The Judicial Contribution to Water Justice: The Australian Experience

by Brian J. Preston

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The Brasilia Declaration of Judges on Water Justice,[1] adopted at the eighth World Water Forum in Brasilia on March 21, 2018, recognizes that water justice involves environmental stewardship, intergenerational equity, sustainable ecological systems, customary rights, the prevention and precautionary principles, the *in dubio pro natura* principle, the internalization of external environmental costs (including the polluter-pays and the user-pays principles), good governance, holistic approaches involving integration of environmental factors, and procedural water justice. In this Comment, I examine each of these aspects of water justice, illustrated by examples of cases in Australia where courts can be seen to have upheld them.

I. Environmental Stewardship

Principle 1 of the Brasilia Declaration supports the notion that water is a public good and that governments should exercise stewardship over water resources for the benefit of the public. It provides: "The State should exercise stewardship over all water resources, and protect them, in conjunction with their associated ecological functions, for the benefit of current and future generations, and the Earth community of life."[2] This principle has been upheld in Australia in two types of cases. The first concerns whether water is a public good so that there are not private property rights in water resources.

In *ICM Agriculture Pty. Ltd. v. Commonwealth*,[3] three farmers had their bore licenses under the Water Act 1912 (NSW) to extract groundwater from the Lower Lachlan Groundwater System by bores, replaced by a new system of aquifer access licenses under the Water Management Act 2000 (NSW). These new licenses permitted the farmers to take less water than had been allowed under the bore licenses. The farmers brought proceedings in the High Court of Australia in its original jurisdiction contending that the steps taken to replace the bore licenses and reduce their access to groundwater amounted to an acquisition of their property otherwise than on just terms, contrary to the constitutional guarantee under s 51(xxxi) of the Constitution. The High Court by majority (6:1) rejected the farmers' claims.[4]

Chief Justice Robert French and Justices William Gummow and Susan Crennan held that additions made to the Water Act 1912 (NSW) in 1966 had the effect of divesting any common-law rights to extract the groundwater.[5] They found that the plaintiffs did not have any other private rights to the groundwater because "it was a natural resource, and the State always had the power to limit the volume of water to be taken from that resource."[6] Justices Kenneth Hayne, Susan Kiefel, and Virginia Bell agreed that any common-law rights to extract the groundwater "had disappeared altogether in 1966 with the vesting of sub-surface water in the State," if not before.[7] Justices Hayne, Kiefel, and Bell found that the plaintiffs' licenses to extract groundwater may readily be accepted as a "species of property right," referring to Sir William Blackstone's *Commentaries on the Laws of England*[8]: "water is a moveable, wandering thing, and must of necessity continue common by the law of nature; so that I can only have a temporary, transient, usufructuary property therein."[9] However, Justices Hayne, Kiefel, and Bell concluded that there had been no acquisition of property because the state

1. Brasília Declaration of Judges on Water Justice (2018), *available at* https://www.iucn.org/sites/dev/files/content/documents/brasilia_declaration_of_judges_on_water_justice_21_march_2018_final_as_approved.pdf.
2. *Id.*
3. *ICM Agric. Pty. Ltd. v. Commonwealth* (2009) 240 CLR 140; [2009] HCA 51.
4. This discussion is drawn from Brian J. Preston, *Water and Ecologically Sustainable Development in the Courts*, 6 Macquarie J. Int'l & Comp. Envtl. L. 129, 142 (2009).
5. *ICM Agric. Pty. Ltd.* (2009) 240 CLR 140; [2009] HCA 51 at [72].
6. *Id.* at [84].
7. *Id.* at [144].
8. William Blackstone, Commentaries on the Laws of England (Book 2) 18 (1766).
9. *ICM Agric. Pty. Ltd.* (2009) 240 CLR 140; [2009] HCA 51 at [145]-[147].

had not gained a measurable advantage from reducing the plaintiffs' entitlements.[10]

The High Court applied these findings in its decision in *Arnold v. Minister Administering the Water Management Act 2000*.[11] This case concerned similar facts to *ICM Agriculture*, where the applicants' groundwater extraction entitlements under the Water Act 1912 (NSW) in the Lower Murray Groundwater System had been reduced pursuant to the Water Management Act 2000 (NSW). The majority of the High Court (Chief Justice French and Justices Gummow, Hayne, Crennan, Kiefel, and Bell, with Justice Hayne dissenting) dismissed the applicants' contention that the replacement of the applicants' groundwater licenses with licenses permitting lower entitlements was an acquisition of their property otherwise than on just terms in contravention of s 51(xxxi) of the Constitution. In their decisions, Chief Justice French and Justices Gummow, Hayne, Crennan, Kiefel, and Bell each referred to their respective reasons set out in *ICM Agriculture*.[12]

The second type of case concerns the power of state and territory governments to charge companies license fees for access to water or fish resources. Under s 90 of the Australian Constitution, the power to charge excise duties, or taxes on the production or distribution of goods, is reserved to the commonwealth government, so that state and territory governments are prohibited from imposing these duties.

In *Harper v. Minister for Sea Fisheries*,[13] the High Court of Australia held that Tasmanian legislation imposing a license fee on abalone fishing was not invalid by virtue of s 90 of the Constitution because the license fee was not a tax and thus not an excise duty. Justice Gerard Brennan, with Justices Daryl Dawson, John Toohey, and Michael McHugh agreeing, held that the effect of the legislation was to abrogate the public right to abalone fishing and to vest this right in license holders for the purpose of preventing uncontrolled exploitation of a limited resource.[14] He found that the license confers a privilege "analogous to a profit à prendre" over property, and that since the license fee is similar to a charge over property, it is not a tax.[15] Chief Justice Anthony Mason and Justices William Deane and Mary Gaudron agreed with Justice Brennan; however, they noted while the privilege "can be compared to a profit à prendre," it is in truth

> an entitlement of a new kind created as part of a system for preserving a limited public natural resource in a society which is coming to recognize that, in so far as such resources are concerned, to fail to protect may destroy and to preserve the right of everyone to take what he or she will may eventually deprive that right of all content.[16]

This reasoning was applied by the Federal Court of Australia in *Australian Capital Territory v. Queanbeyan City Council & Another*.[17] This case concerned a water license fee and water network facilities tax that the Australian Capital Territory (ACT) government charged ACTEW Corporation Ltd, a statutory corporation that held a license to take water for urban water supply. ACTEW supplied water to Queanbeyan City Council under an agreement and sought to recover the cost of supplying the water, including the water license fee and water network facilities tax. The Federal Court of Australia held that whether or not the network facilities tax was a tax, it was not an excise duty under s 90 of the Constitution.

The majority (Chief Justice Patrick Keane and Justice Margaret Stone, with Justice Nye Perram not deciding) held that the water license fee was not a tax, and, thus, not an excise duty. In his reasoning, Chief Justice Keane found that, as opposed to a tax on goods, the water license fee "can be seen to be a charge for the transfer by the ACT to ACTEW of rights to a limited public natural resource under the stewardship of the ACT."[18] Justice Stone agreed with Chief Justice Keane's conclusion, but disagreed on the relevance of the analogy to property rights, preferring the expression "a fee for a privilege."[19] This case was appealed to the High Court, which upheld the Federal Court's decision on the basis of an additional ground raised by the ACTEW.[20]

II. Intergenerational Equity

Principle 1 of the Brasilia Declaration also promotes the importance of intergenerational equity. This principle acknowledges that governments have the responsibility to exercise stewardship over water resources for present and future generations.

The principle of intergenerational equity was applied by the Land Court of Queensland in *New Acland Coal Pty. Ltd. v. Ashman & Ors & Chief Executive, Department of Environment & Heritage [No. 4]*.[21] The Land Court considered the merits of the proposed New Acland Stage 3 coal mine expansion, including the objections to the expansion, and determined to make a recommendation that the

10. *Id.* at [147], [153]-[154].
11. *Arnold v. Minister Administering the Water Mgmt. Act* 2000 (2010) 240 CLR 242; [2010] HCA 3.
12. *Id.* at [11], [31], [60].
13. *Harper v. Minister for Sea Fisheries* (1989) 168 CLR 314; [1989] HCA 47.
14. *Id.* at 334, 335.
15. *Id.* at 335, 336.
16. *Id.* at 325.
17. *Australian Capital Territory v. Queanbeyan City Council & Another* (2010) 188 FCR 541; [2010] FCAFC 124.
18. *Id.* at [65].
19. *Id.* at [168] (applying *Air Caledonie Int'l v. Commonwealth* (1988) 165 CLR 462; [1988] HCA 61, 467).
20. *Queanbeyan City Council v. ACTEW Corp. Ltd.* (2011) 244 CLR 530; [2011] HCA 40.
21. *New Acland Coal Pty. Ltd. v. Ashman & Ors & Chief Executive, Dep't of Env't & Heritage [No. 4]* [2017] QLC 24.

minister reject the proposed expansion. One of the reasons for this determination was the potential impact of the proposed expansion on groundwater for future generations. The court held that:

> There is a real possibility of landholders proximate to Stage 3 suffering a loss or depletion of groundwater supplies because of the interaction between the revised Stage 3 mining operations and the aquifers. I am also convinced that the potential for that loss or interference with water continues at least hundreds of years into the future, if not indefinitely.[22]

III. Sustainable Ecological Systems

Principle 2 of the Brasilia Declaration acknowledges the duty of water users to sustain the ecological functions of water resources. Principle 2 provides: "Because of the close interlinkages between land and water and the ecological functions of water resources, any person with a right or interest to use water resources or land has a duty to maintain the ecological functions and integrity of water resources and related ecosystems."[23] This principle for the sustainable management of water resources was upheld in *Mercer v. Moorabool Shire Council*.[24] The Victorian Civil and Administrative Tribunal upheld the decision of the Shire of Moorabool to refuse to permit the enlargement of two dams on a rural property on the grounds of an objection by the Central Highland Water Authority.

