Yosemite National Park

National Park Service
U.S. Department of the Interior

High Elevation Aquatic Resources Management Plan

What are high elevation aquatic resources and why are they important?

High elevation aquatic resources in Yosemite National Park include the lakes, ponds, wet meadows and streams located in the high country above Yosemite Valley and the diverse and vibrant plant and animal communities that they support.

The Sierra Nevada yellow-legged frog was once the most abundant amphibian found in these high elevation aquatic systems. Visitors would often see hundreds of frogs during walks along mountain lake shores and thousands of tadpoles could also be seen piled on top of each other.

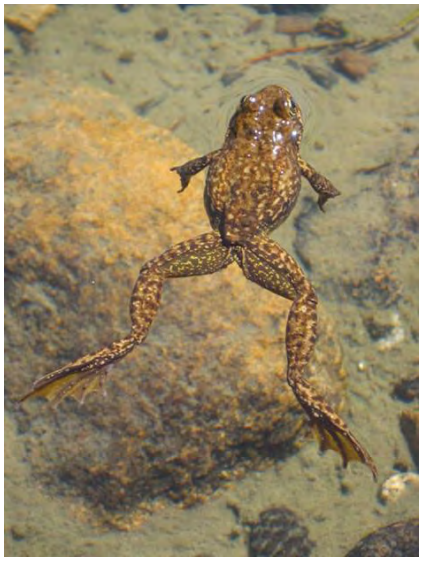
These frogs have now declined by over 95 percent. Frogs were a vital link in the food chain—they were predators feeding primarily on insects and they were important prey for native birds, snakes, and mammals when still numerous.

The emergence of insects from the aquatic environment is another vital link in the food chain providing an irreplaceable food source for birds and bats and their young.

Visitors to the high sierra were once greeted by the jubilant spring trills of Yosemite toads raised among the dense plants of high elevation wet meadows. Today, the toad's populations have declined more than 50% and the spring chorus is much quieter.

Why is a plan needed now?

- **To provide a framework for restoring and maintaining high elevation aquatic ecosystems in Yosemite National Park**
- **To halt the decline of native amphibian populations and to restore species within their natural range**
- **To be prepared for new challenges that may threaten high elevation aquatic ecosystems including:**
  - *Emerging infectious diseases*—Chytridiomycosis, a disease caused by a fungal pathogen first identified in 1999 has had a catastrophic impact on natural populations of Sierra Nevada yellow-legged frog populations.
  - *Climate Change*—anticipated changes in climate require that the park identify potential effects on aquatic systems. For example, if winters are shorter, and spring run-off occurs earlier, how will the longer dry season affect plants and animals in the park?



Sierra Nevada yellow-legged frog

- **To assess other components of the aquatic ecosystem.** These assessments may include: water quality, recreational use, airborne contaminants, other special status plant and animal species, and other non-native plants and animals.

What action is Yosemite currently taking to manage high elevation aquatic resources?

Yosemite National Park actively manages aquatic ecosystems. This includes ongoing water quality monitoring, restoration and research. Current high elevation aquatic restoration projects and research include: experimental removal of non-native fish from six sites (5% of lakes/ponds with fish in the park); reintroduction of Sierra Nevada yellow-legged frogs into fishless lakes to study reestablishment success and to determine what allows some populations of frogs to persist with the amphibian chytrid fungus; and an intensive study of all lakes and ponds in Yosemite to develop a better understanding of the vertebrate and invertebrate species found in these environments and to better inform management decisions regarding these resources.

What would the High Elevation Aquatic Resources Management Plan address?

The plan would consider:

- Mechanical removal of non-native fish from water bodies in select drainage basins to restore natural biodiversity. Chemical removal of non-native fish would not be considered at this time.
- Yosemite would continue to offer high-quality recreational fishing opportunities in a wide variety of habitats.
- Restoration of Sierra Nevada yellow-legged frogs, Yosemite toads, and other species to suitable locations within their historic range that are strategically important to survival of these species.
- The development of Best Management Practices for recreational and administrative use of high-elevation aquatic ecosystems to ensure that park resources and values remain unimpaired. This includes:
  - preventive measures to avoid the introduction or spread of non-native species or pathogens that may threaten native species or their habitats.
  - evaluation of human use within aquatic environments in order to ensure that human use does not result in loss of ecological function.

Public Participation

Public participation is essential for the success of this and all other park projects. Here are some ways to learn more about this plan and stay involved in the park:

- **Attend a public meeting** to talk with project specialists and obtain more information on the plan. The two public meetings scheduled for this plan are:
  - Open House: June 25, 2008 in the Valley Visitor Center Auditorium from 1:00-5:00pm
  - July 12, 2008 at Parson's Lodge in Tuolumne Meadows from 1:00-4:00pm
- **Add your name to the park's planning list** and receive the *Planning Update* or **submit your email address** to receive the park's periodic electronic newsletter online at www.nps.gov/yose/parkmgmt/updates.htm.
- **The public scoping comment period for this plan will occur from June 23 through July 25, 2008.** Submit comments with your thoughts about this plan by any of the following means:

  Mail: Superintendent
  Attn: High Elevation Aquatic Resources Management Plan
  P.O. Box 577
  Yosemite, CA 95389

  Phone: 209/379-1365; **Fax:** 209/379-1294
  E-mail: Yose_Planning@nps.gov
- **Visit online:** www.nps.gov/yose/parkmgmt/aquatic.htm

Plan Timeline	
Public scoping	**June 23 – July 25, 2008**
Environmental Assessment anticipated for public comment	**Summer 2009**