



Spring 1972

Subdivision Planning through Water Regulation in New Mexico

Charles J. Noya

Thomas B. Stribling

Recommended Citation

Charles J. Noya & Thomas B. Stribling, *Subdivision Planning through Water Regulation in New Mexico*, 12 Nat. Resources J. 286 (1972).

Available at: <https://digitalrepository.unm.edu/nrj/vol12/iss2/16>

This Note is brought to you for free and open access by the Law Journals at UNM Digital Repository. It has been accepted for inclusion in Natural Resources Journal by an authorized editor of UNM Digital Repository. For more information, please contact amywinter@unm.edu, lsloane@salud.unm.edu, sarahrk@unm.edu.

NOTE

SUBDIVISION PLANNING THROUGH WATER REGULATION IN NEW MEXICO†

The State of New Mexico stretching from arid deserts to lush alpine zones has faced serious water shortages in the past.¹ Modern planners have helped alleviate this problem, and the private and industrial citizens of the state now live in less dread of drought than they did sixty years ago.

But land development, New Mexico's newest industry, is urging a new population to migrate to the Southwest. Present laws regulating subdivisions only go as far as requiring honest disclosure of the water supply.² It is apparent, however, with New Mexico's diminishing water resources that there will not be enough water to supply future subdivision needs. It is the purpose of this paper to analyze present water problems and legislation and to recommend a future plan for regulating water allocation to New Mexico's coming subdivision populations.

SELECTED WATER PROBLEMS IN NEW MEXICO

Existing communities are already competing for present and potential water.³ It appears that the demands of these communities

†This article is based upon original research material compiled by Mr. William Brogan and Mr. Mark McFeeley in association with Messrs. Noya and Stribling.

1. In comparison to other parts of the country, the water supply in the West is of paramount importance.

Irrigation greatly depletes the supply in the West where the supply is small. . . .

Distribution [of water in New Mexico] becomes a problem when demands exceed supply in one part of a region or in other regions. This condition occurs when the supply and demand do not coincide geographically. . . .

The low density of major streams in the West raises the cost of distribution for canals and pipelines. Staff of Senate Comm. on Natural Water Resources, 86th Cong., 1st Sess., *Water Resources Activity in the United States* 6, 16, 17 (Comm. Print 1960) [hereinafter cited as Senate Comm. on Natural Resources].

2. Other problems are discussed in Linn, *Water Planning for Equilibrium*, New Mexico Business, May 1970, at 2.

3. "Several cities, towns and villages in the Canada River system above Conchas Dam are dependent upon surface water for domestic supplies. Some towns have suffered water shortages." New Mexico State Planning Office, *Water Resources of New Mexico—Occurrence, Development and Use* 37 (1967) [hereinafter cited as *Water Resources*].

cannot be met without diverting water from agriculture,⁴ a situation which would be quite deleterious to New Mexico.⁵

New Mexico's major water problem is that its water is fully allocated.⁶ One study indicated that all of New Mexico's water had been appropriated by 1960.⁷ It must be remembered that virtually all of New Mexico's water comes from precipitation and as man has not yet mastered the ability to move great moisture-bearing cloud masses, New Mexico is strictly confined in its water resources. It is not possible to increase the state's water supply significantly: New Mexico's precipitation varies from eight inches to thirty inches annually; and generally the evaporation rate from open water surfaces is greater than the annual precipitation.⁸ The tremendous variability of precipitation has been largely compensated for by dams and reservoirs, but these unfortunately increase evaporation.

The overall average precipitation is thirteen inches per year for a

4. Declining water levels in the irrigated area of the Estancia Basin are beginning to create problems for those who depend on wells as a source of water supply. As the water levels are lowered, pumping depths increase and costs of pumping increase proportionately. There are many social considerations which should be considered in adopting a massive state plan to control the development of land resources thus affecting the water resources of the state.

Within the Rio Grande Basin in New Mexico, there exists at the present time, dynamic growth in urban areas and depressed economic conditions in rural sections, notably in the northern counties. Limited water supply, availability of land, and market factors restrict the number of people who can depend on agriculture for a livelihood in these counties. A possible solution in these areas is diversification of the economy with emphasis upon industrial and recreational development. Throughout the basin, the trend toward industrialization and urbanization in economic development can be greatly extended by orderly redistribution of available water among beneficial uses under the present system of water laws. *Id.* at 167.

