Educational outreach in Pacific salmon conservation, genetics, and recovery

Problem Statement

The public is largely unaware of the genetic diversity that exists among Pacific salmon stocks. Consequently, there is much confusion about why one group of fish is protected under the Endangered Species Act (ESA) whereas significant impacts are allowed on another nearby stock of the same species.

Critical Factors

- The role of the National Marine Fisheries Service (NMFS) in stewardship of marine resources is not well understood by the public.
- Public understanding and support of both biology and technology is essential for the successful implementation of a whole range of salmon recovery measures.
- Many high schools in the Pacific Northwest have a long tradition of interest in salmon rearing and local stream ecology.
- Recently, some high school teachers have implemented molecular genetic research components using human and bacterial genes. A growing number of these teachers have expressed interest in applying their molecular skills to salmon research. Salmon population genetics provides an opportunity for teachers to integrate this subject matter into curricula at various levels, ranging in scale from molecular, to organismal, to ecosystems.
- Educational outreach, especially teacher training, offers a way to reach hundreds, and eventually thousands, of young people, providing them not only with training in basic molecular techniques, but also with a more complete understanding of population genetics, statistics, and salmon conservation.

Status of Research

Scientists at the Northwest Fisheries Science Center (NWFSC) continue to provide support for area teachers who are interested in implementing salmon genetics curricula in their classrooms. Recently, a generous donation was awarded to Genetic Research on Western Salmon (GROWS), an educational outreach program. Obtained from the Murdock Charitable Trust by collaborator Dr. Peter Wimberger (University of Puget Sound), this grant will provide a full-time coordinator for the program and will facilitate transition to a fully self-sustained and independently-funded program for the implementation of salmon genetic research in high school classrooms (plato.ups.edu/bioproj/asptest/website/index.htm). BioLab, a new nonprofit research laboratory for high school and middle school students (www.biolab.org), has taken an interest in student training in salmon genetics modeled after GROWS. BioLab recently hired a graduate student who did his thesis research in the NWFSC Conservation Biology (CB) Division's Genetics Program. As the NWFSC's outreach efforts attract increasing interest and external support, Center staff are devoting more time to teacher training and interaction with students.

Future Considerations

Conservation-related outreach activities at the NWFSC provide an important public service in educating the region's youth, making them better informed citizens who are better able to assume responsibility for future stewardship of biodiversity and marine resources.

Key Players

Conservation Biology (CB) Division, NWFSC
BioLab
Bush School, Seattle, WA
Centralia High School, Centralia, WA
Charles Wright Academy, Tacoma, WA
Franklin High School, Seattle, WA
Fuchs Foundation
Juanita High School, Kirkland, WA
Kamiak High School, Mukilteo, WA
Lakeside School, Seattle, WA
Mercer Island High School, Mercer Island, WA
Murdock Charitable Trust
Newport High School, Newport, WA
Perkin-Elmer
University of Puget Sound
University of Washington School of Fisheries

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