Comprehensive Aquatic Database

GAME, FISH and PARKS

Geno Adams | Fisheries Program Administrator
Chelsea Krause | GIS Coordinator
Lifecycle of Data
DISORGANIZED DATA MAKIN MEH
SAD

South Dakota

- McNenny SFH
- D.C. Booth NFH
- Rapid City Cleghorn SFH
- GFP Office
- Fish Hatchery
- Spawning Station
- Mobridge
- Ft. Pierre
- American Creek Spawning Station
- Chamberlain
- Whitlock's Bay Spawning Station
- Webster
- Blue Dog SFH
- Sioux Falls
- Yankton
- Gavin's Pt. NFH

Game, Fish & Parks
Where We Wanted To Go

- Collection
- Storage
- Analysis
- Dissemination
2010 – Data Management Meeting

2013 – Needs Assessment

RFP #2 – 2014 System Build

RADHA Project

2015 – ESRI Contract Begins
Needs of the System

1. Import Historical Data
   - CREEL Files
   - WINFIN Files

2. Create new centralized system for Data Entry
   - Custom ESRI Applications
     - Lake Survey and Bus Routes
   - Survey123 for other surveys

3. Automate the creation of Creel and Lake Survey Reports

4. Download Page
   - Staff can interact with data for further analysis

5. Public Interface
   - Web Map and Access to final reports
Mapping out the data workflow

Data Collection

Current Campaign Data

Current Campaign Survey Copy (SDE)

Data Archive (SDE)

Editing Tools

Viewing Tools

Survey23 for ArcGIS

ArcGIS Online

ArcGIS Pro

SSRS Reports

ArcGIS Desktop

Processed and Re-published to ArcGIS Online

Copied Daily (AGO overwrites SQL Server)

Moved Annually

2017*

2016

2015

2014

2013....
1. Import Historical Fisheries Data

- Lake Survey Data (WINFIN Files)
  - 2,400 Files located by searching 6 local office N-drives
  - Oldest file from 1983
  - 33,000 lake survey stations
  - 800,000 lengths
  - 2.1 million counted fish

- Creel Survey Data (CAS FILES)
  - 100,000+ Interviews

- Stocking Records
  - 50,000 records dating back to the 1900s

*Biggest task was to assign all this data to the current lake!*
2. Centralized system for Data Entry

- Mobile Data Collection or Desktop Application
- Currently over 30 tablets distributed across Fish Management Areas
2. Custom Data Entry Applications

- Lake Survey
- Creel Pressure

Because not everything fits into a box!
3. Automate the Final Report
4. Internal Data Access

We can’t automate everything…. No matter how HARD we try!
5. Public Access
5. Public Access
12,555 total downloads

<table>
<thead>
<tr>
<th>Waterbody</th>
<th>Report Type</th>
<th># Downloads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeastern Area Lakes</td>
<td>Net Catch Graphs</td>
<td>185</td>
</tr>
<tr>
<td>Bitter</td>
<td>Creel Survey Report</td>
<td>179</td>
</tr>
<tr>
<td>Poinsett</td>
<td>Creel Survey Report</td>
<td>179</td>
</tr>
<tr>
<td>Thompson (Kingsbury)</td>
<td>Lake Maps</td>
<td>167</td>
</tr>
<tr>
<td>Southeastern Area Lakes</td>
<td>Net Catch Graphs</td>
<td>162</td>
</tr>
<tr>
<td>Sinai (Brookings)</td>
<td>Lake Maps</td>
<td>119</td>
</tr>
<tr>
<td>Waubay (Day)</td>
<td>Lake Maps</td>
<td>115</td>
</tr>
<tr>
<td>Enemy Swim</td>
<td>Creel Survey Report</td>
<td>110</td>
</tr>
<tr>
<td>Poinsett (Hamlin)</td>
<td>Lake Maps</td>
<td>109</td>
</tr>
<tr>
<td>Sinai (Brookings)</td>
<td>Lake Survey Report</td>
<td>104</td>
</tr>
</tbody>
</table>
Where do we go from here...

- Take this initial phase **slow** before we add additional surveys
- Still working out some bugs
  - GIS staff don’t speak the same language as Fisheries Biologists
  - Data analysis we weren’t previously aware of
  - Every FMA and lake is truly “special”
    - To Account for every scenario is not possible.
- Previous software wasn’t perfect so some mistakes were either rebuilt or needed to be fixed.
Conclusion

• Constant **engagement** with staff is vital to the success of this database.
• **Feedback and discussion** is extremely important.
• **Standardization** of the fisheries department will be an ongoing process.
• Truly invaluable exercise for us as an agency
  • Apply what we learned elsewhere
  • Best management practices
#SDintheFIELD
sharing the stories of you.

@BERGERAARON

FACEBOOK · TWITTER · INSTAGRAM

SOUTH DAKOTA
Game, Fish & Parks

@DEREKBAUNE
@JONKLEMME
@MGARRY85