Workshop Agenda

• Why Quality Control Matters?
• What is ArcGIS Data Reviewer?
• Quality Control - A Seamless Experience
• Challenges in Production and Management of Data
• Advance Data Validation Process/Building an Integrated QA Platform
• Best Practices
Why Quality Control Matters

- In 2010 BP Deepwater Horizon Rig exploded due to a number of quality failures.
- In 2015 Aliso Canyon gas leak
- In 2015 Refugio State Beach Oil Spill - The pipeline did not have an automatic shut-off valve that would have been required on an intrastate pipeline
Garbage in Garbage Out

Buildings
Water Bodies
Rocks
What is ArcGIS Data Reviewer?
Data Quality Management for ArcGIS

- Provides
  - Rule-based validation
  - Interactive tools
  - Track errors

- For individuals and enterprise
  - Saves time/money
  - Less rework

- For multiple domains
  - Configurable
  - Extendable
Garbage in Quality Out

Buildings

Water Bodies

Roads
What is ArcGIS Data Reviewer?
Data quality management in the ArcGIS platform

• Data Reviewer for Desktop
  - ArcGIS Pro
  - ArcMap

• Data Reviewer for Server
  - ArcGIS Server (standard or higher)

• Data Reviewer API
  - JavaScript
  - ArcGIS Pro SDK for Microsoft .NET

• Web AppBuilder for ArcGIS
Quality Control
- A Seamless Experience
Using ArcGIS Platform
Stakeholder Inputs → Business Requirements → Technical Data Quality Requirements → Quality Assurance Plan
Requirements
Quality Assurance Plan - Cyclic

Quality Assurance Plan
Stakeholder Inputs
Business Requirements
Technical Data Quality Requirements
Dynamic
Change at different points in time
Change triggered by
• New business requirements
• Internal Process Improvements
Change across organization

Common
Disruptive in Nature
Requires more changes in QC process
Requirements
Quality Assurance Plan – Manage Change

Collaborate changes authoritatively
Unified experience for change
Visualize results
Assess & share results
Quality Control - Demo

Shankar Chandrasekaran
Key Components
Quality Assurance Plan – ArcGIS Platform

- Provides ability to create configuration add-ins
- Ability to configure and execute rules
- Ability to visualize results
- Ability to create charts to access data quality
- Ability to share authoritatively
- Ability to share results as map packages
- Ability to share charts as map packages to portal/online
Questions ?
Challenges in Production/Management of Data

Francisco Perez
Challenges in Production and Management of Data

**Data Production**

- Data being created is of poor quality
- Understanding data quality can be difficult
- Data validation is time-consuming

**Data Management**

- Knowing if we will meet our deadlines is difficult
- There is no consistency in how work is done
- Takes too long for staff to become effective

**ArcGIS**

- Data Reviewer
- Workflow Manager
- ArcGIS Pro Tasks
Advance Data Validation Process = Building an Integrated QA Platform

- **ArcGIS Pro** = Standardization
- **Workflow Manager** = Tracking Tasks
- **Data Reviewer** = Categorization/Validation
- **ArcGIS Pro Tasks** = Fix/Edit
QA Platform - Demo

Francisco Perez
QA Platform Demo

Data Reviewer

ArcGIS Pro

Workflow Manager

Pro Tasks
QA Platform Demo – Key Setups

1. WMX-Reviewer Integration (Map Level)

2. WMX-Reviewer Integration (Workflow Level)

3. ArcGIS Pro Tasks (Map Level)
Questions ?
Best Practices
Best Practices

Organize QC Checks

Results Storage

Sharing Results
Organize QC Checks
Best Practices

- Type of Checks
- Medium to Large Inputs
- Importance of configuration
- Frequency of execution
- Time of Execution
Results Storage

Best Practices

- Find and fix errors at the same time.
- No Error tracking
- No Error reporting in organization

When reporting and history of errors matters
- Always use Non-Versioned Reviewer
- Requires managing/tracking error lifecycle
# Sharing Results

