Environmental Justice Webinar Series for Tribes and Indigenous Peoples

Fish Programs – Health Approaches with Tribes and Indigenous Peoples

April 27, 2022

* Please note that this webinar will be recorded and posted on EPA's webpage for public access.

Fish Programs - Health Approaches with Tribes and Indigenous Peoples Webinar Recording

Panelists

- Shari Barash, Branch Chief, National Branch, Standards & Health Protection Division, Office of Science Technology, Office of Water, U.S. EPA
- Sharon Frey, Environmental Protection Specialist, National Branch, Standards & Health Protection Division, Office of Science Technology, Office of Water, U.S. EPA
- Jerome Kekiwi Jr, President of Na Moku Aupuni O Ko'olau Hui
- Karin Osuga, Coordinator of Maui Nui Makai Network
- Danny Gogal, Tribal and Indigenous Peoples Program Manager, Office of

  Environmental Justice, U.S. EPA (Facilitator)

EPA Fish Advisory & Fish Tissue Monitoring Programs

Shari Barash and Sharon Frey

US EPA

Office of Water

Office of Science & Technology

April 27, 2022

Roadmap

- Key Messages
- Fish Program Goals
- Program Objectives:
  - Gather and share the best science
  - Provide tools and resources
  - Create a collaborative network
- Contacts
- Questions

Key Messages

- Eating fish is important (dietary/nutrition, cultural)
- Fish may contain contaminants that can be harmful to human health
  - Mercury – impaired neurological development in fetus and children, cardiovascular disease in adults
  - PCBs – Possible carcinogen, liver disease, and reproductive impacts
  - PFAS – low birth weight, decreased sperm count, thyroid disease
- Bigger impacts on high consumers and certain populations
  - People who eat a lot of fish (e.g., subsistence fishers)
  - People who can become pregnant
  - Children
  - Older populations
- Important for public to have clear and accurate information so they can choose fish wisely
  - Effective risk communication is key

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Goal of EPA's Fish Tissue Monitoring and Advisory Program

- Protect human health of recreational and subsistence fishers and other high-risk populations by:
  - Gathering and sharing the best science on contaminants in fish
  - Providing states, territories and tribes the tools and resources to develop effective, consistent fish advisory programs
  - Partnering with state, territorial and tribal fish advisory programs to create a collaborative network to share knowledge and best practices

Relationship between Fish Program and Biden-Harris Administration Priorities

- Executive Orders on Environmental Justice and Ensuring Racial Equity
  - EO 13985
  - EO 14008
- EPA Strategic Plan for Fiscal Years 2022-2026
- EPA PFAS Roadmap

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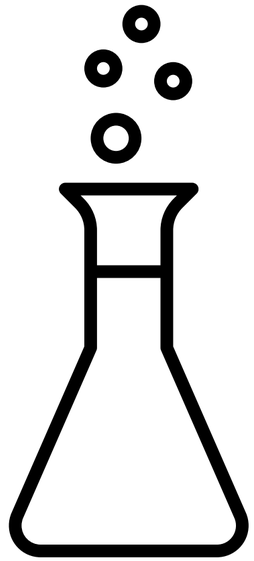
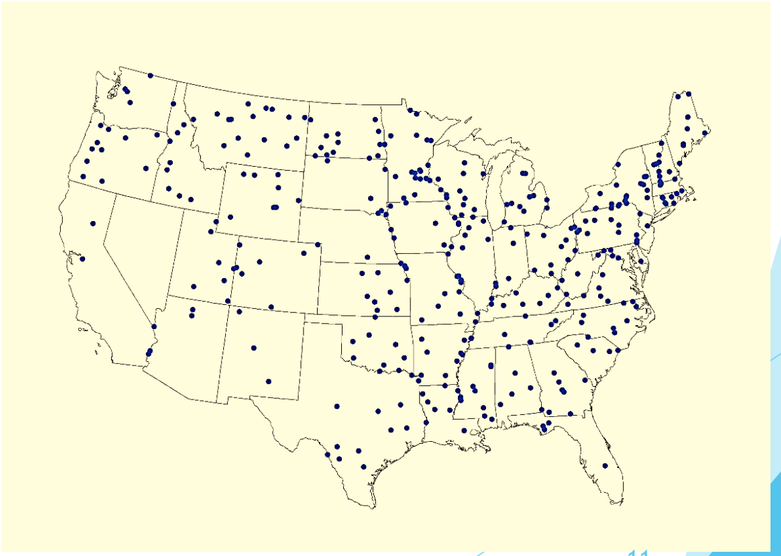
Gathering and Sharing the Best Science on Contaminants in Fish



