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INFORMATION AND EDUCATION SESSION

SOUTHEASTERN STATE WATER LEGISLATION IN RELATION TO FISH AND WILDLIFE*

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I. INTRODUCTION

In the last decade, efforts have been made in each southeastern state to modernize laws relating to use of water. Prompted by increasing population, the movement of northern industry into the Southeast, and by accelerated state, federal, and private water developments for flood control, power, and recreation, every southeastern state legislature has been asked to revamp its state's basic water-governing legislation.

During the drought years of 1953-1956, water scarcities for municipalities, irrigators, and industry prompted citizen formation of water-use study committees, which later led to legislation creating water study commissions as official state agencies. Both lay and official study commissions usually investigated problems of water scarcity, abundance, use, and quality, examined the legal framework, and attempted an inventory of water resources. Pressures of the drought years resulted in ill-conceived, rather hasty attempts at revision of legislation, most of which failed to become law. Coincident with the drought, immediate efforts were made to secure adoption of the western system of prior appropriation, often with little modification, in some thirty-three eastern states. During the last decade, these states have been faced with pressure to modify the riparian system or to accept with modification, the prior appropriation doctrine *primarily* to insure protection of a user's water rights. This has been the overriding question in some thirty-three eastern states.

Since the drought, the pace of the water law revision movement has ebbed, leading to more orderly progress, coupled with better understanding of some of the complex problems involved. This report attempts to

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summarize basic water laws and concepts, particularly as related to fish and wildlife, and to focus attention on problems in this area which are fundamental to continuation and enhancement of use of water by recreationists.

II. BASIC WATER LAWS

A. Riparian System

All of the water law systems of the eastern states are modifications of riparian or of prior appropriation systems. The Riparian Common Law descended from the Napoleonic Code and the English Common Law. Under it, four general types of water passing over or through lands are recognized:

1. Surface water moving in a natural watercourse
2. Diffused surface water
3. Ground water in distinct underground streams
4. "Percolating" ground water

The states, as successors to the Crown, inherited the sovereign rights in the lands and waters of the realm; originally the King owned all the lands and waters in his proprietary capacity, and he could grant these to whomever he pleased. The original riparian proprietor, therefore, acquired exclusive ownership in the soil and water to the middle of the current (Maloney, 1957), *providing the watercourse was non-navigable*. If the watercourse was navigable, the riparian ownership was not exclusive, and his use of the water was not unfettered. The determination of navigability is important to fish and wildlife and public use. Riparian rights on non-navigable watercourses will be discussed first.

1. Non-navigable Waters

On *non-navigable* watercourses, the riparian proprietor is a landowner whose land is either bounded by or crossed by a stream. If the tract of land is large and part of it extends outside the watershed of the watercourse, then this portion is not riparian land, even though contiguous to riparian land (Agnor, 1956).

A *non-navigable* stream bed is owned by the owner of the adjacent land. The owner of the stream bed has the same right of exclusive ownership as to any other part of his land, and may exclude all persons seeking passage over surface of water or the bed of the stream (Agnor, 1956).

Riparian rights are so-called "natural rights" that arise from mere ownership of the land without any consent or grant. These rights, on *non-navigable* watercourses, usually have been defined by the courts rather than by constitutional or legislative provisions.

A riparian owner may grant an easement to invade his "natural rights." This is true, even for pollution (Anneberg vs. Kutz, Ga., 1944). For such rights to be secured for *public* purposes, just compensation must be paid (Davis vs. Cobb County, Ga., 1940).

The riparian owner, under the Napoleonic Code of French law, was entitled to have the stream flow by "undiminished and unimpaired in quality." This was essentially a non-use monopolistic policy, because it obstructed use of water by upstream riparian proprietors.

Current riparian "natural rights" common law has been interpreted by the courts to embrace the equitable Doctrine of Balance of Convenience, or "Reasonable Use" theory. Any use of water being made by an individual, *either riparian or non-riparian*, is lawful unless it unreasonably interferes with a *present use* being made by a riparian proprietor. Thus, riparian owners are entitled to water, except if diverted, when it must be returned to the same watercourse, and the use on the land must be reasonable in terms of others below. Several farmers along Cherry Creek, South Carolina, using the water for irrigation, were forced to stop because there was not even enough water in the stream for the City of Gaffney which had to ration. A farmer in the Rapidan watershed in Virginia, with \$20,000 invested in irrigation equipment, had to shut down because he was unreasonably interfering with downstream proprietor uses during drouth. In many states, "reasonable use" now means "reasonable use under the circumstances."

