What needs governance to achieve a “durable vision for sustainable management of the Delta?”

- Value choices between ecosystem function and water uses (the Delta Vision Blue Ribbon Task Force has recommended these two as co-equal and of highest importance) and other services from the Delta
- Operations of water systems
- Ecosystem improvement process
- Water quality (including at least related to human use, ecosystem and drainage)
- Delta watershed actions, especially those which affect (a) water volume, (b) water quality, and (c) flood plains
- State wide polices which affect “retail” water uses (pricing, conservation programs..)
- State policies affecting capture, storage and transfer of water for use (e.g., water rights systems, available infrastructure, pricing, distributions of liabilities, water transfer policies)

What tools are available for governance?

- Arenas for on-going authoritative decision making
- Establish and support relevant non authoritative systems (e.g., implementation networks, common science work, facilitated collaboration, non profits focused on achieving policy goals..)
- Develop and support mechanisms and systems for intergovernmental action (e.g., MOUs, interagency working groups..)
- Distributions of liabilities (e.g., from floods, from uses which impair water quality)
- Financing systems (e.g., systems to raise and allocate public money and systems for access to public credit)
- Create markets and improve efficiency of existing markets (e.g., water transfers, TDRs) with intent to achieve policy goals (requires property rights, ways to exchange, ways to value, etc.)
- Price signals subject to policy control (e.g., full cost pricing of water, per unit costs increase by volume..)
- Regulation
- Legal forms for permissive collective action with public powers (e.g., reclamation districts)
- Implementing agencies focused on particular activities, outcomes and/or values (e.g., existing Department of Water Resource focused on water; what agency should focus on enhancing estuarine ecosystem of Delta?)
- Rules for access to courts for adjudication of policy conflicts
- Legislative codification of policy direction and principles (e.g., on public trust doctrine)
- Public education (e.g., visible marking of projected 100 year flood levels throughout areas at risk, including specifically those behind levees)

Assumptions

- Multiple tools will be needed. An area of governance may be characterized by one or more tools.
- Tools will be used at differing spatial scales
- Expect resistance to change
- Progress will be uneven

Strategies

- Join decision making, financing and liability where ever possible (from institutions to individuals)
- Use existing systems where possible, but often hard to change, so be ready to seek major changes. When change is required, seek the clearest expression of new roles and removal of old activities possible.
- Where possible, use tools which affect behaviors of decision makers (private and public) without constant authoritative decision making or regulation

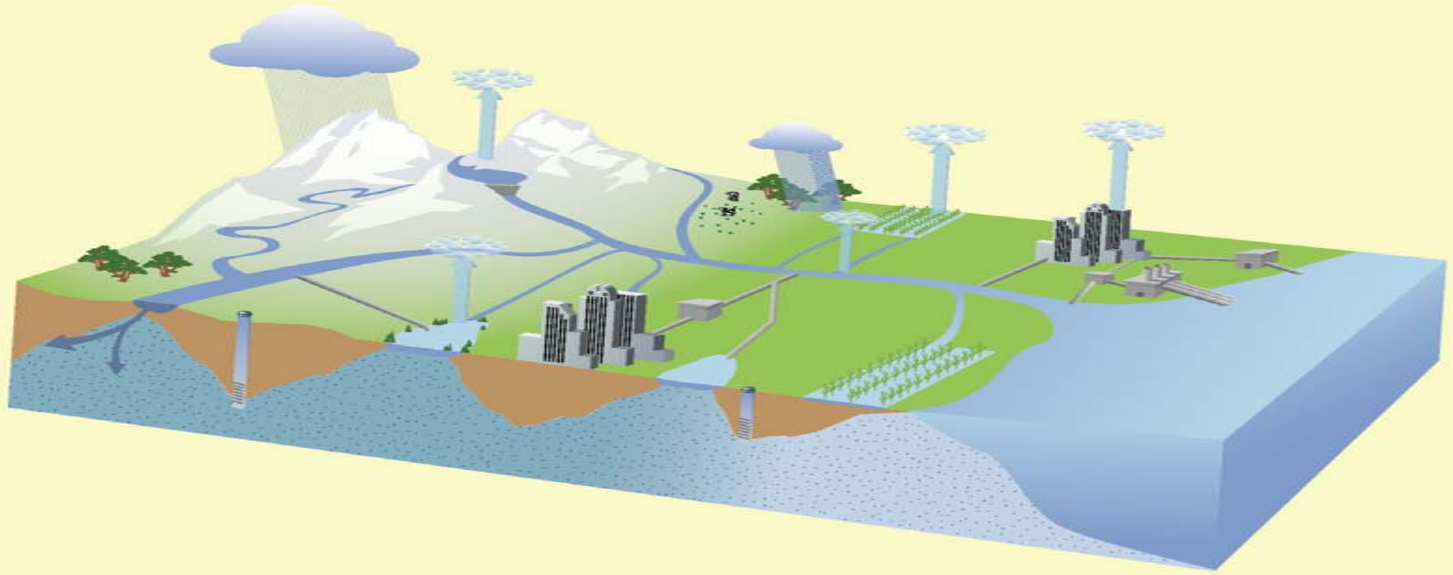
Table 1-1 California water summary - MAF

