**NPS**

**PROJECT SUMMARY**

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| **Cooperative Ecosystem Studies Unit****Cooperative Agreement Modification**  |
| FUNDING AGENCY:**National Park Science**  |
|  MODIFICATION NO.: **[ insert # ]**  | COOPERATIVE AGREEMENT NO.:**1200-99-009** |  FUNDING AMOUNT: $ **83,725** |
| INVESTIGATORS Contact Information: **[please list all CO-Pis contact information]****David Cooper (970) 491-5430Co-Pis: Edward Gage , Joyce Cacka**  |
| PROJECT TITLE:**[ insert title ]****Investigating Constraints & Opportunities for Riparian Willow Establishment**  |
| EFFECTIVE DATES**:[start/end date]**4/01/00 through 5/01/02 |
| PROJECT ABSTRACT:**[� insert short description of project ]****There are four primary components to current research. These include: 1) A hydrologic analysis of the study sites in order to determine areas of suitable willow habitat.� 2) A study to determine the date of past willow establishment and the types of geomorphic surfaces that willows established on, stream flow characteristics during the year of establishment, and mode of past willow establishment.****3) An analysis of the physical and biological constraints on willow seedling establishment. Specific factors being investigated include depth to ground water, soil texture, propagule dispersal, large ungulated herbivory.****4) Determination of where planted rooted and unrooted willow cuttings can occur.**  |
| **Agency Representative:**Ron Hiebert, NPSResearch CoordinatorCPCESUNorthern Arizona UniversityP.O. Box 5765Flagstaff, AZ� 86011-5765Tel: (928) 523-0877Fax: (928) 520-8223Ron.Hiebert@nau.edu  | **Agency Administration Representative**Lynell WrightBudget AssistantIntermountain Support OfficeDenver, CO� 80225-0287Tel: (303) 969-2654Lynell\_Wright@nps.gov | **Investigator:**David J. CooperDept. of Earth ResourcesColorado State UniversityFort Collins, CO 80523(970) 491-5430dcooper@rmi.net | **Partner Admin. Contact:**Carmen MoralesSr. Research Admin.Sponsored ProgramsColorado State UniversityFt. Collins, CO 80523(970) 491-6684cmorales@research.colostate.edu |
| ***List of Key Words: [Insert key words]***  |
| ***Agency Manager contact information @ Specific Park****:**Rocky Mountain National Park*  |
| *Annual Report Received:**Final Report Received:**Publications on File:*  |
| *This Modification is subject to all the provisions included in the Cooperative Agreement,****dated 6/22/99.***  |
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*Attach any supporting material as necessary.*