

**DRAFT**  
**Work Plan for Fiscal Year 2007**  
**(3-9-07)**

**I. Program Title. Land Retirement Program (LRP), CVPIA Section 3408(h)**

**II. Responsible Entities.**

|  | Agency | Staff Name        | Role                       |
|--|--------|-------------------|----------------------------|
|  | USBR   | Stephen Lee       | Co- Lead Hydrologist       |
|  | FWS    | Bea Olsen         | Co-Lead Wildlife Biologist |
|  | BLM    | Steve Laymon, PhD | BLM-Agency Representative  |
|  |        |                   |                            |

**III. Program Objectives for FY 2007**

**A. Land Acquisition**

Interior will continue to purchase land from willing sellers within the Demonstration Project areas up to the targeted 15,000 acres and remove it from irrigated agriculture. For FY 2007, the Land Retirement Program will focus on completing the realty process begun in FY2006 for targeted acquisitions in the 8000-acre Atwell Island site. Approximately 900 acres are needed to meet this target.

**B. Monitoring physical and biological impacts of retiring land**

Pursuant to the Service's Endangered Species Act Biological Opinion September 1999 for the CVPIA Land Retirement Program Demonstration Project (LRDP), five years of monitoring are required to evaluate the potential biological and physical impacts of land retirement. Monitoring physical impacts includes groundwater level, water quality, and soil chemistry. Biological monitoring requires measuring selenium levels in vegetation and wildlife. Completion of monitoring at Atwell Island site for physical impacts will occur in FY 2007. Reports of monitoring will be completed in 2008, distributed and posted on the CVPIA Land Retirement website.

**C. Land Management Plan Preparation**

The BLM and FWS team members will develop a Resource Management Plan and corresponding NEPA documents for land management Atwell Island. Mapping of the Project Site will be done with updated GIS efforts and data bases.

**D. Restoration of Upland Habitat**

For FY 2007, BLM will continue restoration activities that build upon past restoration efforts, while still testing new methods. The annual restoration target is 400 acres per year. To date, a variety of methods are used to restore upland habitat with native San Joaquin Valley plants. Information on restoration techniques conducted at both sites continues to be disseminated. In 2007 the Endangered Species Recovery Program (ESRP) and the Denver Reclamation Technical Services Center (TSC) will finalize a synthesis of restoration activities of the LRDP. The Land

Retirement Team, BLM and ESRP will employ a variety of outreach efforts to make the research and restoration results known. Grazing trials will be developed and established by TSC.

#### **E. Native Plant Nursery Facility**

Activities at the Tranquillity site in Fresno County will comprise the continuation of the native plant nursery and seed processing, additional weed control restoration research trials and site maintenance. Installation of Wildlife Friendly Farming Units will continue via a partnership with the Westside Resource Conservation District.

### **IV. Status of the Program**

#### **A. Land Retirement Program Objectives and Initiation of LRDP**

The objectives for the Land Retirement Program are outlined in CVPIA, Section 3408(h) and are described in the Land Retirement Program Interim Guidelines (revised Nov. 1998). The SJV Drainage Program (1990) estimated that between 460,000 to 554,000 acres of irrigated agricultural land might be abandoned by 2040 if no action was taken to control drainage problems. One recommended management action to control drainage problems was the selective retirement of irrigated lands that were characterized by low productivity, poor drainage, and high selenium concentrations in shallow groundwater. The identified target acres in the San Joaquin Valley totaled 75,000 acres: 3,000 acres in Grasslands Subarea, 33,000 acres in Westlands Subarea, 7,000 acres in Tulare Subarea and 32,000 acres in Kern Subarea.

Before a large-scale CVPIA Land Retirement Program could be started, the FWS Biological Opinion required that a demonstration project monitor land retirement impacts for five years. An EA for the 15,000 acre Land Retirement Demonstration Project (LRDP) was approved in 1999 to study the physical and biological impacts. The ROD for the CVPIA PEIS further committed to completion and use of a 15,000 acre demonstration project that would “provide guidance for future implementation of the overall retirement program, better providing for its adaptive management and resulting in a more effective and efficient overall retirement program”.

