

1.0. Introduction

Contemporary efforts at protecting Costa Rican rivers is set against a background of antiquated laws and institutions that were never intended to address riparian conservation. And while there are existing laws related to the prevention of river and riverbank contamination, there is little standing in the way of the country's current approach towards rivers as hydroelectric cure-alls to carbon emissions and the resulting effects of climate change.¹ This concentrated effort on behalf of the government to use dams to achieve further development and attain carbon neutrality by 2021, most notably by Instituto Costarricense de Electricidad (ICE), poses problems for a number of rivers in the nation. Some are bounded by protected areas and may continue to be in good condition for future generations, others face more dire threats due to the energy and water needs of a growing population. Our goal is to establish a framework for a river protection law similar to the National Wild and Scenic Rivers Act (NWSRA) in the United States, in hopes that the few remaining rivers left of natural and recreational value in Costa Rica may be able to stave off inexorable change.

2.0. Legal Background in Costa Rica for the Protection of Rivers

Costa Rica does not have a specific legislation about "Wild and Scenic Rivers". In several environmental laws there is some points about trees conservation and reforestation at the rivers banks so as the prevention of the rivers contamination produced by humans. There are environmental institutions who cares about water conservation so as its human use in a sustainable way.

Even though the persons in general are obligated to stop or minimize the contamination of the water resources, I found exceed opportunities given to people to get advantage of the water resources that could affect the wild and scenic rivers. For example, the cattle can drink water from rivers, the owners of the adjoining properties to the public river-bed are allowed to set protections against the waters using plantations, stake out, etc.; people who lives near to the rivers are allowed to take water to drain their properties so to wash their clothes in the river.

Art. 11 Costa Rican Water Law: "Mientras las aguas corran por sus cauces naturales y públicos y no lo impida una concesión particular, todos podrán usar de ellas para beber, lavar ropas, vasijas y cualesquiera otros objetos, bañarse y abrevar o bañar caballerías y ganado, con sujeción a los reglamentos de policía".

Art. 53 *Ibíd.*: "En los ríos navegables, los ribereños podrán en sus respectivas márgenes establecer libremente bombas o cualquier otro aparato destinado a extraer las aguas

¹ <http://news.bbc.co.uk/2/hi/americas/7508107.stm>

necesarias para el riego de sus propiedades limítrofes, siempre que no causen perjuicios a la navegación ni a terceros...”

Art.73 *Ibíd.*: “Las riberas de los ríos no navegables, y las márgenes de canales, acueductos o atarjeas, aun cuando sean de dominio privado, están sujetas en toda su extensión a la servidumbre de uso público en favor de los concesionarios de aguas de predios inferiores exclusivamente para la vigilancia y limpieza de los álveos o cauces, y previo aviso en cada caso al propietario o encargado del fundo”.

Artículo 89 *Ibíd.*: “Los dueños de predios lindantes con cauces públicos tienen libertad de poner defensas contra las aguas en sus respectivas márgenes por medio de plantaciones, estacadas o revestimientos, siempre que lo juzguen conveniente. La administración podrá, sin embargo, previo expediente, mandar suspender tales obras y aún restituir las cosas a su anterior estado, cuando por las circunstancias amenacen aquéllas causar perjuicios a la navegación o flotación de los ríos, desviar las corrientes de su curso natural, o producir inundaciones. La indemnización de los perjuicios que pudieran causarse correrán a cargo del dueño que ordenó la construcción de las defensas”.

According to the Constitution, rivers in Costa Rica belong to and are managed by the State, such that beneficial use of water resources requires a concession given by the Government; this is a requirement for activities like hydropower generation, irrigation and materials extraction. The water management authority must regulate and control alteration of water resources. (art. 64 Organic Environmental Law).

Art. 1 *Ibíd.* : “Son aguas del dominio público:... IV.- Las de los ríos y sus afluentes directos o indirectos, arroyos o manantiales desde el punto en que broten las primeras aguas permanentes hasta su desembocadura en el mar o lagos, lagunas o esteros...”

Artículo 145 *Ibíd.*: “Para evitar la disminución de las aguas producida por la tala de bosques, todas las autoridades de la República procurarán, por los medios que tengan a su alcance, el estricto cumplimiento de las disposiciones legales referentes a la conservación de los árboles, especialmente los de las orillas de los ríos y los que se encuentren en los nacimientos de aguas”.