	1998 (171% of normal)[a]		2000 (97% of normal)[a]		2001 (72% of normal)[a]	
Total supply (precipitation & imports)	336.9		194.7		145.5	
Total uses, outflows, & evaporation	331.5		200.4		159.9	
Net storage changes in state	5.5		-5.7		-14.3	
Distribution of dedicated supply (includes reuse) to various applied water uses						
Urban uses	7.8	(8%)	8.9	(11%)	8.6	(13%)
Agricultural uses	27.3	(29%)	34.2	(41%)	33.7	(52%)
Environmental water[b]	59.4	(63%)	39.4	(48%)	22.5	(35%)
Total dedicated supply	**94.5**		**82.5**		**64.8**	

maf = million acre-feet

a. Percent of normal precipitation. Water year 1998 represents a wet year; 2000, average water year; 2001, drier water year.

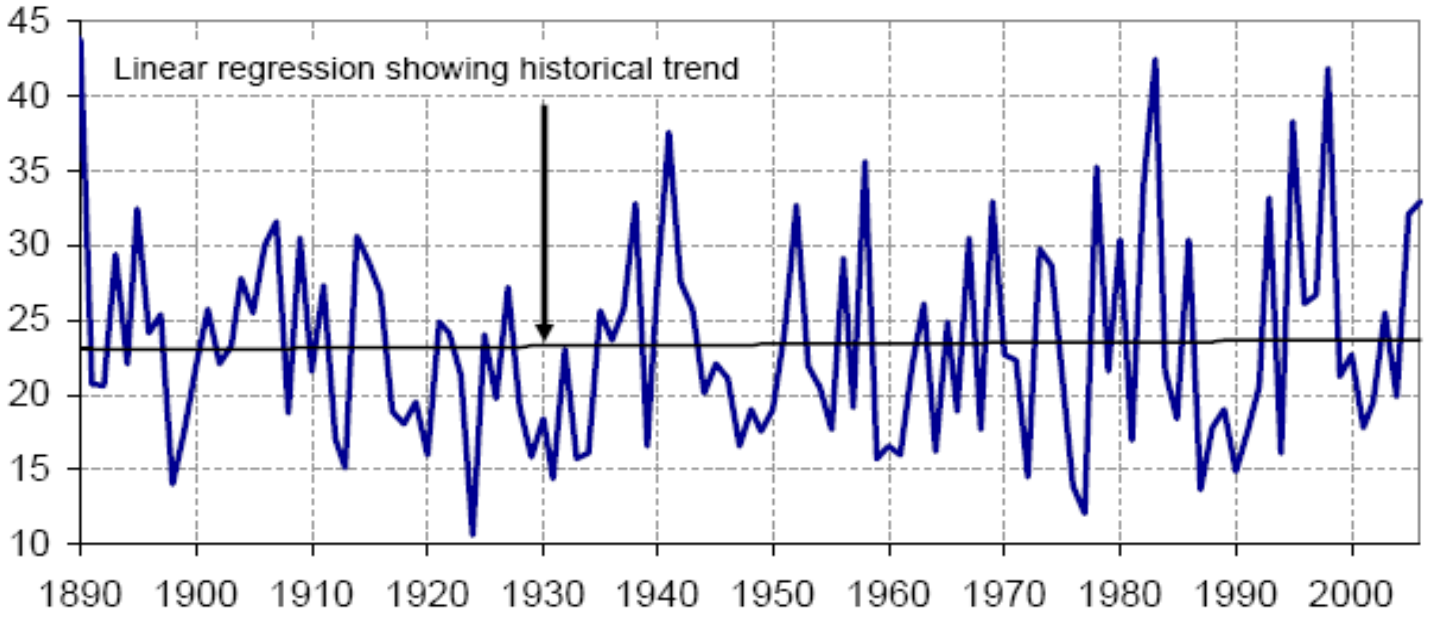
b. Environmental water includes instream flows, wild and scenic flows, required Delta outflow, and managed wetlands water use. Some environmental water is reused by agricultural and urban water users.



