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Broadcasting Video Online from 5000 Feet Underwater: A Proposal to Help Ensure an Archaeological Duty of Care for Historic Shipwrecks

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COMMENT

BROADCASTING VIDEO ONLINE FROM 5000 FEET UNDERWATER: A PROPOSAL TO HELP ENSURE AN ARCHAEOLOGICAL DUTY OF CARE FOR HISTORIC SHIPWRECKS

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I. INTRODUCTION

In the months following the 2010 British Petroleum ("BP") oil spill in the Gulf of Mexico, millions of Americans watched live video broadcast on the Internet of the spewing oil leak 5000 feet below the water's surface. The live video broadcast gave the public a way to observe the problem and even gave interested academics the ability to independently assess the spill rate. Technological advancements in robotics, satellite communications, and the Internet have allowed oil companies to push the boundaries of oil recovery in ocean areas once thought inaccessible. When tragedy struck, these same technological advancements allowed interested Americans to monitor the progress of capping the oil spill from their home computers.

The Remote Operated Vehicles ("ROVs") that filmed and capped the spill are highly sophisticated unmanned underwater robots.³ Using these ROVs and other technology that allow the effective search of vast swaths of ocean, well-organized business ventures have formed to recover valuable artifacts from sunken shipwrecks in deep waters.⁴ These "treasure salvors" use side-scan sonar to locate shipwrecks and

^{1.} Remote Operated Vehicles, BP, http://www.bp.com/sectiongenericarticle 800.do?categoryId=9036600&contentId=7067604 (last visited Dec. 20, 2012).

^{2.} Dr. Steven Werely, an associate professor of mechanical engineering, analyzed video of the BP oil spill using a technique called particle image velocimetry. Dr. Werely gauged the spill at 70,000 barrels a day, which is in stark contrast to the government's official estimate of 5,000 barrels a day. Richard Harris, Gulf Spill May Far Exceed Official Estimates, NAT'L PUB. RADIO (May 14, 2010), http://www.npr.org/templates/story/story.php?storyId=126809525.

^{3.} Remote Operated Vehicles, supra note 1. ROV's are controlled by humans on the surface and are not capable of autonomous activity. There is a tether connecting the ROV to the surface, which allows the "pilot" or "operator" to control the ROV and view video in real time. ROV 101, SEABOTIX, INC., http://www.seabotix.com/training_education/rov_101.htm (last visited Dec. 19, 2012).

^{4.} Cory T. Stuart, The Wake of Discovery—A Primer on Legal, Historical, and Practical Shipwreck Salvage Dynamics, 9 LOY. MAR. L.J. 45, 63 (2011).

Some of the most prevalent modern technologies that explorers now implement are side scan sonar devices and miniature, underwater submarines. Wide area sonar can allow an underwater archaeologist to explore vast stretches of the sea without focusing specifically on small, detailed plots. Such technology obviously provides for economies of scale and efficiencies in searching deep-sea bottoms. (footnote omitted).

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then use ROVs to recover valuable artifacts and sell them to the public.⁵

In contrast, nautical archaeologists have no profit motive, and specialize in the recovery of submerged cultural resources, which are primarily historic shipwrecks.⁶ The development of the self-contained underwater breathing apparatus ("SCUBA") allowed nautical archaeologists to recover shipwrecks with a level of precision on par with land-based archaeology.⁷ However, SCUBA also lowered the financial and technical barriers to working underwater, creating a "gold rush" of treasure salvors seeking to extract artifacts and sell them.⁸ The sale of artifacts from a shipwreck or any location of cultural heritage is antithetical to the tenets of archaeology, which require artifacts to be kept together in a collection for future study and public education.⁹ Further, the haphazard disbursement of artifacts by treasure salvors ruins the contextual data which nautical

Under the laws and policies of historic preservation, the artifacts, reports, studies, and underlying data must be kept together in a collection for research, education, and other public uses. The sale of publicly-owned archeological resources is specifically prohibited These legal prohibitions are consistent with the canons of professional ethics of archaeologists.

^{5.} Id. According to the website of UnderSea Recovery Corporation, treasure salvor's profits are generated from the sale and exhibition of artifacts. The sale of artifacts could be for bullion value or the higher artifact/numismatic value. UNDERSEA RECOVERY CORPORATION, http://www.unsr.com/emain.htm, (last visited Mar. 25, 2012).

^{6.} Sunken boats are the typical way large collections of artifacts end up on the seafloor, although there are some notable exceptions such as a town submerged by an earthquake. J. Barto Arnold III & Donny L. Hamilton, BENEATH THE SEVEN SEAS: ADVENTURES WITH THE INSTITUTE OF NAUTICAL ARCHAEOLOGY 164-67 (George Bass ed., 2006) (using the town of Port Royal, Jamaica as an example, where two thirds of the town was suddenly submerged on June 7, 1692 by an earthquake. Beginning in 1981 nautical archaeologists spent ten years excavating the underwater site.).