The tribunal held that although the proposed enlargement of the dams was for crop raising, a purpose that was permitted under the planning scheme, the enlargement of the dams would be inconsistent with the emphasis in the planning scheme on the sustainable management of the water catchment.[25] The tribunal considered the cumulative impact of farm dams on water flows in the catchment, finding that "the construction of farm dams in this catchment has had and is continuing to have a deleterious effect on stream flows, and this in turn has serious consequences for the ecology and sustainability of the catchment."[26] The tribunal held that despite the relatively small impacts of the proposed dam on these stream flows, the impacts are incremental, and that due to the degraded nature of the catchment, the permit was not justified.[27]

IV. Indigenous Customary Rights

Principle 3 of the Brasilia Declaration recognizes the customary rights of indigenous peoples to water resources and related ecosystems. Principle 3 provides, in paragraph (a): "Indigenous and tribal peoples' rights to and relationships with traditional and/or customary water resources and related ecosystems should be respected, and their free, prior and informed consent should be required for any activities on or affecting water resources and related ecosystems."[28] In Australia, Aboriginal and Torres Strait Islander cultures share a holistic view of water resources "not only as physical domains, but also as spiritual, social and jural spaces."[29] In these cultures, ecological damage to a water resource is often seen as physical damage to persons who have customary connections to that water resource. For example, in response to the proposal to divert the McArthur River in the Northern Territory for a zinc mine expansion, Gurdanji traditional owner, Harry Lansen, said, "If they're going to make it a big river down there, big dam, they're doing to kill me, my spirits still there you know, my song and my spirit."[30] Aboriginal and Torres Strait Islander peoples have enforced their rights to waters and their resources in litigation on native title and land rights.

The first case to recognize indigenous customary rights to water was *Yarmirr v. Northern Territory [No. 2]*.[31] The Federal Court of Australia determined that the claimants have native title rights to the sea and the seabed within the claimed area around Croker Island in the Northern Territory and conferred upon them the rights and interests, in accordance with their traditional laws and customs, to fish, hunt, and gather for the purpose of satisfying their personal, domestic, or noncommercial communal needs and to have access to the sea and seabed within the claimed area. These native title rights and interests did not, however, confer "possession, occupation, use and enjoyment of the sea and sea-bed within the claimed area to the exclusion of all others."[32] This decision was appealed to the Full Court of the Federal Court and then the High Court of Australia.[33] Both courts dismissed the appeals. In the High Court, the majority (Chief Justice Murray Gleeson and Justices Gaudron, Gummow, and Hayne) found that there was no necessary inconsistency between these nonexclusive native title rights and past and present laws, including the Crown's assertion of sovereignty over the territorial sea.[34]

22. *Id.* at [1337] (applying the articulation of the principle of intergenerational equity in Brian J. Preston, *The Role of the Judiciary in Promoting Sustainable Development: The Experience of Asia and the Pacific*, 9 Asia Pac. J. Envtl. L. 109, 175-80 (2005), and *Taralga Landscape Guardians Inc. v. Minister for Planning & RES S. Cross Pty. Ltd.* (2007) 161 LGERA 1 [73], [74]).
23. *Supra* note 1.
24. *Mercer v. Moorabool Shire Council* (2002) 122 LGERA 402; [2002] VCAT 401.
25. *Id.* at [54]-[55].
26. *Id.* at [54], [57].
27. *Id.* at [58].
28. *Supra* note 1.
29. Kate A. Berry et al., *Reconceptualising Water Quality Governance to Incorporate Knowledge and Values: Case Studies From Australian and Brazilian Indigenous Communities*, 11 Water Alternatives 40, 49 (2018).
30. Television Interview by Australian Broadcasting Corporation, Northern Territory Stateline, With Harry Lansen (2003); *see* Sean Kerins & Jacky Green, Developing the North—Who Benefits and Who Bears Cost? A Case Study From the Gulf Country, Lecture Delivered at the Australian National University (2015).
31. *Yarmirr v. Northern Territory [No. 2]* (1998) 82 FCR 533.
32. *Id.* at 602.
33. *Commonwealth v. Yarmirr* (1999) 101 FCR 171; [1999] FCA 1668; *Commonwealth v. Yarmirr* (2001) 208 CLR 1, [2001] HCA 56.
34. *Yarmirr* (2001) 208 CLR 1; [2001] HCA 56 at [61], [76].

More recently, in *Akiba v. Commonwealth*,[35] the High Court of Australia upheld the native title rights of 13 Torres Strait Islander communities to waters in the Torres Strait, including the right to take fish and other aquatic life for commercial purposes. The High Court found that Queensland legislation prohibiting commercial fishing without a license had not extinguished these native title rights and interests. This case is significant because it is the first example of Australian ligation upholding commercial native title rights.

Similarly, Australian courts have recognized Aboriginal and Torres Strait Islander peoples' customary rights to fish under land rights legislation. In *Northern Territory of Australia v. Arnhem Land Aboriginal Land Trust*,[36] the Aboriginal plaintiffs challenged the validity of the Fisheries Act 1988 (NT) that prohibited the taking of fish or aquatic life without a license. The majority of the High Court (Chief Justice Gleeson and Justices Gummow, Michael Kirby, Hayne, and Crennan, with Justices Dyson Heydon and Kiefel dissenting) allowed an appeal from the Federal Court, finding that Aboriginal land, in the form of estates in fee simple granted to an Aboriginal land trust under the Aboriginal Land Rights (Northern Territory) Act 1976 (Cth), extended to so much of the water and atmosphere as may lie above the land surface of Aboriginal land.[37] The majority held that the Fisheries Act did not confer power to grant a license, which without more would authorize or permit the holder to enter or take fish or aquatic life from Aboriginal land. The holder would require permission of the Aboriginal land council to enter and remain on the Aboriginal land.[38]

Australian courts have upheld indigenous customary rights to take wildlife from waters. In *Yanner v. Eaton*,[39] an Aboriginal man used a traditional form of harpoon to catch two estuarine crocodiles in Queensland and he and some other members of his clan ate the crocodile meat. He did not hold a license under the Fauna Conservation Act 1974 (Queensl.) to take native fauna (the crocodiles). He was charged with taking fauna contrary to the Act. On the ultimate appeal, the majority of the High Court of Australia (Chief Justice Gleeson and Justices Gaudron, Gummow, Kirby, and Hayne, with Justices McHugh and Ian Callinan dissenting) held that the native title rights or interests to hunt crocodiles had not been extinguished and that the Fauna Conservation Act did not prohibit or restrict the man, as a native titleholder, from hunting for the crocodiles he took for the purpose of satisfying personal, domestic, or noncommercial needs.[40]

V. Prevention and Precautionary Principles

The precautionary principle is the best known and most commonly applied of the principles of ecologically sustainable development. The most widely employed formulation of the precautionary principle is based on Principle 15 of the Rio Declaration on Environment and Development, which states: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."[41]

Courts in Australia have, since 1993, invoked the precautionary principle in judicial decisionmaking. They have held that, once the precautionary principle is activated in the circumstances, the type and level of precautionary measures that will be appropriate will depend on the combined effect of the degree of seriousness and irreversibility of the threat and the degree of uncertainty. This involves assessment of risk in its usual formulation, namely the probability of the event occurring and the seriousness of the consequences should it occur. The more significant and uncertain the threat, the greater the degree of precaution required.[42]

Principle 5 of the Brasilia Declaration provides:

> The precautionary principle should be applied in the resolution of water-related disputes. Notwithstanding scientific uncertainty or complexity regarding the existence or extent of risks of serious or irreversible harm to water, human health or the environment, judges should uphold or order the taking of the necessary protective measures having regard to the best available scientific evidence.

Protective measures adopted by the courts in Australia to address the threat of serious or irreversible harm to water resources and related ecosystems include obtaining further information to reduce uncertainty; allowing a margin for error; adopting an adaptive management approach; and prohibiting the development or action that will cause the harm. The last-mentioned measure, in effect, applies the prevention principle. Principle 4 of the Brasilia Declaration provides: "To avoid costly *ex-post* measures to rehabilitate, treat or develop new water supplies or water-related ecosystems, prevention of future harm to water resources and to related ecosystems should take precedence over remediation of past harm, having regard to best available technologies and best environmental practices."[43] I will select examples of judicial decisions adopting each of these types of protective or preventative measures.

