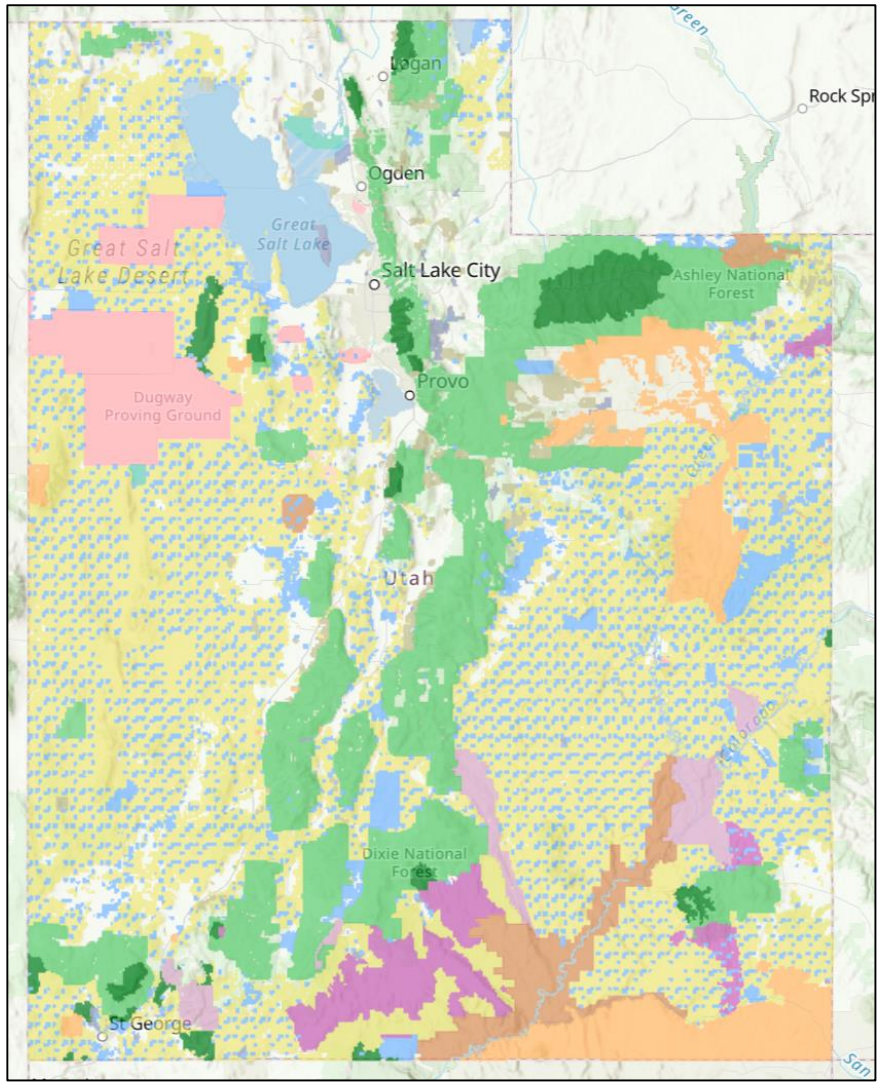
Automated Wildlife Tracking: Effective Mapping For Conservation

Eric Edgley – GIS Manager
Daniel Olson – Migration Initiative Coordinator

About Utah



Utah Quick Facts

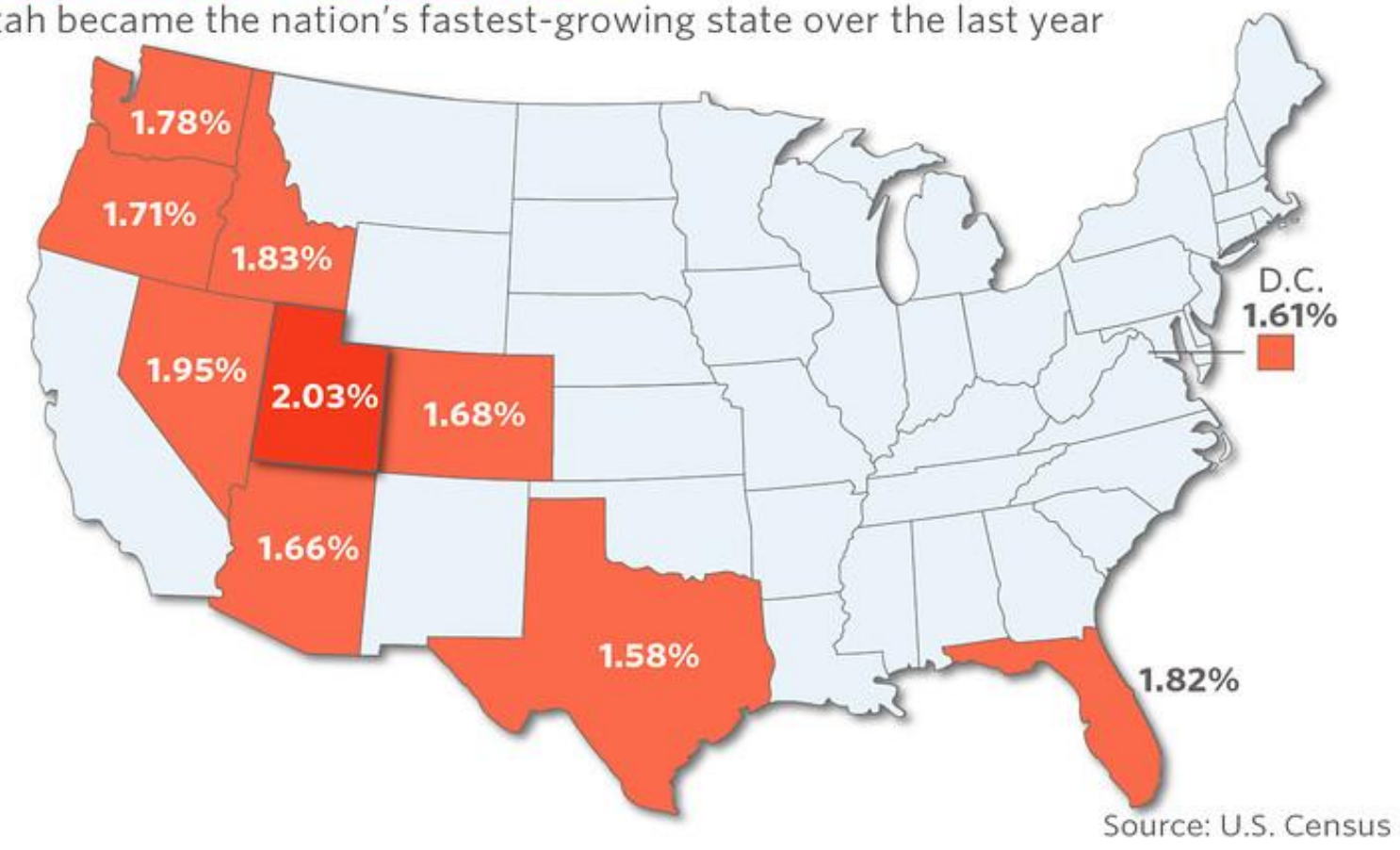
- 45th State
- ~ 3 million people
- 76% Public Land
  - 65% Fed, 11% State
- 21% Private Lands
- 5 National Parks
  - Zion, Arches, Bryce Cyn,
  - Canyon Lands, Capital Reef

- The rubber chicken was invented in Utah.

