

Discovery Report

FEMA Region V

Little Scioto-Tygarts Watershed, Ohio

HUC 05090103



FEMA



Prepared by

The Ohio Department of Natural Resources

Project Area Community List

| Community Name | CID |
|-------------------------|------------|
| Coal Grove | 390326 |
| Hanging Rock | 390699 |
| Ironton | 390327 |
| Jackson Unincorporated | 390290 |
| Lawrence Unincorporated | 390325 |
| New Boston | 390497 |
| Pike Unincorporated | 390450 |
| Portsmouth | 390498 |
| Scioto Unincorporated | 390496 |
| South Point | 390630 |
| South Webster | 390914 |

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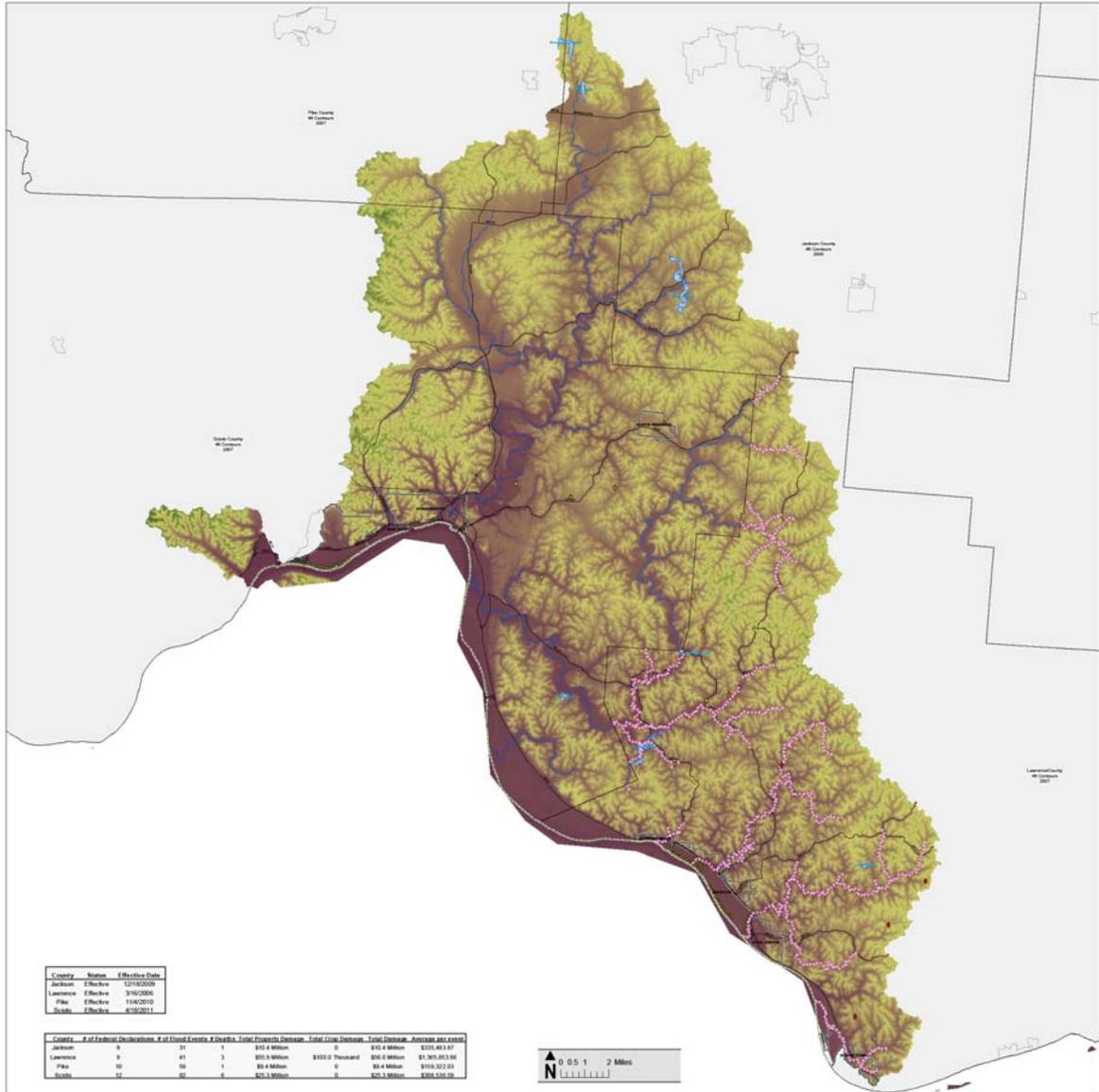
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I. Watershed Description

