



Fish Advisories

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Office of Environmental Health Hazard Assessment
(OEHHA)

Community Stakeholder Group

San Joaquin County Public Health, Stockton

Wednesday, October 22, 2014

Walnut Grove Library, Walnut Grove

Thursday, October 23, 2014

OEHHA's Role

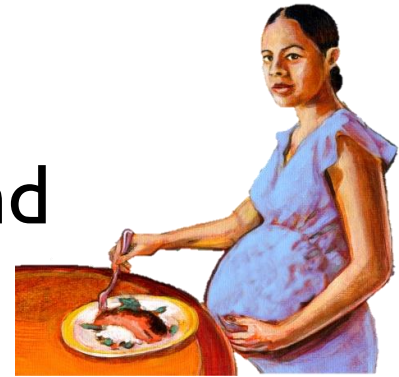
- OEHHA is responsible for evaluating risks from eating California fish and issuing advice to protect public health
 - Fish may be contaminated by chemicals
 - Non-regulatory – advisories provide recommendations and information

Why Have Fish Advisories?

- Possible harmful health effects
 - Mercury and PCBs
- Long time to clean up
 - Legacy chemicals persist in environment
 - Responsibility of Water Board
- Eating fish offers health benefits
- Some fish less contaminated than others

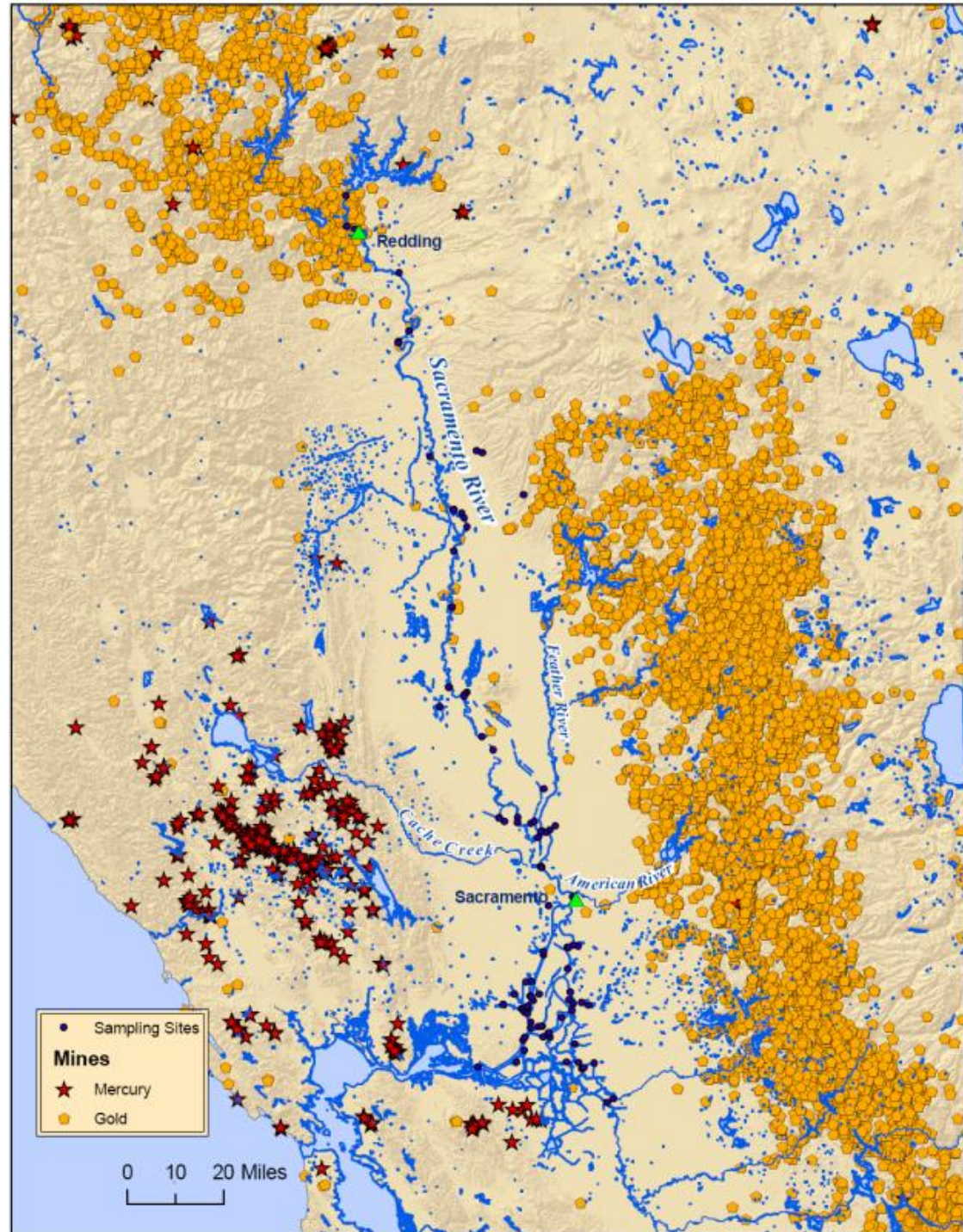
Potential Health Effects

- Developing fetus, babies, and children most sensitive
- Brain and nervous systems developing
 - Subtle effects on learning (cognitive thinking, memory, attention, language, and fine motor and visual spatial skills)
- More protective advice for women 18-45 years and children 1-17 years



