

## Watershed Wonders

The day concludes with an opportunity for students to synthesize everything they have learned, and apply that knowledge to a community-based decision process. Students look at a proposed land use scenario (agriculture, recreation, and urban development), consider the various points of view, identify potential impacts to water quality and other natural resources, and then make recommendations for mitigation or compromise to a mock "Planning Commission." By incorporating the most appropriate "Best Management Practices" (BMPs) into their plans, they begin to see stewardship as a practical application of values and ideals. All of these students will carry this experience, and the concepts of conservation and watershed health, back to their homes and communities.

### Concepts

- Watershed
- Land use effects on water quality
- Competition for natural resources
- Differing perspectives
- Importance of issue awareness and steps to community involvement



### Partners:



### Funders:



For more information

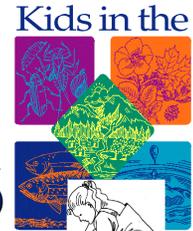
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## Kids in the Creek

# Education

Kids in the  
at  
its



CREEK

# “Funnest”

AWARD-WINNING PROGRAM

## 'Hands-on and Minds-on'

*Kids in the Creek* is a unique outdoor environment learning experience; the curriculum contains pre-work on a variety of stream function topics, with a focus on water quality, natural resource management and overall watershed health. An integral part of the program is a field day during which students work directly with resource professionals to sample and classify aquatic insects, test water samples, measure stream flow and fish habitat features, investigate riparian plants, and explore fish health. The day's work culminates with a community planning exercise.

Since 1993, over 6,600 high school science students from Chelan County and Douglas County have had the opportunity to take their knowledge of aquatic and riparian ecosystems and transcend the classroom into the real world. Each spring students find themselves in the water exploring aquatic ecosystems. This unique experience is a beneficial component of the 'hands-on and minds-on' award-winning educational program, *Kids in the Creek*.

### Awards

- \* NAI Media Award 2006 - *Curriculum*
- \* Washington State Festival and Events Association - *Outstanding Environmental Education*



## Riparian

At designated stops along a transect starting at the water's edge and moving upland, students learn about the adaptations and functions of riparian plants, discussing the benefits they bring to the watershed, recording flora and fauna on a survey form, and describing common uses of these plants.

### Concepts

- Adaptation
- Function of riparian areas
- Stream bank restoration
- Historical use of plants



## Fish Health

The health of fish species depends on a healthy watershed. Students study a variety of environmental stressors that affect fish health.

### Concepts

- Comparison of fish and human anatomy
- Environmental stressors and fish health
- Fish behavior

## Invertebrate Investigators

Students investigate macro-invertebrates found in the stream. They then describe the functional feeding groups and their role in watershed ecology as "indicator species" for watershed health. They list sensitive and tolerant species and discuss how changes in water quality can impact those most sensitive, and thus affect the aquatic ecosystem.



### Concepts

- Ecosystem functions of macro-invertebrates
- Aquatic insect metamorphosis
- Indicator species

## Water Quality

Students are able to determine the health of the stream after measuring and discussing the effects of pH, turbidity, dissolved oxygen and temperature on the aquatic ecosystem. They then explore the potential impacts that human activities and natural phenomena may have on water quality.

### Concepts

- Human actions that influence clean water
- Point and non-point source pollution
- Water Quality Testing



## Habitat

Surveying the stream, students determine the suitability of fish habitat by measuring pools, riffles, glides, substrate type and embeddedness, as well as discussing what healthy streams must have to support life.

### Concepts

- Use of survey instruments to measure habitat
- Habitat components: pools, riffles, and glides
- Stream complexity as a sign of suitable habitat

## Stream Flow

Measuring and calculating stream flow, students learn about the connection between water quantity and stream health.



### Concepts

- Hydrologic cycle
- Connections between water quantity and stream health