



# **BAY AREA GREENPRINT**

New Partners for Smart Growth

**Tools to Identify People and  
Environmental Assets**

February 2, 2018

# BAY AREA GREENPRINT

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AMERICAN FARMLAND TRUST

# What is a greenprint?

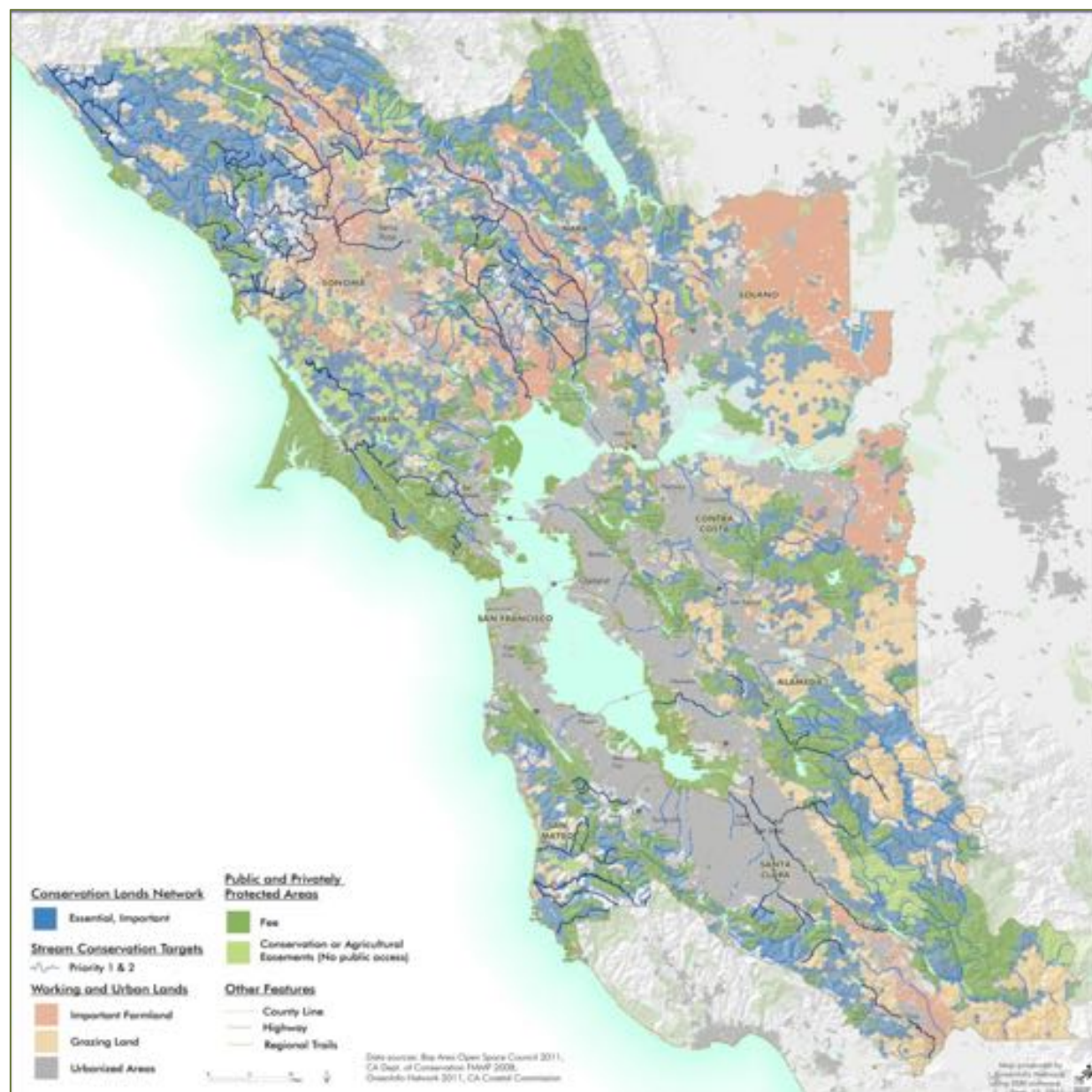
Strategic conservation plan or assessment tool that reveals the economic and social benefits that parks, open space, and working lands provide communities.