5. "Water is one of New Mexico's most valuable commodities and agriculture's share of the state's water resources needs to be used as economically as possible." New Mexico State Planning Office, *The Climate of New Mexico*, 140 (1969). See Speigel, *An Introduction to Hydrology*, N.M. Rev. & Legislative J., Aug. 1971, at 19; *How Cochiti Lake was Won*, N.M. Rev. & Legislative J., Nov. 1970, at 9; Letter, State Engineer Disputes Cochiti Water Situation and the Review Replies, N.M. Rev. & Legislative J., Jan. 1971, at 14-15.

6. In the Pecos basin . . . large scale withdrawal of ground water in the south-central part of the basin has resulted in a long-term net loss of ground water storage. Water-level declines in the shallow sand and gravel aquifers of the Roswell basin and Carlsbad area have created sizeable cones of depression which may, in time, extend eastward to the Pecos River. Excessive withdrawals from the artesian aquifers of the Roswell basin, principally for irrigation use, caused water-level declines as great as 85 feet in the period of 1944-1960. Pumpage from shallow and artesian aquifers in the Roswell basin, plus natural discharge to the Pecos River, exceeds recharge to the aquifer, both natural and artificial, by more than 120,000 acre-feet annually. The consequences of this ground-water mining are worthy of serious consideration. Water Resources, *supra* note 3, at 94.

7. Senate Comm. on Natural Resources, *supra* note 1.

8. Water Resources, *supra* note 3.

gross water product of 85 million acre feet (ac-ft). Only three million ac-ft of this appears as surface runoff. The remainder is used by plants, stored in underground basins, or dissipated by evaporation. The state also receives 2.5 million ac-ft of water from the runoff of other states. In addition, New Mexico has roughly five billion ac-ft of usable water in underground storage not all of which is economically or feasibly extractable. Figures from the year 1967 indicate 2.2 million ac-ft of the surface runoff is utilized within the state with 3.4 million ac-ft of water passing downstream. As of 1965, the underground water supply had been depleted⁹ by one million ac-ft.¹⁰ This number has increased from the 0.5 million ac-ft in 1940.

Currently, New Mexico uses 3.077 million ac-ft of water per year for irrigation from both surface runoff and underground storage. Municipal and well-supplied water comprise about 125,000 ac-ft per year with 90,000 ac-ft coming from wells. Fish and wildlife use about 50,000 ac-ft of water per year. These, plus 528,000 ac-ft for evaporation, 863,000 ac-ft for non-beneficial use by river channels and phreatophytes, 1.67 million ac-ft for agriculture (livestock, etc.) and 182,000 ac-ft for miscellaneous uses totals about 3.243 million ac-ft per year.¹¹

Although the state's present water supplies are fully allocated, it is clear that New Mexico has not yet developed all of its water resources. In this light, however, two factors must be considered. Surface water is normally too polluted for use for anything other than irrigation; its use in suburban development is limited. Also, according to the Basic Data Report for 1971, "Water levels (underground) continued to decline in most areas, despite above average precipitation throughout the state."¹²

Because of the prior appropriations doctrine and the shortage of water, the State Engineer, in his capacity as controller of water, has

9. "Depletions of streams by pumping from valley alluvium is a problem in parts of California, Arizona, New Mexico, Colorado, Kansas and Nebraska." *Id.* at 15.

When the wells are pumped for many days, river water moves throughout the valley deposits to the wells. Eventually the principal wells have the same effect on the streams as diversion directly from it. The State Engineer of New Mexico has ruled that additional wells cannot be drilled along the Rio Grande unless the right to surface water is obtained. *Id.*

10. In the Arkansas River basin, "generally speaking, in most areas ground water is difficult to obtain and at present has not been developed extensively. It is estimated that more than 95 percent of all water depleted in the basin comes from surface sources." *Id.* at 31.

11. *The Water Encyclopedia*, Water Information Center, 110 (D. Todd ed. 1970).