POPULATION GROWTH

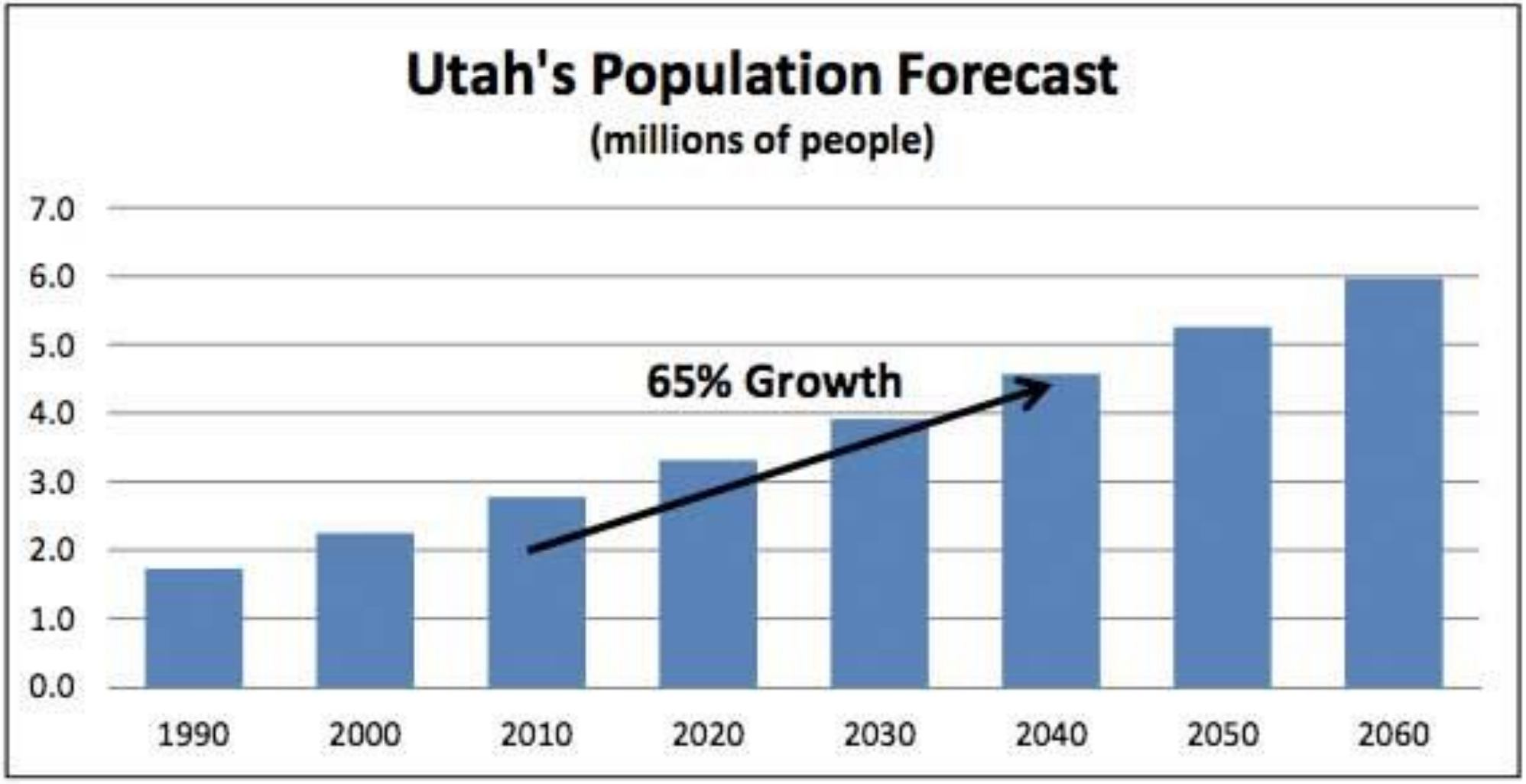
THE NUMBER ONE

Utah became the nation's fastest-growing state over the last year

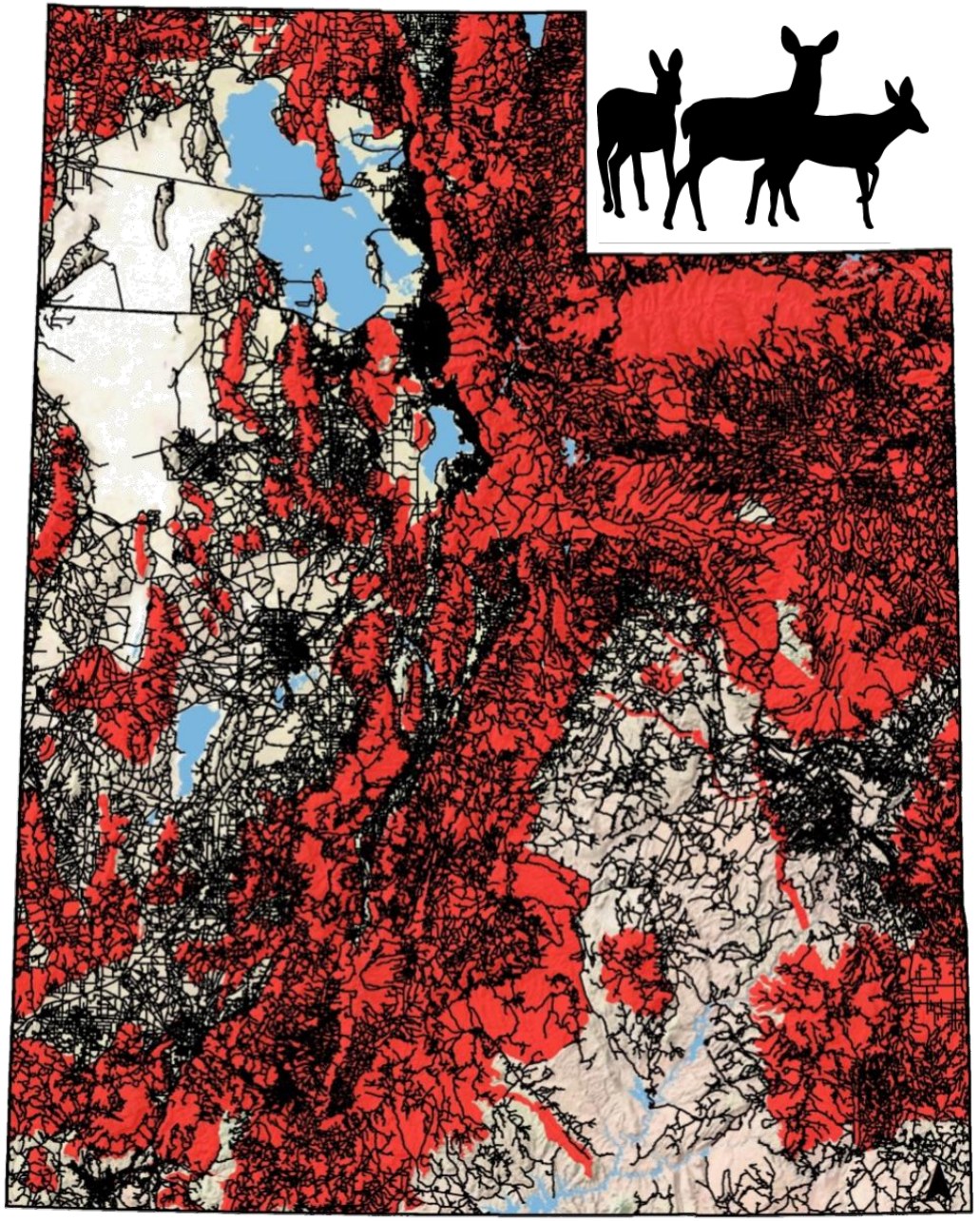


Source: U.S. Census

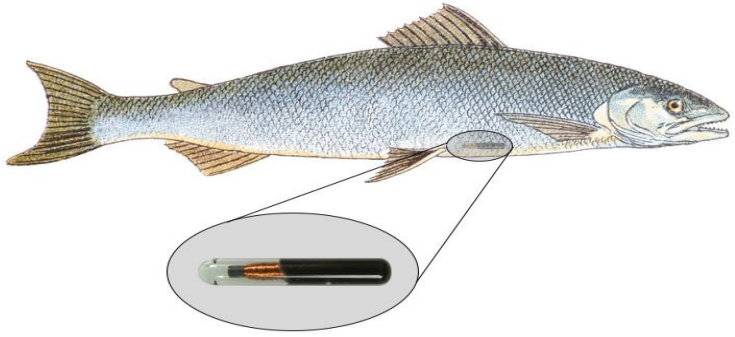
POPULATION GROWTH



WILDLIFE NEED TO MOVE



WILDLIFE TRACKING

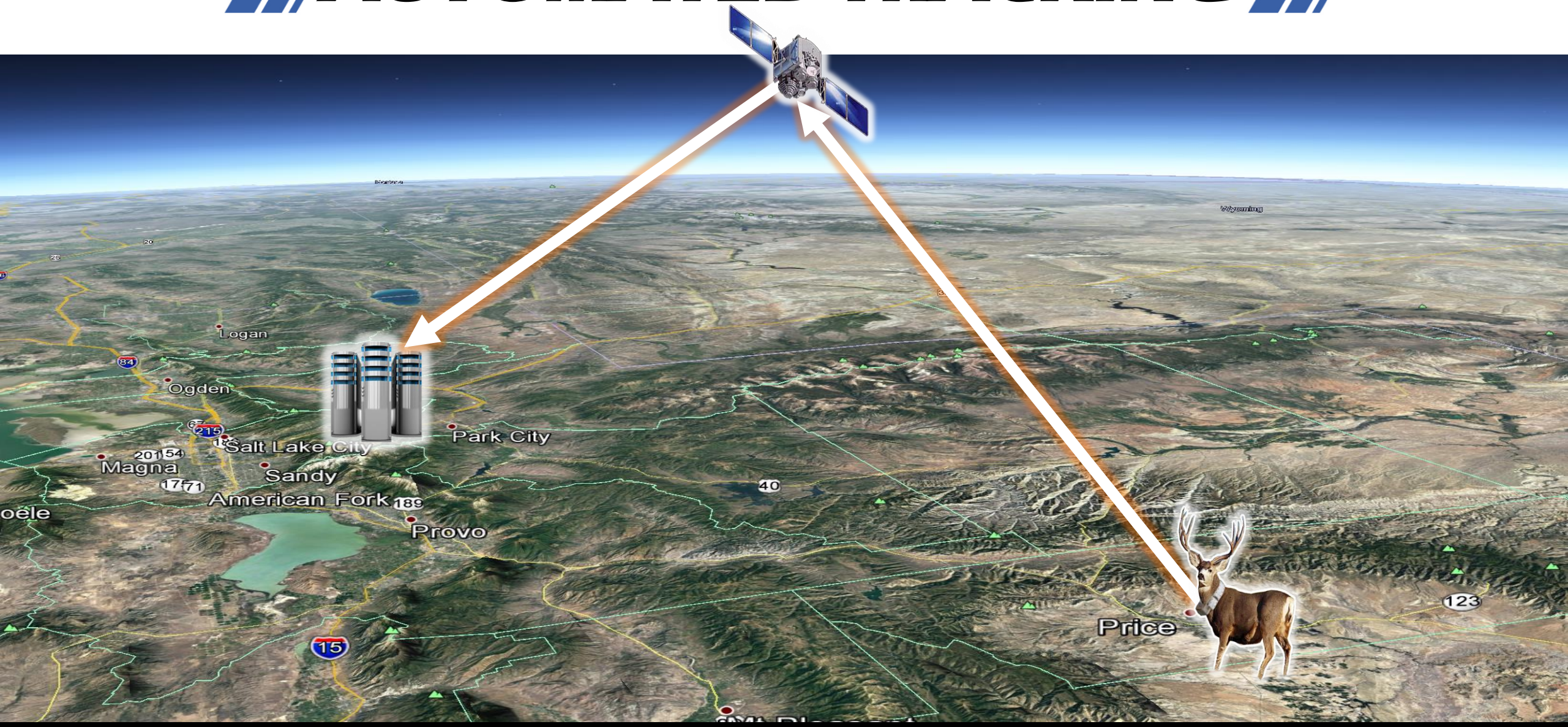


WILDLIFE TRACKING

What's included:

