# Fisheries and Aquatic
# Sciences Technology Transfer Program
## Forest Service Regions 1,4,6 & RMRS

| Research | Technology Transfer | Science Application |
|---|---|---|

## Key Products and Services:

- Organize and contribute to workshops, lecture series and other presentations to educate technical specialists, managers and the public.

- Maintain a strong web presence for awareness and ready access to RMRS fisheries and aquatic science and development.

- Respond to field unit requests for help.

- Develop and participate in conservation education activities to connect kids, their teachers and parents to science and management that influences natural resource use and conservation.

- Facilitate researcher-manager roundtables to define needs for research and tool development.

- Initiate consultations to connect research and development to Forest Plan revision, sub-basin assessments, watershed analyses and management of project NEPA.
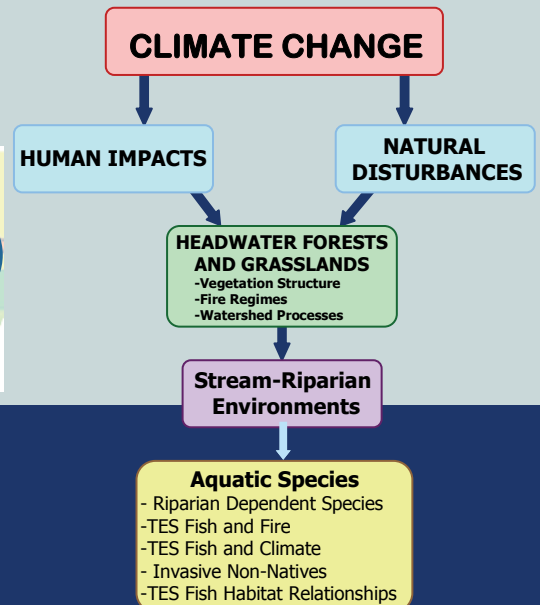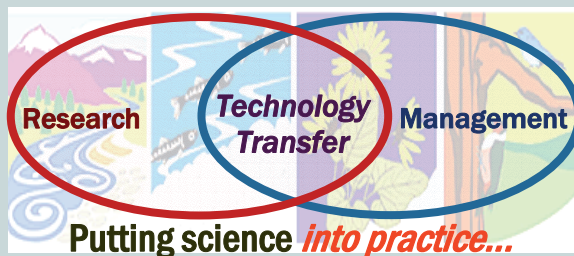
## Challenge

Uncertainty is a source of cultural tension between scientists and land managers. Scientists often push for clear results, and objective decisions based on quantification of uncertainty. Managers often must act with little information and subjective estimates of trade-offs for different actions or inactions. Improving the communication between researchers and managers is essential to meet our two primary objectives:

1) Provide timely awareness and delivery of relevant knowledge, technical tools and procedures to assist land managers and practitioners while addressing current and emerging information needs.

2) Ensure researchers and managers are working together to define knowledge gaps and the key priorities in research, development and procedures to support an effective and efficient decision process.
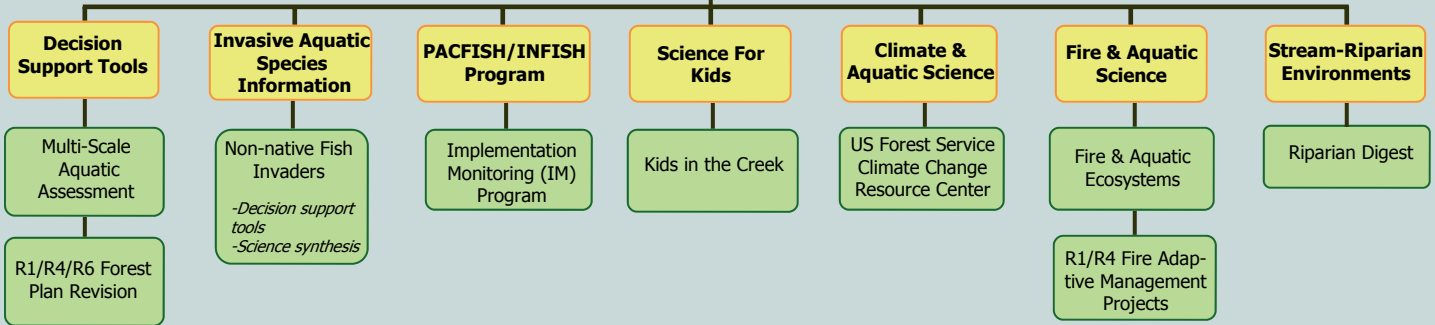
## Context