# The Bay Area







# Problem

- Conservation is not considered early enough in the planning and project development process
- Confusing access to data
- Multi-benefit and landscape-scale planning is uncommon yet desired



*photo by Santa Clara Valley Open Space Authority*



# Solution: Bay Area Greenprint

- Incorporate natural resource conservation **early in planning processes**
- Supply planners with a **one-stop shop** for natural resource data and assessments
- Raise awareness about **nature** and its benefits

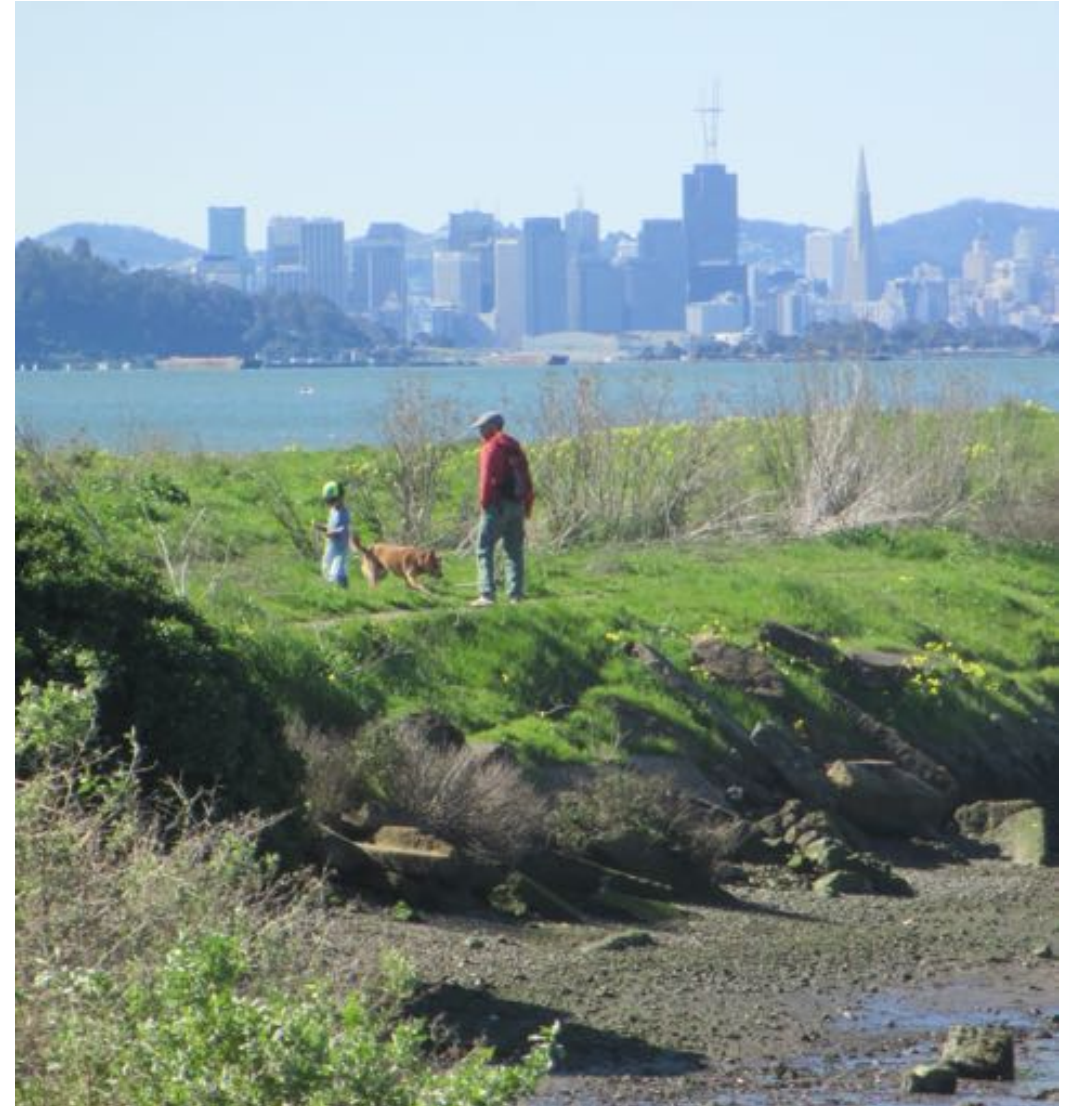


photo by Ken Lavin

# BAY AREA GREENPRINT

## Goal of the Greenprint

**Growth that balances nature, agriculture and the needs of a growing region**

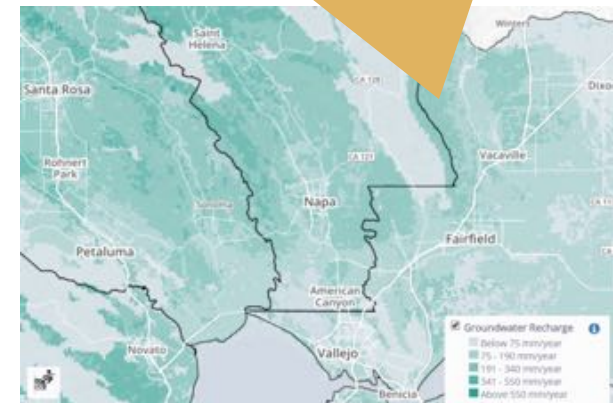
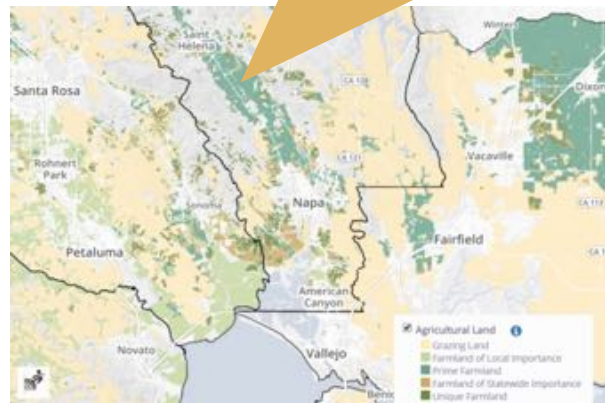