Pennsylvania has a statutory law that provides that permission is required only when public water supplies are to be diverted from

streams. Industrial and agricultural diversions are not covered (Voigt, 1958).

In Kentucky, the courts have held that if a stream that normally is perennial, dries to intermittent pools, there is nothing to stop riparian owners from taking all the water from the remaining pools. The decisions do not appear to say that the drying must be exclusively from drought causes, or whether it may be brought about by diversion. Unless a state recreational agency is a downstream riparian owner, it is doubtful if it could claim damage from upstream diversions and bring them to a halt (Voigt, 1958).

Of interest to fish and wildlife is the celebrated case of *Harris vs. Brooks* (October 24, 1955), where the Arkansas Supreme Court decided that water could not be pumped out of a lake to the point where fishing was interfered with. In a previous case in Florida (*Taylor vs. Tampa Coal Co.*, 1950) it was found that one owner on a non-navigable lake, using the lake for employees' recreation, had the right to enjoin another owner from irrigating to the extent of injuriously lowering the lake level.

In another case in Calhoun County, Florida (*Maloney*, 1957), an irrigator pumping ground water was enjoined from further irrigating when a near-by spring dried up, injuring fish in a fish pond and reservoir. How far the common law doctrine can be applied to ground water varies from state to state. In New Jersey, the State Water Control Authority has the power to prevent drainage of surface waters where these are in a ground water recharge area. Overdrainage of the Green Swamp area of Polk and Lake counties in Florida may be seriously endangering the underground water supplies in other sections of this state. Florida, through its water development and conservation districts, has power to curtail such use of water, but only after an extensive series of hearings and other legal processes.

Virginia law requires those riparian owners who would capture excess water to file a declaratory brief with circuit or city court; in Florida this must be filed with the State Water Resources Board. The new Florida law permits capture of excess water "beyond the average minimum flow of watercourses, the average minimum level for lakes, and the average minimum level of ground water" as defined. The new Kentucky law permits building dams for capture of excess water "when the flow of the stream or the level of the lake is in excess of existing reasonable uses." In Missouri, the Conservation Commission must approve any dam or obstruction across any stream in the state, and can require fish ladders or hatcheries. The latter provision is generally not needed (William Towell, remarks, Midwest Association meeting, Michigan, July, 1961). In Michigan, the Board of Supervisors must issue permits to construct dams.

In Wisconsin, by legislative act (Sect. 31.14) "no water whatever" may be diverted from "streams or parts of streams designated as trout habitat by the Conservation Department" . . . for "highly consumptive uses which in any way will injure such wildlife habitat or the public right in such waters . . . unless the applicant shows to the satisfaction of the Conservation Commission that such diversion will not materially injure scenic, recreational, or fish and wildlife values in the stream." (Wisconsin Conservation Commission.) Irrigation is specifically classed as a highly consumptive use in Wisconsin. In passing it might be noted that in Ohio, 14% of the agricultural use of water is for crop irrigation, while 21% of the use was for golf course irrigation (remarks by Hayden Olds at Midwest Wildlife Association meeting, 1961).

Wisconsin provides for diversion of excess water for agriculture or irrigation, but this is not permitted on non-riparian lands. The North Carolina Department of Conservation and Development can issue permits for irrigation even if the amount of water will substantially alter the volume of flow of a stream or lake. The statutory guide line here is "as to the safety and public interest." Kentucky, Minnesota, Virginia, and Florida all have legislation providing for capture of surplus water. The 1957 Florida Water Resource law provides machinery for a riparian owner to conduct water from a watercourse for use beyond the boundaries of his riparian holdings.

Tennessee law recognizes irrigation as a riparian use, and, where more than a "reasonable" supply of water is needed by the irrigator, he may obtain "prescriptive rights" for twenty years.

In most states a riparian owner cannot legally divert a watercourse into another where this will result in an unreasonable flow in the watercourse of the downstream proprietor (Cheeves vs. Danielly, 1888, Georgia).

The Handrick vs. Cook case, in 1848, established the "reasonable use" doctrine in Georgia, "provided, that in making such use, a riparian proprietor does not work a material injury to the other proprietors." Every proprietor is entitled to have the stream pass over his land according to the natural flow. In Price vs. High Shoals Manufacturing Company (1909), it was determined that "what is reasonable use is a question for the jury in view of all the facts in the case."