#### **B. Land Retirement Program Actions**

In 1997, Interior via the CVPIA Land Retirement Program (LRP) solicited offers for voluntary land retirement from willing sellers, within the drainage-impacted area. A total of 80 applications were received as of September 1, 2002, amounting to approximately 55,000 acres. Even in the early years of the program when land prices were lower, this response far exceeded available funding every year. In November 1999, Interior established the CVPIA Land Retirement Demonstration Project (LRDP). This project of 15,000 acres has provisions for approximately 7,000 acres targeted for retirement in western Fresno County (Tranquillity project area), 1,600 acres in southeastern Kings County and approximately 6,400 acres in southwestern Tulare County (Atwell Island project area). From 1993 to date, the CVPIA Land Retirement Program has acquired 9055 acres. The Atwell Island Project Site is managed by BLM; Reclamation manages the Tranquillity site.

#### **C. Demonstration Project Establishment**

The Land Retirement Demonstration Project was established at two sites in the San Joaquin

Valley: Tranquillity in the Westlands Water District and Atwell Island Water District in the Tulare Basin. The metrics, derived from the 1999 Biological Opinion performance criteria included selenium contaminant levels in biota and physical parameters such as groundwater levels, water quality and soil chemistry. The Habitat Restoration Study plots were laid out in 1999 on 800 acres, such that twenty 10-acre plots were each located in the center of a 40-acre block with the 30-acre remainder buffer planted in barley to isolate the plots. At Atwell Island, plot size was reduced to 2.5 acres within 10-acre blocks when installed in 2001. At both study sites, four treatments were replicated five times in a randomized block design. The treatments consisted of seeding and planting of native plants; installing earthen berms to create micro-topographic contours; seeding and planting native species and installing contours; and control.

#### **D. Monitoring Results Demonstrate Benefits**

Five years of results clearly show that retiring land from irrigated agriculture has physical and biological benefits. These results are applicable to the majority of San Joaquin Valley acres having similar characteristics. The concept of a declining shallow groundwater table in response to land retirement is supported by the results that found a 1 to 2 foot decline per year. This result is important as the shallow groundwater beneath the project sites consists of highly saline water with high concentrations of selenium and boron. The decline insures that any wildlife contact with it is highly unlikely. Soils were found to consist primarily of poorly drained clays and loams with elevated levels of salt, selenium and boron.

Land retirement has led to increased numbers of a diversity of wildlife. Increased invertebrate species and abundance have included parasites and predators of agricultural pests as well as beneficial pollinators. Bird species diversity and abundance increased across all treatments immediately following restoration efforts and included special status species. Land retirement has not resulted in increased levels of bio-accumulated selenium. Selenium concentrations in vegetation, invertebrates and mammals have not changed significantly over the study period to date. All selenium levels measured are below concentrations of concern to EPA and USFWS at both study sites.

At Atwell Island, BLM has now done restoration activities on 1535 acres and planted 119.5 miles of hedgerows. A number of sensitive San Joaquin Valley wildlife species, including kit fox, loggerhead shrikes, burrowing owls and Tipton's kangaroo rat have been observed using these restored areas. At Tranquillity, ESRP established a unique San Joaquin Valley Native Plant Nursery with over 100 species. The USDA Natural Resources Conservation Service Plant Materials Center has helped research growing some of these under mechanical means. Trials focusing on weed competition control, the major challenge in successful upland habitat restoration, were initiated in 2004 and will continue through 2007.

#### **V. FY 2006 Accomplishments: Land Acquisitions, Restoration, Reports, Partnerships and Out-year Actions**

### **A. Land Acquisitions in FY 2006**

Land acquisition at Atwell Island is focused on the inclusions within the already acquired acres. Letters were sent to all landowners of record for parcels within the Atwell Island Water District in either Tulare or Kings Counties. Approximately 38 acres have accepted offers and 20 acres have offers pending. An appraisal has been requested for a 193-acre parcel. A Department of Justice opinion is pending on another parcel of approximately 639 acres and should be out the second week in August.

Land acquisitions at both the Tranquillity and Atwell Island Project Sites have to date resulted in 9,055 acres being acquired. Of those lands, 8,345 acres are retired from irrigated agriculture or have reduced drainage.

### **B. Restoration accomplishments for FY 2006**

Evaluation of upland habitat restoration techniques is ongoing at both sites. No one “recipe” will fit all soil types or be successful in a given rainfall year. Many variables are being evaluated and recommendations being formulated. Successes at the Atwell Island site are being adapted to future plantings. Monitoring of these efforts contributes to this adaptability.