The Little Scioto-Tygarts Watershed is located in south central Ohio and has a drainage area of 1008 square miles. There are several flooding source that exist in the watershed, the largest being the Ohio River. The main tributaries flowing into the Ohio River that are of concern are the lower stretches of the Scioto River (Scioto County), Pine Creek, Little Pine Creek (Lawrence and Scioto Counties), Storms Creek (Lawrence County), and Ice Creek (Lawrence County). These identified rivers and streams reside primarily in the eastern half of Scioto County and the western half of Lawrence County, with the beginning of the drainage area starting in the southwestern portion of Jackson County and the southeastern portion of Pike County. The limits of the Discovery project area are presented in Figure 1. Table 1 includes the National Flood Insurance Program (NFIP) participation status of each community within the Little Scioto-Tygarts Watershed.

Figure 1. Project Area Map

Discovery Map: Little Scioto-Tygarts Watershed



| County | State | Effective Date |
|----------|-----------|----------------|
| Anderson | Effective | 12/16/2009 |
| Lawrence | Effective | 3/16/2006 |
| Pike | Effective | 1/16/2010 |
| Scott | Effective | 6/18/2011 |

| County | # of Federal Declarations | # of Flood Events | # Deaths | Total Property Damage | Total Crop Damage | Total Damages - American All. Excess |
|----------|---------------------------|-------------------|----------|-----------------------|-------------------|--------------------------------------|
| Anderson | 0 | 31 | 1 | \$12.8 Million | 0 | \$12.8 Million |
| Lawrence | 0 | 41 | 3 | \$51.9 Million | \$100.0 Thousand | \$130.6 Million |
| Pike | 0 | 38 | 1 | \$8.4 Million | 0 | \$8.4 Million |
| Scott | 0 | 6 | 0 | \$23.3 Million | 0 | \$23.3 Million |

MAP SYMBOLOLOGY

- Flood Hazard Area**
 - Zone A - Special Flood Hazard Area
 - Zone AE - Special Flood Hazard Area
- Potential Study Areas**
 - Past Claims Hot Spots
 - Levees
 - Interstates
 - Major Roads
 - Streams / Rivers
- CMS Data**
 - Validated
 - Requires Assessment
 - Not Valid
 - USGS Gages
 - LCMC Locations
 - HUC-10 Watershed Boundary
 - Levees
 - Municipal Boundaries
 - Counties
- Dams**
 - Classification
 - Class 1 Dam - greater than 100' or greater than 500,000 cubic feet storage, or greater than 10' high
 - Class 2 Dam - greater than 60' or greater than 100,000 cubic feet storage, or greater than 10' high
 - Class 3 Dam - greater than 20' or greater than 10,000 cubic feet storage, or greater than 10' high

WATERSHED LOCATOR



**NATIONAL FLOOD INSURANCE PROGRAM
Discovery Map: Flood Risk**

LITTLE SCIOTO-TYGARTS WATERSHED, OHIO

| | |
|----------------------------------|-------------|
| Drainage Area (sq. mi.) | 1008 |
| Studied Streams (mi.) | 308 |
| Detailed Streams (mi.) | 43 |
| Approximate Streams (mi.) | 265 |



Table 1. NFIP Participation Status

| County | Community | Participating? |
|-----------------|------------------|-----------------------|
| Jackson | Unincorporated | Y |
| Lawrence | Coal Grove | Y |
| | Hanging Rock | Y |
| | Ironton | Y |
| | South Point | Y |
| | Unincorporated | Y |
| | Unincorporated | Y |
| Pike | Unincorporated | Y |
| Scioto | New Boston | Y |
| | Portsmouth | Y |
| | South Webster | N |
| | Unincorporated | Y |

II. Project Description and Methodology

Discovery is the process of data collection, including information exchange between all governmental levels of stakeholders, spatial data presentation, and cooperative discussion with stakeholders to better understand the area, decide whether a flood risk project is appropriate, and if so, to collaborate on the project planning in detail. At this time, Discovery processes and requirements are still being defined; however, draft guidance is available from the draft *Appendix I – Discovery (June 2011)*, the draft *Meetings Guidance for FEMA Personnel (June 2011)* and the *FY11 Discovery, Statement of Priorities (January 2011)*. In addition, there are several draft tools and templates at various stages of completion that were used to support the effort.

