IN BRIEF

ISEE OK

The first stage of the joint European-American International Sun-Earth Explorer (ISEE) satellite mission was launched successfully at the weekend. Lift-off was postponed from 13 to 19 October and then suffered two further delays. This was to allow NASA to adjust the Thor Delta vehicle, launching the ISEE A and B satellites in tandem. The second part of the mission, ISEE C, will be launched in nine months' time.

Whale decision

A Federal Court of Appeal has rejected the Alaskan Eskimos' plea that the US Administration be required to file an objection against the International Whaling Commission's (IWC) decision

to bar the hunting of bowhead whales next year. The Court upheld the US decision not to object to the ban. It did so on the grounds that a US refusal to abide by IWC recommendations would give other countries licence to follow suit and would seriously threaten the bowhead with extinction, whose numbers are estimated at between 500 and 2,000.

Washington meeting

An idea to curb the spread of nuclear weapons by setting up an International Fuel Bank was suggested by President Carter last week at the opening of the 40-nation international conference on nuclear fuel disposal. The Bank would ensure the US and other countries of an adequate supply of uranium for

peaceful purposes. The US government also has a plan for storing all spent nuclear fuel produced by reactors both at home and abroad, which would further reduce the Administration's fears of unchecked proliferation.

Med meeting

A five-day meeting of 13 Mediterranean states and the EEC to discuss the draft of a treaty to fight Mediterranean pollution, ended this week with agreement on limiting or banning the discharge of certain materials. The United Nations Environment Programme (UNEP) estimates that the cost of implementing the treaty, which will be submitted to Mediterranean states at a major conference next January, at \$5 billion.

CONSERVATIONISTS, anxious to preserve the native animals and plants of the countryside, generally assume that modern agricultural techniques are increasingly damaging to wildlife. The wholesale removal of hedges in the cereal growing areas of eastern England has, locally, left few wild habitats, spray drift from carelessly used weedkillers has denuded roadside verges of many attractive flowers, and some insecticides have slaughtered thousands of songbirds. However, these abuses are being generally controlled today, and in Britain there is growing cooperation between farmers, the makers of agricultural chemicals and conservationists to make at least the second best of both worlds, of agricultural productivity and wildlife conservation.

It is also encouraging to find that some modern farming methods do less damage than those which they are replacing. Ploughing, the traditional means of cultivation, is a drastic process, with profound effects on soil structure and chemistry and on all subterranean living organisms. It is done to produce a tilth for planting, and to control weeds. Work at Rothamsted Experimental Station in England over thirty years ago showed the surface-casting earthworms, which produced Charles Darwin's 'vegetable mould' (the stone-free well-textured surface layer in old pasture), were eliminated, and their populations might not recover for 70 years. Where cereals have been grown continuously for many years using only chemical manures, levels of organic matter have fallen and soil structure has suffered. Ploughing also uses a lot of expensive and scarce fuel.

Some farmers are now ceasing to plough, and are turning to direct drilling. A field of wheat is harvested, and the straw and stubble is burned. This burning, if improperly controlled, can do immense damage to the countryside, to hedges, woods and verges, and their wildlife, and bodies

Drill to till

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like the National Farmers' Union are trying to discipline their members to accept a safety code. But burning has many agricultural advantages. It gives some control of diseases, weeds and pests, and returns a substantial amount of immediately-available nutrient to the soil. A burned field, with little trash on the surface, is easily cultivated, and rain does not produce a quagmire as it does after ploughing.

The field is usually left for some

weeks after burning, to allow weeds and shed grain to germinate. During this period it is a rich feeding ground for birds which obtain little food where stubble is ploughed straight after harvest. The surface is next sprayed with the herbicide paraquat, which kills the growth, but which is immediately immobilised. The sprouting grain is unharmed, and thus it is possible to drill the seed at the same time. This saves a lot of fuel. There has in the past been controversy about the effectiveness of direct drilling, as some farmers have obtained higher and some lower yields than with conventional ploughing. It seems now that good results are obtained by those who persist even after initial disappointment. After three or four years, even on heavy clay soils, the organic matter level increases (as several tonnes per hectare of roots rot down to produce humus) and the soil structure improves markedly. The soil fauna, including the delicate worms, also flourishes, and makes its contribution. The amount of herbicide used may be less than on ploughed fields, for some weeds are killed by the paraquat and the rapidly-germinating crop may smother others, including the usually troublesome couch grass.

Direct drilling is done to help the farmer to grow the most profitable crops, not to please the conservationist. It will not bring back our flower-rich meadows or the hedgerows once full of singing birds. But it may make the soil healthier and support a richer soil fauna. This is the basis of healthy agriculture and a healthy countryside. We, the conservationists, must now find how to encourage wildlife in this milieu.