

GROWTH IN LAND RECLAMATION TO TAKE SIGNIFICANT JUMP

Land reclamation/erosion control could be the BIG Green Industry market of the future. Environmental legislation, especially recent surface mining requirements, are expected to increase dollar volume by nearly 30 percent this year. That is more in one year than experienced in the last five years according to survey respondents in the field. The growth is expected primarily in the area of coal and non-highway public works projects.

WEEDS TREES & TURF polled 1,200 erosion control specialists in the International Erosion Control Association and the Associated Landscape Contractors of America. Ten percent participated in the survey. Respondents included landscape contractors and architects, foresters, engineers, highway maintenance officials, utility personnel, and others.

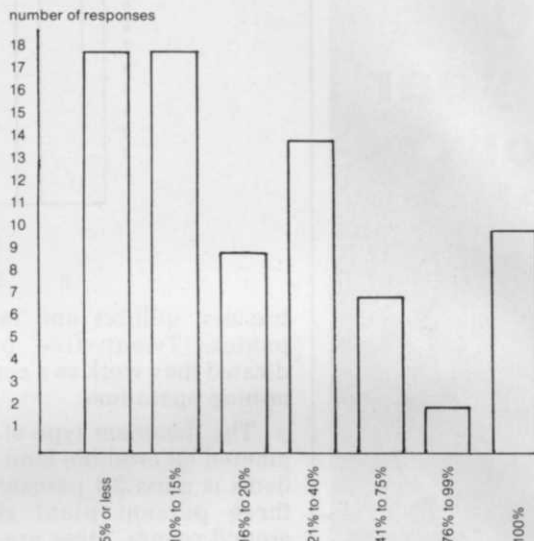
Respondents indicated their primary types of revegetation work at the moment are highway rights-of-way, parks, residential construction sites, industrial construction sites, and utility work sites. Mining site revegetation is performed by only 27 percent of those responding. Reforestation represents only nine percent of the type of revegetation work performed.

The average percentage of gross revenue derived from erosion control was 31 percent with a median response of 20 percent. Ten percent indicated that erosion control makes up 100 percent of gross revenue.

The average volume of erosion control work done in 1977 was \$295,529 with a median of \$75,000. We asked also for volume in 1973 and predicted volume for 1978 to get a picture of market growth. The average volume for erosion control in 1973 was \$277,380 with a median of \$50,000. The predicted average volume for 1978 was \$381,934 with a median of \$150,000.

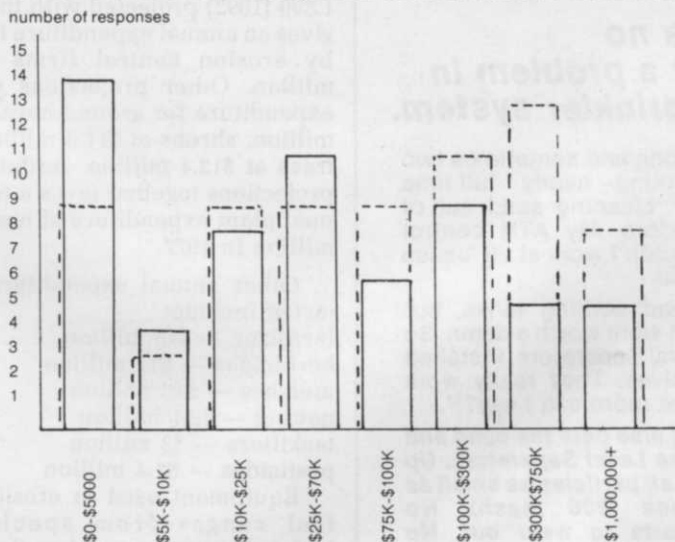
It is evident that a much greater jump in erosion control business is expected this year than has been experienced in the past five years. Projecting the average to 1,200, the base for this survey, the market increased from \$333 million in 1973 to \$355 million in 1977, an increase of \$22 million in five years. In 1978, the market is expected to reach \$458

Percentage of Gross Revenue Derived from Revegetation, Erosion Control, or Land Reclamation



Distribution of Dollar Volume in Revegetation: 1973-1977.

