



## Fish and Wildlife Genetics

FY 2009 President's Budget

### ISSUES

Climate change, fire, fuels treatments, invasive species, urbanization, and other activities all potentially affect our socially, economically, and culturally important fish and wildlife species. Thus, monitoring fish and wildlife populations becomes a critical task that National Forest managers undertake. Molecular genetics can become the most reliable, defensible, and efficient way to monitor these natural resources.

### IMPORTANCE

We are legally mandated to use the best available science to monitor our fish and wildlife populations. Genetic monitoring offers the best available science in a cost-effective manner.

### FUTURE PLANS

The wildlife genetics capability in the Wildlife and Terrestrial Ecosystems Science Program has quickly become a national resource for the direct needs of the Forest Service and many national and international partners. In the past 3 years, the genetics group has been asked to participate on over 50 projects in the United States and abroad. This has led to multiple publications, some in high-profile journals, such as *Nature*, *Biology Letters*, and *Trends in Ecology and Evolution*. In addition, the popular press and national media have covered our work. The potential benefits of genetic research and monitoring are great; however, there are currently no other federal, state, or private labs in the United States with the expertise, interest, and facilities to support Forest Service management activities. We seek to bolster our program to meet these needs.



### EXPECTED OUTCOMES

The need for genetic monitoring tools will rapidly increase over the next decade. Rocky Mountain Research Station (RMRS) has taken the following steps to take the lead in the field of fish and wildlife genetics to ensure our partners, collaborators, and clients all have access to state-of-the-art information. We have:

- Established a world-class genetics capability that has at its core a molecular genetics facility.
- Assembled world leaders in the field of genetic monitoring to further the field's development and make these technologies more accessible to managers worldwide.
- Submitted several large-scale (i.e., West-wide) grants that propose to establish cost-effective monitoring of both fish and wildlife.
- Prepared to lead conservation genetics centers of excellence with university partners.