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The Fair Division of Natural Resources

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THE FAIR DIVISION OF NATURAL RESOURCES

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I. DIVIDING THE LAND IN BETWEEN

Disputes over natural resources predate Homo sapiens, and persist in a host of costly and inefficient forms. When parties contest resource ownership or use, the resulting disputes exact a toll on everyone involved, and can hinder the flow of benefits from the contested resource. The elongation of disputes over forest resources, for example, can prolong both harvesting and reforestation.[1] A better understanding of the impediments to timely and fair settlement is needed to guide the formation of new dispute resolution techniques and distinguish those without merit. Successful remedies will reduce the costs and undesirable repercussions of disputes over natural resources, and provide relief for those involved in a broader range of disputes.

This article outlines the problems with existing settlement devices and explains, for the first time in the language of legal authorities and natural resource practitioners, changes in legal policy that could successfully reduce the risk of bargaining breakdown. The article emphasizes solutions to disputes involving natural resources. Whether the disputes are between buyers and sellers or among potential owners, the benefits of fair and timely dispute resolution are often shared by a larger segment of society.[2]

With the implementation of more efficient methods, resources to be conserved for their environmental value can obtain their protected status with greater expediency, and resources more suitable for development can be tapped without imposing a larger-than-necessary burden on those directly or indirectly involved.

Consider the following scenario, which will serve as an example in the discussions that follow. Annabelle and Barclay are engaged in a dispute over the family estate. The 200-acre parcel includes ten forested acres on one side and a ten-acre lake on the

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[1]Environmental Defense Organization, *World Bank Pledges a New Policy on Rainforests*, 22 Environmental Defense Newsletter 1 (November, 1991) <http://www.edf.org/pubs/Newsletter/1991/nov/d_world_bank.html>.

[2]Associated Press, *State to Speed up Pollution Control*, Seattle Times Online (January 15, 1998) <http://seattletimes.nwsource.com/news/local/html98/poll_011598.html>.

other. The 180 acres in between are cleared and relatively uniform.

Annabelle favors the lake and has little use for forested land. Barclay prefers the forested land and has little taste for the lake. The market value of the land, regardless of its topography, is $1000 per acre. Annabelle claims rights to the majority of the land based on her family's tradition that the estate goes to the first-born child in each generation. Barclay claims rights to the majority of the land because, rather than working to develop a career and amass savings as Annabelle did, he devoted the last seven years of his life and considerable resources to caring for their aging parents and the property in question.

If the case goes to trial, they both anticipate that Annabelle will receive a parcel with the lake, Barclay will receive the forested tract, and much of the land in between will have to be sold to pay for litigation costs. Barclay currently holds the deed, and would pay approximately $40,000 in hourly attorneys' fees in a court battle with Annabelle. As the plaintiff, Annabelle expects she would pay roughly $30,000 in contingent fees if the case went to trial. The challenge is thus to divide the land in between without incurring the costs of trial.

Answers to the question of how to divide the land in between in this scenario will likewise resolve a variety of more general disputes. In a lawsuit, including those over misrepresentation, false promises, or personal injury, the "land in between" is the range of potential settlement values between the two parties' expected trial outcomes.[3] Since the plaintiff expects to receive the judgment minus legal fees, and the defendant expects to pay the judgment plus legal fees, a range of settlement values preferable to both parties over trial will exist as long as expectations of the judgment do not differ by more than the sum of the two parties' legal fees.[4] In a sales transaction, the "land in between" is the range of values above the seller's cost and below the buyer's valuation of the item to be

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[3]*See* David A. Anderson, *Improving Settlement Devices: Rule 68 and Beyond*, 23 J. Legal Stud. 225, 227 (1994).

[4]For example, if the expected judgment is an even division of the 200 acres and Annabelle and Barclay would pay $30,000 and $40,000 in additional legal fees respectively if they proceeded to trial, then after selling the land necessary to cover attorneys' fees, Annabelle would be left with 70 acres and Barclay with 60. Any division between 71-129 and 139-61 for Annabelle and Barclay respectively would be preferred by both parties over trial. However, if both parties expect to receive 140 acres at trial (or any other division that differed by more than the total attorneys' fees), then out-of-court settlement would not be possible because Annabelle would expect to be left with 110 acres after trial and Barclay would expect to be left with 100. There is no division that would provide each party with at least as much as their net expected gain from trial.

purchased.[5] Any price in that range will yield profit for the seller and consumer surplus—the difference between the buyer's valuation and the price—for the buyer.

Section II of this article describes potential sources for disputes over natural resources. Section III explains four conditions for out-of-court settlement, at least one of which must be brought about by successful settlement devices. Section IV discusses past, present, and proposed approaches to dispute resolution, and Section V concludes the article.

II. SOURCES OF DISPUTES OVER NATURAL RESOURCES

The arena of disputes that would be served by improved resolution techniques encompasses far more than the classic division of a parcel. Real estate agents face the possibility of litigation both from the sellers they represent and from the buyers who receive information from them regarding properties.[6] If an agent sells a property with an inherent flaw (e.g., location on a fault line, radon gas, a previous fire) not recognized or not disclosed by the agent, legal action may follow if the purchaser seeks compensation. Similarly, litigation might be brought by the seller if the selling price does not accurately reflect the value of the natural resource due to a discovery (e.g., oil) made after the contract has been completed,[7] an unlawful allegiance to the buyer rather than the seller,[8] or a self-interested calculation that taking a low offer early would provide a larger net profit to the agent than taking a higher offer after additional advertising, showing of the property, and time.[9] In the absence of settlement-facilitating devices, any such case can impose an undue burden.