12. New Mexico State Engineer, *Ground Water Levels in New Mexico*, U.S. Geological Survey, 1969, Basic Data Report, at 1 (1971). It is interesting to note that the lowest precipitation years recorded have been for the most part since 1968 (68 percent of the time for Santa Fe and 46 percent of the time for Albuquerque). For the years 1968, 1969, and 1970, the water table in central New Mexico, the primary water basin has been declining at a significant rate.

the authority to delineate water basins and allocate water.¹³ Unfortunately, the statutes require the Engineer to issue a permit for all private water use applications. Thus, if a large subdivision provides no central water system, the individual residents are required to apply to the Engineer for a permit to drill a well. The Engineer *must* issue the permit.¹⁴ It should be noted that none of the proposed subdivisions have provided for water supplies other than by depleting already strained water basins.¹⁵

Water resources in New Mexico are also endangered by recreational uses. Planning in New Mexico has not been totally successful in controlling the rapid development of vacation homes around natural bodies of water. The implications are clear: the less controlled such developments are, the greater the chance that natural bodies of water will deteriorate or diminish. One computer model approach to land development planning has stated:

Our limited knowledge of land development processes in the vicinity of reservoirs and the suddenness of the vacation home "explosion" have generally limited the extent to which interrelationships among land and water uses and the service and regulatory requirements of shoreline residential development have been anticipated prior to reservoir impoundment. Given the expected growth in demand for residential land in reservoir areas, a reliable objective method of forecasting residential location pattern is clearly required.¹⁶

With increases in population, urbanization, income, leisure, and improved transportation networks, the demand for water-oriented recreational land has risen greatly over the last 25 years,¹⁷ and more recently, especially in the southwestern part of the United States.

This demand extends beyond the day and weekend usage typical of intermediate recreation areas to a growing desire by households

13. "The state engineer shall have the supervision of the apportionment of water in this state according to the licenses issued by him and his predecessors and the adjudications of the court." N.M. Stat. Ann. § 75-2-9 (1953).

14. N.M. Stat. Ann. § 75-11-1 (1953). See *AMREP Declares Itself Ready to Squeeze Water from Stones*, N.M. Rev. & Legislative J., May 1971, at 15, 16 [hereinafter cited as AMREP].

15. *The Water Encyclopedia*, *supra* note 11.

16. R. Burby, *A Model for Stimulating Residential Development in Reservoir Recreation Areas*, at xi (1971).

17. Clawson and Knetsch report that a "near revolution in the use of water for recreation" has occurred with Corps of Engineers reservoirs accounting for the most rapid increases in the use of recreation areas. Indeed, the annual attendance at Corps reservoir projects rose about five million in 1946 to over 227 million in 1968. Similarly, recreational attendance at the TVA reservoirs increased from about seven million visits annually in 1947 to about 58 million in 1968. M. Clawson and J. L. Knetsch, *Economics of Outdoor Recreation* 120, 189-90 (1966). See also, C. R. Jensen, *Outdoor Recreation in America* (1970).

for primary and vacation homesites. As in any land area undergoing rapid development, there are conflicts among competing uses of reservoir shorelands and mounting environmental and service deficiencies. . . . Because shoreline land is an especially scarce and limited resource these problems appear to be more acute than elsewhere.¹⁸

The amount of waste that a community has to dispose of is one index of its standard of living.¹⁹ An average American uses 120 gallons of water and produces 100 gallons of sewage and six pounds of solid waste per day.²⁰ If present plans for population expansions are carried out, and sewage production of 200 million gallons a day occurs, it will require tripling of the sewage treatment facilities in every town in New Mexico or the construction of a lagoon type treatment plant covering 7,000 acres. From this projected new population we can expect solid waste to be generated at the rate of 6,000 tons per day, equaling a land fill site of 31,000 acres or enough trash in 100 years to completely fill two miles of the Rio Grande Gorge, or put another way, enough trash to make a dump out of one-fifth of the Pecos Wilderness.²¹

In the majority of the developments planned for New Mexico, sewage disposal is affected by use of septic tanks. However, experience of some suburban developments has shown that tanks will ultimately have to be replaced by sewers in order to avoid health hazards. In many areas, septic tanks have proven satisfactory under low-intensity land use or for the first few years but have had to be replaced at a much greater cost than would have been necessary if sewers had been installed at the beginning.²²

Coupled with rising sewerage, waste disposal and depletion of

18. Burby, *supra* note 16, at 2.

19. M. Clawson, *Suburban Land Conversion in the United States: An Economic and Governmental Process* 141 (1971).

20. The Water Encyclopedia, *supra* note 11, at 352; information substantiating need for proposed sub-division regulations of the New Mexico Health and Social Services Department, address by J. R. Wright to the H. & S.S. Board, Aug. 28, 1970. H. Rubio, *Large Land Sub-division in North Central New Mexico*, Aug. 3, 1970 (unpublished manuscript available in the New Mexico State Planning Office), would put the figure closer to 150-200 gallons per day per person.