Distribution of the Dollar Volume of Revegetation Work done in 1973 _____
 Distribution of the Dollar Volume of Revegetation Work done in 1977 - - - - -



million, a jump of \$104 million in one year! Furthermore, when asked about the next five years, respondents predicted an average increase in volume of 117 percent, which would place the market at \$760 million in 1982. We repeat, these market figures are projected from the average volume of erosion control work done by 1,200 firms. Growth in the number of firms, which is very likely in a healthy market, may increase these figures significantly.

Surface mine revegetation alone will grow at a fantastic pace with the help of funds received from taxes on mined coal and distributed to states for reclamation projects. An estimated \$70 million will be spent this way in 1978. Forty percent expect to benefit from mining legislation.

Two thirds of the respondents said they serve as a revegetation consultant to some degree. They consult primarily for public agencies, general contractors, landscape con-

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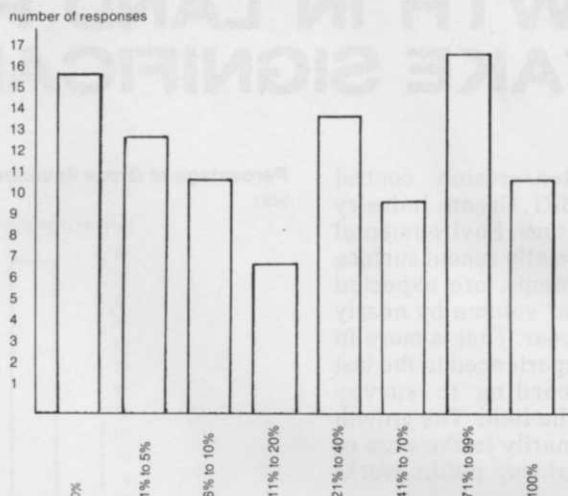
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Percentage of revegetation Work That is Hydraulic Seeding



tractors, utilities and mining companies. Twenty-five percent indicated they work as a consultant for mining operations.

The dominant type of vegetation planted on erodible land by respondents is grass (91 percent). Seventy-three percent plant shrubs and ground covers. Trees are planted by 71 percent.

The erosion control firms in this survey spend an average of \$24,834 per year on seed. Using 91 percent of 1,200 (1092) projected with the mean gives an annual expenditure for seed by erosion control firms of \$27 million. Other projections put the expenditure for ground covers at \$5 million, shrubs at \$11.6 million, and trees at \$12.4 million. Adding these projections together gives a total annual plant expenditure of nearly \$44 million in 1977.

Other annual expenditures projected include:
fertilizer — \$18 million
herbicides — \$12 million
mulches — \$13 million
netting — \$2.1 million
tackifiers — \$2 million
pesticides — \$1.4 million

Equipment used in erosion control ranges from specialized hydraulic seeders and mulchers to farm equipment such as seed drills and manure spreaders. The survey was limited to the most common types of equipment.

The following numbers of equipment are projected for 1,200 erosion control firms:

- tractors — 5,000
- dump trucks — 4,200
- tank trucks — 2,250
- hydraulic seeders and mulchers — 1,200
- fork lift vehicles — 1,050
- large earth movers — 604

More than 80 percent of the respondents do hydraulic seeding. Ten percent indicated their business is entirely hydraulic seeding work. The average involvement in hydraulic seeding was 38 percent.

Twenty-one percent do some form of aerial seeding. It makes up an average of 23 percent of the business for these firms.

Finally, we asked if the respondents were familiar with the Surface Mining Control and Reclamation Act of 1977. About half (49 percent) knew of the Act.

A considerably greater amount of research on the reclamation/erosion control market is needed. We hope to have scratched the surface. Since it appears the volume of business in this area is about to jump significantly, research is needed to help manufacturers meet chemical, equipment and supply needs.

Once again, we'd like to stress the projections in this survey are based upon 1,200 names of firms known to be actively involved in erosion control and reclamation in some form. The associations, sources for the survey respondents, probably represent less than the entire market. We encourage anyone considering erosion control or reclamation work to contact regional and national associations to help the market organize for the most efficient growth based on the latest technology and data.

Regional associations can be contacted through state departments of natural resources. At the moment, the International Erosion Control Association, P.O. Box 807, Freedom, Ca. 95019, appears to have the largest membership in the field. The Associated Landscape Contractors of America, 1750 Old Meadow Rd., McClean, Va. 22101, is also active in reclamation technology.