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[5]If the seller of seedlings can obtain them for $1 each and a buyer values seedlings at $3 each, any sale price between $1 and $3 per seedling will make both parties better off than no exchange. The task at hand is to decide how the $2 of value in excess of cost will be divided between the two parties.

[6]*See* Sarah Waldstein, *A Toxic Nightmare on Elm Street: Negligence and the Real Estate Broker's Duty in Selling Previously Contaminated Residential Property*, 15 B.C. Envir. Affairs L. Rev. 547 (1988).

[7]The classic example of the latter type of case is *Sherwood v. Walker* (1887) which involved the sale of a cow that was mistakenly thought to be sterile. A more recent incident involved the sale of a baseball card for $15.00 that was valued as $1500.

[8]Due to related concerns, since January 1, 1996, real estate agents in Kentucky have had to clarify their allegiance on forms signed by the buyers and the sellers they deal with.

[9]For example, with a commission rate of 6 percent, a realtor would be better off taking an early offer of $200,000 for a wilderness tract than committing $2,000 worth of additional advertising and time to find a buyer willing to pay $225,000. Although the higher payment would benefit the resource owner, the realtor's $1,500 gain in commission would fall below the additional $2,000 in selling expenses.

Personal injury cases pose an additional threat to anyone responsible for natural resources.[10] The possibilities of accidental drowning, avalanche, cave collapse, and falls from cliffs and ledges all present resource owners with exposure to litigation.[11] The uncapped potential of judgments and the need for extensive attorney involvement weigh heavily on insurance costs and direct litigation expenses.[12] It is clear that every injury case is different in regard to the safety precautions taken by resource owners (their efforts to eradicate or warn of hunting, ice, and water hazards, etc.) and the behavior of claimants. Although differing awards would seem appropriate in heterogeneous cases, it may be that the legal costs involved in trying each case separately absorb more than the resulting differentials. In other words, even though a pianist might receive $40,000 in compensation for a broken hand while a teacher receives $25,000, it is likely that the cost of litigating the case would exceed the extra $15,000 gained by the pianist, leaving her worse off than if she received $25,000 in a pre-trial settlement. Thus, one solution to litigation over personal injury cases would be to standardize the award for each type of injury. Until such a standard is accepted, and for those unique cases to which standard awards would not apply, alternative dispute resolution techniques are needed.

Of course, every example of the above sources of conflict need not result in a dispute. In any given case it is possible, and even probable, that the parties will have a common understanding of what a reasonable settlement is and compatible ideas about how to divide the savings that result from avoiding trial. In such cases there is no need for mechanism designed to encourage out-of-court settlement. Unfortunately, every party to a conflict is not reasonable and rational, expectations for trial judgments and attorneys' fees are not always compatible, and optimism and greed tend to separate the interests of potential disputants. The purpose of the settlement devices discussed in this article is to resolve the disputes that are headed to trial for such reasons, and to assist disputants who would otherwise settle to reach faster and fairer agreements.

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[10]*See e.g.*, Don Jacobs, *Officials Say this is the First Fatal Attack by Black Bear in Southeast*, Knoxville News-Sentinel 1 (May 22, 2000).

[11]For example in the state of Mississippi, falls and drowning represented 39 and 14 percent of non-highway-related accidental deaths respectively in 1996. See Mississippi State University Extension Service, *Non-Highway Causes of Accidental Deaths*, (last visited June 12, 2000) <http://www.ext.msstate.edu/anr/engineering/agrability/slide7text.html>.

[12]James S. Kakalik and Nicholas M. Pace, *Costs and Compensation Paid in Tort Litigation* (Institute for Civil Justice, 1993); Robert W. Sturgis, *Tort Cost Trends: An International Perspective* (Tillinghast-Towers Perrin, 1995).

III. CONDITIONS FOR SETTLEMENT

The development and assessment of effective dispute resolution techniques requires an understanding of those conditions which provide a remedy for litigation. Out-of-court settlement can occur if at least one of the following sets of conditions is met:

- The parties can agree on, or be forced to submit to, a decision rule or process of division;[13]
- There is agreement over the expected judgment at trial, the savings from not going to trial, and the portion of the savings that each party should receive.[14] (If accurate measurement of the resource is not assured, there must also be agreement over the division that creates the desired apportionment.);[15]
- There are differing perceptions of the expected judgment, the savings from not going to trial, or the agreeable division of those savings, but relative optimism in some areas is sufficiently balanced by relative pessimism in others to produce an acceptable solution;[16]
- One party is capable and willing to make a credible take-it-or leave-it offer that is preferable to the other party over the trial outcome.[17]

Successful dispute resolution will result from techniques that satisfy one of these four conditions. The aim of past dispute resolution efforts has sometimes strayed from viable solutions such as these, resulting in settlement rules such as Federal Rule of Civil Procedure 68 which appear to have settlement-inducing

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[13]*See* David A. Anderson, *An Introduction to Dispute Resolution*, in David A. Anderson (ed.), *The Economics of Legal Relationships* 1, 8 (1996).