- Fish Tissue Monitoring Studies
- Human Biomarkers & Fish Consumption
- Identification of Recommended Target Analytes for Monitoring Programs
- National Fish Advice for Mercury

EPA's Nationwide Human Health Fish Tissue Studies

- Rivers
  - National Rivers & Stream Assessments in 2008-09, 2013-14, 2018-19
- Great Lakes
  - National Coastal Conditions Assessments in 2010, 2015, 2020-2021
- Lakes
  - National Lake Fish Tissue Study in 2000-2003
  - National Lakes Assessment in 2022



Results from Monitoring Studies

- Detection Frequency
  - In each monitoring study, mercury and PCBs have been detected in all fish fillet samples; and
  - PFOS has been detected in fish fillet samples from 73%- 99% (Rivers studies) and 100% (Great Lakes studies)
    - EPA finds 6 PFAS chemicals routinely in fish samples, often occuring together: PFOS, PFUnA, PFDA, PFDoA, PFNA, PFOSA
- Human Health Impact
  - Exceedances vary by contaminant and study
    - Higher mercury exceedances in lakes and reservoirs
    - Higher PCB exceedances in the Great Lakes
    - PFOS exceedances are low for average consumers, but much greater when using consumption rates for subsistence or recreational fishers

Other EPA Human Health Fish Tissue Studies

- National Pilot Study of Pharmaceuticals and Personal Care Products in Fish Tissue: 2006 w/ Baylor University
- Fish Plug Evaluation Study for Mercury and Selenium

Human Biomarker Studies

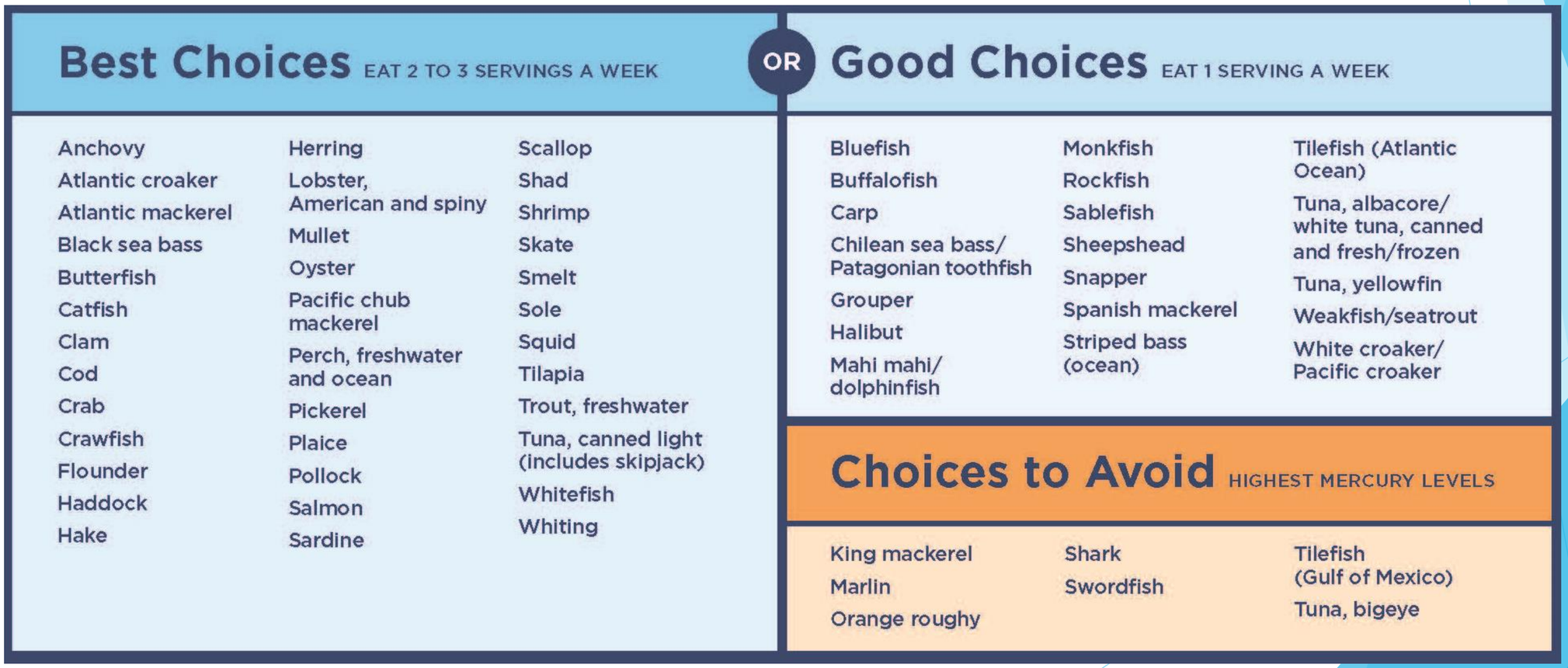
- Examining relationship of contaminants in people's blood/urine and eating fish
- Using data from CDC's National Health and Nutrition Examination Surveys (NHANES)
- Contaminants being studied:
  - PFAS, specifically PFOS, PFOA and PFNA
  - Mercury
  - PCBs
  - PBDEs (e.g., flame retardants)
  - Arsenic