21. J. R. Wright, *supra* note 20.

22. Senate Comm. on Natural Resources, *supra* note 1. In Santa Fe County, the development of the planned community known as Coronado, a development of the Southwest Land Corporation, was halted by the County Planning Commission. The company could not satisfactorily demonstrate that the soil was suitable for septic tanks to handle the waste of the number of planned people in the development. Consequently, the developer who originally planned one-half acre lot sales was forced to abandon his large scale development and rely on a minimum lot size of five acres, considered by some a sufficient area to allow individual sewage treatment by septic tanks and to minimize health hazards.

limited underground water supplies, the use of water by urban areas is one of the most challenging problems for modern planners.²³

Most of the planned subdivisions in New Mexico intend to use septic tanks.²⁴ But even where the soil is suitable, a large number of septic tanks would be a health hazard, especially where the ground water table is high.²⁵ In addition to disease and other pollution, the percolation from the drain fields increases the hardness of the waters. The use of septic tanks ultimately places a heavy burden on the community in the form of new sanitary treatment facilities which will be required to comply with federal water and environmental standards.²⁶

EXISTING LEGISLATION

A. County Level

Counties in New Mexico have been authorized by the state legislature to create planning commissions. N.M. Stat. Ann. § 15-58-1 (1953) permits, but does not require, a county to create a planning commission. The powers and duties of any such commission are outlined in N.M. Stat. Ann. § 15-58-2 (1953). These powers include all that is necessary and proper in carrying out and promoting county planning.

Such planning shall be made with the general purpose of guiding and accomplishing a coordinated, adjusted and harmonious development of the county which will, in accordance with existing and future needs, best promote health, safety, morals, order, convenience, propriety or the general welfare as well as efficiency and economy in the process of development.

Counties, through the County Planning Commission if there is one, otherwise through the County Commission, have the power to regulate subdivisions in accordance with the New Mexico Land Sub-

23. See generally *Environmental Engineering and Metropolitan Planning* (J. Paul ed. 1962); Advisory Comm. on Intergovernmental Relations, *Intergovernmental Responsibilities for Water Supply and Sewage Disposal in Metropolitan Areas* (U.S. Gov't. Printing Office 1962).

24. AMREP, *supra* note 14. It has been estimated that the subdividers control over 1 million acres of New Mexico land, *Time Magazine*, Feb. 7, 1972, at 52.

25. The Southwest Land Corporation was prohibited from continuing with its land development at Coronado City (across from Cochiti). They were not allowed to sell one-half acre lots, but were limited to five acres or larger. Interview with Mr. Al Diamond, Manager, Southwest Land Corp., Sep. 1970.

26. Health & Social Services Dep't, *Background Survey Concerning Public Health Aspects of Land Subdivisions* (Nov. 16, 1970).

division Act, N.M. Stat. Ann. §§ 70-3-1 through 9, which is applicable to parcels of land divided into 25 or more lots.

The Land Sub-division Act,²⁷ sets forth certain conditions which must be disclosed to the purchaser:

- A. All restrictions or reservations of record which subject the subdivided land to any usual conditions affecting its use or occupancy;
- B. The fact that any street or road facilities have not been accepted for maintenance by a governmental agency when such is the case;
- C. Availability of public utilities in the sub-division including water, electricity, gas and telephone facilities;
- D. If water is available only from subterranean sources the average depth of such water within the sub-division;
- E. The complete price and financing terms or rental; and
- F. The existence of blanket encumbrances, if any, on such sub-division, unless such blanket encumbrances provide for a proper release or subordination of said blanket encumbrances to such lot or parcel.

Approval is required for any plat or any sub-division by the Board of County Commissioners of the county in which the sub-division is located.²⁸ Before the Commissioners approve any plat, it must be shown that:

- A. Proposed streets conform to adjoining streets;
- B. Streets are defined by permanent monuments to the satisfaction of the Board of County Commissioners; and
- C. Boundary of the sub-division is defined by permanent monuments.

