

Napa RCD's Fish Monitoring Efforts

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Steelhead trout

Oncorhynchus mykiss



- Threatened under Federal Endangered Species Act
- Anadromous
 - Life spent in freshwater and ocean



Overview of Napa RCD's Current Fish Monitoring



- **Adult Spawner Surveys**
 - Primarily adult Chinook salmon



- **Rotary Screw Trap**
 - Smolt outmigration



- **PIT Tagging**
 - Steelhead smolts



- **Opportunistic snorkel surveys**



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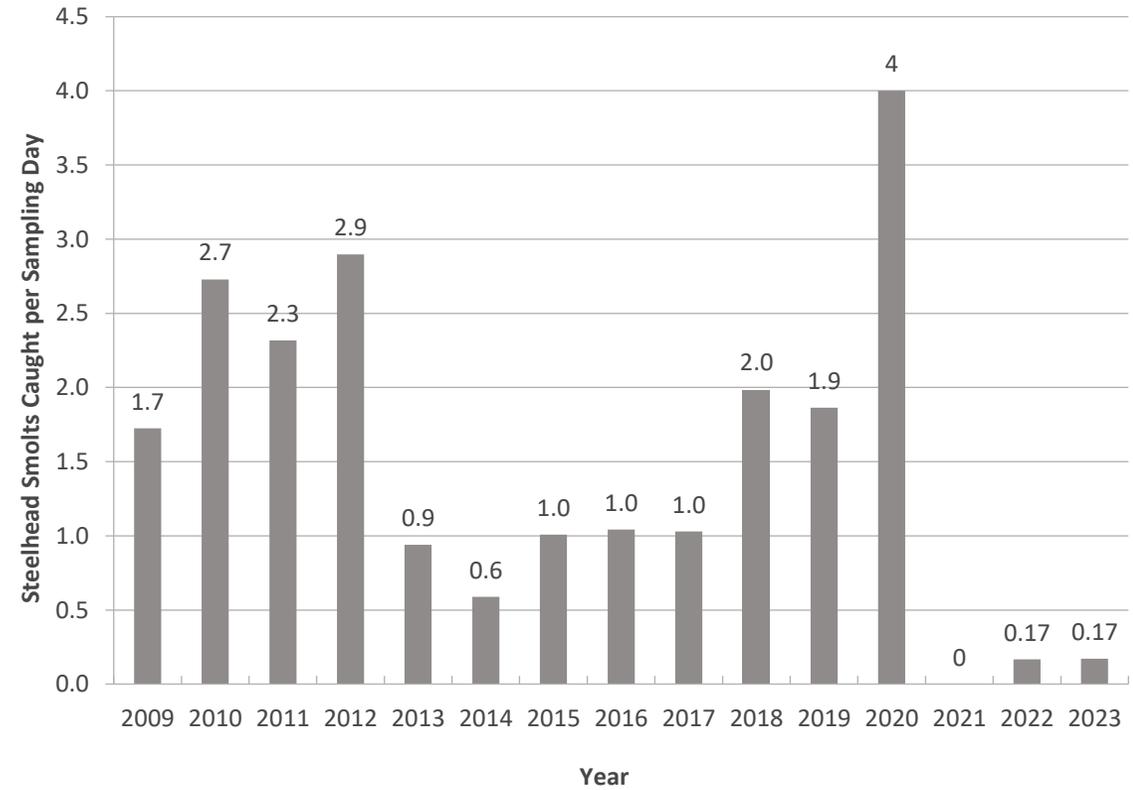
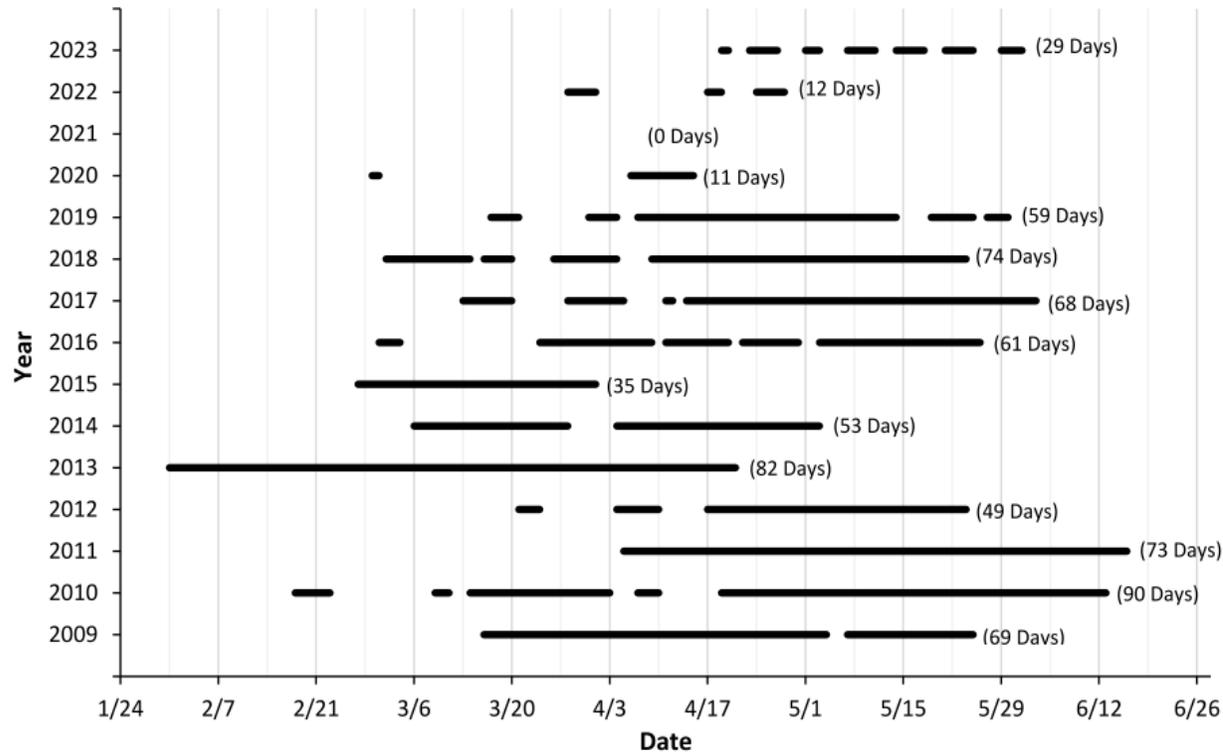
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• **Insights!**