Gold and Mercury Mines near the Central Valley

Mercury is the contaminant of concern

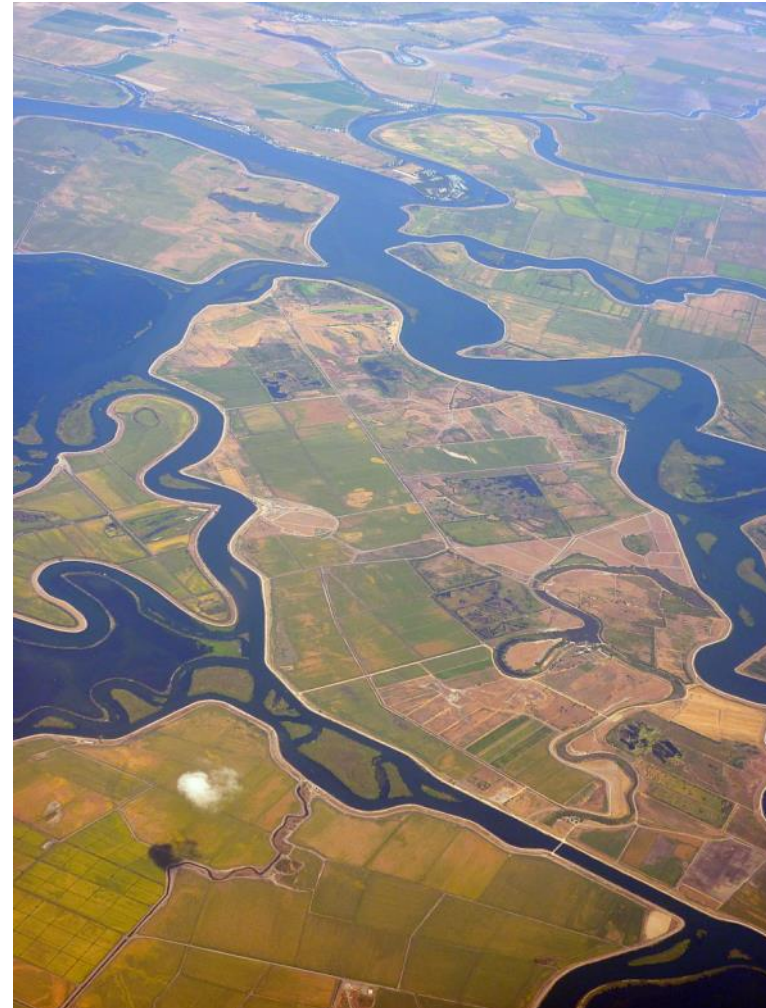


Water Flow into the Sacramento and San Joaquin Rivers



Sacramento-San Joaquin Delta

- The Sacramento-San Joaquin Delta is at the heart of California's water supply.
- The Delta has been re-engineered and re-plumbed over the last 160 years to meet the needs of the State.



Fish Sampling In the Central Valley Watershed

- Fish Mercury Project
- San Joaquin River and Central & South Delta water bodies
- Sacramento River and Northern Delta water bodies