[14]They could also disagree over the division of the resource itself, despite agreement over the expected trial judgment. However, an offer cannot diminish the offeree's gain by more than the offeree's savings from settlement, because if it did, the offeree would be better off going to trial than accepting the offer. Thus, when there is an agreed-upon expected judgment, disagreements over the division of the resource can be subsumed into disagreements over the division of the savings from trial.

[15]*See* Anderson, *supra* note 13.

[16]*See Id.*

[17]*See Id.*

characteristics, but turn out to be disappointing because they do not satisfy any of the conditions for settlement.[18]

IV. PAST AND PRESENT REMEDIES

A. Decision Rules and Processes of Division

1. Brute Force and Compliance

Condition 1 describes a situation in which adherence to a decision rule or process, by acceptance or force, produces a remedy for a dispute. The catalyst might be a third-party mediator or arbitrator whose decision each side has consented to, or a leader with adequate military or other backing to enforce such decisions.[19] The American civil justice system serves a similar role, with the support of law enforcement agencies.[20] War is the most primitive and costly means of defining property rights, and continues to be prominent in international disputes when no authority can enforce the results of civilized dispute resolution processes.[21] Over 566,000 American lives were lost in the five largest U.S. conflicts,[22] and worldwide military expenditures approach one trillion dollars annually.[23] On a smaller scale, fighting in the form of feuds and duels is a solution at last resort for two sides hopelessly unable to reconcile. Unfortunately, like a large or lengthy legal battle, these solutions threaten to destroy more than the value of the sought-after resources.

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[18]*Evidence on Settlement Devices: Does Rule 68 Encourage Settlement* See Anderson, *supra* note 3; David A. Anderson & Thomas D. Rowe, Jr., *Empirical?* 71 Chi-Kent L Rev 519 (1995); Tai-Yeong Chung, *Settlement of Litigation under Rule 68: An Economic Analysis*, 25 J Legal Stud 261 (1995); Geoffrey P. Miller, *An Economic Analysis of Rule 68*, 15 J Legal Stud 110 (1986); and Thomas D. Rowe, Jr. & David A. Anderson, *One-Way Fee Shifting Statutes and Offer of Judgment Rules: An Empirical Experiment*, 36 Jurimet J 255 (1996).

[19]For example, CDR Associates in Boulder, Colorado, specializes in "successfully facilitating agreements" over environmental issues such as natural resource extraction policies, wildlife management, and the location of pipelines and nuclear plants. See CDR Associates, *Environmental Conflict Management*, (last visited June 13, 2000) < http://www.mediate.org/Services_Epp.htm>.

[20]*See* David A. Anderson, *Government's Role in Property Ownership*, in Nicholas Mercuro and Warren J. Samuels (eds.), *The Fundamental Interrelationships Between Government and Property* 37, 41 (1998).

[21]Among the daily reminders of this, *What's News World Wide*, Wall Street Journal 1 (June 12, 2000), reads, "Fighting in a Congo city ended in a victory by Rwandan troops over Ugandan ex-allies in a bloody weeklong struggle for Kisangani."

[22]U.S. Bureau of the Census, *Statistical Abstract of the United States: 1998*, 367 (1998).

[23]U.S. Department of State, Bureau of Arms Control, *World Military Expenditures and Arms Transfers 1998*, (last visited February 2000) <http://www.state.gov/www/global/arms/bureau_ac/wmeat98/wmeat98.pdf>.

An historical perspective on dispute resolution reveals a tradition of violent decision processes. Duels settled disputes over natural resource ownership throughout the Middle Ages. Judicial combat was legal in many European countries and authorized by the church in France to determine the ownership of disputed segments of its own natural resources.[24] The threat of costly wars and duels, like the threat of trials, helps to remove the deleterious effects of optimism, which separate the expectations of parties to a dispute. When the threat of combat is not enough to foster acceptance of settlement offers, the actuality of fights and duels can decide a dispute. Unfortunately, sometimes the battle must be fought to lend credibility to future threats. And worse, ego and pride often carry priorities away from the maximization of tangible resources.

Like physical fighting, the substantial costs associated with solving disputes within the civil justice system make it an effective motivator for settlement by alternative means.[25] In that role, the courts deter some potential frivolous claims and encourage a large majority of claimants to settle before trial.[26] By similar reasoning one might argue that trial should be more lengthy and expensive, thus inhibiting more suits. Higher litigation costs encourage greater tolerance and fewer frivolous suits, but inhibit impecunious plaintiffs with meritorious suits and may lead people to take the law into their own hands if alternatives are not provided. If higher costs are deemed desirable, an alternative to permitting inefficiency in the civil justice system would be to tax disputes and give the receipts to a worthy cause.

2. Fair Division

Issues of asset division can sometimes be settled without the need for negotiations or trial. The mutual acceptance of a decision rule or the authority of a physical or political power can facilitate such a solution. Decision rules that are sometimes acceptable include those based on tradition (privilege to the first born), rules of thumb (women and children first, older is wiser), drawing straws, religious teachings, precedent, flipping a coin, first-come-first-serve, and so

[24]For a surprisingly thorough and enlightening discussion of judicial combat, *See Duel*, Microsoft Encarta, (1994).

