



FISH AND WILDLIFE BENEFITS

FROM MULTIBENEFIT FLOODPLAIN PROJECTS

The existing Central Valley flood management system, which prevents rivers from accessing their historic floodplains, has damaged habitat, harmed fish and wildlife, and contributed to the listing of several species under the state and federal Endangered Species Acts. Fortunately, in addition to reducing flood risks, multibenefit floodplain projects can produce significant environmental benefits, by creating a wide range of habitat types for myriad fish and wildlife species.

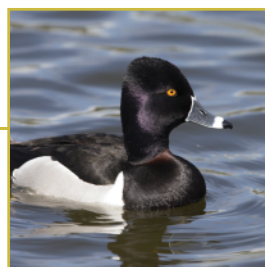
RESTORED HABITAT

Multibenefit flood projects can create habitat both through temporary flooding of working agricultural land and the restoration of natural habitats, including the following habitat types:

- Floodplain habitat (e.g. seasonally flooded working agricultural land)
- Permanent and seasonal wetlands
- Riparian habitat
- Improved diversity in river channels (e.g. providing cold water refugia for salmon, steelhead and sturgeon)
- Habitat to help desirable fish species avoid predators

“ Looking eastward from the summit of Pacheco Pass one shining morning, a landscape was displayed that after all my wanderings still appears as the most beautiful I have ever beheld. At my feet lay the Great Central Valley of California... ”

John Muir

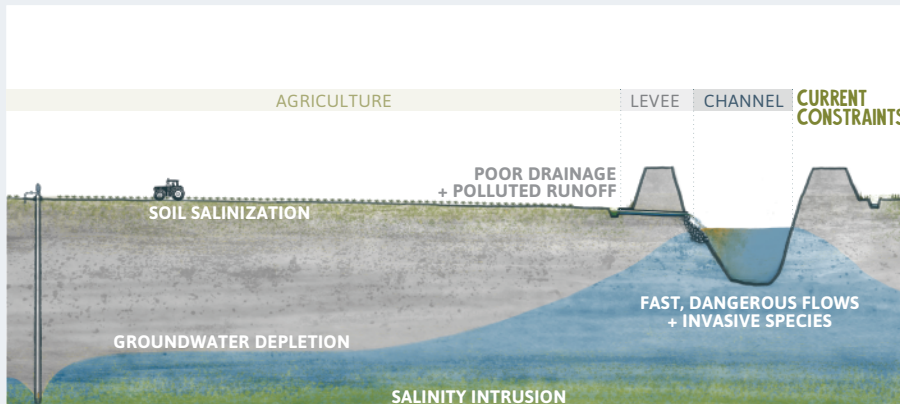


BENEFITS FOR FISH AND WILDLIFE

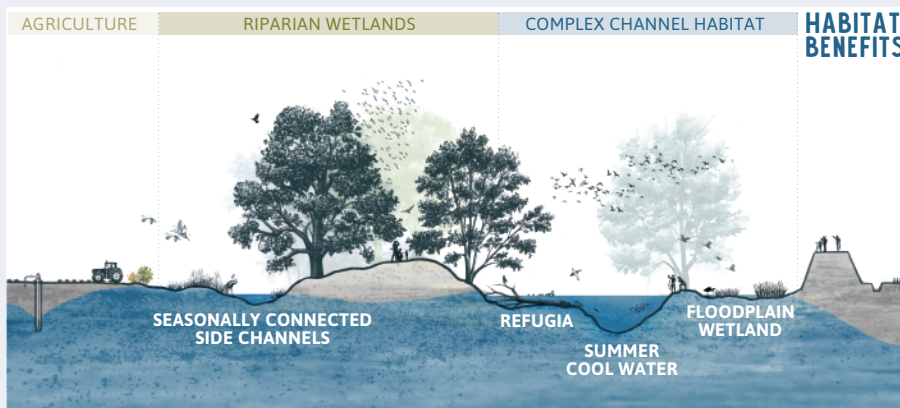
These floodplain-related habitats can help dozens of fish and wildlife species, including many listed under the state and federal ESAs, to reproduce, grow, migrate and avoid predators. Multibenefit floodplain projects can also help fish and wildlife species adapt to the anticipated impacts of climate change. Species that can benefit from these projects include:

- Chinook salmon*
- Steelhead*
- Green sturgeon*
- Sacramento splittail*
- Ducks, geese and swans
- Sandhill cranes
- Shorebirds
- Tricolored blackbird
- Yellow billed cuckoo*
- Riparian brush rabbit*
- Giant gartersnake*
- Valley elderberry longhorn beetle*
- Beneficial insect pollinators

* ESA or CESA listed species



Simple, straight and confined channels alter flow and habitat conditions, promoting invasive species over native ones. Flood control channels quickly convey flows out of the system and bypass seasonal floodplain habitats. This lost connection has lowered groundwater levels and eliminated the rejuvenation of soils with a flush of fresh water, sediment and nutrients. Increased concentrations of salts and pollutants threaten farms and wildlife as groundwater pumping increases.



Storing water in floodplains can counter threats of increasing competition for freshwater resources. Allowing winter floods to spread across floodplains creates more complex channel networks and a rich mosaic of wetlands, side-channels, and riparian forest to support the lifecycle of native species. Smart floodplain management can reduce the risks and costs of fighting against nature and allow us to capture a rich set of ecosystem services that benefit multiple stakeholders.

ADDITIONAL BENEFITS

- Reduced flood levels and water velocities
- Improved recreational and commercial fishing
- Increased populations for waterfowl hunters
- New parks and recreational opportunities
- Recovered listed species populations, which help reduce regulatory restrictions
- Improved water quality
- Carbon sequestration
- Improved pollination for agriculture

