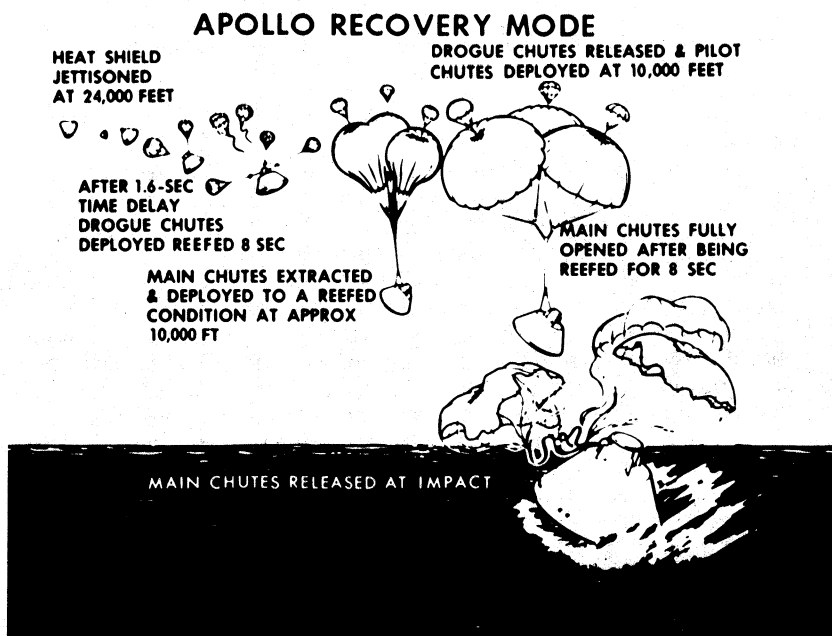


Though the nominal recovery mode for Apollo is water recovery as indicated here (slide 71), safe landing can be accomplished either on water or on land. I will show you the effects of what happens, what the extreme variations would be. But normal recovery is, as in the case of the Mercury and Gemini programs, in the water, with recovery by Navy forces. At the direction of the NASA we have carried out analyses and design studies pertaining to advanced landing systems (slide 72). We prefer this terminology, though it is often referred to as the land-landing system, since the latter is somewhat confusing because Apollo does possess a land-landing capability. With an advanced landing system—which would include steerable gliding chutes instead of the conventional parachutes, coupled with an attenuation device like landing retrorockets—we could have greater mission flexibility and choice of landing areas. We would not have to land in the ocean. Instead, we could recover, for example, at Edwards Air Force Base or other recovery areas on land within the continental United States. In so doing, we could minimize the cost of the recovery force and retain only that which is necessary for emergencies—for example, when a quick abort from orbit would require us to come down into the sea. With the land landings, we could significantly enhance the reusability of the Apollo command module.

The last, but most significant point, is that the incorporation of the advanced landing system will permit us to carry three more men in the Apollo command module. That's where the economy of operation would come in. If we can carry six men to a space station, instead of three, then the cost of transporting each man is cut in half.



SLIDE 71. APOLLO RECOVERY MODE