Artículo 147 *Ibíd.*: “Las autorizaciones que confiere el Poder Ejecutivo para explotar bosques nacionales en la forma prevista en el artículo 549 del Código Fiscal deberán contener, expresamente, la prohibición de cortar los árboles a que aluden el artículo anterior y siguiente”.

The Water Law mandates that individuals should take care of rivers, especially those individuals who live or own lands near a riparian area. The law requires owners of land crossed by rivers to reforest areas effected by tree clearing.

Artículo 148 *Ibíd.*: “Los propietarios de terrenos atravesados por ríos, arroyos, o aquellos en los cuales existan manantiales, en cuyas vegas o contornos hayan sido destruidos los bosques que les servían de abrigo, están obligados a sembrar árboles en

las márgenes de los mismos ríos, arroyos o manantiales, a una distancia no mayor de cinco metros de las expresadas aguas, en todo el trayecto y su curso, comprendido en la respectiva propiedad”.

According to this law, it is prohibited to cut down trees in national and private forests located 60 meters from water resources (manantiales) with inclination, or at least 50 meters on flatlands. The law also maintains that in national forests, it is prohibited to destroy trees located at least 5 meters from rivers that flow by a given property. Municipalities cannot alienate, mortgage or endanger land located in riparian areas this includes a buffer of a 100 meters, which must be reforested

Art. 149 Ibíd.: “Se prohíbe destruir, tanto en los bosques nacionales como en los de particulares, los árboles situados a menos de sesenta metros de los manantiales que nazcan en los cerros, o a menos de cincuenta metros de los que nazcan en terrenos planos”.

Art. 150 Ibíd.: “Se prohíbe destruir, tanto en los bosques nacionales como en los terrenos particulares, los árboles situados a menos de cinco metros de los ríos o arroyos que discurren por sus predios”.

Artículo 151 Ibíd.: “La infracción a lo dispuesto en los artículos anteriores obliga al infractor a reponer los árboles destruidos y lo sujeta a la pena que se determina en el artículo 165 del capítulo siguiente. Además, la infracción será causa suficiente para que pueda procederse a la expropiación de las fajas de terreno en los anchos expresados en el artículo anterior, o a uno y otro lado del curso del río o arroyo, en toda su extensión”.

The Wildlife Conservation Law protects additional water resources. It prohibits the disposal of garbage, contaminated water or other polluted substances in a river. Treatment systems may be purchased by touristic, agro-industrial, or commercial sectors in order to avoid liquid and solid waste disposals, as well as contaminated waters which may affect wildlife or damage human health or well being.

The Agricultural Aviation Activities Statute prohibits the spraying of chemicals above water resources (art. 73)

The Agricultural and Livestock Farms Statute defines the location of the farms near rivers and water resources. It obligates them to have sanitary systems to treat and eliminate animal excrement.

The Health Law prohibits the contamination or sanitary deterioration of drinkable water resources that threaten human health. It also addresses resources that threats fauna. (art. 275, 277). Art. 285 is related to the treatment of the contaminated water that normally is loaded into the rivers.

Costa Rica Environmental Agencies

The Costar Rican Institute of Aqueducts and Sewers (AYA) Law is in charge of promoting watershed conservation and controls on contamination (art.2:c).

AYA's mission is to analyze the territorial order for the water resource sustainability for the benefit of humans.

La Jurisprudencia nacional (VC 2002-04153) a establecido que el Instituto Costarricense de Acueductos y Alcantarillados le corresponde "... a) Dirigir y vigilar todo lo concerniente para proveer a los habitantes de la república de un servicio de agua potable, recolección y evacuación de aguas negras y residuos industriales líquidos y de aguas pluviales en las áreas urbanas. b) Determinar la prioridad, conveniencia y viabilidad de los diferentes proyectos que se propongan para construir, reformar, ampliar, modificar obras de acueductos y alcantarillados... ”

MINAET (Ministry of Environmental, Energy and Technology) contributes to quality of life improvement through the management, conservation and sustainable development of elements, possessions, services and environmental and natural resources in the country.

The Payment for Environmental Services instrument utilized by MINAET enhances river protection through the reforestation and conservation of forest resources in and around riparian areas.