Fish Advisory Program: Contaminants to Monitor For ("Target Analytes")

- Updating list of contaminants as part of revisions to EPA's Fish Advisory Guidance (2000)
- Screened >600 articles and compared fish tissue data to screening levels – is contaminant found at levels unable to eat 8 ounces of fish weekly?
- Will consult with state, tribal, and territorial fish advisory programs on approach
- Will conduct external peer review
- Likely to include PFOS and potentially other PFAS

EPA-FDA National Fish Advice for Mercury: How to Choose?

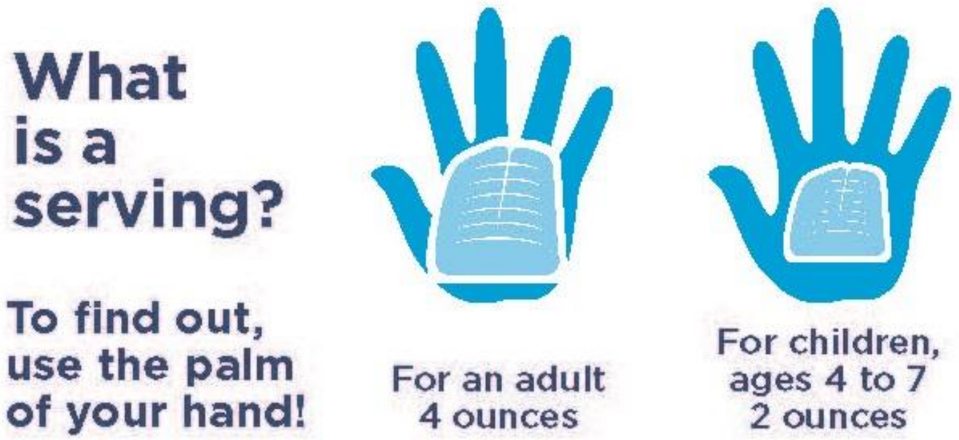
The heart of the advice is a list of more than 60 finfish and shellfish, grouped into consumption frequency categories: 2-3 servings/week, 1 serving/week, and none



EPA-FDA National Fish Advice for Mercury: Target Audience

- People who are or may become pregnant (about 16-49 years old)
- People who are breastfeeding
- Children (and the people who feed them)

EPA-FDA National Fish Advice for Mercury: How much?



Age	Serving size
1-3	1 ounce
4-7	2 ounces
8-10	3 ounces
11 and older	4 ounces

EPA-FDA National Fish Advice for Mercury: Key Messages

- Fish is good for you to eat but choose wisely.
- Eat 2-3 servings a week from the “best choices” group.
  OR
  Eat 1 serving a week from the “good choices” group.
- Eat a variety of fish.
- Serve 1-2 servings of fish a week to children.
- Check for fish advisories if eating fish that you or your family or friends have caught. If you cannot find advisory information, eat only one serving and no other fish that week.