*photo by Adam Garcia*



# BAY AREA GREENPRINT

American Farmland Trust



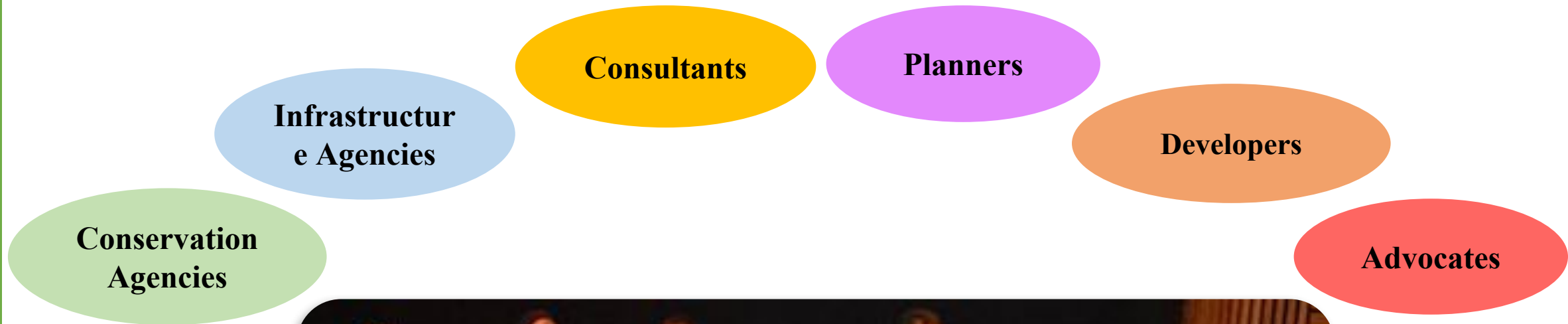
# BAY AREA GREENPRINT

## Reaching our Goal

- Get natural resource data into the right hands **early on**
- Revolutionize **thinking** and **build capacity**
- Keep the data **fresh, useful, linked**
- **Cited** and referenced
- **Bookmarked** on every planner's browser

# BAY AREA GREENPRINT

## Who is using the greenprint?





# BAY AREA GREENPRINT

## Strategic Advisors Group



Terrell Watt Planning Consultants



Nichols · Berman  
Environmental Planning



# BAY AREA GREENPRINT

## Science & Methods Committee



# BAY AREA GREENPRINT

**How this Greenprint is unique**

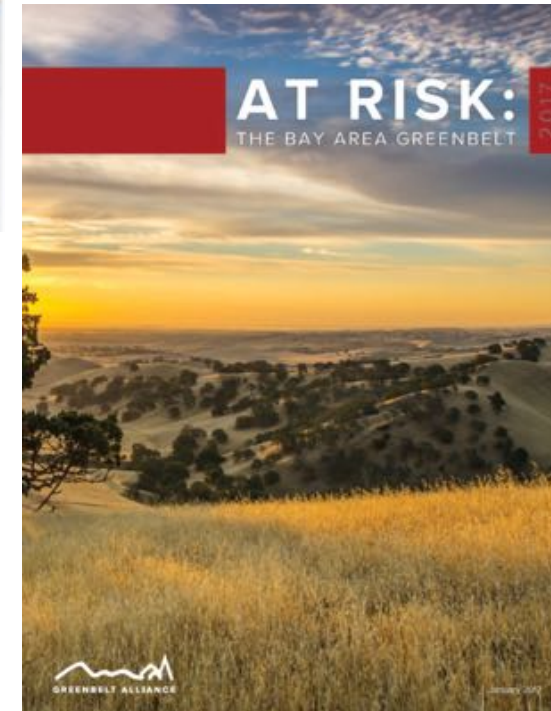
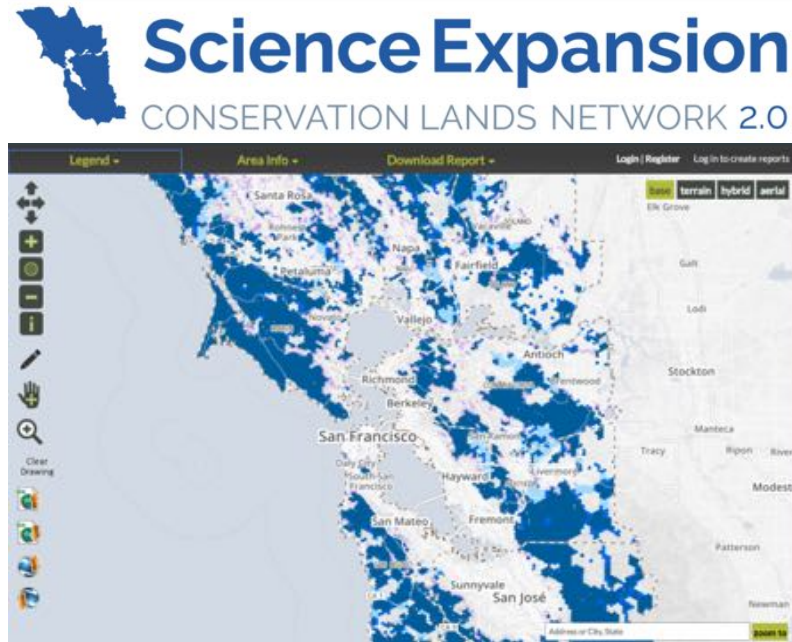


