3 Regenesi Solutions, Inc., Sarah Lewis/Fvl City Council-UA ENDY Ph. D. Candidate, Aubrey Shepherd/Fvl Telecom Board, Dirk Philipp/UA AGRI ANSC Faculty, Christy Slay/UA BISC Ph. D. Candidate

..... **Meeting called to order at 7:05 PM**

Chair Fran Alexander proposed the following agenda for the Feb. 18, 2010 meeting:

- 1) List known studies, research, data which would provide scientific basis for creating or promoting policies and programs to defend/preserve/protect NW Arkansas GI
- 2) Discuss status of new GI-related policy generation, adoption, implementation: Riparian/Streamside Protection Ordinance, LID, Storm Water Permit, Green Building Metrics, 2025 Plan
- 3) Formulate Public Education and Outreach Plan

January 19, 2010 FFEAC LUGI Meeting Summary:

FFEAC LUGI Group members and invited guest, Dr. Don Steinkraus/ UA AGRI Entomology Faculty, agreed that quantitative data is needed to identify critical habitat for pollinators, birds, endemic species; sensitive or impacted ecological areas or recharge zones; species assemblages (native, exotic, invasive, keystone, at risk); benefit(s) provided by GI features/species “services”; etc in NW Arkansas.

Dr. Steinkraus and Fayetteville GIS Staffers, Greg Mitchell and John Goddard, were to coordinate scheduling of collaborative GI discussion sessions with UA Researchers, City Administration(s)/Staff, Environmental Consultants/Organizations/Government Agencies, and other stakeholders.

Fayetteville City Hall Room 326 was recommended as a favorable meeting venue since it is equipped with the technology to project, zoom in-out on, and interact with the Fayetteville Natural Heritage Association (FNHA) Green Infrastructure Planning Project (GIPP) WORKING MAPS and individual map (data) layers.

Participating experts would be asked to comment in general regarding known species or features in corridor, hub, and core areas depicted on the FNHA GI Network Map (e.g. Indicator Species, Prairie Remnants).

Any data offered would be used to identify parts of the GI Network with the highest priority for preservation and allow parcels defined as “Critical Habitat” to be targeted for saving.

Input from this collaboration would provide scientific basis, ensure FNHA support, and strengthen the case for defending/preserving/protecting natural environmental resources which have shaped and helped to define NW Arkansas history and culture.

1) NW ARKANSAS GI SCIENTIFIC STUDIES/RESEARCH/DATA:

Fran drew attention to the fact that in the natural environment all components are part of a living, working ecosystem. If we are to preserve that system, we need to know what is there and, if the quality of that system is to be maintained, a plan must be established to set aside critical habitat.

According to Bob Caulk, FNHA GIPP work was done with input from biologists Doug James/Ph. D. UA BISC, Chris Wilson/TNC-Oklahoma Nickel Preserve, Bruce Shackelford/Environmental Consulting Operations, Inc (ECO) President, others . . . Doug James told Bob that specific data on critical habitat and/or indicator species for this area “did not exist”. Bob said Doug James was of the opinion that desired species would be attracted to required habitat if provided.

Experts and volunteers involved in the FNHA GIP Project know that such quantitative information is needed to accurately define or delineate GI Network cores, hubs, and corridors, in general. In specific, this data is essential for prioritizing GI Network components in order to determine which are most important or most at risk for being altered or completely destroyed by development or other misuse.

Sarah Lewis was not aware of macroinvertebrate studies in the area other than Dr. Scott Longing’s work with endemic aquatic insects (Refer to **GI-Related Research and Data Sources – University of Arkansas/Fvl** list below).

An example of the type of research and data sought for use as metadata to guide policy making, would be a systematic census of the Clear Creek Stone Fly population because Stone Flies are an indicator species for water quality.

Also needed are economic studies which compare profits/expenses associated with city growth (development and resource management) that includes GI to profits/expenses of growth using Status Quo development/resource management practices which exclude GI.

A goal for the GIP study is adoption by City governments and incorporation into policies for ensuring optimal community expansion, development, and land use.