Key components of the illustrated flow diagram are shown as characteristic elements of the hydrologic cycle. This volume has flow diagrams for statewide water summary in this chapter and for regional water summaries in their respective chapters.

DWR. *State Water Plan Update 2005*, V. 3, page 1-11

Ca Precipitation Trend

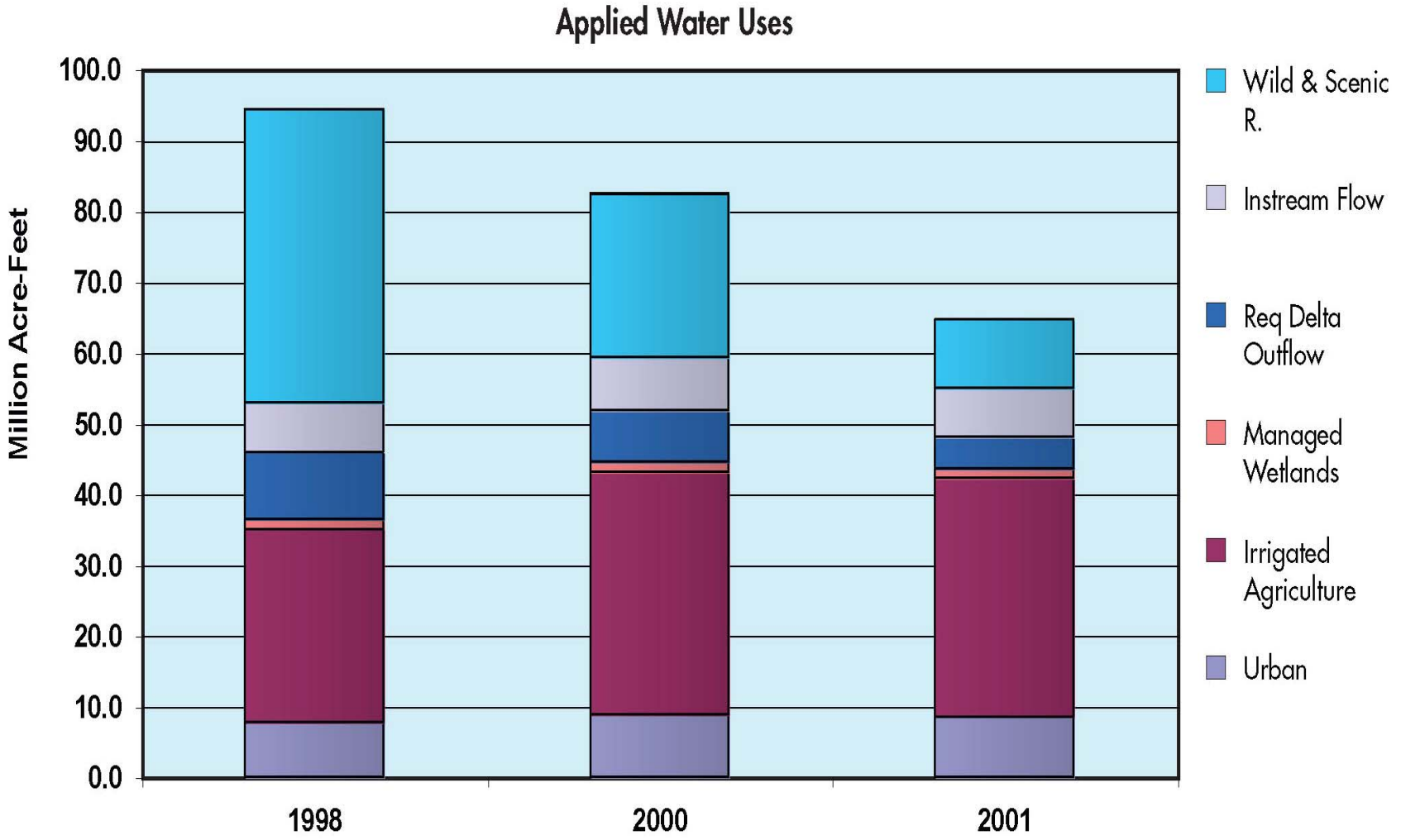


116 year average: 23.88 inches

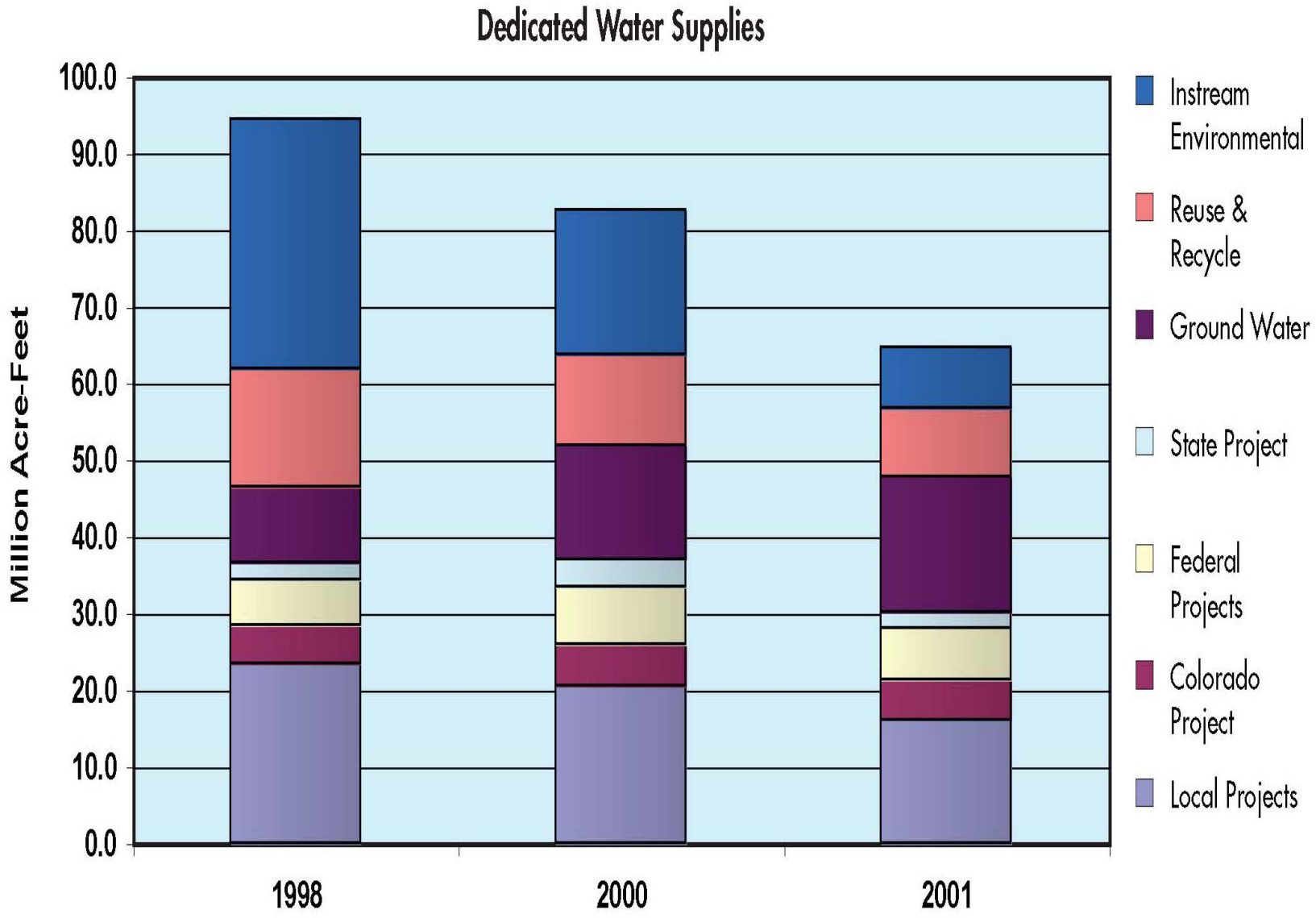
Driest 30 years: 1908-1937 21.28 inches

Wettest 30 years: 1977-2006 24.88 inches

Personal communication from Maury Roos, DWR chief hydrologist (ret.)

