



Stewardship Solutions: A Range of Projects that Increase Instream Flow for Fish and Water Security for People - Matt Clifford, Staff Attorney, Trout Unlimited



Coastal Streamflow Stewardship Program



Basic Assumptions



A photograph of a stream flowing through a forest. The stream is composed of many grey, rounded rocks of various sizes. The water is clear and shallow, reflecting the surrounding greenery. The forest is dense with trees and undergrowth, including ferns and large green leaves. Sunlight filters through the canopy, creating dappled light on the rocks and water. Overlaid on the center of the image is the text "Salmon/ steelhead recovery often limited by flow" in a yellow, serif font.

Salmon/ steelhead recovery often limited by flow

Most users obtain water on property, no large-scale water projects

Most users get their water on the property where it is used



There is enough water for both fish and people;
the problem is one of timing



August 2009



January 2010

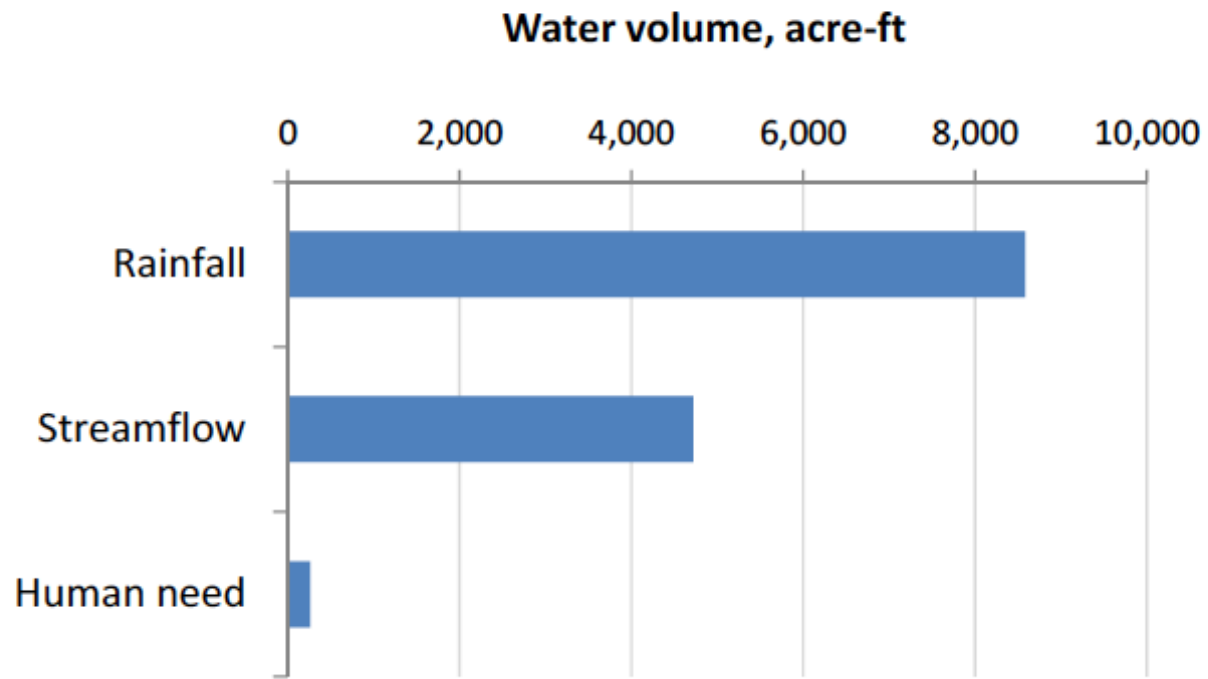
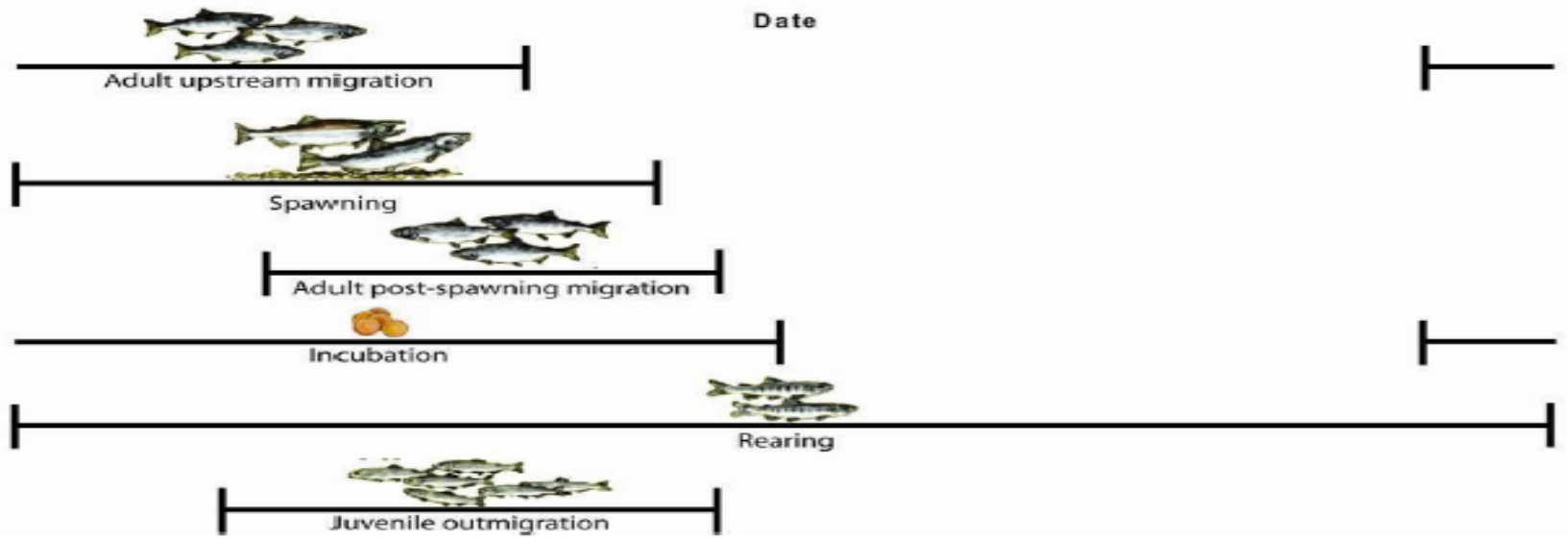
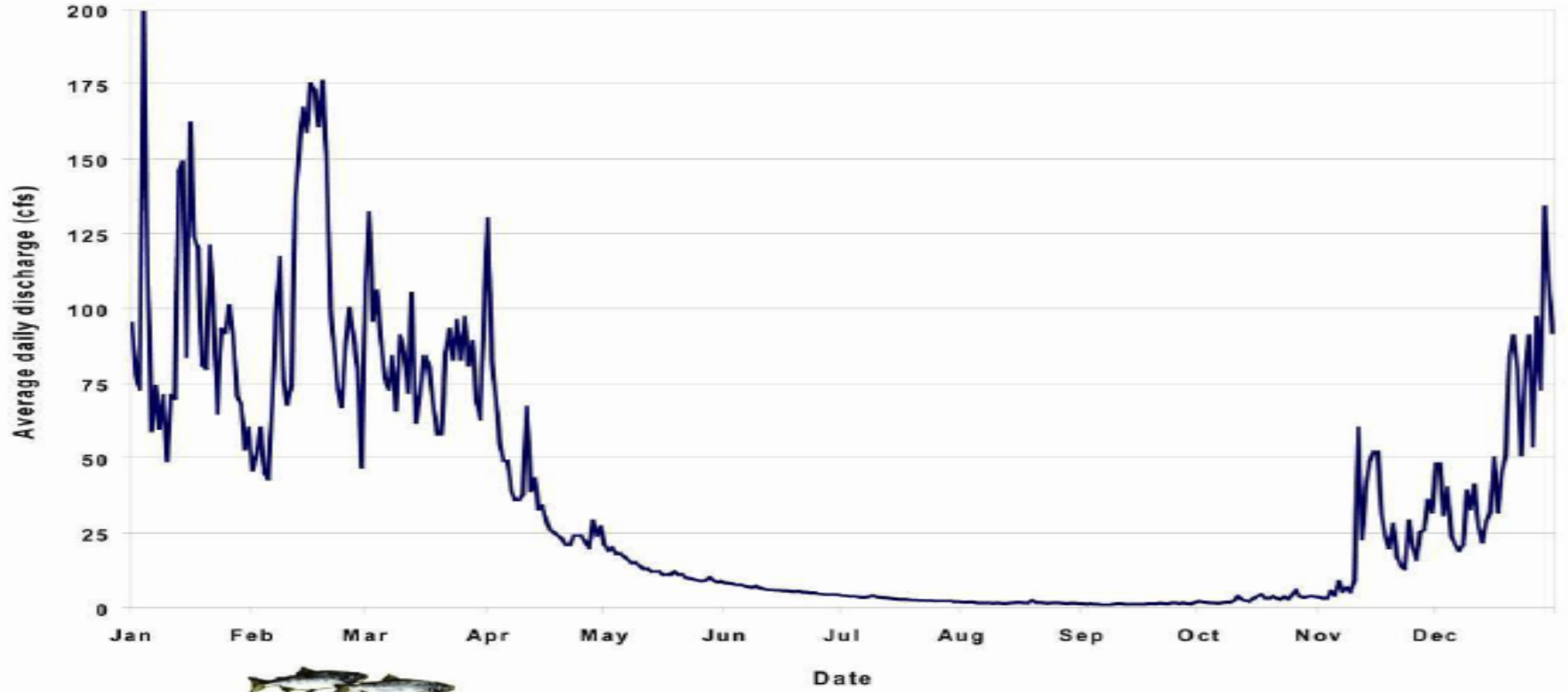