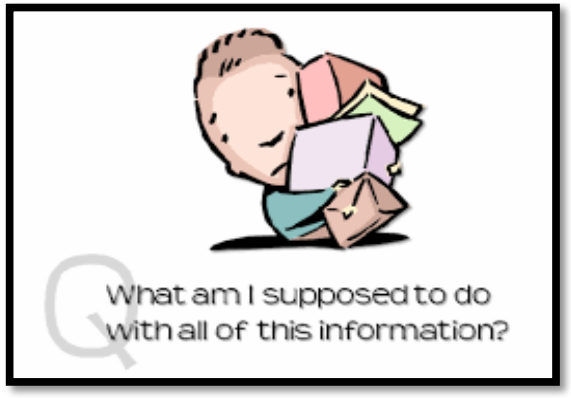
CAPTURE PROCESS

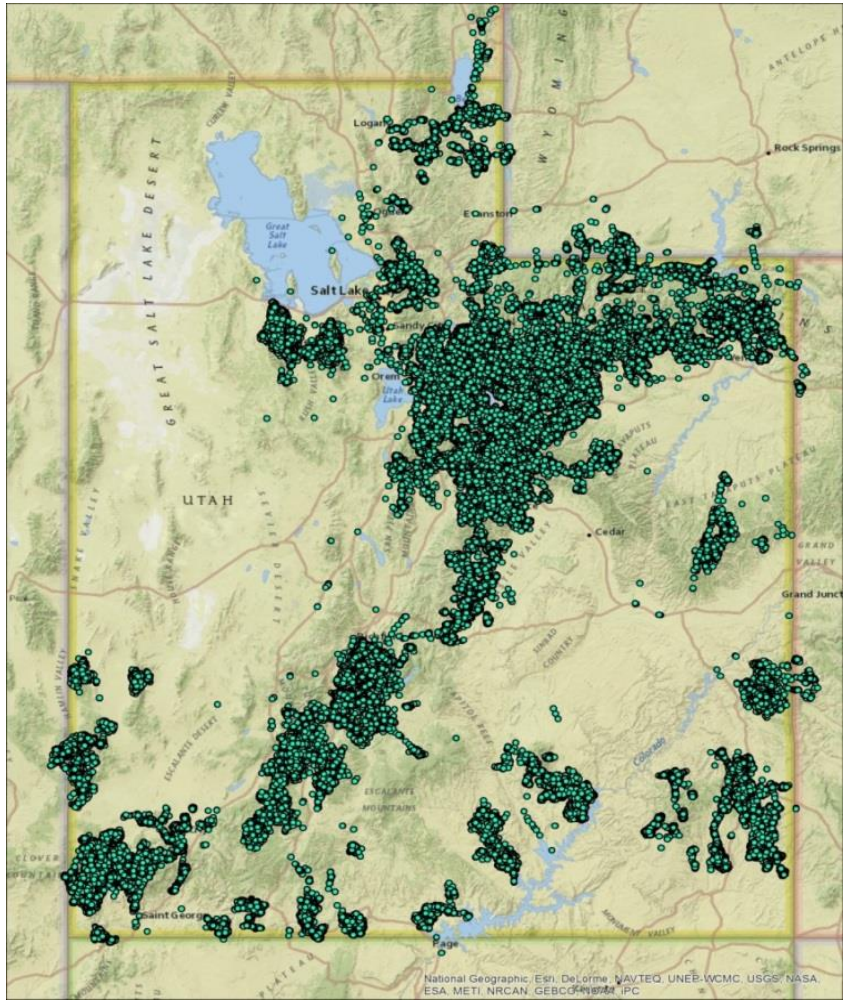
AUTOMATED TRACKING



WILDLIFE TRACKING

Information Overload!!!





CONSERVATION INITIATIVES

UTAH
WILDLIFE
MIGRATION
INITIATIVE

WILDLIFE TRACKING

Migration Initiative Goals

- Better Document movement corridors
- Build partnerships (financial)
- Improve data management & sharing
- Create compelling outreach

Partnerships

Trout Unlimited

Sportsmen for Fish & Wildlife

Mule Deer Foundation

RMEF

Utah CWMU Association

Utah State University

Brigham Young University – Founded BYU 1875 – Provo, Utah

Utah Department of Environmental Quality – Water Quality

Wild Utah Project

UDOT – Keeping Utah Moving

Wildlands Network

Forest Service – U.S. Department of Agriculture

U.S. Department of the Interior – Bureau of Land Management

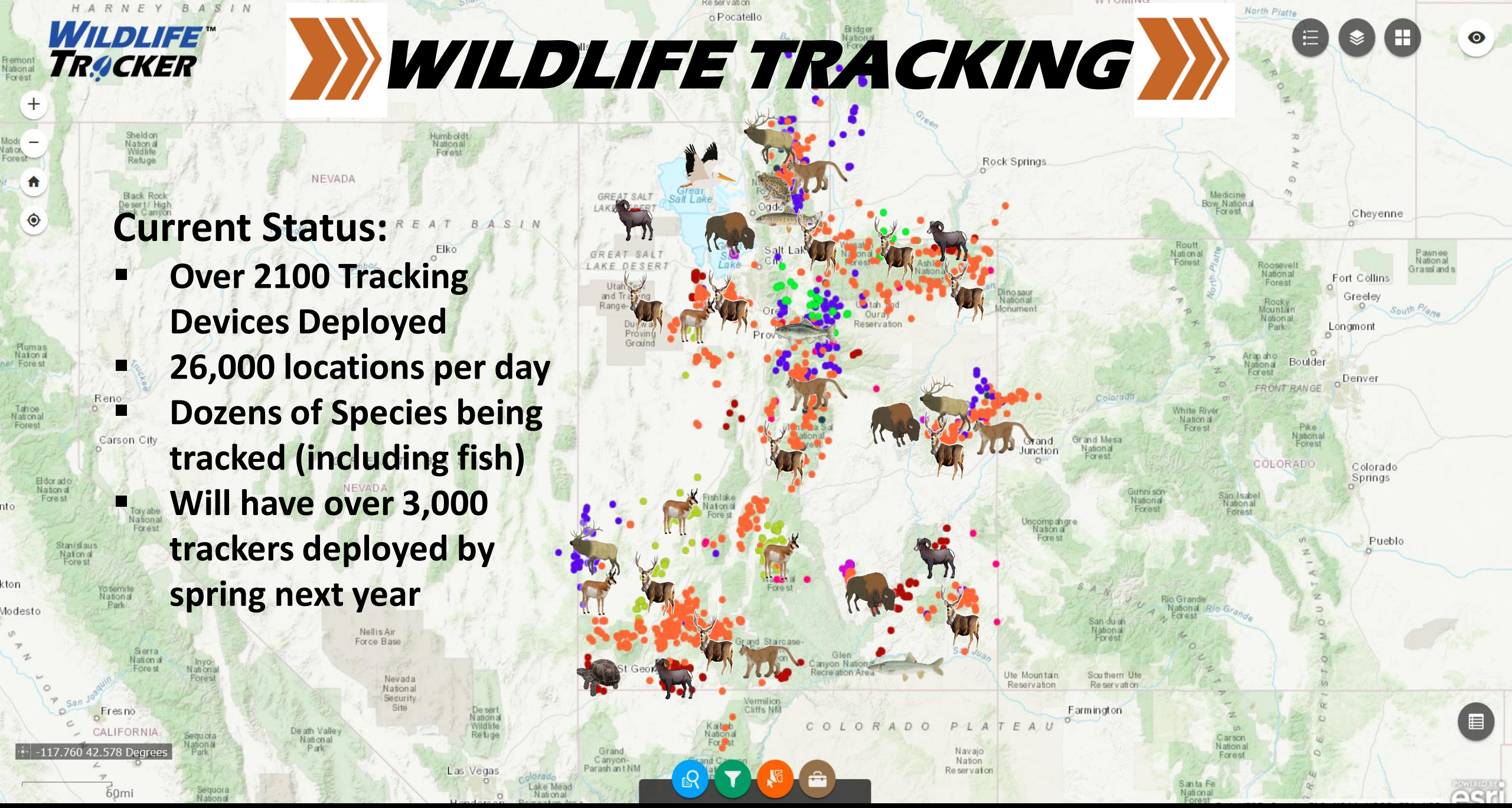
Arizona Game & Fish

WILDLIFE TRACKER™

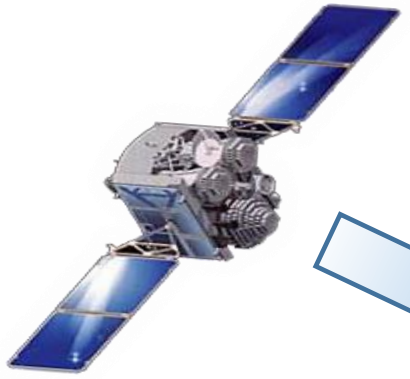
WILDLIFE TRACKING

Current Status:

- Over 2100 Tracking Devices Deployed
- 26,000 locations per day
- Dozens of Species being tracked (including fish)
- Will have over 3,000 trackers deployed by spring next year