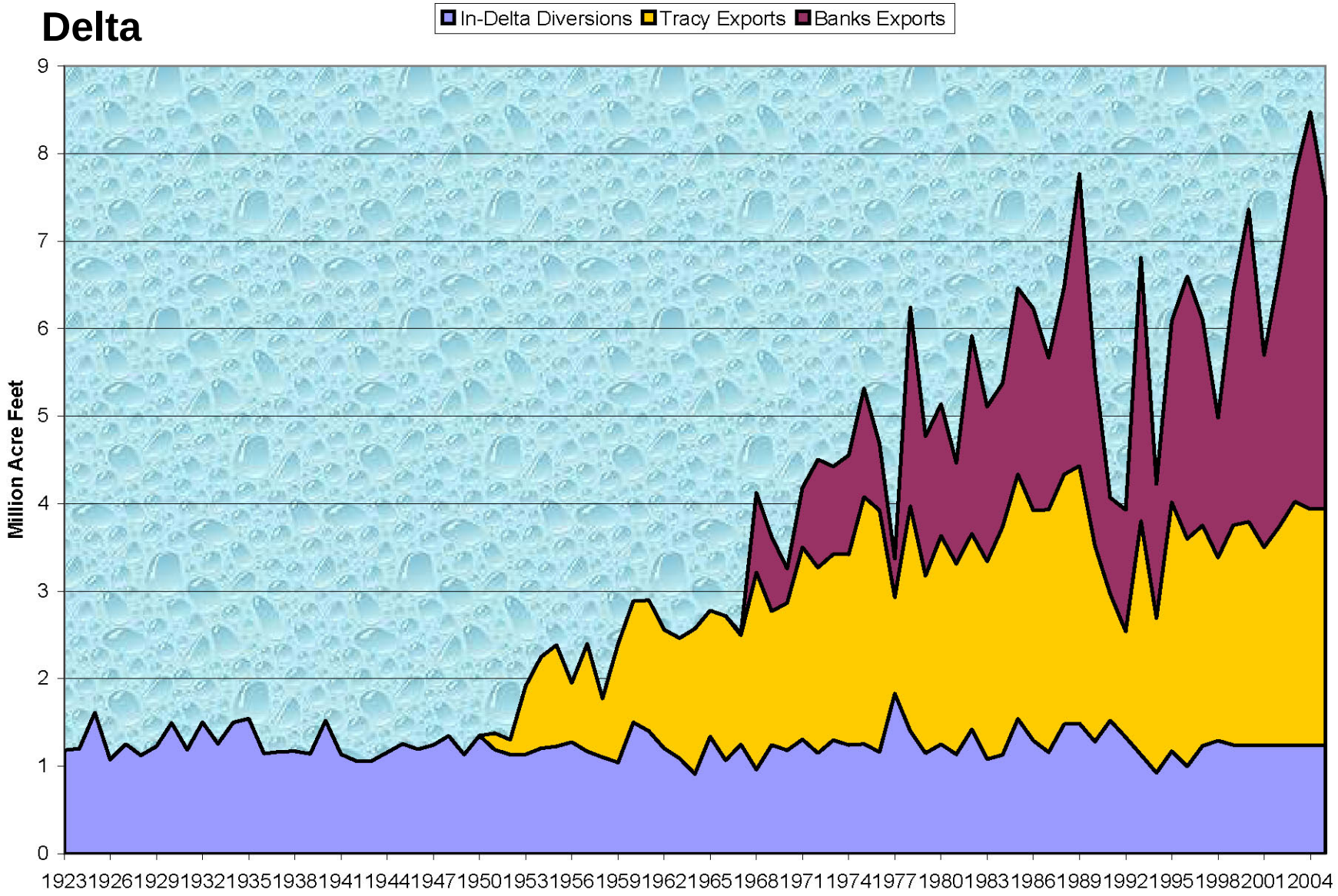


DWR. *State Water Plan Update 2005*, v. 3, page 1-13, Figure 1-10 split