Figure 21. Comparison of average annual rainfall, streamflow, and human water need in the Grape Creek watershed

The same projects will help both fish and people





San Gregorio Creek

A diverse Range of project types



General Approaches:

- Conservation/ efficiency
- Forbearance combined with alternative source
- Coordination of diversions
- All of the above



Sample Projects – Mattole Residential Tanks

- Sanctuary Forest program
- SF installs storage system (typically 50k)
- Landowner agrees not to divert when flows < 0.7 cfs
- Permitting:
 - SDU registration
 - Programmatic LSA
- Rotation of diversions



Storage and Forbearance Projects – General Concept

- Build infrastructure to create secure dry-season water source
- Landowner agrees not to divert during critical periods (the “forbearance period”)
- Landowner **does not give up water rights** – just agrees not to use them at certain times
- Forbearance agreement itself does not require WR permitting



Conservation/ Efficiency Projects

- Irrigation efficiency (e.g., drip)
- Residential efficiency
- Drought-tolerant landscaping/ lawn
- Rainwater harvesting
- Reduce rate of diversion



Sample Project – Salmon Creek Rainwater Catchment Tanks

- *Agricultural and residential users forego direct diversions in summer*
- *Exchange for rainwater catchment tanks for non-potable use*



Sample Project –Camp On Dutch Bill Creek

- Existing on-stream diversion to water playing fields
- Conservation:
 - Reduce acreage 25%
 - Convert to drought-tolerant grass
 - Moisture probes to improve efficiency
- Install tanks totaling 180,000 gallons
- Fill tanks using on-property spring
- Eliminate existing diversion/ §1707 dedication
- Needs water right – spring flows off property

Tanks:

- Usually for domestic use
- Typical size: 40k – 80k gal.
- Typical cost: \$70k - \$110k
- Largest to date: 180k gal.
- Usually permitted via SDU

