CORPORATE EXPERIENCE

Channel Islands Restoration has over 15 years of experience conducting habitat restoration projects and erosion control projects on the Channel Islands and the coastal areas of Southern California. Channel Islands Restoration (CIR) personnel have expertise in the identification of native plants, non-native invasive species, and threatened and endangered species. CIR personnel have designed and implemented many habitat restoration plans. CIR has worked on 28 projects on the Channel Islands, and 63 projects on the coastal areas of Southern California mainland. Our clients include 4 federal agencies, 6 state agencies, 9 local or tribal agencies and 15 private entities. CIR has extensive experience removing invasive plants while protecting adjacent rare and endangered species. CIR has propagated tens of thousands of plants for restoration projects.

**Channel Islands Projects**

- **San Nicolas Island:** Nursery construction, seed collection, plant propagation, plant installation and irrigation, habitat restoration of dune habitat, native grasslands, coastal sage scrub, cactus, maintenance of restoration projects, erosion control and control of invasive weeds including Sahara mustard, carnation spurge and iceplant.
- **San Clemente Island:** Control of invasive species including iceplant and fennel.
- **Anacapa Island:** Control of invasive weeds including iceplant, seed collection, establishment of island nursery, propagating and planting native species, and conducting educational programs.
- **Santa Cruz Island:** Control of invasive species, seed collection, planting of native species, trail construction.
- **Santa Rosa Island:** Control of invasive weeds, seed collection, planting native species, installation of erosion control measures, rare plant surveys, building and removal of fences and enclosure.
- **San Miguel Island:** Control of invasive species.
- **Catalina Island:** Control of invasive species.
Major Clients

- Arcadis
- California Department of Fish and Wildlife
- California State Parks
- Conejo Open Space Conservation Agency
- National Fish and Wildlife Foundation
- Santa Barbara County
- U.S. Air Force
- U.S. Navy
- U.S. National Park Service (Channel Islands National Park and Santa Monica Mountains National Recreation Area)
- University of California, Santa Barbara

Coastal Southern California Mainland Selected Projects

- Andree Clark Bird Refuge/ SB Zoo invasive weed eradication and re-vegetation
- Arroyo Burro Creek Arundo eradication (upper watershed 2003)
- Arroyo Hondo Preserve invasive weed eradication
- Atascadero Creek Invasive weed eradication and re-vegetation
- Burton Mesa Ecological Reserve, El Segundo blue butterfly habitat enhancement.
- Carpinteria Creek Arundo/ removal
- Carpinteria State Beach iceplant removal and native species re-vegetation
- Conejo Open Space Conservation Agency thistle removal and endangered Astragalus brauntonii seed collecting, propagation, and planting
- Conejo Open Space invasive weed removal
- Elings Park Pampas grass eradication
- Ellwood Mesa Monarch Butterfly Habitat Management Plan Update, City of Goleta
- Gaviota Coast Artichoke thistle eradication
- Hendrick Ranch Nature Area, Santa Clara River, invasive weed eradication
- Lake Los Carneros restoration and re-vegetation
- Lookout Park Arundo removal and native species re-vegetation
- McGrath/North Shore dune and wetland restoration
- Mission Canyon Arundo eradication
- Montecito Arundo eradication
- More Mesa Pampas grass and knapweed eradication
- More Mesa Steps invasive weed control/re-vegetation
- Ormond Beach dune restoration
- Parma Park invasive weed eradication
- Peck Park invasive weed eradication/revegetation, City of San Pedro
- Point Mugu Naval Air Station wetland restoration
- Point Mugu seed collection, plant propagation, plant/irrigation installation, invasive control
- Refugio Creek Arundo removal/native species re-vegetation
- Refugio State Beach invasive weed removal/native species re-vegetation
- Rice Ranch (Orcutt) invasive plant removal
- Rincon Creek Arundo eradication
- Saddle Peak Spanish broom eradication (Santa Monica Mountains NRA)
- San Marcos Foothills artichoke thistle/silver nightshade eradication
- San Marcos Foothills Atascadero Creek restoration project
- San Marcos Foothills Cieneguitas Creek restoration project
- San Roque Creek Arundo eradication
• Santa Barbara Botanic Garden invasive plant control
• Santa Clara River Arundo eradication, Camp property, Taylor property, Hanson property
• Santa Clara River Arundo eradication/revegetation, City of Santa Paula
• Santa Clara River Invasive Plant Eradication, Hendrick Ranch Nature Area
• Santa Ynez River Arundo eradication
• Santa Ynez Valley puna grass eradication
• Sisquoc River tamarisk scouting and removal

**Work with Threatened and Endangered Species**

• *Acmispon argophyllus var. niveus* (Santa Cruz Island bird's-foot trefoil): Performed extensive invasive plant removal in close proximity to Acmispon on Santa Cruz Island

• *Acmispon dendroideus var. traskiae* (San Clemente island lotus): hand removed ice plant growing with the Acmispon on San Clemente Island

• *Arabis hoffmannii* (Hoffman’s rockcress): treated (with herbicide) *Lepidium draba* (hoary cress) growing in close proximity to Arabis on Santa Cruz Island

• *Astragalus brauntonii* seed collection, propagation, and planting at the Conejo Open Space.