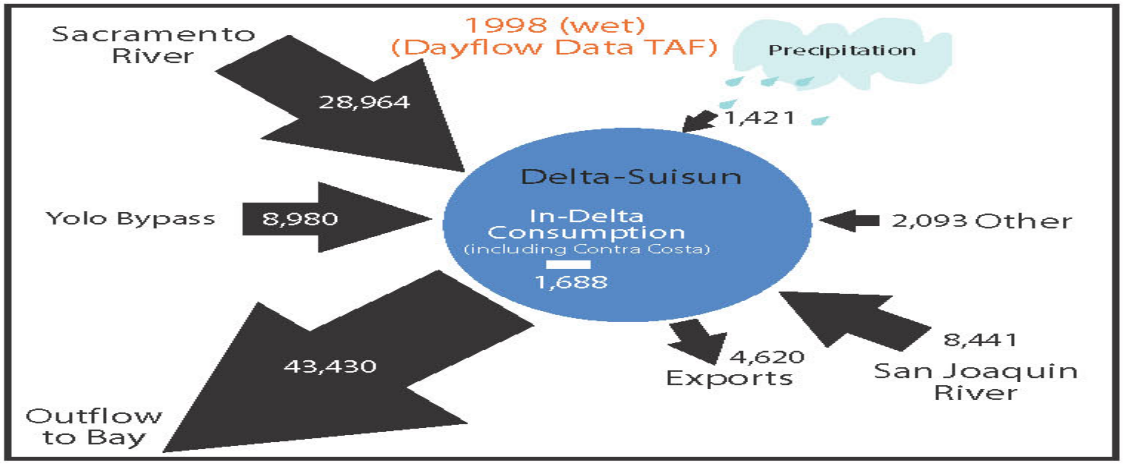
DWR. *State Water Plan Update 2005*, v. 3, page 1-13, Figure 1-10 split