La definición de pago por servicios ambientales (PES) se instaura con la Ley Forestal de 1996, en la cual formalmente se distinguen cuatro servicios ambientales: mitigación de gases de efecto invernadero, protección del recurso hídrico, biodiversidad (sus ecosistemas de soporte) y belleza escénica.

This Ministry is in charge of water concessions and also of sustainable human development. Its mission is to guarantee the conservation and wise use of water resources by all sectors of the country, including the improvement of human development through an integral management.

MINAET coordinates the participation of public and private entities in the generation and implementation of policies, strategies and actions that address national and international objectives, including the participation of civil society.

MINAET maintains that current water legislation is obsolete. Its policy is to consolidate the role of water as a motive for the sustainable human development of Costa Rica, including the development of an inclusive society held by joint liability, as well as the constitutional right to a healthy and ecologically balanced environment.

The Administrative Environmental Tribunal is an “órgano de desconcentración máxima” of MINAET; it has jurisdiction over claims against public and private persons as a result of violations or behaviors against environmental legislation and natural resources. When the Administrative Environmental Tribunal receives claims, it must manage the necessary proclamations.

SETENA is the National Environmental Technical Secretary whose fundamental mission is to harmonize environmental impacts with productive processes. It is the official auxiliary organ of MINAET. It is in charge of the control, study, analysis, evaluation, and monitoring of environmental studies, including the impact of productive activities of Costa Rica's citizens.

3.0. National Wild and Scenic Rivers Act as Model

In 1968 Congress enacted the Wild and Scenic Rivers Act (WSRA) in response to four decades of development of the United States' rivers and a growing concern for their preservation. The purpose of the WSRA was to protect those rivers that had not already been affected by dams or other construction. As declared by Congress, the policy underlying passage of the WSRA is as follows:

[T]hat certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes.

Under the WSRA, Congress has authority to designate certain rivers (or sections of rivers) as wild, scenic, or recreational river areas or, "Wild and Scenic Rivers." In addition, states or other parties may petition the Secretary of the Interior to designate a river area as a Wild and Scenic River. Such designated rivers are protected against actions that affect their free-flowing nature and values.

To be eligible for designation as a Wild and Scenic River, the stream must be "free-flowing". The purpose of the WSRA is stated as being to implement the policy set out in section one of the Act - to preserve rivers "in free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes." "Free-flowing" is defined as "existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. . . ." Considering the purpose of the Act, it seems likely that Congress intended to create a federal right to some or all of the instream flows of designated rivers or river segments. This conclusion is reinforced by the express, though negatively stated, reference to the creation of water rights in section 1284(c), that: "[d]esignation of any stream or portion thereof as a national wild, scenic or recreational river area shall not be construed as a reservation of the waters of such streams for purposes other than those specified in this chapter, or in quantities greater than necessary to accomplish these purposes."

The WSRA focuses primarily on protecting this free-flowing characteristic and, thus, prohibits the authorization of any water resources project that "directly affect[s]" a Wild

and Scenic River. Impoundments, such as dams, alter the quantity, frequency, and duration of water flows, reducing the natural flow and the physical and biological variety in a river. Therefore, water resources projects located on, upstream of, or downstream of a Wild and Scenic River are likely to affect the river's free-flowing characteristics and its outstanding remarkable values.

In safeguarding Wild and Scenic Rivers, the WSRA unambiguously prohibits the location of water resources projects "on" such rivers, specifically barring dams and other projects otherwise authorized under the Federal Power Act. The WSRA further prohibits federally assisted construction of a water resources project that has a "direct and adverse effect" on the river. However, the WSRA is less clear regarding how much protection it provides for Wild and Scenic Rivers against the effects of upstream or downstream projects.

To qualify for designation as a Wild and Scenic River, a river must have "outstandingly remarkable . . . values" (ORVs), and it must be "free-flowing." Although, the term "free-flowing" is defined by statute, the WSRA provides only limited guidance as to what constitutes an outstandingly remarkable value, leaving this determination to Congress, the states, or governmental agencies. To implement the purpose underlying passage of the WSRA, Congress restricted governmental approval of power and construction projects on Wild and Scenic Rivers and conferred administrative control over those rivers to the Departments of Agriculture and the Interior, authorizing them to promulgate any necessary regulatory standards.