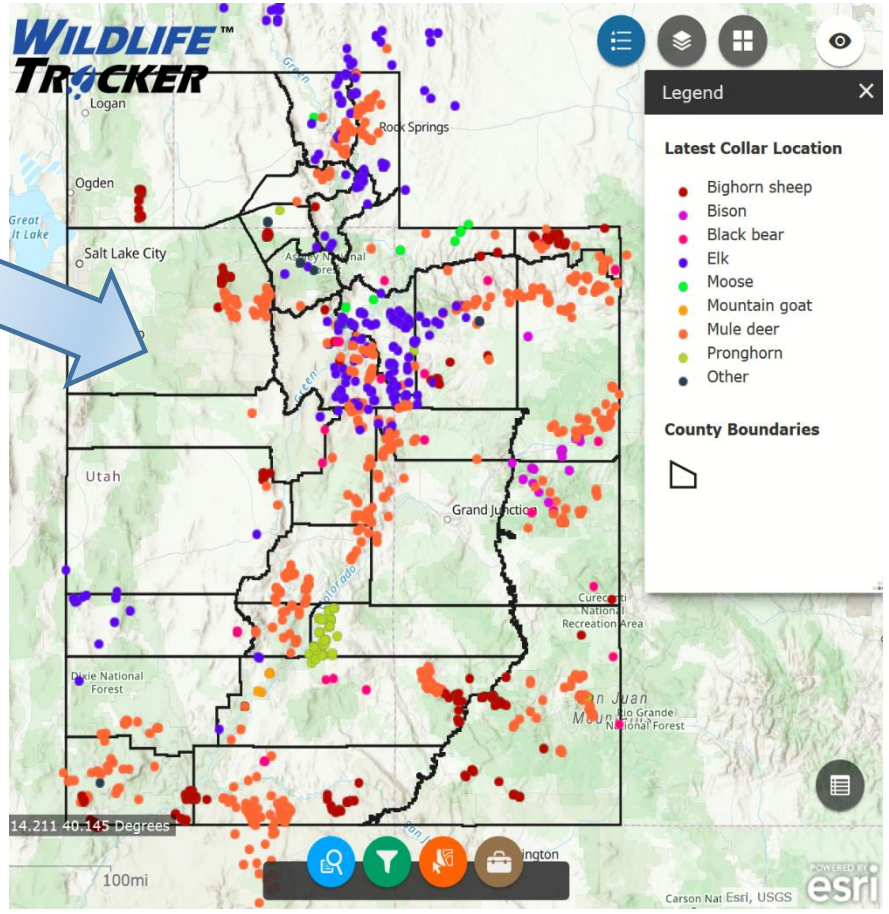
ANALYSIS TOOLS



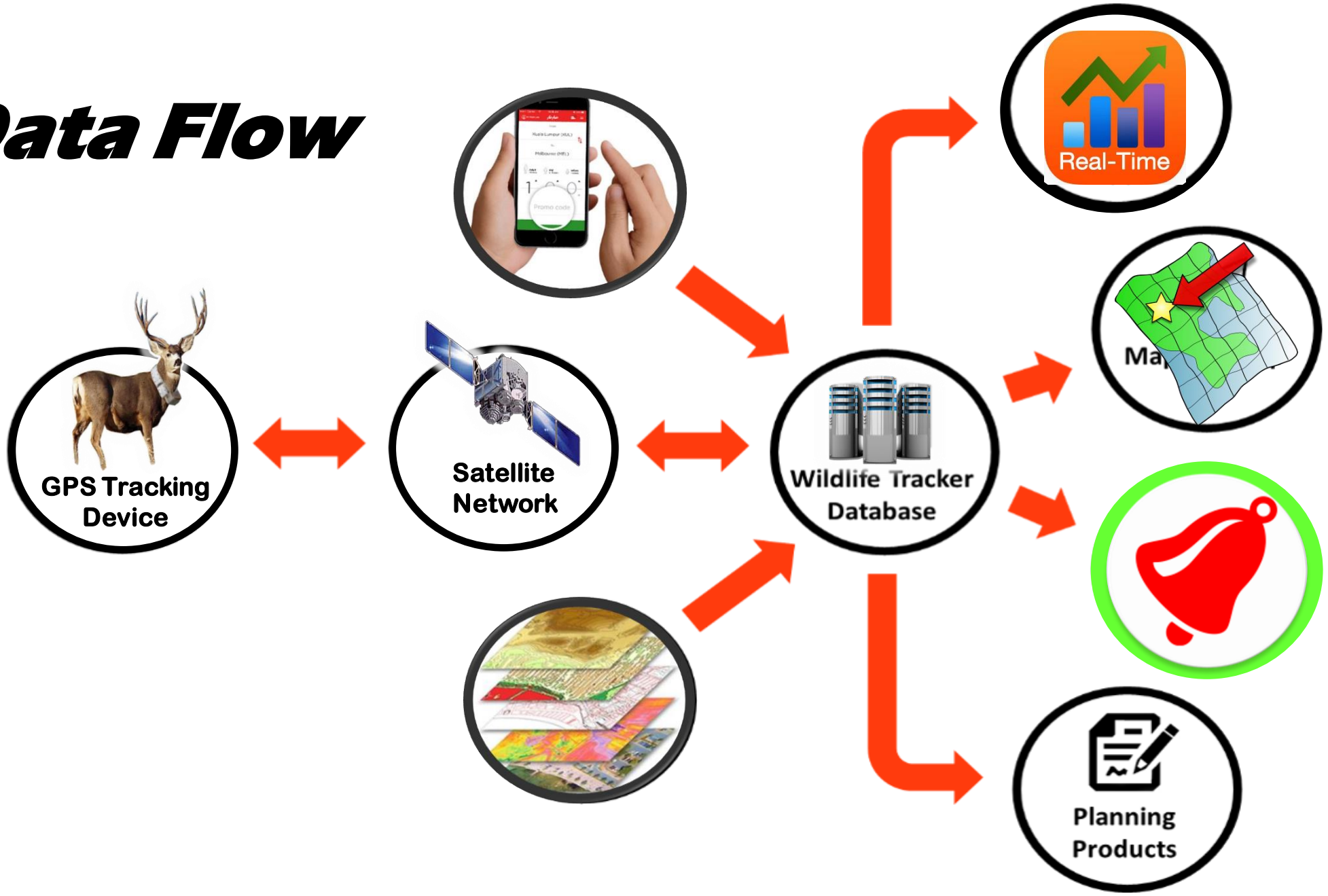
ESRI GeoEvent Server

ESRI ArcGIS Server

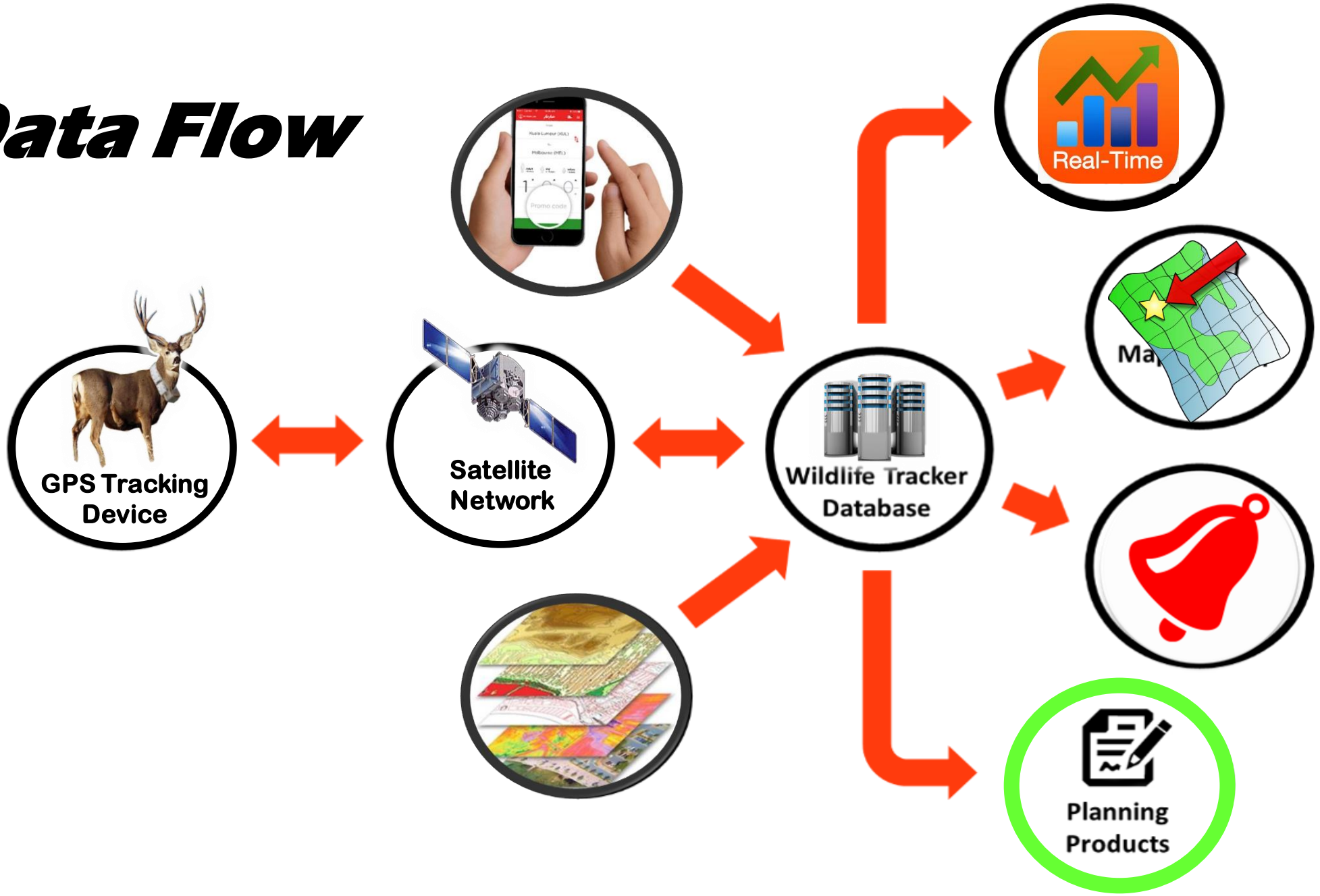
Enterprise Geo-DataBase



Data Flow


Real-Time
GPS Tracking Device
Satellite Network
Wildlife Tracker Database
Planning Products