Region V initiated a Discovery project in July 2011 for the Little Scioto-Tygart Watershed. The Discovery process involved coordination with watershed stakeholders, data collection and analysis, a meeting with stakeholders in the watershed, and development of recommendations for Risk MAP projects based on an analysis of data and information gathered throughout the process.

The initial phase in the Discovery process was establishing a Project Team made up of local, state, and federal agencies. The Project Team for the Little Scioto-Tygart Watershed included representatives from:

- FEMA Region V, Risk Analysis Branch
- FEMA Region V, Floodplain Management and Insurance Branch
- FEMA Region V, Hazard Mitigation Assistance Branch
- Ohio Department of Natural Resources (ODNR)
- Ohio Emergency Management Agency (OEMA)

Project Team contact information and Project Team meeting minutes are provided in Appendix A. The Project Team worked together to compile the stakeholder list for the Little Scioto-Tygarts watershed. Discovery Meeting invitations are presented in Appendix B. A list of the contacts made during this effort, including phone logs, notes from interviews, invitation lists, etc. are included in Appendices B and C to this document.

ODNR coordinated with community officials and other watershed stakeholders through written invitations, phone calls and follow-up emails. The coordination included giving community officials information about the Discovery process. Communities were asked to identify “Areas of Concern” which could be addressed during the Discovery Meeting (mapping needs, desired mitigation projects, etc.) and added to the Discovery Geodatabase and Final Discovery Map.

The second phase of the Discovery Project was the collection of relevant tabular and spatial data for all the communities within the watershed. The data was collected through online resources, Federal and State sources, and interviews with cooperating communities. The collected data was used to evaluate both previous and current flooding concerns, while determining the vital areas requiring mapping needs. Section IV, Data Analysis, provides a more in-depth look at the collected data.

The third phase was to hold watershed-wide Discovery Meetings and facilitate discussion and data analysis of study needs, mitigation project needs, desired compliance support, and local flood risk awareness efforts. One (1) watershed-wide Discovery Meeting was held on July 6, 2011 in New Boston, Ohio. The discussion was stimulated using the Discovery Geodatabase display of relevant data. Attendees, including all affected communities and selected other stakeholders, cooperatively identified possible solutions for the Areas of Concern shown on the Discovery Meeting Map. Solutions included recommendations of floodplain studies, mitigation projects, compliance issues, and ideas on how to improve the local flood risk communication programs.

Copies of the Discovery Meeting Presentations, sign in sheets, handouts, meeting notes and meeting feedback forms are presented in Appendices, C, D, E and F, respectively.

The fourth phase of the Discovery effort involved an analysis of the data and information collected and discussed at the meeting, and recommendations as to the future relationship and activities between FEMA and the watershed communities. The Final Discovery Map, presented in Appendix G, indicates desired study areas and mitigation project locations,

and the Discovery Report documents the results of data collection and conversation. If a Risk MAP project is to be initiated in this watershed, Discovery will be concluded with the finalization of a project scope and signed Project Charters, which indicate that all affected stakeholders agree to the terms of a funded project, including communication and data responsibilities.

III. Data Analysis

Discovery data collection entailed a massive collection of tabular and spatial data for all stakeholder communities from Federal, State and Local sources. A list of the data collected, the deliverable or product in which the data are included, and the source of the data is presented in Table 2. In addition, Data Analysis is divided between two sections: one section listing the data that can be used for Risk MAP products (regulatory and non-regulatory) and, one section listing the other data and information that helped the Project Team to form a more holistic understanding of this watershed.