In FY 2006 at Atwell Island, BLM performed restoration activities on 416 acres. Restoration actions included: 210 acres burned and seeded with natives; 2 acres of sacaton grass plugs; 40 acres wildlife crops; 50 acres interplanting with *Isocoma*; 14 acres of seeding on a sump with iodine bush and *suaeda* seed; 20 acres shrub seeding; 10 acres of disking and native seed; and 70 acres of agricultural flaming and seeding. Sites are currently being monitored by BLM to determine the long-term success of these and previous years’ plantings. The prolonged rainy season in 2006 produced prominent floral displays.

At Atwell Island BLM wildlife surveys of sensitive plants and animals resulted in important findings. Observers found: a population of the endangered Tipton’s Kangaroo Rat; a breeding population of 33 pairs of the sensitive Burrowing Owls; a breeding population of the sensitive Coast Horned Lizards; a population of the sensitive San Joaquin Valley Coachwhips; a breeding population of Swainson’s Hawks; and a population of a sensitive plant, Hoover’s Woollystar. The Atwell Island wildlife sighting database now contains over 9500 observations. BLM developed plant and animal lists and a photo-illustrated flora for the Atwell Island project area.

Site management at Tranquillity by ESRP focused on maintenance of the 100 native plant nursery facility. The work included site preparation, pre-planting weed control, planting; construction of exclosures and ongoing weeding, seed collection, and mowing. The seed cleaning for 2005 harvest was completed. The 2006 harvest is being dried and stored. A series of illustrated “manuals” regarding proper use of the equipment and seed cleaning protocols for different native plant species continues to be developed. ESRP provided 1,750 pounds of native seed from the facility that were planted in two wildlife units in partnership with the Westside RCD. Sheep grazing continued as a way to control weeds and reduce fire

damage. Two restoration trials/demonstrations were installed at Tranquillity in collaboration with Dr. Ken Lair of TSC.

### **C. Reports in FY 2006**

Complete restoration to upland habitats found in the San Joaquin Valley could take many years to achieve, but the program's work has restored portions of the land and continues to adapt techniques to achieve desired habitat values. Selenium toxicity to wildlife was a concern on drainage impaired farmlands retired from irrigated agriculture in the San Joaquin Valley. Water, soil, and biota are being monitored on LRDP lands to comply with the Fish & Wildlife Service Biological Opinion requirements. The CVPIA Land Retirement website at [www.usbr.gov/mp/cvpia/3408h/index.html](http://www.usbr.gov/mp/cvpia/3408h/index.html) has information on the LRDP. Ancillary trials results are also available on the website, developed by ESRP, to the public and to cooperating agencies. Links are provided to the annual reports and the 5-year report. Monitoring results are used to inform decisions regarding large scale land retirement as a means to address agricultural drainage problems in the San Joaquin Valley. Two CSU Fresno graduate students were supported by ESRP to do work on pollinator population structure and on seed delivery methods for seven native plant species. They should be completing their thesis work in 2007.

### **D. Partnerships in FY 2006**

Due to the funding limits for this program, developing partnerships with farmers, non-governmental organizations, other agencies and educational groups has been pursued from the beginning of the Land Retirement Program. Critical to the success of the restoration activities at Atwell Island was the partnership BLM developed with cooperating farmers to carry out restoration activities. Other efforts by BLM and FWS centered on the continued efforts with the Tulare Lake Basin Working Group and the assistance provided to help establish Tulare Basin Wildlife Partners, an NGO which will be a cooperator on the project. BLM's community partnerships included the Tulare County Audubon Society; Alpaugh School District; Citizens for a Better Alpaugh; State Park Service – Allensworth SHM; USDA NRCS; USDA Forest Service (Trails Unlimited); and the Kern NWR.

### **E. Out-year actions**

Out-year actions for the Land Retirement Program are to:

1. Complete realty processes required for acquisitions on approximately 900 acres at Atwell Island.
2. Complete data collection, analysis and report for the five year study at Atwell Island.
3. Prepare an Atwell Island Resource Management Plan and associated NEPA documents.
4. Continue restoration on 400 acres, building upon the monitoring results from past restoration efforts, while still testing others.
5. Continue outreach efforts to other agencies, organizations and individuals interested in upland species and habitat restoration. Prepare a synthesis of trials and restoration results.
5. Continue the native plant nursery and seed processing, additional weed control restoration research trials and site maintenance at the Tranquillity.