GI-Related Research and Data Sources

- **University of Arkansas/Fvl**

- Dr. Art Brown/UA BISC Stream Ecology has Clear Creek data and research papers dating back to 1949
- Dr. Scott Longing/Aquatic Entomologist & UA BISC Technical Assistant III has *“conducted surveys to locate populations of an endemic aquatic insect (for a State Wildlife Grant funded, two-year survey) that occupies habitats related to these important cave and groundwater systems. Its habitat includes small headwater streams and spring seeps containing water year-round. It only occurs in the Boston Mountain and Ozark Highland ecoregions and nowhere else, and was first collected in Sulphur Springs, Arkansas in 1955. Accordingly, it was named the Sulphur Springs Diving Beetle. Its ecological requirements suggest that it might be a good bioindicator of overall stream stability including intact riparian corridors, undisturbed streambanks, and natural flow regimes.”*

Research Proposals and Publications Co-Authored by Scott Longing –

Heterosternuta sulphuria (Coleoptera: Dytiscidae) Occurrence in the Sulphur Springs Headwater System and in Buffalo National River Tributaries (Arkansas, USA): Current Distribution, Habitat Conditions, and Biomonitoring Framework - Arkansas Water Resources Center – UA Technical Publication Number MSC 351 – Year 2009
http://uark.edu/depts/awrc/pdf_files/MSC/MSC_351.pdf

2008 Pre-Proposal for Aquatic invertebrate surveys of springs in the Buffalo National River watershed

(<http://www.wildlifearkansas.com/proposals/2008Preproposals/BNR%20Buffalo%20River%20watershed%20springs%20invertebrates.pdf>)

2008 Pre-Proposal for Aquatic insect surveys at Mount Magazine State Park and Hobbs State Park – Conservation Area - with implementation of an educational component

(<http://www.wildlifearkansas.com/proposals/2008Preproposals/Aquatic%20insect%20surveys%20at%20Mount%20Magazine%20State%20Park%20and%20Hobbs%20State%20Park.pdf>)

- **Arkansas Natural Heritage Commission:** Data Files listed below received by Greg Mitchell/Fvl GIS from Cindy Osborne (cindy@arkansasheritage.org) Data Manager/Environmental Review Coordinator with the Arkansas Natural Heritage Commission, 1500 Tower Building/323 Center Street, Little Rock, AR 72201, Phone: 501-324-9762, Fax: 501-324-9618

1. A line shapefile with the streams supporting rare species and a linked table listing those species for each stream.
2. A point data shapefile with some of the important springs, and spring runs known to support sensitive species and a linked table listing those species.
3. A shapefile with a known location of a high quality forest community.
4. Descriptive text about important habitat types in the study area and possibly species lists for those habitats
5. A list of the rare species reported from the study area. For the most part this represents “summarized” database information for the study area, which I should be able to provide it at this stage without incurring fees. If you get researchers on-the-ground looking for sensitive species, we can probably provide the detailed occurrence information for them as needed. This could be done as a data exchange. We could provide the records in exchange for new location records and updated information on known occurrence records.

- **US Forest Service Publications**

Thill, Ronald E.; Tappe, Philip A.; Melchiors, M. Anthony; Wigley, T. Bently (2004) Avian Communities of Streamside Zones in The Ouachita Mountains of Arkansas (<http://www.treesearch.fs.fed.us/pubs/6579>)

2) GI PROGRAMS AND POLICY

Success in getting GI plans adopted and implemented will require the orchestration of multiple efforts running in parallel, in addition to maintaining consistent communication with city officials, as the GI plan evolves and expands.

Layers of policies would provide GI guidelines and layers of codes would define and direct specific, critical requirements for establishing and maintaining GI.

Conservation Easements:

Frank Sharp briefly described the process where-by he and his neighbors, most of which are members of the Kessler Mountain Property Owners Association, set up **Conservation Easements**, also referred to as “Land Trusts” to protect their private undeveloped landholdings (For additional information, go to Wikipedia.org Link - http://en.wikipedia.org/wiki/Conservation_easement)

Frank also reported that the University of Arkansas Community Design Center (CDC) (<http://uacdc.uark.edu/>) is working with the City of Farmington to connect Farmington and Fayetteville Trail Systems.

Riparian/Streamside Ordinance:

The Nutrient Reduction Plan, completed in April 2009 by Geosyntec Consultants as part of an Agreement with the Beaver Water District and the City of Fayetteville, recommends the development and implementation of a riparian buffer ordinance. This ordinance is part of a series of recommendations designed to reduce non-point source loadings of total phosphorus in the Beaver Lake Watershed and would ultimately reduce the non-point source loadings of total phosphorus in all the City's waterways.