[25]*See* Kakalik & Pace and Sturgis, *supra* note 12.

[26]*See* W. Kip Viscusi, *Reforming Products Liability* (Harvard U Press, 1991).

on.[27] Various contests of strength or bravery have been used for the same purpose.[28]

The success of unforced decision rules is inversely related to the size of the stakes. When the stakes are large, it becomes worthwhile for parties who might be disadvantaged by traditional rules to forego the rules' convenience in favor of a more involved battle for privilege. A corporation might accept the ruling of local precedence to determine who will sponsor the clean up of a small dump allegedly created by that company in the past. In contrast, if plaintiffs claim the dump contaminated water supplies and caused wrongful deaths, it is likely that arduous settlement negotiations or a more authoritative determination will be needed to supplant unforced decision rules.

While small-scale, all-or-nothing allotments can generally be handled with simple decision rules, the division of larger resources or responsibilities can sometimes be handled with rules that are thought to produce a *fair* allocation between the parties. When equal division between two parties is the goal and the features of a resource are valued equally by the competing parties, simple solutions exist. If the resource is easily measured, as with uniform land by a surveyor, equal division is a straightforward matter of giving each party their share. If the resource is not uniform or a reliable measuring device is not available, a divide-and-choose method can sometimes render a division between two adversaries.[29] This solution allows one party to divide the resource into two parts and the other to choose between the two allotments. The divider has an incentive to make as equal a division as possible in order to maximize the value of the inferior (if not equal) part which will be left for her. This technique has been used in the past to divide such natural resources as sections of the ocean floor among competing interests.[30]

The equitable appeal of the divide-and-choose method diminishes when the parties place differing valuations on the resources to be divided. In the case of Annabelle and Barclay, in

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[27]See Steven J. Brams and Alan D. Taylor, *Fair Division: From Cake-Cutting to Dispute Resolution*, (Cambridge U. Press, 1996).

[28]Examples include jousting, duels, fist-fighting and even football. Circa 1975 police and hippies clashed over the recreational use of a football field in East Lansing, Michigan. They settled the dispute with a "Pigs vs. Freaks" football game. (The freaks won.) Personal correspondence with Robert T. Anderson, Mich. State U emeritus professor, June 14, 2000. As another example, the c. 1000 BCE contest of strength between David and Goliath stemmed from a dispute over Palestinian iron works. 1 Samuel 17:3-6, New Oxford Annotated Bible, revised standard version, (Oxford U. Press, 1993).

[29]*See* Brams and Taylor, *supra* note 27.

[30]Division of Ocean Affairs and the Law of the Sea, Office of Legal Affairs, United Nations, *Oceans and Law of the Sea: Deep Seabed Minerals* (DOALOS, 1998).

which Annabelle wants the parcel of land with the lake and Barclay wants the parcel with the trees, the divider would have an unfair advantage over the chooser. If Barclay divided, he would divide the property so that the majority of the land between the forest and the lake fell on the side of the forest, knowing that Annabelle would accept fewer acres in exchange for the lake. If Annabelle divided, she would do the opposite, gaining her favored lake and the majority of the land by forcing Barclay to trade acreage for the forest.

When the parties are acting prudently, or at least expecting that the other(s) are acting prudently,[31] an alternative to the divide-and-choose method can provide an equitable division of a uniform but hard-to-measure asset. Suppose 200 acres are to be divided evenly between Annabelle, Barclay, and their aunt Chelsea. A solution would be to have someone walk across the land, with a rule that any of the three could call out "stop" at any time, and the caller's share would be the land the walker had already passed.[32] Clearly, *after the first share had been claimed*, the remaining two parties would call out when the walker was halfway across the remaining land. If the walker were less than halfway across, calling out would leave the other party with more. If the walker were more than halfway across, both would want to claim the land behind him before the other captured the advantage. The choice when the walker begins is thus between the land behind him and half of the land not yet walked. If less than one-third of the land has been walked, then more than two-thirds (more than one-third for each of the last two callers) has not been walked, and it pays to wait. If more than one-third has been walked, less than two-thirds remains (less than one-third for each of the last two callers), and it pays to call out.

The arguments presented above can be extended to any number of parties: the theoretical result of the "Say Stop" division method with n players is that someone will say stop whenever, to the best of any party's knowledge, $1/n^{th}$ of the land has been covered by the walker. The division may not be perfect, but when there is no satisfactory objective measure, this method divides the resource to the best of the adversaries' honest abilities. Similar methods can be used to divide resources that involve difficult-to-quantify tradeoffs between two or more characteristics that the parties value equally. For example, forested land for which it is difficult to quantify the tradeoff between acreage and tree density. If the two parties have the

[31]Herve Moulin, *Game Theory for the Social Sciences* (NYU Press, 1986) defines a prudent strategy as one that maximizes the minimum gain by a particular player.

[32]For a description and history of similar division procedures, *See* Brams and Taylor, *supra* note 27.

same preferences for acreage and tree density, prudent players of the "Say Stop" game will claim the land behind the walker as soon as it is equivalent in value to the land ahead of the walker. Thus, timely and fair division is again attained at minimal expense.

