California Water Foundation

An Initiative of the

Resources Legacy Fund

California Depends on Water

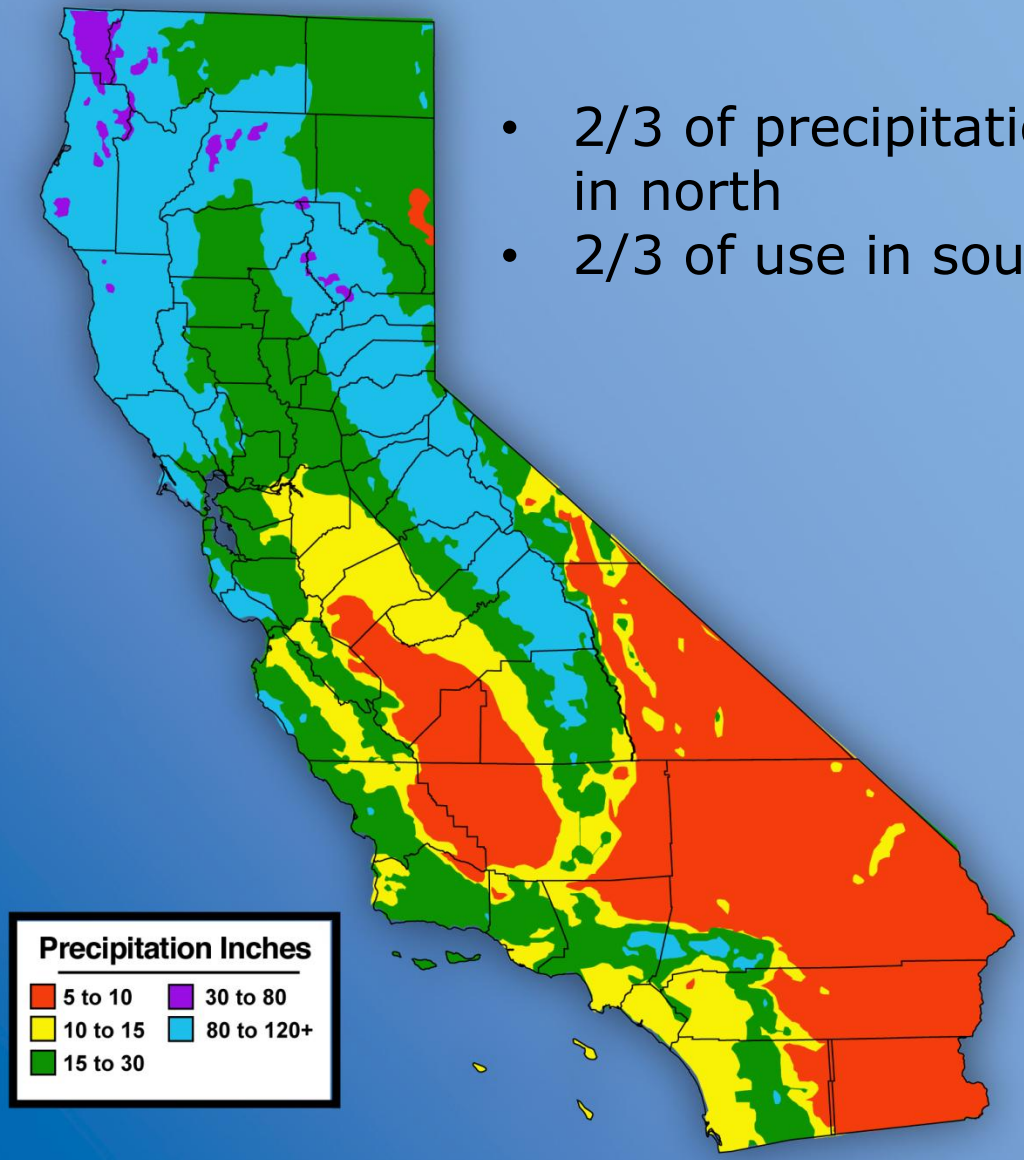
California's health and prosperity

are fundamentally tied to water