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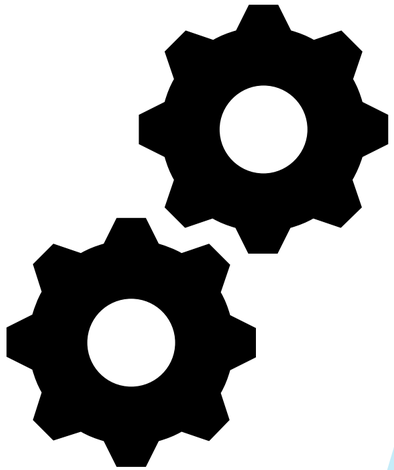
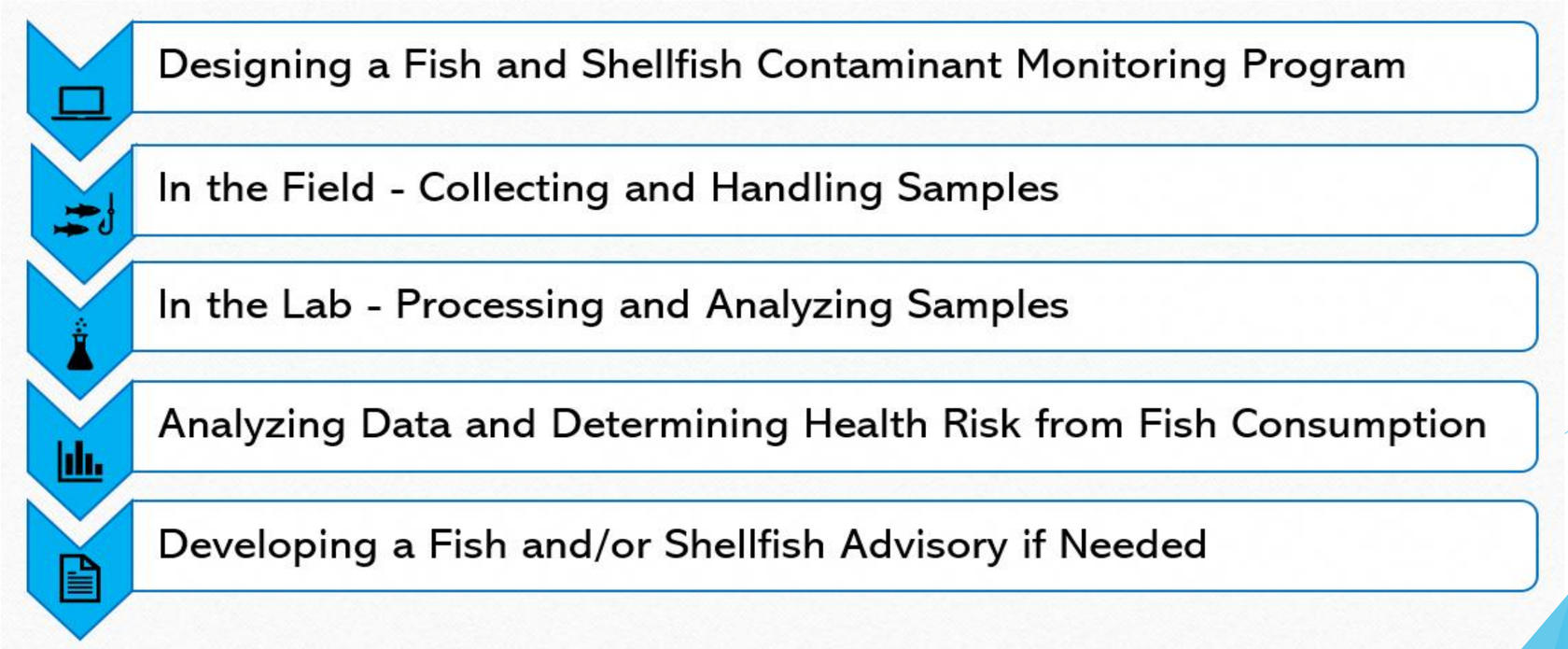
Providing States, Territories, and Tribes the Tools and Resources

- Guidance on fish tissue monitoring and developing fish advisories
  - New tool under development: fish advisory calculator
- Guidance on conducting fish consumption surveys
- Guidance on developing effective risk communication programs for fish advisories



Guidance - Fish Tissue Monitoring and Developing Fish Advisories

- EPA is revising its 2000 Guidance on Fish Tissue Monitoring and Developing Fish Advisories
  - Easier to read and understand
  - Updated information on:



Guidance - Conducting Fish Consumption Surveys

- Provides guidance in designing and conducting statistically valid fish consumption surveys
- Gives overview of issues on study approach such as identifying survey objectives, sampling options, mode selection, questionnaire development, and operational and analytic considerations
- Includes recent developments such as use of the Internet, mobile devices, and multi-mode data collection designs in survey methods
- Includes discussion of consumption suppression and the role of heritage rates, especially among tribal populations
- Addresses survey design options within the context of budgetary resources to help the researcher make choices that best fit the situation