# “Wall-to-wall”



# BAY AREA GREENPRINT

## “Living” Data Sources



# Nature's Values and Benefits

BAY AREA **GREEN**PRINT



FOOD PRODUCTION



CARBON STORAGE



OUTDOOR RECREATION



WATER YIELD



WATER QUALITY



WATER HAZARD REDUCTION



COMPENSATORY MITIGATION



PRIORITIZED HABITATS



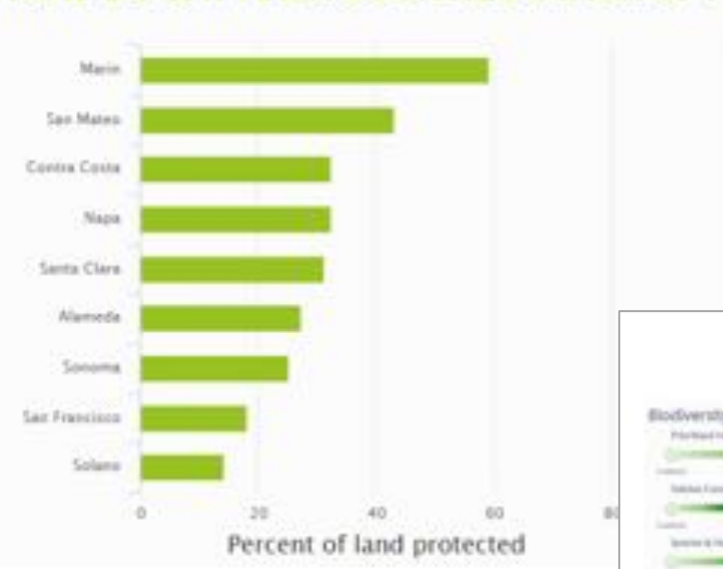
HABITAT CONNECTIVITY



# How can I access information in the Greenprint?

## Natural Resource Dashboard

### HOW DO BAY AREA COUNTIES STACK UP?



## Webmap & Data Download



## Multi-benefit Reporting



## Methods & Glossary

Data Source: Farmland Mapping and Monitoring Program (FMMP).  
Metric Unit: Acres of each FMMP category.  
Method: Total acres of each FMMP category were summed for an area of interest.

**Did you know?**  
Did you know that crops in this area are worth as much as \$300,000?  
Data: County agricultural commissioner data cross-walked to and summarized by PVEG 2015 agricultural types.  
Method: County agricultural commissioner crop types were cross-walked to the agriculture California Wildlife Habitat Relationship (CWHIR) types in PVEG 2015 according to CWHIR type descriptions. These cross-walk relationships are listed in this table. The production value per harvested acre was then averaged across crop types associated with each CWHIR agricultural type within each county. If a CWHIR type in a county had no associated crop production value in the county crop report, a statewide average production value was used for that CWHIR type. Value per acre was then converted to total dollar value per 30m grid cell (equation 1).

$$x \frac{\text{dollars}}{\text{acre}} \times \frac{1 \text{ acre}}{4046.86 \text{ m}^2} \times \frac{900 \text{ m}^2}{\text{gridcell}} = \text{dollar value per 30m grid cell}$$

Equation 1. Conversion of agricultural type value per acre to total production value of each grid cell

Production value was then summed across the area of interest.

**How will climate change impact food production?**  
Threats to food production in a changing climate  
A warmer and/or drier climate may require additional irrigation to maintain the same crop in the same location.  
Metric: Acre-feet of additional irrigation needed to offset climate change.  
Data: Delta Climate Water Deficit (CWD) (USGS 2014) in locations where CWD is expected to increase. CWD quantifies evaporative demand exceeding available soil moisture and is measured in mm/yr. Projected increases in CWD in agricultural areas will indicate the additional water that may be needed at a given location to maintain status quo in terms of agricultural production.  
Method: Global Circulation Models (GCM) project future climate conditions based on greenhouse gas concentrations and oceanic

Irrigated cropland in Napa County. Photo by Craig Camp, CC-BY, Flickr.

