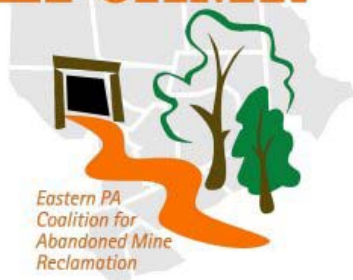


EPCAMR



Robert Hughes
EPCAMR Regional Coordinator
485 Smith's Pond Road
Shavertown, PA 18708
(570) 674-7993
rhughes@epcamr.org

RE: Municipal Outreach GIS Technician Position Opening

Description:

1 year grant funded position sponsored by EPCAMR through a National Fish & Wildlife Foundation and the Office of Surface Mining Grant. Travel will be required and reimbursed at federal rates for use of personal vehicle.

Up to **\$22,000.00** is available for the position based on results of the interview, experience and qualifications. No health care benefits, life insurance, retirement benefits or taxes (such as social security, Medicare or unemployment compensation) are taken out of the professional service fee that will be paid on a bi-weekly basis.

Location of position will be housed at the Luzerne Conservation District in the shared EPCAMR office space.

Interested applicants should send a cover letter and resume by **June 15, 2005** to Robert Hughes at the address provided above. Either e-mail or post mail are acceptable. You are encouraged to visit our website at www.orangewaternetwork.org before applying.

Job Qualifications:

- Practical GIS-related Work Experience
- GIS Education, Certification, training
- Source of GIS education and training
- Knowledge of specific GIS software, specifically ESRI's ArcView 3.x, ArcGIS 8.x, 9.x, and other extensions
- Training and experience in disciplines other than GIS
- Ability to troubleshoot network problems
- Ability to convey technical details to non-technical people
- Must be self motivated and have the ability to work and think independently
- Ability to work as part of a team
- Ability to review, recommend and purchase hardware, software and peripherals
- Ability to install and configure hardware, software and peripherals
- Ability to network, market and communicate with colleagues and clients
- Ability to produce maps and develop databases quickly and efficiently
- Ability to tweak ArcView or ArcGIS Software to meet the needs of the organization
- Ability to teach other non-technical staff that are a part of the team on how to utilize the tools/concepts you create in GIS
- Ability to create customized buttons in ArcGIS

- Ability to discuss with Board Members or Supervisors suggestions to improve the GIS organizational capacity and structure to a given program
- Ability to communicate to Manager, problems encountered in the developmental stages of the creation of a GIS Station for an organization
- Having a broad knowledge base of environmental issues and topics such as geology, land use, environmental problems, watershed issues, political boundaries, and geography
- Commitment to completing projects on time and/or ahead of schedule
- Ability to work with vendors to bring down the retail prices of some software and hardware when working for a non-profit organization
- Ability to work with vendors to beta test software or hardware in return for a free/discounted license agreement
- Ability to write grants that are technical in nature, but utilize funds to develop GIS components to strengthen future proposals
- Public speaking is a must
- Ability to facilitate discussions and willingness to coordinate public meetings with municipal leaders, planners, zoning officials, and community organizations.
- Expect to work some evenings and weekends.
- Experience in HTML, Web Design, Internet Access, and Microsoft Outlook

I. Scope of Work:

A. Project Description

EPCAMR will provide technical assistance, GIS Mapping, education and outreach on abandoned mine land reclamation (AMLR) & abandoned mine drainage (AMD) remediation to municipalities in Eastern PA that are located within the Chesapeake Bay Watershed. Our assistance will allow local municipal leaders to develop integrated comprehensive watershed restoration and remediation plans that should become a subset each local government's Comprehensive Land Use Plans. EPCAMR already has developed the PA DEP and other State & Federal Agencies, including the Office of Surface Mining, a Model Plan for Watershed Restoration

(<http://www.dep.state.pa.us/dep/deputate/minres/bamr/documents/modelplan.html>) involving abandoned mine lands published and distributed to many watershed organizations across PA since 1999. EPCAMR will provide educational, hands-on, training workshops on the use of GIS Software and various extensions (i.e., ESRI's ARCVIEW 3.3 and ARCVIEW 8.3) to enhance local municipal planning efforts in the field of AMLR & AMD remediation and will advocate for an efficient way to prioritize watershed projects that will support specific commitments identified in the **Chesapeake 2000 Agreement** (<http://www.chesapeakebay.net/agreement.htm>). As emphasized in the **Chesapeake 2000 Agreement**, strong GIS systems are needed to track the preservation of resource and support the implementation of sound land use practices and plans.