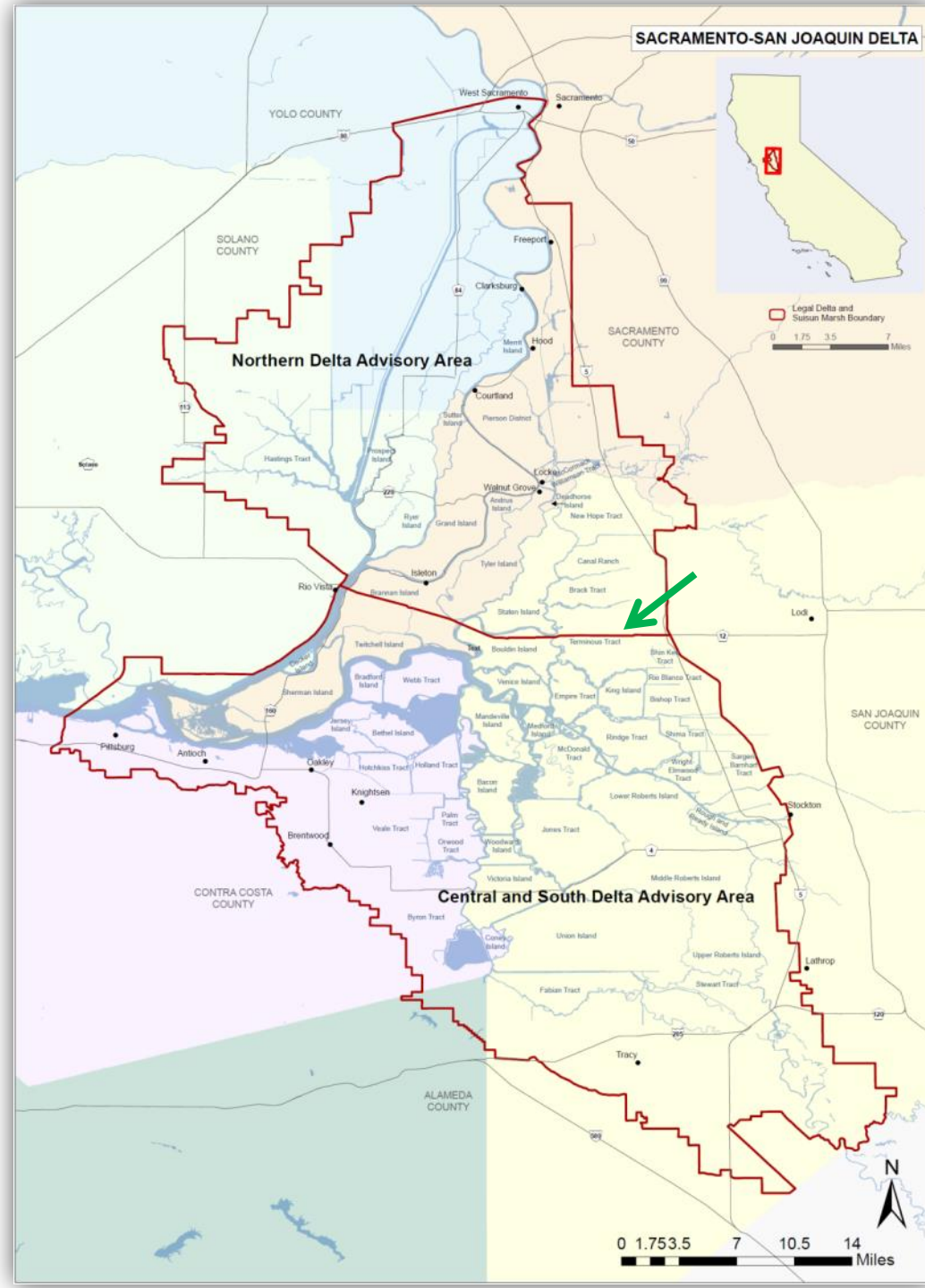




Sacramento-San Joaquin Delta Advisories

- Central and South Delta
 - Port of Stockton
- San Joaquin River
- Lower Mokelumne River
- Lower Cosumnes River
- Sacramento River and Northern Delta

Northern Delta — Central and South Delta Advisories Boundary: Highway 12



Central & South Delta and San Joaquin River

- Lower mercury levels in fish from the Central and South Delta
 - Compared to fish from the San Joaquin River south of Stockton
- Two separate advisories issued (2004)
 - Central & South Delta
 - San Joaquin River south of Stockton

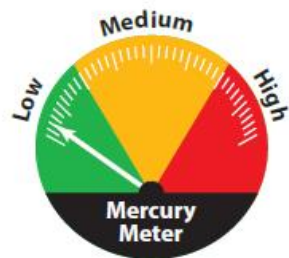
Central & South Delta Advisory

- Advisory includes the San Joaquin River and other water bodies in the Delta south Highway 12
 - San Joaquin River from the Port of Stockton to Pittsburg
 - Excludes the Sacramento River
- Special advice for the Port of Stockton
 - No one should eat any fish or shellfish from the Port of Stockton

A guide to eating fish caught in the **Central and South Delta**

This advisory is for all waterbodies in the Delta south of Highway 12 (except the Sacramento River)

Women 18 - 45 and children 1 - 17



Steelhead trout* ♥



American shad ♥



Crayfish ♥



Catfish



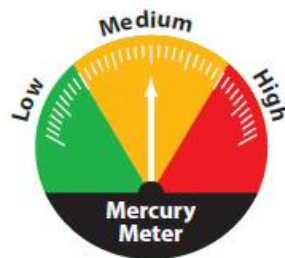
Bluegill or other sunfish



Asiatic clam



Chinook (king) salmon ♥



Bass ♥



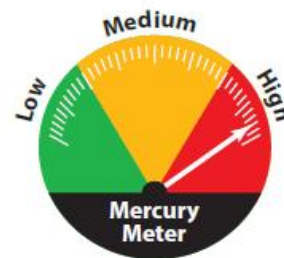
Sucker



Crappie



Carp



Striped bass



White sturgeon

Men over 17 and women over 45 can eat more fish

- 7 servings a week OR
5 servings a week of crayfish or catfish OR
- 2 servings a week OR
- 2 servings a week of striped bass OR
1 serving a week of sturgeon

What is a serving?



For Adults For Children

The recommended serving of fish is about the size and thickness of your hand. Give children smaller servings.

♥ Why eat fish?

Eating fish is good for your health. Fish have Omega-3s that can reduce your risk for heart disease and improve how the brain develops in unborn babies and children.

What is the concern?

Some fish have high levels of mercury and PCBs. Mercury can harm the brain especially in unborn babies and children. PCBs can cause cancer.

♥ = High in Omega-3s

* It is only legal to keep hatchery steelhead and only in select waters, see www.dfg.ca.gov/regulations/

Rainbow trout photo: John Lyons, Wisconsin Department of Natural Resources

2 servings a week OR
7 servings a week of
clams

OR

1 serving a week

**Do not eat
AND
do not eat any fish or shellfish
from the Port of Stockton**

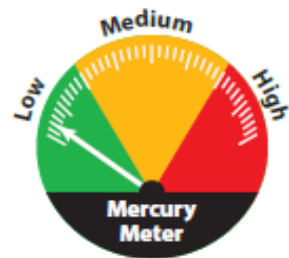
San Joaquin River Advisory

- San Joaquin River south of Stockton (from Friant Dam to the Port of Stockton)
 - Mercury levels in fish were higher in this part of the river than in the Central and South Delta