Guaranteeing that land managers have access to the most current science findings and tools relevant to the decisions they make has been a goal for as long as the Forest Service has existed. The need for science-management integration has grown with the increasing complexity of the agency's legislative mandates and the intensity of public interest. Achieving such integration is more vital than ever to the agency's mission. The new forest planning regulations emphasize science-based decision-making and create an expectation that we must deliver. Our goal is to further enhance collaboration among researchers, technology developers, and managers to produce more informed management and research decisions.

*The model on the right describes the current and future program "components" and "lines" of research (cause & effect, interactions) that will be focused on for technology transfer and science application.*



**Putting science** *into practice...*



**CLIMATE CHANGE**

→ **HUMAN IMPACTS**

→ **NATURAL DISTURBANCES**

**HEADWATER FORESTS AND GRASSLANDS**
-Vegetation Structure
-Fire Regimes
-Watershed Processes

**Stream-Riparian Environments**

**Aquatic Species**
- Riparian Dependent Species
-TES Fish and Fire
-TES Fish and Climate
- Invasive Non-Natives
-TES Fish Habitat Relationships

Air, Water &
Aquatic
Environments
Science
Program

## R1/R4/R6/RMRS FISHERIES TECHNOLOGY TRANSFER PROGRAM ACTIVITIES & PROJECTS

**Decision Support Tools**
- Multi-Scale Aquatic Assessment
- R1/R4/R6 Forest Plan Revision

**Invasive Aquatic Species Information**
- Non-native Fish Invaders
  - -Decision support tools
  - -Science synthesis

**PACFISH/INFISH Program**
- Implementation Monitoring (IM) Program

**Science For Kids**
- Kids in the Creek

**Climate & Aquatic Science**
- US Forest Service Climate Change Resource Center

**Fire & Aquatic Science**
- Fire & Aquatic Ecosystems
- R1/R4 Fire Adaptive Management Projects

**Stream-Riparian Environments**
- Riparian Digest

## Actions

The Fisheries Technology Transfer Program *"focus areas"* listed below were developed through numerous **manager-researcher interactions** and **agency/station priorities**:

• Provide managers with emerging knowledge and tools on the **effects of climate change** and **fire and fuel management** on threatened, endangered and sensitive native fish, aquatic communities and ecosystems.

• Manage the **PACFISH/INFISH Implementation Monitoring** Grazing Database Module to collect, store and retrieve adaptive-management monitoring data for assisting the Interior Columbia River Basin (ICRB) field units and Deputy Team in applying the ICRB Aquatic Conservation Strategy and Biological Opinions.

• Apply the **Multi-Scale Aquatic Assessment and Planning Framework**, a web based hierarchical-hyperlinked decision support tool, to link the best available science, tools, procedures and databases in support of the objectives for fine-scale to broad-scale assessments and planning most currently used for forest, sub-basin, watershed and project Aquatic Conservation plans.

• **Connect urban youth with their local environment** by creating an interest in outdoor science and increasing understanding about their connection to watersheds and ecosystems.

• Conduct consultations and workshops to apply the best available science and **decision support tools** to address **non-native fish invasions.**
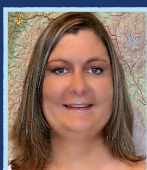
## R1/R4/R6/RMRS Fisheries Technology Transfer Team

**Kerry Overton**
R1/R4/R6/RMRS Technology Transfer Program Leader

**Gwynne L. Chandler**
Fisheries Biologist/Database Analyst, Technology Transfer Team, PACFISH/INFISH IM program

**Sharon Parkes**
AWAE and Boise Lab Webmaster, GIS Specialist

**Bruce Rieman**
Emeritus Fisheries Research Scientist Fish/Fire/Climate Change Technology Transfer /Science Application

**Angelica M. Vicente**
R1/R4/R6 /RMRS Technology Transfer Technician

**Cristina Watson**
R1/R4/R6/RMRS Fisheries Technology Transfer Conservation Education Program, Science for Kids