CA State Wildlife Action Plan 2015 Update

as a Collaborative Invasive Management Tool

October 26, 2017

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CA Department of Fish and Wildlife
Outline

- Introduction – What is SWAP 2015?
- Implementation Status
- Implementation Priorities
- Baseline
- Embracing the Blueprint...
- Discussion
SWAP 2015
SWAPs

State Wildlife Action Plans

To receive “State Wildlife Grant (SWG)”

“California” SWAP

- Creates a vision & framework
- Ecosystem approach
- Provides conservation priorities
- For sustainable future

Built by many
SWAP 2015
Ecosystem & Regional Approach

Species
Habitat Type
Conservation Units
Province
CA State
Beyond State
SWAP 2015
Strategic & Standardized Approach

Species
Habitat Type
Conservation Units
Province
CA State
Beyond State

3 criteria
National Standard (vegetation)
USDA & USGS Units

3 criteria
National Standard (vegetation)
USDA & USGS Units
SWAP 2015
Strategic & Standardized Approach

OS Analysis

Species
Habitat Type
Conservation Units
Province
CA State
Beyond State

3 criteria

National Standard (vegetation)

USDA & USGS Units

3 criteria

National Standard (vegetation)
SWAP 2015
Strategic & Standardized Approach

Species
Habitat Type
Conservation Units
Province
CA State

OS Analysis
Document Unit
OS Cross Analysis

3 criteria
National Standard (vegetation)

3 criteria
National Standard (vegetation)

USDA & USGS Units

Miradi™

Strategic & Standardized Approach

Miradi™

SWAP 2015
Strategic & Standardized Approach

Miradi™

SWAP 2015
Strategic & Standardized Approach

Miradi™

SWAP 2015
Strategic & Standardized Approach

Miradi™

SWAP 2015
Strategic & Standardized Approach

Miradi™

Internal, Confidential

Miradi™

SWAP 2015
Strategic & Standardized Approach

Miradi™

SWAP 2015
Strategic & Standardized Approach

Miradi™

SWAP 2015
Strategic & Standardized Approach

Miradi™
(Some of the) SWAP 2015 Key Findings

There are common themes across the state

- What to conserve (Target, KEA)
- What is degraded (Stress)
- What is affecting (Pressure)
- What to do (Strategy)
(some of the) Key Themes under SWAP 2015

- Riparian Ecosystems
  - 9 different ecoregions (approx. 50% of terrestrial units)
  - Most of the watershed units (in various degrees)
  - 6 provinces (all but marine)
  - All CDFW units

- Invasive Plants & Animals
  - 97% of total con. units
  - 7 provinces (all)
  - Both under terr. & aquatic units
  - All CDFW units
## SWAP 2015 Key Findings

### Common Key Ecological Attributes

<table>
<thead>
<tr>
<th>Table 9</th>
<th>Most Commonly Identified Key Ecological Attributes</th>
<th>Conservation Unit Type</th>
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<tbody>
<tr>
<td></td>
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<td>Terrestrial</td>
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<tr>
<td>Area and extent of community</td>
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<td>Community structure and composition</td>
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<td>Connectivity among communities and ecosystems</td>
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<tr>
<td>Fire regime</td>
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<td>Successional dynamics</td>
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<td>Surface water flow regime</td>
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## SWAP 2015 Key Findings (Common Pressure)

<table>
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<th>Table 11</th>
<th>Most Commonly Identified Pressures</th>
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<td><strong>Pressures</strong></td>
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<td>Agriculture and forestry effluents</td>
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<td>Annual and perennial non-timber crops</td>
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<td>Dams and water management</td>
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<td>Fire and fire suppression</td>
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<td>Housing and urban development</td>
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<td>Introduced genetic materials</td>
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<td>Invasive plants and animals</td>
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<td>Livestock, farming, and ranching</td>
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<td>Recreational activities</td>
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<td>Roads and railroads</td>
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<td>Utility and service lines</td>
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## SWAP 2015 Key Findings
### Common Strategy