A guide to eating fish caught in the **San Joaquin River**

From Friant Dam to the Port of Stockton

Women 18 - 45 and children 1 - 17



Bluegill or redear sunfish



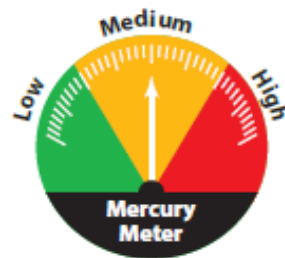
Steelhead trout* ♥



Chinook (king) salmon ♥



American shad ♥



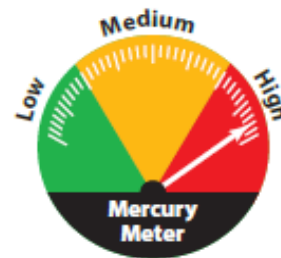
Catfish



Carp or goldfish



Sucker



Striped bass



Largemouth bass



White sturgeon

Men over 17 and women over 45
can eat more fish

- 7 servings a week — Chinook (king) salmon, shad, or steelhead trout ♥ OR 5 servings a week — bluegill or redear sunfish OR
 - 2 servings a week — carp, catfish, or sucker OR
 - 1 serving a week — largemouth bass or white sturgeon OR 2 servings a week — striped bass
- Do not eat fish or shellfish from the Port of Stockton.

What is a serving?



For Adults For Children

The recommended serving of fish is about the size and thickness of your hand. Give children smaller servings.

♥ Why eat fish?

Eating fish is good for your health. Fish have Omega-3s that can reduce your risk for heart disease and improve how the brain develops in unborn babies and children.

What is the concern?

Some fish have high levels of mercury and PCBs. Mercury can harm the brain especially in unborn babies and children. PCBs can cause cancer.

♥ = High in Omega-3s

* It is only legal to keep hatchery steelhead and only in select waters, see www.dfg.ca.gov/regulations/

2 servings a week —
bluegill or redear sunfish,
Chinook (king) salmon, or
steelhead trout OR
3 servings a week — shad