Key Terms - Heritage Rates and Suppression

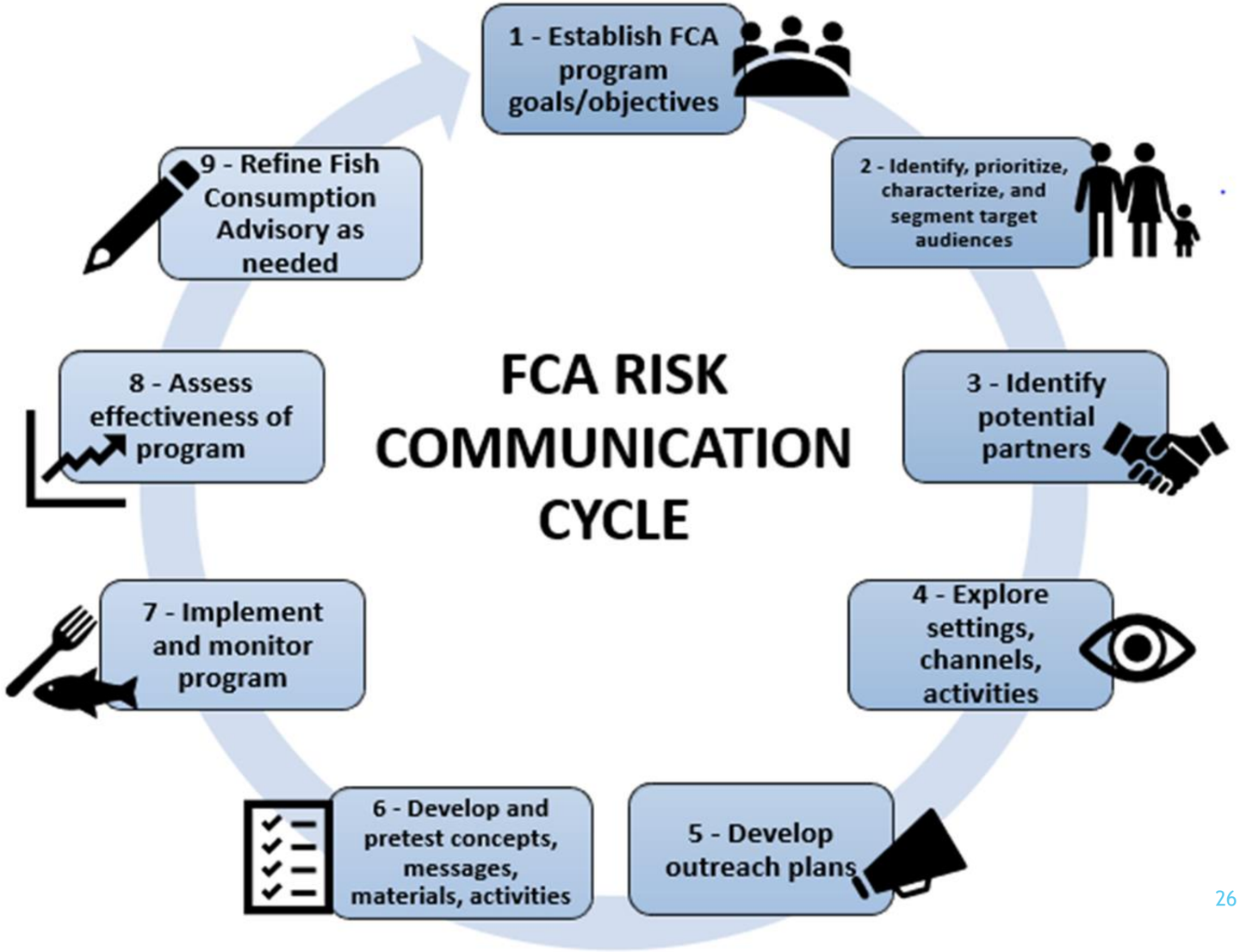
- Heritage rate - amount of fish consumed before non-indigenous or modern sources contaminated the water or interfered with the natural lifecycle of fish
  - Can be historic, current, or aspirational rate

- Suppression - when the amount of fish eaten now is less due to actual or perceived presence of contamination, reduced fish populations due to environmental changes, reduced access to fish, and changes in social structure like reallocation of time from traditional lifeways to other pursuits

Estimating Suppression

- Suppression can be estimated by comparing:
  - Contaminated and uncontaminated areas with similar populations
  - A current site to a control site
  - Rates in areas with plentiful fish versus areas with less fish
  - Heritage rates with reasonably achievable rates

Guidance – Risk Communication for Fish Consumption Advisories



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Partnering to Create a Collaborative Network to Share Knowledge and Best Practices

- Bimonthly Fish Program Call – call with states, territories, tribes. Includes presentations and discussions on wide variety of current fish-related topics.
- Bimonthly *Fish and Shellfish Program Newsletter* – highlights current information about fish and shellfish; provides snapshot of recent advisories, federal agency activities, publications, awarded research, tech and tools, and future meetings and conferences. https://www.epa.gov/fish-tech/fish-and-shellfish-program-newsletter
- National Fish Forum – currently planning Fall 2022 virtual meeting. Format TBD, likely to include presentations, poster session(s), moderated sessions, etc.
- Contact frey.sharon@epa.gov for further information