B. Final Products

- **20 2-hr Workshops** entitled, [**Community Outreach on Abandoned Mine Reclamation for Chesapeake Bay Local Governments Using GIS in PA**] will be conducted by the EPCAMR Staff throughout the Chesapeake Bay Watershed, **over a 1 year period**; Workshops will be coordinated in partnership with local municipalities throughout the EPCAMR Region that have direct impacts from abandoned mine lands and AMD; **5 hours** of additional free follow-up assistance will be allotted for the municipalities
- **20 Full Color AMLR GIS Base Maps** of all identifiable NAMLIS and local abandoned mine land problem areas, features, potential redevelopment areas, recreational opportunities, available data layers, and historical preservation areas will be produced for each of the municipalities who agree to provide the space (i.e., Municipal Building) to host each of the **20** Workshops;

- **Additional GIS Base Maps** and technical assistance will be produced and provided as a free service to municipalities, planning commissions, and Borough Councils, Township Supervisors, and zoning offices upon request and will be a secondary priority over the work necessary to complete the AMLR GIS Base Mapping for the host municipalities of the Workshops;
- Distribution of Data Sources, Metadata, and Files on CD-ROM to all new partnerships established with local municipalities upon request for use on their existing GIS Workstations;
- Posting of Data Sources, Metadata, and Files on the EPCAMR Web Site (www.orangewaternetwork.org)
- A completed PowerPoint Presentation that will provide the necessary education and outreach tools, tips, tricks, and customizations of GIS Software in order to assist local municipal governments in developing their Comprehensive Watershed Restoration and Remediation Plans for AMLR;
- Provide copies of the **Chesapeake 2000 Agreement** to all participants of the GIS Workshops and highlight the goals that are being emphasized throughout the project;
- A complete list of attendees from each of the GIS Workshops will be compiled by local government organizational types (i.e., planning commissions, zoning offices, supervisors, councilmen and women, business managers, road departments, recreational departments, sewer authorities, and GIS staff);
- An account of the # of Comprehensive Watershed Restoration and Remediation Plans for AMLR started, just before the completion of the 1 year Project; Gathered through a survey of all participants who had attended any of the GIS Workshops prior to a final report being submitted to the NFWF and OSM; and
- A complete list of local watershed organizations in the EPCAMR Region will be provided to each of the municipalities involved in the GIS Workshops in order for them to call on their local volunteer community organizations to assist them in providing public input in developing the Comprehensive Watershed Restoration and Remediation Plans for AMLR.

II. Proposal:

A. Project Need

Over the last 8 years, the EPCAMR has worked with dozens of local governments and has developed strong partnerships with nearly 75 community watershed organizations in the Northeastern part of PA and throughout the Northern Tier of PA that are addressing abandoned mine land reclamation (AMLR) & abandoned mine drainage (AMD) pollution problems that impact the Chesapeake Bay Watershed.

Within the 16 counties that are covered by EPCAMR, there are even a greater number of local municipalities that are also plagued by the legacy of past mining practices in PA. For instance, in Luzerne County, nearly 60% of the 76 local municipalities are impacted by either AMD or abandoned mine lands. Many have a need for the creation of GIS Maps that will more accurately reflect the current conditions of their respective watersheds. Proper planning is stifled by a municipality's inability to have access to GIS Maps and GIS data that is readily available on the web. Many municipalities are just getting by providing basic services to its constituents and general public. They often lack the technical assistance, funding, equipment, materials, resources, and necessary training to operate a locally coordinated GIS Consortium from within their own municipal boundaries. Many of the municipalities that EPCAMR has worked with over the last few years did not even have computer systems capable of handling the specifications needed to run and operate small-scale GIS functions, operations, and extensions. EPCAMR would like to take the burden off the municipalities and provide GIS Maps as a service.