^{7.} GEORGE F. BASS, SHIPS AND SHIPWRECKS OF THE AMERICAS: A HISTORY BASED ON UNDERWATER ARCHAEOLOGY 255 (George F. Bass ed., 2d ed. 1996).

^{8.} See generally KIP WAGNER, PIECES OF EIGHT: RECOVERING THE RICHES OF A LOST SPANISH TREASURE FLEET, 172-73 (1st. ed. 1966).

^{9.} Ole Varmer, The Case Against the "Salvage" of the Cultural Heritage, 30 J. MAR. L. & COM. 279, 298 (1999)

archaeologists meticulously record.¹⁰ For example, the spatial relationship between the masts (the vertical poles which hold the sails) found on an ancient shipwreck in the Black Sea could reveal the type of sailing technology available in the past.¹¹ If nautical archaeologists determine the ship was advanced enough to sail upwind as opposed to just downwind,¹² it would reveal important information about ancient trade routes on the Black Sea.¹³

For nautical archaeologists, SCUBA's effectiveness is limited to shipwrecks in depths shallower than 150 feet.¹⁴ Due to the high costs

^{10.} D. K. Abbass, A Marine Archaeologist Looks at Treasure Salvage, 30 J. MAR. L. & COM. 261, 266 (1999) ("When artifacts are casually removed, the archaeological data associated with them are lost, and other data that might be retrieved from the site are destroyed.").

^{11.} Nautical archaeologists have recorded numerous wooden shipwrecks in the Black Sea that are extremely well preserved. Because the shipwrecks are so well preserved, more detailed study has the potential to reveal unique insight into ancient sailing technology. Phantoms of the Deep: Archaeologists Unearth a Graveyard of Ancient Shipwrecks in the Black Sea, THE UNIV. OF TEXAS, (Oct. 27, 2008), http://www.utexas.edu/features/2008/10/27/shipwrecks/ [hereinafter Phantoms of the Deep]. While no sailboat can travel directly into the direction from which the wind is blowing, a complicated interaction between sails and a boat's underwater hull design will allow a sailboat to travel, at up to a fifty degree angle, towards the direction from which the wind is blowing. CARL CHASE, AN INTRODUCTION TO NAUTICAL SCIENCE 58 (W.W. Norton & Co., Inc., 1st ed. 1991).

^{12.} CHASE, supra note 11.

^{13.} Phantoms of the Deep, supra note 11.

^{14.} See BASS, supra note 7, at 255. Although SCUBA allows divers to work deeper than 150 feet (130 feet is the general recreational diving limit), a couple of factors make archaeological work at greater depths unpractical. INTERNATIONAL PADI INC., PADI: ADVENTURES IN DIVING 55-56 (Drew Richardson et. al. eds., 1st ed. 1991). A diver's air consumption increases at deeper depths so a tank of air lasts for a shorter period. Id. Dives to depths greater than 130 feet require a diver to spend time "decompressing" by spending additional time slowly ascending because the human body needs to vent the large amounts of nitrogen accumulated in the bloodstream by breathing compressed air at depth. Id. The need to spend time decompressing on each dive can be overcome with a technique called "saturation diving," which allows divers to work hundreds of feet deeper than the usual depth limits. DONALD A. FREY, BENEATH THE SEVEN SEAS: ADVENTURES WITH THE INSTITUTE OF NAUTICAL ARCHAEOLOGY 80 (George Bass ed., 2006). Nautical archaeologists have used this technique but it is expensive and requires sophisticated technical support. Id. at 80-81.

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of the equipment necessary to work in deeper waters, ¹⁵ nautical archaeologists have never completely recovered a deep-water shipwreck. ¹⁶ Only treasure salvors have the financing and the ability to find and recover deep-water shipwrecks. ¹⁷

This Comment focuses on the dilemma created by deep-water historic shipwrecks. These shipwrecks are often beyond the territorial limits of any one nation, yet the disputes are routinely adjudicated in the federal courts. This Comment is sympathetic to the archaeological community's viewpoint that only trained nautical archaeologists should recover shipwrecks because archaeologists will yield more valuable information about human culture and will benefit the public more than treasure salvors. However, practical, legal, and financial reasons dictate that treasure salvors will be the first ones to find and recover artifacts from deep-water historic shipwrecks.

On a positive note, some U.S. courts have "imposed" archaeological standards, or an archaeological duty of care ("ADC"), on treasure salvors.¹⁹ The ADC requires treasure salvors to collect archaeological data during the recovery of a historic shipwreck.²⁰ The treasure salvors' implementation of an ADC becomes one of the factors in determining the size of the salvage award.²¹ The ADC is a

^{15.} For the purposes of this Comment, "deep water" refers to any depths deeper than 150 feet and beyond the general capabilities of SCUBA. See BASS, supra note 7, at 255.

