



# 4-H FISHING AND FLY TYING PROJECT



In this project youth explore the outdoor world and learn about the interactions of fish with their habitats, both natural and altered. Youth increase their awareness of freshwater fish species, an animal group that is sometimes overlooked because fish are harder to observe in the wild than many terrestrial animals.

- Youth develop an understanding of how human activities affect fish habitat, and learn about how habitat can be conserved and restored to support fish populations, and in turn support other socioeconomic aims.
- Youth consider the value of native and non-native fish species, for biodiversity, recreational and commercial fishing, and aquaculture.
- Youth investigate trade-offs in water use for fish vs. other uses. They learn how they can have a positive impact through advocacy, organizing, and action.

## Starting Out *Beginner*

- Learn what native and non-native fish species are in your local waters, and throughout California.
- Learn to use the California Fish App at <http://calfish.ucdavis.edu/CaliforniaFishApp/>
- Introduce key concepts: species, population, community, food web, habitat, harvest, conservation
- Develop safety requirements for observing fish outdoors.

## Learning More *Intermediate*

- Assess careers related to fish and fisheries.
- Learn about the abundance and status of some native fish species in your watershed.
- Visit a fish hatchery that produces fish for commercial harvest or conservation.
- Go angling or use polarized sunglasses to observe live fish outdoors.
- Learn to tie fishing knots and flies.

## Exploring Depth *Advanced*

- Go snorkeling in a stream to observe fish in their natural habitat.
- Investigate trade-offs in water use for fish habitat, agricultural production, hydropower, cities, wetlands, and flood control.
- Research and produce an action plan to improve habitat conditions for fish in a local stream or lake.

The activities above are ideas to inspire further project development. This is not a complete list.

## 4-H Thrive!

### Help Youth:

### Light Their Spark

A spark is something youth are passionate about; it really fires them up and gives them joy and energy. Help youth find how this project excites them.

### Flex Their Brain

The brain grows stronger when we try new things and master new skills. Encourage youth effort and persistence to help them reach higher levels of success.

### Reach Their Goals

Help youth use the GPS system to achieve their goals.

- Goal Selection:** Choose one meaningful, realistic and demanding goal.
- Pursue Strategies:** Create a step-by-step plan to make daily choices that support your goal.
- Shift Gears:** Change strategies if you're having difficulties reaching your goal. Seek help from others. What are youth going to do when things get in their way?

### Reflect

Ask project members how they can use their passion for this project to be more confident, competent and caring. Discuss ways they can use their skills to make a contribution in the community, improve their character or establish connections.



# Expand Your Experiences!

## Science, Technology, Engineering, and Mathematics

- Work with a citizen science group to help monitor a local fish population.
- Monitor a local stream's water for fish-related factors (flow, temperature, clarity)
- Develop a farm business plan that includes paid-access trout fishing.

## Healthy Living

- Investigate the nutritional value of some harvested and aquaculture fish species.
- Find out about contaminants such as mercury that may be present in some fish.
- Go hiking, angling, kayaking, or swimming to see fish in the wild.

## Citizenship

- Work with community groups to preserve and restore habitat for fish.
- Learn about state and federal regulations related to fish habitat and harvest.
- Investigate fish harvests and consumption in other countries. <http://fao.org>

## Leadership

- Deliver a 4-H presentation on fish and water issues at a 4-H presentation day
- Write a proposal to restore fish habitat or make a water diversion fish-friendly.
- Lead a fishing or fish-observation trip for younger youth.

## Resources

- California Fish Website. <http://calfish.ucdavis.edu/>
- Fish Habitat in Freshwater Streams. <http://anrcatalog.ucdavis.edu/MarineResources/8112.aspx>
- Living among the Fish: A Guide to Conservation of Fish Habitat in the Developed Landscape. <http://anrcatalog.ucdavis.edu/Items/8279.aspx>
- CA Department of Fish and Wildlife. <http://www.dfg.ca.gov/>
- Clear Lake Aquatic Website. <http://ucanr.edu/sites/ClearLakeAquaticWebsite/>
- California Aquaculture Website. <http://aqua.ucdavis.edu/>
- SOS (State of the Salmonids): California's Native Fish Crisis. <http://caltrout.org/pdf/SoS-Californias-Native-Fish-Crisis.pdf>

The UC 4-H Youth Development Program does not endorse, warrant, or otherwise take responsibility for the contents of unofficial sites.



Connections & Events	Curriculum	4-H Record Book
<p><b>Presentation Days</b> – Share what you've learned with others through a presentation.</p> <p><b>Field Days</b> – At these events, 4-H members may participate in a variety of contests related to their project area.</p> <p>Contact your county 4-H office to determine additional opportunities available, such as a field day.</p>	<ul style="list-style-type: none"> <li>• AguaPura: Salmon and Steel-head Curriculum <a href="http://sns.ucdavis.edu/">http://sns.ucdavis.edu/</a></li> <li>• National 4-H Fishing project <a href="http://www.4-hmall.org/Category/4-hcurriculum-fishing.aspx">http://www.4-hmall.org/Category/4-hcurriculum-fishing.aspx</a></li> <li>• Forest Stewardship Series 12: Fish and Fish Habitat <a href="http://anrcatalog.ucdavis.edu/Forestry/8242.aspx">http://anrcatalog.ucdavis.edu/Forestry/8242.aspx</a></li> </ul>	<p>4-H Record Books give members an opportunity to record events and reflect on their experiences. For each project, members document their experiences, learning and development.</p> <p>4-H Record Books also teach members record management skills and encourage them to set goals and develop a plan to meet those goals.</p> <p>To access the 4-H Record Book online, visit <a href="http://ucanr.edu/orb/">http://ucanr.edu/orb/</a></p>

## University of California Agriculture and Natural Resources