## **VI. Tasks, Costs, Schedules and Deliverables**

### **A. Narrative Explanation of Tasks**

#### **1. Program Management.**

This program is managed as an interagency team with members from USBR, FWS & BLM. USBR and FWS are co-leads for program leadership, budgets and administration. The USBR co-lead is also a Hydrologist (1.0 FTE) and provides expertise on the physical impacts of land retirement research studies. He secures additional staff support from the USBR Sacramento Regional Office and Denver Technical Service Center. FWS and BLM team members provide agency coordination, land management planning and project management expertise. Program priorities are set jointly, as a team. The FWS cost estimate covers the FWS team member's salary (1 FTE) and additional staff support from the FWS California/Nevada Operations Office. The BLM cost estimate covers the BLM Site Coordinator in the BLM Bakersfield Area Office. Additional costs for BLM are included in the Interagency Agreement between BLM and USBR, which provides for additional BLM support for land acquisition, restoration and land management activities. BLM provides additional support in the way of equipment, office space, supplies and personnel at BLM's cost. BLM is not charging any overhead to this program.

#### **2. BLM Land Acquisition & Restoration**

Land acquisition at Atwell Island is focused on the inclusions within the already acquired acres. Letters were sent to all landowners of record for parcels within the Atwell Island Water District in either Tulare or Kings Counties. Approximately 38 acres have accepted offers and 20 acres have offers pending. An appraisal has been requested for a 193-acre parcel. A Department of Justice opinion is pending on another parcel of approximately 639 acres.

Restoration activities in FY 2006 will be done on 400 acres to add to the current 1535 restoration acres. Building on the monitoring results from past restoration efforts, new methods of restoring marginal farm land will be designed and trials initiated. These trials and the LRDP plots will be monitored for vegetation structure, small mammals, and contaminants (selenium). Cooperation on research projects with the Bureau of Reclamation's Technical Services Center and the Land Retirement Team will continue. A technology transfer program will be developed by BLM to disseminate useful alkali sink restoration techniques which have been developed on the project.

#### **3. Denver Technical Services Assistance (TSC)**

Restoration Research, Nursery Management, Soil and Groundwater Monitoring Support, Analysis and Reporting will be accomplished by Reclamation's Denver Technical Services Center. Restoration Ecologist Dr. Ken Lair will expedite refinement and continuance of research on: grazing, species adaptation, planting methods, weed control, plant selection, propagation, seed increase, plant materials supply for landscape-scale application, and

interagency development for commercial retail supply. Restoration research will include the continued sampling of research trials previously installed in 2005. Grazing trials will be designed and implemented as well. Soil and groundwater monitoring support, analysis and reporting will be provided as needed by TSC.

The TSC will manage a contract for the continuation of the native plant nursery and seed processing at the processing facility are important to the project and to the understanding of native plant propagation and its role in large-scale San Joaquin Valley restoration. For the over 100 species currently being grown, management will continue production such that seed can be available for the site and for prospective partners.

The primary task to be covered by the remainder of the ESRP contract will be the preparation of a project “synthesis” document in conjunction with TSC Restoration Ecologist and the dissemination of the information. Periodic updates to the project’s website, preparation of presentations for conferences, and publications in peer-reviewed journals will ensure that the information developed over the course of the LRDP will be available to the widest possible audience.

#### **4. Groundwater & Soil Monitoring**

Groundwater and soil monitoring at the Land Retirement Demonstration Project Sites will continue to be in compliance with the FWS Biological Opinion. Groundwater, surface water and soil samples will be collected and analyzed for constituents of concern as part of the LRDP.

#### **5. GIS Mapping Analysis**

GIS databases and maps for analysis of data collected in the past and current years of the LRDP will be developed.

**B. Schedule and Deliverables**

|     | <b>Task</b>                                      | <b>Start Date</b> | <b>Complete Date</b> | <b>Deliverable</b>  |
|-----|--|-------------------|----------------------|---|
| 1.1 | Program Management<br>USBR Staff,<br>Hydrologist | 10/01/06          | 09/30/07             | Program Administration,<br>USBR Agency Hydrologist (1.0 FTE),<br>Manages & reports physical impact(s)<br>monitoring program. Integrates all Project<br>efforts, resources, public outreach, &<br>responsibilities |
| 1.2 | FWS Staff  | 10/01/06          | 09/30/07             | FWS Agency Coordination (1.25 FTE),<br>Demonstration Project Coordination &<br>Management, Public Outreach,<br>Sacramento staff support.  |
| 2   | Land Acquisition<br>(BLM) &<br>Restoration (BLM) | 10/01/06          | 09/30/07             | Real property acquisition (processing,<br>appraisal, title co., cadastral review) &<br>restoration & monitoring activities.   |
| 3   | Denver TSC                                       | 10/01/06          | 09/30/07             | Restoration Research, Nursery Management,<br>Soil and Groundwater Monitoring Support,<br>Analysis and Reporting.  |
| 4   | Groundwater &<br>Soil Monitoring.                | 12/01/06          | 9/30/07              | Collect & analyze Groundwater, Surface<br>Water & Soil Samples.   |
| 5   | GIS Mapping and<br>Analysis                      | 10/01/06          | 9/30/07              | GIS Map Products and Analysis   |