A Wild and Scenic River must fall within one of three possible categories designated by the WSRA: a wild river area, a scenic river area, or a recreational river area.

Interestingly, river classification has no influence on the managing agency's actions because all Wild and Scenic Rivers must be managed so "as to protect and enhance the values" for which those rivers were originally included in the Wild and Scenic River system. However, the classification does serve to limit administrative discretion, ensuring that the agency's management strategies do not modify the development of a Wild and Scenic River in a manner that would change its classification.

The WSRA specifically confers authority upon both the Secretaries of the Interior and Agriculture, working through the appropriate federal agencies (that is, the National Park Service, the Bureau of Land Management, the U.S. Fish and Wildlife Service, and the U.S. Forest Service), to manage Wild and Scenic Rivers. To effectuate the objectives of the WSRA, Congress set forth broad standards and delegated the duty to develop more detailed guidelines and regulations to the administering agencies. The administering agency also must determine whether other laws, which may contain stricter rules, are applicable.

Section 7(a) of the WSRA, the central provision safeguarding the ORVs of a Wild and Scenic River from the detrimental effects of a water resources project, provides the following threefold protection scheme:

The Federal Energy Regulatory Commission shall not license the construction of any dam, water conduit, . . . or other project works under the Federal Power Act . . . on or directly affecting any river which is designated in section 1274 of this title as a component of the national wild and scenic rivers system . . ., and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration. Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above a wild, scenic or recreational river area or on any stream tributary thereto which will not invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the area on the date of designation of a river as a component of the National Wild and Scenic Rivers System.

Thus, the WSRA prohibits (1) the FERC from licensing projects on or directly affecting a Wild and Scenic River, (2) federal assistance in the construction of water resources projects that will have a direct and adverse effect on the free-flowing characteristics and ORVs of a Wild and Scenic River, and (3) federal assistance in the construction of water resources projects upstream or downstream of a Wild and Scenic River if such projects will invade or unreasonably diminish the values of the river. Section 7(b) provides similar protections to "study rivers"-those rivers which have been designated for potential inclusion as Wild and Scenic Rivers-with the exception that federally assisted water resources projects are precluded if they diminish in any way, however reasonable, the values of any such designated river.

In order to analyze properly whether an upstream project (that is, one that is above, but not directly on, a Wild and Scenic River) conforms to the WSRA, one should begin with the rather limited scope of the WSRA's prohibitions: They apply only to federal agencies or departments that assist the construction of water resources projects. Although the WSRA does not define when federal action rises to the level of violative "assistance," it expressly prohibits assistance in the form of licensing. Unlike the National Environmental Policy Act, the WSRA does not require that violative federal action (for example, assistance) be "major." Indeed, pursuant to regulations implemented and proposed under authority conferred by the WSRA, both the Departments of Agriculture and the Interior consider a permit issued by the Army Corps of Engineers (ACOE) under section 404 of the Clean Water Act (for example, a 404 permit) to constitute "federal assistance."

The WSRA does not define a "water resources project." However, under regulations proposed by the Department of the Interior, a water resources project is defined broadly and specifically includes "dredge and fill activity that requires a federal permit, such as from the [ACOE] as required by Section 404 of the Clean Water Act." Interestingly, the regulations of the Department of Agriculture provide no more guidance than the WSRA, repeating much of the WSRA's language and focusing on projects authorized under the Federal Power Act. Consequently, what may be deemed a water resource

project by the Department of the Interior may not be a water resources project for the Department of Agriculture.

Although the WSRA sets forth criteria for evaluating a water resources project that directly affects a Wild and Scenic River, a river's ORVs and free-flowing characteristics can be indirectly, but significantly, affected by multiple projects located miles upstream. The unresolved question under the WSRA, the regulations promulgated by the Department of Agriculture, and the regulations proposed by the Department of the Interior, is how to analyze the effects of an upstream project on a Wild and Scenic River.

To summarize, the WSRA appears on its face to protect designated rivers in a free-flowing state by a "reservation" of the waters of such streams, necessary to carry out the purposes of the Act, to affirm existing principles of law as to federal/state authority over water, and to provide compensation for any taking of water rights that were vested under state law.