(http://www.accessfayetteville.org/government/strategic_planning/projects/Streamside_Protection_Ordinance.cfm)

Low Impact Development (LID) Ordinance:

"Low impact development (LID) uses or recreates natural landscape features to mimic predevelopment runoff patterns and allow water to slowly percolate into the subsoil, thereby treating storm water as a resource, not a waste product. (EXERPT from "The Case for Low Impact Development" - <http://aubreyshepherd.blogspot.com/2010/02/low-impact-development-gradually.html>)

The LID Task Force, which includes FvI City Staff, put together a good draft LID Ordinance. City Staff will notify City Council Member Sarah Lewis when the draft is ready for review by Planning/Council.

Community representatives are needed in City Council Agenda sessions to demonstrate support for and to lend perspective on value and benefits of LID, which includes hillside and riparian/streamside protection, more sustainable storm water management alternatives, GI planning, etc . . .

LID education/training should be included in the process of installing new City Staff, Board, and Commission members to ensure appropriate integration of LID practices into policy, in general, and for storm water permitting, in specific.

Storm Water Permit:

The SW Permit is up for renewal and the period for Public Comment extends from February **1 through March 1, 2010.**

At present, the City cannot require developers to submit an upfront site plan that includes alternative storm water treatment associated with LID.

Current codes address storm water flow volumes, not water quality in contrast to LID standards which take into account these and other aspects of storm water management.

Fran requested of Sarah Lewis an update regarding progress with creating LID policy that would link storm water control infrastructure between developments.

Sarah indicated the necessity of first getting general LID methodologies integrated into City policy and practices. More specific LID policies/codes/guidelines for inter-development storm water infrastructure connectivity, etc . . . would follow.

Dirk Philipp instructed the group to be specific about codes needed to accomplish protection goals.

Fayetteville 2025 Plan Review:

The 2025 Plan, which calls for the establishment of an “Enduring Green Network (i.e. GI), will be reviewed this year (2010) allowing for the incorporation of the FNHA GI Planning Project as a tool to help guide city growth.

Based on her experience with a similar 15-year plan for the IRWP, Delia Haak advised submission of formal recommendations during the 2025 Plan review that include citing specific metrics/parameters such as the location, number, and species of trees to be planted in Riparian/Streamside restoration efforts.

Green Building Guidelines are now including Performance Metrics

3) PUBLIC EDUCATION AND OUTREACH:

Fran read the following excerpt from page 251 of *Green Infrastructure: Linking Landscapes and Communities* By Mark A. Benedict, Edward McMahon (Copyright 2006 The Conservation Fund):

“Green infrastructure requires foresight, political will, and sustained effort on the part of a state, region, or community to change the way conservation and land-use planning are undertaken. But savvy states and localities are starting to recognize the benefits of focusing strategically on land use. Communities are coming together to create a vision for the future – a vision that is based on preserving what is most important to the residents who live there – and identify strategies for making this vision a reality. Green infrastructure should be at the heart of these efforts.

To make sure your work does not simply become a map in the file drawer and a plan on the bookshelf, you cannot stop after you have a green infrastructure design and an implementation plan. You must work in an ongoing fashion to ensure that the design and plan are adopted, incorporated, and used in a diversity of programs and delivery platforms. This requires incorporating your plans into community plans and seeking out programs that are in place that will support your initiative.”

In regard to getting GI plans incorporated into community collective conscience, policies, and programs, Fran said there is a critical need to address the “chasm-sized” public outreach gap that exists between attempts to contact and inform persons of influence in the area through networking and efforts to advise municipal governments and staff in the process of creating GI policies.

The general public must understand what GI is and the personal benefits GI affords.

Sarah confirmed the importance of GI-Savvy residents/community representatives interacting with and educating public officials concerning benefits of LID and GI.

She expanded on the success of the Watershed Luncheon Series organized by Louise Mann. Louise began plans for the series by compiling a list of potential luncheon participants consisting of key individuals in Fayetteville offices and organizations. These representatives would relay GI details to their respective associates who would pass the information along to their professional and personal contacts. Participation required an up-front commitment to attend one Watershed Luncheon each month for 11 months. Presentations were strictly limited to 1-hour with a regular attendance of 35-45 representatives which included a substantial number of City Staff, but few, if any City Council members.

Discussion followed on the topic of continuing the luncheon series with a focus on GI Planning, which is an integral component of watershed protection.