Table 2. Data Collection for Little Scioto-Tygarts Watershed

| Data Types | Deliverable/ Product | Source |
|---------------------------------------------------------|-----------------------------|--------------------------------------------------------|
| Mitigation Plans Status | Table in Report | FEMA Regional Office, OEMA |
| Mitigation Projects | Table in Report | Data.gov: FEMA Hazard Mitigation Program Summary, OEMA |
| Repetitive Loss | Table in Report | Community Information System (CIS), OEMA |
| Declared Disasters | Discovery Maps | Data.gov: FEMA Disaster Declarations Summary |
| Past flood claims and repetitive loss properties | Table in Report | FEMA R5 and/or ODNR |
| HUC-8 Watershed | Discovery Map Geo-Database | USGS National Hydrography Dataset (NHD) |
| HUC-12 Watersheds | Discovery Map Geo-Database | National Resource Conservation Service (NRCS) |
| Jurisdictional Boundaries | Discovery Map Geo-Database | FEMA and ODNR |
| State lands | Discovery Map Geo-Database | Ohio Department of Natural Resources (ODNR) |
| Federal lands | Discovery Map Geo-Database | USGS National Atlas |
| Transportation Major and Minor | Discovery Map Geo-Database | FEMA |
| Stream lines | Discovery Map Geo-Database | National Hydrography Dataset (NHD) and FEMA |
| Study Needs | Discovery Map Geo-Database | Coordinated Needs Management System (CNMS) |
| Topographic data | Discovery Map Geo-Database | Ohio Statewide Imagery Program (OSIP) |

| Data Types | Deliverable/ Product | Source |
|----------------------------------------------|-----------------------------|------------------------------------------------------|
| HAZUS - Average Annualized Loss (AAL) | Discovery Map Geo-Database | STARR |
| Local mitigation plans | Discovery Map Geo-Database | OEMA |
| State mitigation plans | Discovery Map Geo-Database | ODPS - Ohio Emergency Management Agency (OEMA) |
| Regional flood control structures | Discovery Map Geo-Database | Ohio Department of Natural Resources (ODNR) and FEMA |
| Stream Gages | Discovery Map Geo-Database | U.S. Geological Survey (USGS) |
| Flooded Structures | Discovery Map Geo-Database | Ohio Department of Natural Resources (ODNR) |
| Effective study data | Discovery Map Geo-Database | FEMA's County DFIRM Data |
| Orthophotography | Discovery Map Geo-Database | Ohio Statewide Imagery Program (OSIP) |
| Contacts | Excel spreadsheet | Local websites, State/FEMA updates |

i. Data that can be used for Flood Risk Products

Topographic and Imagery Data

As shown on the Final Discovery Map, LiDAR elevation data and digital orthophotography is available for the project area provided by the Ohio Geographically Referenced Information Program (OGRIP), as part of the Ohio Statewide Imagery Program (OSIP). The goal of OSIP I was to develop and maintain a seamless statewide base map. OSIP is an initiative partnered by several State Agencies (i.e. ODOT, ODNR) through OGRIP. Data from this project forms the foundation of the statewide base map, and was developed primarily to support multi-use applications, including homeland security, emergency management, economic development, and the business of government. The digital orthophotography consists of MrSID Images produced at 1-foot pixel resolution at a 30:1 compression ratio. The LiDAR elevation data consists of Digital Elevation Model (DEM) raster tiles acquired to meet +/- 1-foot vertical accuracy. This is suitable for rectification of digital orthophotography and for the creation of 2- and 5-foot contours (with the addition of 3D compiled breaklines). OSIP products within the Little Scioto-Tygarts Watershed were collected during leaf-off conditions between 2006 and 2008. In February 2011, Ohio initiated a continuation of the OSIP program. OSIP II imagery will be acquired beginning in spring 2011 and continuing through 2014. For OSIP II county specific acquisition information as of May 9, 2011, see Appendix H.

USGS Gages

ODNR has identified a USGS stream gage in the watershed. The location of the gage is shown on the Discovery Map and a summary is presented in Table 3.

Table 3. USGS Gages

| Gage Number | Station Name and Location | Years of Record (Peaks) |
|--------------------|----------------------------------|--------------------------------|
| 03217200 | Ohio River at Portsmouth, Ohio | UA* |

**Peak gage data was unavailable online.*

Average Annualized Loss (AAL) Data

FEMA has conducted a Level 1 Hazus flood analysis to determine average annualized losses (AAL) for the project area. This analysis was based on USGS 30-meter DEM data and Hazus software default inventory data. The Hazus riverine hydrology analysis used default USGS regression equations to estimate the peak flows for selected return periods and the USGS topographic data to conduct normal depth calculations for flood depth grids. The loss estimation for the AAL data was then conducted to produce loss calculations at the U.S. census block level.