35. *Akiba v. Commonwealth* (2013) 250 CLR 209; [2013] HCA 33.
36. *Northern Territory of Australia v. Arnhem Land Aboriginal Land Trust* (2008) 236 CLR 24; [2008] HCA 29.
37. *Id.* at 58.
38. *Id.* at 61, 67.
39. *Yanner v. Eaton* (1999) 201 CLR 351; [1999] HCA 53 [69].
40. *Id.* at [40].
41. Rio Declaration on Environment and Development (1992).
42. *Telstra Corp. Ltd. v. Hornsby Shire Council* (2007) 67 NSWLR 256 [161].
43. *Supra* note 1.

A. *Obtaining Further Information to Reduce Uncertainty*

Where there is considerable scientific uncertainty, prudence may require that the development plan or project not proceed until further information is obtained to reduce the uncertainty.

In the pioneering case of *Leatch v. National Parks & Wildlife Service*,[44] the Land and Environment Court of New South Wales (NSW) applied the precautionary principle to refuse a statutory license to take or kill a species of endangered fauna, the giant burrowing frog, which was necessary in order to construct a proposed link road through Bomaderry Creek Gorge. While the prime habitat for the giant burrowing frog was the gorge or creek environment, it may forage wider afield into drier areas where the road was proposed to be constructed. However, there was a dearth of knowledge about the population of the frogs in the area and hence considerable uncertainty as to the likely impact of the proposed road on the frogs. In these circumstances, the court determined to refuse to grant the license to take or kill the frogs, including disturbing their habitat, until further scientific evidence was available. The court stated that "refusal of this license application should not necessarily be assumed to be an end to the proposal. Further information on endangered fauna and advances in scientific knowledge may mean that a licence could be granted in the future."[45]

In *David Kettle Consulting Pty. Ltd. v. Gosford City Council*,[46] the Land and Environment Court of NSW refused to make permanent a development consent for the extraction of groundwater for bottling, which had been granted for a trial period, but rather granted consent for a further trial period until 2011. The court imposed conditions requiring the monitoring of the extraction of water so that, on any application for renewal in 2011, the relevant authority would have more information to assess the impacts of the extraction. In so doing, the court adopted a precautionary approach, recognizing the uncertainty in the data as well as considering the impacts of climate change on future water resources.

In *Mandalong Progress Ass'n Inc. v. Minister for Planning*,[47] the NSW Minister for Planning granted development consent to an underground coal mine on conditions that included the preparation of a flood study assessing any potential future flood hazard resulting from the mining activity. The mining operation failed to comply with the condition requiring the preparation of a flood study. The Land and Environment Court of NSW enforced compliance with the condition, thereby ensuring that further information on the flood hazards would be available.

B. *Allowing Margin for Error*

Prudence would also suggest that some margin for error should be retained until all the consequences of a decision to proceed with the development plan or project are known. This allows for potential errors in risk assessment and cost-benefit analysis. Potential errors are weighted in favor of environmental protection. Weighting the risk of error in favor of the environment safeguards ecological space or environmental room for maneuver.[48]

Illustrations of weighting the risk of error in favor of the environment can be found in the decisions of the Land and Environment Court of NSW directed at the avoidance of a risk of serious or irreversible environmental damage to endangered species. This is achieved by resolving scientific uncertainty as to whether a proposed development is likely to significantly affect the endangered species by assuming that the proposed development is likely to significantly affect the endangered species so as to trigger the statutory requirement to prepare a detailed environmental assessment in the form of a species impact statement.

In *Gales Holdings Pty. Ltd. v. Tweed Shire Council* (*Gales Holdings [No. 1]*),[49] the Land and Environment Court of NSW applied the precautionary principle to require a species impact statement assessing the impact of carrying out the proposed development of clearing and filling swampland for a shopping center. An endangered species of land snail, Mitchell's rainforest snail, had been found on and around the land. The snail's habitat is swamp forest.[50]

In a further decision, *Gales Holdings Pty. Ltd. v. Tweed Shire Council* (*Gales Holdings [No. 2]*),[51] the court again applied the precautionary principle to require a species impact statement for two endangered species of frog that had been found on the land, the wallum froglet and the wallum sedge frog, whose habitat is freshwater swamps on lowland coastal areas.[52] The Land and Environment Court of NSW in each case considered that the impacts of the proposed developments on the habitats of each of the endangered species were likely to significantly affect the population of the species at the sites (indeed in one case, the development threatened the total extinction of the local population) and demanded a full and proper study be undertaken so that the process of consideration of the development applications is fully and adequately informed of the likely impact on the endangered species.[53]

In *St. Ives Development Pty. Ltd. v. City of Mandurah*,[54] the former Western Australian Town Planning Appeal Tribunal held that application of the precautionary prin-

44. *Leatch v. National Parks & Wildlife Serv.* (1993) 81 LGERA 270.
45. *Id.* at 286-87.
46. *David Kettle Consulting Pty. Ltd. v. Gosford City Council* [2008] NSWLEC 1385.
47. *Mandalong Progress Ass'n Inc. v. Minister for Planning* (2003) 126 LGERA 408.
48. *Telstra Corp. Ltd.* (2007) 67 NSWLR 256 at [162].
49. *Gales Holdings Pty. Ltd. v. Tweed Shire Council [No. 1]* (2006) 146 LGERA 136.
50. *Telstra Corp. Ltd.* (2007) 67 NSWLR 256 at [168], [169].
51. *Gales Holdings Pty. Ltd. v. Tweed Shire Council [No. 2]* [2006] NSWLEC 212.
52. *Id.* at [46].
53. *Gales Holdings [No. 1]* (2006) 146 LGERA 136 at [67]-[69]; *Gales Holdings [No. 2]* [2006] NSWLEC 212 at [45].
54. *St. Ives Dev. Pty. Ltd. v. City of Mandurah* (2003) 31 SR (WA) 313; [2003] WATPAT 5.

ciple dictated that the proposal to convert a seasonally inundated wetland into a permanent wetland should be approved only for a trial period, in order to allow the proposal and its impacts (including potential algal blooms and odors) to be scientifically assessed. Such a precautionary approach safeguards ecological space and creates environmental room to maneuver.

C. Adopting an Adaptive Management Approach

One means of retaining a margin for error is to implement a stepwise or adaptive management approach, whereby uncertainties are acknowledged and the area affected by the development plan or project is expanded as the extent of uncertainty is reduced.[55] The Land and Environment Court of NSW has held that an adaptive management approach might involve the following core elements:

- Monitoring of impacts of management or decisions based on agreed indicators;
- Promoting research, to reduce key uncertainties;
- Ensuring periodic evaluation of the outcomes of implementation, drawing of lessons, and review and adjustment, as necessary of the measures or decisions adopted; and
- Establishing an efficient and effective compliance system.[56]

In *Newcastle & Hunter Valley Speleological Society Inc. v. Upper Hunter Shire Council & Stoneco Pty. Ltd.*,[57] the Land and Environment Court of NSW found that the appropriate and proportionate response to the threat of environmental damage to stygofauna (fauna that live in (at least intermittently) wet systems in caves) within the limestone formation proposed to be quarried was to implement a stepwise or adaptive management approach. This involved the imposition of conditions of development consent requiring monitoring linked to adaptive management.[58] The court stated:

> Adaptive management is a concept which is frequently invoked but less often implemented in practice. Adaptive management is not a "suck it and see," trial and error approach to management, but it is an iterative approach involving explicit testing of the achievement of defined goals. Through feedback to the management process, the management procedures are changed in steps until monitoring shows that the desired outcome is obtained. The monitoring program has to be designed so that there is statistical confidence in the outcome. In adaptive management the goal to be achieved is set, so there is no uncertainty as to the outcome and conditions requiring adaptive management do not lack certainty, but rather they establish a regime which would permit changes, within defined parameters, to the way the outcome is achieved . . .
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> The conditions of consent requiring monitoring and adaptive management would operate over the life of a project (and, in the case of rehabilitation, beyond it). Over this period there are likely to be changes in technology, understanding of issues and the environment (for example in 30 years time climatic conditions might be different from those currently prevailing). An adaptive management regime provides the potential for addressing changes without creating a requirement to seek formal amendment of conditions.[59]

The Supreme Court of New Zealand has held that such an adaptive management approach was available and consistent with a proper precautionary approach for managing salmon farms in coastal marine areas.[60] Three adaptive management approaches had been proposed: staged development, tiered approach to monitoring, and ongoing adaptive management.[61] The Supreme Court considered the threshold question of what must be present before an adaptive management approach can even be considered and responded:

> [T]here must be an adequate evidential foundation to have reasonable assurance that the adaptive management approach will achieve its goals of sufficiently reducing uncertainty and adequately managing any remaining risk. The threshold question is an important step and must always be considered. As Preston CJ said in *Newcastle*, adaptive management is not a "suck it and see" approach.[62]

The Supreme Court considered the secondary question of what an adaptive management regime must contain in any particular case before it is legitimate to use such an approach rather than prohibiting the development until further information becomes available. The Supreme Court stated that this will depend on an assessment of a combination of factors:

(a) the extent of the environmental risk (including the gravity of the consequences if the risk is realised);

(b) the importance of the activity (which could in some circumstances be an activity it is hoped will protect the environment);

(c) the degree of uncertainty; and

55. *Telstra Corp. Ltd.* 67 NSWLR at 726 [163]; *Environment E. Gippsland Inc. v. VicForests* (2010) 30 VR 1, 49 [205].
56. *Telstra Corp. Ltd.* 67 NSWLR at 276 [164]; *see also Sustain Our Sounds Inc. v. New Zealand King Salmon Co. Ltd.* [2014] 1 NZLR 673, 703 [109] (N.Z.).
57. *Newcastle & Hunter Valley Speleological Soc'y Inc. v. Upper Hunter Shire Council & Stoneco Pty. Ltd.* (2010) 210 LGERA 126.
58. *Id.* at [183].
59. *Id.* at [184], [187].
60. *Sustain Our Sounds Inc.* [2014] 1 NZLR 673 at 716 [158] (N.Z.).
61. *Id.* at 702 [104].
62. *Id.* at 708 [125].