- Fish community is mostly native fish
- Always some level of steelhead production, may be important for other anadromous fishes
- Program offered first confirmation that our steelhead are a self-sustaining population

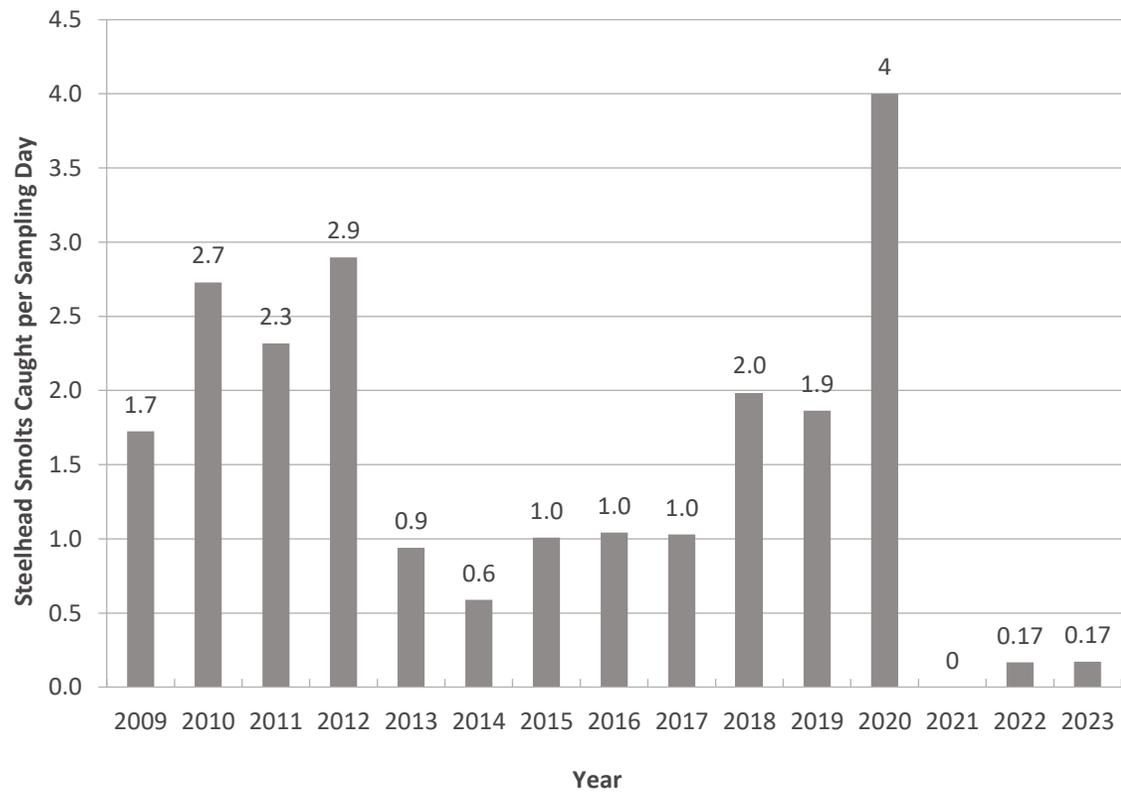
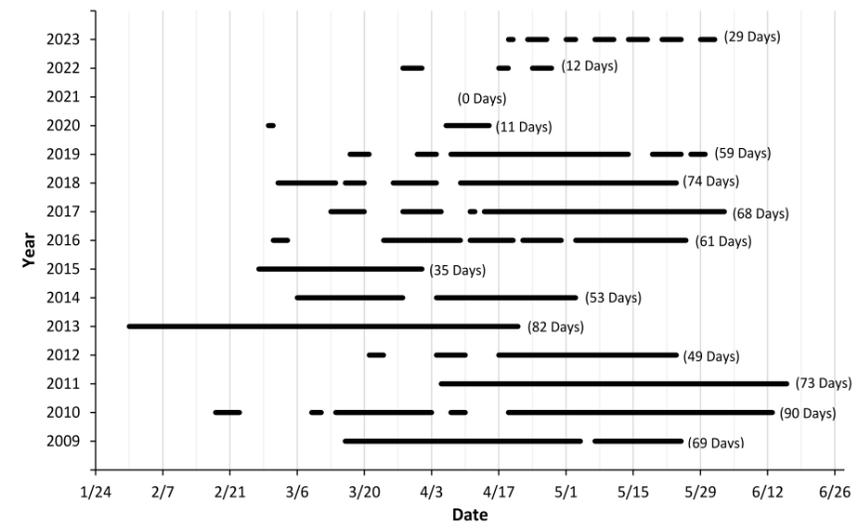