The AAL data is symbolized on the Discovery Map as varying levels of risk. During the Discovery meeting, the Level 1 analysis results will be validated by stakeholders to identify potential sites for Refined Analyses.

ii. Other Data and Information

Mitigation Plans/Status

Hazard Mitigation Plans (HMPs) are prepared to assist communities to reduce their risk to natural hazard events. The plans are used to develop strategies for risk reduction and to serve as a guide for all mitigation activities in the given county or community. The available HMPs obtained and reviewed for this Discovery Project are presented in Table 4.

Table 4. Hazard Mitigation Plan Status

| County/Community | Hazus | Hazard Mitigation Plan | Issue Date | Expiration Date |
|-------------------------|--------------|-------------------------------|-------------------|------------------------|
| Jackson County* | N | Y | 5/11/2011 | 5/11/2016 |
| Lawrence County | N | Y | 3/29/2007 | 3/29/2012 |
| Pike County | N | Y | 3/16/2007 | 3/16/2012 |
| Scioto County | N | Y | 4/10/2007 | 4/10/2012 |

**Hazard Mitigation Plan has Expired*

Critical facilities are the facilities that can impact the delivery of vital services, cause greater damages to other sectors of a community, or put special populations at risk. The assessment of the flood risk posed to critical facilities within the watershed is an important aspect of the HMPs. Critical facilities that are located within the 1-percent-annual-chance

floodplain were quantified and identified as at-risk structures. The exact number of critical facilities that are considered at-risk is not quantifiable due to the limited detail presented in the HMPs. The number of critical facilities estimated to be within the 1-percent-annual-chance floodplain was determined by overlaying Hazard Maps included in the HMP's with the latest flood hazard data. However, the risk of flood damage is limited by the detail and accuracy of the most recent flood map.

A repetitive loss structure is a term associated with the National Flood Insurance Program (NFIP). For Flood Mitigation Assistance (FMA) program purposes, a repetitive loss structure is one that is covered by a flood insurance contract under the NFIP, that has suffered flood damage on two or more occasions over a 10-year period, ending on the date when a second claim is made, in which the cost to repair the flood damage, on average, equals or exceeds 25% of the market-value of the structure at the time of each flood loss event. In terms of the Community Rating System (CRS) of the NFIP, a repetitive loss property is any property, which the NFIP has paid two or more flood claims of \$1,000 or more, in any given 10-year period since 1978. A repetitive loss structure is important to the NFIP, since structures that flood frequently put a strain on the flood insurance fund. It should also be important to a community because of the disruption and threat to residents' lives by the continual flooding.

Specific details regarding repetitive loss structures within the floodplain were not made available in the available HMPs. The locations of repetitive loss structures presented on the Discovery Map were determined by rectifying the HMP's Hazard Maps to the Discovery Map's base map data. The exact locations and numbers of repetitive loss structures have been summarized with caution due to the lack of detail in the HMPs and Hazard Maps. Areas that have suffered multiple repetitive losses are some of the most important areas of mitigation interest. The general locations of identified structures with repetitive losses have been represented on the Flood Risk Discovery Map Panels with a gray point symbol.

Table 5: Number of Repetitive Loss Structures by Community

| Community | County | # Rep Loss Structures |
|------------------|-----------------|------------------------------|
| Unincorporated | Jackson | 19 |
| Coal Grove | Lawrence | 0 |
| Hanging Rock | Lawrence | 3 |
| Ironton | Lawrence | 0 |
| South Point | Lawrence | 7 |
| Unincorporated | Lawrence | 86 |
| Unincorporated | Pike | 22 |
| New Boston | Scioto | 2 |
| Portsmouth | Scioto | 6 |
| South Webster | Scioto | 0 |
| Unincorporated | Scioto | 49 |

Numerous locations of roads overtopping during flood events were identified during the data collection and Discovery Meeting process.

Numerous dams exist within the watershed, but are not mentioned in the HMPs as flood control structures. According to the ODNr database, Four (4) Class I dams are located within the watershed and owned/operated by state or federal agencies.