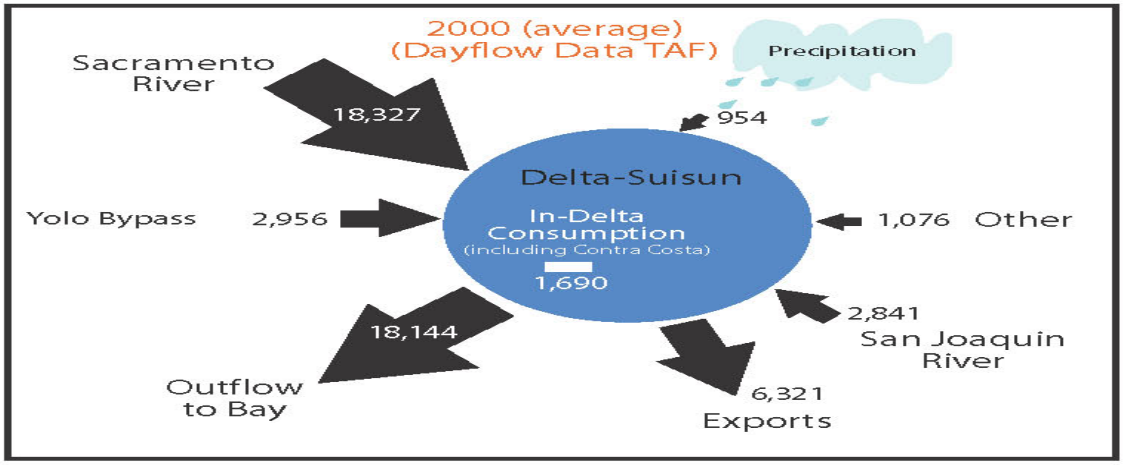
Diversions from Delta

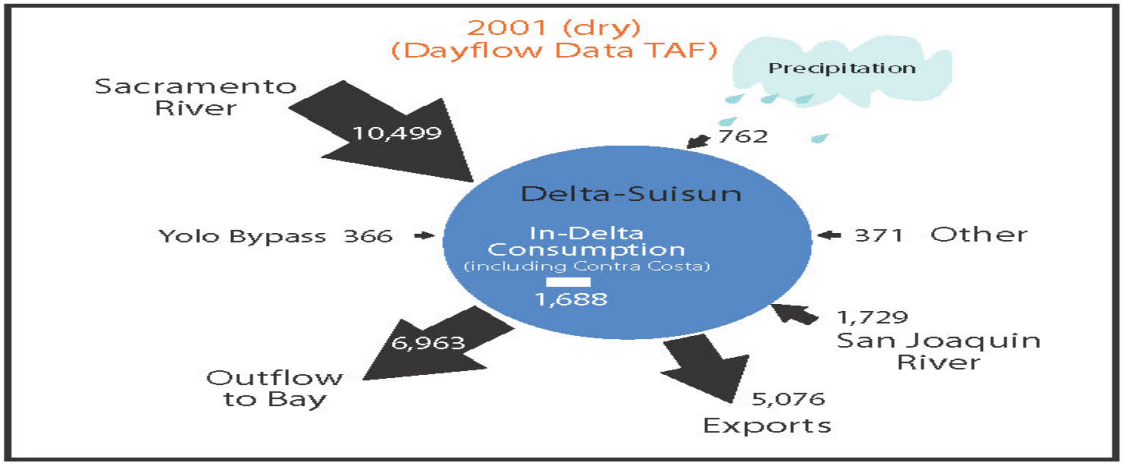


DWR, 2007. *Status and Trends of Delta Suisun Services,* page 19.

Water Balance in Delta by water year type







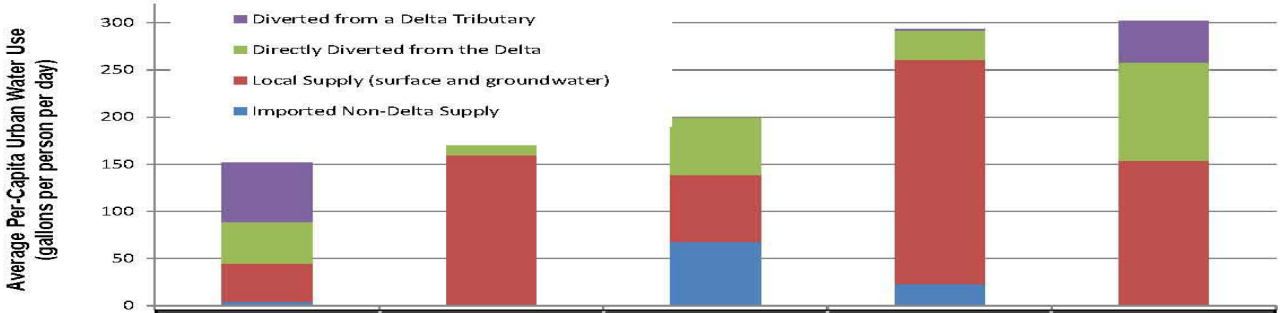
DWR. 2007. *Status and Trends of Delta Suisun Services.* Page 18.

Calculated from data in DWR *State Water Plan Update 2005*, v. 3.