OR

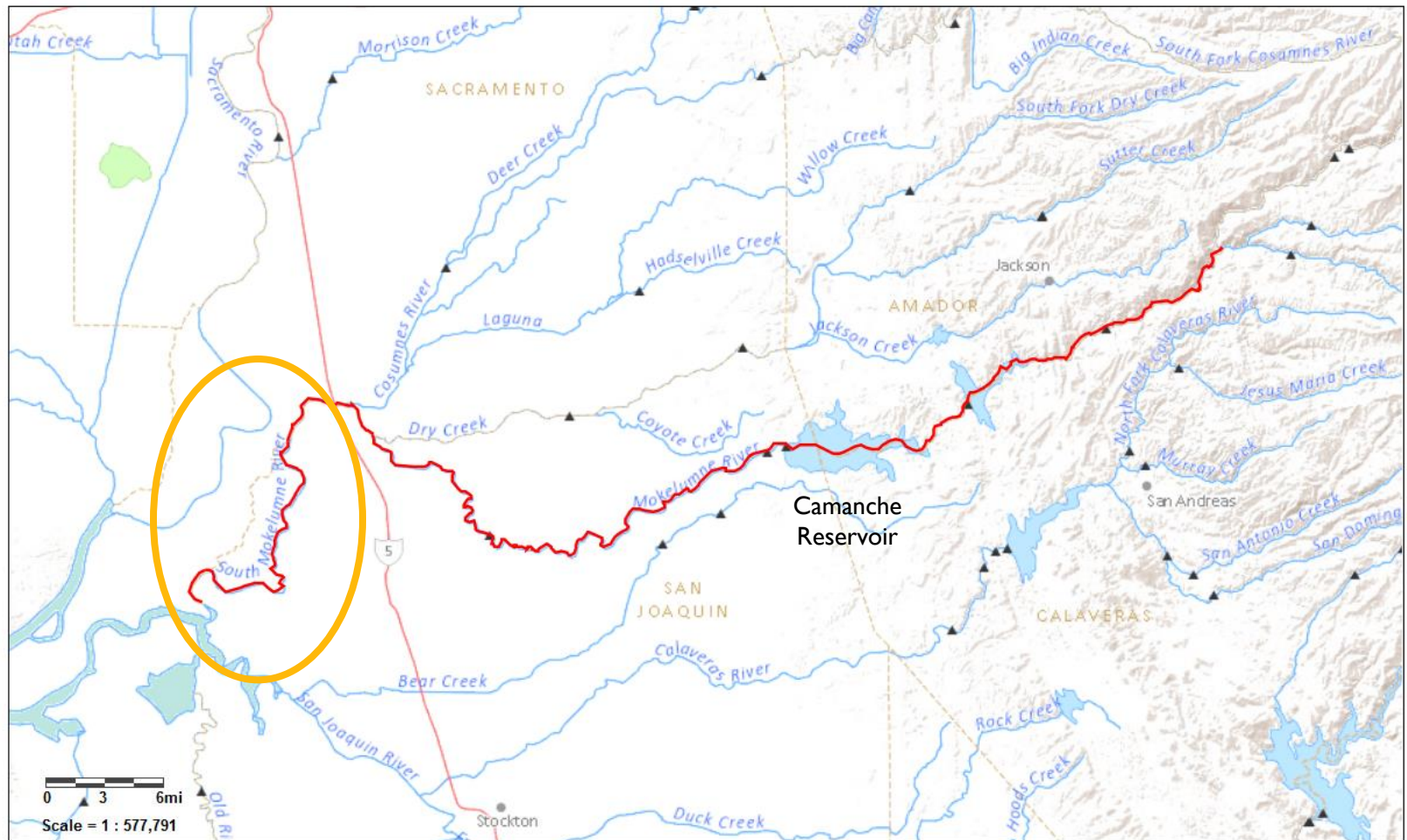
1 serving per week

**Do not eat
AND
Do not eat
any fish or shellfish
from the Port of Stockton**

Lower Mokelumne and Lower Cosumnes River Advisories

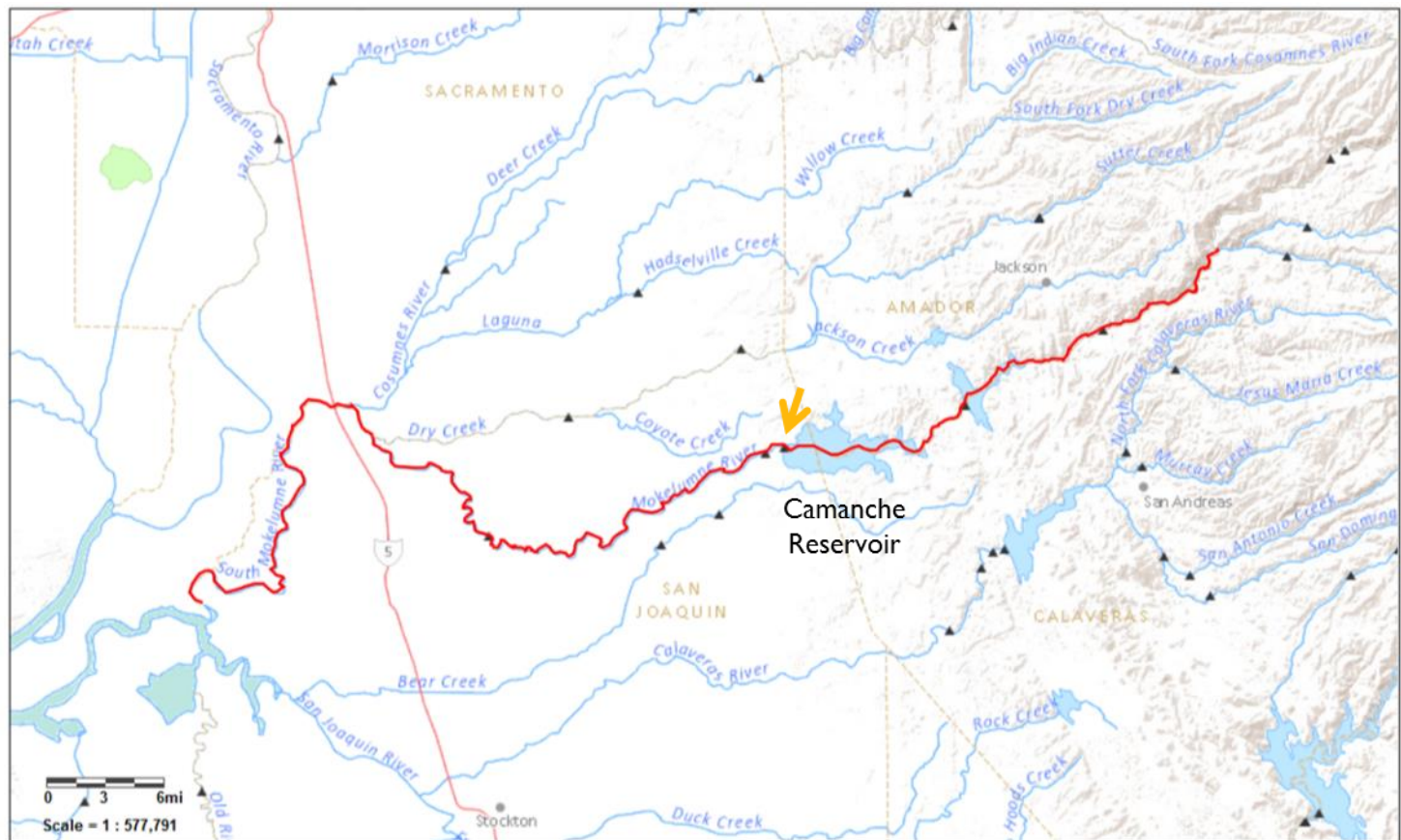
- Advisories issued together (2006)
- Mokelumne River flows into the San Joaquin River
- South Fork Mokelumne River in the Delta

Lower Mokelumne River














Lower Mokelumne River Advisory

- From below Camanche Reservoir to the San Joaquin River














Safe Eating Guidelines for Fish and Shellfish from the Lower Mokelumne River

Women 18 – 45 and Children 1 – 17 Years		
 American shad ♥	 Bluegill or other sunfish	 Largemouth, smallmouth, or spotted bass
 Chinook king salmon ♥	 Catfish	 Pikeminnow
 Clams	 Crayfish	 Striped bass
 Steelhead trout** ♥		 White sturgeon
2-3 servings per week or 7 servings per week of clams OR	1 serving per week	Do not eat

**** Note:** It is only legal to keep **hatchery steelhead** and **only in select waters**. Hatchery steelhead are identified by a missing adipose fin and healed scar in the location of the missing fin. All wild steelhead must be released unharmed.