Most of the Georgia pollution cases found sufficient pollution to give a right of action to the lower riparian proprietors. Even the floating of sawdust is sufficient. Action is usually by injunction, but damages have sometimes been adjudged (Agnor, 1956).

In some instances, recreationalists are protected by constitutional provisions. Thus Vermont and Pennsylvania constitutions both provide that "the inhabitants of this state (commonwealth) shall have the right to hunt and to fowl . . . in seasonable times, under proper regulation . . . on lands they own and on other lands not enclosed, and . . . to fish in boatable waters. . ." (Vermont Constitution, Chapter 40, Section 2, 1791, Foote, 1943). Other state constitutions may contain similar statements in the "Bill of Rights," since that of the Commonwealth of Pennsylvania was widely used as a model.

To deprive a riparian owner, in most eastern states, of his riparian "rights" would necessitate amendment of the state constitution, because these common law rights are usually constitutionally guaranteed, and are subject, therefore, to due processes of constitutional law. This is the primary reason that the prior appropriation system has not been strictly adopted in the East. This is also the reason that in those few eastern states where water permit systems have been enacted, the board is legally empowered only to permit the use of water in excess of the "average minimum flow" or "average annual flow."

2. Navigable Waters

Riparian ownership of navigable waters is subject to uses delegated by federal and state laws. Roots of these decisions rest in English law which held that tidal waters were "navigable in law," while waters not tidal, even though traversable by water-borne commerce, were not so considered. Early American law defined navigable to mean capable of any reasonable public use regardless of whether the waters were fresh or salt, lake or stream. As early as 1641, a Massachusetts Colonial ordinance provided that title to all ponds more than ten acres in area was vested in the state, and that such ponds should be free for any man to fish or fowl there. Other states also held title to waters and their underlying beds in trust for all of the people. Florida courts early enunciated the doctrine that the state held title to lands under navigable waters in trust for all of the people, and the state could convey title to such lands to private individuals, provided the state retained the "control and regulation of the uses afforded by the land and the waters" and to insure that they were not diverted "from their proper uses for the public welfare." This insures to some extent that one of the state's most valuable natural resources will not pass completely out of the public domain (Maloney, 1957).

The Supreme Court of Missouri in 1954 (Elder vs. Delcour) defined navigability to include "any stream which is a living stream and which has the capability of being traveled by canoe, is a public stream and open to the public for hunting and fishing" (McBroom, 1957).

Florida defines navigability by judicial criteria. Florida watercourses may be considered navigable even though so shallow as to be suitable only for floating logs, and this only part time. The fact that a lake went dry at times, did not strip it of its navigability. If patents are issued, on "meandered streams, this does not change its navigable character." To come within the *state* definition of navigability as

navigable in fact, the watercourse must *in its natural state*, be capable of sustaining navigation, without artificial improvement. "Use by private boats is strong evidence of navigability of a stream." (United States vs. Appalachian Electric Power Co., 311US377,416 [1940].)

The federal test for navigability does not strip the state of its title to the bed of the watercourse, but does place limitations on it. Federal power over navigable streams originates in the commerce clause of the U. S. Constitution. *Navigability in fact* is also the federal test, and federal power extends over all navigable waters which are accessible to a state other than that in which the waters lie.

Waterways are *navigable in fact* in the federal sense, if artificially they can be made so. In U. S. vs. Rio Grande Dam Company (1899) the Supreme Court held that the Federal Government had power to control the upper reaches of the stream, as this would effect uninterrupted navigability of lower reaches. Federal flood control and Public Law 566 are justified, according to the Supreme Court, on the ground that "watersheds are a key to flood control, on navigable streams and their tributaries." Similarly, justification for such projects as the Central and Southern Florida Flood Control Project is a finding that "flood control on navigable rivers . . . is the proper function of Congress in order to prevent destructive floods which in turn obstruct navigation."

The common law right of a riparian owner to build a dam is restricted in waters considered as federally navigable. A private owner here cannot obstruct navigation without consent of Congress and approval of the plan by the Corps of Engineers acting for the Secretary of the Army.

The right of the Federal Government extends to the entire bed of the stream, below ordinary high-water mark. The Federal Government, however, is not legally responsible for damage to oyster beds which occurs in the course of channel improvement, although Congress recently has authorized the Court of Claims to award damages to oyster growers. (62 Stat. 941 [1948]; U.S.C. 1947 [1952].)