ESTIMATED DISTRIBUTION OF WATER SOURCES USED TO MEET DAILY URBAN WATER DEMAND

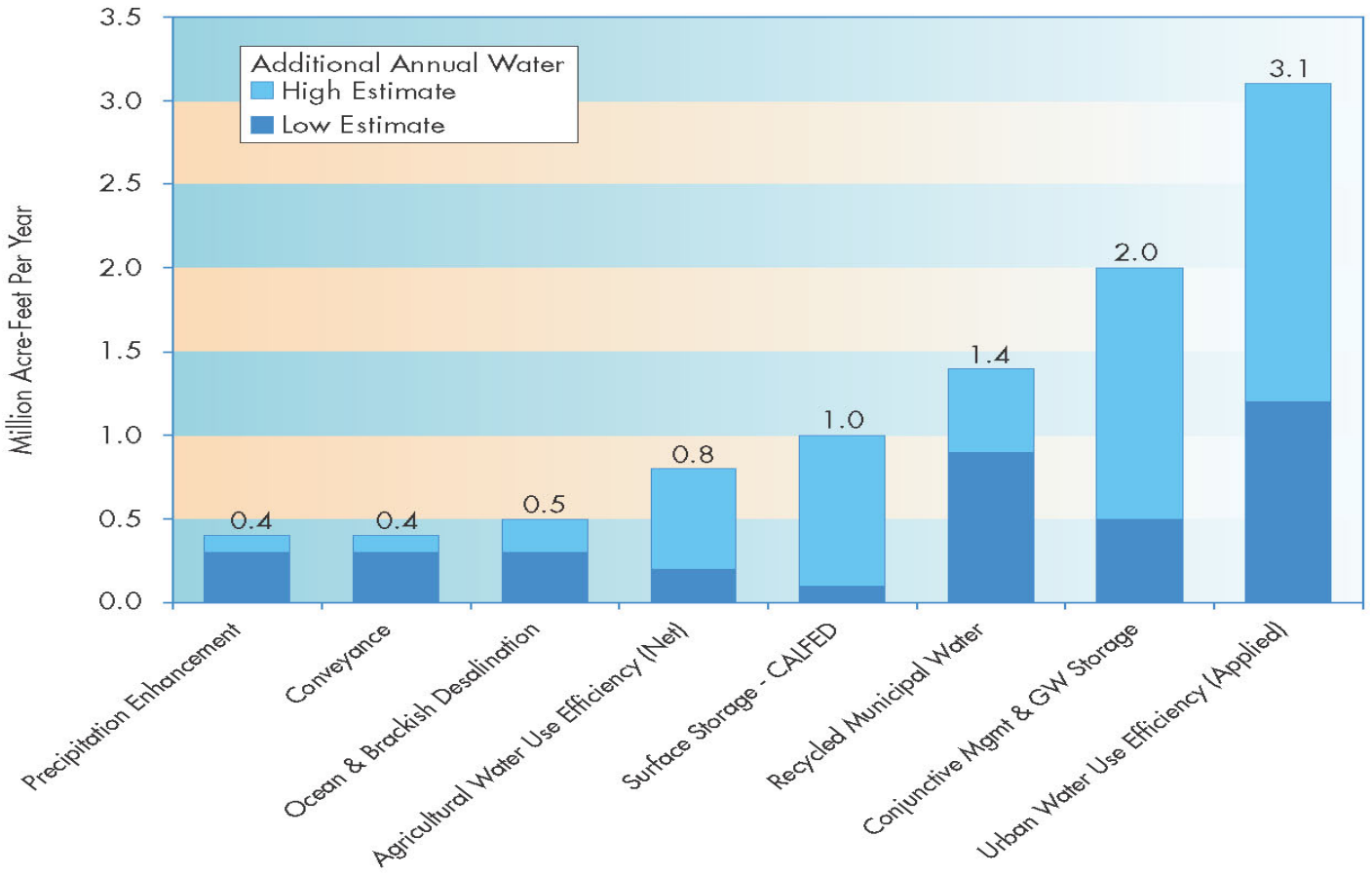
(WATER YEAR 2000)

[Using data from the 2005 California Water Plan Update, this graphic shows an estimated representation of how various sources of water available to a region may have been used to meet a region's urban per-capita water use. However, because data is not distinguished to separate the destination of source water, some of the water available to a region may have gone exclusively to agricultural uses or urban uses, thus skewing what is represented here.]



San Francisco Bay		Central Coast		South Coast		Delta Watershed		Tulare Lake	
(gpcd)	(%)	(gpcd)	(%)	(gpcd)	(%)	(gpcd)	(%)	(gpcd)	(%)
4	3%	0	0%	68	34%	23	8%	0	0%
41	27%	160	94%	71	36%	238	81%	154	51%
44	29%	10	6%	60	30%	31	10%	104	34%
63	41%	0	0%	0	0%	1	0%	44	15%

Figure 1-1 Range of additional annual water for eight resource management choices



This graph shows the potential range of more water demand reduction and supply augmentation each year for eight resource management strategies. Low estimates are shown in the lower (dark blue) section of each bar. The water supply benefits of the resource management strategies are not additive. As presented here, urban water use efficiency includes reduction in both consumptive and non-consumptive uses (or applied water), whereas agricultural water use efficiency only includes reduction in consumptive uses (or net water).

DWR. *California Water Plan Update, 2005,* vol. 2, page 1.5.