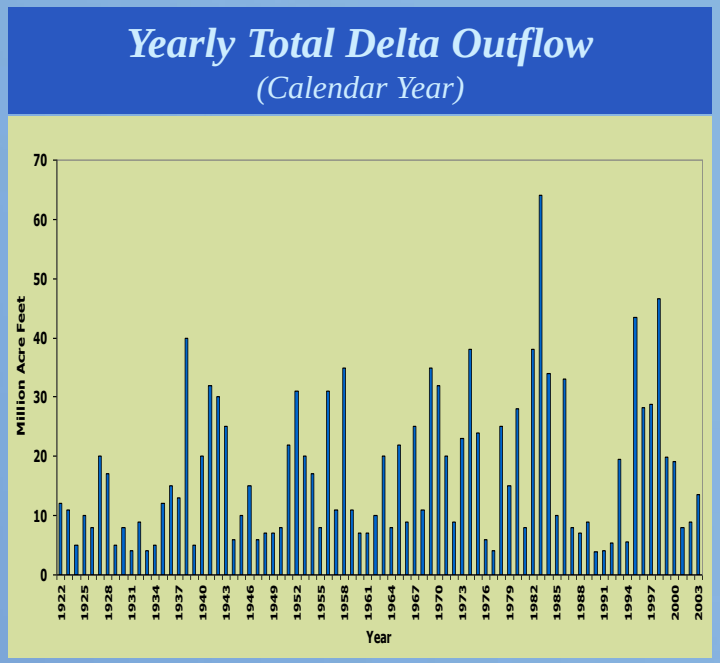
California Water Development

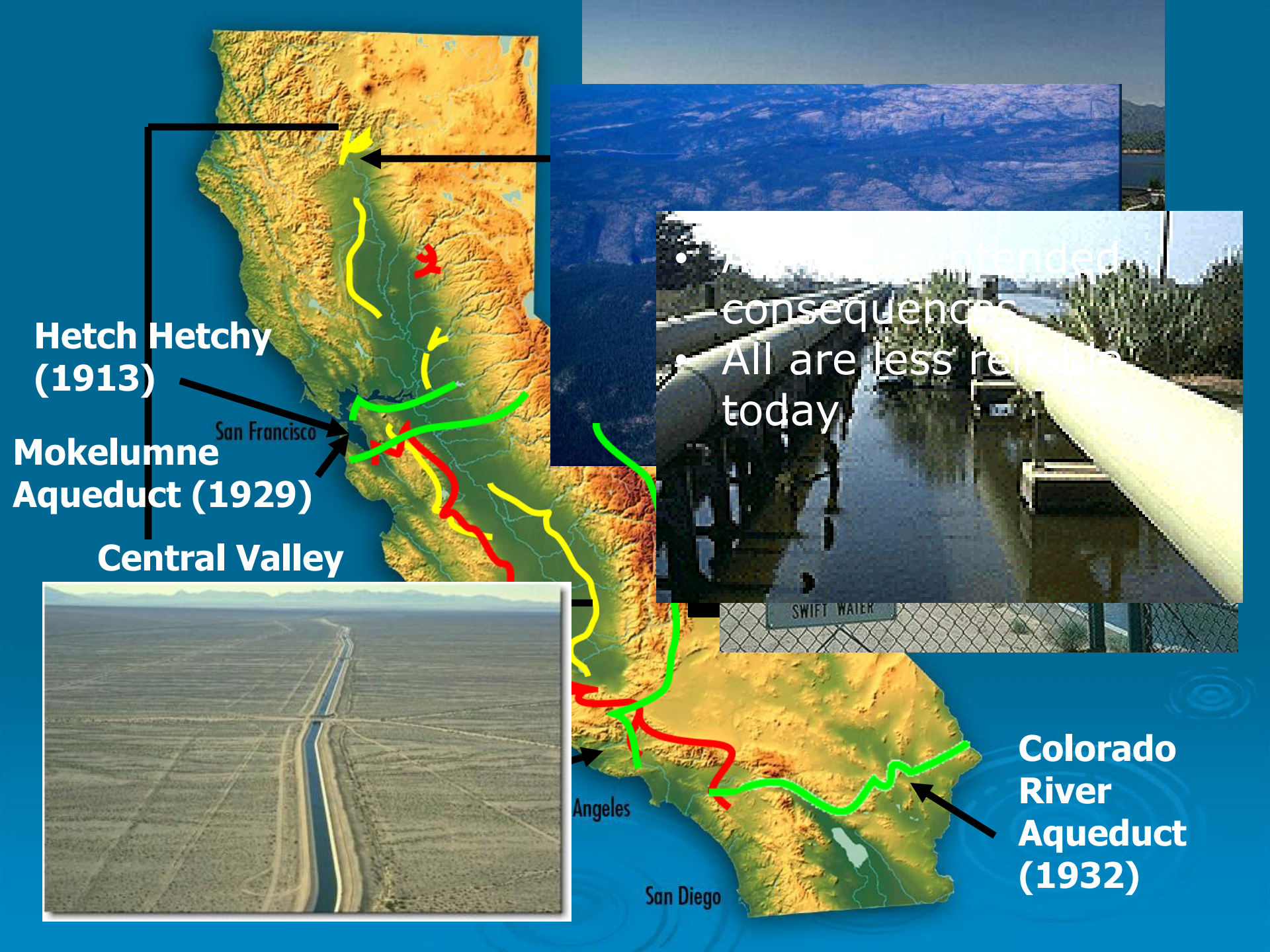
- Water occurrence
- Project development
- Current water use & challenges
- Sustainable water resources management