'How are the fish doing?'

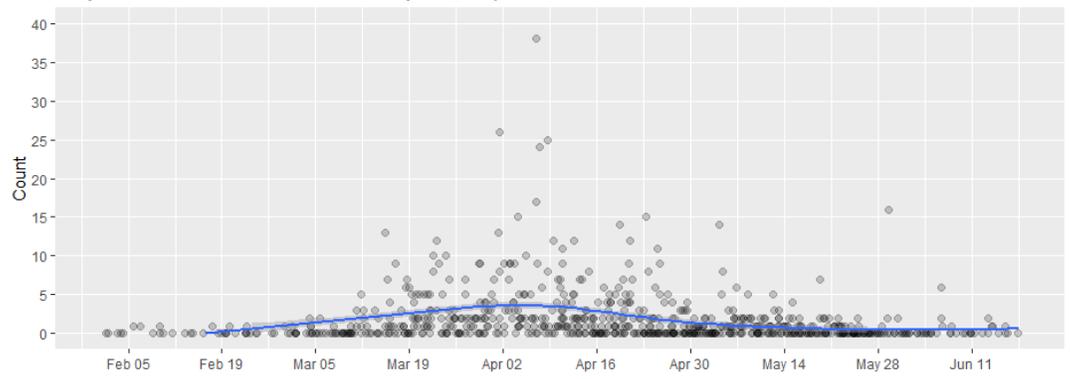




'How are the fish doing?'