EPCAMR has helped many municipalities procure Free Recycled Computers and related hardware through our Computer Recycling Program established with the PA Department of Environmental

Protection-Office of Information Technology and the US Environmental Protection Agency, Region III. EPCAMR has provided 87 Recycled Computers throughout the Region in the last 1.5 years to municipalities, local government departments, non-profit organizations, police departments, fire companies, and community watershed organizations. Many of these computers are now being used to develop GIS Work Stations and stronger infrastructures and GIS platforms within the local municipal governments.

B. Objectives

- To hold 20 2-hr GIS Workshops on AMLR in the EPCAMR Region and Chesapeake Bay Watershed over the 1 year project and provide 5 hours of additional follow-up technical assistance to the subdivisions;
- To create a CD-ROM with education and outreach tools, GIS presentations, pictures, and materials that will allow municipal leaders to peruse topics at their leisure to gain a better understanding of the impacts that AMLR & AMD have in the Chesapeake Bay Watershed;
- To develop new partnerships with local governments in the EPCAMR Region to assist them with developing Comprehensive Watershed Restoration and Remediation Plans;
- To provide AMLR GIS Base Maps to municipalities who act as Hosts of the GIS Workshops;
- To provide AMLR GIS Base Maps to other groups, non-profit organizations, and other municipalities that were not able to attend the workshops, with a secondary prioritization, over the municipalities who acted as Hosts of the GIS Workshops;
- To connect the appropriate community watershed organizations that are located within each of the municipalities that are active participants in the GIS Workshops to the proper local government in order for them to be of assistance in the development of the Comprehensive Watershed Restoration Plans;
- To educate and inform a larger number of municipal officials on abandoned mine land reclamation (AMLR) & abandoned mine drainage (AMD); and Train a larger number of municipal officials on how to use GIS in local government decision-making and proper planning to encourage regional planning.

C. Overall Context: Chesapeake 2000 Agreement

The Chesapeake Bay's natural infrastructure is an intricate system of terrestrial and aquatic habitats, linked to the landscapes and the environmental quality of the watershed. AMD has had a detrimental effect on the Bay's headwater tributaries prior to the passage of the Clean Water Act. Strides have been made in the continued restoration and reclamation of abandoned mine lands over the last 30 years since the passage of the Surface Mining Control & Reclamation Act of 1977, however, more work remains to be done at the local level in PA, and that means extending our partnership and education & outreach efforts into the realm of local governments.

EPCAMR will be providing the necessary technical assistance and services that will allow local governments to develop and maintain strong GIS systems to track the preservation of resources, non-point sources, land uses, acreages of abandoned mine lands, stream miles impacted by AMD, and support the implementation of sound land use reclamation, remediation, and redevelopment practices.

EPCAMR recognizes the need to focus on the individuality of each river, stream and creek, and to secure their protection in concert with the communities and individuals that reside within the tributaries of the Chesapeake Bay. Through their actions, as ecological stewards, increased individual contributions to the overall health and well being of their neighborhood streams, rivers and watershed lands will serve to protect the Chesapeake Bay. These people and partners will be important to successful watershed management efforts in distributing information to their residents, and engaging the public in the Bay restoration and future preservation efforts. Providing local, geographically

centered GIS Watershed Maps and Data to the targeted local governments in the EPCAMR Region will reinforce our commitment to providing relevant information that will have a direct impact on local decision-making.

EPCAMR will continue to work with local governments, community groups and watershed organizations to develop and implement locally supported watershed management plans with a primary focus on the reclamation of abandoned mine lands and the remediation of AMD and a secondary focus on addressing the protection, conservation and restoration of stream corridors, riparian forest buffers and wetlands for the purposes of improving habitat and water quality, with collateral benefits for optimizing stream flow and protection of public water supplies. EPCAMR will encourage brownfields or grayfields (abandoned mine lands) redevelopment as an element of the Model Watershed Restoration Plan development by the local municipal governments. Potential sites for rehabilitation or reclamation can be incorporated into the GIS Watershed Maps very easily.

Improving water quality is the most critical element in the overall protection and restoration of the Chesapeake Bay and its tributaries. EPCAMR's primary focus is on improving water quality in the Bay and its tributaries impacted by AMD, pH, Metals, and Acidity, so that these waters may be removed from the impaired waters list prior to the time when regulatory mechanisms under Section 303(d) of the Clean Water Act would be applied through the development of TMDLs and Best Management Practices and Best Available Technologies, including various types of passive treatment designs and land reclamation techniques. Specific actions will address the environmental challenges where historically poor water quality due to AMD, and scarred abandoned mine lands have contributed to disproportional health, economic and social well being of underserved communities in the EPCAMR Region.