Water Variability & Use

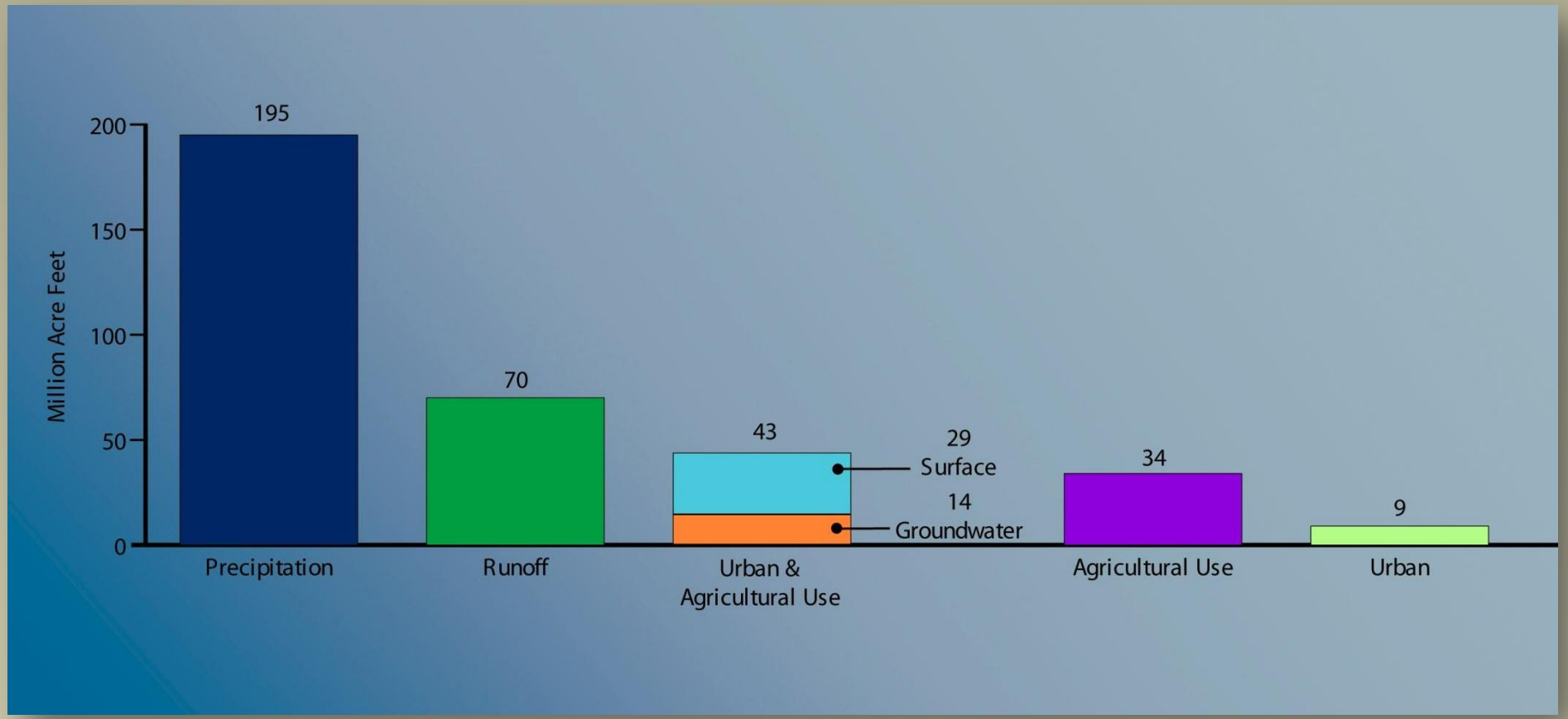


- 2/3 of precipitation in north
- 2/3 of use in south



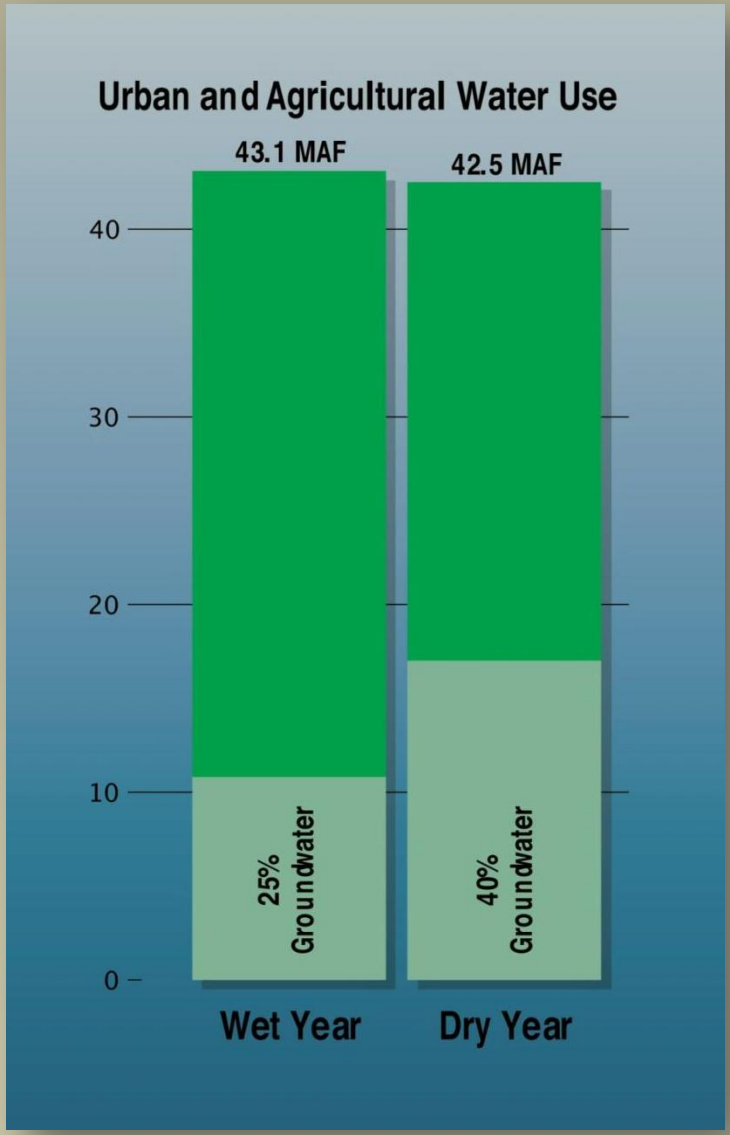

Hetch Hetchy (1913)
Mokelumne Aqueduct (1929)
Central Valley
San Francisco
Angeles
San Diego
Colorado River Aqueduct (1932)
SWIFT WATER
today

Average Year Water Use
(in million acre feet)



California's Groundwater

- On average, about 1/3 of California's urban and agricultural water supply (14 million acre feet)
- Important source of dry year supply
- Average overdraft: 2-4 MAF
- Increased groundwater storage is essential to water supply reliability



Water System in Crisis

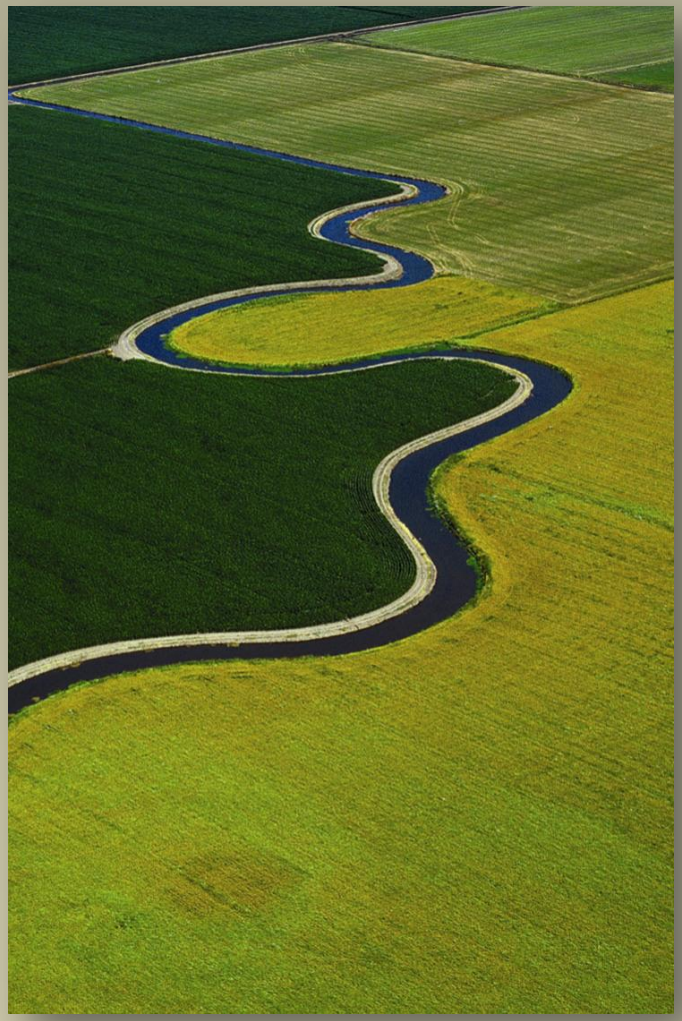
- Increasing population
- Aging infrastructure
- Groundwater overdraft
- Degraded ecosystems
- Increasing conflict
- Uncertainty due to climate change

Climate Change Impacts to California's Water Resources

- Diminishing snowpack (25-40% by 2050)
- More extreme weather patterns – droughts & floods
- Rising sea level
- Higher air/water temperatures
- Increased uncertainty

Solving California's Water Crisis

- No single strategy can meet all needs
- Integrated, diverse strategies contribute to sustainable solutions
- Water management actions & issues are interconnected
- Manage water as a natural resource



California Water Foundation Vision

California's 21st century economic and ecological water needs are sustainably met

