

## ABR's GIS Division

ABR employs state-of-the-art software and hardware for a variety of GIS and remote sensing mapping needs. This includes comprehensive avian surveys using both point counts and radar technology. Our GIS Department has extensive experience in managing the resulting data and displaying it in a scientifically useful and cartographically attractive format. We use a variety of GIS systems on multiple stations including ArcGIS, Arc/Info, ArcView, ER Mapper, Erdas Imagine, Feature Analyst, and AutoCAD. Our experience with remote sensing formats includes high-resolution aerial photography, IKONOS, Landsat, SPOT, MODIS, QuickBird, Lidar, and AVHRR imagery.

ABR routinely produces maps of high technical and artistic quality. Our combination of field and technical experience allows us to effectively integrate scientific knowledge with spatial information.

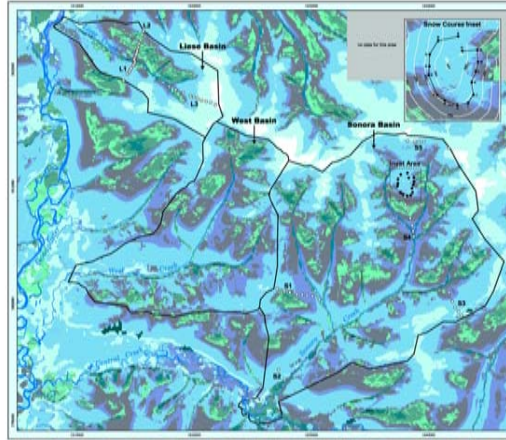
## About ABR

ABR, Inc., is an environmental research and services business with over three decades of experience (since 1976). Our goal is to provide objective, science-based consulting services within a socially and environmentally responsible work environment to those who conserve, manage, or develop natural resources. Our services have benefited a diverse group of clients, including the oil and gas industry, utility and mining companies, federal and state resource management agencies, timber and engineering firms, the private sector, and educational institutions throughout North America and overseas. ABR can custom design services to meet our clients' needs.

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# GIS Services



Alaska • Oregon • Massachusetts

## Ecological Land Classification

### Satellite Image Analysis

### GPS/GIS Map Control

### Controlled Photo Mosaics & Orthophoto Mosaics

### Ecological & Habitat Modeling

### Telemetry Mapping & Analysis

### Spatial Analyses

### Change Detection

### Geodatabase Design

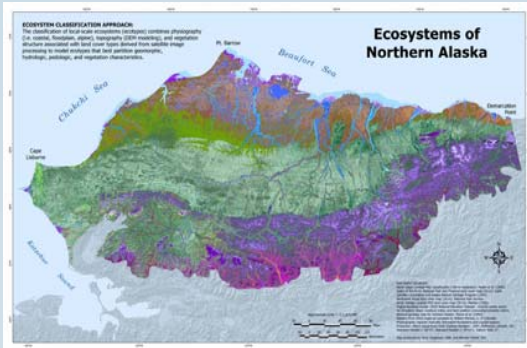
### Cartography



Environmental Research & Services

# Projects and Products

## Ecological Land Classification

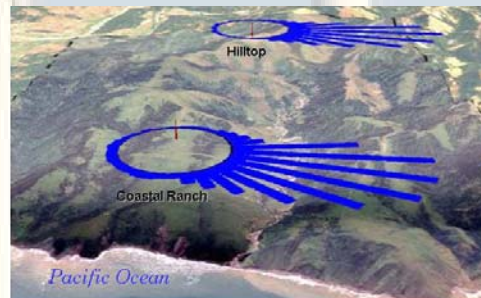
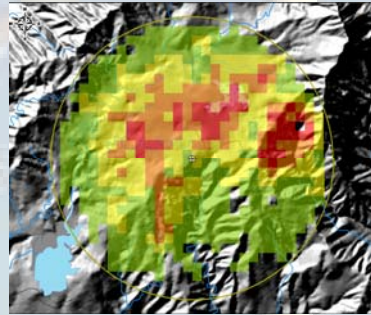


**Ecological and habitat classification and modeling** combines physiography (i.e., coastal, floodplain, alpine), topography (DEM modeling), and vegetation structure associated with land cover types derived from satellite image processing to model ecotypes that best partition geomorphic, hydrologic, pedologic, and vegetation characteristics. ABR coproduced this map with The Nature Conservancy and received first place in the digital cartographic category at the 39<sup>th</sup> Annual Alaska Surveying & Mapping Conference (2005).

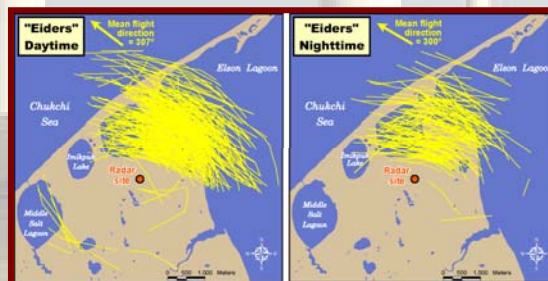
## Wetlands Mapping

**Wetlands Mapping Along the Proposed Trans-Alaska Gas System (TAGS) Corridor.** ABR field-verified preliminary wetland mapping and collected jurisdictional field data which was entered into a relational database. Final mapping was accomplished digitally using Arcview. Working with YPC and others, ABR identified ways to avoid, minimize, and mitigate impacts to wetlands.

## GIS Visualization of Bird Movement

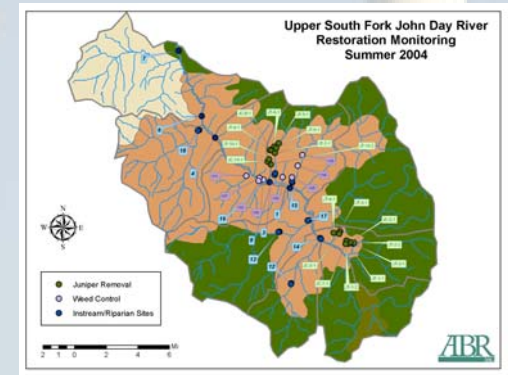


**Bird flightlines are converted to geographically referenced lines and points** to allow biologists access to more detailed information about the spatial location and movement of threatened species. This information helps determine if there are locations where wind turbines, for example, can be installed to minimize collision risk.



## Restoration Effectiveness Monitoring

In 2004 and 2006, ABR performed monitoring of riparian and upland restoration sites in the South Fork of the John Day River, near Izee, OR. These sites were placed in order to create a long term record of the effect of riparian planting and upland juniper removal on stream and upland vegetation ecology.



## Watershed Assessments

ABR has performed watershed assessments in the Pacific Northwest for public and non-profit clients. These documents compile all existing data for a watershed and allow managers and the public to see all of the constraints upon a basin. Managing and displaying these data is an important component of the assessment process.

## Land Rehabilitation

**GIS Support for Abandoned Exploration Sites, North Slope, Alaska (2003)** ABR created a process for linking progress reports, rehabilitation plans, remedial action plans, site photographs, and other correspondence to a GIS database that includes all the oilfield sites of interest. The product was produced on CD in a format that could be easily accessed by a number of user groups.