

Beneficial Use Summary

Productive utilization of dredged sediments as resource materials, i.e. “Beneficial Uses”, has always occurred to some extent when opportunity aligned with availability. Since the value of beneficial use became evident, opportunities to productively utilize dredged sediments have been actively sought by both dredgers and their customers. Beneficial use examples are plentiful. They include environmental enhancement, engineered uses, and agricultural and product uses.

Despite the increased focus on beneficial uses for 3 decades, data do not seem to be available to show definitively if these uses have substantially increased during this period. Anecdotal evidence suggests that beneficial uses have only increased marginally and remain limited by spatial and temporal availability and the potential for cost and schedule implications. Not surprisingly, beneficial uses are most common in areas where disposal capacity is most limited.

A number of factors suggest that beneficial uses may increase substantially in the US over the next few decades. The US Army Corps of Engineers has been working closely with local stakeholders on Regional Sediment Management (RSM) efforts across the country. Dredged Material Management Plans (DMMPs) have been developed for many projects that use sound engineering principles to identify the least costly alternatives for sediment management that meet environmental standards and specifically address potential beneficial uses. The planning and implementation horizons for these efforts are 50 and 20 years respectively.

While beneficial uses have been considered extensively in these planning efforts, a review of published DMMPs shows that a range of limitations still exist. The availability of existing placement alternatives is one of the most difficult to overcome; while replacement costs should be used for existing volume, this is difficult for public agencies to accept. Spatial and temporal coordination of projects with beneficial uses is another significant consideration along with public acceptance of dredged sediments as a resource. Salinity differences are concern in coastal areas where the salinity of the sediments may differ from that in areas where ecological uses of sediments may be considered. Sediment contamination can also be a significant barrier for many beneficial uses. However, increased cost remains the single-most significant barrier to widespread beneficial use of dredged sediments. The Federal Standard mandates that the least cost placement alternative be selected.

Reconsideration of economic impacts is one of the most important components of the RSM and DMMP efforts. Ports have enormous local and national economic impact and represent significant direct and indirect employment. Thus, postponing dredging is not an option for most ports and the increased costs of beneficial use may be offset by delays associated with other placement alternatives. As placement alternatives become more limited and more expensive, new and innovative beneficial use alternatives will almost certainly be identified to ensure our Ports remain viable.