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<thead>
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<th>Table 12: Most Commonly Identified Strategies</th>
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<td>Strategies</td>
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<td>Data Collection and Analysis</td>
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<td>Partner Engagement</td>
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<td>Management Planning</td>
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<td>Direct Management - Manage Invasive Species</td>
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<td>Direct Management - Habitat Restoration</td>
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<td>Direct Management - Manage Dams and Other Barriers</td>
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<td>Direct Management - Species Reintroductions</td>
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<td>Land Acquisition, Easements, and Lease</td>
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<td>Law and Policy</td>
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<td>Outreach and Education</td>
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## SWAP 2015 Key Findings (What to do for What)

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<tr>
<th>Pressure</th>
<th>Data collection and analysis</th>
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<th>Direct management</th>
<th>Economic incentives</th>
<th>Environmental policy</th>
<th>Land expropriation or lease</th>
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<td>Airborne pollutants</td>
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SWAP 2015

Implementation & Integration Status
SWAP 2015 has been used as

- Conservation Framework
- Conservation Priorities & Standards
- Framework and/or motivation for Study
- Data
- Reference
To address diverse conservation activities:

- Funding
- Land Protection
- Regulation & Policy making
- Conservation Planning
- Operational Planning
- Partner Engagement
- Data Gathering & Analysis
- Studies
SWAP 2015 - Integration Example

- Legislation – AB 2087 and the Guideline

- Regional Strategic Plans
  - Integrated Conservation & Development Plan (SGC)
  - Regional Climate Adaptation Strategy (LCC)
  - Forest Carbon Plan (NRA & CalFire)
  - Strategic Plan (WCB, Transition Habitat Conservancy)
  - CA Water Plan (DWR)

- National Databases

- Climate adaptation strategy for at risk species (AFWA)
SWAP 2015 - Integration Example (cont.)

- Environmental Enhancement and Mitigation Program ($7M per yr)

- Proposition 1 - Water Quality, Supply, and Infrastructure Improvement Act of 2014
  - Restoration Grant Program
    - $372.5M (10yr)
    - $31M (FY2015~16)
  - Water Storage Investment Program
    - $2.7B (1time, coming)

- State Wildlife Grant
SWAP 2015 Direct Implementation

- SWAP Companion Plans (2016) - for Collaborative Implementation
- SWAP 2015 Operational Plan (2016)
SWAP 2015 Companion Plans
9 Sectors

- Agriculture
- Consumptive & Recreational Uses
- Energy Development
- Forests & Rangelands
- Land Use Planning
- Marine Resources
- Transportation Planning
- Tribal Lands
- Water Management
- Land Use Planning
SWAP 2015 Operational Plan

- **Purpose**
  - To create enabling conditions and to implement SWAP priorities

- **Topics**
  - Governance Structure
  - Resource Making and Allocation
  - Branding
  - Pilot Project
  - Project Tracking
  - Next Steps
SWAP 2015 Direct Implementation

- Riparian (pre) Task Force - for Collaborative Implementation
- eDNA Task Force …
SWAP Program Priorities

SWAP 2015
SWAP Program Priorities

CDFW

SWAP 2015
SWAP Program Priorities

CDFW

SWAP 2015

Partners
SWAP Program Priorities

CDFW

SWAP 2015

SWAP Program

Partners
SWAP Program Priorities
What are they?
Baseline to start with...

- CDFW
- SWAP 2015
- SWAP Program
- Partners
BASELINE

- Ecological Conditions
- Scientifically defensible
- Statewide (and beyond)
- Integrable in regional scales
- Pretty quickly
- Rough/rapid assessment is ok
BASELINE

Terrestrial
BASELINE

Terrestrial

Aquatic
BASELINE

- Terrestrial
- Aquatic

Satellite Data?
BASELINE

Terrestrial

Satellite Data?

Aquatic

eDNA Data?
BASELINE

Terrestrial

Aquatic

Technically feasible, NASA looking for partners.