Data Flow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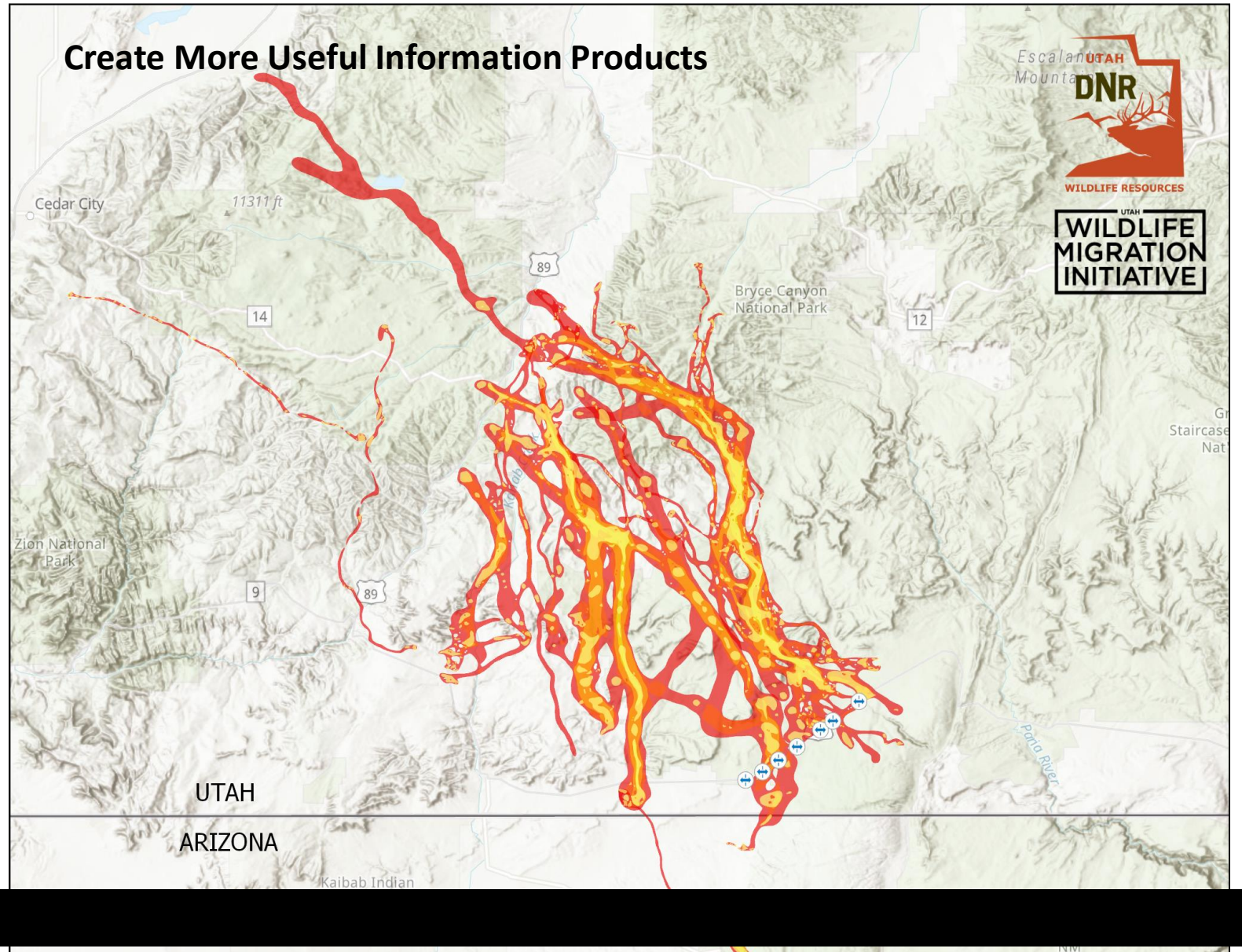
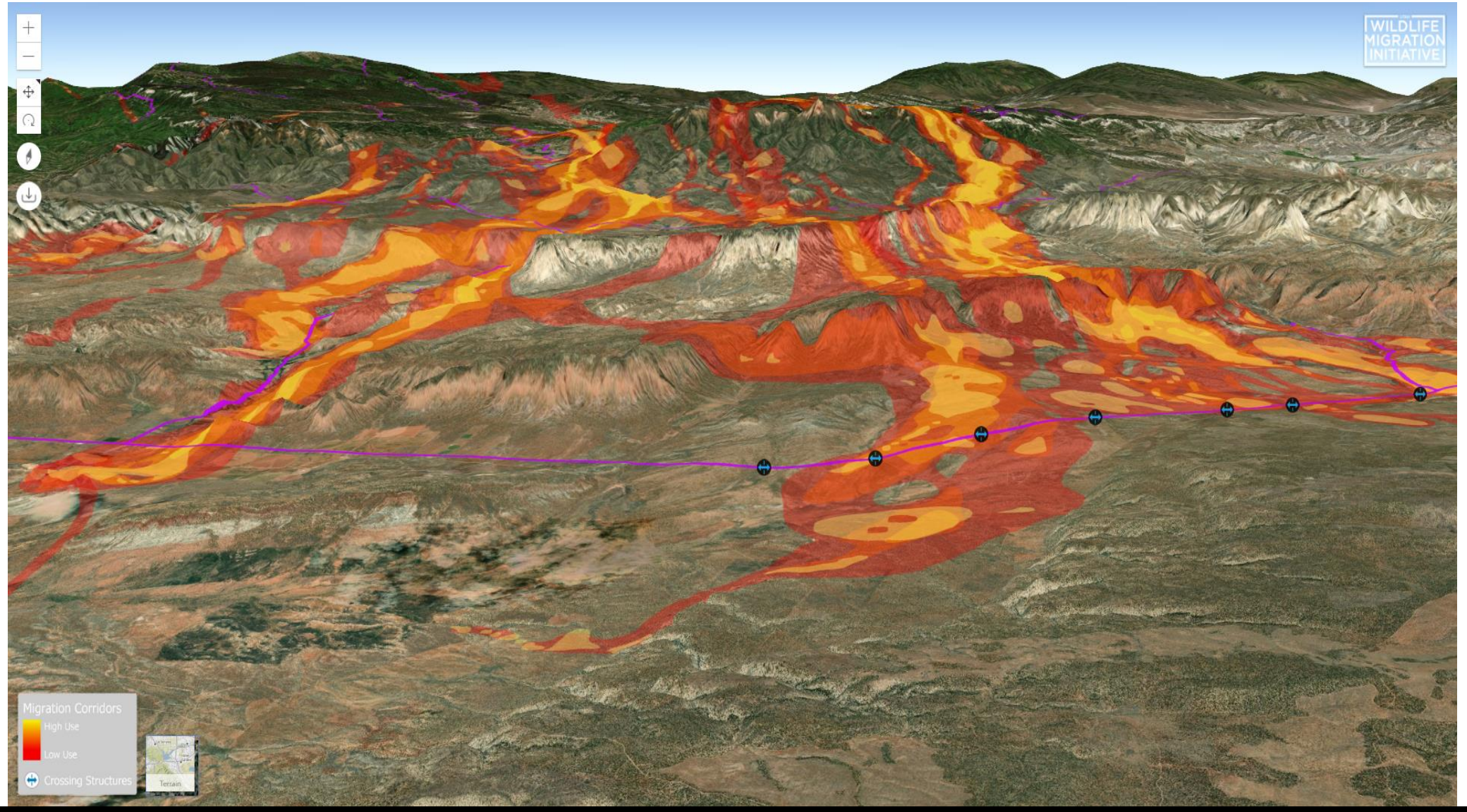
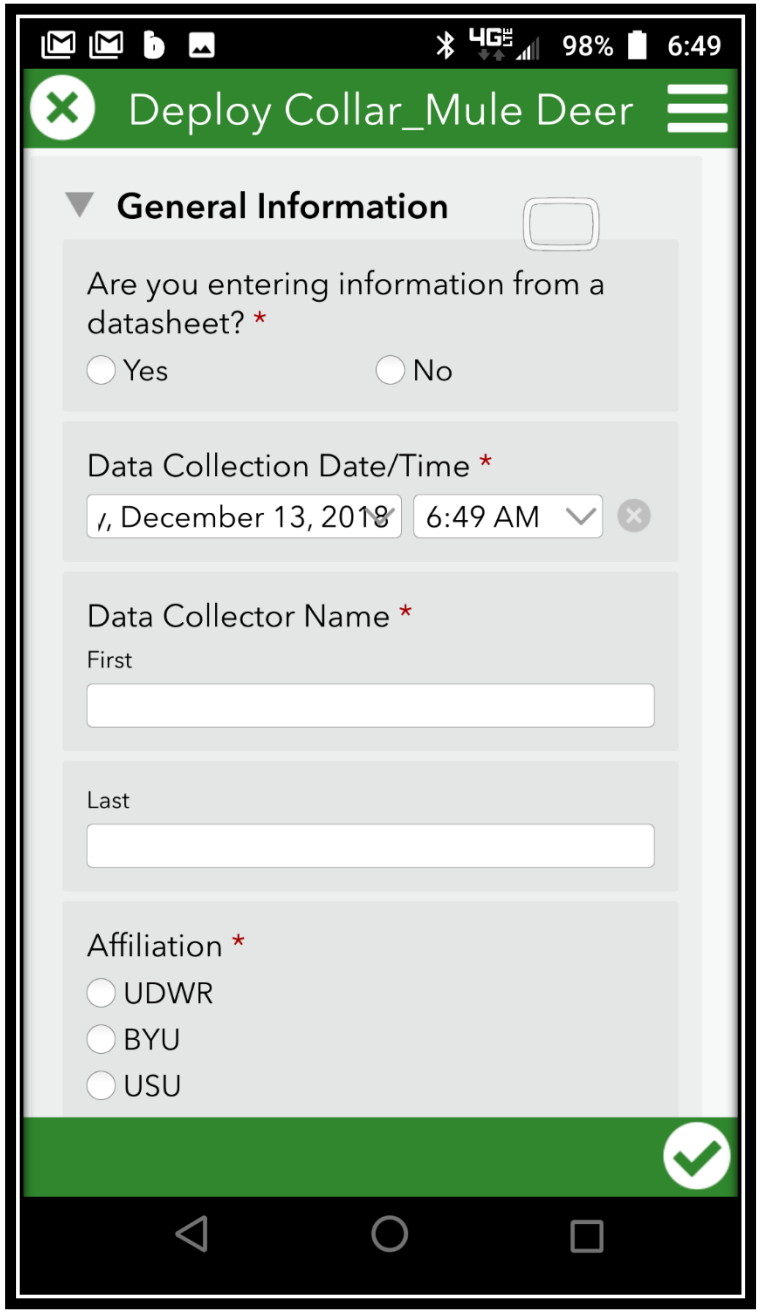
PLANNING PRODUCTS

