

# Baikal centre takes step forward

The project to found an international research centre on Lake Baikal took another modest step forward last week, but there remains a great deal to be done.

## *Listvianka (on Lake Baikal)*

How do you set about founding an international research centre the like of which has not been seen before? That is the question with which a group of Soviet and overseas limnologists wrestled last week. They got as far as signing a declaration of intent, but the hard work still lies ahead.

The project to found an international research centre on the shores of Lake Baikal is nevertheless breathtaking in its audacity. The idea is to create within the previously closed Soviet Union a centre in whose scientific management foreign members will have the decisive voice. Most probably, the director will also be from overseas, although there will be a Soviet executive director who will function as a legally responsible accounting officer.

The prime mover is Dr M. A. Grachev, a molecular biologist who is now director of the Limnological Institute of Irkutsk, the nearest city, but he has the solid backing of Academician Valentin A. Keptug, president of the semi-autonomous Siberian branch of the Soviet Academy of Sciences. The Siberian branch has offered a down payment of 5 million roubles and at least matching funds thereafter.

Lake Baikal's claims on public attention are well-known (see, for example, *Nature* 329, 802; 1987 and 337, 111; 1989). It holds perhaps a fifth of the total fresh water on the surface of the Earth, and appears to be in its pristine state, a couple of paper-pulp plants on the southern shore notwithstanding. Unlike most other deep lakes, Baikal retains oxygen even at its greatest depth of 1,700 metres. There is a staggering array of endemic flora and fauna, including a population of 20,000 seals adapted not merely to fresh water but to life on the surface of the couple of metres of ice covering the lake in winter. Yet the origins of those forms, as of the lake itself, remain mostly a puzzle.

Last week's proceedings fell into two parts. During waking hours, there was a symposium planned as a survey of the opportunities Lake Baikal offers, happily coinciding with the centenary of the birth of G. Yu. Vereshchagin, one of the pioneers of research at Lake Baikal after whom the largest of the lake's seven research vessels is named.

Evenings were given over to politicking, mostly the discussion of a draft charter for the centre and the draft of a more detailed

agreement that will determine how the centre operates. There was the usual flurry of late-night and inexpert typing. The general opinion seems to be that it is too soon to draft a final constitution for the centre. There is some hope that that may be possible by next May (when the ice will have gone), but that may be frustrated.

But there is a sense in which the centre is already a going concern. Almost a score of joint projects have been mounted in the past two years under the aegis of the Limnological Institute. The usual pattern is that there will be an agreement to carry out some investigation between an overseas group and one recruited in the Soviet Union, not necessarily from Irkutsk. The benefits for overseas groups are considerable — the Soviet side provides free travel from Moscow and free accommodation, while the Limnological Institute puts its seven research vessels at the disposal of the international groups.

So why not let these arrangements multiply naturally? That may be what will happen. But the Soviet side would like to see the programme grow faster if that can be done respectably. Despite a century's desultory research, much of it published at huge length in Russian-language monographs, too little is known about the present state of Lake Baikal. There is even room for argument, for example, about the water-balance of the lake, with thousands of inlets but only one outlet, the Angara; some believe that a credible water balance requires subterranean input.

The origin of Lake Baikal, more than 700 km long, is similarly in dispute. Although it closely resembles the great Rift Valley lakes of East Africa, there are only the sketchiest signs that it is part of a larger system of faulting and subsidence. But mounting a deep seismic survey of the whole Baikal region will be a formidable undertaking, requiring years of effort.

Meanwhile, there are more practical difficulties to contend with. The Limnological Institute, the centre-in-waiting, is more than 70 km away. There is an urgent need for workshop and laboratory space near the lake itself, together with dormitories in which researchers can sleep. So the Siberian branch hopes that it can persuade its potential research partners to contribute towards the cost of these facilities, perhaps between \$15 million and \$20 million. One scheme floated last week is that there should be three classes of

members, with so-called founder members defined as those able to contribute \$500,000 of capital at the outset being alone entitled to sit on the board of management of the centre. One unique condition attached to these contributions is that, if the centre should cease to operate, the funds would be returned.

The formula does not appeal to everybody. One difficulty is that university research groups could not contribute funds on such a scale out of their initial contributions from their governments or government grant-making agencies, which would be unwilling to delegate the prestige of making such a large and conspicuous grant to a mere grant-applicant. And that would lead to an international treaty between governments rather than to a research-led organization of the kind intended. Koptag says that "we have some experience of this kind of organization", but it may be a more serious handicap that the Soviet Union does not appreciate that the apparently uniformly well-equipped research enterprise in the West rests on tooth-and-nail competition for funds.

There are other problems, talked about less openly last week. One danger is that people may be tempted to repeat on Lake Baikal studies already carried out elsewhere, without much thought of what they mean. Grachev, for one, would prefer that the final constitution of the international centre were delayed than that it should spawn a flood of second-rate science.

So there seems enough genuine enthusiasm to ensure that something will have happened by next May. The letter of intent commits its signatories only to do what they can to realize that goal. The signatories include representatives of several US research groups, two delegates from China (who came by train), and people from Canada, Sweden and West Germany. The Royal Society (of London), which has a committee working on the project, was formally represented by a delegation, but the smaller Belgian delegation signed an interim agreement with the Siberian branch for a comparative study of Baikal and the East African rift lakes, chiefly Tanganyika and Malawi, on the understanding that it will be subsumed in the agreement to found a centre when, formally, there is one. It will be a shame if this enthusiasm comes to nothing.

**John Maddox**