

Species Distribution Data

Ideal vs. Real World

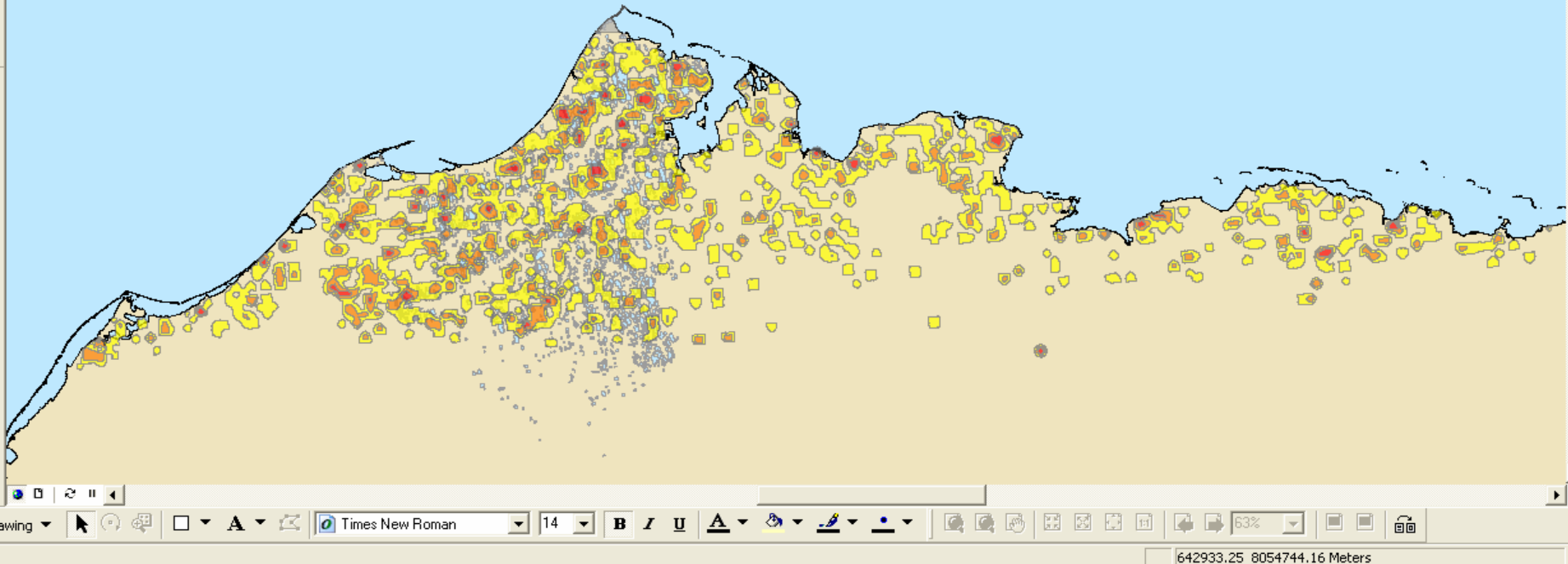
Scale-related Issues

Yellow-billed Loon Density Map

Derived from multi-year USFWS aerial surveys over most of Arctic Coastal Plain

Synoptic view possible with data set that is geographically extensive and collected in a consistent manner.

Excellent for landscape-level planning, not so good for site-specific management decisions.



