Monitoring Monday – Let's look at monitoring frogs.

Join us each Monday as the Clean Water Team shares information and resources on water quality monitoring. This Monday we will look at biomonitoring frogs, FrogWatch, and Save the Frogs Day.

Biological monitoring is the first step in protecting biological integrity in waters (Karr and Chu 1999). Biological Integrity can be defined as "a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitat of the region." (Karr and Dudley 1981). A biota's condition as revealed through biological monitoring offers the most comprehensive indication of ecological risks in a particular place….

Together, biological, and physical assessments integrate the effects of water quality (and any changes) over time, are sensitive to multiple aspects of water and habitat quality, and provide the public with more familiar expressions of ecological health (Gibson 1996). The additive or synergistic effects of multiple stressors, including the cumulative effects of sub-lethal doses of toxins, are reflected in changes in the community composition and structure…
(taken from the Bioassessment Primer - www.waterboards.ca.gov/water_issues/programs/swamp/docs/cwt/guidance/352.pdf)

These biological assessment results are used to answer the question of whether waterbodies support survival and reproduction of desirable fish, shellfish, and other aquatic species -- in other words, if the waterbodies meet their designated aquatic life uses. (USEPA Biological Assessment - https://archive.epa.gov/water/archive/web/html/bioassess.html)

Selection of what aquatic assemblage to monitor is an important consideration. Each assemblage has its own advantages as do the methods used for monitoring. The most common assemblages use in biomonitoring are algae and periphyton, benthic macroinvertebrates, and fish. Frogs and toads are increasingly used as bioindicator organisms in pollution studies as well.

Citizen Science Biomonitoring of Frogs:
You can dabble with biomonitoring by participating in FrogWatch, which concludes this month. FrogWatch USA is the American Zoological Association's (AZA) citizen science program and provides individuals, groups, and families opportunities to learn about wetlands in their communities by reporting on the calls of local frogs and toads. This is an easy way to collect information on frogs that relies on listening.

FrogWatch USA www.aza.org/frogwatch-monitoring-protocols

- Protocols - www.aza.org/frogwatch-monitoring-protocols

- The following is a list of frogs and toads that may be found in California. Click on the links to learn more about each species, see pictures, and to hear recordings of their calls. https://www.aza.org/frogwatch-usa-california
- Videos
    - FrogWatcg USA PlayList www.youtube.com/FrogWatchUSA
    - Frogwatch USA: citizen scientists monitor local frog populations

California Frogs and Toads - Picture galleries, information, range maps, and references for every species of frog or toad occurring in California. www.californiaherps.com/info/findfrogs.html

FieldScope - FieldScope is transforming the way organizations and community members engage in citizen science.. It is a community web-mapping tool that promotes student engagement as citizen scientists and involves them in learning through mapping. By combining easy data integration with powerful mapping visualization, FieldScope is on the cutting edge of community mapping. www.fieldscope.org
https://frogwatch.fieldscope.org/

iNaturalist - Contribute to Science: Every observation can contribute to biodiversity science, from the rarest butterfly to the most common backyard weed. We share your findings with scientific data repositories like the Global Biodiversity Information Facility to help scientists find and use your data. All you have to do is observe.
www.inaturalist.org
www.inaturalist.org/check_lists/66285-Amphibians-of-California
www.inaturalist.org/projects/rascals (Reptiles & Amphibians of Southern California)
https://www.inaturalist.org/pages/seek_app

California-Nevada Amphibian Population Task Force
The California/Nevada Amphibian Populations Task Force (APTF) provides a collaborative forum to understand and reverse amphibian population declines and to conserve all amphibians in California and Nevada and adjacent areas. www.canvamphibs.org/

Amphibian species information and conservation efforts (CDFW)
https://wildlife.ca.gov/Conservation/Amphibians

Amphibians and Reptiles Use as Indicators (USEPA)
https://archive.epa.gov/water/archive/web/html/herps.html

The 14th Annual Save The Frogs Day: Saturday, April 30th, 2022:

Nature enthusiasts, environmentalists, and frog lovers around the globe are preparing for the 14th Annual Save The Frogs Day, taking place on Saturday, April 30th, 2022. Conceived and coordinated by SAVE THE FROGS!, a California-based 501(c)(3) public charity, Save The Frogs Day is the world's largest day of amphibian education and conservation action. The goal is to provide frog enthusiasts with educational materials, ideas, and inspiration, and empower them to educate their local communities about amphibians.

Frog populations have been declining worldwide at unprecedented rates, and nearly one-third of the world's amphibian species are threatened with extinction. Since 2009, SAVE THE FROGS! staff and volunteers have conducted over 1,500 educational Save The Frogs Day events in at least 58 countries worldwide. Save The Frogs Day takes place annually on the last Saturday of April. https://savethefrogs.com/day-2022/

Erick Burres
Clean Water Team Coordinator
California Water Quality Collaboration Network Facilitator
Safe to Swim Network Co-facilitator
erick.burres@waterboards.ca.gov
213 712 6862 mobile
Mailing address:
Erick Burres – Clean Water Team
C/O SARWQCB
3737 Main Street, Suite 500
Riverside, CA 92501-3348