Web-based Resources: Useful EPA Fish Program Links

- Main Fish Program Page
  - https://www.epa.gov/choose-fish-and-shellfish-wisely
- Advisories and Technical Resources for Fish and Shellfish Consumption
  - https://www.epa.gov/fish-tech
- Fish Contamination Studies and Results
  - https://www.epa.gov/fish-tech/studies-fish-tissue-contamination
- Fish Advisory Program Guidance
  - https://www.epa.gov/fish-tech/epa-guidance-developing-fish-advisories

HO'I KA WAI, HO'I KE OLA

(RETURN THE WATER, RETURN THE LIFE)

Jerome Kekiwi Jr, President of Na Moku Aupuni O Ko'olau Hui

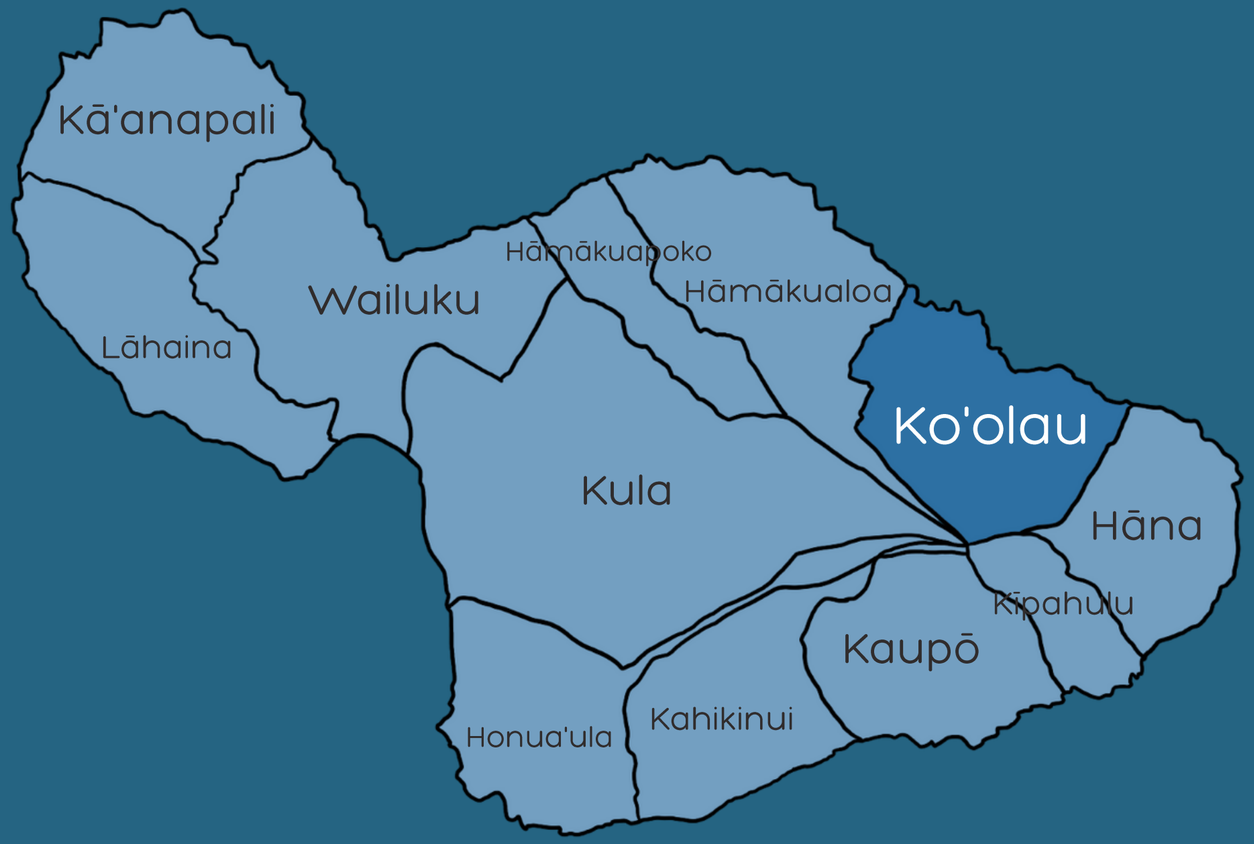
Karin Osuga, Coordinator of Maui Nui Makai Network