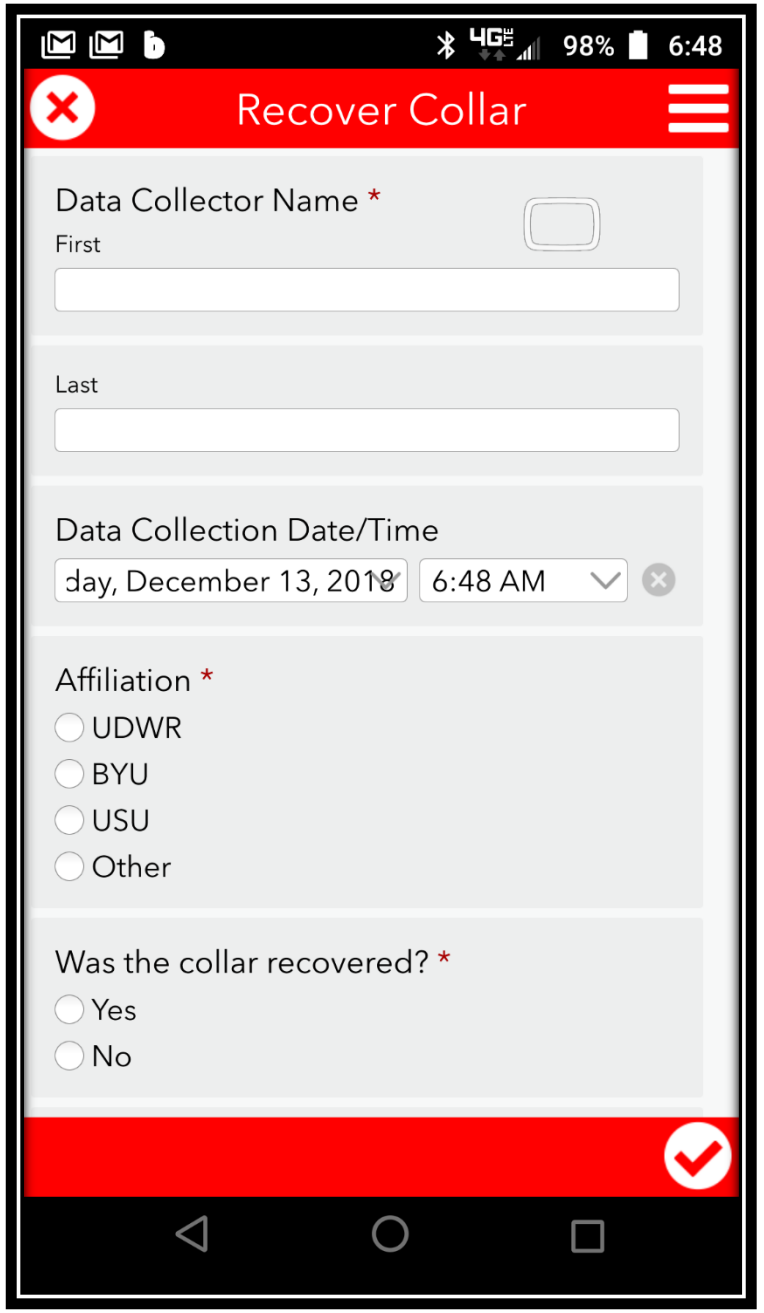


PLANNING PRODUCTS



Collar Mgmt. Applications





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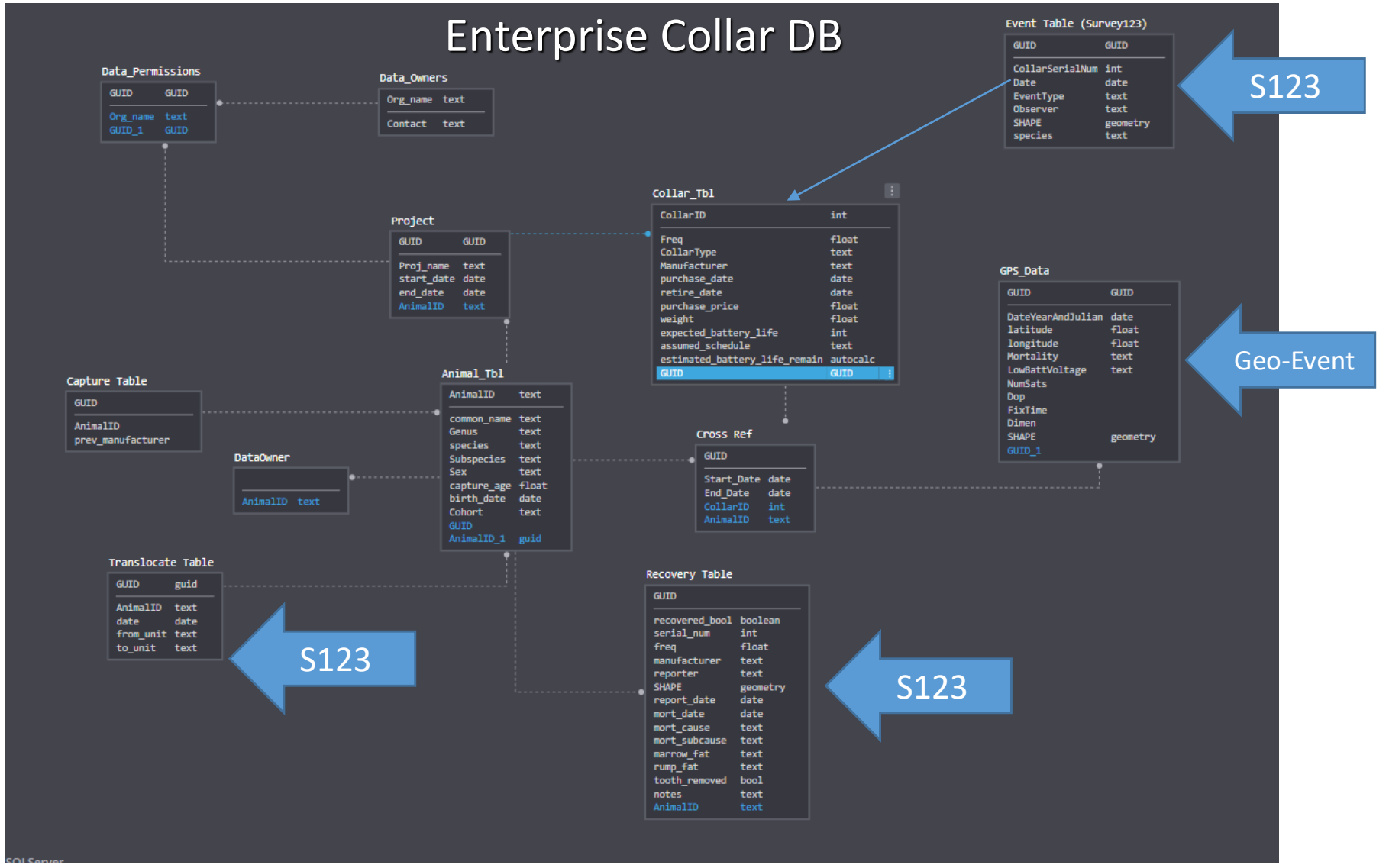
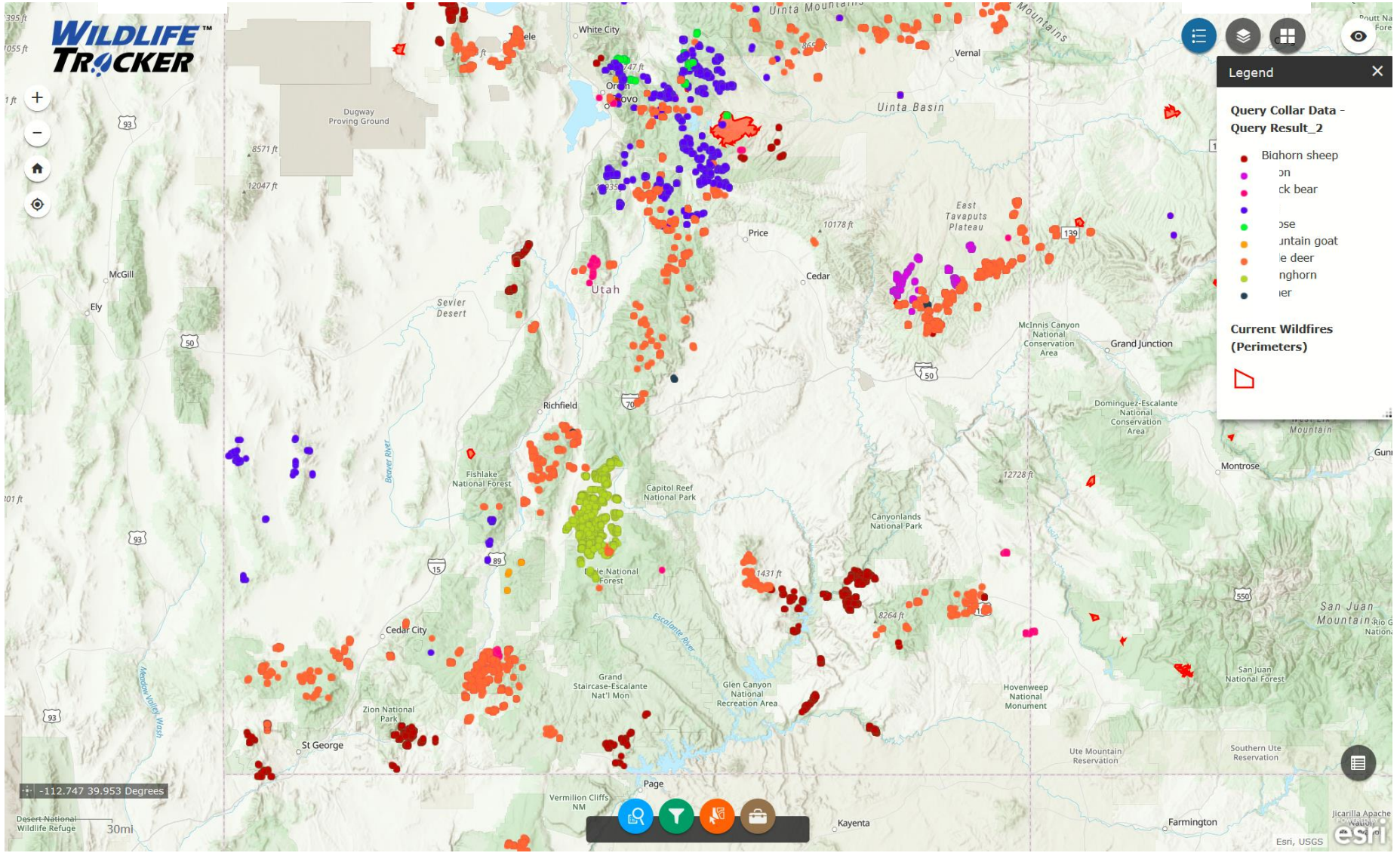


