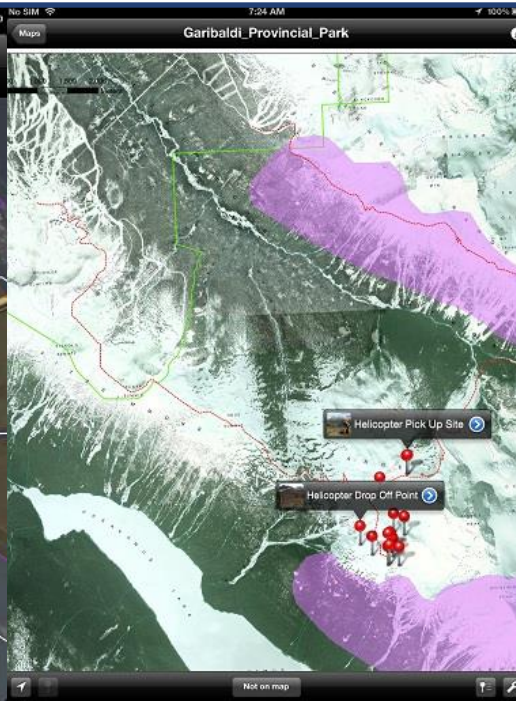
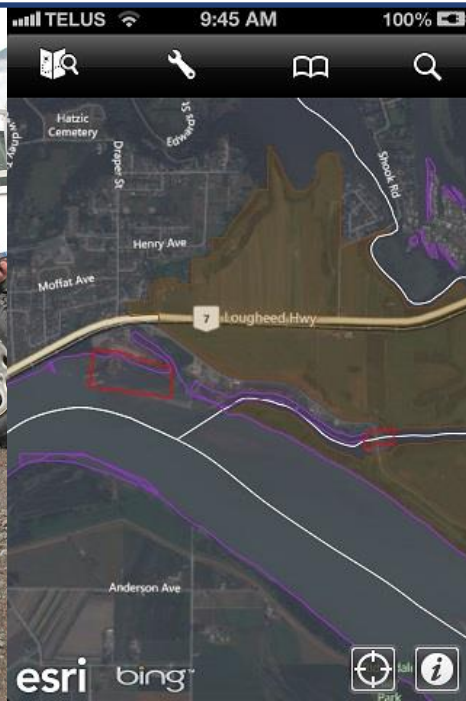
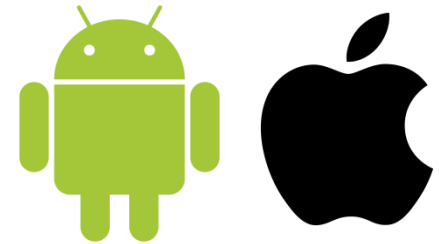


Enabling a Mobile Workforce



Making tappable maps
and apps for field work





Products released in 2011

iPhone 4
iPad 2

Both had
GPS
on board

Pilot Project team
started Spring 2012



Geospatial

Context:

What do
we want
to do?

“Build”
our own?

What’s
already out
there?

What do we want to do?

- **Where am I?**
- **Where am I supposed to go?**
- **Can I get data?**
- **Can I use data?**
- **Can I create georeferenced data?**
- **Can I use that data at my office?**

a.k.a. What are my business requirements?

Some Use Cases (South Coast - biz)

What do we want to do?

- Biologists recording data about species, habitat, and navigation
- Compliance & Enforcement recording notes on potential trespass issues
- Environmental Emergency Response Officers responding to calls re: spills
- Flood Hazard Management Group assessing dike infrastructure for spring freshet

Geospatial



Context:

What do
we want
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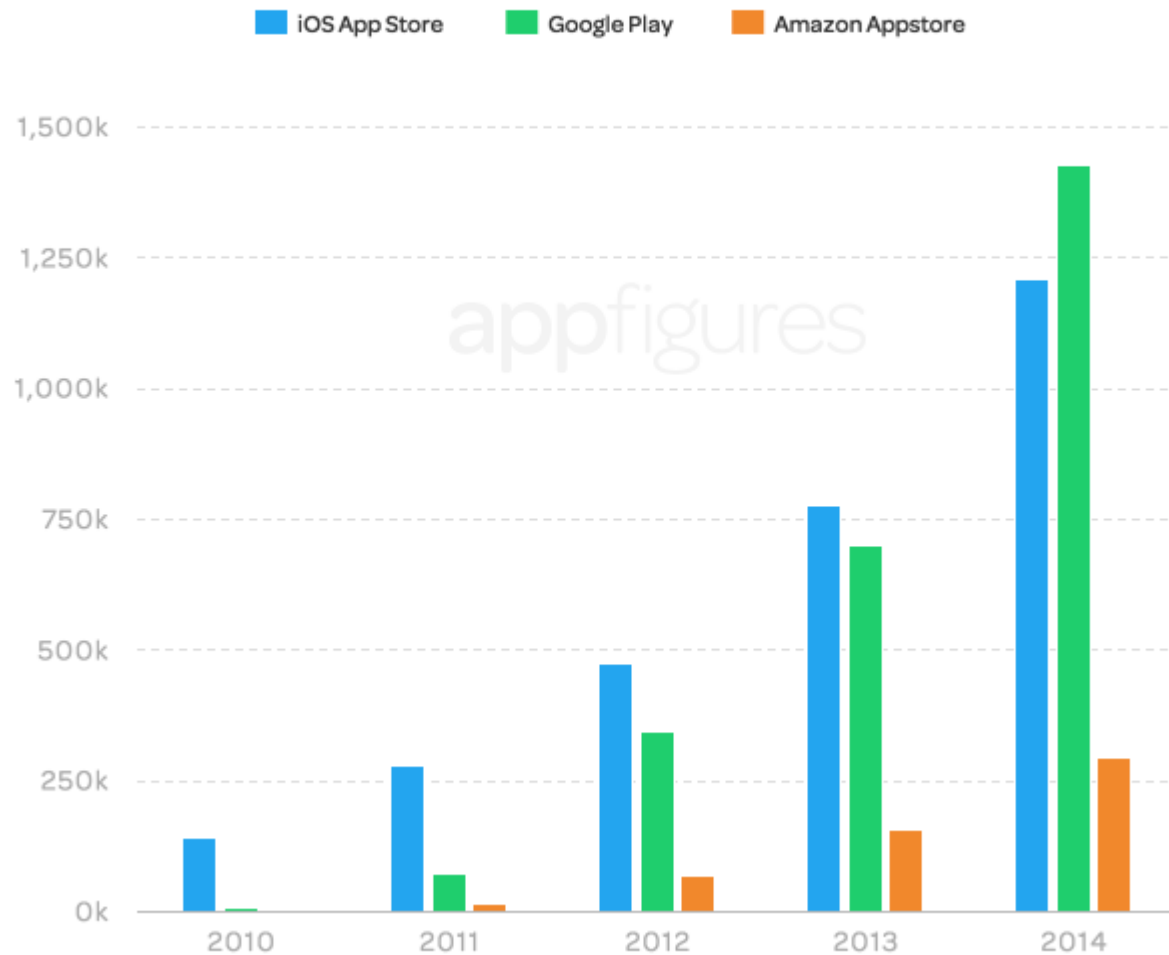
What’s
already out
there?

What's already out there?

- LOTS... even more so today
- Apple iOS vs Android – 2012 vs today
- GPS Kit 
- Field Notes Pro 
- Avenza PDF Maps 
- ArcGIS/ESRI app (also more on that later)
- Filemaker Pro/Go (more on that later)



Total Number of Apps by App Store



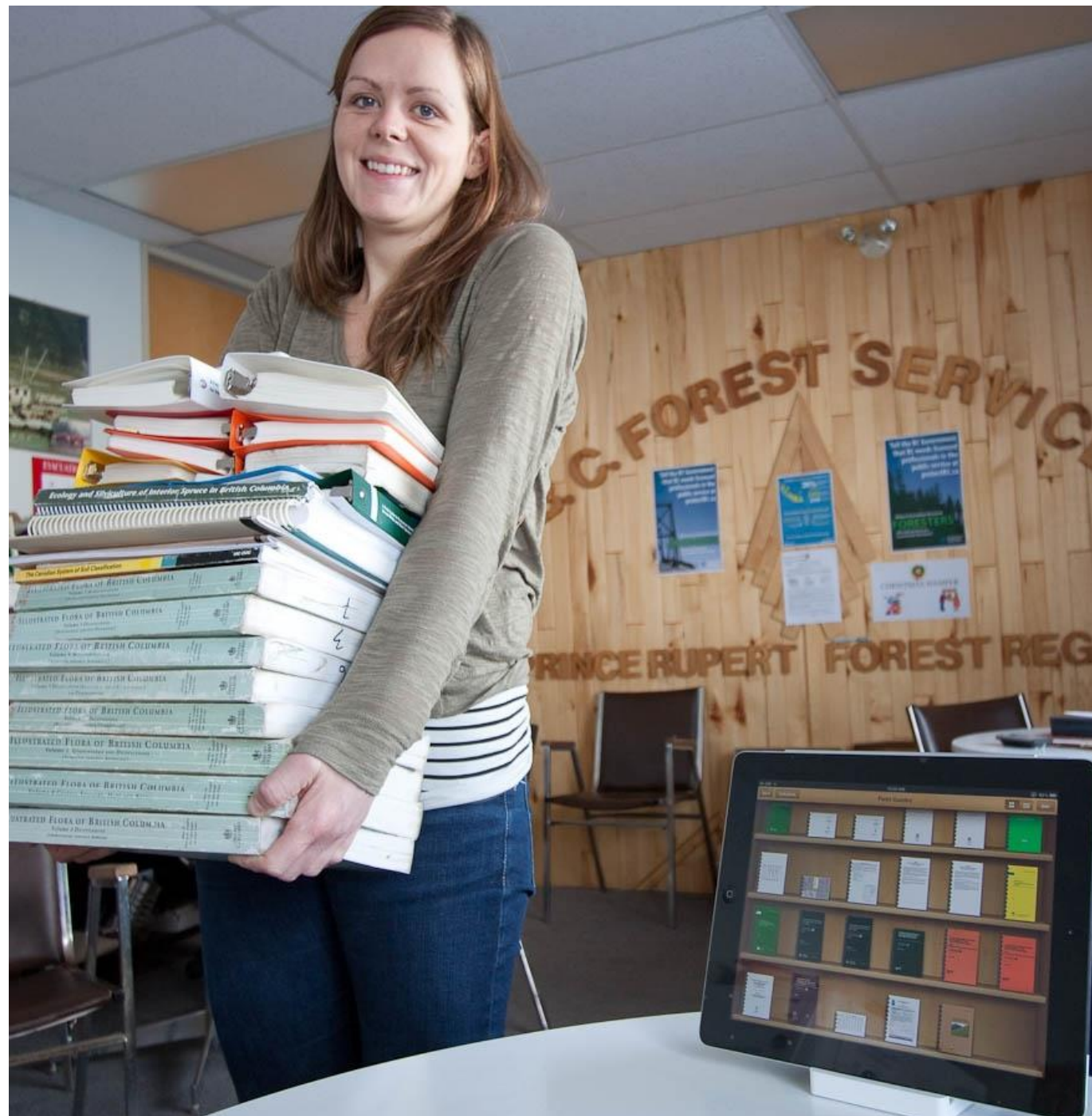
<http://mashable.com/2015/01/15/google-play-more-apps-than-ios/>