April 27, 2022

KE'ANAE WAILUANUI

KO'OLAU MOKU

KA MOKU O KO'OLAU



Ko'olau ka ʻāina o ka wai a kāne

NA MOKU AUPUNI O KO'OLAU HUI

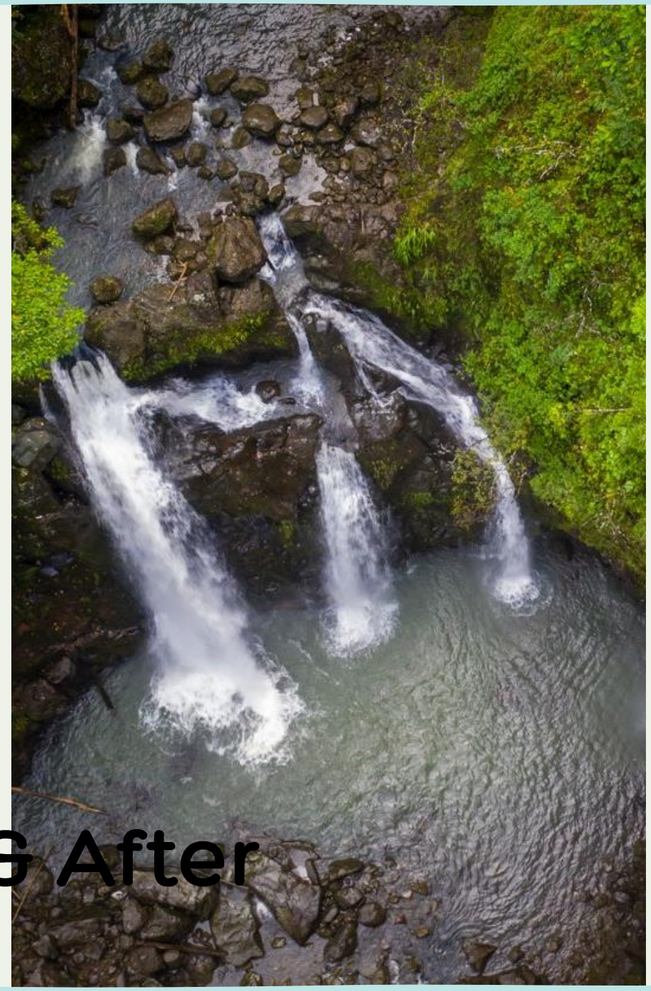
Mission:

- Ensure due respect for the culture of the Kanaka Maoli (indigenous people) of Keanae-Wailuanui Ahupua ʻa (land division).
- Develop self-government as it relates to self-determination and the cooperative management of natural resources.
- Enhance, preserve, and protect the quality of life and environment.
- Promote constructive measures of development, encourage research and cooperate with one another for the practical achievement of the social, economic, cultural, scientific, literary, charitable, historical, traditional, spiritual, educational, and environmental purposes.

CHALLENGES

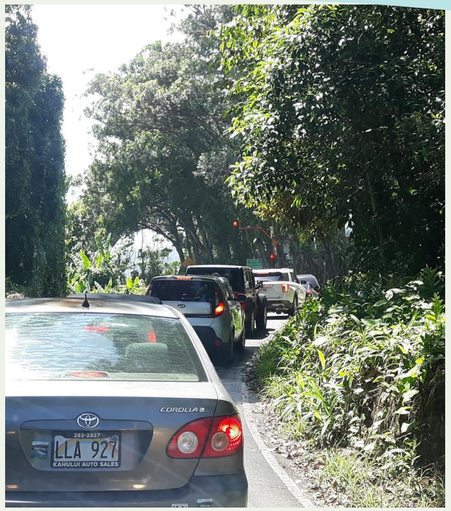
- Dewatering
- Excess visitors
- Over fishing

DEWATERING



EXCESS VISITORS

Thousands
of visitors
per day



OVERFISHING

- toxic chemicals
- overharvesting
- harvest undersized
- out of season harvesting
- electric shock fishing

WHAT WE CARE ABOUT

Fish!

