for the cleanup of the entire dump. Then, it would be up to the firm to collect from the other contributing waste generators. "This got to be such a hot political item that Congress, when enacting Superfund, ducked the issue," says EDF's Hall. The absence of this concept makes it difficult for EPA to sue. "If you don't have 'joint and several liability,' before EPA can sue parties to a site, it has to be able to establish what precise contribution that party had made," Hall says. "That's an impossible burden of proof for the government. The chemistry companies have better records than EPA."

The nature of the $1.6 billion trust fund for cleaning up sites also presents problems. More than 80 percent of the money in Superfund comes from taxes on chemicals and petroleum products. The petrochemical industry is unhappy about the inclusion of some listed sites, like the vast Tar Creek area in Oklahoma where abandoned lead and zinc mines hold millions of gallons of acid-contaminated water from defunct mining operations. CMA's Stoll complains, "When Congress passed Superfund, it was clear ... they were talking about chemical waste sites. ... If the fund starts getting used and diverted to cleaning up other potential environmental problems, we may have an unfair situation on our hands."

Once sites are on the National Priority List, EPA is supposed to use Superfund money to conduct in-depth analyses at each site to define the extent of the problem and to recommend cleanup goals. Thus far, only 30 of these studies have begun, says Hall. "I think that's a miserable record."

If Superfund money is not spent quickly enough and the "unobligated balance" exceeds $900 million on Sept. 30, 1983, or Sept. 30, 1984, the law provides for a halt in collecting the taxes on chemical and petroleum products. The OTA workshop report noted, "There are those who fear that there might be a strategy of not spending the funds in order to amass sufficient unspent monies to stop collecting the fees in 1983 or 1984, according to the provisions in the law."

During the next few months, numerous congressional investigations and hearings will focus on how EPA is carrying out the Superfund law. The law itself expires at the end of 1985. Some groups, like CMA, foresee that such a law will no longer be needed, while others are looking toward new, tougher legislation that includes, for example, a fund to compensate victims of toxic pollution. Hirschhorn, whose OTA report on hazardous industrial waste is due in March, says the substance of the report is extremely critical of the Superfund program and considers whether the whole design of Superfund as it now exists really "gets you where you want to go." Hirschhorn concludes, "That's why I say some new legislation will probably be introduced." —*I. Peterson, L. Garmon*

Estrogens against heart disease

During the 1970s a handful of studies linked estrogen treatment for menopausal symptoms to an increased risk of uterine cancer (SN: 1/3/76, p. 9). Subsequently estrogen treatment was also linked with an increased risk of breast cancer. But now growing evidence—the latest and perhaps strongest of which is reported in the Feb. 18 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION by Trudy L. Bush of the Oklahoma Medical Research Foundation in Oklahoma City and colleagues — implies that it can protect against death from heart disease and perhaps from other causes as well.

Bush and her team studied 2,389 women aged 40 to 69 years for an average of 5.6 years to see whether those women who used estrogens for menopausal symptoms experienced fewer deaths due to various causes than did subjects who didn't use estrogens. Indeed, the death rate among estrogen users was found to be only 0.37 that of nonusers. In addition, this lower death rate could not be accounted for by differences in age, education, smoking habits, alcohol use, blood pressure or some other possible biases in the selection of subjects, they found.

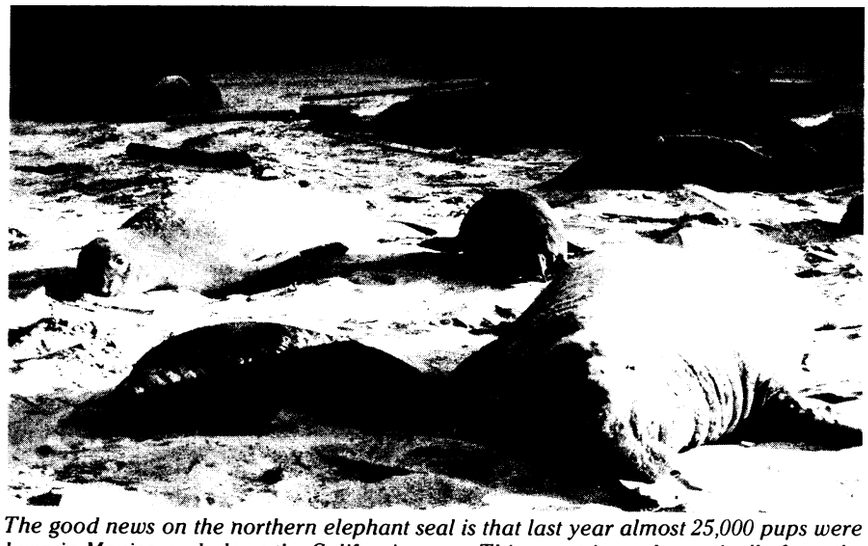
These results should "come as a reassurance to women for whom estrogen treatment is being recommended by their physicians," says Basil M. Rifkind of the National Heart, Lung and Blood Institute in Bethesda, Md., and one of the scientists who conducted the study. "I wouldn't advocate, however, that women take estrogens merely because of our findings."

These findings, combined with previous ones, imply that "there are tradeoffs in estrogen use," asserts Thomas Mack of the University of Southern California in Los Angeles and one of the scientists to previously link estrogens to both beneficial and detrimental side effects. However, they don't make women's decisions over whether to use estrogens easy, he concedes. For instance, he says, answers to questions of whether women who smoke or women who have benign breast cancer should take estrogens or not "are going to depend on a lot more information than we currently have."

Yet another challenge facing estrogen investigators, Rifkind points out, is to determine against which causes of death other than heart disease estrogens exert their protective effects. —*J. A. Treichel*

Correction:
In "Eating away your pain" (SN: 2/19/83, p. 125) patients were given 3 grams of tryptophan, not 30 grams. Also, Samuel Seltzer of Temple University in Philadelphia, Pa., warns that under no circumstances should people try to treat themselves with tryptophan supplements in order to relieve pain.

Elephant seals rise from near extinction



Cooper, Stewart/Science

The good news on the northern elephant seal is that last year almost 25,000 pups were born in Mexico and along the California coast. This count is up dramatically from the six known pup births of 1911. Northern elephant seals were thought to be extinct due to hunting by about 1880, but a population was later discovered on an island of Baja California. Transient animals began visiting California islands, and breeding began there after 1950. Now protected from hunters, the population on the California islands is increasing more than 14 percent each year. "Since the entire adult population is not ashore at once, pup numbers are the most satisfactory indicators of population trends," Charles F. Cooper of San Diego State University and Brent S. Stewart of Hubbs/Sea World Research Institute say in the Feb. 25 SCIENCE. "Pups are sedentary and conspicuous, allowing reliable counts of both live and dead animals."