California Water Foundation

1. **EFFICIENCY:** Make every drop of water count
2. **GROUNDWATER:** Sustainably manage groundwater
3. **RIVERS:** Protect and restore river systems
4. **MANAGEMENT:** Create and sustain change



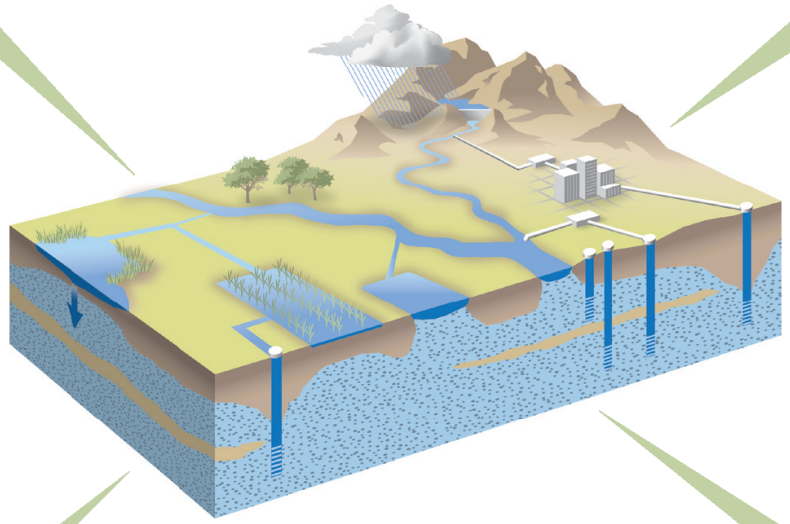
Integrated Resource Management

Increase Water Use Efficiency

- Exceed current urban conservation targets
- Increase agricultural water use efficiency
- Expand water recycling and stormwater capture opportunities
- Promote new regional water management strategies

Improve Groundwater Management

- Reduce groundwater overdraft and increase recharge
- Increase data and monitoring of groundwater



Strengthen Management Structures

- Build broad-based coalitions with vibrant leadership
- Support changes to laws, management, funding mechanisms, and institutions needed to maximize success of statewide strategies