The question of opening the luncheon to the public was briefly debated.

Christy Slay said the general public associates the term "Infrastructure" with human construction which contributes to public confusion and disconnect with GI Planning concepts.

In her view, the visualization of scenarios for future growth with and without GI has powerful potential for raising public awareness regarding the importance of protecting natural resources.

Fran spoke to the need for depicting for the public GI functional equivalents of the Gray/Human-built Infrastructure (e.g. trees as the "Air Conditioning" system that produces oxygen, takes up carbon dioxide, and provide shade to reduce the "Heat Island" effect in extensively paved areas; creek/streams/karst features as "Storm Water Conduit" system.

Delia emphasized the importance of having GI Maps to help area residents relate to GI and understand its significance on a personal basis. She referred to the Fayetteville Trails System as an example of a project that gained public support by including the community in planning sessions in which draft maps for visualization of the system were available.

Dirk felt that the public may care on some level about GI, but may not immediately relate to or be affected by it. A more effective approach suggested would be for the City to adopt and implement GI Planning into policy, then conduct workshops to inform/educate the public regarding GI.

Sarah, Dirk, and Delia agreed that it would be worthwhile to arrange a public presentation on the importance of GI to which City Council Members would be formally invited to attend. Have City Ward residents supportive of GI Planning contact respective Aldermen, to ensure Council majority participation.

Delia plans to invite regional communities' City Councils to the presentation of the new IRWP Management Plan which will be out in June 2010.

FNHA is now going and will continue to go to various interest groups to show and explain GI Planning Project Maps.

Bob identified Lakeland, Tennessee as an example of cities that have established GI and set incentives for development that protects GI (<http://www.lakelandtn.gov/pdfs/plan/CDFMemo-082007.pdf>) (<http://www.lakelandtn.gov/pdfs/plan/comp-plan/CompPlan-Goals-6-19-06.pdf>).

Fran mentioned the Massachusetts BioMap Program (http://www.mass.gov/dfwele/dfw/nhosp/land_protection/biomap/biomap_home.htm)

Bob Caulk stated that FNHA has interacted with leadership in the GIPP Study Area communities and that while more discussion on ways to implement the GI Plan is needed an incredible number of things related to the implementation of GI Plan are going on here (e.g. Private landholders setting up Conservation Easements with local governments; IRWP and Washington County Extension Agency Riparian/Streamside Restoration Projects; City of Fayetteville efforts to integrate LID into various policies such as building, development, storm water permitting, other . . . ; NW Arkansas cities collaboration on Regional Trail System expansion and connectivity and other transportation alternatives; etc . . .).

Bob listed GI Public Education/Outreach/Communication activities which could be tailored to specific interests/values/needs of participant individual(s) or group(s) (e.g. City Council Members, Chambers of Commerce, Developers, various Associations/Leagues/Society/Special Interest Groups, other . . .):

- 1) Generate GI Outreach Activities Participant Lists
- 2) Plan GI Educational Program Outlines and PowerPoint Presentations
- 3) Arrange GI Site Tours
- 4) Schedule GI Information/Workshop Sessions

Public Education and Outreach Demonstrations, Events, and Workshops

- Streamside Protection Ordinance Stakeholder Input Meeting Schedule and Watershed Event Calendar is available from County Extension Agent John Pennington Washington County Extension Office: Local Telephone: (479)444-1755; Webpage – www.uaex.edu
- Gulley Park Riparian/Streamside Restoration – (http://www.accessfayetteville.org/government/projects/Gulley_Park_Stream_Restoration/index.cfm)
- Riparian/Streamside Protection Educational Materials – Cindi Cope and others have created Riparian Coloring Sheets for grades K-3 students to take home to complete with parents. Designing of similar materials illustrating GI component features is in progress.
- UA Green Skills Group
- Green Collar Workforce Training Center - Mayor Jordan initiated a coalition among the Northwest Arkansas Community College, the University of Arkansas College of Engineering and the Chamber of Commerce to open a green collar jobs training center in Fayetteville. The Arkansas Energy office has designated the Northwest Arkansas Community College as one of the two Centers of Excellence in the state. One site will be located in Fayetteville and focus on residential energy efficiency. (http://www.accessfayetteville.org/government/strategic_planning/projects/Green_Collar_Job_Training_Center.cfm)
- CATv GI Short Takes – Aubrey Shepherd recommended video recording GI Public Announcements in 5-minute segments for regularly repeated broadcasts of 6 to 10 times per week. Frank Sharp reported work of Pete Heinzelmann who has been taping 15-20 minute GI-topic interviews with local experts and key community residents who understand and support GI Planning. Pete's interviews could be edited to run in 5-minute informational segments. According to Bob Caulk, the interviews could be aired as a full-length program for a half-hour or hour timeslot, as soon as they can be edited together with a story-line. A story-line script that identifies the major point(s) for the interviews is needed. The finished work would be similar in style to documentaries by Larry Foley or Ken Burns and of sufficient quality for AETN programming.
- Arrange GI Tours and Presentations with:
 - Fayetteville Chamber of Commerce Green Economy Group – The local business community has declared itself to be part of the “Green Valley” Sustainable Business initiative, so leaders in commerce should have functioning knowledge of GI and associated GI economic benefits (e.g. GI improves the “Bottom Line” by increasing profit and reducing expense in multiple areas including facility operations, resource management, transport logistics, production efficiency, etc. . .) to ensure complement of “Green” business activities and GI Planning efforts.