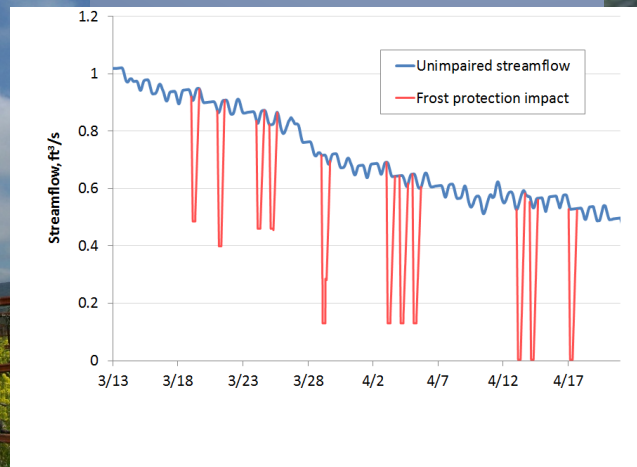


Ponds:

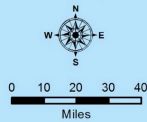
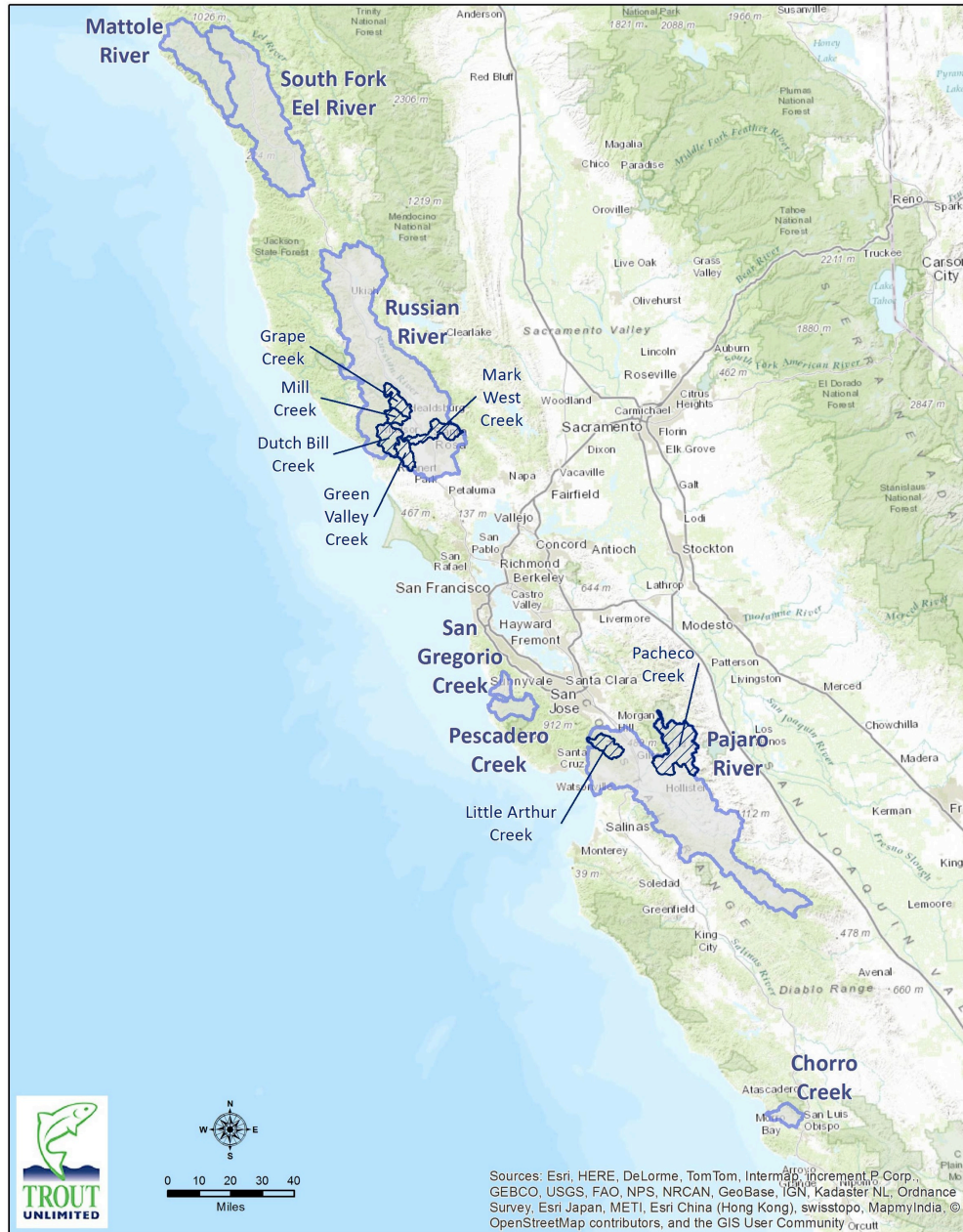
- Usually for ag use
- Typical size: 1 -4 af (grapes)
- Typical cost: \$70k - \$110k
- Cost highly site-specific; typically \$250k - \$750k
- Desktop study approx. \$15k
- Can be permitted via SIU