Satellite Data?

eDNA Data?
**BASELINE**

- **Terrestrial**
  - Technically feasible, NASA looking for partners.
  - Satellite Data?

- **Aquatic**
  - Technically feasible for some species.
  - eDNA Data?
BASELINE

Terrestrial

Satellite Data?

Technically feasible, NASA looking for partners.

Aquatic

eDNA Data?

Fund Opportunities!

Technically feasible for some species.
BASELINE

Terrestrial

Technically feasible, NASA looking for partners.

Satellite Data?

Are you serious?

Aquatic

Technically feasible for some species.

eDNA Data?

Fund Opportunities!
In the baseline scenario, we have two categories: Terrestrial and Aquatic. For Terrestrial data, it's technically feasible with NASA looking for partners. For Aquatic data, it's technically feasible for some species. Fund Opportunities! Are you serious? Satellite Data? YES!! eDNA Data?
Who are Interested in eDNA work?

- CDFW Regions
- Academics
  - (Partners)
  - (Citizen Scientists)
- SWAP
- Genetic Lab (WB, FB)
- H2O Pollution Control Lab
Interests in eDNA in-house capability building

- Genetic Lab (WB, FB)
- H2O Pollution Control Lab
- CDFW Regions
- SWAP
- Academics
- (Partners)
- (Citizen Scientists)

Executive-level Supports
Key Activities to Utilize eDNA for Regional Conservation

- ID key markers for spp. of interests
- Sampling Design
- Sampling
- eDNA Analysis
- Mapping the results & Analysis
- and so on…
Interests in eDNA in-house capability building

- H2O Pollution Control Lab
- Genetic Lab (WB, FB)
- SWAP
- CDFW Regions
- Academics (Partners)
- (Citizen Scientists)
Interests in eDNA in-house capability building

- H2O Pollution Control Lab
- Genetic Lab (WB, FB)
- SWAP
- CDFW Regions
- Academics (Partners)
- (Citizen Scientists)
- Advocate
Interests in eDNA in-house capability building

- Research
- H2O Pollution Control Lab
- Genetic Lab (WB, FB)
- SWAP
- Advocate
- CDFW Regions
- Academics
- (Partners)
- (Citizen Scientists)
Interests in eDNA in-house capability building

- Sampling Design
  - H2O Pollution Control Lab
- Genetic Lab (WB, FB)
- SWAP
- Advocate
- Research
  - CDFW Regions
  - Academics
  - (Partners)
  - (Citizen Scientists)
Interests in eDNA in-house capability building

- Sampling Design
- H2O Pollution Control Lab
- Genetic Lab (WB, FB)
- SWAP
- Advocate
- Research
- CDFW Regions
- Academics (Partners)
- Research
- Sampling
- (Citizen Scientists)
- Sampling
Interests in eDNA in-house capability building

- Sampling Design
- Sampling
- Analysis
- Research
- SWAP
- Advocate
- CDFW Regions
- H2O Pollution Control Lab
- Genetic Lab (WB, FB)
- Academics (Partners)
- (Citizen Scientists)
- Research
- Analysis
Interests in eDNA in-house capability building

- Research
- Sampling
- Sampling Design
- H2O Pollution Control Lab
- Genetic Lab (WB, FB)
- SWAP
- Advocate
- CDFW Regions
- Academics
- S. Analysis
- (Partners)
- (Citizen Scientists)

YES?
Advocate Roles for SWAP

- ID key issues and potential opportunities
- Connect dots
- Find missing links
- Advocate to fill the gaps
Advocate Roles for SWAP (cont.)

- The scope includes invasive aquatic animals.
- Invasive plants in research level only, but high interests.
- Once markers for invasive plants are established, we should have ways to incorporate the sampling/s. assessment for those plants.
- Potential to add dimensions for early
To find more about SWAP…

SWAP 2015 & Companion Plans:
https://www.wildlife.ca.gov/SWAP

or contact

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junko.hoshi@wildlife.ca.gov
Thank You!
&
Questions?