ABSTRACT. Characterizations are given of when the metric projection P_M onto a proximinal subspace M has a continuous, pointwise Lipschitz continuous, or Lipschitz continuous selection. Moreover, it is shown that if P_M has a continuous selection, then it has one which is also homogeneous and additive modulo M. An analogous result holds if P_M has a pointwise Lipschitz or Lipschitz continuous selection provided that M is complemented. If dim $M < \infty$ and P_M is Lipschitz (resp. pointwise Lipschitz) continuous, then P_M has a Lipschitz (resp. pointwise Lipschitz) continuous selection. A conjecture of R. Holmes and B. Kripke (*Michigan Math. J.* **15** (1968), 225–248) is resolved.