The overall goals of the reviewed HMP's were found to be consistent; however, specific methods for implementation of these goals and locations of specific projects were not readily available. These goals include:

- Educate the citizens of each county to increase awareness of flooding and where to seek safety during flood events
- Provide adequate shelters where citizens can seek safety from severe weather and flooding
- Improve the warning systems and radio communications throughout the county
- Expedite the clean up process through coordination and equipment acquisition
- Update countywide NFIP maps
- Purchase or flood proof repetitive loss structures
- Develop map of infrastructure concerns

Some of the county's/community's HMPs included the locations and number of repetitive loss structures while other plans left this information out. This inconsistency in information holds true with the location and number of critical facilities found within the 1-percent-annual-chance floodplain.

Existing mitigation projects identified by the communities are presented on the Discovery Map.

Successful Mitigation Projects

In Scioto County, the City of Portsmouth Flood Defense System has provided protection from many floods since its construction. The Flood Defense System consists of a floodwall constructed along the southern border of the jurisdiction with a series of earthen levies running along each end wrapping around the city along the Scioto River convergence as well. A pump system also is associated with its design that begins pulling water out of the city when the Ohio River reaches 40'. The flood defense system is maintained by a levee that has never failed to date. It is estimated that the flood defense system has saved the city millions of dollars in damages since its construction.

Coordinated Needs Management Strategy (CNMS) and NFIP Mapping Study Needs

Analysis of the CNMS data for the Little Scioto-Tygarts Watershed is complete. Analyzed studies have been identified as "VALID" or "UNVERIFIED". The current CNMS geospatial data is presented on the Final Discovery Map.

Community Rating System (CRS)

There are no communities that participate in CRS within the Little Scioto-Tygarts Watershed

Levees

Several levees exist along the Ohio River within the Little Scioto-Tygarts Watershed. These Ohio River levees are located in conjunction with the City of Portsmouth, the Village of New Boston and the City of Ironton. There is also a levee located along Ice Creek designed to provide protection to the City of Ironton from Ohio River waters and Ice Creek. These levees are shown as providing protection from the 1-percent-annual-chance flood on the March 2006 Lawrence County Flood Insurance Rate Map (FIRM) and the April 2011 Scioto County Flood Insurance Rate Map.

Floodplain Management/Community Assistance Visits

FEMA uses a number of key tools to determine a community's compliance with the minimum regulations of the National Flood Insurance Program. Among them are Community Assistance Visits (CAVs), the Letter of Map Change (LOMC) process, and Submit-for-Rates. These tools help assess a community's implementation of their Flood Damage Reduction Regulations and identify any floodplain management deficiencies and violations. The CAV is a visit to a community by a FEMA staff member or staff of a state agency on behalf of FEMA that serves the dual purpose of providing technical assistance to the community and assuring that the community is adequately enforcing its floodplain management regulations. Potential violations may be identified during the CAV visit as a result of touring the floodplain, inspecting community permit files, and meeting with local appointed and elected officials. For most recent CAV information, see Table 6.

Active CAV's are the communities that are currently going through the CAV process. Communities that have gone through a CAV and have provided all the necessary information to show they are in compliance are listed as Closed FEMA CAV's can be indicative of unresolved issues and has been turned over to FEMA for follow up and possible enforcement action against the community if the outstanding issues are not resolved. Communities with FEMA referred CAV's include Jackson County, Unincorporated, and the City of Ironton ¹.

Violations can also be discovered when LOMR-F applications depict a non-compliant structure based on elevation data; or can be found through Submit-for-Rate requests, which occurs when a structure applies for flood insurance but has been identified as being two or more feet below Base Flood Elevation (BFE). Elevation comparisons identified through LOMR-F applications and Submit-for-Rates imply structures were not built compliantly.

¹ This list may not encompass all communities within the watershed with violations. Similarly, communities may have additional violations not addressed above

If administrative problems or potential violations are identified, the community will be notified and given the opportunity to correct those administrative procedures and remedy the violations to the maximum extent possible within established deadlines. FEMA or the state will work with the community to help them bring their program into compliance with NFIP requirements. In extreme cases where the community does not take action to bring itself into compliance, FEMA may initiate an enforcement action against the community. No Risk MAP needs regarding compliance were identified.

