

Microsoft
ASP.net

Arc
GIS

Earth

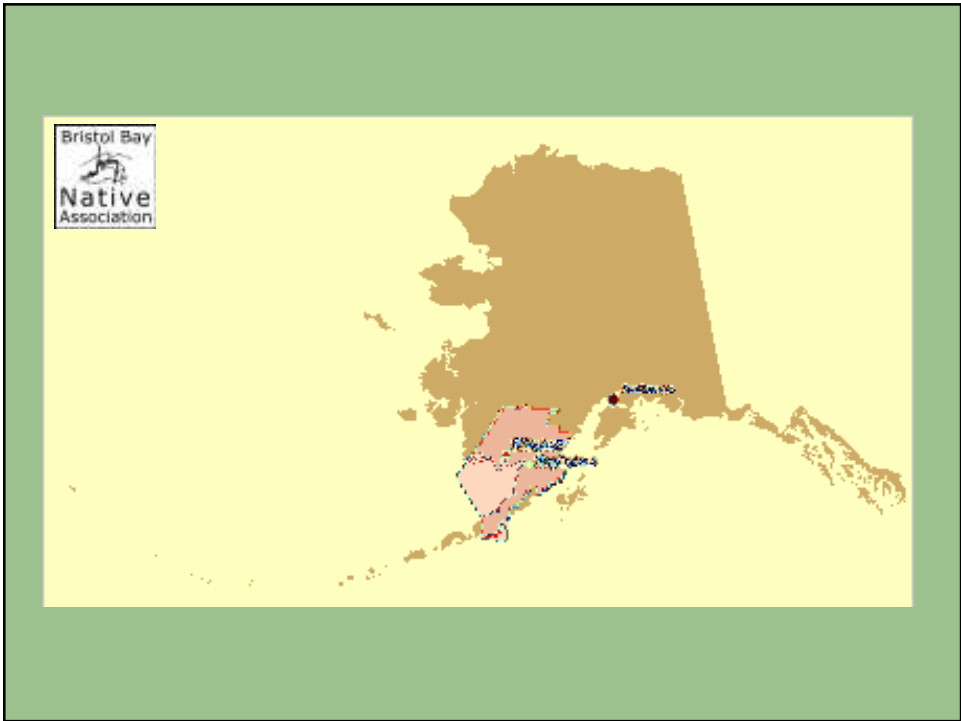
RealtyNet

Bristol Bay
Native
Association

Using ASP.NET and ArcGIS
to manage native allotments
in Bristol Bay

Michael Knapp
Blue Skies Solutions, LLC
907-230-4372
mknapp@blueskiessolutions.net

Blue Skies Solutions, LLC.



What is a native allotment?

- Parcel of land up to 160 acres (*1/4 section*) in size that could be claimed by Alaska natives based on “use history” – Alaska Native Allotment Act of 1906
- New allotment claims were stopped in 1971 – Written into ANCSA
- Individual allotments are “restricted” (non-taxable).
- Managed by BIA or tribal realty offices



Managing Allotments in Bristol Bay

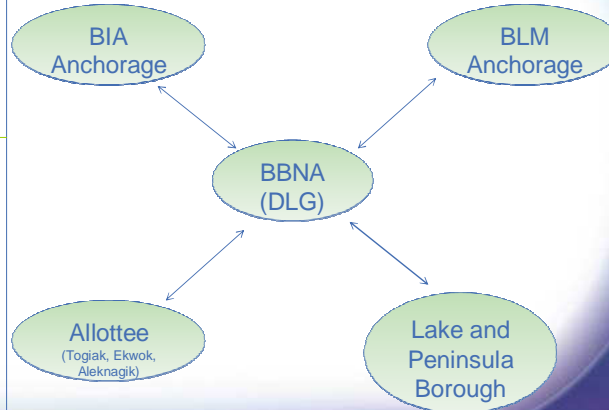
- The Bristol Bay Native Association (BBNA) manages over 1500 native allotments
- BBNA has approximately 15 realty staff members
- Had tried to migrate away from hardcopy files
 - Attempts at creating an “allotment database” had not worked



The Hurdles



- Why the need to use digital maps/documents?



The Hurdles



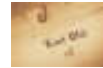
- Mapping (the old way)
 - Through 2004, there was no onsite capability for printing allotment maps
 - Relied on TopoZone.com and Landrecords.info

*With SLOW
connection speed*



The Hurdles

- Need to update allottee/heir information
 - Name/address changes
 - Deaths
 - Probate changes
 - Creating reports (for BIA, State, internal reporting, or for mailings)



RealtyNet Demo

BPNA RealtyNet

Dillingham 547 Realty County
Sunrise: 6:48 AM Sunset: 11:20 PM Sunrise: 8:55 AM Sunset: 10:36 PM

Toggle 577 Classy

PDF Maps
Community Profile
Alaska DNR Status Parts
Tools
Data Streams
Missing Files
Area Map Data
Request a Map

Use one of the methods below to search for allotment parcels:


1) Enter part of the **allottee / heir name**: Enter last name OR first name.
Narrow your name search by selecting a **service provider area**: All Regions

2) Enter a fragment of the **certificate #**: Enter numbers only.