(d) the extent to which an adaptive management approach will sufficiently diminish the risk and the uncertainty.[63]

The Land and Environment Court of NSW has found on a number of occasions that, consistent with the precautionary principle, an adaptive management approach could be implemented for proposed developments. These included a pearl farm in the waters of Port Stephens[64]; open cut and underground coal mines that might have insufficient water supply for operations[65]; longwall coal mining that might affect hydrological regimes and dependent ecosystems[66]; and a limestone quarry that might affect stygofauna.[67] I will elaborate on two of these decisions.

In *Ulan Coal Mines Ltd. v. Minister for Planning*,[68] a neighboring coal mine challenged, by way of judicial review, the minister for planning's approval of a new coal mine on grounds including that a condition of the approval, requiring that the new mine must have sufficient water for all stages of the project, was uncertain and manifestly unreasonable. The Land and Environment Court of NSW rejected the challenge, holding that the minister had adopted a precautionary approach by requiring monitoring of the water supply and use of an adaptive management approach, notably by requiring an adjustment of the scale of mining operations (and hence of the demand for water) to match the available water supply. Such an adaptive management response was considered appropriate to dealing with any uncertainty arising from potential impacts.[69]

In *Rivers SOS Inc. v. Minister for Planning*,[70] an environmental nongovernmental organization concerned about the impacts of mining on rivers and waters challenged by way of judicial review the minister for planning's approval of an extension of an underground coal mine. The project involved longwall mining underneath two rivers, a water reservoir supplying drinking water, and upland swamps. The approval was subject to a number of conditions intended to prevent, minimize, and/or offset adverse environmental impacts. The approval was challenged on numerous grounds, including that two conditions of the approval were invalid. One condition required, before mining under certain swamps, undertaking comprehensive environmental assessment, formulating performance measures and indicators for these swamps and measures to manage potential environmental consequences on these swamps, and obtaining the approval of the Director-General. The challenge that the minister had failed to make a decision or had invalidly delegated the decision to approve mining under these swamps was rejected by the Land and Environment Court of NSW.[71]

Another condition required the proponent to provide suitable offsets to compensate for any impact of the project on the water catchment that was not able to be prevented, mitigated, or remediated. The challenge that the condition lacked finality and could result in a significantly different project to that for which approval was sought was rejected.[72] The court held that the condition was imposed in accordance with the precautionary principle and was a proper response to deal with uncertainty as to potential impacts.[73]

D. Prohibiting the Development or Action

Where precautionary measures cannot reduce the threat of serious or irreversible environmental damage to acceptable levels, the appropriate decision may be to prohibit the carrying out of the environmentally damaging activity. The Supreme Court of New Zealand has noted that this may be the case "where urgent measures are needed to avert imminent potential threats, where the potential damage is likely to be irreversible and where particularly vulnerable species or ecosystems are concerned."[74] Courts in Australia have refused consent to proposed developments that would cause unacceptable environmental harm to water resources and related ecosystems.

In *BGP Properties v. Lake Macquarie City Council*,[75] the Land and Environment Court of NSW applied the precautionary principle to refuse development consent to the subdivision and industrial development of land that included the Jewells Wetland near Redhead, NSW. The wetland was part of a threatened ecological community, Sydney Freshwater Wetland, which was listed under the Threatened Species Conservation Act 1995 (NSW). The proposed development would have removed 30% of that threatened ecological community and, in time, indirect effects would have removed it entirely. The proposed development would also have raised the water table, which would have been likely to have an adverse effect on a threatened species of flora, *Tetratheca juncea*.

In *GHD Pty. Ltd. v. Palerang Council*,[76] the Land and Environment Court of NSW refused consent to the excavation of material from parts and the filling of other parts of land on a floodplain to create a residential subdivision. The excavation and filling would divert a creek crossing the land and create landscape ponds and artificial wetlands. The court found that the diversion of the creek and the construction of the wetlands increased the risk of an avulsion or capture of the undisturbed creek through erosion. It held that the threat of serious environmental damage

63. *Id.* at 709 [129].
64. *Port Stephens Pearls Pty. Ltd. v. Minister for Infrastructure & Planning* [2005] NSWLEC 426 [56]-[58].
65. *Ulan Coal Mines Ltd. v. Minister for Planning* (2008) 160 LGERA 20, 40 [98], [99].
66. *Rivers SOS Inc. v. Minister for Planning* (2009) 178 LGERA 347, 379 [131].
67. *Newcastle & Hunter Valley Speleological Soc'y Inc. v. Upper Hunter Shire Council & Stoneco Pty. Ltd.* (2010) 210 LGERA 126 [187]-[189].
68. *Ulan Coal Mines Ltd.* (2008) 160 LGERA 20.
69. *Id.* at 40 [99].
70. *Rivers SOS Inc. v. Minister for Planning* [2009] NSWLEC 213.
71. *Id.* at [19]-[46].
72. *Id.* at [114]-[136].
73. *Id.* at [131].
74. *Sustain Our Sounds v. New Zealand King Salmon Co.* [2014] 1 NZLR 673, 704 [111] (N.Z.).
75. *BGP Properties v. Lake Macquarie City Council* (2004) 138 LGERA 237.
76. *GHD Pty. Ltd. v. Palerang Council* [2009] NSWLEC 1342.

could be regarded as relatively certain and that preventative measures were needed to control or minimize this threat. The court was satisfied that, in the absence of an adequately sited buffer between the creek and the wetlands to prevent avulsion, there were deficiencies in the design of the proposed wetlands and the proposed preventative measures that undermined the assessment of the potential impacts on the creek.[77]

In *McDonald v. Hepburn Shire Council*,[78] the Victorian Civil and Administrative Tribunal refused consent for a dwelling on land in an open potable water supply catchment area. In that area, the Ministerial Guidelines for Permit Applications in Open Potable Supply Catchments[79] applied and the permissible dwelling density exceeded one dwelling per 40 hectares. The proposed development did not comply with the guidelines or the dwelling density. The tribunal found that the guidelines applied when a permit is required for development under an environmental significance overlay that has catchment or water quality protection as one of its objectives, that the precautionary principle remains central to the guidelines, and that a "risk based approach" needs to satisfy the principle.

The tribunal held that a higher density of development could only be allowed when all conditions in the guidelines are met. These conditions include the preparation, adoption, and implementation of a domestic wastewater management plan. The purpose of such a plan is to identify areas where the management of existing wastewater systems requires additional focus to ensure that they are not cumulatively generating an unacceptable risk to water quality. The tribunal found that no domestic wastewater management plan existed for the area and that the absence of such a plan was critical. It also found that there had been a failure to assess the cumulative risk to water quality in the area by any other means that was comparable to a domestic wastewater management plan. As such, the other assessments did not satisfy the precautionary principle.

In relation to groundwater systems, in *Rowe v. Linder [No. 2]*,[80] the South Australian Supreme Court upheld a decision of the Environment, Resources, and Development Court refusing a proposal for a feedlot that would use considerable volumes of groundwater and expose the catchment to a significant risk of overuse and consequential harm. The Court noted that the evidence of certain experts, while insufficient to support a conclusion of unsustainable water use, was sufficient to support a conclusion of significant risk of serious harm due to water overuse, which, when coupled with current scientific uncertainty about the extent of environmental harm, attracted the precautionary principle.[81]

In *Castle v. Southern Rural Water*,[82] the Victorian Civil and Administrative Tribunal refused the grant of a license to take and use groundwater from a bore for irrigation purposes. The tribunal was not satisfied that the grant of the license was justified in regard to the "uncertainties of the situation and the relative need for caution."[83] Proper data and evidence were not provided, only "rules of thumb" or "assumptions and estimates," which were insufficient to justify the grant of a license.[84] The tribunal could not be certain with any reasonable degree, much less a high degree of confidence, that adverse effects would not be a consequence on existing authorized water users, the waterway, aquifer and drainage regime, and other potential applicants.