EPCAMR supports the commit to fulfilling the 1994 goal of a Chesapeake Bay free of toxics by reducing or eliminating the input of chemical contaminants from all controllable sources to levels that result in no toxic or bioaccumulative impact on the living resources that inhabit the Bay or on human health. Through the development of Model Plans for Watershed Restoration in these local municipalities, implementation plans will be identified to treat AMD that currently pollutes many of the Chesapeake's headwater tributaries, which will eventually lead to decreased levels of toxics and metal contamination from reaching the Bay, even though the sources are non-point source discharges.

EPCAMR continues to build on its own unique web-based clearinghouse of AMD information specifically for use by educators, kids, students, the general public, local governments, watershed organizations, Conservation Districts, and other partners in the field of abandoned mine reclamation. The site that is continually updated and well maintained by the EPCAMR Staff can be found at www.orangewaternetwork.org . EPCAMR will make watershed education & public outreach awareness a priority in order to achieve involvement from the local governments, on behalf of the Bay.

EPCAMR is willing to re-evaluate and strengthen the Chesapeake Bay Program's ability to incorporate local governments into the policy decision making process by providing comments on the Local Government Participation Action Plan and making necessary changes in Bay program and jurisdictional functions based upon the results and evaluation of the 1 year project.

This project is a new EPCAMR organizational and capacity building development initiative that necessitates the addition of another staff member to perform the work for the course of the project. While the current EPCAMR Staff are full-time and have experience in providing some technical assistance in GIS to local municipalities and watershed organizations throughout the EPCAMR Region, our organization has determined that another full-time dedicated position needs to be filled in order to

carry out our intended goals and objectives. The current EPCAMR Staff will play integral roles in the guidance, supervision, development, and networking aspects of the projects as an “in-kind” match.

Prioritization of the participants in the program will be target active municipalities and communities in the EPCAMR Region where progressive community watershed organizations are already in place and could serve as an advisory committee to the municipality and where . EPCAMR would also like to bring in another non-profit organization, the Pennsylvania Environmental Council, to see if they are interested in assisting the municipalities with developing Environmental Advisory Councils (EACs). PEC has an EAC Network that would compliment the GIS and Watershed Restoration Planning work of EPCAMR. The communities are unaware of many dangers and health and safety issues surrounding these AMD/AML sites w/in their jurisdictions. The GIS Maps could serve as an awareness tool as well. EPCAMR will tie the GIS Maps into our “Stay Out-Stay Alive!” National Media Campaign that we are members of with the Mining & Safety Health Administration (MSHA).

D. Methodology

- Hire EPCAMR Municipal Outreach Coordinator with experience in GIS, public speaking, environmental resource management background, ability to work with diverse local municipal forms of government, skilled in HTML and web design, and excellent technical writing skills [A];
- Create a CD-ROM with education and outreach tools, GIS presentations, pictures, and materials that will allow municipal leaders to peruse topics at their leisure to gain a better understanding of the impacts that AMLR & AMD have in the Chesapeake Bay Watershed [B];
- Train a larger number of municipal officials on how to use GIS in local government decision-making and proper planning [C];
- Develop new partnerships with local governments in the EPCAMR Region to assist them with developing Comprehensive Watershed Restoration and Remediation Plans [D];
- Educate a larger number of municipal officials on abandoned mine land reclamation (AMLR) & abandoned mine drainage (AMD)[E];
- Develop and complete PowerPoint Presentation that will provide the necessary education and outreach tools, tips, tricks, and customizations of GIS Software in order to assist local municipal governments in developing their Watershed Restoration & Remediation Plans for AMLR [F];
- Provide AMLR GIS Base Maps to municipalities who act as Hosts of the GIS Workshops [G];
- Distribute Data Sources, Metadata, and Files on CD-ROM to all new partnerships established with local municipalities upon request for use on their existing GIS Workstations [H];
- Provide AMLR GIS Base Maps to other groups, non-profit organizations, and other municipalities that were not able to attend the workshops, with a secondary prioritization, over the municipalities who acted as Hosts of the GIS Workshops [I];
- Connect the appropriate community watershed organizations that are located within each of the municipalities that are active participants in the GIS Workshops to the proper local government in order for them to be of assistance in the development of the Watershed Restoration & Remediation Plans [J];
- Post Data Sources, Metadata, and Files on EPCAMR Web Site (www.orangewaternetwork.org) for public access [K];
- Provide copies of the **Chesapeake 2000 Agreement** to all participants of the GIS Workshops and highlight the goals that are being emphasized throughout the project [L];
- Complete a list of attendees from each of the GIS Workshops will be compiled by local government organizational types (i.e., planning commissions, zoning offices, supervisors, councilmen and women, business managers, road & recreational departments, sewer authorities, and GIS staff) [M];
- Account for the # of Comprehensive Watershed Restoration & Remediation Plans for AMLR started, just before the completion of the 1 year Project; Gathered through a survey of all participants of the GIS Workshops prior to a final report being submitted to the NFWF & OSM [N];

