Reed, J. F. and M. B. Sturgis. 1939. Chemical characteristics of the soils

of the rice area of Louisiana. La. Agric. Exp. Sta. Bul. 307. 31 pp. Rumsey, R. L., C. H. Thomas and L. L. Glasgow. 1961. Waterfowl foods in ricefields of Southwest Louisiana. Unpublished MS, 8 pp., Louisiana State University, School of Forestry, Baton Rouge, La.
Singleton, J. R. 1951. Production and utilization of waterfowl food plants on the East Texas Gulf Coast. J. Wildl. Mgmt., 15(1): 46-56.

Small, J. K. 1933. Manual of the southeastern flora. John Kunkel Small, New York. 1554 pp.
Smith, M. M. 1958-59. Waterfowl investigations. La. Wildl. and Fish

Comm., Eighth Biennial Rep. 188 pp. Wright, T. W. 1959. Winter foods of mallards in Arkansas. Proc. Thirteenth Ann. Conf. SE. Assoc. Game and Fish Comm., 13: 291-296.

OUR WATERFOWL'S FUTURE

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During a year that finds our nation's waterfowl situation the gloomiest it has been in the past few decades, we are gathered in hopes of brightening our prospective concerning our waterfowl population of the future. Will future game management call for artificially supplying ducks for the future waterfowl hunters of America, or can wise and efficient conservation practices save our wildfowl resources? Can our progeny share the art of waterfowling as near as we have known it in our own generation?

True, our present dilemma seems to be situated in the northern breeding areas where drainage and drought have drastically reduced the natural breeding places of a good portion of our nation's waterfowl population. This does not mean that our southern wintering areas are not of immediate or equal concern to be disregarded until the northern situation is rectified. On the contrary, drainage and loss of good wetlands in the southeastern United States easily approaches equality, or excels, in magnitude and importance the drainage prevailing in the prairie pot-hole regions. Our job in the Southeast is not only to provide recreational opportunity for the public, but to aid in sustaining a popu-lation of well-fed, well-wintered waterfowl for a healthy return to their northern breeding grounds.

Today's management plan, more so than ever before, stresses the multiple-use purpose of our lands and resources. Through inter-agency aid and cooperation, wetlands on almost every public area or any State or Federal development projects might be made into highly suitable resting and feeding areas for waterfowl. Flood control and water retention agencies as well as mosquito control agencies can be our most promising benefactors in aiding restoration of waterfowl habitats. Cities and communities developing water retention units can aid by providing portions of their development for fish and wildlife benefits. County and statewide sportsmen's associations and clubs can be propagandized into developing waterfowl habitats of a high caliber. On all public and civic enterprises incorporating an aqueous possibility, waterfowl development potentials should be highly scrutinized and technical advice be made readily available.

Present day inclination toward large and already suitable wetlands as a prerequisite for waterfowl habitat development is fastly becoming unrealistic due mainly to the high cost of acquisition of primary wetlands. State and Federal agencies can well benefit from the hoards of private individuals developing small acreage wetlands for waterfowl. State and Federal personnel should encourage their respective agencies toward the small area development if large acreage development seems economically unsuitable. Thousands of small areas can be developed or restored as excellent waterfowl habitats. A scattering of these areas could better distribute the waterfowl population as well as the hunting pressure. The contribution from a large aggregate of these small wetland developments checkerboarded throughout the nation might approach a degree that could be classified as spectacular.

Private individuals have also shown us that lands almost devoid of any wetland or marsh characteristic can be made into prime waterfowl habitats. By means of up-hill water retention units, artesian well systems or stream diversions, biological deserts have been turned into some of the most favorable waterfowl resting and feeding areas per acre in the Southeast. In addition to existing wetlands, we should also be investigating lands not of a wetland nature, but lands, often of a more reasonable acquisition price, that can be developed into fine waterfowl habitat.

Development of private areas should be encouraged and aided with technical assistance. The question arises, is this leading toward the European way of hunting where a few private individuals alone harvest the game? This is not necessarily true. We are not solely striving for a greater harvest; we are working also for the greater welfare of our waterfowl. The majority of private individuals having developments for waterfowl often establish their own harvest regulations more rigorous than any State or Federal regulation. Also, these private individuals often develop their marshes in a more intensive monetary manner than many State or Federal development projects could hope to duplicate. Waterfowl on these areas usually experience a shorter "shot at" season as well as an adequate food supply during their winter residency. Many private marshes are being developed for aesthetic purposes. In general, private marsh developments aid in providing a better future for our waterfowl.

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All about us there are possibilities of adding wetlands for our waterfowl. From the out of the way barrow pits resulting from super highway constructions, to the inland sloughs and savannahs, to the coastal salt marshes and tidal streams, no matter how small or how big they may be, in total, each waterfowl habitat preserved, developed or renovated will aid in preserving our waterfowl population of the future.

But, management alone will not aid us in sustaining this waterfowl crop. We must realize the various needs of the waterfowl themselves and discover the ways and means of serving these needs. Research, the cohort of management, is a never ending entity and should be realized as such. True our biological forefathers seemingly had many more problems to be answered, and answer them they did. This does not mean that everything that needs to be known, is known. In an ever changing world and society new problems, as well as old problems, are ever present. Problems of pollution, disease, effects of shooting, behavioral changes in the birds themselves as well as habitat, food and a variety of other requirements need investigating. There exists an outlined Continental Waterfowl Research Program as well as coordinating Flyway Research Programs. These are designed for finding out facts for our waterfowl of the future presenting listings of the needs, priorities and immediate priorities for needed research. Are these to be documents for file or can each state coordinate their investigations work to aid in contributing answers for the welfare of our nation's waterfow! We are entering an era where we cannot be solely individuals striving for our own private goals. We have to be a team working for the whole of the public, the whole of the nation and the whole of waterfowl. We have to think bigger and do bigger. Countless opportunities exist for saving, developing and renovating wetlands for waterfowl; countless problems arise that need answering.

Our future waterfowl picture can be bright if we ourselves will not dissipate.