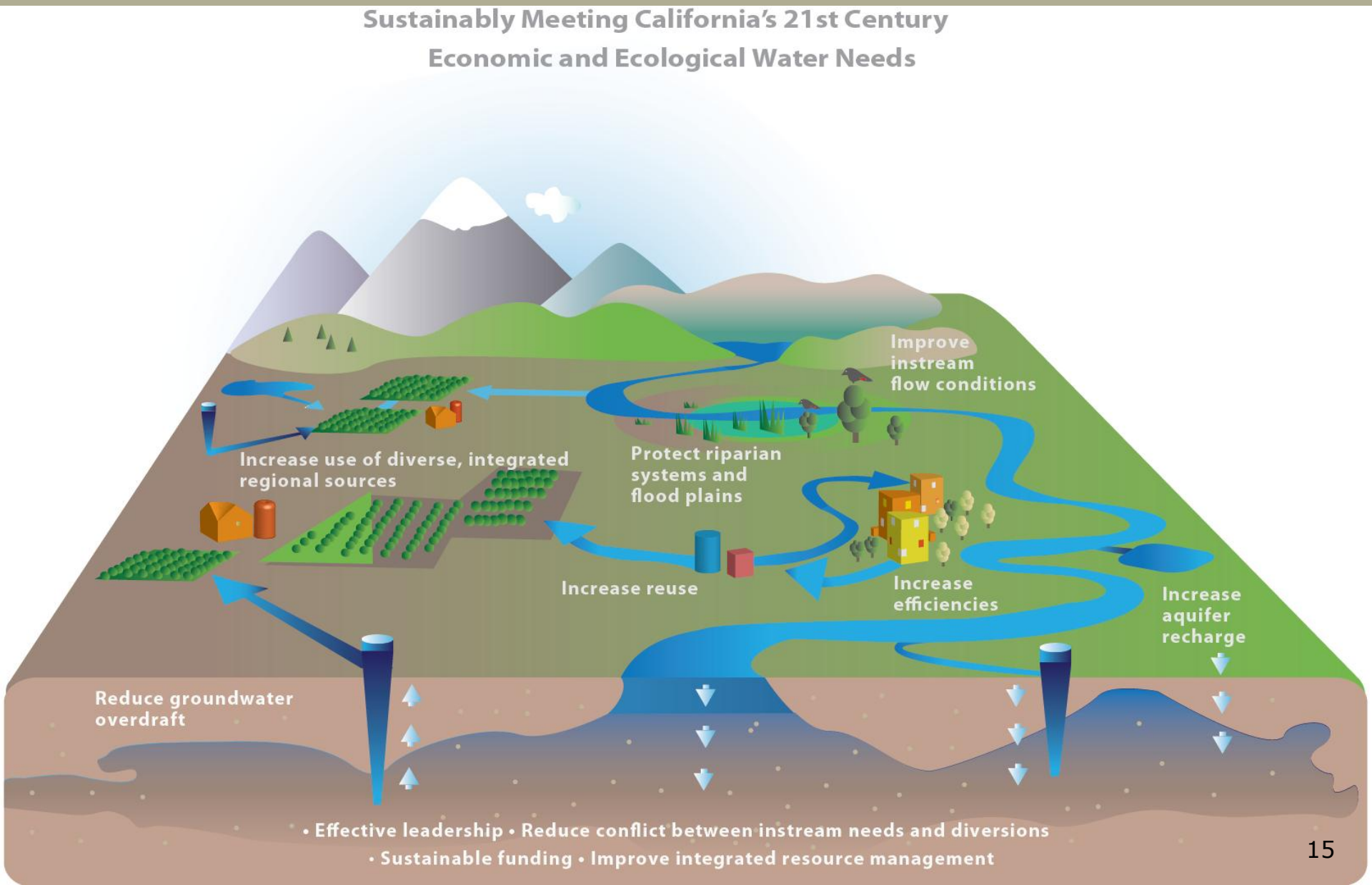
Restore Central Valley River Systems

- Protect floodplains while improving flood protection and water supply
- Advance State policy of integrated flood management
- Integrate regional land use planning
- Reservoir re-operation

Sustainability

- Resilient ecosystems
- Diverse and adaptable water supply
- Meet current and future economic & ecosystem water needs

Regional Sustainability Profile



Framework and composition of the sustainability profile

Water Resource Sustainability: Meeting current environmental and economic water needs without limiting the ability to meet future needs

1. Supply Reliability a. b. c. d.	**2. Demand Management** a. b. c. d.
3. Ecosystem Stewardship a. b. *c.* *d.*	**4. Adaptive Management** a. b. *c.*

Three potential approaches for applying the profile

Metric-driven	Rubric-driven	Expert opinion
Quantitative metrics regularly reported to align community around common vision and identify focus areas for improvement	Common rubric applied to assess current state and help identify practices and tactics for improvement	Expert judgment applied (often using criteria or guiding principles) to inform discussion of current state and create pressure for change

The following pages provide examples of these approaches applied in a variety of contexts

Example: Strive Together Report Card

Strive unites community leaders around shared issues, goals, measurements and results to improve student success

Framework

Goal 2, 3 & 4: Every student will be SUPPORTED, SUCCEED academically and ENROLL in college

Cincinnati Public Schools

	Current average	Current benchmark	Change since recent year	Change since baseline year
4th grade reading	62%	75%	2 pts.	7 pts.
8th grade reading	57%	79%	4pts.	7 pts.
4th grade math	57%	74%	2 pts.	14pts.
8th grade math	52%	58%	2pts.	9 pts.
Graduation	83%	95%	4 pts.	11pts.
ACT composite	18.9		↓0.1 pt.	↓0.8 pt.
College enrollment	68%	70%	4 pts.	10pts.

Covington Independent Schools

	Current average	Current benchmark	Change since recent year	Change since baseline year
4th grade reading	66%	61%	12 pts.	16 pts.
8th grade reading	37%	59%	4pts.	2 pts.
4th grade math	62%	42%	11pts.	20 pts.
8th grade math	22%	37%	4pts.	12 pts.
Graduation	84%		4pts.	11pts.
ACT composite	16.9		↓0.9 pt.	↓1.3 pt.
College enrollment	55%		10pts.	16 pts.

Method

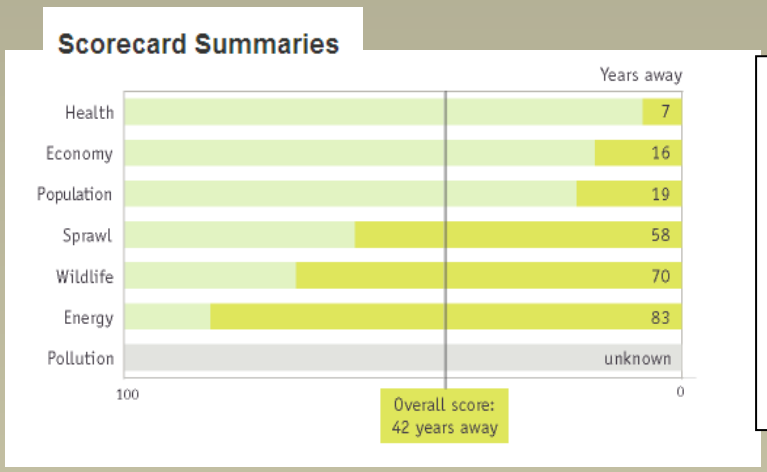
- Driven by the *Student 's Roadmap to Success* and mapped to Strive's five goals
- Community selects quantitative metrics aligned with the Roadmap to Success and sets agenda for collective action
- Report card captures third-party metrics and reports them annually, comparing each to a benchmark or national norm and describing trends
- Qualitative metrics are not combined into an overall assessment