♥ = High in omega-3s

Safe Eating Guidelines for Fish and Shellfish from the Lower Mokelumne River

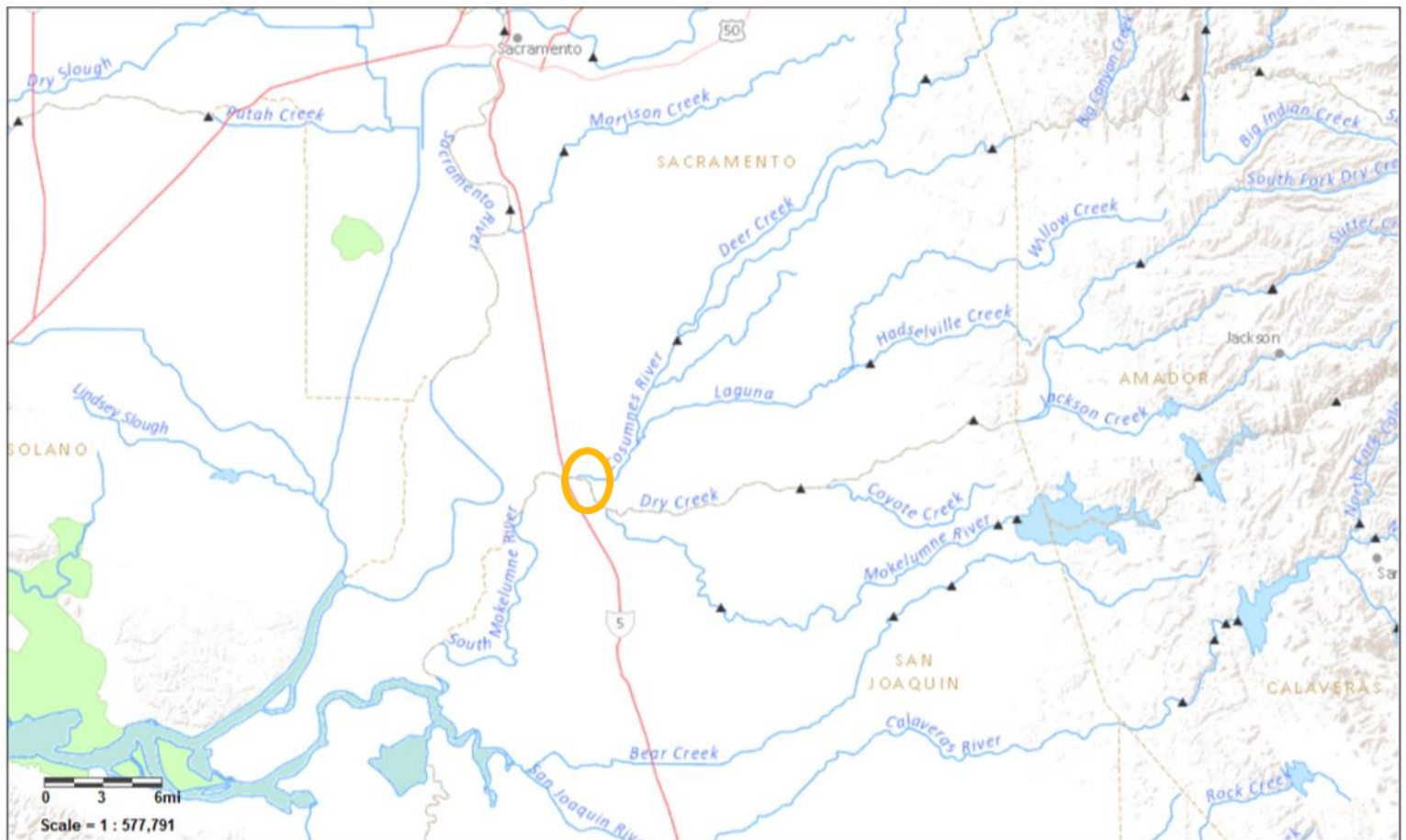
Men over 17 Years and Women over 45 years		
 American shad ♡	 Bluegill or other sunfish	 Largemouth, smallmouth, or spotted bass ♡
 Chinook king salmon ♡	 Catfish	 Pikeminnow
 Clams	 Crayfish	 White sturgeon
 Steelhead trout** ♡	 Striped bass ♡	
7 servings per week OR	2 servings per week OR	1 serving per week

** Note: It is only legal to keep **hatchery steelhead and only in select waters**. Hatchery steelhead are identified by a missing adipose fin and healed scar in the location of the missing fin. All wild steelhead must be released unharmed.

♡ = High in omega-3s

Lower Cosumnes River














- Flows into the Mokelumne River



Lower Cosumnes River Advisory

- Cosumnes River natural flows
(not dammed)
- Lower Cosumnes River more
contaminated
 - Advice for the sensitive population:
Do not eat bass, catfish, or crappie

Safe Eating Guidelines for Fish and Shellfish from the Lower Cosumnes River

Women 18 – 45 and Children 1 – 17 Years		
 American shad ♡	 Carp	 Bass
 Chinook king salmon ♡	 Crayfish	 Catfish
 Clams	 Redear or other sunfish	 Crappie
 Steelhead trout** ♡	 Sucker	 Striped bass
		 White sturgeon
2-3 servings a week or 7 servings a week of clams OR	1 serving per week	Do not eat

** Note: It is only legal to keep **hatchery steelhead** and **only in select waters**. Hatchery steelhead are identified by a missing adipose fin and healed scar in the location of the missing fin. All wild steelhead must be released unharmed.