Private ownership of land adjacent to navigable streams generally extends only to the low water mark and does *not* include the bed of the stream.

3. State Control over Natural Watercourses

The power of the state for regulation of both navigable and non-navigable waters arises from:

- a. sovereignty over navigable waters and their beds,
- b. police power,
- c. power to act for the general welfare, and
- d. specific state constitutional provisions.

Florida, for example, has an express constitutional act governing drainage. It was under this constitutional provision that the Central and Southern Florida Flood Control District was created and given broad powers, including that of interference with the normal rights of riparian owners. Additional legislative acts, such as that zoning the St. Johns River against further diking without permit, have been passed to implement the constitutional provision.

In many states, state control over natural watercourses is manifested through legislation creating a hodge-podge of agencies, boards, and districts. Florida, for example, has ten different types of legally created "districts," each having some authority to exercise state control over water resources in local districts.

Wisconsin and Michigan have no adequate legislation to prevent the filling of lakes. The Wisconsin legislatures regularly, every two years, pass acts permitting fill to be replaced in lakes such as Lake Mendota. In Florida, permits must be obtained from the Internal Improvement Board, but apparently these are relatively easy to secure except where there is strong public opposition.

4. Pollution of Watercourses

Under Common Law there are three approaches to pollution. Pollution can be defined and controlled as a public nuisance; it can be defined, under English Common Law, particularly for industrial wastes, as a non-natural use of the land; the act of polluting can be defined as a negligent act, prerequisite to such for liability. Florida courts have

recognized the liability of a municipality in dumping wastes on a riparian owner.

Individuals banding together to litigate industrial pollution may be denied the right to joint suit because damages suffered by all individuals are not identical.

An injunction usually is a much more effective sanction than a suit at law for damages because the court will order polluter to cease this activity. In Florida law, an individual must show damage to himself, to obtain an injunction, although the law prohibits deposit of substances "liable to affect the health of persons, fish, or livestock." An incongruity, however, in the Florida law is the passage of special acts of 1941 and 1947, which declare Nassau and Taylor counties to be "industrial counties," and state that it is in the public interest to empower industries here to discharge sewage and industrial wastes into tidal waters and the Fenholloway River. This legislation is probably unconstitutional, because it deprives riparian owners of constitutional and common law property rights.

In Georgia, most of the court cases have found sufficient pollution present to give a right of action to the lower riparian proprietor. Here, again, the action is usually by injunction, but sometimes damages are adjudged (Agnor, 1956).

B. Prior Appropriation System

The prior appropriation system of water laws can be interpreted literally as a "first come, first served" policy. It arose with the early settlement of the public lands of the West, and grew out of the water apportionment system employed on the Spanish land grants. Although some western states originally had riparian laws, they early shifted over to the appropriation system.

Basically, the law provides that an appropriator must make "beneficial use" of water he may be allocated. The appropriator need not be a riparian owner.

Usually domestic use is given highest priority among the specified uses, with agricultural and industrial proprietors high in priority in most western state water laws. Several western state laws make no mention of fish, wildlife, or recreation in the scale of priorities employed.

Arizona and Oklahoma each recognize the use of water for fish and wildlife as beneficial uses, but with the lowest priority of all uses. In South Dakota, domestic, livestock watering, municipal, industrial, and irrigation use all precede recreation in the scale of beneficial uses and water-use priorities.

Pollution is usually not mentioned in prior appropriation proposals. Where pollution is incidental to proper use of the water, then this pollution is one of appropriated rights, and cannot be objected to unless it becomes a public nuisance. Agnor (1956) does not believe that the prior appropriation doctrine would answer Georgia's pollution problems, "but would result instead in greater pollution of our streams."

It is appropriate to note, that the Mississippi prior appropriation legislation passed in 1958 leaves intact, in the Game and Fish Commission, pollution control related to aquatic life.

In order to appropriate water, the applicant must secure a permit, usually from the state water control board, and this may allow the sale of water to others.

The prior appropriation system has been charged with tending to freeze patterns of use, and with tending toward monopoly. It does permit a contemplative water user to invest in water handling or processing equipment with some guarantee that water necessary for his use will be available. This is not always a sure thing, however. Iowa in 1957 enacted a prior appropriation law, and by 1958 they were in turmoil. The water board had granted permits if there was enough water in the creek to fill the request. (Voigt, 1958.)