# BAY AREA GREENPRINT

Does this matter?

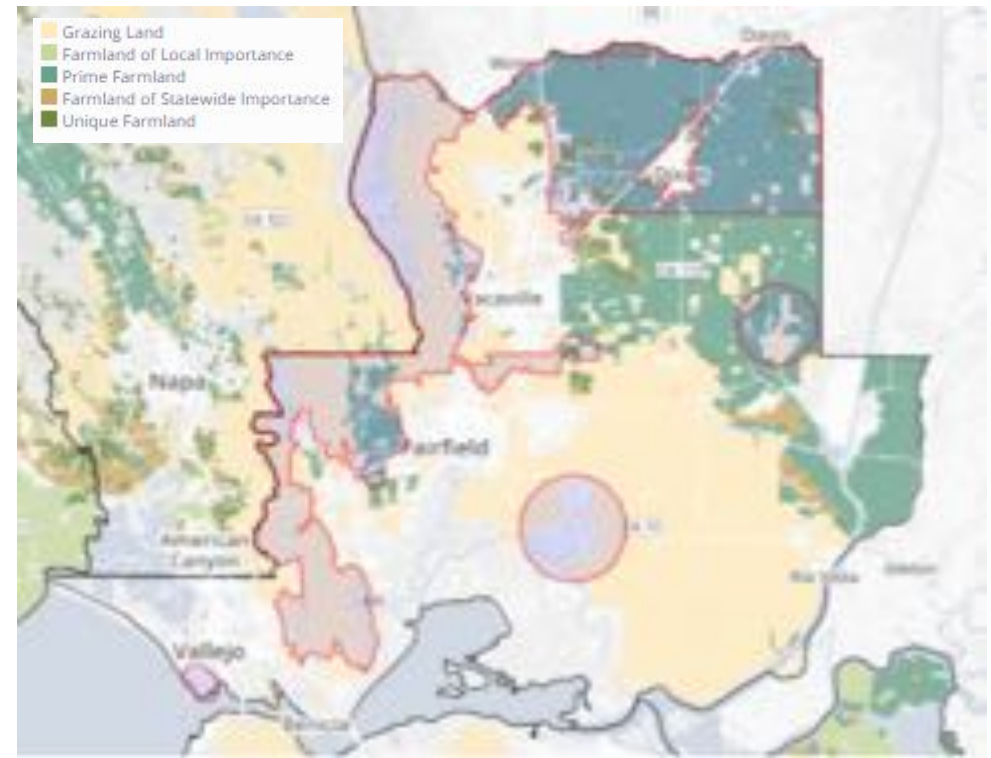
How much  
prime farmland?

68,000 acres

Is that a lot? More than **half** of the county's prime farmland

Is farmland  
already protected?

Only **2.5%** of the county's  
prime farmland is protected



# BAY AREA **GREEN** PRINT



## Did you know?

There are observations of **rare or protected species** in your area of interest

The **value of crops** in this area are worth as much as \$550,000

The groundwater recharge potential in this area is equivalent to the **annual water use for 36,368 households**

Your area is part of a municipal **drinking water supply** watershed



# BAY AREA GREENPRINT



## How will climate change impact nature's values and benefits?

### Threat

How is each resource threatened by climate change?



### Opportunity

What opportunities exist to protect these resources given a changing climate?