Species Search GIS Database

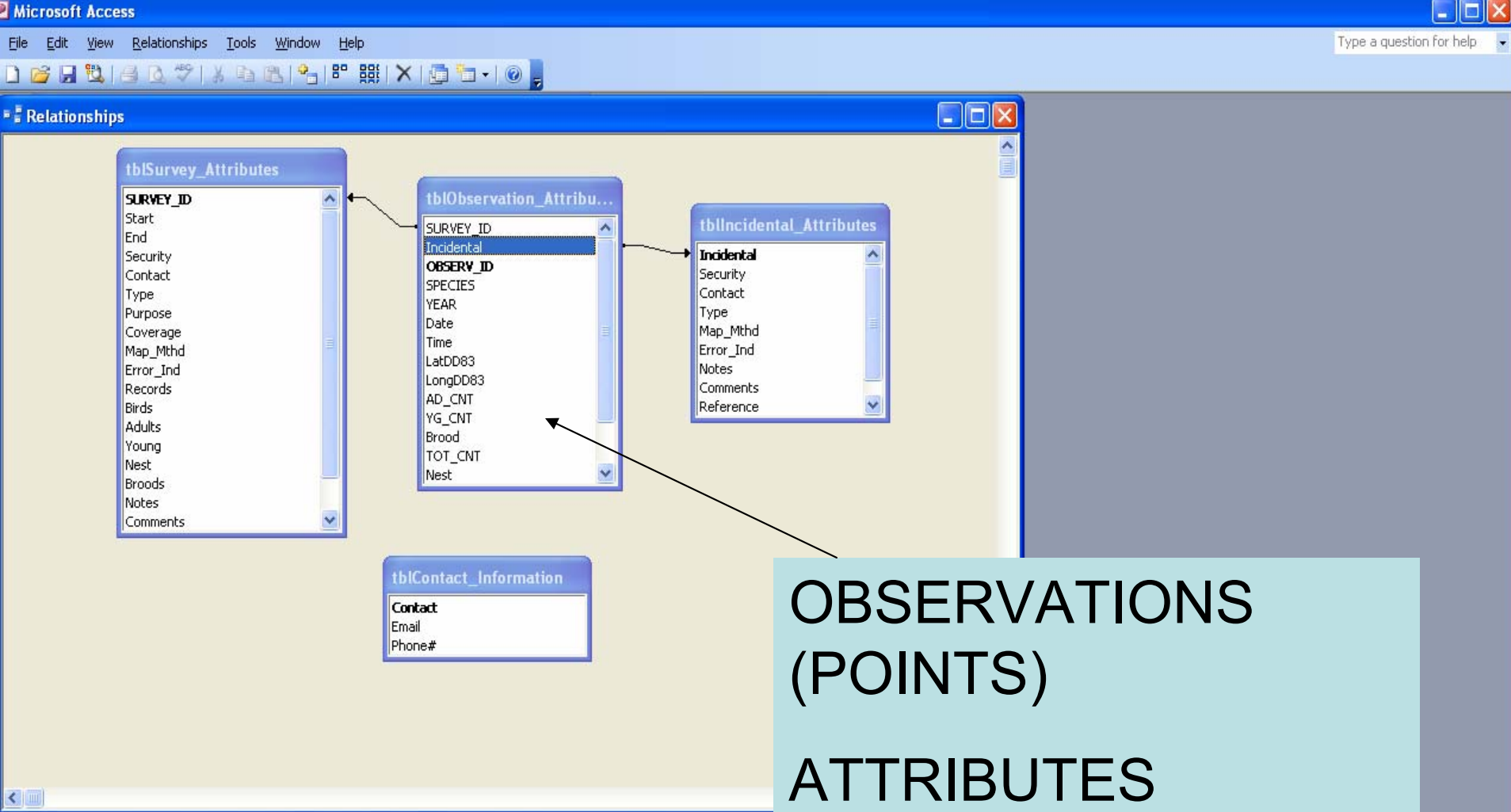
Intended to assist biologists assemble distribution and abundance data in the context of the regulatory process, particularly site-specific permitting.

Focused on species of high concern:

- **Spectacled and Steller's Eider**
- **Yellow-billed Loon**

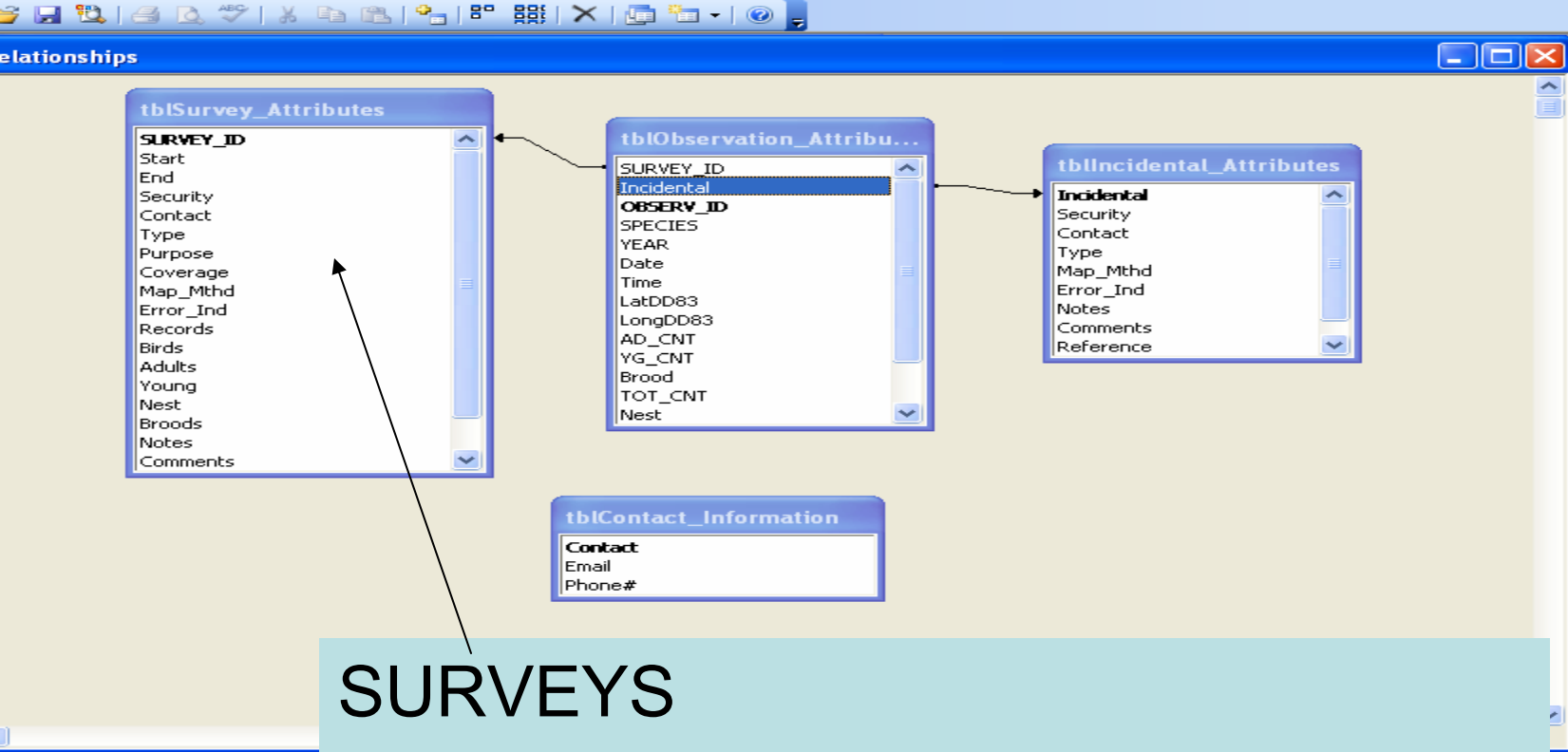
Database Design Challenges

- Needs to be inclusive
- Wide variety of sources (agency, industry, private) – no standard protocol
- Needs to portray observations AND the context in which those observations were obtained.



OBSERVATIONS
(POINTS)