As recently as 1954, North Carolina felt that prior appropriation was needed there. Then, after taking another long, hard, look at it, the Tarheel state reversed itself two years later. An official North Carolina report in 1956 said bluntly that water appropriation "has failed to solve present day water problems" in the West, and that if it were taken as a cure for water ills in North Carolina, the remedy could be

"more disabling than the disease." (Voigt, 1958.) North Carolina did give its water control agency emergency powers to allocate water, but this clearly is a modification of the riparian doctrine to provide for state control, under the "protection of the general welfare" clause of basic state legislation.

Virginia rejected the prior appropriation system in 1955, while proposals have been suggested in Arkansas, Georgia, Michigan, Delaware, Maryland, South Carolina, and Wisconsin. Mississippi adopted the system in 1956 and Iowa in 1957. Both Kentucky and Arkansas have recently passed legislation which enjoins the state to govern its public and private water resources for maximum "beneficial use" as basic state policy.

In terms of emergency, Arkansas water may be allocated by the following priorities:

1. Sustaining life
2. Maintaining health
3. Increasing wealth

One may question where fish and wildlife fit into that!

The Kentucky law apparently does not alter riparian rights, but does give domestic use, including drinking water for livestock, highest priority. What is new here, however, is that a riparian use is given a priority by legislation.

It has been pointed out by a number of students of water law (Fox, Voigt, Swift, Agnor, Maloney) that the prior appropriation system is not an adequate vehicle for pollution control.

Much publicity has been given the so-called Michigan Model Water Law, developed by the University of Michigan Law School. This proposed legislation is but a slight modification of the prior appropriation system, and contains a water use permit system. It was the intent of the Council of State Governments to have the Michigan Bill ready for consideration by forty-five state legislatures by January, 1959. The National Conference of Commissioners on Uniform State Laws also resolved, in 1958, to advocate adoption of the Michigan Model Water Law. As of mid-1961, however, only Hawaii had adopted the law.

The Michigan Model Law has the following provisions:

1. Five-man commission, appointed from the state at large, with no interest representation.
2. Domestic use superlative, no permit required.
3. All other uses have same priority.
4. Commission directed to manage for maximum beneficial use.
5. Commission approves all water uses, even eminent domain.
6. Act continued uses in force at date of act—"preserved uses."
7. Water permits required for all uses except domestic.

III. SAFEGUARDS RECOMMENDED FOR RECREATION IN WATER LAW CHANGES

Committees of the Isaak Walton League of America, the American Fisheries Society, and the International Association of Game, Fish, and Conservation Commissioners have studied proposed water law changes and have developed criteria to protect and enhance recreation.

The Isaak Walton League in its 1955 convention resolved that minimum points for protection in any new state water law revision include the following:

1. That water may not be diverted from a perennial stream to a point that it may be dried up and rendered no longer capable of sustaining aquatic life;
2. That provision be made to maintain high standards of water purity—by intensified abatement and control of pollution—and no stream flow be so depleted as to intensify the pollution problem;
3. That provision be made to guarantee that appropriation and diversion not adversely affect natural lake levels;
4. That positive recognition be given to recreational values in and uses of, water.

The American Fisheries Society "water principles" of 1956 were similar. The Society recommended the following minimum protective language:

1. The non-consumptive recreation use of water shall be considered under law to be a primary beneficial use.
2. Allocations of water should be based upon accurate and up-to-date inventories of water qualities and flow.
3. Allocation of water should be based upon minimum flows rather than maximum or so-called average flows.
4. The previous three water principles should be included in any new legislation enacted for appropriation or allocation of water.

And the International Association, in its "Magna Carta" of 1957 and subsequent committee meetings through 1959, adopted the following criteria:

1. That however state or provincial laws governing water use control are enacted, the recreational use of water shall be declared and recognized as a primary beneficial use.
2. That in any such laws there shall be written certain safeguards, including but not limited to the following:
 - a. Allocations for water for consumptive uses may only be made on the basis of accurate and up-to-date inventories of water quantities and flows.
 - b. Where recreational factors exist or may be foreseen, allocations of water may be made only on the basis of minimum flows rather than maximum or average flows.
 - c. Relatively clean upstream flows may not be diverted to an extent that will result in the aggravation of pollution in areas downstream from a water diversion point.
 - d. Waters of a stream may not be diverted to a point where an adequate recreational population of aquatic life cannot survive, or so greatly that other important recreational factors are jeopardized.
 - e. Similarly, waters of a natural lake may not be withdrawn to an undesirable point.
 - f. Where endangering upstream diversions are foreseen, and would be of such great importance to the economy as not to be denied, then "compensation in kind" shall be provided by the diverters, of flood flows that must be gradually released during periods of water deficiency into natural channels downstream.

