

FSCP Data Management

Increasing Value to Members through Improvements

Presented to:

FSCP Management and Members

Presented By:

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Date:

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Location:

Calgary, AB



Outline

Background:

- Who we are;
- What we have we undertaken for FSCP; and
- Why we are here today.

Proposed Data Management Improvements:

- Review current data management process and tools;
- Introduce new proposed data management process and tools, and contrast current vs proposed; and
- Explain each component of proposed process and tools.

Questions and Feedback:

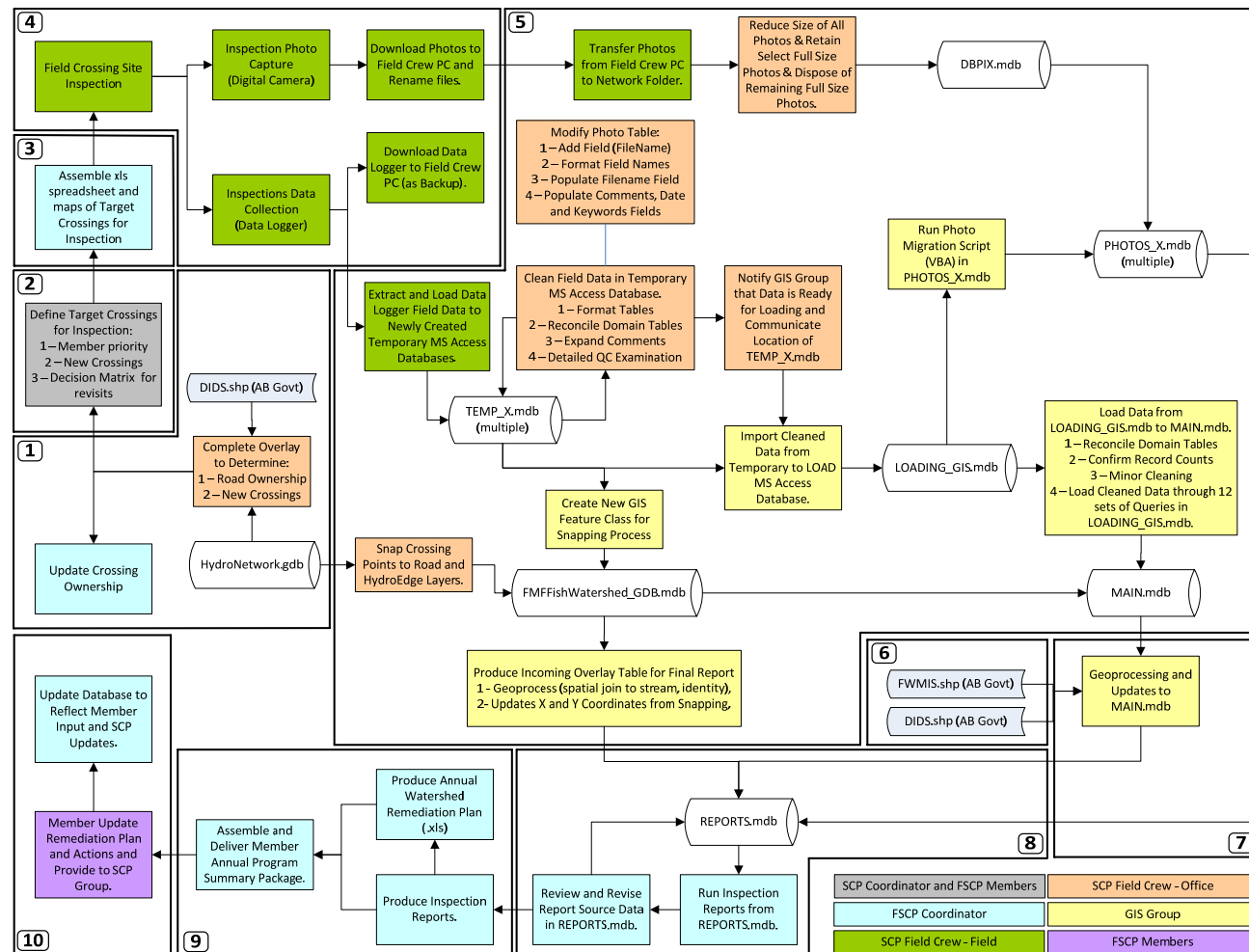
- As required (and time permits).

Background

- FSCP contacted TFC regarding opportunities for moving program data and information to an online platform, for the purpose of increasing accessibility of information to the members (December 2010).
- TFC undertook a review of the existing data management flow along with the program's objectives, and produced a report identifying opportunities for improvement (February 2011), focusing on:
 - Increasing data quality and integrity;
 - Reducing the effort to maintain the program's data and information;
 - Increasing the accessibility of the program's data to the members;
 - Providing for increased member interaction with remediation info; and
 - Providing for open monitoring and reporting of program's progress.
- TFC undertook development of new crossing inspection data collection application to implement in 2011 field season (March 2011).
- FSCP Management asked us to attend this session to provide an overview of the rationale for undertaking opportunities for improvement.

Current Data Management Approach

Current Process Flow Diagram, produced as part of TFC's review.