- Provide a complete list of local watershed organizations in the EPCAMR Region to each of the municipalities involved in the GIS Workshops in order for them to call on their local volunteer community organizations to assist them in providing public input in developing the Comprehensive Watershed Restoration and Remediation Plans for AMLR [O]; and
- Hold all 20 2-hr GIS Workshops on AMLR in the EPCAMR Region and Chesapeake Bay Watershed over the 1-year project [P].

EPCAMR has conducted similar types of projects of this nature on a smaller scale throughout the last 7 years. Some of the following types of projects completed are as follows:

- GIS Workshops for Local Municipal Officials; Coordination of 6 State-wide Conferences on AMD;
- Teacher Training Workshops on AMD for Elementary and Secondary School Educators;
- Development of Watershed Restoration Plans & Assessments for Watershed Organizations;
- Completion of dozens of Passive Treatment Systems throughout the EPCAMR Region in partnership with local partners to remediate streams impacted by AMD;
- Public Speaking on AMD at Environmental Education Field Days in dozens of public and private schools in the EPCAMR Region; Watershed Field Tours of AMD and AML Sites;
- Production of small-scale GIS Maps for Watershed Organizations and Local Municipalities; and
- Printing of publications, brochures, fact sheets, and activity/coloring books on AMD for use in education & outreach

E. Evaluation

The strategy for monitoring and evaluating the program's results, including how success will be defined and measured will include the following benchmarks:

- Evaluation Form to be completed by all participants of the GIS Workshops
- Supervision over the Municipal Outreach Coordinator by the Regional and Watershed Outreach Coordinators throughout the length of the project
- # of local government partnerships established
- # of watershed organizations connected to their local governments following the Workshops
- # of GIS Watershed Base Maps produced and printed
- # of requests for GIS information following the workshops
- # of unique hits to the EPCAMR Web Site Page that will be set up specifically for the project
- # of watershed restoration plans begun before, mid-way through the course of the project, and after all of the GIS Workshops have been conducted

F. Dissemination

Results of the project will be disseminated and communicated to the appropriate audiences by CD-ROM, production of Full color 24" wide GIS Watershed Base Maps, Distribution of Brochures, Handbooks, PowerPoint Presentations, Web Site Links on related topics, Outline PowerPoint Presentations at the GIS Workshops, EPCAMR Press Releases to the local area papers where the GIS Workshops will be held, EPCAMR "EC Express" News Flashes on our Website, and periodic reporting to the NFWF, EPCAMR Board, and the OSM [Q].

G. Partner Justification and Community Involvement

EPCAMR encourages the reclamation and redevelopment of land affected by past mining practices. This includes reducing hazards to health and safety, eliminating soil erosion, improving water quality, returning land affected by past mining practices to productive use, thereby improving the economy of the region. EPCAMR provides education, outreach, and technical assistance support to local watershed organizations, volunteer monitoring programs, watershed managers and coordinators, Conservation Districts, governmental agencies, and the general public working on AMD/AML to expand

and enhance the watershed approach to water management, assessment, restoration, and protection of PA's natural resources. EPCAMR addresses those abandoned mine lands on a watershed basis that have a significant impact on water quality. The sites and watersheds addressed must be able to show improvement in water quality and aquatic habitat through remediation efforts. In addition, the Office of Mineral Resources Management revised its State-wide mine reclamation program and developed a Comprehensive Plan for Abandoned Mine Reclamation (CPAMR), in which both the EPCAMR and WPCAMR play a vital role in helping to establish and nurture newly formed and existing watershed associations.