♡ = High in omega-3s

Safe Eating Guidelines for Fish and Shellfish from the Lower Cosumnes River

Men over 17 Years and Women over 45 years



American shad ♥



Chinook king salmon ♥



Clams



Steelhead trout** ♥



Carp



Crayfish



Redear or other sunfish



Striped bass ♥



Sucker



Bass ♥



Catfish



Crappie *



White sturgeon

7 servings per week OR

2 servings per week OR

1 serving per week

* EXCEPT Do not eat crappie

** Note: It is only legal to keep **hatchery steelhead** and **only in select waters**. Hatchery steelhead are identified by a missing adipose fin and healed scar in the location of the missing fin. All wild steelhead must be released unharmed.

♥ = High in omega-3s

Sacramento River and Northern Delta Advisory

- One combined advisory (2008)
 - Fish mercury levels similar in the river and Northern Delta water bodies
- Sacramento River from below Shasta lake to Pittsburg
- All water bodies in the Delta north of Highway 12

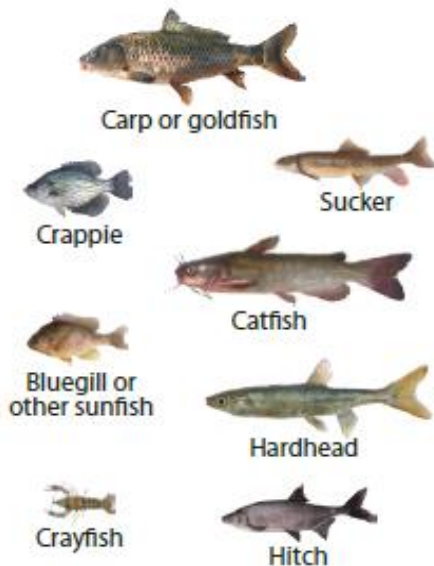
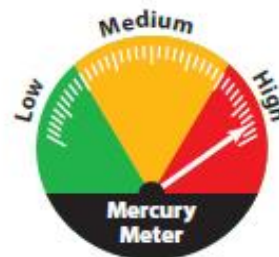
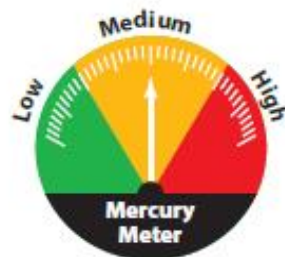
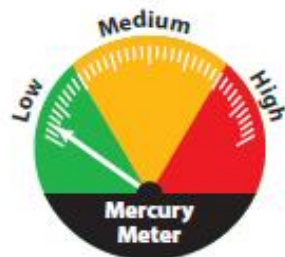


A guide to eating fish caught in the Sacramento River and Northern Delta

This advisory is for the Sacramento River and all water bodies in the Delta north of Highway 12 to Sacramento

Women 18 - 45 and children 1 - 17

Men over 17 and women over 45 can eat more fish



- 7 servings per week OR
- 3 servings per week OR
- 1 serving per week OR 2 servings per week of striped bass

What is a serving?



For Adults For Children

The recommended serving of fish is about the size and thickness of your hand. Give children smaller servings.

Why eat fish?

Eating fish is good for your health. Fish have Omega-3s that can reduce your risk for heart disease and improve how the brain develops in unborn babies and children.

What is the concern?

Some fish have high levels of mercury and PCBs. Mercury can harm the brain especially in unborn babies and children. PCBs can cause cancer.

♥ = High in Omega-3s

* It is only legal to keep hatchery steelhead and only in select waters, see www.dfg.ca.gov/regulations/

Rainbow trout photo: John Lyons, Wisconsin Department of Natural Resources

2 servings a week OR
7 servings a week of
clams

OR

1 serving per week

Do not eat

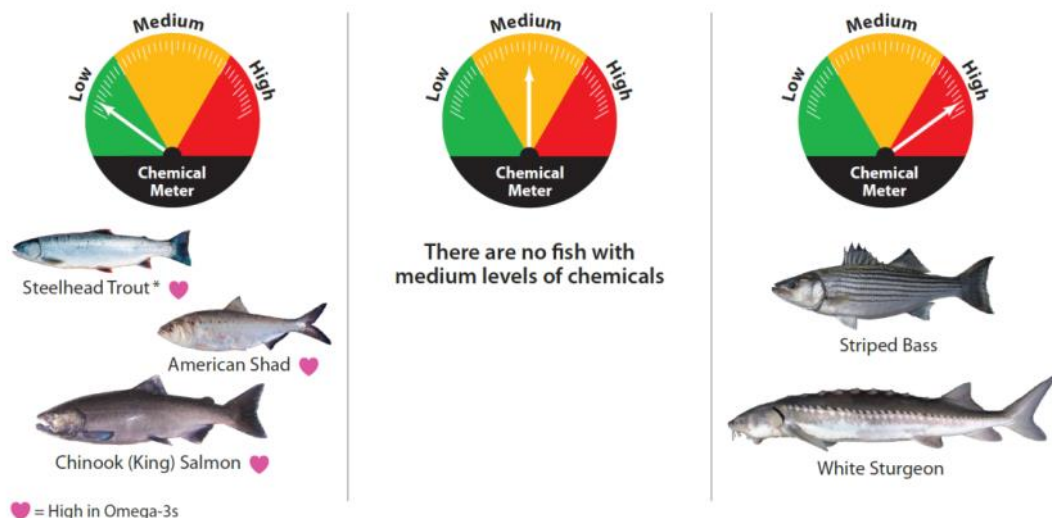
Regional Advisory for Fish that Swim between the Ocean and Rivers (2012)