Current Data Management Approach

1 - Data Collection

- Allegro data logger with limited configurability and validation.
- GPS unit.
- Digital camera and reliance on crew to reconcile image names.

2 - Data Storage

- MS Access database for storing attribute data.
- MS Access database for storing images.
- MS Access database for producing inspection reports.
- ESRI File Geodatabase for storing spatial data.

3 - Data Interaction

- Inspection reports produced by FSCP and delivered to members on DVD.
- Remediation plans and updates populated in MS Excel and exchanged between FSCP and members and ultimately to SRD.

Proposed Data Management Approach

1 - Data Collection

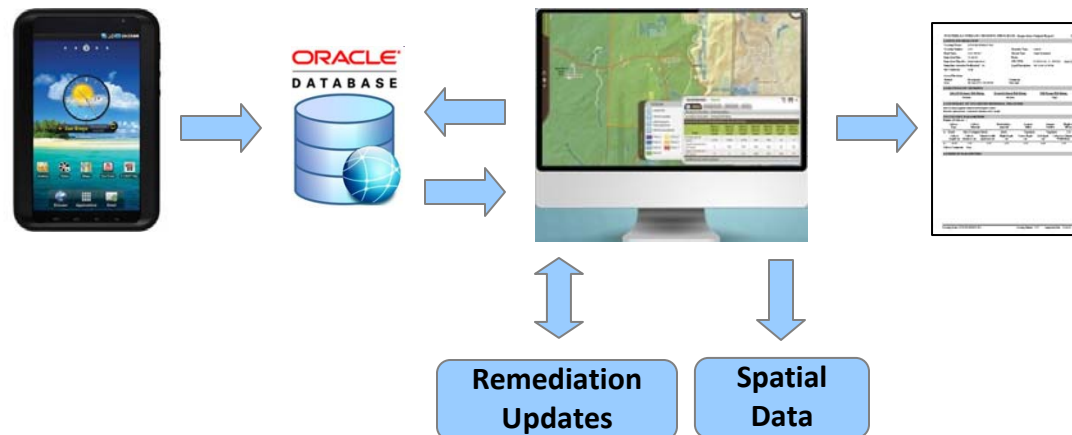
- Google Android OS data collection application on Tablet (operational - May 2011).

2 - Data Storage

- One ORACLE database containing attribute, image and spatial data.

3 - Data Interaction

- Online application to permit “authorized” users to directly interact with FSCP info:
 - View and download (.shp or .kml) spatial location and status of crossing;
 - View and download (.pdf) inspection reports (incl. images captured during the inspection);
 - Update planned and actual remediation efforts; and
 - View status/health of crossing or watersheds and progress over time.



Data Collection

(Data Collection Application)



Alignment with Current Business Process

- Application designed according to most recent information requirements and business processes (ie. colluvial vs. fluvial, multiple value entries, etc.).

Data Validation

- Extensive real-time validation of data, providing explicit notification of data violations (missed data entry), warnings (unexpected values), & acceptance of data.

Hardware Consolidation

- Device and application provide for the collection of attribute data, pictures and GPS locations, eliminating the need for peripheral devices (camera and GPS unit).

Backup and Restore Functionality

- Application contains backup and restore functionality.
- Recommended backup approach would limit potential data loss to one day.

Application Portability

- Portable to other Android-based devices, with minimal configuration.

Data Storage

(Enterprise Database)



Pathway to Online Application

- Implementation of an online application (as proposed) requires an enterprise database to provide robust and scalable performance of application.

Data Consolidation

- All the attribute, image and spatial data can be contained in one database, reducing the overhead of managing multiple databases, while increasing the overall data integrity.

Security

- Oracle is recognized as a global leader in its provision of relational database management systems, priding itself on security and stability.

Data Loading and Extracting (reporting)

- Assembling the inspection data loading process for incorporation to a single enterprise database is more simple and easier to maintain than the process associated with multiple MS Access databases. The same is true for extracting data for defined reporting purposes.

Data Interaction

(On-line Application)



Access and Availability

- Internet based (hosted at TFC) – available to authorized users anytime. Restrictions on who can see what information when, will be defined and controlled by FSCP.

Viewing Capabilities

- Spatial location of all crossings and watershed boundaries and the status/health of them.
- Inspection reports associated with a particular member company, including the images captured during the inspection.
- Animated portrayals of inspection status and/or watershed health over time (spatial view of the changes in status or health).

Data Entry Capabilities

- Direct entry of remedial activities performed on a given crossing, for review and acceptance.

Downloading Capabilities

- Download pdf files for the inspection reports.
- Download specific spatial data (crossings and watersheds) in .shp format for use with desktop GIS software or .kml format for use with Google Earth.

Timeline and Cost of Proposed Components

1 - Data Collection Application

- Final review stage of development. Implementation for 2011 field season (May 2011)
- Timeline – March – April 2011
- Cost – \$21,000 (plus hardware of ~ \$4,000)

2 – Enterprise Database

- Initiation pending approval.
- Timeline – Two months
- Cost - ~ \$16,000

3 – On-line Application

- Initiation pending approval.
- Timeline – Two months (concurrent with Enterprise Database)
- Cost - ~ \$19,000
- Monthly hosting and maintenance cost - ~ \$200 – 400.

Questions and Contact Info

Questions:

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