Overview

- Mission
- Approach
- Partners
- Pilot Project
- How You Can Help
GAPP’s Mission

Identify and properly manage historic and cultural resources while encouraging exploration and development of energy reserves.
Scale of Shale Development
Ohio Shale Development

- Utica = 15 trillion cubic feet of natural gas and 5.5 billion barrels of oil
- 3 million acres already leased in Ohio ($7.5 billion to landowners)
- 1,061 horizontal wells drilled as of 9/6/2014; 1,487 wells permitted
The Risk

- Vulnerable sites include prehistoric villages, ceremonial sites, cemeteries, and battlefields
- More than 230,000 sites are located in shale plays nationwide
- Only 4% of the Utica shale has been surveyed, and the Society for American Archaeology estimates 44,975 sites could be at risk
Ohio Risk Assessment Model

<table>
<thead>
<tr>
<th></th>
<th>Core 10 Counties</th>
<th>Periphery 27 Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known Sites</td>
<td>3,162</td>
<td>12,771</td>
</tr>
<tr>
<td>National Register Properties</td>
<td>25</td>
<td>130</td>
</tr>
<tr>
<td>Area Surveyed</td>
<td>2.7%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Estimated Sites @ 0.03/acre</td>
<td>213,390</td>
<td>86,074</td>
</tr>
</tbody>
</table>
Our Approach

Devise, exchange, and help implement voluntary practices that facilitate development, manage risk, and yield positive outcomes for historic and cultural resources and the communities that value them.
Our Partners

- Shell
- Southwestern Energy
- Hess Corporation
- Society for American Archaeology
- American Cultural Resources Association
- ... and many others
Working Groups

• Identification & Information Resources

• Significance & Valuation

• Adoption, Implementation & Assessment

• Public Value & Public Engagement
Voluntary Practices

- Screening Tool
- Significance Model
- User Manual
Screening Tool

Authorized end-users

Customized map search

“ArchAlert”

Proposed screening tool

Data integration

Supplemental digital archive

Data conversion

SHPO paper archives

New data

GAPP

Professional evaluation, modeling, significance

SHPO and other digital archives
Publicly Available Data

- National Register Historic Properties
- Mapped cemetery locations
- Heritage management areas
Identify Project Area

1. Pick a drawing tool
   - Point
   - Line
   - Box
   - Polygon

2. Draw a shape with the chosen tool

3. Choose a buffer distance (required for points and lines)
   - Buffer Distance: 30 Meters

4. Choose a project name
   - Project Name: GAPP Test Project

5. Press Done Drawing This Shape
   - Done Drawing This Shape

6. Choose to Save this shape or to Cancel it
   - Save
   - Cancel

We use simple drawing tools to create our project OR we can upload a GIS file.
Buried Site Potential

Publicly Available Data

Lowest sensitivity (green)

Moderate sensitivity

High Sensitivity (buried sites most likely)
Summary Report

The Summary Report

Cultural Resources Sensitivity Model 2
Model name: Fire Management Model: Potential for Burial Archaeology
Model description: Conservation model for estimating likelihood of encountering burial archaeological sites. Based upon county, 1:24,000 scale soils data and 1 up to this scale but not for larger scale or greater detail. Use for general project planning purposes. Do not use for specific projects smaller than 10 acres. Boundary areas between sensitivity zones should considered tentative.
Model revision date: 1/2/2004
Model ratio: Editable
Potential Project Area, percentage in model area: 100.00%
Potential Project Area (percentage) by model zone:

<table>
<thead>
<tr>
<th>Zone of model</th>
<th>%</th>
<th>Acres</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>41.0%</td>
<td>22</td>
<td>119.1 Acres</td>
</tr>
<tr>
<td>High</td>
<td>9%</td>
<td>4.5</td>
<td>47.7 Acres</td>
</tr>
<tr>
<td>Moderate</td>
<td>17.5%</td>
<td>9.7</td>
<td>35.3 Acres</td>
</tr>
<tr>
<td>Low</td>
<td>25.0%</td>
<td>13.6</td>
<td>45.2 Acres</td>
</tr>
<tr>
<td>Very Low</td>
<td>28.0%</td>
<td>15.8</td>
<td>57.3 Acres</td>
</tr>
</tbody>
</table>

Map of PFA and Sensitivity Model 2

POTENTIAL PROJECT AREA SUMMARY STATISTICS
Number of distinct polygons in Potential Project Area: 1
Total area of Potential Project Area: 525.1 Acres 212.5 Hectares

POTENTIAL PROJECT AREA - ARCHAEOLOGICAL RESOURCE SENSITIVITY SUMMARY
Note: the following values are derived from a set of models pertaining to cultural resources sensitivity. The information presented here is intended as a forecast of potentially encountering buried archaeological resources. The information provided here is intended for planning purposes only, and does not constitute investigations or consultation with the State Historic Preservation Office, federal agencies, or other parties as prescribed by Section 106 of the National Historic Preservation Act and associated federal, state, and local law.

Previous Cultural Resources Investigations
Potential Project Area, area having previous cultural resources investigations: 119 Acres 48.16 Hectares
Potential Project Area, percent of area having previous cultural resources investigations: 22.66%

Known Cultural Resources Summary by Section

<table>
<thead>
<tr>
<th>Count of Isolated Finds</th>
<th>Count of report documents</th>
<th>Count of report documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Known sites
Sensitivity Models
Site Location Information

- State Historic Preservation offices
- Individual state digital repositories
- National digital repository
- Integrated data
Challenges

- Who owns the data?
- Who has a right to access the data?
- Where are the repositories?
- What organization serves as the repository?
- What standards?
- What are the QA/QC procedures?
- Who is responsible for accuracy?
- What are the costs of conversion & maintenance?
- How will the screening tool be funded?
Determining Significance

Known sites are analyzed and assigned a numeric value based on criteria determined by GAPP cultural resource experts. These values are then translated into an easy to understand value:

- **Red**: Avoid if at all possible
- **Yellow**: Additional investigation is recommended
- **Green**: Low significance/ no avoidance necessary
User Manual

- Process / decision tree that can be integrated into existing business practices
- Chance finds procedure
- GAPP provides training and technical assistance to both energy companies and cultural resources consultants
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