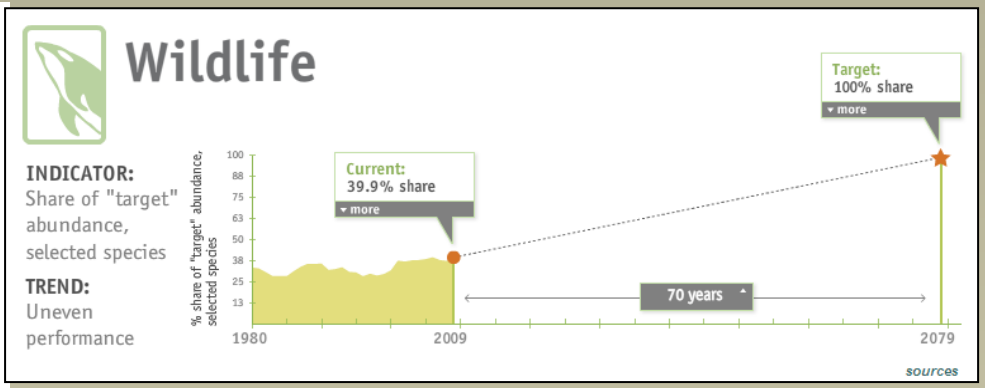
Source: Strive Cincinnati 2010 Report Card

Example: Cascadia Scorecard

The Sightline Institute tracks progress on Pacific Northwest's sustainability goals: long and healthy lives; shared economic prosperity; and a legacy of thriving nature

Framework





Method

- Uses a single proxy indicator or simple composite to measure progress in each of seven sectors
- Data is reported annually as a trend and compared to a selected benchmark (the "Scorecard model")
- Given the trend, reports the number of years until the benchmark is achieved in each sector and compares across sectors
- Each sector's number of years is averaged to give an overall score for the region

Source: Sightline Institute Cascadia Scorecard

Example: GRId Governance Risk Assessment

RiskMetrics developed GRId as a benchmark of the potential risks stemming from companies' governance practices

Framework

Board Structure ○●○ MEDIUM CONCERN

Factor	Impact
73.33% of the board is independent	←
83.33% of the nominating committee is independent	←
100% of the compensation committee is independent	←
100% of the audit committee is independent	←
There were no directors that attended less than 75% of the board meetings without a valid excuse	←
The company discloses board/governance guidelines	←
6.67% of directors were involved in material RPTs	■
The company has a majority vote standard without a director resignation policy	■
The number of directors who received withhold/against votes of 50% or greater at the last annual meeting was not disclosed	→
The Chairman of the board is an executive director	→

Compensation ●○○ LOW CONCERN

Factor	Impact
The minimum vesting periods mandated in the plan documents, adopted/amended in the last 3 years, for executives' restricted stock is 36 months	←
The company has not repriced options or exchanged them for shares, options or cash without shareholder approval in the last 3 years	←
There are no change in control agreements for named executive officers	←
There are no NEOs that receive tax gross-ups on their perks other than relocation and other broad-based benefits	←
All directors with one or more years of service own stock	←
There are no NEOs eligible for multi-year guaranteed bonuses	■
The company does not provide excise tax gross-ups for change in control payments	■

Method

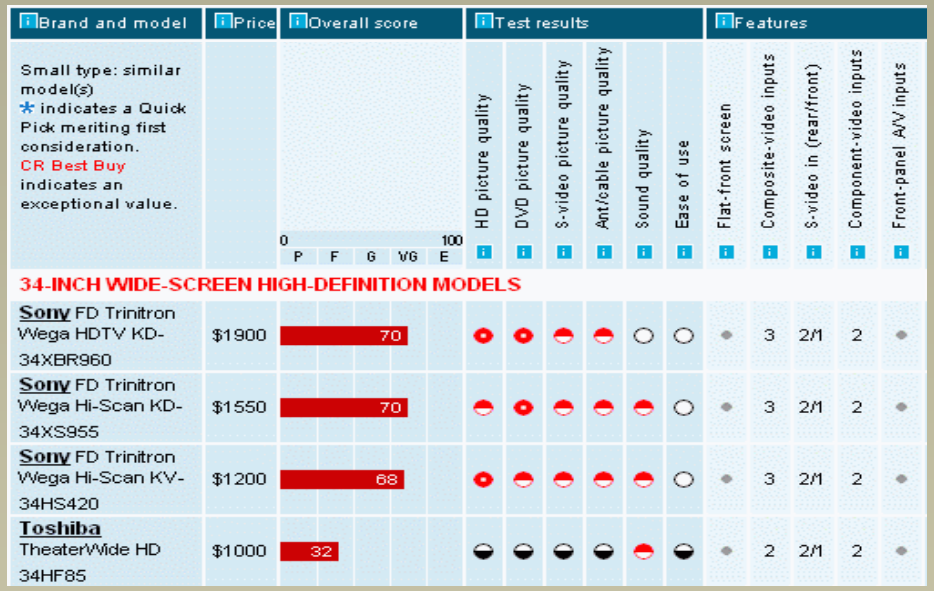
- Combines qualitative and quantitative data
- Questions for each category scored on a scale of -5 to 5 (informed by underlying data elements)
- Rubric and weighting of scores vary to account for relative importance and market differences
- Scores are normalized and combined to translate into an overall assessment of the governance concern (high, medium, low)