daily RST steelhead count across all years, Napa River



Noise

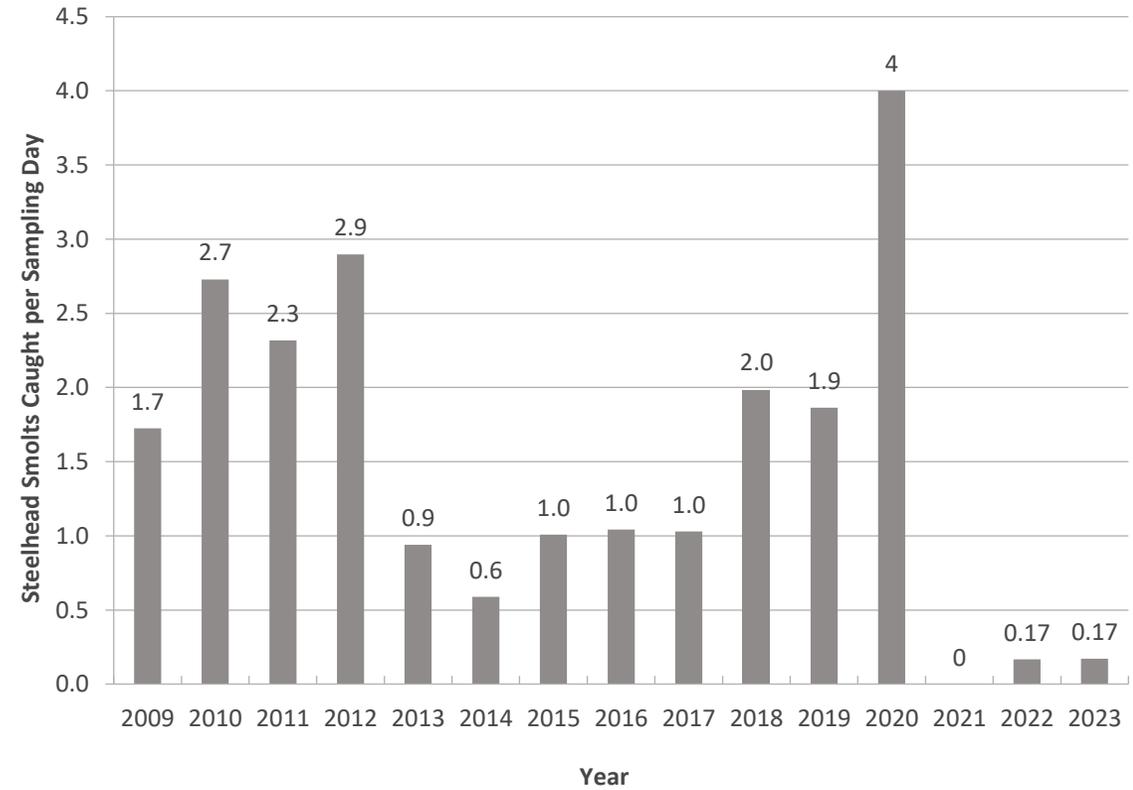
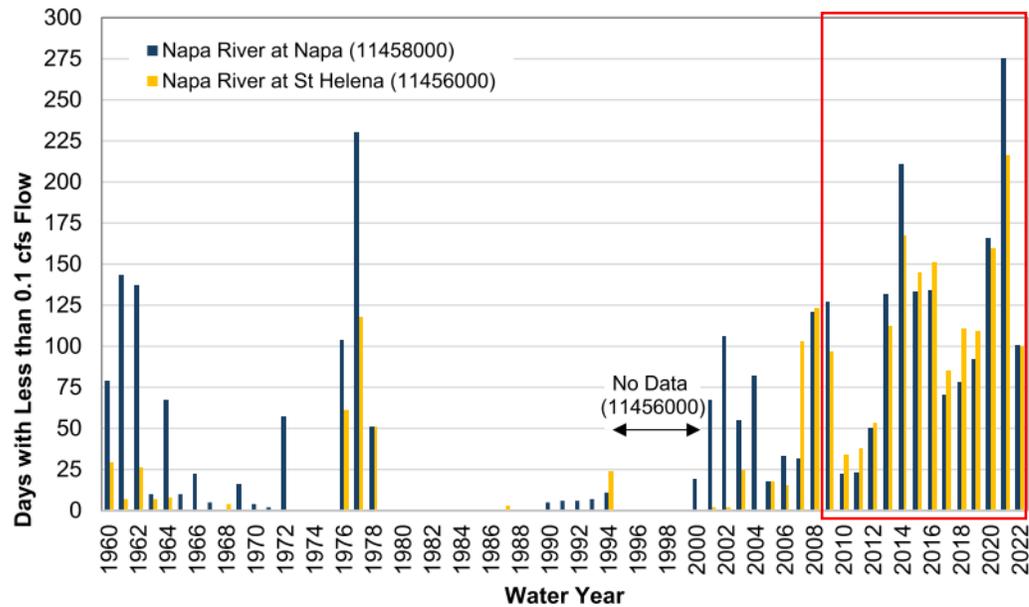
Signal



'How are the fish doing?'

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Napa County Groundwater Sustainability Agency
ISW and GDEs Workplan: Napa Valley Subbasin



Weak Signal?

Limitations of current fish monitoring program



- **Adult Spawner Surveys**
 - Primarily adult Chinook salmon
- **Rotary Screw Trap**
 - Smolt outmigration
- **PIT Tagging**
 - Steelhead smolts
- **Opportunistic snorkel surveys**

• **Limitations**

- **Sensitive to hydrologic extremes**
 - Flows can be too high or too low
 - This was the case for the last four sampling seasons
- **Rotary Screw trap catch per unit effort may be too noisy?**
 - Maybe change in distribution as a way of tracking fish health?
- **Does not provide information about specific streams and locations in a watershed**
 - How are fish doing in a specific stream?

Future direction for our Fish Monitoring program



- **Add backpack electrofishing!**
 - **Surveys occur during summer baseflow**
 - Less susceptible to hydrologic extremes
 - **Relatively low effort**
 - Provides reach specific information
 - Can scale up to provide watershed wide information
 - **Pair with other reach specific data**
 - Stream Watch, wet-dry mapping, fish barrier evaluations, etc.



In summary



- **How are fish doing?**
 - Its tough to say, but probably not well.
- **Add new fish monitoring methods to address some program limitations**
 - **Backpack electrofishing**
 - Low effort, thus scalable
 - Reach specific
 - Less affected by hydrologic extremes
 - Facilitate surveying reaches as questions arise

Questions?

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