STREAM SPECIES



REEF FISH








NEARSHORE FISH



SHORELINE SPECIES



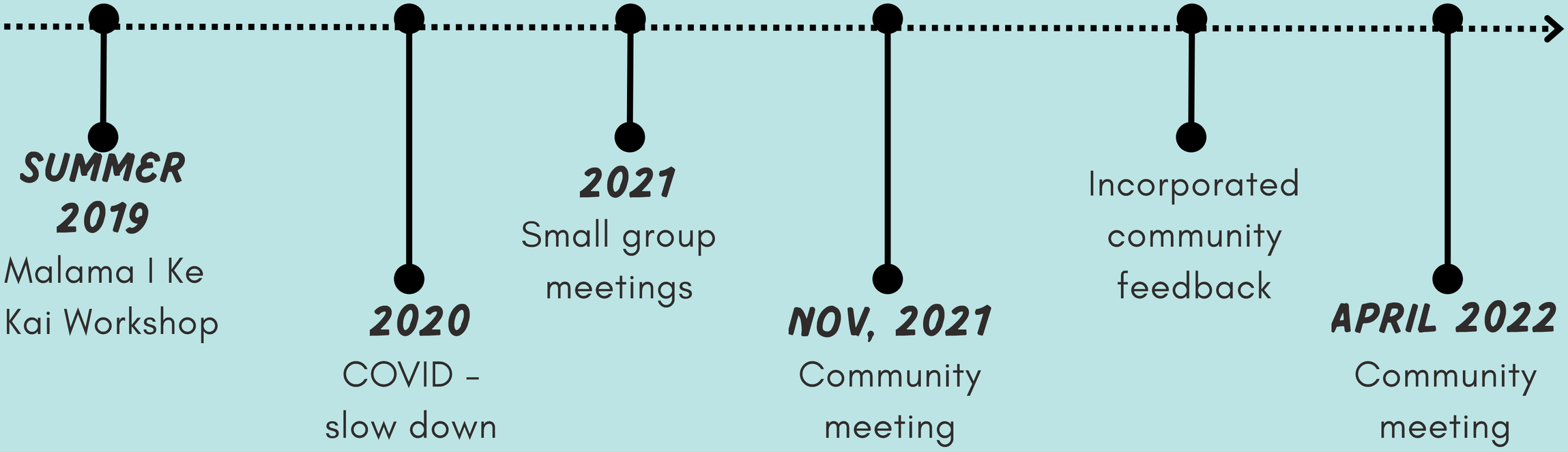

SUSTAINING OUR HAWAIIAN WAY OF LIFE

WHAT WE ARE DOING ABOUT IT

WATER MONITORING

CARES act funding in 2020 empowered the community to conduct our own stream monitoring, better understand the diversion system, and EPA funding in 2022 helps us to continue those efforts.

COMMUNITY PLANNING PROCESS



COMMUNITY PLANNING PROCESS

GOALS

1. Share respect and understanding for our community and way of life.

2. Manage human use to support the East Maui way of life

3. Perpetuate traditional Hawaiian pono harvesting practices (makai).

4. Ensure cold, clean, consistent flowing water forever.

5. Manage invasive and introduced species

6. Develop organizational capacity.

TRADITIONAL AND CUSTOMARY PRACTICES & VALUES

(Voluntary Fishing Code of Conduct)

- Don ʻt catch more than you need to eat
- If you catch more than you need, share with the community and kupuna
- What's caught in the moku gets shared within the moku, not sold
- Don ʻt harvest from the same place every day, let the area rest and recover
- If you can see that someone has just been there, go somewhere else (don ʻt take from a place that has just been harvested)
- If coming from outside, get permission from moku residents before fishing/gathering

KE'ANAE UKA

HUI NO KE OLA PONO

NA MOKU PROJECT SITE

'OPIHI REST AREAS

REGIONAL COLLABORATION PROCESS

Maui Hikina Kākou! We are East Maui!
Koʻolau to Kaupō, we work together to honor our kūpuna, future generations, and lahui. We strive for a life rooted in sustainability ensuring an abundance of resources. We protect and preserve our communities' traditions.

From mauka to makai, our forests, streams, and ocean are full of life that feeds and empowers our families. As one ʻohana, we celebrate each other's commonalities and differences, committed to learn, share and support all our efforts to mālama ʻāina. Unified, we are stronger, more efficient, knowledgeable, compassionate, and resilient.

In this, we honor our Hā.
We are East Maui! Maui Hikina Kākou!

MAHALO!

The Nature Conservancy
Protecting nature. Preserving life.™

COUNTY OF MAUI
STATE OF HAWAII

MAUI NUI MAKAI NETWORK

NOAA CORAL REEF CONSERVATION PROGRAM

STATE OF HAWAII

DAR

MAYOR'S OFFICE OF ECONOMIC DEVELOPMENT
MAUI COUNTY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Questions and Answers Period
&
Evaluation

- Please type your questions in the chat box.

- We would appreciate your feedback on the webinar and ask that you complete the short online survey. Link posted in chat box: https://forms.gle/CHmHGYd9GcxjAWB18

Contacts

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