Table 6: Community Assistance Visit status by community

| County | Community | CID | Recent CAV date | CAV Status* |
|-----------------|----------------|--------|-----------------|-------------|
| Jackson | Unincorporated | 390290 | 3/26/1999 | F |
| Lawrence | Hanging Rock | 390699 | 5/7/1996 | C |
| | Ironton | 390327 | 12/1/1993 | F |
| | South Point | 390630 | 1/10/1995 | C |
| | Unincorporated | 390325 | 6/3/2009 | C |
| Pike | Unincorporated | 390450 | 7/14/1997 | C |
| Scioto | New Boston | 390497 | NA | NA |
| | Portsmouth | 390498 | 7/10/1997 | C |
| | South Webster | NP | NP | NP |
| | Unincorporated | 390496 | 5/5/2008 | C |

*A= Active, C= Closed, F= Referred to FEMA, NP= Non Participating

Regulatory Mapping

Little Scioto-Tygarts Watershed communities have all had recent countywide map updates as part of FEMA’s Map Modernization Program. The effective dates of the most recent county-wide projects are presented on the Discovery Map and below in Table 7. The effective data is a combination of both detailed and approximate analysis with varying vintage dates.

Table 7. Map Modernization Activity

| County | Status | Effective Date |
|-----------------|--------|----------------|
| Jackson | C,P | 12/18/2009 |
| Lawrence | C,P | 3/16/2006 |
| Pike | C,P | 11/4/2010 |
| Scioto | C,P | 4/18/2011 |

IV. Risk MAP Needs

The results of the data collection and analysis were thoroughly discussed at the Discovery Meeting. The following sections include issues and situations that exist in the Little Scioto-Tygarts Watershed communities that can be considered Risk MAP Needs, to be addressed with Risk MAP projects. Details and background on all issues can be found in the interview notes, meeting notes, and other files included in the appendices.

i. Floodplain Studies

All of the counties located in the Little Scioto-Tygarts Watershed have undergone recent countywide DFIRM projects; however, not all of these projects included new Zone A studies and some approximate flood hazards were digitally converted.

As shown on the Final Discovery Map, recent LiDAR and imagery data meeting FEMA’s Guidelines and Specifications have been developed for the entire Discovery Project Area.

As shown on the Final Discovery Map, numerous study reaches have been classified as “UNVERIFIED” during the CNMS process

At the Discovery Meeting, several areas were identified by community officials as needing an updated detailed or approximate study.

Based on the results of the Stakeholder Coordination, Data Analysis and Discovery Meeting, proposed Study Areas in the Little Scioto-Tygarts have been identified in Table 6. The specific locations of these Study Areas are presented on the Final Discovery Map. A complete list of mapping needs is located in Appendix G.

Table 8. Mapping Needs

| FLOODING SOURCE | STUDY LENGTH (miles) | STUDY TYPE | PRIORITY |
|----------------------------------|-------------------------|-----------------------------------|----------|
| Storms Creek | 4.51 | Digital Conversion Approximate | High |
| Ohio River | 16.52 | Redelineated | Medium |
| Ohio River | 26.69 | Redelineated | Medium |
| Munn Run | 1.22 | New Detailed | Medium |
| Ohio River | 40.20 | Digital Conversion Detailed | Medium |
| Little Pine Creek | 6.73 | Digital Conversion Approximate | Medium |
| Unnamed Tributary to Munn Run | NA | Non Studied | Medium |
| Scioto River | 22.75 | Redelineated | Low |
| Little Scioto River | 30.80 | Updated Approximate | Low |
| Pine Creek | 19.02 | Updated Approximate | Low |