Like "Divide and Choose," the "Say Stop" method does not result in a fair outcome when dividing a heterogeneous resource between parties with unequal valuations of the differentiating characteristic. The advantage will go to the party who prefers the type of land that the walker starts on. If the walker starts on the side of the forest Barclay covets, Barclay will wait to say stop until the walker has reached the point where Annabelle is just short of indifference between the side with the forest and the side with the lake, at which point the side with the forest will have a larger portion of the middle ground attached (in order to make Annabelle indifferent between that parcel and the one with the lake). Likewise, Annabelle would gain the advantage if the walker started on the side of the lake.

Dividing a resource becomes increasingly difficult when equality is not the goal. For example, if seniority, severity of injury, or degree of fault makes an unequal division appropriate, the fair division rules discussed above no longer provide an appropriate solution. The questions to be answered in such a case are: What portion of the resource to be divided should each party receive? and, What constitutes that portion? If for some reason it is clear that Annabelle should receive seventy-five percent of the 200 acres, and if her 150-acre share can be measured with accuracy, there is no need for dispute resolution techniques. However, if either the proportional allocation or the measurement of the resource is in question,[33] subjective solutions may be necessary. The remedy may include negotiations and bargaining, arbitration or mediation, and settlement or judgment. Attorneys may be hired, formal claims may be filed, and the costly process of offers, demands, threats and counter claims may begin.[34] As time passes, the potential gains from out-of-court settlement will dissolve into legal fees and lost time and energy. The sections below discuss methods of minimizing the damage from subjective solutions and avoiding the ultimate authorities for credible and enforceable dispute resolution in modern America, judges and juries.

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[33]Although measurement is seldom a problem with land, disputes can arise over the measurement of less uniform assets such as land with varying topography, improvements, or biodiversity. In a related example, China and the Philippines are involved in a dispute over the division of the mineral rich Spratlys Islands. *See* Division of Ocean Affairs and the Law of the Sea, *In the News* (January 4, 1999) <http://www.un.org/Depts/los/los_news.htm#currentdisp>.

[34]*See* Kakalik and Pace and Sturgis, *supra* note 12.

B. Full Information and Agreement

In order for disputants to comply with the second condition, they must agree on the likely judgment at trial, the additional attorneys' fees each side would pay if they proceeded to trial, the appropriate split of the gains from settlement, and the measurement of the land. For example, consider the 200 acres with a market value of $1000 per acre that Annabelle and Barclay are in a dispute over. If both sides agreed that the trial judgment would provide 100 acres to each party, that additional attorneys' fees would be $30,000 and $40,000 for Annabelle and Barclay respectively, and that the gains from settlement should be split evenly, then settlement is obtainable without further assistance. They can divide the land the way they expect a judge would, and divide the $70,000 in attorneys' fees saved by avoiding trial by transferring $5000 (or five acres) from Barclay to Annabelle.[35] Satisfying this condition is thus a matter of approximating full information and rationality, and fostering agreement over the proportions deserved by each party.

The first obstacle to agreement over an expected judgment is the wide range of possibilities for its value. For example, in 1993 the awards in personal injury cases involving cervical/lumbar strain ranged from zero to one million dollars with a mean of about $50,000 and a standard deviation from the mean of about $135,000.[36] Variations in judgments could be decreased with caps on personal injury and punitive damages, a movement away from jury trials, and any standardization of awards for particular infractions or injuries.

Optimism and misinformation further complicate disputants' ability to attain similar expectations.[37] Remedies for inaccurate expectations for trial and exaggerated perceptions of bargaining power include the encouragement or requirement of forums for information sharing and third-party evaluation.[38] A wide variety of alternative dispute resolution techniques are currently available.[39]

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[35]The motivation for such a transfer is that, given Annabelle's requirement that she receive half of the savings from trial, the alternative for Barclay is prolonged bargaining and additional costs, and if they end up in court, the loss of the whole $40,000. Since Barclay has more to lose (in attorney's fees) by proceeding to trial than Annabelle, he is in a weaker bargaining position, and can expect to have to share some of his savings from settlement.

[36]Based on jury verdict reports compiled by this author from the Westlaw database.

[37]*See* Anderson, *supra* note 3 at 228.

[38]For a discussion of contract- and court-mandated arbitration, see Mette H. Kurth, The Dawning of Arbitration Techniques, in David A. Anderson (ed.) *Dispute Resolution: Bridging the Settlement Gap* 193 (JAI Press, 1996).

[39]For an overview of alternative dispute resolution techniques, see Gary B. Charness, *Alternative Dispute Resolution and the Settlement Gap*, in David A. Anderson (ed.) *Dispute Resolution: Bridging the Settlement Gap* 205 (JAI Press, 1996).