4.0. Methodology

We propose a methodology as part of any future law to establish wild, scenic or recreational (*prístino, escénico o recreativo*) status for Costa Rican rivers. Taking into account the full definition of a river, including the affiliated watershed, this treatment recognizes the degree of disturbance already evident in and along these waterways from the sources mentioned above. Like its American counterpart, the strictest designation (*río prístino*) is reserved for those rivers evidencing the least disturbance. Unlike the United States, however, there are few rivers that fit this classification currently in Costa Rica given the latter's size and current development pressures.

The expectation is that this methodology for designating rivers will be administered on a case-by-case basis, but there is a clear recognition that not all Costa Rican rivers can be classified using this treatment.

4.1. Wild river areas (*Prístinos*) — Those rivers or sections of rivers² that are free of impoundments³ and generally inaccessible except by footpath⁴, with watersheds⁵ or

² Stream of water that flows in a channel towards the sea, a lake, or another stream. A *section* is that part of the river designated either from the source watershed or the endpoint sea, lake, or stream.

³ Impoundment is defined as the confinement of flowing water so as to form a *reservoir*. Reservoir is defined as a standing water body with the surface area of ____ and volume of ____.

a) An impoundment may include objects that may block the movement of biotic and abiotic components of an ecosystem, including the movement of fish and mollusks between upstream and downstream sections created by dams. Downstream flows of sediments, organic matter, and debris must be hampered. Efforts must be made for larger dams possessing on-channel reservoirs.

b) Alterations of stream flow regime should be curtailed, including limitations on sections of the river that are partially dewatered. Others should have a new flow regime, which would fluctuate depending on when hydroelectricity is being produced. Flow alteration affects ecosystem structure (i.e. eroding river banks) as well as biotic components by disturbing timing.

c) Allowable limits on water temperature, dissolved oxygen content, and sediment will be considered. An operating precept will be "the larger the dam and its reservoir are, the greater its impacts will be."

shorelines essentially undeveloped⁶, waters unpolluted⁷, and with a resource extraction regime⁸⁹ that poses a minimal and reversible degree of impact¹⁰. These represent vestiges of wild¹¹ Costa Rica.

4.2. Scenic river areas (*Escénicos*) — Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely wild and shorelines largely undeveloped, but accessible in places¹² by roads¹³, and with a resource extraction regime that poses a minimal and reversible degree of impact.

4.3. Recreational river areas (*Recreativos*) — Those rivers or sections of rivers that are readily accessible by road, that may have minimal development along their shorelines, that may have undergone some impoundment or diversion¹⁴ in the past, and with a resource extraction regime that is compatible with the values of recreational river areas.

4.4. Notes

In Costa Rica there is an important distinction between rivers and watersheds. A river's resources are owned by the State, but the terrestrial component of the watershed is likely to be a mix of public and private ownership. Therefore, if the new legislation intends to affect the rights or uses of private landholders, complications will invariably

⁴ Path for foot passengers only, including hiking, walking, or non-motorized bicycle trails.

⁵ A watershed is defined as an extent of land where water from rain or snowmelt drains into a body of water, for the purposes of this law, a river.

⁶ Used in the context of land use/land cover change; process of developing a mine, site, estate, property, or the like.

⁷ Prohibition on **point-source** pollution, including direct discharge of pollutants to the river at a specific point. Mainly refers to industrial (i.e. factories, wastewater plants, slaughterhouses, etc.) and agro-industrial discharge (such as coffee, dairy, and sugar processing plants).

Non-point-source pollution refers to pollution from diffuse sources in the watershed, such as agricultural runoff, leakage from home septic tanks, and urban runoff. This too will be strongly prohibited.

Aquaculture presents a particular form of pollution (tilapia in the lowlands, rainbow trout in the highlands), which not only can lead to water pollution, but can also facilitate waterborne pathogens and invasive species. Strong limitations will be placed on these practices.

⁸ Extraction includes, but is not limited to, water, geologic material, or other substratum resources.

Water. Prohibits reduction in the availability of water for freshwater ecosystems. This includes extraction from the river channels or from groundwater sources that feed rivers. Water that is permanently removed from the ecosystem is one subset, and that which returns but is irreparably altered is another.