In *Alanvale Pty. Ltd. v. Southern Rural Water*,[85] the Victorian Civil and Administrative Tribunal refused a groundwater extraction license in the Hawkesdale groundwater management area (GMA). The tribunal considered that "until the implications of the effects of climate change on rainfall recharge to the aquifer are investigated and better understood, we should apply the precautionary principle and be cautious in making decisions about the allocation of groundwater resources now."[86] The tribunal concluded:

> Based on the precautionary principle, we consider that the uncertainties associated with the potential effects on the GMA from changes in rainfall and associated recharge, the potential seriousness of permanently depleting the groundwater storage and the risk of irreversible damage to the environment makes it inappropriate to grant these licenses.[87]

In *New Acland Coal Pty. Ltd. v. Ashman & Ors & Chief Executive of Environment & Heritage Protection [No. 4]*,[88] the Queensland Land Court recommended that the Stage 3 expansion of a coal mine should be rejected on numerous grounds, including that the mine will cause a depletion of groundwater supplies, and the potential for that loss to continue for hundreds of years, if not indefinitely.[89] The court was highly concerned regarding the major shortcomings in the groundwater model and other aspects of the groundwater studies undertaken to date. The court held that "groundwater considerations are such that the revised Stage 3 project should not proceed given the risk to the surrounding landholders and the poor state of the current model."[90]

77. *Id.* at [56].
78. *McDonald v. Hepburn Shire Council* [2013] VCAT 1538.
79. State Government of Victoria, Planning Permit Applications in Open, Potable Water Supply Catchment Areas (2012), *available at* https://www.water.vic.gov.au/__data/assets/pdf_file/0017/93140/Potable-Water-Guidelines-November-2012.pdf.
80. *Rowe v. Linder* [No. 2] [2007] SASR 189.
81. See also earlier litigation in *Rowe v. Linder* (2006) 146 LGERA 100.
82. *Castle v. Southern Rural Water* [2008] VCAT 2440.
83. *Id.* at [118].
84. *Id.* at [119].
85. *Alanvale Pty. Ltd. v. Southern Rural Water* [2010] VCAT 480.
86. *Id.* at [195].
87. *Id.* at [200].
88. *New Acland Coal Pty. Ltd. v. Ashman & Ors & Chief Executive, Dep't of Env't & Heritage [No. 4]* [2017] QLC 24.
89. *Id.* at [1337]-[1338].
90. *Id.* at [16].

VI. *In Dubio Pro Natura*

To date, there have not been any judicial decisions in Australia expressly applying the principle of *in dubio pro natura*, or the more particular principle of *in dubio pro aqua*. Just recently, in Pakistan, the Lahore High Court relied on the principle in *Maple Leaf Cement Factory v. Environment Protection Agency*.[91] The case did not concern water but nevertheless illustrates how a court can apply the principle. Chief Justice Syed Mansoor Ali Shah cited Principle 5 of the World Declaration on the Environmental Rule of Law:

> Another emerging environmental principle perhaps more appropriate in this case, declared as Principle 5 of the IUCN [International Union for Conservation of Nature] World Declaration of the Environmental Rule of Law (2006) is *In dubio pro natura*, i.e., "in cases of doubt, all matters before courts, administrative agencies, and other decision makers shall be resolved in a way most likely to favour the protection and conservation of the environment, with preference to be given to alternatives that are least harmful to the environment. Action shall not be undertaken when their potential adverse impacts on the environment are disproportionate or excessive in relation to the benefits derived therefrom."[92]

In that case, there was to be a survey of the Salt Range in Punjab in order to delineate positive and negative areas for the grant of mining concessions. Although the project of the petitioner cement company was located in the Salt Range, it was not yet known whether it might or might not fall within a negative area. The court held: "Taking a precautionary approach and relying on the principle of *In dubio pro natura*, as it is uncertain what the survey of the Salt Range might hold, the courts must favour environmental protection."

In a recent Australian case, however, the court did prefer an interpretation of water legislation that favored the protection of the water quality of a river. In *4Nature Inc. v. Centennial Springvale Pty. Ltd.*[93] subordinate legislation, the State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011,[94] prohibits the grant of development consent to development on land in the Sydney drinking water catchment unless the consent authority is satisfied that the carrying out of the proposed development would have a "neutral or beneficial effect on water quality." This test requires an assessment of the effect of carrying out the proposed development on water quality. The test requires a comparison of the water quality on two hypotheses: where the development is carried out and where it is not. The base case will be the current water quality at the time of the assessment. Against that base case, the comparison must address the likely effects on water quality of carrying out the proposed development.

The consent authority determining the application for consent for an extension of a coal mine selected as the base case the existing permissible discharge limits under the environment protection license for the current mining operation. The permissible levels of discharge to the river under the license were higher than the actual levels of discharge from the current mining operation. The consent authority also failed to consider that the level of discharges would significantly reduce when the current mining operation terminated (which would occur shortly).

In these two ways, the consent authority adopted a base case of hypothetical water quality (which would be poorer quality) rather than actual water quality (which would be better water quality) in undertaking the comparison required by the legislative provision in order to assess the effect on water quality by the discharges from the proposed mine extension. Using this artificial comparison, the consent authority found that the proposed mine extension would have a neutral or beneficial effect on water quality, and therefore granted development consent. If, however, the actual water quality had been used for the base case, the discharges from the proposed mine extension would have an adverse effect, rather than a neutral or beneficial effect, on water quality (notably, there would be an increase in the overall salinity levels in the river relative to current levels).

An environmental nongovernmental organization, concerned with protecting the quality of the water in the river that flowed into a national park, challenged the validity of the development consent. The trial court dismissed the challenge, deferring to the consent authority's interpretation and application of the legislative requirement that the proposed development have a neutral or beneficial effect on water quality. The NSW Court of Appeal overturned that decision, preferring an interpretation of the legislative provision that favored protection of water quality.

The Court of Appeal held that the baseline calculation of water quality must be undertaken by reference to actual, not hypothetical, water quality and by comparing the effect on water quality if the proposed development is approved against if the proposed development is refused. The court held that the consent authority, and the trial court, failed to apply the correct test. The Court of Appeal's reasoning and decision preferred an interpretation of the legislative provision and the power of the consent authority that favored the protection of water quality.

VII. Internalization of External Environmental Costs

Ecologically sustainable development involves the internalization of environmental costs into decisionmaking for economic and other development plans and projects likely to affect the environment. This is the principle of the internalization of external environmental costs. The principle

91. Maple Leaf Cement Factory Ltd. v. Environmental Prot. Agency, (2017) (WP No. 115949/2017) (Pak.).
92. *Id.* at [19].
93. *4Nature Inc. v. Centennial Springvale Pty. Ltd.* (2017) 224 LGERA 301; [2017] NSWCA 191.
94. State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 (NSW).

requires accounting for both the short-term and the long-term external environmental costs. This can be undertaken in a number of ways, including:

1. Environmental factors being included in the valuation of assets and services;
2. Adopting the polluter-pays (or user-pays) principle—that is to say, those who generate pollution and waste should bear the costs of containment, avoidance, or abatement;
3. The users of goods and services paying prices based on the costs of the full life cycle of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste; and
4. Environmental goals, having been established, being pursued in the most cost-effective way, by establishing incentives, including market mechanisms, that enable those best placed to maximize benefits or minimize costs to develop their own solutions and responses to environmental problems.[95]

Principle 7 of the Brasilia Declaration provides:

> Environmental factors should be included in the valuation and pricing of water resources and their services, including:
>
> > (a) polluter-pays principle—those who cause water pollution and ecosystem degradation must bear the costs of containment, avoidance and abatement, and of remedying, restoring or compensating for any such harm caused to human health or the environment,
> >
> > (b) user-pays principle—those who use water resources and their services in commerce or industry should pay prices or charges based on the full life cycle of costs of providing the water resources and their ecosystem services, including the use thereof, and the ultimate disposal of any waste; charges should also be levied on domestic use of water services to reflect the costs of providing such services, including the environmental costs, though appropriate social protection measures should be employed to ensure that those unable to pay such costs are not deprived of adequate water supply and sanitation services, and
> >
> > (c) enduring obligations—legal obligations to restore ecological conditions of water resources and their ecosystem services are binding on any user of the resource and any owner of the site of the resource, and liability is not terminated by the transfer of use or title to others (*propter rem* obligation).[96]

The rationale underlying the principle of internalization of external environmental costs is that if the real value of the environment (and components of it) is reflected in the costs of using it, the environment will be sustainably used and managed and not wastefully exploited.[97]

The best known of the means of internalization of external environmental costs is the polluter-pays principle. Expressed simply, the principle holds that those who generate pollution and waste should bear the costs of containment, avoidance, or abatement. It requires the polluter to take responsibility for the external costs arising from its pollution. This can be done by the polluter cleaning up the pollution and restoring the environment as far as practicable to the condition it was in before being polluted. The polluter ought also to make reparation for any irremediable harm caused by its conduct, such as death of biota and damage to ecosystem structure and functioning.[98]

The polluter-pays principle is an economic rule of cost allocation. The source of the principle is in the economic theory of externalities. By requiring the polluter to take responsibility for the external costs arising from its pollution, the principle allocates these costs to the polluter. The polluter must internalize these costs as a cost of doing business. Internalization will be complete when the polluter takes responsibility for all the costs arising from pollution; it will be incomplete when part of the costs is shifted to the community as a whole.[99]

The polluter-pays principle is also founded on a philosophical position as to ownership of the environment. As John Moffet and François Bregha explain:

> Under the polluter pays principle, the community effectively "owns" the environment, and forces users to pay for the damage they impose. By contrast, if the community must pay the polluter, the implicit message is that the polluter owns the environment and can use and pollute it with impunity. This message is inconsistent with the principles of sustainable development.[100]

The polluter-pays principle plays a role both in the prevention of pollution and in remediation, if pollution were to occur. The principle plays a role in prevention by justifying the imposition of responsibility for prevention and control of pollution arising from the development and use of land on the person carrying out that activity. This can be done by the imposition of conditions on any approval necessary to carry out the activity.