WILDLIFE TRACKING



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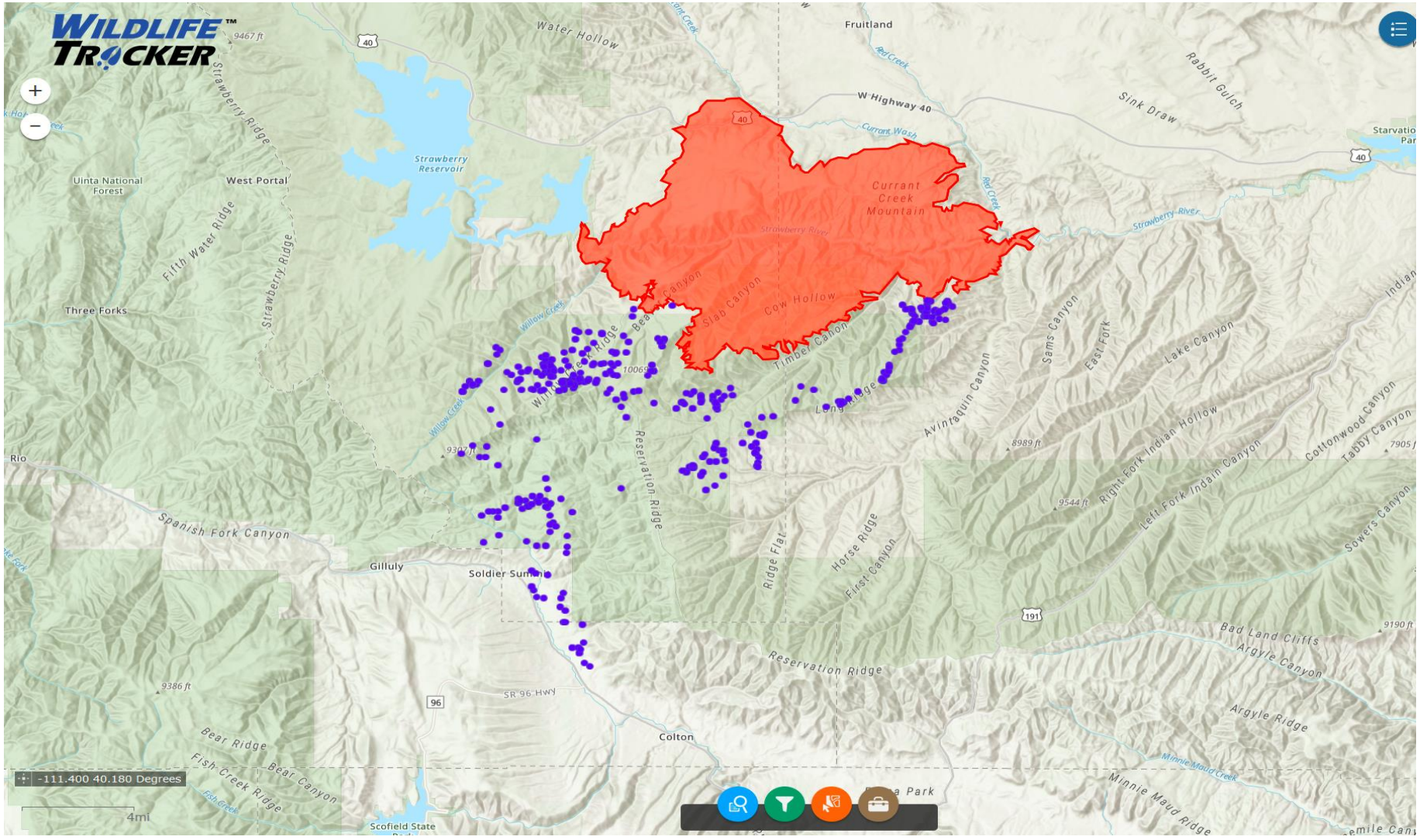


WILDLIFE TRACKING

Migration Initiative Goals

- Better document movement corridors
- Build partnerships (financial)
- Improve data management & sharing
- Create compelling outreach and visualizations

WILDLIFE TRACKING

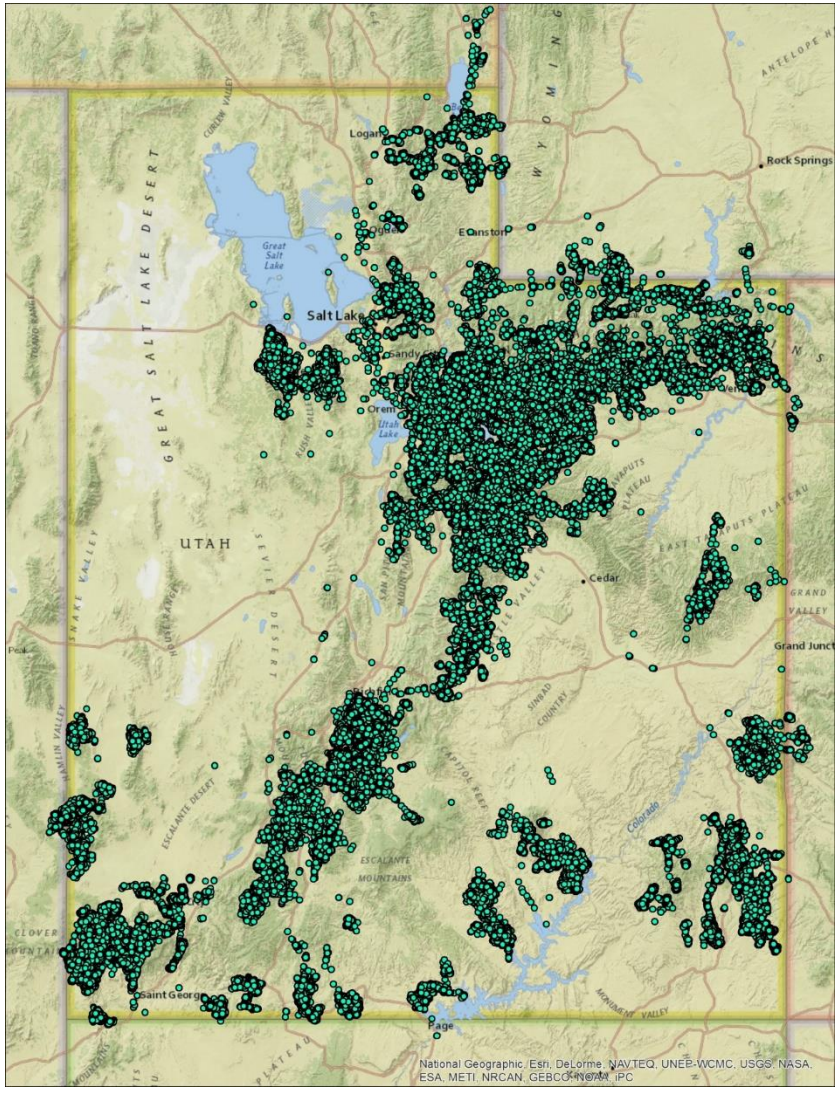
So What????