Some Use Cases (South Coast - tech)

- ArcMap to create georeferenced PDFs for use in Avenza PDF maps
- Converting to KML/KMZ for Google Earth and other app use
- ArcGIS Online to create webmaps that can be used in ESRI app
 - Using Feature services on a writeable SDE allows you to create data via the app (more on this later)

Kara Pitman,
Research
Technician,
Skeena Region

Field Guides
Policy &
Procedures
Previous Notes
All on one device



Morgan Rankin, District Agrologist, FLNR Cariboo Region

- Forms app replaces clipboard
- Navigation
- Recording points of interest
- Google Translate to talk to the horse



Demo: Off the Shelf



What's already out there?

- Field Notes Pro – great for points
- GPS Kit – great for tracks. OK for points
- Avenza PDF – GeoRef PDFs at your fingertips
- Filemaker Pro/Go – build a relational database for your iPad (Apple only so far)

Geospatial

Context:

What do
we want
to do?

“Build”
our own?

What’s
already out
there?

“Build” Our Own?

- Add gov't data
- Create gov't services (ESRI app)
 - Map services
 - Feature services
- FileMaker Pro/Go
 - Forms

Some Use Cases (South Coast - tech)

- ArcGIS Online to publish maps for use in ESRI App and for webmap at the office
- ArcServer to publish feature services for data entry into a writeable SDE database

The World According To ESRI



Mike Bristol, Senior Flood Hazard Officer, South Coast Region

Spring freshet time: staff need to assess the health of dikes and infrastructure and report back to the main office

What do we need to do:

- Can we fill out this form?
- Can we link this info to a point on the map?
- Can we share this map with head office?
- Can we share the data with front office?
- Can I make a report of this after I'm done?



Demo: Flood Assessor App



- Old days: full day job plus overtime
 - Today's report can be shared with EMBC tomorrow morning
- Nowadays:
 - Today's report can be shared with EMBC today
- Demo: fake water level readings by Josh

Limiting Factors:

- Connectivity?

<http://maps.gov.bc.ca/ess/sv/bcbcm/>



Limiting Factors:

- Live data?
 - Not everything is available as a REST service
 - Store on ESRI Cloud? ESRI Credits?
 - Not everything can or should be put online



Limiting Factors:

- Security
- The Cloud
- Where is this stuff stored?
- How are you transmitting it?
- Personal and Confidential Info



Limiting Factors:

- User fear (too much or not enough)



Limiting Factors:

- Data storage – gigs are coming... Where will you stash it all?
 - Data versioning. Data custodianship. Publish? Not publish?



Limiting Factors:

- Administration & Sharing
 - updates for OS and various apps
 - accounts



What's Next?

- Android Exploration
- Operationalizing Pilot Projects
- Writeable Servers?
- UAVs? (aka drones)
- More REST services?
- More offline capabilities



Thank you!



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Ministry of Forests, Lands and Natural Resource Operations

Joshua.Chan@gov.bc.ca or 604-586-4416



Ministry of
Forests, Lands and
Natural Resource Operations