Summary jury trials are highly abbreviated trials that provide litigants with an advisory verdict for guidance in their settlement negotiations.[40] Court-annexed arbitration generally consists of a brief, non-binding hearing before a panel of attorneys or retired judges.[41] In mediation, there is no third-party judgment, but one or more mediators talk with the parties to help them come to settlement.[42] Early neutral evaluation brings the lawyers together with a neutral party shortly after the claim is filed to talk through the strengths and weaknesses of their cases and clarify possible outcomes.[43] Similarly, a judicial settlement conference brings the lawyers together with a judge or magistrate to try to resolve the case short of trial.[44] Alternative dispute resolution techniques such as these are required in some classes of civil suits and could be better utilized in others.[45]

C. Differing but Compatible Perspectives

Condition 3 replaces the requirement of full information with a requirement that differences in the parties' perspectives be compatible. Relative optimism regarding the expected judgment might be accompanied by relative pessimism regarding the appropriate division of the savings from avoiding trial to make a range of settlement offers acceptable to both sides. This opportunity arises because the judgment depends on the merits of each party's case while the division of the savings depends on the parties' relative bargaining power, and either party might over- or underestimate either characteristic of their situation. For example, if Annabelle expects to receive 120 acres and Barclay expects to receive 100 acres at trial, settlement is still possible if Annabelle expects $20,000 out of the $70,000 in savings from avoiding trial and Barclay expects $30,000 in savings. Barclay's total demand is valued at $130,000 ($100,000 worth of land plus $30,000 worth of savings), and Annabelle's total demand is $140,000, ($120,000 + $20,000), so the two demands totaling $270,000 are compatible given the $200,000 worth of land and $70,000 in savings to be had. In other words, it is agreeable to both parties for Annabelle to receive 120 acres and $20,000 in savings, because although Barclay would end up with 80 acres rather than the 100 he expected, he will be compensated for this

[40] *See id.* at 213.
[41] *See* id. at 214.
[42] *See id.* at 216.
[43] *See id.* at 218.
[44] *See id.* at 217.
[45] *See* Kurth, *supra* note 38 at 199.

loss by an equivalent gain of $20,000 more than he expected out of the savings from settlement.

In order to foster settlement between parties who are not initially compatible, new rules of civil procedure could be introduced which lower demands, increase offers, or otherwise satisfy one of the four conditions for settlement explained above. The American Rule, the English Rule, Federal Rule of Civil Procedure 68, and many parallel state court rules have met with limited success in terms of encouraging parties with manageable differences to negotiate or tolerate, and not litigate.[46] These rules and some of their pitfalls are described below. The section that follows explains two alternative rules that could equitably resolve conflicts despite incompatible self-perceptions of the parties' bargaining strengths.

The American Rule. Under the traditional "American rule," each party pays its own attorney's fees regardless of the trial outcome.[47] The losing party, defined as the defendant in the event of any positive verdict in favor of the plaintiff, and the plaintiff otherwise, is assessed court costs other than attorneys' fees, including reasonable court fees, transcript costs, printing costs, and witness fees. This rule generally applies to litigation costs even when supplemental rules governing attorneys' fees are in effect.[48] Because court costs are typically negligible, this rule amounts to a slap on the wrist for parties who fail to settle and fail in court.

The English Rule.[49] The English rule is similar to the American rule, but it places a greater burden on the losing party. Under the English rule, the loser pays not only court costs, but also reasonable attorneys' fees for both sides. This larger penalty for losing a case will discourage frivolous cases, but it may also discourage justified claims by parties who could not afford the downside risk that the judgment might be against them. For this and related reasons, the English rule has not been adopted in American courts.

Rule 68.[50] A typical settlement rule allows a party in litigation to formalize an offer to settle out of court. If the opposing

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[46]*See* Anderson and Rowe, *supra* note 18.

[47]*See id.* at 257.

[48]*See id.* at 259.

[49]For further explanation and discussion of the English Rule, see Mark S. Stein, *The English Rule with Client-to-Lawyer Risk Shifting: A Speculative Appraisal*, 71 Chi Kent L Rev 603 (1995).

[50]The full text of Federal Rule of Civil Procedure 68 reads:

party refuses the offer and does not improve on it at trial, then the refusing party suffers a consequence. Existing Federal Rule of Civil Procedure 68 mandates that defendants collect post-offer court costs, but usually not attorneys' fees, from the plaintiff if the refused offer is not improved upon at trial.[51] Since Rule 68 creates the added threat that the plaintiff will have to pay the defendant's costs at trial, the plaintiff is more likely to accept any given offer. Unfortunately, rather than making the same offers she would make in the absence of Rule 68, the defendant is likely to offer to pay less as a result of her improved bargaining power. Settlement is not promoted when both the maximum offer and the minimum demand decrease by similar amounts, thus, the existing Rule 68 is underused and ineffective in encouraging settlement.[52]

Jurists and policymakers have proposed changes in Rule 68 intended to strengthen the Rule and remove its one-sided contribution to the defendant's bargaining power. In 1984, 1985, and again in 1995, the federal Advisory Committee on Civil Rules considered "two-sided" versions of Rule 68 that would make it available to plaintiffs as well as defendants, and "fee-shifting" versions that would increase the sanction for refusing an offer that is not improved on at trial from court costs to court costs plus post-offer attorneys' fees.[53] William W Schwarzer proposed a similar revision that would also limit the total amount of attorneys' fees shifted as the result of Rule 68 to the amount by which the jury verdict was superior to the rejected offer.[54] Two-sided rules would eliminate the pro-defendant bias of the existing Rule 68, and the inclusion of a fee-shifting

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At any time more than 10 days before the trial begins, a party defending against a claim may serve upon the adverse party an offer to allow judgment to be taken against the defending party for the money or property or to the effect specified in the offer, with costs then accrued. If within 10 days after the service of the offer the adverse party serves written notice that the offer is accepted, either party may then file the offer and notice of acceptance together with proof of service thereof and thereupon the clerk shall enter judgment. An offer not accepted shall be deemed withdrawn and evidence thereof is not admissible except in a proceeding to determine costs. If the judgment finally obtained by the offeree is not more favorable than the offer, the offeree must pay the costs incurred after the making of the offer. The fact that an offer is made but not accepted does not preclude a subsequent offer. When the liability of one party to another has been determined by verdict or order or judgment, but the amount or extent of the liability remains to be determined by further proceedings, the party adjudged liable may make an offer of judgment, which shall have the same effect as an offer made before trial if it is served within reasonable time not less than 10 days prior to the commencement of hearings to determine the amount or extent of liability. F.R.C.P. 68.