How do we really get stakeholder “buy-in”?

Compelling Outreach..

WILDLIFE TRACKING

This IS NOT Compelling Outreach..



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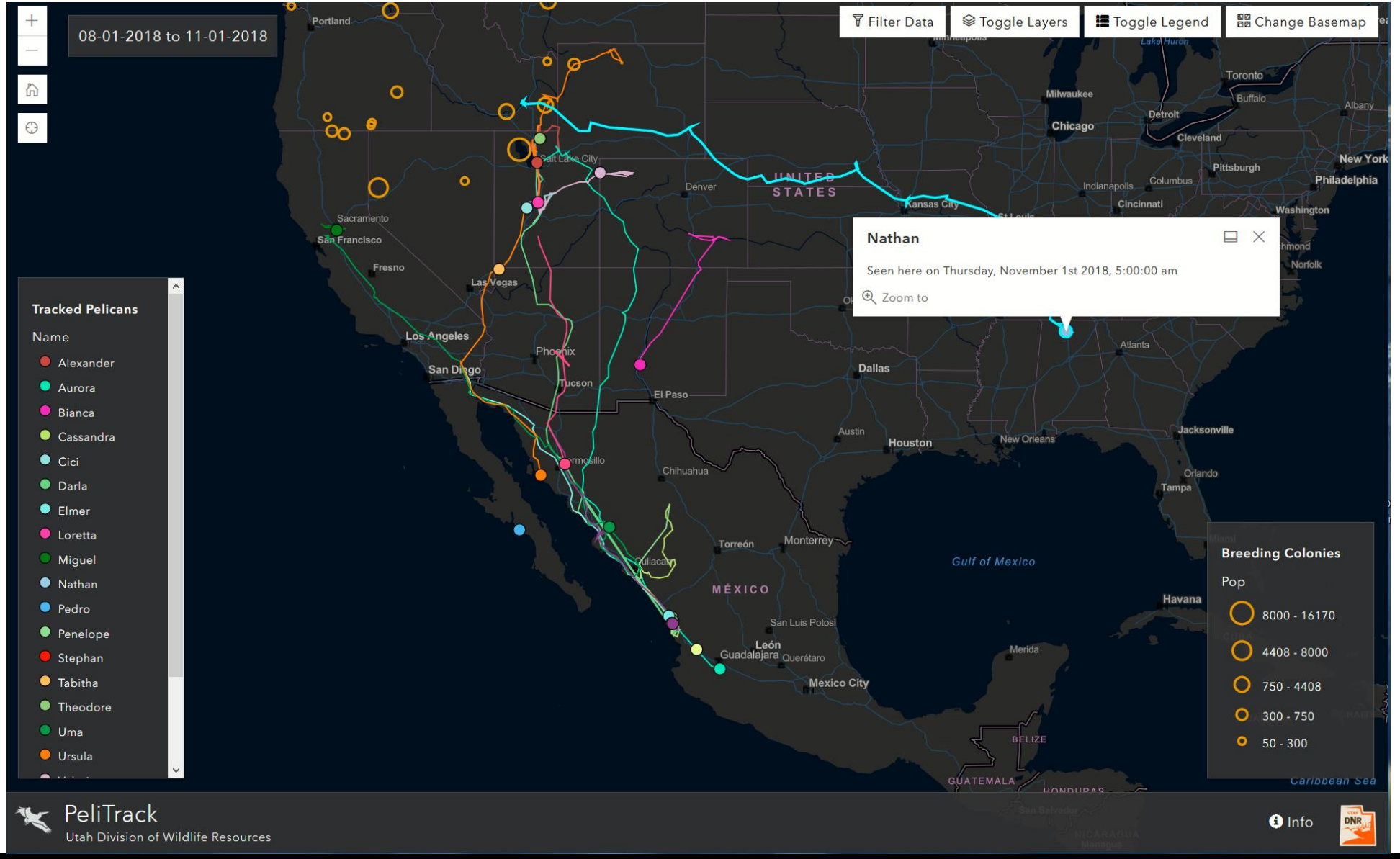

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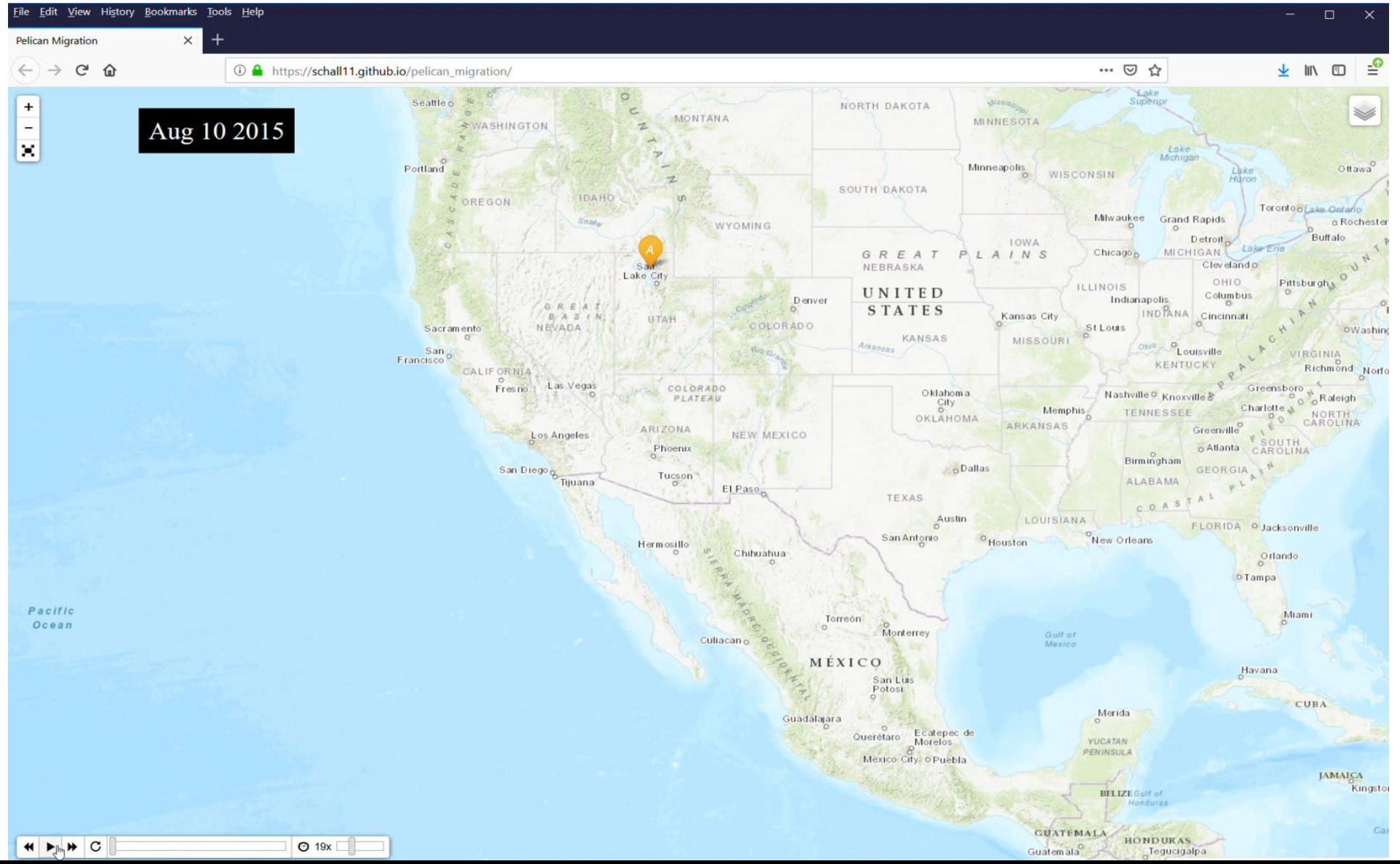


WILDLIFE NEED TO MOVE

WILDLIFE TRACKING

What Does Success Look Like?

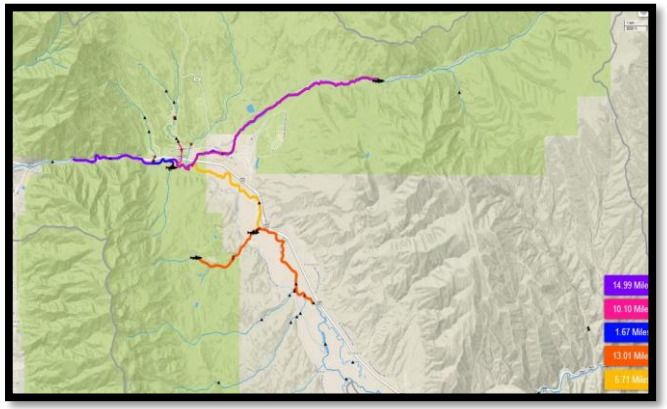
- **New technologies (i.e., GIS, data management, analysis) have advanced:**

  1. Data integration – Greater efficiency and effectiveness with data collection, storage and analysis.

  2. Better Decisions - informing, planning and implementation of management actions to address migratory needs of wildlife

  3. Tell a better story to the public with our data

  4. Stronger credibility, better partnerships (money)



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