Geologic material. Primarily resources utilized for aggregates and material in construction. This includes artisanal and commercial extraction. Would include actions taken by local governments and municipalities as well. This would prohibit work carried out with heavy machinery that enters a river and alters the natural riverbed and banks, affecting *in situ* habitat. If extraction is carried out at moderate intensity, impact may be reversible.

⁹ Freshwater fisheries would no longer be exploitable as supplementary foodstuffs for rural households or as recreational activities by urban and rural persons. Moratoriums would be established for commercial freshwater fisheries in Costa Rica in said watersheds.

¹⁰ Including a prohibition on actions taken to protect encroaching human settlements, crops, and roads from floods. Specifically this would address actions taken by the National Emergency Commission or the local governments in the name of reverting damages caused by a natural disaster (i.e. floods caused by hurricanes or large tropical storms).

¹¹ Wild is defined as a character un- or little disturbed by human presence and action.

¹² Accessibility is to be limited to XX% of river or river section.

¹³ Roads are defined as narrowed land strip passable by wheeled vehicles other than non-motorized bicycles.

¹⁴ The turning aside of a river or river section from its due or ordinary course.

arise. That is unless there is compensation for the new restrictions, but given the government's historic inability to compensate land within existing protected areas, future compensation is highly unlikely. Additionally, if we look only at the river channel and ignore the watershed, there is absolutely no guarantee that the freshwater ecosystem will be conserved in the longer term.

Water uses other than damming need to be kept firmly in mind. Possible uses include water use concessions (the right to extract water), water pollution permits (the right to pollute), and gravel or sand extraction concessions. All these permits or concessions are granted by the government and can significantly impact the freshwater ecosystem. For example, on the Tempisque River there are currently no impoundments, but water use concessions are oversubscribed.

5.0. Recommendations

En la línea jurisprudencial (VC 2003-01431) se ha establecido “*el deber que tienen los órganos del Estado y las corporaciones municipales de preservar el medio ambiente...la tutela de la salud pública y el medio ambiente, está conformado por la protección de las reservas de agua, que deben conservarse...libres de contaminación...*”.

En las diferentes leyes y reglamentos se aprecia la intención de proteger la belleza escénica de los ríos en Costa Rica, específicamente dirigidos a la reforestación, conservación del bosque y contaminación del agua. Sin embargo, algunas normas están desfasadas e inapropiadas, por ejemplo, aquellas en la Ley de aguas que aun permiten que el ganado tome agua de los ríos, o que las personas laven sus ropas en los ríos sin ninguna precaución de la contaminación que esto puede causar, y por ende, degradar la belleza escénica del río.

La ley de aguas también permite que “*los dueños de predios lindantes con cauces públicos tienen libertad de poner defensas contra las aguas en sus respectivas márgenes por medio de plantaciones, estacadas o revestimientos, siempre que lo juzguen conveniente...*”. este tema debería ser tratado con más precaución, pues las defensas deben de ser construidas por especialistas en el tema; por ejemplo ingenieros forestales, de modo que se eviten alteraciones ambientales y que sean estructuradas de forma adecuada con el río y la belleza escénica del mismo.

Los cinco metros de prohibición para cortar árboles que este alrededor de los ríos, establecida en la Ley de aguas, debería ser reevaluado, pues considerando el tema de la belleza escénica los ríos los cinco metros no son suficientes. Así mismo con los 50 y 60 metros de prohibición respecto al artículo de los manantiales.

Respecto al artículo que habla del deber de reforestación de “*los propietarios de terrenos atravesados por ríos*”, éste debería ser más amplio, es decir, incluir a toda la comunidad en la reforestación de sus ríos. Además, debería existir algún servicio del MINAET que dirija esta plantación, pues no solo se trata de sembrar los árboles, sino de cuidarlos por largo tiempo y que aquellos que se planten sea nativos de la zona, entre otras cuestiones que deben de tomarse en cuenta a fin de que pueda darse una reforestación apropiada.

Por otro lado el Reglamento de granjas agrícolas y porcinas no debería establecer el permiso de que estas granjas estén localizadas en zonas cercanas a los ríos, debido a la contaminación que estas llevan a los mismos; y especialmente porque no todas cumplen con el requerimiento de las plantas de tratamiento para eliminar los excrementos de los animales.

La Sala Constitucional de Costa Rica se ha pronunciado al respecto de los instrumentos internacionales que protegen los humedales y las bellezas escénicas.

