Managing Scientific Activities

In the foreseeable future, the management of research activities at hydrothermal vents will be voluntary, with the exception of formal regulation within areas of national jurisdiction. Successful voluntary management will require mechanisms that facilitate communication and encourage participation at all levels, from individual users to national programmes. Working groups discussed several options for improved communication and community participation:

Communication

Hydrothermal vent research, throughout the oceans of the world, is conducted by diverse individual scientists and national programmes. No single agency is responsible for funding or governing all of this research activity, nor is there any common forum for disseminating information relevant to the management of individual vent sites. The establishment of a central clearing-house for information about research plans was identified an important early priority for management and conservation. The InterRidge Office, which, through its membership and infrastructure, is able to reach most of the world's ridge scientists, was seen as the most likely candidate for this role. In addition to communicating with individual scientists, the InterRidge office would communicate regularly with national mid-ocean ridge research programs, research vessel operators (UNOLS, NOAA, GENAVIR, SOC, DFO) and, eventually, management committees of any vent sites given Marine Protected Area status. Effective voluntary management will require that agencies and individual scientists communicate regularly with the InterRidge Office (or other designated clearing-house), to consult and update the central data base prior to considering or initiating new research activities. The promotion of ridge crest research through international co-operation is one of the founding principles of InterRidge, which could take on the task of creating and maintaining a voluntary management database without the need for substantial new resources. National programmes and individual scientists could do much of the identification and packaging of relevant information. The greatest challenge will be to obtain community co-operation in keeping the database up to date, and in respecting any management guidelines, zoning or reporting requirements that might be developed.

Community Participation

Working groups agreed that the research community would not voluntarily participate in any management program where a real need was not apparent. The path to building participation in management of research activities is thus one that focuses on current concerns and needs of vent scientists. Three approaches were discussed:

Exclusive use

The concept of ecological reserves for long-term observations has been discussed at previous InterRidge Meetings¹ and in articles that have appeared in the InterRidge News² and EOS³. Earlier discussions arose as a result of requests from investigators conducting time-series studies of vent communities at 13°N and 9°50'N on the East Pacific Rise. These studies focused on the relationship of community dynamics to the post-eruptive and longer-term evolution of hydrothermal systems, and, as such, were particularly sensitive to disturbances resulting from sampling and other interventions. No formal procedure for proposing or recognising exclusive reserves has been established although, in the two cited cases, an acceptable status quo is generally being respected. In part, this is a result of the relatively small size of the research community working in these areas, which eases informal communication and encourages co-operation.

As InterRidge and several national programs consider establishment of a global network of sites for integrated studies and long-term observations, adoption of more formal mechanisms for protecting time-
series, observational studies may become necessary. One scenario discussed both prior to and during the workshop, would require investigators to make a formal proposal or request to the international community, through the InterRidge Steering Committee, for temporary exclusive use of a site for time-series observations. The research community would then be invited to comment on the proposal, following which the InterRidge Steering Committee could consider formal recognition. This type of open, democratic and peer-reviewed approval or recognition process was seen as essential to community acceptance of exclusive use zones.

Pilot Management/Zonation Projects

Workshop participants discussed a second means of responding to current research needs and developing community participation in the management of vent sites. This would involve establishing pilot management plans for 1 or 2 heavy use areas, such as Lucky Strike or 9°N EPR. Key elements of these management plans would be zonation of different research activities and a means of improving communication among researchers and groups. Dedicated, site-specific workshops were proposed as the most effective means of developing management plans that took into account the requirements of all concerned researchers.

Sample Redistribution

An important outcome of the 1995 InterRidge biology workshop at Rutgers University was the recognition of the need for a means of sharing sample material collected from vent sites worldwide2. The high cost of obtaining samples and potential impact of frequent sampling on vent communities justified development of an international sample-sharing program. Despite considerable effort, various proposals for voluntary reporting of sample collections and laboratory inventories did not succeed. While most participants at the Victoria workshop agreed with the merits of sample sharing, it was clear that another approach was necessary. A new suggestion was brought forward whereby the initiative would come not from the individual collecting the samples but rather from investigators requiring material for their research. Scientists or organisations would be invited to publish 'wish lists' on the InterRidge web site, so that investigators heading into the field would be able to make greater use of collected material. This mechanism could lead to new collaborations and would be particularly beneficial to scientists unable to participate in oceanographic expeditions.

References