- Fayetteville City Council and Planning Commission Tours, Agenda Sessions, and Council Meetings are regularly scheduled each month:

1) Tours on 1st & 3rd Mondays are usually attended by six of eight City Council Members. City Administration, Staff, Commission, and Board Members could be personally contacted to participate in GI-related outings to Woolsey Wet Prairie, various Riparian/Streamside restoration, rain garden, and LID project areas, "Old Growth" forest remnant stands, **karst features including the "Finchers" cave system, part of which served as a Civil War refuge, beneath downtown Fayetteville/Fayetteville Public Library/Washington County Courthouse/Regency Hospital/Underwood Condominiums with an estimated 10-mile combined extent of chambers and corridors**, historic sites, small working farms especially those represented at the Fayetteville Farmers Market, other . . .)

2) Agenda Sessions on 2nd & 4th Tuesdays

3) Council Meetings 1st & 3rd on Tuesdays

- **March is IRWP Riparian/Streamside Restoration Month**
- **March 6 and March 10, 2010** - City of Fayetteville streamside protection ordinance public education and input workshops
(http://www.accessfayetteville.org/government/strategic_planning/news/Streamside_Protection_Education_and_Input_Workshop.cfm)
- **March 13, 2010** – Illinois River Watershed Partnership 2010 Riparian Project (<http://www.irwp.org/riparianproject.html>) - Planting green ash, bald cypress, and shortleaf pine seedlings along streambanks, as well as cleaning up trash and debris at six locations:

Fayetteville – Clabber Creek meet at Holt Middle School, Ruppel Rd

Gentry – Little Flint Creek meet at Eagle Watch Nature Trail, Hwy 12 West

Rogers – Turtle Creek meet at Home Depot northwest parking lot, I-540 Pinnacle exit

Siloam Springs – Sager Creek meet at La-Z-Boy Ballpark fields

Springdale – Spring Creek meet at Grove Street Park

Tahlequah – Townbranch meet at Felts Park, Basin Ave

To volunteer email Contact@irwp.org or call (479) 238-4671

April is IRWP Rain Garden Month

April 16-17, 2010 - Fayetteville Forward Economic Accountability Council Summit will afford opportunity to report on FFEAC progress since the 2009 Summit and recruit additional community residents

April 16-18, 2010 – 3rd Annual Caring for Creation Conference at Mt. Sequoyah Conference and Retreat Center. Contact Information: Toll Free Telephone: (800)760-8126; Local Telephone: (479)443-4531; eMail: programs@mountsequoyah.org; Webpage – www.mountsequoyah.org

Minutes prepared and submitted by Dot Neely/FFEAC LUGI Scribe

FAYETTEVILLE FORWARD ECONOMIC ACCOUNTABILITY COUNCIL LAND USE-GREEN INFRASTRUCTURE (FFEAC LUGI) GROUP MARCH 25, 2010 MEETING

ATTENDEES: Fran Alexander/FFEAC LUGI Chair, Bob Caulk/Fayetteville Natural Heritage Association (FNHA) Chair, Frank Sharp/FNHA-FFEAC-Kessler Mtn Property Owners Association-ozark Mtn Smokehouse President, Louise Mann/Fvl Environmental Action Committee, Dot Neely/FNHA GIPP-FFEAC LUGI-NW Arkansas Master Naturalist-In-Training (NWAMNiT), Aubrey Shepherd/Fvl Telecom Board

..... Meeting called to order at 7:05 PM

Chair Fran Alexander opened the meeting by noting two major items for consideration this evening: 1) The possibility of planning a Green Infrastructure Program Series to incorporate into or present independent of the Watershed Luncheon organized by Louise Mann and Sarah Lewis in coordination with the City of Fayetteville Environmental Action Committee; 2) Fayetteville Natural Heritage Association Green Infrastructure Planning Project Implementation and Public Outreach/Educational Programs.