## What policies protect nature's values and benefits?

### FOOD PRODUCTION



### WATER QUALITY



### BIODIVERSITY & HABITAT



### OUTDOOR RECREATION

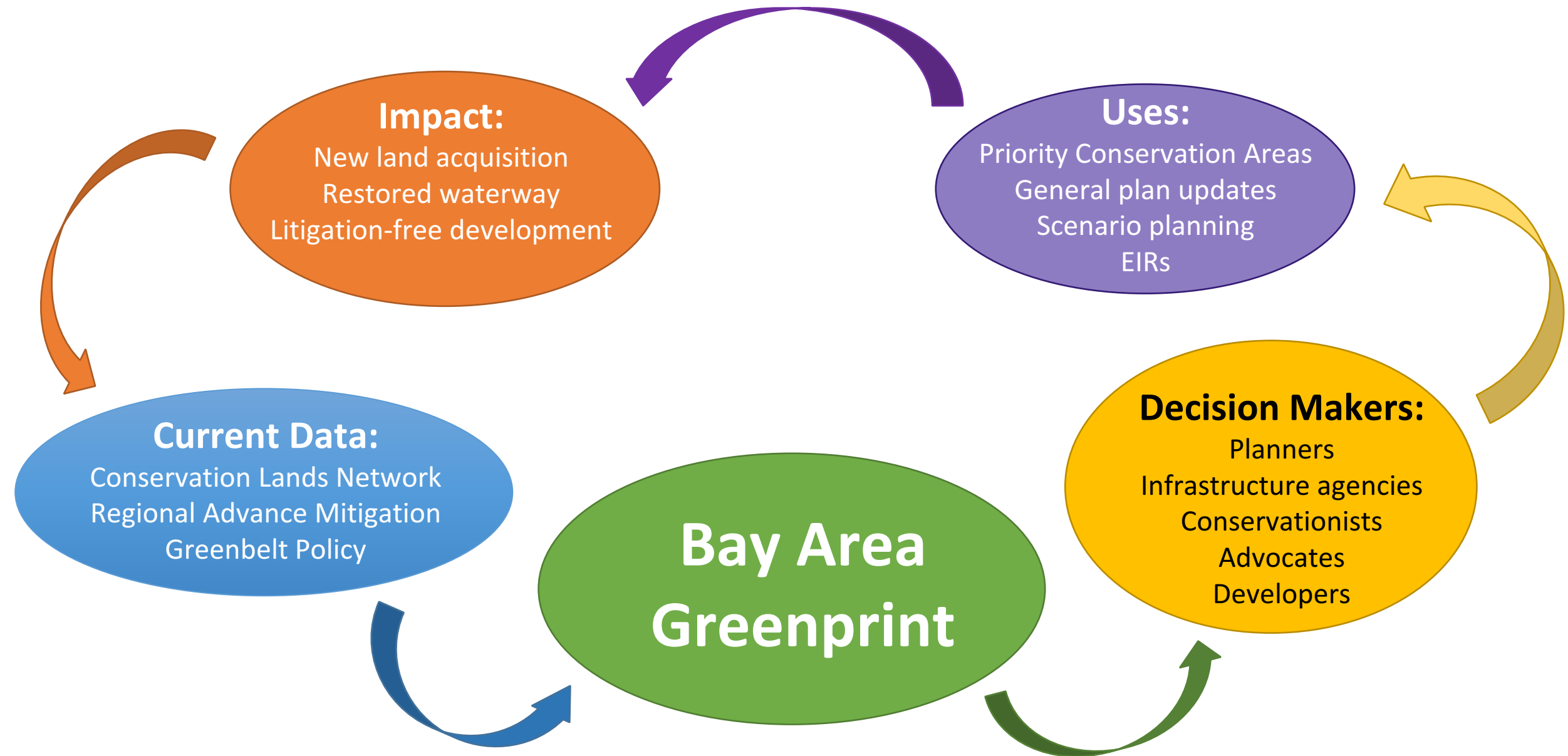


### OPEN SPACE



# BAY AREA GREENPRINT

“Life Cycle”





**BAY AREA GREENPRINT**

**BayAreaGreenprint.org**

# Discussion



**Stay in touch:**  
[info@bayareagreenprint.org](mailto:info@bayareagreenprint.org)  
BayAreaGreenprint.org

**In appreciation:**

