



ENGINEERING • PLANNING • ENVIRONMENTAL SCIENCES

## Natural Resources

*Fish*

*Marine mammals*

*Wildlife (mammals, birds,  
reptiles, amphibians)*

*Invertebrates*

*Biodiversity*

*Forest resources*

*Plants*

*Weeds*

## Physical Resources

*Minerals*

*Floodplains*

*Surface and ground water*

*Water quality*

*Soils*

*Geology*

## Social Resources

*Socioeconomics*

*Tribal treaty rights*

*Environmental justice*

*Cultural resources*

*Aesthetics/visual resources*

*Transportation*

*Public services and utilities*

*Land uses*

*Subsistence*

*Roadless*

*Wilderness*

*Human health and safety*

*Recreation*

*Noise*

# Resource Management Planning

Resource management plans (RMP) and associated programmatic environmental impact statements (EIS) form the basis for large scale and long term natural resource management planning. Parametrix prepares RMPs and programmatic EISs, mostly for federal and state agencies and tribes. We are experienced in watershed and basin planning, subbasin reviews, land management plans, recreation master plans, special management designations, and highway corridor planning.

Associated programmatic EISs require a rigorous alternatives analysis using screening criteria and a legally defensible approach for selecting a reasonable range of alternatives from the full range identified by the public and affected agencies/stakeholders. Parametrix uses geographic information systems (GIS) to model alternative effects on wildlife and other natural resources. We compile GIS databases from federal and state data sources for single projects often encompassing more than 500,000 acres and several states.

Other wide scale issues addressed in RMPs prepared by Parametrix include cumulative effects (often a GIS exercise for resources directly affected by the proposed action), global warming, sustainability, use of adaptive management concepts, and monitoring.

## Project Examples

### Statewide Oil and Gas Leasing SEIS – Miles City, MT

Parametrix is supporting preparation of this court ordered statewide SEIS for a proposed amendment of the Power River and Billings RMPs. The SEIS focuses on phased development for coal mines, coalbed methane exploration and production, and Indian trust resource issues.

### Puget Sound Region Hatchery EIS – Puget Sound, WA

Parametrix is responsible for this programmatic EIS evaluating the effects of two RMPs and 117 salmonid hatchery and genetic management plan (HGMP) programs on threatened, endangered, and sensitive fish species in the Puget Sound. Effort involves scoping, alternative development, and preparation of the EIS.

### Miles City RMP and EIS – Miles City, MT

Parametrix is the EIS task leader and is responsible for multiple disciplines of this programmatic EIS encompassing the eastern half of the state of Montana. We are coordinating an extensive 17-county public involvement and cooperating agency program; completing alternative modeling and GIS resource analysis; and preparing the scoping report, resource reports, and EIS.

### Snake River Recovery Plan – WA

Parametrix was responsible for developing recovery plan documents for Endangered Species Act-listed salmon and bull trout species in the Lower Snake River. These documents included portions of the recovery plan and initial background sections, status report of planing targets for populations of listed salmonid species and criteria biological and technical conditions report.

### Southeast Washington Subbasin Planning – Walla Walla, WA

Parametrix developed subbasin plans for the Asotin Creek, Lower Snake Mainstem River, Tucannon River, and Walla Walla River subbasins. The plans provide a watershed vision, biological objectives, and strategies for selected fish and wildlife species.

## Little Salmon Subbasin Review – Payette National Forest, ID

Parametrix was responsible for preparation of discipline sections of a subbasin plan concerning forest land management planning of 400,000-acres including Payette and Nez Perce National Forests, lands managed by BLM, and private property. The purpose of the subbasin review was to determine the current status of the ecosystem (relative to historical conditions), the risks to its status from natural events and management actions, and opportunities to conserve and restore the ecosystem.

## Encebado Fire Rehabilitation – Taos Pueblo, NM

The Encebado Fire of 2003 burned approximately 5,000 acres of mixed-conifer forest in the steep mountain hill slopes above Taos Pueblo. Parametrix conducted a qualitative assessment of hill slope stability, river channel and riparian condition, and evaluated the potential affects of hydro-mulch (a soil stabilizer) that was aerially applied as a burned area emergency response treatment immediately after the fire. We used observations and data from the assessment to prescribe supplemental hill slope stabilization and watershed rehabilitation locations and treatments.

## Wells, Rocky Reach, and Rock Island HCPs and EIS – Chelan and Douglas Counties, WA

Parametrix prepared the EIS associated with three dam-associated habitat conservation plans (HCP) located in the mid-Columbia River. Primary issues involved upstream and downstream fish passage, dissolved gas supersaturation, water temperature, predation, and the effects of dams and reservoirs on spawning and rearing habitat.

## Road Maintenance and Abandonment Planning EIS – WA

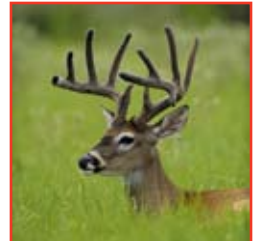
Parametrix prepared a draft and final programmatic SEPA EIS that evaluated the effects of proposed modifications to rules governing road maintenance and abandonment planning for small forest landowners throughout the state of Washington. The existing permanent rules were developed in 2001 and placed an excessive burden on forest landowners who do not generate substantial income from timber harvest on their lands.

## Montana Forested Trust Lands HCP EIS – MT

Parametrix is completing an HCP and programmatic EIS for a project term of 50 years that involves threatened, endangered, and sensitive mammals (grizzly bear, Canada lynx, fisher, wolverine, wolf), birds (northern goshawk, bald eagle, black-backed woodpecker, pileated woodpecker, flammulated owl) and fish (redband trout, bull trout, and cutthroat trout) on more than 700,000 acres of Montana state trust lands. The project involves extensive alternative development with screening criteria, negotiations between state and federal agencies, and substantial GIS analysis for wildlife modeling, alternative development, and resource analysis, including support for the USFWS biological opinion.

## BIA Range Vegetative Survey – NM

Parametrix is conducting a range vegetation survey for the Acoma, Isleta, and Zia Pueblo Indian Reservations. We are categorizing habitats according to the NRCS eco-site descriptions and sampling a representative number of transects within each eco-site. We will determine the range condition, make recommendations for improvement, and develop livestock stocking rates.



### OFFICE LOCATIONS

**Colorado**  
Denver

**Idaho**  
Boise

**New Mexico**  
Albuquerque  
Las Cruces

**Oregon**  
Albany  
Portland

**Washington**  
Bellevue  
Bremerton  
Lacey  
Sumner

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