Before launching into topic discussions, Fran requested of Bob Caulk a brief update re: upcoming Fayetteville Natural Heritage Association Green Infrastructure (GI) Planning Project Public Outreach/Educational activities.

Bob reported scheduled presentations for the Fayetteville Garden and Lions Clubs, as well as a May 12, 2010 GI Workshop hosted by Patti Erwin/Urban Forestry Coordinator/Fayetteville Office - Arkansas Urban Forestry Commission.

February 18, 2010 FFEAC LUGI Meeting Summary:

The February 18, 2010 Meeting discussion focused on the following:

- 1) Listing of known studies, research, data which would provide scientific basis for creating or promoting policies and programs to defend/preserve/protect NW Arkansas GI
 - Attention was drawn to the fact that in the natural environment all components are part of a living, working ecosystem. If we are to preserve that system, we need to know what is there and, if the quality of that system is to be maintained, a plan must be established to set aside critical habitat.
 - FNHA GIPP work has been done with input of expert, such as scientists in academia and private consulting, who are aware of the need for quantitative information to accurately define or delineate GI Network cores, hubs, and corridors, in general, and in specific, for prioritizing GI Network components in order to determine which are most important or most at risk for being altered or completely destroyed by development or other modifications.
 - Research based input from collaboration with experts would provide scientific basis, ensure FNHA support, and strengthen the case for defending/preserving/protecting natural environmental resources which have shaped and helped to define NW Arkansas history and culture.
 - Economic studies are also needed which compare profits/expenses associated with city growth (development and resource management) that includes GI to profits/expenses of growth using Status Quo development/resource management practices which exclude GI.
 - A goal for the GIP study is adoption by City governments and incorporation into policies for ensuring optimal community expansion, development, and land use.

2) Updates on status of new GI-related policy generation, adoption, implementation:

- Riparian/Streamside Protection Ordinance – in progress
- Low Impact Development Ordinance – passed by Fayetteville City Council as option to allow developers to implement alternative site prep and construction methods
- Storm Water Permit – LID Ordinance makes way to expand Storm Water Management policies to include practices to address water quality, as well as storm water flow volumes.
- Green Building Guidelines are now including Performance Metrics
- 2025 Plan – Up for review this year. The plan calls for the establishment of an “Enduring Green Network (i.e. GI), allowing for the incorporation of the FNHA GI Planning Project as a tool to help guide city growth. Submission of formal recommendations during the 2025 Plan review should include citing specific metrics/parameters such as the location, number, and species of trees to be planted in Riparian/Streamside.
- Trail System - The University of Arkansas Community Design Center (CDC) (<http://uacdc.uark.edu/>) is working with the City of Farmington to connect Farmington and Fayetteville Trail Systems.
- Conservation Easements/Land Trusts - the Kessler Mountain Property Owners Association, set up **Conservation Easements**, also referred to as “Land Trusts” to protect their private undeveloped landholdings

Success in getting GI plans adopted and implemented will require the orchestration of multiple efforts running in parallel, in addition to maintaining consistent communication with city officials, as the GI plan evolves and expands.

3) Formulation of Green Infrastructure (GI) Public Education and Outreach Plan

- The general public must understand what GI is and the personal benefits GI affords.
- There exists a critical need to address the “chasm-sized” public outreach gap that exists between attempts to contact and inform persons of influence in the area through networking and efforts to advise municipal governments and staff in the process of creating GI policies.
- FNHA has interacted with leadership in the GIPP Study Area communities
- An incredible number of things related to the implementation of GI Plan are on-going
- More discussion on ways to implement the GI Plan is needed
- GI Public Education/Outreach/Communication activities which could be tailored to specific participant individual(s) or group(s) interests:
 - a) Generate Targeted GI Outreach Participant Lists
 - b) Arrange GI Site Tours
 - c) Offer GI Information/Workshop Sessions