“Anadromous” species

- American shad
- Chinook salmon
- Steelhead trout
- Striped bass
- White sturgeon

A guide to eating American shad, Chinook (king) salmon, steelhead trout, striped bass, and white sturgeon caught in California rivers, estuaries, and coastal waters

Women ages 18 - 45 and children ages 1 - 17 years old



**Safe to eat
2-3 servings per week**

**Safe to eat
1 serving per week**

Do not eat

Men over age 17 and women over age 45 can safely eat more fish

Safe to eat 7 servings per week — American shad, Chinook (king) salmon, or steelhead trout OR

Safe to eat 2 servings per week — striped bass OR

Safe to eat 1 serving per week — white sturgeon

Why eat fish?

Eating fish is good for your health. Fish have Omega-3s that can reduce your risk for heart disease and improve how the brain develops in unborn babies and children.

What is the concern?

Some fish have high levels of mercury and PCBs. Mercury can negatively affect how the brain develops in unborn babies and children. It is especially important for women who are pregnant or breastfeeding to follow these guidelines. PCBs might cause cancer.

What is a serving?



For Adults

For Children


The recommended serving of fish is about the size and thickness of your hand. Give children smaller servings.

These guidelines do not apply to these fish caught in lakes or reservoirs.

*** Note: It is only legal to keep hatchery steelhead and only in selected waters.** Hatchery steelhead are identified by a missing adipose fin and healed scar in the location of the missing fin. All wild steelhead must be released unharmed.

Check California Department of Fish and Game Regulations (www.dfg.ca.gov/regulations/) for salmon, steelhead, striped bass, and white sturgeon, including legal sizes, bag and possession limits, and seasons, which can vary from year to year.

Delta Advisory Updates

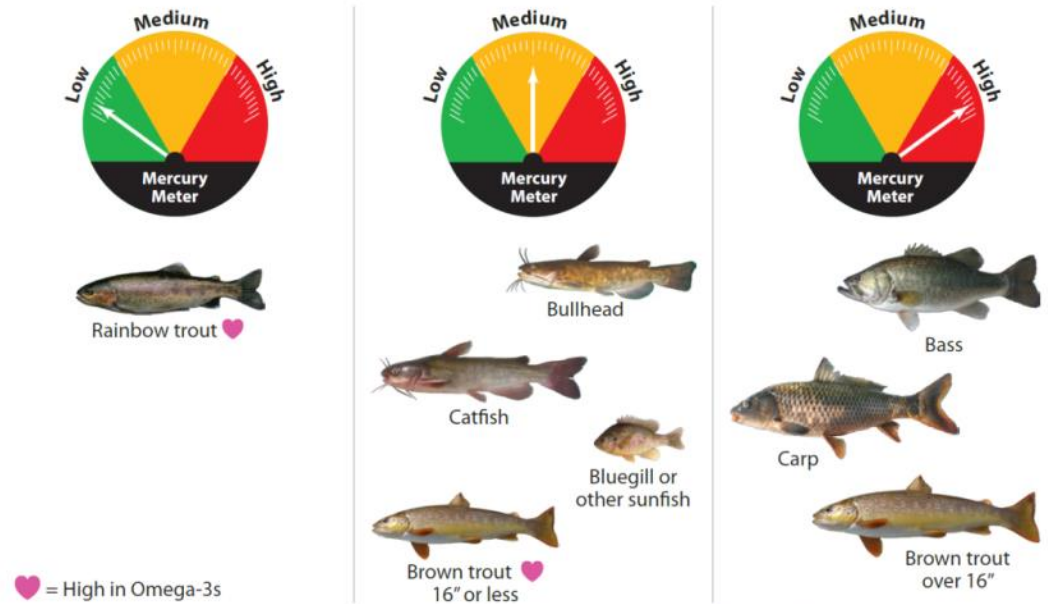
- Added “anadromous” species: live in rivers, estuaries, and coastal waters and swim from the ocean to rivers to spawn
-  = high in omega-3s
 - Salmon, steelhead trout, American shad
- Updated advice for clams

Statewide Advisory for Lakes and Reservoirs

Without site- specific advice

A Healthy Guide to Eating Fish from California Lakes and Reservoirs*

Women 18 - 45 and children 1 - 17



Rainbow trout photo: John Lyons, Wisconsin Department of Natural Resources

2 servings a week

OR

1 serving a week

Do not eat

Women over 45 and men can safely eat more fish

6 servings a week

OR

2 servings a week

OR

1 serving a week

What is a serving?



For Adults For Children

The recommended serving of fish is about the size and thickness of your hand. Give children smaller servings.

♥ Why eat fish?

Eating fish is good for your health. Fish have Omega-3s that can reduce your risk for heart disease and improve how the brain develops in unborn babies and children.

What is the concern?

Some fish have high levels of **mercury**. Mercury can harm the brain, especially in unborn babies and children. Women over 45 and men have lower risk and can eat more fish.

* Many lakes and reservoirs in California have site-specific guidelines. Use the QR code here or the website below for specific guidelines for these lakes and reservoirs.