The language of N.M. Stat. Ann. § 70-34 referred to above, requires only disclosure to the purchaser and cannot serve as grounds for denying approval by the County Commissioners. Consequently, if a subdivider complies with the requirements outlined above, approval must be forthcoming from the Commissioners. The District Attorney for the First Judicial District, Mr. James C. Thompson, concluded in a letter to the County Commissioners of Rio Arriba and Santa Fe Counties that:

No County Commission is authorized under this section (N.M.S.A. 70-3-4), if full disclosure is made, to reject the filing of the plats because of any of the matters contained in the disclosure. It requires disclosure, no more and no less.

27. N.M. Stat. Ann. § 70-3-4 (Supp. 1971).

28. N.M. Stat. Ann. § 14-19-6 (Repl. 1968).

. . . the County is limited to ascertain, as a condition precedent to approving a plat, that written disclosure has been made as required by 70-3-4, in regard to the availability of water and a disclosure, if water is available only from subterranean sources, the average depth of such water within the subdivision.²⁹

Apparently, a county is without power to require detailed information about the availability of water in a subdivision. It thus appears that even if there is no water whatsoever in the subdivision, as long as the subdivider properly discloses this fact, the County Commissioners must approve the plat.

The only other power a county has over subdivisions is that given to it under N.M. Stat. Ann. § § 14-20-1 through 24. This article gives the county authority to zone land within the county.

It is interesting to note that the restrictions on the county zoning authority are to be in accordance with a comprehensive plan and be designed to:³⁰

1. lessen congestion in the streets;
2. secure safety from fire, flood waters, panic and other dangers;
3. promote health and the general welfare;
4. provide adequate water, light and air;
5. prevent the overcrowding of land;
6. avoid undue concentration of population;
7. facilitate adequate provision for transportation, water, schools, parks and other public requirements; and
8. control and abate the unsightly use of buildings or land.

Whether a "comprehensive plan" is a strict requirement, a condition precedent to any other regulations or restrictions issued pursuant to N.M. Stat. Ann. § 14-20-3, or whether the counties have broad powers to regulate land sub-division under N.M. Stat. Ann. § 15-58-2 referred to above is open to debate. To date the question remains unanswered.

Of New Mexico's 32 counties, only seven have county planning commissions and even fewer have adopted or developed subdivision ordinances. Those counties with subdivision ordinances include Bernalillo, Santa Fe, Rio Arriba, Los Alamos, Lincoln, and San Miguel. Only four counties with Planning Commissions have adopted or even developed county subdivision ordinances. "The practice of the great majority of counties is to simply record subdivision plats after limited and little professional assistance."³¹ Most local governments

29. Letter from Mr. James C. Thompson to the County Commissioners of Rio Arriba and Santa Fe Counties.

30. N.M. Stat. Ann. § 14-20-3 (Repl. 1968).

31. Governor's Land Dev. Study Comm., Background Information (1970).

in New Mexico are hindered because of limited financial and professional resources. Consequently, legislation designed to permit the county to develop its own comprehensive land use plan seems to have little effect.

B. State Regulations

The Health and Social Services Department (HSS) has the statutory authority to approve or disapprove quality standards, the supply, waste water treatment, and solid waste disposal in a subdivision. This agency prescribes septic tank size and seepage area requirements. Presently, subdividers are allowed to put one septic tank but no well on a quarter-acre lot, and a septic tank and a well on a half-acre lot. HSS has authority over individual lots, and not over the impact of the total subdivision. Further, there is no way for it to enforce a density ratio for septic tank use. Sometimes, an estimate of two families per acre is still not adequate. Unfortunately, no one agency or commission is charged with the responsibility of deciding when the population is too dense for septic tank use in eliminating waste.

The Attorney General (AG) supervises the advertising policies of land subdividers to control fraudulent claims in the interest of consumers. The AG's office requires the completion of a comprehensive questionnaire by subdividers before sales and advertising are permitted.³² "Again, however, the orientation is toward a procedural disclosure, rather than towards a judgment of acceptability."³³

The State Engineer has jurisdiction over ground water basins in the state. Licenses are issued by the Engineer's office authorizing appropriations for use of ground water. Unfortunately, the State Engineer does not require large subdivisions to report the effects or the total impact of their appropriation on existing adjacent sources, although he may have the inherent power to do so.³⁴ The State Engineer has determined his power to be limited to the issuance of permits in those underwater basins which have clearly ascertainable borders or boundaries.³⁵

The State Planning Office, by statute, can offer technical assistance to counties, but they have not been given authority to review and approve particular land use.

