**NEWS**

**MARINE RESEARCH**

**Pew Panel Calls for Sea Change In U.S. Ocean Policy**

They hauled lobsters, tramped through marshes and canneries from coast to coast, and met with everyone from surfers to scientists. Now, after 3 years of deliberation, the 18 members of the Pew Oceans Commission have reached a verdict: The United States is guilty of neglecting its marine realm and must dramatically overhaul its approach to ocean policy to avoid expensive ecological catastrophes.

"U.S. ocean governance is in disarray [and] … the status quo is unacceptable," the independent panel of policy and science heavyweights concluded in a report (pewoceans.org) released this week. Its proposed solutions include merging the government’s fragmented ocean programs into a muscular new independent agency, creating a robust system of marine reserves, and doubling spending on marine research. The panel, led by former California congressman and Clinton White House chief of staff Leon Panetta, also asks federal legislators to create a new regional network of planning bodies and to set tighter standards for everything from coastal pollution to fish farming.

It’s too early to tell if the current powers-that-be, including the Bush Administration and Congress, are interested in sailing into such treacherous waters. Although many of the recommendations “aren’t new, reorganizing government is very tough; it’s going to take unusual leadership,” says Carolyn Thor-oughgood, dean of the College of Marine Studies at the University of Delaware in Newark. Still, marine advocates hope that the report, funded by the Pew Charitable Trusts in Philadelphia, Pennsylvania, will gain momentum from a similar study due out later this year from a government-appointed group headed by retired Admiral James Watkins, and that the two will produce a wave of change.

Both groups are attempting to follow in the footsteps of the influential Stratton Commission, which in 1969 issued a report that led to the creation of the National Oceanic and Atmospheric Administration (NOAA) and a host of important ocean-related policies. But those 1970s solutions, says the Pew panel, are no match for today’s problems, which range from overfishing to coastal sprawl. NOAA’s niche within the industry-oriented Department of Commerce has complicated efforts to protect fish stocks, for

**HUMAN GENOME**

**A Low Number Wins the GeneSweep Pool**

**COLD SPRING HARBOR, NEW YORK**—The human genome has been sequenced, but calculating the number of genes it contains is taking more time. DNA experts have nonetheless decided they know who made the best prediction: Lee Rowen. The Seattle sequencer and two of her colleagues were declared winners this week of GeneSweep, an informal contest begun here 3 years ago at a genome meeting at the Cold Spring Harbor Laboratory (CSHL), in which researchers tried to guess just how many protein-coding sequences it takes to make a human.

When he organized the pool, Ewan Birney of the European Bioinformatics Institute near Cambridge, U.K., was convinced that the answer would be in hand by now. Most estimates at the time were high. Some gene counters were insisting humans had upward of 100,000 genes, and just a handful were hinting that the number might be half that or fewer.

The closer sequencers came to finishing the human genome, however, the lower the gene count went—and the more vexing it became to determine the actual number. For example, Birney estimates that with today’s stringent criteria and improved gene-prediction programs, there might be 24,500 genes, of which 3000 might be “pseudo-genes” that don’t produce proteins and therefore don’t count. But there’s quite a bit of poorly explored DNA sequence—dubbed “dark matter”—that may contain more genes. Faced with this complexity, Birney thought he’d have to postpone picking a winner.

But then he decided that, no matter what, “we’re coming up with a sub-30,000 gene count,” he reported at last week’s CSHL genome symposium. And it turned out only a few bettors put their money on a number that low. Rowen, a sequencer at the Institute for Systems Biology in Seattle, Washington, was the closest—predicting 25,947 in 2001. So Birney decided that she should get the prize, half the $1200 pool. Paul Dear of the U.K. Medical Research Council and Olivier Jaillon of Genoscope in Evry, France, with guesses of 27,462 in 2000 and 26,500 in 2002, shared the other half of the prize.

Rowen credits sequencer Jean Weis-senbach of Genoscope with influencing her prediction; years ago, he suggested that the number would be low. “At the time, everyone nearly fell off their chair,” Rowen recalls. But now it seems undeniable that humans have protein-coding gene counts that are close to those of *C. elegans*. Along with her winnings, Rowen is waiting to collect an autographed copy of James Watson’s book, The Double Helix.

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