Option 3: Expert opinion (single expert)

Example: Consumer Reports ratings of HD TVs

Consumer Reports works for a fair, just, and safe marketplace for all consumers

Framework



Brand and model	Price	Overall score	Test results						Features				
Small type: similar model(s) * indicates a Quick Pick meriting first consideration. CR Best Buy indicates an exceptional value.		0 P F G VG E 100	HD picture quality	DVD picture quality	S-video picture quality	Ant/cable picture quality	Sound quality	Ease of use	Flat-front screen	Composite-video inputs	S-video in (rear/front)	Component-video inputs	Front-panel A/V inputs
34-INCH WIDE-SCREEN HIGH-DEFINITION MODELS													
Sony FD Trinitron Wega HDTV KD-34XBR960	$1900	70								3	2/1	2	
Sony FD Trinitron Wega Hi-Scan KD-34XS955	$1550	70								3	2/1	2	
Sony FD Trinitron Wega Hi-Scan KV-34HS420	$1200	68								3	2/1	2	
Toshiba TheaterWide HD 34HF85	$1000	32								2	2/1	2	

Method

- Qualitative assessment of product performance on a number of dimensions, scored on a set rubric and combined into an overall assessment
- All assessments are conducted by testing experts and informed by standards the individual expert thinks should apply

Comparison of approaches

Approach	Roles		Output	Impact	Source of legitimacy
	Organizer	Community			
Metric-driven	Facilitates initial indicator selection and publishes report card	Analyzes report card results, sets future goals, and aligns priorities for collective action	Objective assessment of current state	Community aligned around a common vision and can identify areas to focus collective action	Quantitative measurement with third-party data collection
Rubric-driven	Defines rubric and ensures accurate implementation	Submits relevant data for analysis. Could use for self-assessment	Judgment relative to benchmarks or other communities	Communities and interested outsiders assess current state and can identify approaches to improvement	Transparency and consistency of the process and based in sound research or a logical/scientific basis
Expert opinion	Facilitates expert input and defines assessment dimensions	Analyzes results and uses them to inform future action	Expert perspective on current state	Expert opinion informs discussion of current state and creates pressure for change	Expert credibility and impartiality

Framework and composition of the sustainability profile

- Expert interviews conducted
- Initial Framing for discussion

1. Supply Reliability a. Diversity & resilience of supply sources b. Risk of judicial and regulatory conflict c. Reserve sufficiency d. Emergency preparedness	**2. Demand Management** a. Conservation planning b. Supply and demand balance c. Land use planning integration d. Water use development standards
3. Ecosystem Stewardship a. Source watershed protection b. Habitat conservation *c. In-stream conditions* *d. Water quality*	**4. Adaptive Management** a. Integrated resource management b. Financial strategy *c. Climate adaptation planning*

Potential state-wide roll-up of sustainability profile

2015 Sustainable Water Management in CA

ILLUSTRATIVE

Supply Reliability

	% of communities incorporating principle	Change from 2013 report	Expected Trajectory
a. Diversity & resilience of supply sources	10%	-5%	Declining
b. Risk of judicial and regulatory conflict	20%	5%	Improving
c. Reserve sufficiency	30%	15%	Improving
d. Emergency Preparedness	5%	0%	Unclear/static

Comments:

Demand Management

	% of communities incorporating principle	Change from 2013 report	Expected Trajectory
a. Conservation	15%	-10%	Declining
b. Supply and Demand Balance	5%	0%	Unclear/static
c. Land Use Planning	50%	10%	Improving
d. Water Use Development Standards	30%	-10%	Declining

Comments:

Ecosystem Stewardship

	% of communities incorporating principle	Change from 2013 report	Expected Trajectory
a. Watershed Protection	10%	-5%	Declining
b. Habitat Conservation	20%	5%	Improving

Comments:

Adaptive Management

	% of communities incorporating principle	Change from 2013 report	Expected Trajectory
a. Integrated Resource Management	15%	-10%	Declining
b. Financial Strategy	5%	0%	Unclear/static
c. Climate Adaptation Planning	10%	5%	Improving

Comments:

Key	Improving	External factors suggest additional communities will adopt	Declining	External factors suggest additional communities will abandon	Unclear/ Static	Uncertain conditions or conflicting pressures suggest a mix of communities adopting/ abandoning