Este fallo (VC1998-5255) hace referencia a los artículos 21, 50 y 89 de la Constitución Política, relativos al derecho a un ambiente sano como derecho fundamental y la protección del medio ambiente como elemento indispensable para la vida humana “*ya que esta se desarrolla dentro de un ecosistema que la sostiene*”. Este fallo sostiene la protección y conservación para las generaciones futuras de las bellezas escénicas naturales de los países y demás patrimonio ecológico de país.

Se menciona en este voto la “Convención para la Protección de la Flora, Fauna y de las Bellezas Escénicas Naturales de los Países de América”, ratificada por Costa Rica mediante ley número 3763 del 19 de octubre de 1966; para proteger y conservar en su medio ambiente natural, ejemplares de todas las especies y géneros de flora y fauna para evitar su extinción por cualquier medio al alcance del hombre.

A razón de los vacíos y desfases legales respecto a la conservación de la belleza escénica de los ríos, así como su falta de sistematización; y acorde a la Convención de la Flora, Fauna y de las bellezas escénicas naturales de los países de América ratificada por Costa Rica; es preciso plantear la necesidad de una Ley sobre la belleza escénica de los ríos en la que se planteen normas de conservación y reforestación de las cuencas del territorio nacional, y la regulación de las construcciones que puedan llegar a realizarse en las cercanía de los ríos, pues estas atentarían contra su belleza escénica. Esto significaría una acción para la protección del medio ambiente y por ende del principio constitucional del derecho a un ambiente sano y ecológicamente equilibrado para todas las personas, así como un beneficio económico al sector turismo que atrae al mundo por sus recursos naturales.

La ejecución de una Ley de belleza escénica debería estar a cargo del Ministerio de Ambiente, Energía y Telecomunicaciones, del Instituto Costarricense de Acueductos y Alcantarillados, la Secretaría Técnica Nacional Ambiental, así como de las propias Municipalidades; y en caso de violaciones a la misma, el Tribunal Ambiental y en su caso el Penal, deberán aplicar sus prevenciones y sanciones.

En la línea jurisprudencial (VC 2003-01431) se ha establecido “*el deber que tienen los órganos del Estado y las corporaciones municipales de preservar el medio ambiente...la tutela de la salud pública y el medio ambiente, está conformado por la protección de las reservas de agua, que deben conservarse...libres de contaminación...*”.

La belleza escénica de los ríos, es parte de ese medio ambiente está bajo nuestra responsabilidad preservar, por tanto, debe ser legalizado y encomendado a las anteriores Instituciones que tienen relación directa con la ejecución de las normas de Derecho Ambiental.

5.1. Sample Statute

5.1.2. Section 1. Declaration of Policy

It is hereby declared to be the policy of the Republic of Costa Rica that certain selected rivers of the Nation which, with their immediate environments, possess remarkable scenic, recreational, geologic, biotic, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Legislative Assembly declares that the established national policy of dam and other impoundments construction at appropriate sections of the rivers and watersheds of Costa Rica needs to be complemented by policy that preserves other selected rivers or sections thereof in their free-flowing condition, to protect the water quality of such rivers and to fulfill other vital national conservation purposes.

5.1.3. Section 2. National Wild and Scenic Rivers System

5.1.4. Classification, designation, and administration of rivers

5.1.4.1. Wild river areas (*Pristinos*) — Those rivers or sections of rivers ¹⁵that are free of impoundments ¹⁶and generally inaccessible except by footpath¹⁷, with watersheds¹⁸ or shorelines essentially undeveloped ¹⁹, waters unpolluted²⁰, and with a resource extraction regime^{21,22} that poses a minimal and reversible degree of impact²³. These

¹⁵ Stream of water that flows in a channel towards the sea, a lake, or another stream. A *section* is that part of the river designated either from the source watershed or the endpoint sea, lake, or stream.