IV. DISCUSSIONS AND CONCLUSIONS

Agnor (1956) after considerable study, "does not agree that the doctrine of riparian rights should be junked. It is believed that it needs nothing more than an overhaul job, and probably a minor one, to adequately meet present day conditions." He suggests:

1. Strengthening Georgia pollution legislation.
2. Revision of riparian procedure to determine degree of "reasonable use" *before investment*, for, for example, irrigation.
3. Solution of the problem of municipal water supply.

He concludes: "The present doctrine of riparian rights in Georgia can be adequately modified to meet present problems without . . . embracing the Lorelei of the doctrine of prior appropriation." Agnor prepared this declaration shortly after the Institute of Law and Government, University of Georgia, in a lengthy report, advocated adoption of the prior appropriation doctrine.

Voigt (1958) reports that most eastern state game and fish directors favored modification of the riparian doctrine as follows:

1. Clarification by statute as to what is truly a reasonable use of water;
2. Increased consideration of recreation in the modification;
3. Provision for determining and fixing minimum flows to be maintained in perennial streams, and levels to be held in lakes, both where exporting is allowed, and from riparian use;
4. Allowing exporting of surplus waters for use in non-riparian areas, since this is not now legal in all states. Exporting would be accomplished through diversion of stored water. Use of head-water sites for storage also means augmentation of stream flows during periods of drought, through natural release from reservoir into stream.

Voigt concludes that "if modification of the riparian doctrine is needed in any state to benefit the farmer, let consideration be given to

the creation of irrigation districts, with protection to the public's right to recreational water, and with responsibility and accountability provided in the statute."

In Georgia, the University Law School stated flatly in its summary of Georgia water law legislation needs, that although it recognizes that the prior appropriation doctrine tends toward monopoly, it would be advantageous since it would help stabilize certain types of property rights. Yet, when a civil or a public right faces up to a private or property right in court, it is almost always the public right that loses out. (Voigt, 1958.)

"I question whether an appropriation or permit system would be good over the long term for any state in the eastern half of America. . . . The fairest way to handle the most troublesome water-use situations we face is by some relatively simple modification of the riparian doctrine."

The 1959 International Association of Game, Fish and Conservation Commissioners Water Law Committee concluded: "States east of the Appropriation Law West are urged to stand fast for simple modification of the riparian doctrine. The 'Use Permit System' provided under the Michigan Model Act could kill a stream just as effectively as the appropriation law of the West." Additional objections to the Michigan proposal are as follows:

1. The model water-use law would seek to repeal almost universally prevalent constitutional property rights by legislation.
2. It would create more problems than it would solve in most states and provides no standards for the control agency to follow.
3. It is specifically designed to promote and encourage consumptive use and is being pushed almost exclusively by powerful agricultural blocs.
4. It gives to private interests, rights to a public resource.
5. It would further provoke unregulated competition for water.
6. It would encourage waste of water, since a water-use permit may not be revoked because of waste, and the only waste spelled out in the act is non-use.

Irving K. Fox, Director of the Water Resources Program of Resources for the Future, before the American Bar Association in August, 1959, summarized the situation quite well:

"My third point about the water-supply-demand outlook is that, in the future, the economic growth of the West will be identified less with irrigation and more with the use of available supplies for municipal, industrial and recreation purposes . . . In the future it seems certain that . . . an acre foot of water dedicated to industrial use . . . and possibly to recreation . . . will provide more income and employment and thus support more people than an acre foot dedicated to irrigation."

"The most arresting feature of the water-supply-demand outlook—both East and West— . . . is the rapid increase in water use for recreation purposes and the growing recognition of the importance of preserving the aesthetic characteristics of the nation's water resources."

" . . . it is important that the policy reflected in water allocation law take into account the different kinds of supply-demand situations we can now foresee . . . Where supplies are abundant in comparison with the demand, there seems to be little point in setting up an elaborate procedure for establishing water rights. Therefore, in those areas which will continue to have abundant supplies, is there good reason for modifying the common law procedures of the riparian doctrine?"

"Precise allocation may be necessary where pressures on the resource are really great to:

- a. define for the individual his water property rights;
- b. protect public interest in the resource."