Further, the knowledge that if pollution were to occur the polluter would be responsible for its containment,

95. *See* s 6(2)(d) of the Protection of the Environment Administration Act 1991 (Cth); s 10(2) of the Contaminated Land Management Act 1997 (NSW); s 3.5.4 of the Intergovernmental Agreement on the Environment 1992 (Cth).

96. *Supra* note 1.

97. *See* Preston, *supra* note 22, at 193-94.

98. *Environment Prot. Auth. V. Waste Recycling & Processing Corp.* (2006) 148 LGERA 299; [2006] NSWLEC 419 [230].

99. Nicolas de Sadeleer, Environmental Principles: From Political Slogans to Legal Rules 21 (2002).

100. John Moffett & François Bregha, *The Role of Law in the Promotion of Sustainable Development*, 6 J. Envtl. L. & Prac. 3, 8 (1996).

avoidance, and abatement has a deterrent effect, thereby preventing future pollution.[101] The costs of containment, avoidance, and abatement of pollution are usually likely to exceed the costs of prevention of pollution. Acting rationally, a person would undertake the cost of preventative measures rather than the cost of remedial measures.[102]

Under the polluter-pays principle, the polluter should pay for the costs of preventing pollution or reducing pollution to comply with applicable standards and laws; preventing, controlling, abating, and mitigating damage to the environment caused by pollution; making good any resultant environmental damage, such as cleaning up pollution and restoring the environment damaged; and making reparation (including compensatory damages and compensatory restoration) for irremediable injury.

The Privy Council noted these aspects of the polluter-pays principle in *Fisherman & Friends of the Sea v. Minister of Planning, Housing & the Environment*[103]: "It must be understood as requiring the person who causes the pollution, and that person alone, to bear not only the costs of remedying pollution . . . but also those arising from the implementation of a policy of prevention . . . ." The polluter-pays principle can be seen to be reflected in at least two situations in the courts: in sentencing for environmental crime and in making civil orders, including imposing pecuniary penalties and granting injunctive relief.

A. Sentencing for Environmental Crime

One of the sentencing considerations relevant to the objective seriousness of a crime is the objective harmfulness of the offender's criminal conduct.[104] Environmental offenses can have environmental, social, and economic impacts.[105]

Environmental impacts include direct harm to an animal or plant, as well as indirect harm to their habitat. Harm to an animal or plant not only adversely affects that animal or plant, it also affects other biota having an ecological relationship to that animal or plant. Harm includes:

- Interference with ecological structure, functioning, and processes;
- Impacts on biological diversity at all levels—genetic, species, and ecosystem; and
- Interference with the habitat of biota, such as the waters, land, and soils.[106]

Social impacts include diminution in the value of the environment for the community or individuals, including the amenity, recreational, aesthetic, cultural, heritage, scientific, or educational value.[107] A deteriorated environment might have a disproportionately adverse effect on socially and economically disadvantaged persons.[108] Economic impacts can include impacts on industry, business, and employment, such as those dependent on waters that are polluted, fish breeding areas that are harmed, crops that are polluted, or environments visited by tourists or used for recreation that are harmed (e.g., beaches).[109]

Where an offense results in external costs (environmental, social, or economic) being suffered, these costs contribute to the objective harmfulness of the offense. A sentencing court may reflect these external costs in its sentence and, by this means, bring them back to the offender. The offender is made to pay for the costs of the harm caused by the offense.[110]

However, in order to do this in a meaningful way, the external costs, including the environmental harm, must be valued. As Michael Bowman notes, "[T]here is . . . little practical significance in the notion that the polluter must pay unless it can be established precisely for what he must pay and exactly how much it will cost him."[111]

The polluter-pays principle is promoted by making the severity of the sentence proportional to the seriousness of the offense. Proportionality of the amount of a fine or custodial sentence to the objective seriousness of the offense may be achieved in two respects: first, the total penalty should be proportionate to the objective harmfulness of the offense (e.g., environmental harm caused); and second, the total penalty may comprise a primary and an additional penalty.

As to the first, the culpability of the offender depends on the seriousness of the harm. Ordinarily, the more serious the lasting harm involved, the more serious the offense, and the higher the penalty should be.[112]

As to the second, the maximum monetary penalty may comprise a primary penalty and an additional penalty, such as a daily penalty for continuing offenses (e.g., pollution) or a penalty for each item that makes up the

101. Australian and New Zealand Environment Conservation Council, Financial Liability for Contaminated Site Remediation: A Position Paper 5-6 (1994); Anna Kingsbury, *Funding the Remediation of Contaminated Land in Australia and New Zealand: The Problem of Orphan Sites*, Waikato L. Rev. 2, 3 (1998).
102. *See Axer Pty. Ltd. v. Environment Prot. Auth.* (1993) 113 LGERA 357, 359-60; *Bentley v. Gordon* [2005] NSWLEC 695 [98]-[99]; *Bentley v. BGP Properties Pty. Ltd.* (2006) 145 LGERA 234; [2006] NSWLEC 34 [156]-[157].
103. Fishermen and Friends of the Sea v. Minister of Planning, Housing, and the Env't [2017] UKPC 37 [3].
104. *See* s 21A(2)(g) of the Crimes (Sentencing Procedure) Act 1999 (NSW).
105. *See* Brian J. Preston, *Principled Sentencing for Environmental Offences—Part 2: Sentencing Considerations and Options*, 31 Crim. L.J. 142, 145 (2007).
106. *Bentley* (2006) 145 LGERA 234; [2006] NSWLEC 34 at [174]-[175]; *Environment Prot. Auth. V. Waste Recycling & Processing Corp.* (2006) 148 LGERA 299; [2006] NSWLEC 419 [145]-[147]; *Garrett v. Freeman* [No. 5]; *Garrett v. Port Macquarie Hastings Council*; *Carter v. Port Macquarie Hastings Council* [2009] NSWLEC 1 [92].
107. *See Machinery Movers Ltd. v. Auckland Reg'l Council* [1994] 1 NZLR 492, 496, 499, 502, 507 (impact on recreational users of stream) (N.Z.); *Environment Prot. Auth. v. Hochtief AG* [2006] NSWLEC 200 [99] (impact of noise on amenity of residents); *Environment Prot. Auth. v. MacDermid Overseas Asia Ltd.* [2007] NSWLEC 225 [40], [44] (risk to public safety); *Environment Prot. Auth. v. Delta Elec.* [2009] NSWLEC 11 [20] (visual impact of dust on amenity of residents).
108. *See* Preston, *supra* note 105, at 145.
109. *Id.* at 147.
110. *Id.*
111. Michael Bowman, *The Definition and Valuation of Environmental Harm: An Overview*, *in* Environmental Damage in International and Comparative Law 1 (Michael Bowman & Alan Boyle eds., Oxford Univ. Press 2002). *See also* David J. Chapman & W. Michael Hanemann, University of California at Berkeley, Working Paper No. 913, Environmental Damages in Court: The *American Trader* Case 1 (2000).
112. *Camilleri's Stock Feeds Pty. Ltd. v. Environment Prot. Auth.* (1993) 32 NSWLR 683, 701.

commission of the offense (e.g., each plant or animal of a threatened species). Additional penalties are intended to make the total penalty proportionate to the duration or extent of the offense.[113]

An example of a sentencing court taking into account the polluter-pays principle can be found in the Land and Environment Court of NSW's decision in *Environment Protection Authority v. Waste Recycling & Processing Corp*.[114] Toxic pollutants from a landfill entered a nearby creek causing serious environmental harm, including loss of aquatic life. In sentencing the offender, the court took into account the polluter-pays principle. The court noted:

> Sustainable and economically efficient development of environmental resources requires internalising the costs of preventing and controlling pollution as well as any environmental harm itself. This is the polluter pays principle. The polluter ought to pay for the costs of remedying any on-going environmental harm caused by the polluter's conduct. This can be done by the polluter cleaning up the pollution and restoring the environment as far as practicable to the condition it was before being polluted. The polluter ought also to make reparation for the irremediable harm caused by the polluter's conduct such as the death of biota and damage to ecosystem structure and functioning.[115]

Another example of a sentencing court taking into account the polluter-pays principle is *Bankstown City Council v. Hanna*.[116] Stockpiles of waste, some containing asbestos, were dumped on private land and a public park. In taking into account the polluter-pays principle,[117] the Land and Environment Court of NSW noted the need to remove unfair pecuniary advantage as an aspect of the polluter-pays principle.[118] The court said:

> An offender who operates a business unlawfully, such as unlawfully transporting and dumping waste without incurring the necessary costs and expenses for transporting waste lawfully and depositing it at a place that can lawfully be used as a waste facility, secures an unfair advantage compared to the offender's law abiding competitors who incur the costs and expenses of operating lawfully. The offender has been unjustly enriched. Punishment is necessary to remove that unjust enrichment from the offender and so secure a just equilibrium—a level playing field—on behalf of those who are willing to be law abiding.[119]

B. Civil Orders for Statutory Breach

Environmental statutes may provide for a court to remedy or restrain breaches of the statute by orders for payment of pecuniary penalties or injunctive orders to restrain future breaches or remedy past breaches.