¹⁶ Impoundment is defined as the confinement of flowing water so as to form a *reservoir*. Reservoir is defined as a standing water body with the surface area of ____ and volume of ____.

a) An impoundment may include objects that may block the movement of biotic and abiotic components of an ecosystem, including the movement of fish and mollusks between upstream and downstream sections created by dams. Downstream flows of sediments, organic matter, and debris must be hampered. Efforts must be made for larger dams possessing on-channel reservoirs.

b) Alterations of stream flow regime should be curtailed, including limitations on sections of the river that are partially dewatered. Others should have a new flow regime, which would fluctuate depending on when hydroelectricity is being produced. Flow alteration affects ecosystem structure (i.e. eroding river banks) as well as biotic components by disturbing timing.

c) Allowable limits on water temperature, dissolved oxygen content, and sediment will be considered. An operating precept will be “the larger the dam and its reservoir are, the greater its impacts will be.”

¹⁷ Path for foot passengers only, including hiking, walking, or non-motorized bicycle trails.

¹⁸ A watershed is defined as an extent of land where water from rain or snowmelt drains into a body of water, for the purposes of this law, a river.

¹⁹ Used in the context of land use/land cover change; process of developing a mine, site, estate, property, or the like.

²⁰ Prohibition on **point-source** pollution, including direct discharge of pollutants to the river at a specific point. Mainly refers to industrial (i.e. factories, wastewater plants, slaughterhouses, etc.) and agro-industrial discharge (such as coffee, dairy, and sugar processing plants).

Non-point-source pollution refers to pollution from diffuse sources in the watershed, such as agricultural runoff, leakage from home septic tanks, and urban runoff. This too will be strongly prohibited.

Aquaculture presents a particular form of pollution (tilapia in the lowlands, rainbow trout in the highlands), which not only can lead to water pollution, but can also facilitate waterborne pathogens and invasive species. Strong limitations will be placed on these practices.

²¹ Extraction includes, but is not limited to, water, geologic material, or other substratum resources.

Water. Prohibits reduction in the availability of water for freshwater ecosystems. This includes extraction from the river channels or from groundwater sources that feed rivers. Water that is permanently removed from the ecosystem is one subset, and that which returns but is irreparably altered is another.

represent vestiges of wild ²⁴Costa Rica.

5.1.4.2. Scenic river areas (*Escénicos*) — Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely wild and shorelines largely undeveloped, but accessible in places ²⁵by roads²⁶, and with a resource extraction regime that poses a minimal and reversible degree of impact.

5.1.4.3. Recreational river areas (*Recreativos*) — Those rivers or sections of rivers that are readily accessible by road, that may have minimal development along their shorelines, that may have undergone some impoundment or diversion ²⁷in the past, and with a resource extraction regime that is compatible with the values of recreational river areas.

5.1.5. Section 3. Restrictions on water resource projects

(a) Construction projects licensed by the Government

The Government shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or any other project works, on or directly affecting any river which is designated in section 2 of this title as a component of the national wild and scenic rivers system or which is hereafter designated for inclusion in that system, and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the agency charged with its administration. Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above a wild, scenic or recreational river area or on any stream tributary thereto which will not disturb the area or unreasonably diminish the scenic, recreational, and biotic values present in the area on the date of designation of a river as a component of the National Wild and Scenic Rivers System. No department or

Geologic material. Primarily resources utilized for aggregates and material in construction. This includes artisanal and commercial extraction. Would include actions taken by local governments and municipalities as well. This would prohibit work carried out with heavy machinery that enters a river and alters the natural riverbed and banks, affecting *in situ* habitat. If extraction is carried out at moderate intensity, impact may be reversible.

²² Freshwater fisheries would no longer be exploitable as supplementary foodstuffs for rural households or as recreational activities by urban and rural persons. Moratoriums would be established for commercial freshwater fisheries in Costa Rica in said watersheds.

²³ Including a prohibition on actions taken to protect encroaching human settlements, crops, and roads from floods. Specifically this would address actions taken by the National Emergency Commission or the local governments in the name of reverting damages caused by a natural disaster (i.e. floods caused by hurricanes or large tropical storms).

²⁴ Wild is defined as a character un- or little disturbed by human presence and action.

²⁵ Accessibility is to be limited to XX% of river or river section.

²⁶ Roads are defined as narrowed land strip passable by wheeled vehicles other than non-motorized bicycles.

²⁷ The turning aside of a river or river section from its due or ordinary course.

agency of Costa Rica shall recommend authorization of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the agency charged with its administration, or request appropriations to begin construction of any such project, whether heretofore or hereafter authorized.