• *Astragalus pycnostachyus var. lanosissimus* (Ventura Marsh Milk-Vetch): treated (with herbicide) various invasive plants growing in close proximity to the *Astragalus* at the North Shore project in Oxnard and at Coal Oil Point Reserve

• *Dithyrea maritima* (beach spectaclepod): grew and planted *Dithyrea*, plus removed ice plant growing with *Dithyrea* on San Nicolas Island

• *Galium buxifolium* (Sea-cliff bedstraw): treated (with herbicide) *Vinca major* that was growing with *Galium* on cliff habitat on Santa Cruz Island. This was part of a study with U.S.G.S. to assess the viability and effectiveness or removing an invasive plant growing with an endangered plant.

• *Thysanocarpus conchuliferus* (Santa Cruz Island Lace pod): treated (with herbicide) *Verbascum thapsus* (common mullein) growing in close proximity to *Thysanocarpus* on Santa Cruz Island

**TECHNICAL APPROACH**

**Reporting**

CIR routinely delivers progress reports and final reports to our clients. Our reports are succinct, providing the reader with quantitative information and qualitative information, as well as identification of challenges and recommended solutions. For example, our reports include: number of days and the dates worked, number of staff, number of volunteers, number of plants planted, plant propagation activities (e.g. collection of seeds and cuttings, cleaning seeds, preparation of potting soil mixtures, irrigation, etc.), erosion control installation, planting techniques, type of irrigation installed. Any problems that were encountered are noted and the solutions that we implemented are described. If additional actions are necessary, remedial actions are recommended. In addition, budget status is also provided, detailing the total project cost, expenditures to date, remaining funds available in the contract and the percentages expended and remaining.

**Fieldwork Coordination, Schedule and Communications**
Communication with our clients is critical to successful planning and implementation. Thus, informal and formal meetings on the islands and on the mainland are held frequently to discuss the projects, plan future actions and collaborate to resolve any issues that have come up. Phone and email communications occur frequently to ensure nothing falls through the cracks. Excellent communication with our clients and internally has facilitated success on all of our 28 projects on the Channel Islands, and 63 projects on the coastal areas of Southern California mainland. In order to ensure effective communication and coordination with Navy biologists and other staff, a routine communication system and schedule will be established at the beginning of each project. This will start with a kick-off meeting at which the schedule, deliverables, and communication frequency are determined. Each project manager may have a different style and preference, so CIR will adjust the communication frequency and methods so that it works for that specific project manager. In general, it would include monthly progress reports, regularly scheduled meetings (at least quarterly), and frequent emails and phone calls to address issues as they come up. Meetings at the site of the restoration itself are particularly helpful, so as to see with our own eyes how the restoration is progressing and challenges that need to be addressed.

Planning and implementing habitat restoration projects requires working in coordination with Navy biologists, whether the projects be wetlands such as estuaries, vernal pools or riparian areas, or upland areas such as grassland, coastal sage scrub, or sand dune habitats. CIR has a depth of understanding of ecological processes such as the significance of hydrologic connectivity, plant-pollinator relationships, predator-prey relationships, adaptations to nutrient poor soils, growth and dormancy cycles in response to drought, etc. CIR knows which species are native and which species are non-native because we work with these species all the time. This knowledge makes us a trusted entity working in sensitive areas on the islands and mainland. CIR also has technical expertise in the field such as which herbicides are most effective, when is it more effective to pull weeds by hand, which erosion control measures are most likely to succeed, etc.

The logistics of habitat restoration on the Channel Islands is more challenging than on the mainland, due to the complications of arranging boat or air transportation, vehicles on the islands, equipment and supplies and lodging. More than one of these elements requires coordination with multiple agency personnel. Therefore, CIR has an administrative staff person dedicated to making arrangements for all of the logistics. In addition, all plant propagation must occur on the island rather than on the mainland in order to ensure genetic integrity of all plants that are grown for restoration.

CIR has constructed plant nurseries and propagated thousands of plants on San Nicolas Island for the U.S. Navy, on Anacapa Island for the U.S. Park Service, and in Camarillo in order to grown plants for the U.S. Navy at Point Mugu Naval Air Station. Scheduling is coordinated with Navy biologists to ensure that the timing is right for native plants and sensitive animals on the islands. CIR personnel are given their assignments through personal phone calls and emails, and the schedule is posted on a shared calendar that can be accessed remotely by staff.

**Past Performance**

Our past and current work is highly respected. Several references are provided herein.

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