[51] *Id.*

[52] *See* Anderson, *supra* note 3 at 226.

[53] For an overview of past Rule 68 controversies, *See* Thomas D. Rowe, Jr., & Neil Vidmar, *Empirical Research on Offers of Settlement: A Preliminary Report*, 51 L. & Contemp. Probs. 13, 14 (1988).

[54] Schwarzer W William, *Fee-Shifting Offers of Judgment--An Approach to Reducing the Cost of Litigation*, 76 Judicature 147 (1992).

consequence would bring more attention to the rule, but none of these revisions have been shown to close the cap between the offers and demands of litigants who would otherwise go to trial.[55] Further research is needed to determine whether Rule 68 can be modified to successfully encourage settlement.

D. Final Offers

The assumption that a party in litigation can dictate the end of bargaining with one final offer, the refusal of which will result in the parties going to trial, is common in modern law and economics literature.[56] Condition 4 stipulates that one party be able to extend such a take-it-or-leave-it offer. If a credible final offer can be made, assuming the parties are rational and seek to maximize the expected value of their net gain, the offeror will make an offer slightly superior to the offeree's expected outcome from trial. If they agree on the expected judgment, the offer might be to divide the resource as the court would and give an arbitrarily small portion, say one dollar, of the savings from avoiding trial to the offeree. (Effectively this means the offeree must give the offeror all but one dollar of the money that would go towards the offeree's attorney fee if they proceeded to trial.) Since bargaining cannot continue (by definition of the final offer), the offeree will select the settlement offer over the option to continue to trial for lesser gain.

Take-it-or-leave-it offers are not credible unless it is in the offeror's best interest to carry them out. After the rejection of any offer that would make the offeror better off than going to trial, further bargaining over settlement values between the rejected offer and the trial outcome would be beneficial to the offeror. For example, if both sides expect to receive 100 acres at trial, and Barclay rejects Annabelle's "final" offer to settle out of court for 100 acres plus all but a dollar of Barclay's avoided attorney's fees, Annabelle would prefer to accept any alternative cash transfer from Barclay, or even to transfer an amount up to the $30,000 she stands to save in attorney's fees to Barclay, rather than going to trial with the expectation of receiving 100 acres and paying $30,000. It is thus difficult to make a credible last offer, as well as undesirable from the standpoint of

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[55] *See* Anderson, Anderson and Rowe, Chung, Miller, and Rowe and Anderson, *supra* note 18.

[56] Recent examples include Lucian Bebchuk, *Suing Solely to Extract a Settlement Offer*, 17 J. Legal Stud. 437 (1988); and Kathryn Spier, *Pretrial Bargaining and the Design of Fee-Shifting Rules*, 25 Rand J. of Econ. 197 (1994).

fairness, because the offeror gains an inequitable portion of the bargaining rent.

The Sincerity Rule.[57] Although final offers could be made credible with the support of the legal system, in its simplest form, this remedy would convey a tremendous advantage to the party granted the right to make a legally enforced final offer. The Sincerity rule provides a more equitable, yet relatively simple solution based on a credible last offer. The Sincerity rule is so named for its ability to induce a "sincerely fair" offer. The rule provides incentives for equitable settlement offers despite bargaining inequities when at least one party is willing to settle for an amount near the opposing party's expectation for the judgment. Under the Sincerity rule, either party can make an offer. The offeree can either accept the offer, or reject it, in which case the parties proceed to trial with no further opportunity to bargain and the *offeror* will pay the *offeree's* reasonable post-offer fees.

The incentive to make an acceptable Sincerity offer comes from the desire to avoid submission to unreasonable offers from a well positioned opponent, or payment of the additional costs and fees associated with trial. If the offeror offers an amount slightly better than the offeree's expected judgment, the offeree (unless she has a disposition for taking chances) will accept it. If the offeror offers an amount inferior to the offerees expected judgment, the offeree can choose to proceed to trial at no additional cost, and the offeror must pay post-offer attorneys' fees for both sides. Acceptable offers are thus expected in the vicinity of the offeree's expected judgment.

The Sincerity rule could provide an equitable solution to unfair demands in the dispute between Barclay and Annabelle. Suppose that a judgment of 100 acres per person is expected by both parties, but there is disagreement over the division of the savings from avoiding trial. Knowing that Barclay has political aspirations and can hardly afford the negative media exposure associated with a trial, Annabelle is demanding that she receive $25,000 of Barclay's savings from avoiding trial in exchange for settlement. Rather than accepting Annabelle's demand as he would if the alternative were trial, Barclay could make a Sincerity offer of 100 acres per person plus one dollar (or any arbitrarily small amount of cash). This offer approximates the trial outcome with virtually none of the associated costs, and if Annabelle seeks to maximize her gain, she will accept it rather than expecting to receive 100 acres and no cash at trail. Since

[57]The Sincerity Rule was introduced in Anderson, *supra* note 3, and is supported by empirical results discussed in Anderson and Rowe, *supra* note 18.

