Get Involved:
Volunteering Locally Using Data Collection and Cartographic Expertise

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Presentation Abstract

After being inspired at the 2008 UC by Dr. Peter Raven who said, "The earth is a garden and we must cultivate it", I decided to put my GIS expertise to use for a good cause. I immediately thought of my local Manhattan Beach Botanical Garden. After contacting the board of directors, we arranged to meet and take a personalized tour. Seeing their minimalist website and lack of budget I knew that I could offer my help. I created some custom data entry forms in ArcPad to GPS the garden boundaries, paths, plants, trees and various other features located within it. I then took that data and transferred it to my ArcGIS desktop environment and began the mapping process. Using various cartographic techniques, and collaborating with the Garden's board of directors, I created a detailed map of the garden which is now posted on their website for visitors to see.

Manhattan Beach Botanical Garden

Three hundred years ago, much of the Southern California landscape consisted of native drought-tolerant vegetation growing in open spaces and living in balance with native animal and insect species. Today, almost all of the gardens in the South Bay survive with the help of substantial irrigation, chemical fertilizers, and pesticides. The concept for the Manhattan Beach Botanical Garden is to demonstrate the use of plants suitable for our small gardens and yet able to live in equilibrium with our natural climate and soil type, thus requiring little additional irrigation and no fertilizer or pesticides.

Originally established as a public garden by the Neptunian Women's Club in the 1960's, the area has seen numerous work projects, sponsorship and even a couple of name changes. Currently, the Garden encompasses 2/3 acres of public land in Manhattan Beach, CA and is home to dozens of bird species, many lizards, and a multitude of beneficial insects. This success enabled the Garden to earn a designation of "Certified Wildlife Habitat" by the National Wildlife Federation.

Vision
This presentation will illustrate how, through community involvement and straightforward GIS techniques, anyone can give back to their environment.

Make Contact
What I found in asking if the Botanical Garden needed help is that when you are honest in your intentions, people are very receptive to your offerings. I informed the folks over at the Botanical Garden's board of directors that I wasn't looking for payment nor was I looking to promote anything. I simply wanted to help out in an area where I saw a deficiency, namely, the Garden's lack of an illustrative map. Julie Gonella, from the Garden was ecstatic of my offer and gave me a personal tour of the Garden to illuminate me of intricate details and history of the place, before I set out to map it.

Methodology
- Gather background data
  - Always start with Parcels
    - Guaranteed correct coordinate system
    - Pretty good currency
  - Talk to local government agencies for aerial imagery
    - Will probably have to sign a Limited Use Agreement
- Collect data using ArcPad on Trimble GeoXT
  - Create simple forms for data collection
    - Simplifies data input
    - Increases efficiency
- Import field data into ArcMap
  - May have to move data to align with aerial image
  - May have to edit line features so all of the vertices match up
- Produce high quality cartographic results
  - Symbolize vector data according to feature type (sign, path, bench, etc.)
  - Use of bright colors to make features stand out
  - Set proper scale for your layout

- o Be sure to cite the data souces (refer to aerial photo agreement)
- o Create geodatabase annotation
    - ▪ More editing tools gives you more options
- o Is it aesthetically pleasing?
- o Does it show all relevant Garden features?
- o Get a second opinion
    - ▪ Have people who know the environment proof your work
- Export map for dissemination
    - o For best results (highest quality image, smallest file size)
        - ▪ Export to PDF at full resolution
        - ▪ Use Adobe Acrobat to reduce file size (Document > Reduce File Size)
        - ▪ Use Adobe Acrobat to convert to a JPG (File > Save As)
    - o Send to all interested parties
        - ▪ Use for inclusion on the Botanical Garden's website

Get Involved; Stay Involved
- Botanical Garden expansion potential
    - Narrow strip of land adjacent to the Garden that has potential for a Garden expansion area
    - "Interpretive Path" leading to the Garden from MB Blvd
        - GPS'ed the area
        - Mapped at 1/8" (or 1 inch = .67 feet) per Landscape Architect's requirements
        - The area fit only on an ANSI E size map (44"X34")
            - Note: Kinko's wanted $100 to print this in color
        - Produced in Black and White, sent to Architect to design
    - City approved the plan!! Project on hold due to budget issues.

Figure 1: Map of Existing Land Uses
Manhattan Beach Botanical Garden
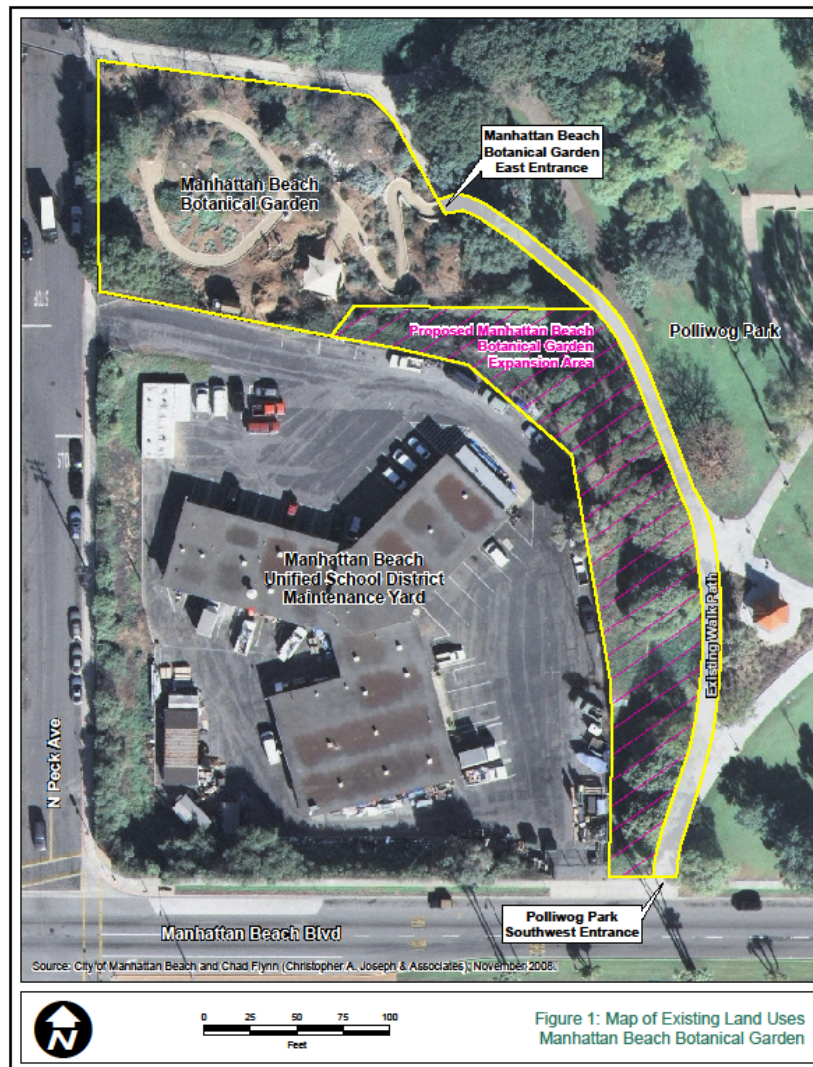
- Don't stop there!
  - Other applications utilizing our skillset
  - Spatial way of thinking - showing rather than telling
  - Communicate with Public Works department
    - Spot a leaking sprinkler?
      - Draw up a quick and dirty map
      - Send to your local Public Works person

Summary

Being a GIS professional we have these mapping tools and data sets at our disposal. By putting in just a little time and effort you can lend a helping hand and be a positive influence on your community.

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