32. N.M. Stat. Ann. § 70-3-5 (Supp. 1971).

33. H. Rubio, *supra* note 20, at 47.

34. *Id.* at 48; N.M. Stat. Ann. § 75-2-9 (1953).

35. *State v. Myers*, 64 N.M. 186, 326 P.2d 1075 (1958). The Upper Pecos Area has recently been declared to be a water basin, *Albuquerque Journal*, February 27, 1972, at 3, col. 4.

This lack of power at the state level, combined with the fact that municipalities as well as counties are authorized to create planning commissions³⁶ that have co-equal powers with cities leads to confusion and ineffectiveness in developing any kind of long-range land use. The confusion is compounded when the developer exerts pressure on the local commission, whether county or municipal, resulting in the one-sided view of immediate economic benefit rather than the long-view of total impact on the environment and proper utilization of natural resources.

RECOMMENDATIONS

If it is accurate that the unregulated growth of subdivisions corresponds to the depletion of New Mexico's water resources, then subdivision growth in New Mexico must be regulated and planned with water resources in mind.

New Mexico's Land Subdivision Act appears to provide adequate protection to the consumer by requiring disclosure of hydrological information. There is also an adequate penalty (up to five years imprisonment and/or a hundred thousand dollar fine). Thus, there is probably no present need to amend or redraft the present provisions relating to disclosure. However, the following recommendations should go far in assuring that more is required than mere disclosure.

A. Recommendation One

Since water, or the lack of it, is the major problem affecting any further development in New Mexico, the following steps should be taken: the jurisdiction of the State Engineer regarding permits for wells or other water use should be extended over the entire state; before approval is given by the County Commission, the developer or subdivider should furnish proof to the State Engineer of a sufficient quantity and quality of water to provide for the projected maximum consumption and cumulative effect of the subdivision under consideration for approval and also for any recreational use projected by the developer or subdivider; the developer or subdivider should furnish proof to the State Engineer that the effects of consumption by the maximum projected population will not impair any existing water rights; the developer or subdivider should furnish proof to the State Engineer of ownership of this water or these water rights, and that he is obligated by contract to transfer these rights to prospective purchasers.

36. N.M. Stat. Ann. § § 14-18-1 to 12 (Repl. 1968).

B. Recommendation Two

A developer or subdivider should be required to furnish proof to the Health and Social Services Department that waste water and sewage plants or other methods of waste disposal envisioned for the development or subdivision will cause no degradation to the environment or water supplies of the state. Approval by the County Commission should not be given until the Health and Social Services Department is satisfied that these requirements have been met.

C. Recommendation Three

The County Planning Commission should be given the power to approve or disapprove any future development of subdivisions if it is not satisfied as to the availability of water, proper sewage disposal, gas and electric, and solid waste collection facilities.

D. Recommendation Four

All developers and subdividers should be required to post a bond with the County Commission having jurisdiction to insure performance in accordance with proposed regulations.

E. Recommendation Five

Each county should set up its own Planning Commission, empowered to develop a land use plan for the county and to prescribe regulations to ensure that its proposed plan is carried out.

F. Recommendation Six

The State Land Use Agency and all County Planning Commissions in formulating the county land use plans should consider the following elements in determining their relationship to subdivision development and the depletion of New Mexico's water resources:³⁷

(a) population and population distribution, which may include analysis by age, education, level, income, employment, race, or other appropriate characteristics;

(b) amount, type, level and general location of commerce and industry;

(c) amount, type, quality and general location of housing;

(d) general location and extent of existing or currently planned major transportation, utility, recreational and other community facilities;

(e) geological, ecological and other physical factors that would affect or be affected by development;

37. Cf. ALI Mod. Land Dev. Code § 7-302 (1968 Draft).

(f) amount, general location and interrelationship of different categories of land use;

(g) areas, sites or structures of historical, archeological, architectural, recreational, scenic or environmental significance;

(h) extent and general location of blighted, depressed or deteriorated areas and factors related thereto; and

(i) natural resources, including air, water, forests, soils, rivers and other waters, shorelines, subsurfaces, fisheries, wildlife and minerals.

CHARLES J. NOYA
THOMAS B. STRIBLING