Sincerity offers are optional, there would be no reason to make such an offer to a seemingly irrational or spiteful adversary. Sincerity offers could be used in a variety of situations to avoid trial, an inequitable settlement, or an equitable settlement after prolonged strategic bargaining.

The counter-intuitive fee payment *to* a party who refuses a Sincerity offer elicits offers at or near the expected trial judgment. With fees paid and no possibility for further bargaining, a party who refuses a Sincerity offer will expect to receive the anticipated trial judgment. Thus, Sincerity offers that exceed the expected judgment will be accepted by rational, non-risk-loving offerees, and those that fall below the expected judgment will be refused. This is true even when one party is in a superior bargaining position and would otherwise be able to exploit the disadvantaged party to reap unfair financial gains.

Final Offer Auctions.[58] When there are differing perspectives on the expected judgment or the division of the savings from settlement, an available if imperfect goal of policymakers is to promote a settlement that evenly divides the savings from trial and the difference between the two expectations for the judgment. The Final Offer Auction method succeeds in this task. This method allows the two parties to bid for the right to make the final offer, and the amount of the top bid is transferred to the party who receives the final offer. If the final offer is rejected, the parties must proceed to trial with no further bargaining, and each side is responsible for its own attorneys' fees.

Consider once more the example in which Annabelle and Barclay each expect to receive 100 acres and pay $30,000 and $40,000 respectively in additional attorneys' fees at trial. As explained above, given the right to make a single take-it-or-leave-it offer, each would offer to settle in exchange for 100 acres plus all but an arbitrarily small amount, say one dollar, of the fees avoided by settling. A final offer from Barclay to settle in exchange for an equal division of the acreage and $29,999 would be accepted by Annabelle because her alternative is to go to trial and receive 100 acres minus $30,000. (If the adversary has goals beyond profit maximization, the final offer might need to be sweetened somewhat to assure acceptance.) In a final offer auction with both sides expecting the same judgment, each side would be willing to bid up to one-half of the savings from trial to make the final offer to the other party. If Annabelle makes a winning bid of $34,999 and makes the acceptable

[58]The Final Offer Auction method was introduced in Anderson, *supra* note 3.

final offer to settle for an equal division of the land and $39,999 from Barclay, she will receive half of the land and $39,999 - $34,999 = $5,000 from Barclay in addition to saving $30,000 herself by avoiding trial, for a total cash savings of $35,000. In addition to his 100-acre share, Barclay would receive the $34,999 bid minus the $39,999 transfer to Annabelle, and save $40,000 by avoiding trial, for a net cash savings equivalent to Annabelle's of $35,000.

If Barclay tops Annabelle's last bid with a bid of $35,000, Annabelle would not bid more, because by accepting Barclay' subsequent demand for a 100-100 split of the land plus $29,999 (one dollar less than Annabelle's savings from avoiding trial) and receiving his $35,000 bid, Annabelle will receive $5,001 plus the $30,000 savings from avoiding trial. The inferior alternative is to bid $35,001 and receive $39,999 (the highest acceptable demand she can make of Barclay) minus her bid of $35,001 for a gain of $4,998 in addition to the $30,000 in savings from avoiding trial. Thus, if both parties act rationally to maximize their net land and cash gain, the outcome will be a division of the land as the court would and an equal division of the savings from avoiding trial. Similar reasoning can be used to demonstrate that Final Offer Auctions yield a division half-way between two parties' expected trial outcomes when their expectations are known to differ. As with all of the existing and proposed rules, settlement is hindered when the parties' expectations for trial are unknown or differ by more than the total savings from avoiding trial.[59]

V. SUMMARY

Given the life-sustaining importance of natural resources and the volume of associated disputes, it is incumbent upon the legal profession to seek and implement efficient solutions. Possible advancements include settlement-encouraging legal rules, improved methods of fair resource division, and a decrease in the uncertainty involved in judgments. Innovative dispute resolution techniques are available to be applied in the context of natural resources. The development and dissemination of improved bargaining tools will ease costly conflicts and resolve a larger number of claims fairly prior to trial.

Creative rules of fair division will permit subjective decisions, such as how to divide a tract with varying forest density

[59]Note that conditions 2, 3, and 4 described in Section III above are reliant on compatible expectations among the parties.

among several equally deserving parties, to be made out of court to the satisfaction of each party involved. Available-but-underutilized procedures for early neutral evaluation, summary jury trials, and settlement conferences can clarify for litigants their benefits from settlement and their relative bargaining strengths. And new offer-of-settlement devices including the Sincerity Rule and Final Offer Auctions stand to reduce opportunities for low-balling and intimidation that have previously led to unfair settlements. The implementation of settlement-facilitating practices as described in this article will foster fair and timely settlements and reduce the burden of litigation on all of those who benefit from natural resources—indeed, all of society.