Some environmental statutes provide for a court to impose civil pecuniary penalties for breach of the statute. One example is s 481(2) of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).[120] Matters to be considered by the court in determining the penalty include the nature and extent of the contravention; the nature and extent of any loss or damage suffered as a result of the contravention; the circumstances in which the contravention took place; and whether the person has previously been found by the court in proceedings under this Act to have engaged in any similar conduct.[121] The first two of these matters enable consideration of the polluter-pays principle. In addition to these matters, the court may apply orthodox sentencing considerations.[122]

An example of a case in which a court imposed a civil pecuniary penalty is *Minister for the Environment & Heritage v. Greentree [No. 3]*.[123] The Federal Court of Australia imposed a penalty of $450,000 on an NSW farmer and his company for illegally clearing and plowing a wetland of international importance, the Gwydir Ramsar Wetlands, near Moree, in NSW. The court fined Mr. Greentree $150,000 and his company, Auen Grain Pty. Ltd., $300,000 for significant impacts caused to the wetlands and awarded costs to the Australian government. The court issued an injunction preventing Mr. Greentree from taking any further agricultural activity on the land, and also from running livestock on the site until at least 2007. Mr. Greentree was also ordered to rehabilitate the site.

Environmental statutes can also be civilly enforced. Some statutes enable any person (including a government agency) to bring proceedings to remedy or restrain a breach of the statute.[124] A court that finds a breach established may make such order as it thinks fit to remedy or restrain the breach,[125] including restraining unlawful use, requiring demolition or removal of unlawful buildings or works, or requiring reinstatement of the building, work, or land to the condition it was in immediately before the breach was committed.[126]

An example of a case in which a court ordered the restoration of an environment harmed by conduct in breach of a statute is *Great Lakes Council v. Lani*.[127] The Land

113. *Garrett v. Williams* (2006) 160 LGERA 115; [2006] NSWLEC 785 [94].
114. *Environment Prot. Auth. v. Waste Recycling & Processing Corp.* (2006) 148 LGERA 299; [2006] NSWLEC 419.
115. *Id.* at [230].
116. *Bankstown City Council v. Hanna* (2014) 205 LGERA 39; [2014] NSWLEC 152.
117. *Id.* at [152]-[153].
118. *Id.* at [149]-[150].
119. *Id.* at [149].
120. Environment Protection and Biodiversity Conservation Act 1999 (Cth).
121. Environment Protection and Biodiversity Conservation Act 1999 (Cth) s 481(3).
122. *Minister for the Env't & Heritage v. Greentree* [No. 3] (2004) 136 LGERA 89; [2004] FCA 1317 [50]-[58], [68]-[81].
123. *Id.* 1317.
124. *E.g.*, s 123(1) of the Environmental Planning and Assessment Act 1979 (NSW); s 176A(1) of the National Parks and Wildlife Act 1974 (NSW); s 41(2) of the Native Vegetation Act 2003 (NSW).
125. Environmental Planning and Assessment Act 1979 (NSW) s 124(1).
126. *Id.* s 124(2).
127. *Great Lakes Council v. Lani* (2007) 158 LGERA 1; [2007] NSWLEC 681 [13], [46].

and Environment Court ordered the persons who cleared native vegetation consisting of endangered ecological communities, including swamp sclerophyll forest on coastal floodplains, to refrain from future clearing; appoint a bush regenerator and an ecologist, whereby the bush regenerator would carry out weed infestation control measures and remove timber and the ecologist would install fauna nest boxes and carry out a baseline survey; pay the costs and expenses of the bush regenerator and ecologist carrying out such work; provide to the local government authority the instructions to and the reports from the bush regenerator and the ecologist; and monitor the work and relist the matter before the court to determine whether and, if so, what further orders should be made.

A polluter may also be ordered to pay the costs of cleaning up pollution. In *Kempsey Shire Council v. Slade*,[128] a local council sued a polluter to recover the costs that the council had incurred in cleaning up the pollution of land and a stream caused by the polluter. Under s 92(1) of the Protection of the Environment Operations Act 1997 (NSW), the Environment Protection Authority (EPA) may direct a public authority to take cleanup action if the EPA reasonably suspects that a pollution incident has occurred and the public authority must comply with such a direction. Section 104 authorizes a public authority that takes cleanup action under s 92 to require the occupier of the premises at which the authority "reasonably suspects" a pollution incident occurred or the person who is "reasonably suspected" by the authority of having caused the pollution incident, or both, to pay all or any reasonable costs or expenses incurred by the authority in connection with a cleanup action. The Land and Environment Court of NSW ordered the respondents to pay the local council's debt, finding that the council's "subjective suspicion that the respondents caused the pollution incidents was objectively reasonable."[129]

VIII. Good Governance

Principle 8 of the Brasilia Declaration promotes good governance of water laws. It provides: "Consistent with the proper role of an independent judiciary in the upholding and enforcing of the rule of law, and ensuring transparency, accountability and integrity in governance, implementation and enforcement are essential for the protection, conservation and sustainable use of water resources and related ecosystems."[130] The principle of good governance is essential to the sustainable development of water resources and related ecosystems. It requires the enactment, implementation, and enforcement of clear and effective laws that support the conservation and wise use of water resources and related ecosystems. The implementation and enforcement of such laws promotes good governance.

Effective implementation and enforcement of water laws requires the allocation of sufficient budgetary and financial resources to perform those functions. In sentencing for water pollution offenses, Australian courts have rejected as an excuse or mitigating factor having not allocated adequate financial resources to be able to undertake the necessary measures to prevent pollution of waters.

In *Environment Protection Authority v. Sydney Water Corp.*,[131] a statutory water corporation, Sydney Water, pleaded in mitigation for an offense of polluting waters that the financial resources that had been allocated for maintenance and upgrade of the sewer network were fixed but in an amount that was inadequate to undertake preventative maintenance to ensure that the sewer network would not cause pollution of waters. The allocated financial resources only enabled reactive maintenance. The Land and Environment Court of NSW rejected that plea:

> Sydney Water has failed, however, to address the fact that it is also bound by the environmental protection regime of this State. Sydney Water is required by law to do what is necessary to protect the environment. As the prosecutor has submitted, the clear obligation to comply with the Clean Waters Act sits above any contractual, commercial or other obligations . . . .
>
> In no other sector or industry is such a "reactive maintenance" strategy considered acceptable. The era of unregulated dumping of industrial wastes has long since past. The era of virtually unmitigated overflow of sewage should similarly cease. I accept the fact that there is no practical possibility of zero sewerage overflows. The environmental laws stipulate, however, that pollution *must not* occur. In the absence of a licence to pollute, Sydney Water *must not* pollute. It must spend all of its available resources on pollution prevention which, in this case, means preventative maintenance. Dividends or profits are inappropriate if they are coming from a corporation that is breaking the law on a routine basis. The priorities of Sydney Water's management and its shareholder must be re-examined.[132]

In *Environment Protection Authority v. Lithgow City Council*,[133] a local government authority, with the responsibility for operating a water treatment plant, discharged polluted waters into a creek that drained into a drinking water reservoir. The local government authority also pleaded in mitigation that it had limited budgetary resources for the operation of the water treatment plant. The Land and Environment Court again rejected the plea, saying:

> There is also a need for general deterrence. It is well settled that the sentence of the Court needs to be of such magnitude as to change the economic calculus of persons in relation to compliance with environmental laws. The sentence should be such as will make it worthwhile to undertake the cost of precautions to ensure that environmental

128. *Kempsey Shire Council v. Slade* (2015) 214 LGERA 214.
129. *Id.* at [116].
130. *Supra* note 1.
131. *Environment Prot. Auth. v. Sydney Water Corp*. [2000] NSWLEC 156.
132. *Id.* at [47], [51].
133. *Environment Prot. Auth. v. Lithgow City Council* [2007] NSWLEC 695.

> harm will not occur: *Axer Pty. Ltd. v. Environment Protection Authority* (1993) 113 LGERA 357 at 359-360; *Bentley v. BGP Properties Pty. Ltd.* (2006) 145 LGERA 234 at [156], [157]; *Environment Protection Authority v. Waste Recycling and Processing Corporation* (2006) 148 LGERA 299 at [229].
>
> The sentence of the Court must deter those undertaking activities likely to harm the environment, included scheduled premises for which an environmental protection licence is required, to eschew an attitude such as the Council adopted in this case of assigning a lower managerial and budgetary priority to compliance with the environmental protection licence and to taking the precautions required by the licence, than to its other business and government functions.
>
> Compliance with environmental laws is not optional; it is not contingent on a person having sufficient funds or sufficient willingness to expend funds to comply with environmental laws. The laws mandate compliance; it is a criminal offence not to comply. Persons must assign first priority to compliance with the laws and arrange their organisational structure, management, human resources and financial resources to ensure that this occurs.[134]

Sustainable use of water resources includes the regulation of and charging for use of water. Use of water contrary to the regulatory regime is an offense under water legislation. In *Murray Irrigation Ltd. v. ICW Pty. Ltd. & Meares Nominees Pty. Ltd.*, irrigators were held, under the Water Management Act 2000 (NSW),[135] to be vicariously liable for actions of their employee in raising out of its emplacement in a water channel a Dethridge wheel that regulated and metered the inflow of water. The consequence was that water flowed from the main supply channel to the irrigators' landholdings without being regulated or metered.