| FLOODING SOURCE | STUDY LENGTH (miles) | STUDY TYPE | PRIORITY |
|------------------------------|-------------------------|-----------------------------------|----------|
| Pine Creek | 17.30 | Updated Approximate | Low |
| Rocky Fork | 14.98 | Updated Approximate | Low |
| Back Run | 1.09 | Updated Approximate | Low |
| Brady Run | 1.59 | Updated Approximate | Low |
| Cooney Branch | 1.81 | Digital Conversion Approximate | Low |
| Fallen Timber Creek | 0.36 | Updated Approximate | Low |
| Frederick Creek | 1.90 | Updated Approximate | Low |
| Ginat Creek | 7.44 | Updated Approximate | Low |
| Hales Creek | 7.11 | Updated Approximate | Low |
| Hecla Branch Storms Creek | 0.61 | Digital Conversion Approximate | Low |
| Howard Run | 1.30 | Updated Approximate | Low |
| Ice Creek | 10.02 | Digital Conversion Approximate | Low |
| Ice Creek | 4.54 | Digital Conversion Approximate | Low |
| Lick Run | 3.17 | Updated Approximate | Low |
| Little Ice Creek | 6.01 | Digital Conversion Approximate | Low |
| Little Ice Creek | 0.94 | Digital Conversion Approximate | Low |
| Little Scioto River | 8.76 | Updated Approximate | Low |
| Long Run | 8.31 | Updated Approximate | Low |
| Pine Creek | 7.96 | Digital Conversion Approximate | Low |
| Pine Creek | 5.33 | Digital Conversion Approximate | Low |
| Solida Creek | 2.63 | Digital Conversion Approximate | Low |
| Storms Creek | 5.44 | Digital Conversion Approximate | Low |
| Storms Creek | 0.91 | Digital Conversion Approximate | Low |
| Sweet Run | 1.35 | Updated Approximate | Low |
| Turkey Fork | 0.52 | Digital Conversion Approximate | Low |
| Turkeyfoot Run | 0.01 | Updated Approximate | Low |
| Unnamed | 0.30 | Updated Approximate | Low |
| Unnamed | 1.55 | Digital Conversion Approximate | Low |
| Harrison Furnace Creek | NA | Not Studied | Low |
| Frederick Creek | NA | Section Not Studied | Low |

ii. Mitigation Projects

There are a few ongoing mitigation projects in the Little Scioto Tygarts Watershed. In Lawrence County, they are seeking funding to replace the floodwall pump station control system and debris removal in streams. They are also adopting and enforcing anchoring criteria for mobile homes and taking an inventory of storm water drainage problem areas.

Three potential mitigation areas were identified by the communities, including:

- Residential repetitive flooding
- Critical facility flooding
- Roads overtopped by flooding

Other areas of potential mitigation interest were also obtained from the local officials and those are in Table 9.

Table 9: Areas of Mitigation Interest (AOMI)

| Community | County | Flooding Source | Comments |
|------------------|---------------|------------------------|--------------------------------------------------|
| Unincorporated | Lawrence | Storms Creek | Residential/Critical Facilities Flooding |
| Unincorporated | Lawrence | Tar Kiln Run | Structural Flooding/Damage |
| Unincorporated | Scioto | Pine Creek | Repetitive Residential Flooding/Road Overtopping |
| Unincorporated | Scioto | Harrison Furnace Creek | Road Overtopping |
| Unincorporated | Scioto | Unidentified | Road Overtopping |

iii. Compliance

While communities have referred CAV's no Risk MAP needs regarding compliance issues were identified.

iv. Communications

Invitations to the Discovery meeting were sent on June 14, 2011 to the identified stakeholders within Little Scioto-Tygarts watershed. The stakeholders were all interested in learning more about how to provide flood risk information to residents. Community representatives indicated the need to be kept informed about the results of the Discovery process and opportunities for public input throughout the process. The compilation of all the information and data gathered during the Discovery process was provided to the Little Scioto-Tygarts watershed stakeholders on December 1, 2011.

V. Close

Stakeholders in the communities were interested in the Discovery process and Risk MAP and open to learning more about how they can begin to develop resiliency to flood events. They identified several areas for map updates and areas in which they could use additional FEMA support. The information gathered in the Discovery process provided invaluable information for analyzing and identifying the most flood-prone and at-risk areas. Local officials will now be more aware of risks in their area, and state and federal agencies will be able to focus their resources on the most feasible projects. The local officials in the Little Scioto-Tygarts Watershed would benefit from the implementation of Risk MAP projects.

VI. Appendix - Discovery Files

The Discovery Report appendices are stored digitally under their respective folders on the FEMA Mapping Information Platform (MIP).

The Discovery Report appendices the Discovery GIS Geodatabase are also available for download from the following FTP site:

ftp://ftp.dnr.state.oh.us/Water/Public/Risk_MAP/Discovery/Little_Scioto-TygartsWS/

Appendix A - Project Team Contact Information & Meeting Minutes

Appendix B - Stakeholder Contact Information & Meeting Invitations

Appendix C - Discovery Meeting Presentations

Appendix D - Discovery Meeting Sign-In Sheets & Handouts

Appendix E - Discovery Meeting Notes & Comments

Appendix F - Discovery Meeting Participant Feedback

Appendix G - Discovery Maps & Mapping Needs

Appendix H - OSIP II Update