## Best Practices

<table>
<thead>
<tr>
<th>As Map layers</th>
<th>Using custom script tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Map Packages</td>
<td>• Managing Data Reviewer</td>
</tr>
<tr>
<td>• Map/Map Documents</td>
<td>Records</td>
</tr>
<tr>
<td>• Project Packages</td>
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</tbody>
</table>

[http://www.arcgis.com/home/item.html?id=651e07ac692d4be2bf9d682968a75079#](http://www.arcgis.com/home/item.html?id=651e07ac692d4be2bf9d682968a75079#)
Best Practices - Demo
Where to start
Leveraging templates

• Data Reviewer Templates
  - Electrical utilities
  - Gas utilities
  - Local government
  - Topographic mapping
  - Water resources
  - Water utilities
• Based on Esri industry models
• Use as starting point
<table>
<thead>
<tr>
<th>Day and Description</th>
<th>Type</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tuesday, July 11</strong></td>
<td></td>
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<tr>
<td>ArcGIS Data Reviewer: An Introduction</td>
<td>Technical Workshop</td>
<td>10:15 – 11:30am</td>
<td>Room 31B</td>
</tr>
<tr>
<td><strong>Wednesday, July 12</strong></td>
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<tr>
<td>ArcGIS Data Reviewer: An Introduction</td>
<td>Technical Workshop</td>
<td>3:15 – 4:30pm</td>
<td>Room 31B</td>
</tr>
<tr>
<td>ArcGIS Data Reviewer: Integrating Data Validation Capabilities into Web Applications</td>
<td>Demo Theater</td>
<td>3:30 – 4:15pm</td>
<td>Demo Theater 8 Enterprise</td>
</tr>
<tr>
<td>ArcGIS Data Reviewer: Implementing Data Quality Reporting in Web Clients</td>
<td>Demo Theater</td>
<td>4:30 – 5:15pm</td>
<td>Demo Theater 8 Enterprise</td>
</tr>
<tr>
<td><strong>Thursday, July 13</strong></td>
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<tr>
<td>ArcGIS Data Reviewer: Advanced Data Validation</td>
<td>Technical Workshop</td>
<td>8:30 – 9:45am</td>
<td>Room 31A</td>
</tr>
<tr>
<td>ArcGIS Data Reviewer: Leveraging Geoprocessing for Data Validation</td>
<td>Demo Theater</td>
<td>9:30 – 10:15am</td>
<td>Demo Theater 6 Spatial Data Mgmt</td>
</tr>
<tr>
<td>ArcGIS Data Reviewer: Validating Linear-Referenced Events</td>
<td>Demo Theater</td>
<td>10:30 – 11:15am</td>
<td>Demo Theater 6 Spatial Data Mgmt</td>
</tr>
</tbody>
</table>
Want to learn more this week?

Data Reviewer Experts
Want to learn more?

- Product information
  www.esri.com/datarreviewer
Want to learn more?

- Documentation
  - Desktop (desktop.arcgis.com)
Want to learn more?

- Documentation
- Desktop
- Server (server.arcgis.com)
Want to learn more?

• Documentation
  - Desktop
  - Server

• Training *(training.esri.com)*
  - Assessing Data Quality using ArcGIS Data Reviewer *(Seminar)*
  - Evaluating Positional Accuracy Using ArcGIS Data Reviewer for Desktop *(Seminar)*
  - Data QC with ArcGIS: Automating Validation *(Web Course)*
  - Data QC with ArcGIS: Visual Review *(Web Course)*
  - Quality Control Using ArcGIS Data Reviewer for Desktop *(Instructor-Led)*
Want to learn more?

- Documentation
  - Desktop
  - Server

- Training
  - Assessing Data Quality using ArcGIS Data Reviewer
  - Evaluating Positional Accuracy Using ArcGIS Data Reviewer for Desktop
  - Data QC with ArcGIS: Automating Validation
  - Data QC with ArcGIS: Visual Review
  - Quality Control Using ArcGIS Data Reviewer for Desktop

- GeoNet (geonet.esri.com)
  - Data Reviewer place
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Complete Answers and Select “Submit”
Food for thought as we conclude..

As “GIS - The Science of Where” becomes an integral part of society

Shouldn’t the accuracy of “WHERE” be an integral part of it as well....

More to come .... Adios
Questions ?