"Changes in the riparian law desirable are:

- a. to permit non-riparian owners to establish a right where this cannot now be done;
- b. to limit the application of more elaborate water allocation procedures to those states or parts of states where competition requires precise allocation."

"In the future a paramount objective of water allocation law should be the protection of the public interest in the utility of the resource for recreational purposes . . .through:

- a. protection of minimum stream flows;
- b. preservation of lake and reservoir levels;
- c. limitations on pollution." (Fox, 1959.)

In conclusion, here are ten questions which determine how well equipped a state is in legislation to protect recreational uses of water.

1. Is the right to hunt and fish declared constitutionally to be a right of the inhabitants of your state? In or on what water?
2. Are "public" waters defined constitutionally, legally, or judicially by court decisions?
3. How is navigability defined?
4. Can your state water control agency issue water use permits or appropriate water beyond the
Average minimum flow,
Average annual flow, or
Average maximum flow?

What water quality standards are provided for? Are they adequate to maintain aquatic life?

5. Are riparian owners permitted to capture excess water for recreation, or fishing and hunting, on par with industry and irrigation?
6. Is ground water protected to preserve wetlands? Can the state water control agency prevent wetland drainage where these wetlands are recharge areas for ground water?
7. Are easements for diversion of excess surface water in natural watercourses or percolating ground water, or for recreational use by non-riparian proprietors legally possible under state law?
8. Does state law provide (or have judicial opinions established by common law) recourses for downstream proprietors from excessive water due to upstream drainage activities?
9. Is damage to aquatic life sufficient to enjoin against pollution, or is "substantial" damage to public health required?
10. Does the state, in its declared policy for water use, recognize fish, wildlife, and recreation as beneficial uses of water? Is any priority of uses established for "excess" water? Does the board which appropriates "excess" water include recreational representation?

For reference to basic water resource policies in the laws of the individual southeastern states, consult the Council of State Governments, publication of December, 1960.

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NAVIGABLE WATERS OF THE UNITED STATES

By CAPT. J. J. HUTSON, *U. S. Coast Guard*

Questions frequently arise as to who decides what waters are "navigable waters of the United States" and what criteria is used in making the determination.

There are three methods by which Federal Government can make such determinations.

1. Decision of the U. S. Supreme Court.
2. Act of Congress.
3. Designation by a Federal agency such as the U. S. Army Corps of Engineers, U. S. Coast Guard, and others, having specific authority to make such decisions.

The Coast Guard uses the following criteria for making navigable waters decisions:

"Navigable waters of the United States" shall be construed to mean those waters of the United States, including the territorial seas adjacent thereto, the general character of which is navigable, and which, either by themselves or by uniting with other waters, form a continuous waterway on which boats or vessels may navigate or travel between two or more states, or to or from foreign nations. A stream which otherwise conforms with the above definition would not change its navigable character because of the existence of natural or artificial obstructions such as falls, shallows, rapids, dams, or bridges.

The Federal Boating Act of 1958 delegated to the states with approved numbering systems, concurrent jurisdiction with Federal agencies in small boat law enforcement. However, it should be stressed that neither the Congress nor the Coast Guard intends that such concurrent jurisdiction should be interpreted as abrogation of authority by the Coast Guard. While this Service will, as always, cooperate fully with state boating law enforcement administrators and personnel, it has relinquished none of its long-held authority on the Federal waters.

POLLUTION

The Refuse Act of 1899 prohibits the discharge of refuse of any kind into the navigable waters of the United States or any tributaries of these waters. This Act applies to *small boats* as well as large vessels and before the problem of pollution of our waters becomes even more critical it is felt that a stronger enforcement attitude should be taken against violators operating both types of craft.

The Act applies to not only the discharge of oil but the discharge of any type of refuse.

The Corps of Engineers is the Federal agency charged with the administration of the Refuse Act and the Oil Pollution Acts. The Coast Guard assists the Corps of Engineers in the enforcement by the collection of evidence and reporting such violations when observed.

COMMERCIAL AND SPORT FISHING ON GUNTERVILLE LAKE DURING THE PERIOD OF MARCH 15-JUNE 13, 1960

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ABSTRACT

A census of sport and commercial fishermen was conducted on Gunterville Lake from March 15 through June 13, 1960. The objectives were to determine species composition of the catches, the types and extent of sport and commercial fishing, the interrelationship of sport