ATTRIBUTES
RELATED TO
INDIVIDUAL
OBSERVATIONS

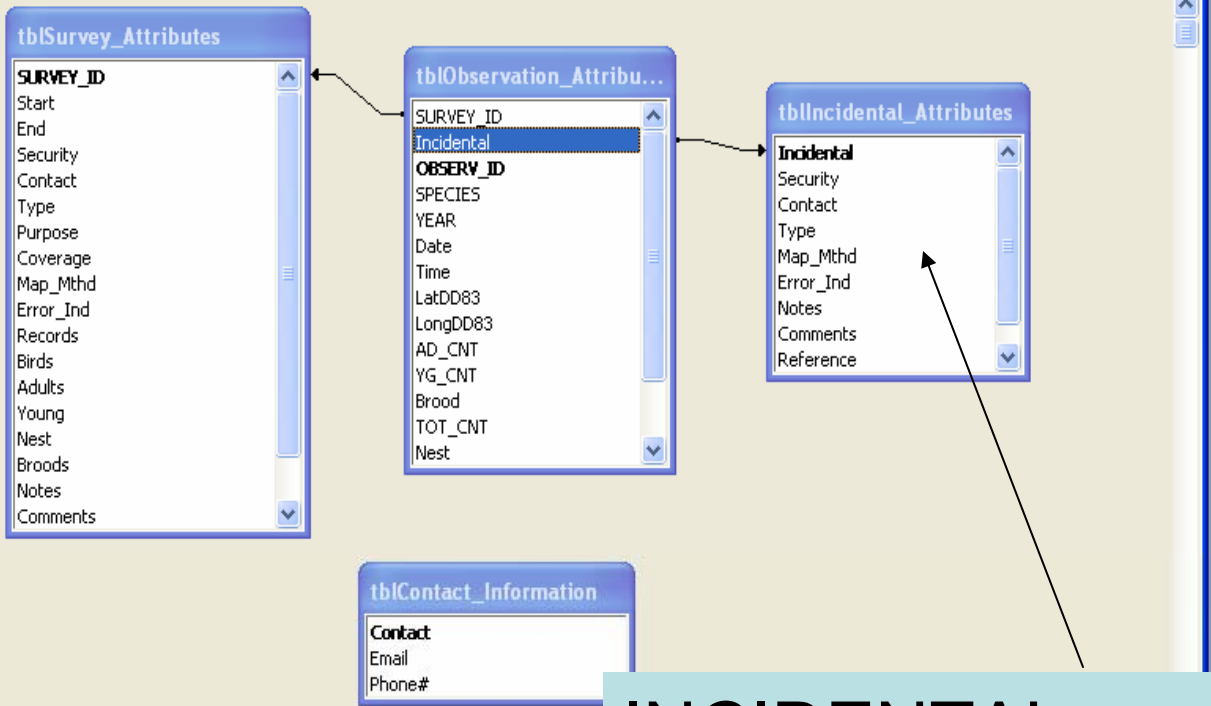


SURVEYS

POLYGON

ATTRIBUTES RELATED TO THE SURVEY METHODS AND SUMMARY STATISTICS

Relationships

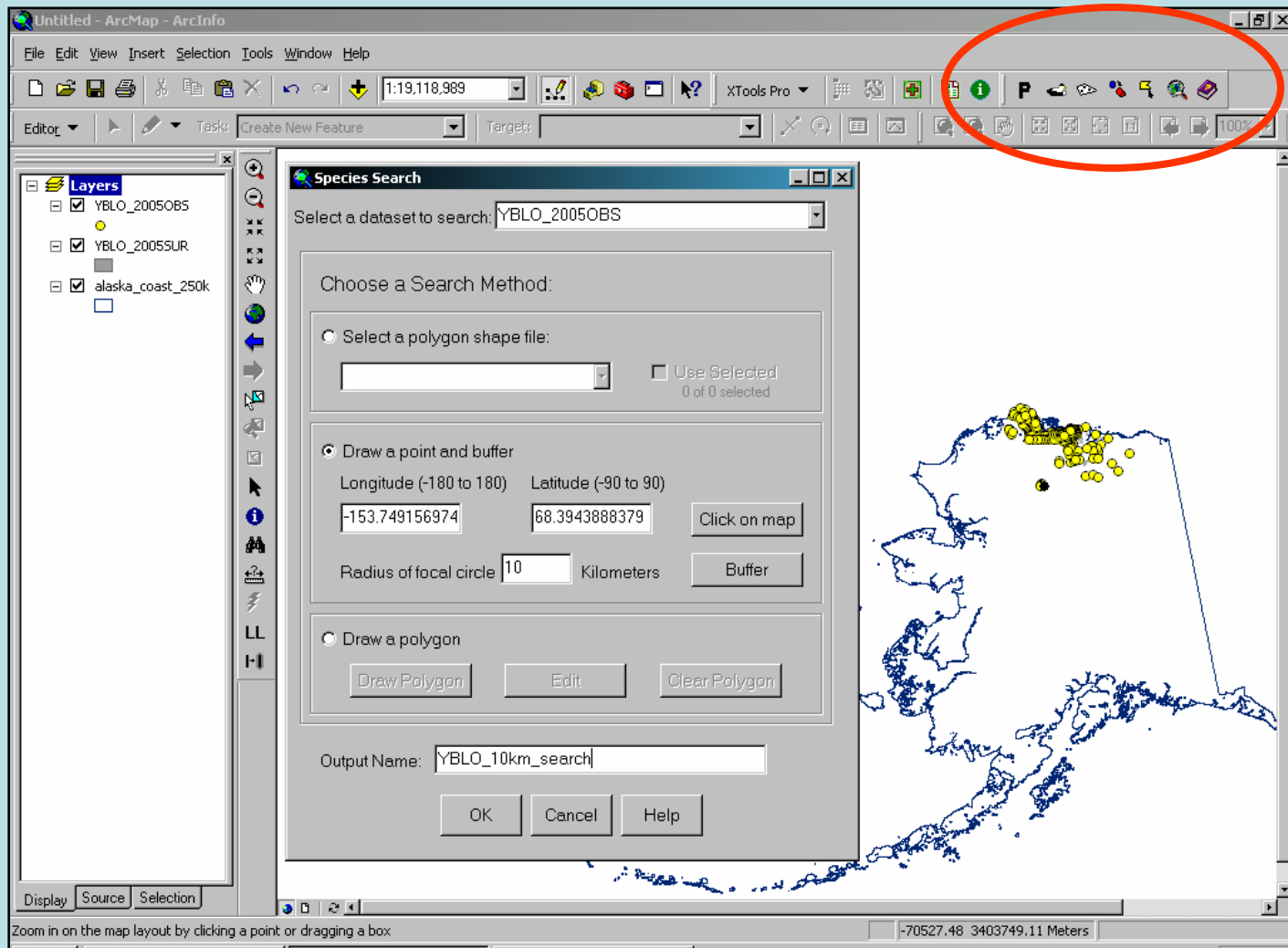


**INCIDENTAL
ATTRIBUTES JOINED TO
POINTS FOR
OBSERVATIONS NOT
ASSOCIATED WITH A
DEFINABLE SEARCH AREA**

CUSTOM SEARCH TOOLS

- ArcGIS Toolbar
- Facilitate extraction of records based on a focal area
- Geared toward project review

CUSTOM SEARCH TOOLS



Implementation Challenges

- Agency lacks infrastructure/expertise
- Need Database Managers
- Need Hardware
- Data acquisition issues