Robert E. Hughes, the EPCAMR Regional Coordinator for the last 8 years, is the catalyst for accomplishing the goals and objectives set forth by EPCAMR, meets with federal, state, local, civic, private, and environmental groups to gain their support for abandoned mine reclamation projects in eastern PA. Robert has 4 years prior experience in AMD remediation and watershed restoration prior to working for EPCAMR, while interning with the PA DEP Bureau of Abandoned Mine Reclamation and the Hawk Run District Mining Office, respectively.

Mike Hewitt, the Watershed Outreach Coordinator was hired full-time 3 years ago, to assist the Regional Coordinator of the EPCAMR and the County Conservation Districts with the increased number of organizations, developments, management, and implementation of acid mine remediation projects and coordination of watershed association activities that have developed in the EPCAMR Region. The Watershed Outreach Coordinator has been under the direct supervision of the Regional Coordinator. EPCAMR Staff resumes are attached.

The Luzerne Conservation District houses the EPCAMR Staff and provides office space and overhead at no cost to EPCAMR. They will also be providing EPCAMR with the ability to reproduce and print copies of any materials that will be needed for the GIS Workshops through the use of their multi-purpose copier. The Luzerne Conservation District will be donating the value of the rental space in a partitioned area of the EPCAMR Office Room for the expected Municipal Outreach Coordinator. The PA DEP Bureau of Abandoned Mine Reclamation and the Office of Surface Mining will be contacted for the most updated information related to the National Abandoned Mine Land Inventory System (NAMLIS) GIS Data and other related information [R]. The PA DEP Bureau of Watershed Management (Section 319 PG) and the Susquehanna River Basin Commission will be contacted for related water quality information on the Federal 303 (D) List of Impaired Waters and other information not already available in EPCAMR's clearinghouse of GIS Data [S]. The PA DEP Office of Information Technology will be contacted about procuring additional computers and related hardware to continue to expand EPCAMR's Computer Recycling PG throughout the Region, in case local municipalities have a need for a computer to set up a GIS work station or to assist them in developing local Watershed Restoration Plans [T].

Including the partners mentioned above, EPCAMR anticipates another **25** individuals representing the Conservation Districts, local watershed organization members, and State & Federal Agencies will be directly involved in the project. **20** Local Municipalities will be added to the partnership list by the end of the project based on their participation as Host Municipalities for the anticipated workshops [U]. The involvement of local communities, Conservation Districts, and local watershed organizations will come into play when each of the municipalities decides to begin to work on developing a Model Restoration Plan for their watersheds, hopefully, in some cases with inter-municipal level cooperation, if watersheds and AMD/AML impacts stretch beyond political boundaries. EPCAMR will provide the facilitation and technical assistance to help the local governments begin the process of developing their Watershed Restoration Plans [V].

Given the fact that **20** Workshops EPCAMR conservatively anticipates that **10-12** local government participants will attend each workshop for a total of **200-240** local municipal leaders will be trained over

the course of 1 year, on Watershed Restoration Planning related to AMD, AML, and GIS Applications and Mapping. It is difficult to determine the number of individuals that will be involved in the development of future Watershed Restoration Plans anticipated to be undertaken by the local governments over the course of the project. However, it might be fair to say that if 50% [10] of the local municipalities decided to begin to develop a Watershed Restoration Plan, and an average of 10 people participated in the development of the plans for a period of 12 months, meeting once a month for the entire 12 months, one can reasonably expect that an additional [12 x 10 x 20] **2400** individuals would be reached over the course of the project period.

The PA DEP NE Regional Office Watershed Manager, Ron Yablonsky, has reviewed the project because EPCAMR anticipates that the greatest need for the GIS Workshops may come from the NE Region as opposed to other PA DEP Regions. The Office of Surface Mining Program Director, Dave Hamilton, has also been notified of the EPCAMR project.