In *Minister for Environment & Conservation v. Simes*,[136] the South Australian Supreme Court, overturning the decision of the Environment, Resources, and Development Court,[137] held that the whole purpose and effect of the water licensing regime was to control and reduce extractions from the water resource to sustainable levels.[138] There was no provision in the water allocation plan for allocating water beyond that which had been allocated before the commencement of the plan.[139] The fact that actual allocations were below the maximum available did not give the minister for the environment and conservation or the Environment, Resources, and Development Court authority to make an additional allocation. That was not authorized by the water allocation plan and was not consistent with the plan.[140]

IX. Environmental Integration

The application and enforcement of water laws needs to be undertaken in a holistic way, integrating environmental, economic, and social factors. Principle 9 of the Brasilia Declaration provides:

> Environmental and ecosystem considerations should be integrated into the application and enforcement of water law. In adjudicating water and water-related cases, judges should be mindful of the essential and inseparable connection that water has with the environment and land uses, and should avoid adjudicating those cases in isolation or as merely a sectoral matter concerning only water.[141]

This holistic approach was applied in *Minister for the Environment & Heritage v. Queensland Conservation Council Inc.*[142] The Full Court of the Federal Court of Australia upheld the decision of the primary judge of the Federal Court that the minister had not applied the correct test in approving the Nathan Dam in Central Queensland. Under the EPBC Act, the minister is required to determine whether a proposed action will be a "controlled action"—that is whether or not the action will have an adverse impact on any of the matters of national environmental significance protected under the Act. These matters included World Heritage sites listed under the World Heritage Convention and migratory species listed under migratory bird treaties. The Federal Court found that the minister applied the wrong test in determining that the Nathan Dam will not have an adverse impact on the Great Barrier Reef, a World Heritage site, or on migratory species because the minister did not consider the impacts of persons other than the proponent of the project to be impacts of the dam.[143] Specifically, the minister did not consider the impacts of agricultural activities that would be enabled by irrigation from the dam on the Great Barrier Reef or on migratory species to be "adverse impacts" of the dam.[144]

Another example of a case upholding the need for ecosystem considerations to be integrated in decisionmaking is *Lansen v. Minister for Environment & Heritage*.[145] The operator of the McArthur River mine, near Borroloola in the Gulf Region of the Northern Territory, proposed to alter its operations from an underground mine to an open cut mine. The McArthur River flows across the site of the proposed open cut mine. The proposed conversion and expansion of the mine would require a diversion of the course of the river for five kilometers around the site of the open cut mine.

134. *Id.* at [66]-[68].
135. *Murray Irrigation Ltd. v. ICW Pty. Ltd. & Meares Nominees Pty. Ltd.* [2005] NSWLEC 304.
136. *Minister for Env't & Conservation v. Simes* (2007) 153 LGERA 225.
137. *Simes v. Minister for Env't & Conservation* (2006) 152 LGERA 16.
138. *Simes* (2007) 153 LGERA 225 at 236 [46].
139. *Id.*
140. *Id.* at [47].
141. *Supra* note 1.
142. *Minister for the Env't & Heritage v. Queensland Conservation Council Inc.* (2004) 139 FCR 24; [2004] FCAFC 190.
143. *Id.* at [57].
144. *Id.* at [60].
145. *Lansen v. Minister for Env't & Heritage* (2008) 102 ALD 558.

The decision of the minister for the environment and heritage under the EPBC Act to approve the proposal was challenged by native title claim groups. The applicants were concerned about the potential environmental impacts of the proposal, in particular the diversion of the McArthur River, which could potentially adversely impact certain fish species, including freshwater sawfish, and migratory bird species.

The applicants challenged the approval on grounds that included defects in the process and inadequacy of the environmental impact assessment (EIA) undertaken for the proposal and the failure to take into account the precautionary principle. In the latter respect, the applicants' concern was that there was a lack of full scientific certainty as to the effect of the proposal on the population of freshwater sawfish.

The applicants submitted that the absence of discussion in the minister's statement of reasons for the decision, concerning the lack of adequate surveys of the freshwater sawfish population, was evidence that the precautionary principle had not been considered. The Federal Court rejected the challenge, holding that the process for the EIA was correct and adequate, and that the minister had not failed to take into account the precautionary principle in making his decision.

On appeal, the Full Court of the Federal Court found that the Minister's approval was affected by jurisdictional error. The Minister failed to take into account a statutory precondition under s 134(4)(a) of the EPBC Act requiring him to take into account any relevant conditions that have been imposed under a law of a state or self-governing territory on taking an action. The Northern Territory Minister for Mines and Energy had imposed conditions on his authorization requiring the appointment of an independent monitor to undertake an independent monitoring assessment of environmental performance, as well as an obligation on the operator to cooperate with the independent monitor. In contrast, the Commonwealth Minister's conditions requiring the submission of a freshwater sawfish management and monitoring plan did not include a requirement for the appointment of an independent monitor (they only required monitoring programs), or a requirement that the operator cooperate with the independent monitor. The full court considered this difference in conditions to be of sufficient significance that it was possible that the failure by the Commonwealth Minister to consider the Northern Territory Minister's conditions could have affected the Minister's decision. The decision was declared invalid and was quashed.[146]

X. Procedural Water Justice

Access to justice not only includes distributive justice (equity in the distribution of environmental benefits and burdens), but also procedural justice. Procedural justice is commonly viewed as involving the three components formulated in Principle 10 of the Rio Declaration on Environment and Development, namely access to environmental information, public participation in environmental decisionmaking, and access to courts and tribunals to seek appropriate remedy and redress.

Principle 10 of the Brasilia Declaration provides:

> Judges should strive to achieve water justice due process by ensuring that persons and groups shall have appropriate and affordable access to information on water resources and services held by public authorities, the opportunity to participate meaningfully in water-related decision-making processes, and effective access to judicial and administrative proceedings and to appropriate remedy and redress.[147]

Australian courts have, for a long time, upheld these three components of access to justice in environmental cases.[148] As these judicial decisions have not particularly been in water-related cases, I will not elaborate on them in this Comment.

I will but note one development in improving access to justice in water-related cases. In New Zealand, the legislature has recognized and given rights to rivers including the Whanganui River.[149] The Victorian Legislature adopted a weaker form of recognition and protection of the Yarra River.[150] In India, the Uttarakhand High Court recognized and gave legal status to the Ganga River and Yamuna River as a living person/legal entity, with rights that include the right to access the courts.[151] The High Court's decision and order, however, have been stayed by the Supreme Court of India pending appeal.[152] Such legislative and judicial actions improve access to justice for water resources and related ecosystems.

XI. Conclusion

Water justice is emerging as a new paradigm.[153] It encompasses the concepts of distributive justice, procedural justice, and recognition justice, but emphasizes certain components. Brazilian Justice Antonio Herman Benjamin suggests seven.[154] It embraces a holistic view of the justice issues, emphasizing the public, intergenerational, and ecological nature of water. It gives priority to water, acknowledging the essentiality of water to all life on earth. It accepts that water is a finite resource. It recognizes the unequal distribution of the benefits of clean water and healthy, water-related ecosystems to meet the needs of all

146. *Lansen & Others v. Minister for Env't & Heritage & Another* (2008) 174 FCR 14.

147. *Supra* note 1.

148. Brian J. Preston, *The Effectiveness of the Law in Providing Access to Environmental Justice: An Introduction*, *in* The Search for Environmental Justice 23 (Paul Martin et al. eds., Edward Elgar 2015).

149. Te Awa Tupua (Whanganui River Claims Settlement) Act 2017 (N.Z.).

150. Yarra River Protection (Wilip-Gin Birrarung Murron) Act 2017 (Vict).

151. Mohd. Salim v. State of Uttarakhand, Writ Petition (PIL) No. 126 of 2014 (Uttarakhand H.C., Mar. 20, 2017).

152. State of Uttarakhand v. Mohd. Salim, Petition for Special Leave to Appeal (C) No. 016879/2017 (Supreme Court of India, July 1, 2017).

153. Antonio Herman Benjamin, *Water Justice: The Case of Brazil*, 48 ELR 10211, 10218 (Mar. 2018).

154. *Id.* at 10218-19.

humans and nonhuman life, and the burdens of polluted water and unhealthy water-related ecosystems to humans and nonhuman life. It encompasses procedural water justice and calls for innovative procedures to facilitate access to justice for all people and nonhuman life. It identifies and applies legal mechanisms for prevention, precaution, and preference for the conservation of water and related ecosystems. Finally, it is transboundary, crossing geographical, political, and jurisdictional lines.

Courts in Australia have yet to expressly vocalize their judicial decisionmaking in terms of water justice. Nevertheless, the courts have decided water-related cases in ways that implicitly apply principles of water justice. As the concept of water justice becomes better known, it is likely that courts will more frequently invoke and apply principles of water justice.