**C. Summary of Program Costs and Funding Sources.**

| <b>#</b> | <b>Task</b> | <b>Total Cost</b> | <b>Funding Sources</b> |
|----------|-------------|-------------------|------------------------|
|----------|-------------|-------------------|------------------------|

|                             |  |                     | RF                  | W&RR |
|-----------------------------|--|---------------------|---------------------|------|
| 1                           | Program Management Costs (USBR, FWS, BLM)    |                     |                     |      |
| 1.1                         | USBR   | \$201,000           | \$201,000           |      |
| 1.2                         | FWS  | \$ 200,000          | 200,000             |      |
| 2                           | BLM Interagency Agreement/Land Acquisition   | \$ 635 ,000         | \$ 635,000          |      |
| 3                           | USBR Denver Technical Service Center Support | \$394,000           | \$ 394, 000         |      |
| 4                           | Groundwater & Soil Monitoring MP150          | \$50,000            | \$50,000            |      |
| 5                           | GIS mapping & analysis                       | \$ 20,000           | 20,000              |      |
| <b>Total Program Budget</b> |  | <b>\$ 1,500,000</b> | <b>\$ 1,500,000</b> |      |

#### D. CVPIA Program Budget

|     | Task                                | Direct Salary & Benefits Costs | Contracts Costs     | Miscellaneous Costs | Admin. Costs      | Total Costs        |
|-----|-------------------------------------|--------------------------------|---------------------|---------------------|-------------------|--------------------|
| 1   | Program Manage Costs (USBR,FWS,BLM) |                                |                     |                     |                   |                    |
| 1.1 | 1.1 USBR                            | \$ 102,219                     |                     | \$50,000            | \$98,781          | \$201,000          |
|     | FWS                                 | \$ 94,262                      |                     |                     | \$55,738          | \$150,000          |
| 2   | Land Acquisition/BLM-IA             |                                | \$635,000           |                     |                   | \$635,000          |
| 3   | USBR Denver TSC                     |                                | \$394,000           |                     |                   | \$394,000          |
| 5   | GW & Soil Monitoring                |                                | \$50,000            |                     |                   | \$ 50,000          |
| 6   | GIS Mapping & analysis              |                                | \$20,000            |                     |                   | \$ 20,000          |
|     |                                     |                                |                     |                     |                   |                    |
|     | <b>Total by Category</b>            | <b>\$ 196,481</b>              | <b>\$ 1,099,000</b> | <b>\$50,000</b>     | <b>\$ 154,519</b> | <b>\$1,500,000</b> |
|     |                                     |                                |                     |                     |                   |                    |

#### VII. Future Years Commitments/Actions

**Table E DRAFT CVPIA 5-Year Budget Plan FY 2007 – 2011  
(\$ Thousands)**

| <b>Program Description and Section</b> |                         | <b>FY 2007</b> | <b>FY 2008</b> | <b>FY 2009</b> | <b>FY 2010</b> | <b>FY 2011</b> | <b>Total (\$)</b> |
|--|-------------------------|----------------|----------------|----------------|----------------|----------------|-------------------|
|  | <b>W&amp;RR</b>         | <b>0</b>       |                |                |                |                | <b>0</b>          |
|  | <b>RF</b>               | <b>\$1.5</b>   | <b>\$1.5</b>   | <b>\$1.5</b>   | <b>\$1.5</b>   | <b>\$1.5</b>   | <b>\$7.5</b>      |
|  | <b>State</b>            |                |                |                |                |                | <b>0</b>          |
|  | <b>Other (identify)</b> |                |                |                |                |                | <b>0</b>          |
| <b>Total:</b>                          |                         | <b>\$1.5</b>   | <b>\$1.5</b>   | <b>\$1.5</b>   | <b>\$1.5</b>   | <b>\$1.5</b>   | <b>\$7.5</b>      |

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