affect the economy via a single mechanism—if the designation becomes final, Federal agencies would have to insure that actions they carry out, authorize or fund would not likely destroy or adversely modify the designated habitat. A critical habitat designation would not affect activities on State, local, or private lands unless there is a Federal permit, license, or funding involved.

The proposed marbled murrelet critical habitat is not separate from the surrounding economy. A critical habitat designation would have multiple effects on the economy, some negative and some positive. The murrelet critical habitat proposal and the requirement that Federal agencies insure that their actions are not likely to destroy or adversely affect the habitat, would have economic consequences for four groups:

(1) It would reduce the amount of certain types of forested habitat available to firms, such as firms in the timber industry, that benefit from conventional logging practices that degrade critical habitat;

(2) It would benefit the households and firms that otherwise incur spillover costs when critical habitat is degraded;

(3) It would benefit those who see critical habitat as an element of the local quality of life; and

(4) It would benefit those who place an intrinsic value on the marbled murrelet, its habitat, and other species supported by the habitat.

To obtain information regarding the potential impact of the proposed designation on the activities of Federal agencies, the Service solicited information directly from the affected agencies. It contacted Federal agencies in western Washington, western Oregon, and northwestern California informing them of the Service's inquiry into the potential impacts of proposed designation. Seven agencies indicated that the designation would not affect their activities. Twenty-two agencies stated that the designation might affect their activities. To these, the Service provided additional information and sent each a questionnaire asking the agency to describe its future activities with and without the proposed designation.

Most agencies that responded to the questionnaire indicated that the designation would have little or no effect on their activities. A number of agencies indicated that, based on information currently available, they could not determine the potential effect. Two agencies, the Oregon State Office of the Bureau of Land Management and Region 6 of the Forest Service concluded that the proposed

designation would cause a reduction in timber harvest on lands they administer. With the designation and in the absence of a specific exception, the Bureau of Land Management and Forest Service would not proceed with logging of approximately 20 million board feet (MMBF) of timber on 10 sold and awarded timber sales in Washington and Oregon.

No single method of analysis can provide a full view of the designation's potential economic consequences and, hence, three different methods were used in the economic analysis. First, a static estimate of the potential impacts on the economy was developed using common analytical tools that embody strong simplifying assumptions regarding the economy's ability to respond and adjust to the designation. Second, these assumptions were relaxed, taking into account the economy's probable long-run adjustment to the designation, and discussed the transition process that would yield the long-run outcome. Third, the designation's potential impacts on national economic welfare were assessed and the issues related to the fairness of the designation were discussed.

## Static Estimate of the Economic Consequences

The static analysis presents a worstcase estimate of the proposed designation's potential impact by assuming that critical habitat-related changes in the activities of Federal agencies would occur abruptly and that capital, labor, and other factors of production would be locked in place and unable to respond. Within this framework, it is assumed that, if a designation caused a reduction in the output of a good or service, the capital, labor, and other factors of production associated with the displaced good or service would become permanently unemployed. These assumptions imply that there would be no compensating response by the economy, e.g., it assumes that firms would not tap into alternative markets and displaced workers would not find replacement jobs in response to the reduction in the output of the good or service.

With the information currently available, the impact of designation on all four groups listed above cannot be assessed using only the analytical tools of static analysis. Static analysis alone limits the analysis to impacts on only Group #1, i.e., firms that, in the absence of a designation, would engage in or otherwise benefit from the degradation of critical habitat (e.g., some methods of logging timber from Federal lands). The

static analysis fails to capture the impacts on Groups 2, 3, and 4. Despite its limitations, the static estimate is useful because it presents the worst-case description of the proposed designation's potential impacts, and it sets the stage for the examination of the economy's long-run adjustment to a designation.

Using employment multipliers generated by input-output techniques, the static analysis of the reductions in timber harvest indicates that canceling already sold and awarded timber sales would cause a total reduction of 387 person-years of work. This is a one-time impact that probably would be concentrated in less than 1 year, but might be stretched over a longer period.

All of these reductions would not necessarily occur in the vicinity of the restricted harvests. Because the timber industry is highly competitive over an area encompassing at least western Washington, western Oregon, northern California, the reductions would occur in the least competitive firm(s) within the entire area. These may be hundreds of miles from the sites where timberharvest is reduced. Most of the impact on employment is likely to occur in or near metropolitan areas, reflecting the concentration in these areas of the timber industry, itself, as well as the other sectors that are related to the timber industry.

## Long-run Adjustment and the Transition Process

Most workers displaced because of the designation would find replacement jobs quickly as tens of thousands have during the past 15 years. After one year, the unemployment rate among workers who lose their jobs because of the designation probably would equal the rate among other workers with similar education and training.

The proposed designation probably would have positive impacts on the output, employment, and earnings in those industries that otherwise incur spillover costs when critical habitat is degraded. The spillover costs include impacts to fisheries from habitat and population losses; increased risk of flooding; sediment removal and ecosystem repair; water quality reduction; and unemployment insurance costs. By reducing the timber industry's spillover costs, the proposed designation would stimulate other sectors of the economy, though by how much is uncertain.

The proposed designation would probably exert a long-run, positive influence on the natural-resource aspects of the area's quality of life. Hence, the proposed designation would