3) Enter a **U.S. Survey number**: Enter numbers only.

4) Enter a fragment of the **parcel ID**: Enter numbers only.

This symbol in the search results: ■ means mapping information is available through RealtyNet for the allotment.
Click on the symbol to open a printable map of the allotment.





For information about the state on this site, please contact Sender Johnson at 353.

Project Considerations

- Staffing a full-time (or even part-time) GIS person in Dillingham is difficult
- Keep GIS software costs to a minimum
- A desire to scan allotment files on-site using local hire.





The solution

- Revive an abandoned MS Access  database, but using ASP.NET (and ) to query the MDB file.
- Use allotment IDs as a unique identifier
 - This helps create links to mapping and scanned documents





The solution

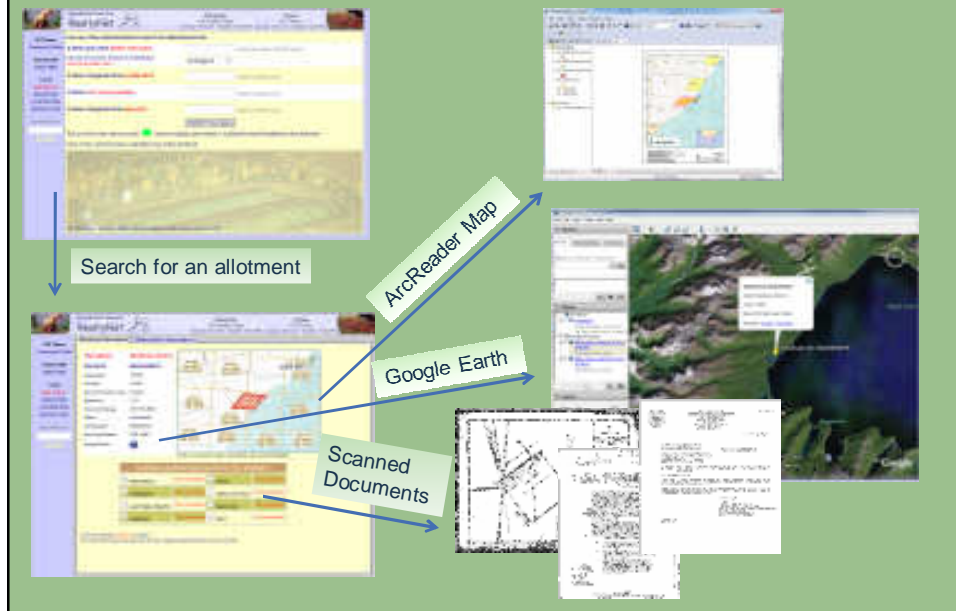
- Document scanning 
 - Into PDF format 
 - Name scanned files with the allotment ID in the filename,
 - Allows the ASP.NET application to search for allotment specific files

Microsoft
ASP.net

The solution

- Mapping 
 - Provide access to individual allotment maps via ArcReader
 - PMF files keep the advanced formatting of the MXD layout view
 - Provide access to KML files for each allotment parcel for viewing in Google Earth
 - For those folks who won't use ArcMap / ArcReader 

Rough RealtyNet outline



Programming Hurdles

- Creating 1500 ArcReader maps
- Creating 1500 KML files for Google Earth
- ASP.NET Tasks
 - Query MDB database for allotment info
 - Return the results in an onscreen “report”
 - Search for scanned documents, KML files, and PMF files by allotment ID
 - Add/edit information in the MDB database

Creating 1500 ArcReader Documents



- **ArcObjects VBA**
 1. Select all allotments via select tool
 - a. Zoom to each allotment at a preset scale (etc. 1:24,000)
 - b. Create a graphic for each selected allotment
 - c. Add custom text to the layout view
 - d. Create a bookmark
 - e. Create the PMF from the bookmark
 - a. Name the PMF file using the allotment ID
 - f. Delete the graphic and custom text
 - g. Move on to the next selected allotment

Creating 1500 KML files



- **ArcObjects VBA**
 1. Select each allotment via select tool
 - a. Create new text file (with *.KML extension) and add header information
 - b. Cycle through each allotment polygon part and write the coordinates to the KML file
 - c. Add the label information
 - d. Add the closing text information to the KML file

(use the allotment ID in the filename)

(tricky for multi-part polygons)

Summary of hardware, software needs

1. Server to store GIS data (KML, PMF, source datasets, scanned documents) and to run the IIS webserver
2. .NET runtime
3. Document scanner
4. ArcGIS (1 ArcView license)
5. ArcPublisher Extension
6. ArcReader, Internet Explorer, and Google Earth on client computers
7. 1 license MS Access
8. ASP.NET files created on Notepad