Frost Protection

- Direct diversions cause sudden drops in streamflow
- **Fans:**
 - can replace diversions (but don't work at all sites)
 - Are cheap & don't require permits
- **Ponds** work well if site constraints allow
- Sizing & permitting are much like irrigation ponds



California Water Project - Cooperative Streamflow Project Watersheds



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P. Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Sample TU Partners – Landowner Outreach

- Mattole (Sanctuary Forest)
- Little Arthur (CHEER)
- San Gregorio/ Pescadero (San Mateo RCD, TU Steelhead Coordinator)
- Green Valley, Dutch Bill, Mill, Mark West, Grape (Gold Ridge & Sonoma RCDs)



Grant Sources

- CA Coastal Conservancy
- CA Dept. of Fish and Wildlife
- NOAA
- NRCS
- USFWS
- NFHAAP
- EPA/ CA RWQCBs (319 funds)
- NRCS (Farm Bill funds)
- Water Districts
- IRWMP
- Private foundations

PERMITTING



ALL DIVERSIONS NEED TWO “PERMITS”

- *A water right (riparian or appropriative)*
- *A §1600 agreement (LSAA) from DFW*

WATER RIGHTS

- *Riparian*
- *Appropriative*

(plus groundwater)

Riparian Water Rights

Features:

- *Exist through ownership of land abutting stream*
- *Can be put to any reasonable, beneficial use on riparian property*
- *All riparian right holders have co-equal priority*
- *Usually have **priority** over appropriative rights*

Riparian Water Rights

Limits:

- *Limited to use on riparian land within watershed (can't transfer)*
- *Right to natural streamflow only (not imported or stored water)*
- *Can't store water (defined as retaining it for more than 30 days)*

APPROPRIATIVE WATER RIGHTS

- *Established by permit/ license from State Water Board (unless pre-1914)*
- *License states quantity of use/ storage, season of diversion, purpose of use*
- *Can store water (more than 30 days)*
- *Surface streams and “subterranean” streams*

DFW Regulation of Water Use: Fish and Game Code Section 1602

- Required for all “substantial” diversions of any stream
- DFW may impose reasonable conditions to protect fisheries
- Terms usually include limits on season of diversion
- DFW may conduct a site visit

REGISTRATIONS

SMALL DOMESTIC USE

SMALL IRRIGATION USE

- *“Shortcut” for smaller appropriative water rights*
- *File complete form/ pay fee to SWRCB*
- *5-year term (renewable)*
- *Commonly used for small storage projects*
- *DFW can require §1600 (LSAA) conditions*
- *Drought emergency SDU program*



Instream Flow Projects in Coastal Watersheds

Matt Clifford, Staff Attorney, Trout Unlimited