1) STEPS FOR ORGANIZING A GREEN INFRASTRUCTURE PROGRAM SERIES

Louise Mann/City of Fayetteville Environmental Action Committee (EAC) described the mechanics of organizing the Watershed Luncheon Series:

- I. Assemble a corps of volunteers to assist
 - Individuals and/or organizations familiar with and favorable to GI Planning
- II. Reserve a venue
- III. Select 6 to 10 GI-related topics to address or present (*Suggested Speakers*)
 - General GI Overview – *Bob Caulk*
 - Land Use Planning issues involved with GI – *Eden Price-Reiff, Rob Sharp, Juliet Richey, Mike Johnson, Jay Hunnicut/UA Land Use Planning, Nick Brown/UA Sustainability Coordinator*
 - Environmental Issues related to GI Planning – *Sarah Lewis, John Pennington, Joe Neal, Joe Woolbright*
 - Cultural/Historical Feature Complements to GI - *Karen Rollet-Crocker*
 - Benefits of GI Planning: Environmental, Economic, Socio-Political – *Mandy Bunch/EB Landworks, Inc., Invite National Level Experts*
 - Producing a GI Plan/Map – *Barbara Boland*
 - Establishing GI after plan becomes available – *Invite National Level Experts*
- IV. Make an invitation list of 40 influential local individuals, outside “The Choir”, who:
 - Need the information (e.g. Developers, Realtors, Chamber of Commerce members/Business Leaders, Faith-Based Community Representatives, Researchers, Administrators/Staff/Faculty (County, City, University/College, School, Medical, Non-Profits, NGOs, etc . .), Golf Course/Country Club Management, Board Members of various institutions, local/regional/state legislators/politicians, Utility Company Management)
 - Have positive energy/attitudes
 - Seem receptive to new ideas
 - Are potential advocates/supporters of the cause
 - Would spread the word: **“Exponential Education - 50 influence and inform 50”**
 - Could commit to attending all/majority of sessions
 - Will pay for their own meal in advance
- V. Send direct, personalized invitations. Follow up prior to the beginning of the Series with friendly phone call meeting date reminders and after the Series ends with Thank You notes to attendees.
 - GI contacts send hand-written invitations to selected participants - Match invitees with compatible GI contacts, if possible
- VI. Establish Commercial and Political Neutrality - Keep Corporate and Political Sponsors OUT
- VII. Be considerate of participants’ time
 - Start and end on schedule
 - Allow for 45-minute Lecture followed by 10-minute Question and Answer period

GENERAL COMMENTS ON WATERSHED LUNCHEON AND POSSIBLE GI SERIES:

- The EAC will review/evaluate/modify and may decide to continue the Watershed Luncheon Series (WLS)
- FNHA prefers discussing with EAC the option(s) of incorporating GI information into the WLS vs. staging a separate program which could present scheduling or attendance conflicts with WLS
- Watershed protection and GI Network Planning are synonymous
- Broadcasts of video recorded WSL Sessions have generated positive feedback from general public
- FNHA purchased a PowerPoint Projector for making GI Planning Project and other presentations
- Local Civic Groups may be interested in scheduling GI presentations with FNHA
- The most common comment in response to GI Planning Project presentations is: “You can’t possibly afford to save all that needs saving.”
- The GI Planning Project is an attempt to:
 - i) Identify opportunities for utilizing cost-effective services provided by the natural environment (e.g. storm water runoff mitigation, reduced heat-island effect associated with paved areas, improved air and water quality, recreational venue, etc . . .)
 - ii) Guide future development that preserves quality of life while appropriately accommodating human population growth

2) FAYETTEVILLE NATURAL HERITAGE ASSOCIATION GREEN INFRASTRUCTURE PLANNING PROJECT IMPLEMENTATION AND PUBLIC OUTREACH/EDUCATIONAL PROGRAMS

A. For the Fayetteville Forward Economic Accountability Council Summit on April 16, 2010, FNHA will provide:

- GI Planning Project Maps with additional display that includes:
 - i) GI definition and components (Cores, Hubs, Corridors)
 - ii) Major aspects and benefits associated with GI Network Planning
 - iii) Implementing GI Plan through public policies/ordinances: LID, Watershed Protection, Streambank/Riparian Zone, Wildlife Habitat Preservation, Hillside Development, Tree, Conservation Easement
- Urban Forest Conservation Assessment Maps