NSDI Cooperative Agreements Program
Institution Building and Coordination Project

FINAL REPORT – *"California Invasive Plant Data Consortium"*
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In writing the report keep in mind the goals of your project under this category: the development of new or strengthening of existing multi-organizational collaboration that supports the development and maintenance of shared digital geographic resources, and to foster the establishment of cross-organizational coordinating councils that develop and advance the NSDI within a specific geographic area.

Project Narrative:

This project formed a California Invasive Plant Data Consortium with the goal of better coordinating acquisition, analysis and sharing of digital geographic data for those

working on invasive plant issues in the state. The absence of aggregated spatial data is a major missing piece in restoration strategy—the restoration community does not know where invasive plants are on a landscape scale, and how this is changing over time. Such information is key to setting successful long-term strategy.

We have taken major strides towards improved coordination through this project. We held a well-attended stakeholder roundtable at the University of California, Davis, at which agency experts in invasive plants and spatial data shared information on the current state of operations in their organizations, and agreed on a list of tasks. (The workshop agenda, notes, agency profiles and resulting action plan from the meeting can be found in the attached report.) Discussions at the roundtable also helped bring out key challenges that we face in aggregating spatial data—some technical, some logistical, some political.

A major challenge that emerged from the roundtable is the current total lack of centralization of data, even within individual agencies. State and national park agencies, the USFS, the California Department of Fish & Game—all described situations where spatial data is kept at the local level by each property unit, and not aggregated at the state level within the agency. Thus, partnership with a statewide agency representative is helpful, but only part of the network needed to make the consortium function. On the bright side, Cal-IPC's network of members throughout the state includes managers in many of these units, providing an avenue for accessing these broadly distributed data sets. There was strong support at the roundtable for Cal-IPC taking the lead in the ongoing coordination of the consortium.

The list of tasks approved by the roundtable (and subsequently further fleshed out by our steering committee) provides a good roadmap for our ongoing work for the consortium. While there was a great amount of interest in the topic at the workshop, it was also apparent that we would need to make progress on the task list before there would be sufficient incentive for the disparate parties to fully engage in collaborating on data sharing. In other words, if we come up with something good, agency partners will participate, but they do not have the time to be full partners in creating a system, at least for the first stages. This is understandable, and not unworkable—it just reminds us that this will be a slow steady process over time.

One of the key first tasks was to put Cal-IPC's definitive "California Invasive Plant Inventory" online in a database format, since this information is a critical foundation for all spatial data. These are the species for which geographic information is desired, and in many cases, the regional notations in the Inventory are as much distribution data as exists currently. This task was completed with assistance from project partners Sonoma Ecology Center and the Information Center for the Environment, who designed a "web portal" for California invasive plant information using Plone content management software. The eventual vision for this portal is to support a data-sharing community with a variety of services, but the vision was far beyond our immediate next steps.

Another key action was to collect metadata for a metadata catalog. Unfortunately, this effort has been delayed. The system we expected to use—the CERES (California Environmental Resources Evaluation System) catalog run by the California Resources Agency—was not user-friendly enough for our anticipated users. We explored, but abandoned as too ambitious, a system on the new "portal" where users could submit their information. Our current plan is to simply begin collecting simple metadata for the Cal-IPC website. Though it will not be automated for users to update it, it will be a good start on gathering the information, which will be portable when we do choose or develop a better long-term solution. Our website has been undergoing improvements, and is at a good point for adding such information.

We have, however, met with the chief of the California Resource Agency's Biogeographic Data Branch, which has recently developed online map servers for a variety of ecological data. They are interested in considering a role as a clearinghouse for invasive plant data sets, and this appears to be a good fit. We will be exploring this relationship in the coming months. (Participants at the roundtable voiced many opinions about where data might best reside. We explored the existing tools available through CalFlora and CRISIS Maps at UC Davis. Though each offers certain advantages, we concluded that a system will be most successful if (1) it provided tools unavailable at these sites, and (2) it was more integrally linked to the community of weed workers—by being a system designed specifically for their needs, and ideally by being associated with Cal-IPC, and organization they already use as an information resource.)

Another early task was to generate coarse but comprehensive statewide maps for at least some of the 200 plants listed in the Cal-IPC Inventory. We have selected a set of 36 plants, representing a good distribution of those rated High, Moderate, and Limited, and including some Alert species. This set of plants is based on a list brainstormed by the fifty attendees at the Mapping Working Group at our annual conference. We also made sure to cover some of the important species being evaluated through our partnership with the nursery industry to begin to restrict the sale of invasive plants in areas where they are known to be problematic.

For this set of 36 plants, we have prepared a survey to determine presence-absence and trend info. This survey will be distributed to all counties in the state through the state's network of Weed Management Area (WMA) groups as well as through the local chapters of the California Native Plant Society, since they are familiar with local vegetation. We beta-tested the survey with one WMA, and made some simplifications to help ensure that we are able to get surveys back from all counties. This data will enable us to present statewide maps for at least these 36 invasive plants—something that does not exist at this point. Such maps will will not only provide useful information on where each plant may expand its range, and therefore which areas need to be on the lookout; they will also illustrate the potential for collaborative data sharing, which will provide an incentive for further participation.

Other tasks include: posting a resource directory of useful resources; establishing and posting data exchange standards; and developing a communications venue for alert

species. We have posted a resource directory on our website currently, and plan to expand it. We have decided on a fairly solid set of data exchange standards, but will wait until we have made arrangements with the Biogeographic Data Branch to finalize these. The alert network is the type of function best served by the interactive community structures envisioned for the long-term—in the meantime, we plan to set up a simple system for our current website where members can submit observations to be posted by staff.

We plan to make the agency roundtable an annual event, where we can update consortium principals on our progress, and agencies can update each other on their evolving systems for collecting and storing spatial data. The steering committee for the effort will continue to provide guidance for the consortium's development. The Mapping Working Group at our annual conference will continue to provide an excellent venue for reaching a broader stakeholder group. Our hope is that the consortium will evolve a more formal structure at some point, with official agency representation, but that is a ways in the future. By providing a system that is useful for the managers in local units, we hope to compile a good portion of the spatial data existent in the state on invasive plants, but top-down mandates from agency headquarters would help make such regular reporting a standard part of their agencies practice.

One of the benefits of the increased collaboration initiated through this project is the ability to include invasive plant spatial data in important outside conservation efforts. For instance, the Upland Habitat Goals Project, a collaborative effort funded by the California Coastal Conservancy and managed by the Bay Area Open Space Council, is producing spatial tools for setting conservation priorities in the San Francisco Bay Area. Because we have an effort underway to organize invasive plant data from the region, such data will be a part of the analysis performed through this process, which is very exciting.

Feedback on Cooperative Agreements Program:

This particular program area, for building multi-organizational collaboration and data sharing, is incredibly helpful. While the technical challenges of building new systems that serve the needs of data users are important, the coordination of stakeholders is fundamentally critical. By providing financial support (and credibility) for efforts aimed at this, the program does a great service.

The limited project time frame of one year can potentially limit the tangible accomplishments, especially in cases like ours where we're aiming to pull together partners from a large area, but that is not a problem. Funding for the first steps of getting the collaborative process off the ground is key.

To the extent that program staff from NSDI can be made available (perhaps unrealistic) to attend planning meetings and provide direct guidance, this may be useful to give some wider context to project efforts. This may become increasingly important in the future as regional efforts begin to coalesce with national structures.