^{16.} Nautical Archaeologists have used ROVs to record deep water shipwrecks and collect some artifacts, but it still remains to be determined if ROVs can be used to conduct a full excavation on par with the standards of a SCUBA assisted excavation in depths of less than 150 feet. ROBERT D. BALLARD & CHERYL WARD, BENEATH THE SEVEN SEAS: ADVENTURES WITH THE INSTITUTE OF NAUTICAL ARCHAEOLOGY 126-27 (George Bass ed., 2006).

^{17.} Bass, supra note 7, at 255.

^{18.} See Abass, supra note 10.

^{19.} See Marex Int'l, Inc. v. Unidentified, Wrecked & Abandoned Vessel, 952 F. Supp. 825, 829 (S.D. Ga. 1997).

^{20.} Id.

^{21.} Cobb Coin Co., Inc. v. Unidentified, Wrecked & Abandoned Sailing Vessel, 549 F. Supp. 540, 559 (S.D. Fla. 1982) ("This Court now holds that in order to state a claim for salvage award on an ancient vessel of historical and archeological significance, it is an essential element that the salvors document to the Admiralty Court's satisfaction that it has preserved the archeological provenance of a shipwreck.").

proper step towards ensuring some archaeological data is properly recorded. Admiralty law is malleable, and it can adapt to new circumstances.²² However, an admiralty court cannot easily judge whether a treasure salvor is appropriately applying an ADC.²³ Nautical archaeologists' strong reluctance to cooperate with treasure salvors compounds this problem.²⁴

This Comment proposes a creative solution to enforce and encourage treasure salvors to employ an ADC. Courts should encourage treasure salvors to broadcast video of their historic shipwreck recoveries online. Similar to the live video broadcast of the BP oil spill, this live broadcast will allow an interested public to view the recovery of historic shipwrecks. More importantly, it will give interested academics the ability to independently verify the treasure salvors' application of an ADC.²⁵ Additionally, by making video broadcasts part of determining an ADC, courts might help shift treasure salvors' focus from selling artifacts to alternative ways to profit from a shipwreck. This will encourage documentary sales and tourism, instead of relying on the sale of artifacts, which make

^{22.} See David J. Bederman, Historic Salvage and the Law of the Sea, 30 U. MIAMI INTER-AM. L. REV. 99, 104-05 (1998).

^{23.} The admiralty court is reliant on the treasure salvor to provide the proof of applying the ADC and there is no apparent mechanism to independently verify the information provided. Christopher R. Bryant, *The Archaeological Duty of Care: The Legal, Professional, and Cultural Struggle over Salvaging Historic Shipwrecks*, 65 ALB. L. REV. 97, 139 (2001).

^{24.} Abbass, *supra* note 10, at 265 ("To my knowledge, the most damaging mistake an archaeologist can make is to be involved with dreaded treasure hunters who savage sites for profit. This admittedly incendiary language represents the reality of the archaeological attitude."). Treasure salvors do seek to hire marine archaeologists. *Careers*, ODYSSEY MARINE EXPLORATIONS, http://www.shipwreck.net/careers.php (last visited Dec. 19, 2012). The controversial nature of a marine archaeologist working for a treasure salvor is indicated by a disclaimer on the job posting for a marine archaeologists on Odyssey's website, "[p]lease note that all resume and CV submissions are kept confidential." *Id.* This disclaimer does not appear on the other listed non-archaeological job openings. *Id.*

^{25.} This Comment acknowledges that the video broadcast of a shipwreck recovery is more dynamic and complicated than the broadcast of the BP oil leak, which remained in a static location and had good visibility. For a discussion on the financial and technological viability of a shipwreck video broadcast, see infra Part III.A.

archaeological research and public viewing of artifacts difficult or impossible.

Section II describes the law applicable to treasure salvors, and why imposing an ADC on treasure salvors is a realistic solution to the need to preserve archaeological data. Section III describes the archaeological duty of care and the differences between treasure salvors and nautical archaeologists. Finally, section IV explains why video broadcasting will help enforce an ADC and is in the interests of all parties involved in the controversy over historic shipwrecks.

II. FEDERAL COURTS DECIDE THE FATE OF HISTORIC SHIPWRECKS

Mel Fisher, a well known treasure salvor, famously discovered the remains of a shipwreck believed to be the *Nuestra Senora de Atocha*, (hereafter "*Atocha*") a 17th century Spanish galleon heavily laden with gold and silver, which sank during a hurricane off the Florida Keys. To Mel Fisher this shipwreck was a find of immense financial value, due to the large amount of artifacts recovered and his success in the federal courts. In a landmark case, *Treasure Salvors v. The Unidentified Wrecked and Abandoned Shipwreck*, the Fifth Circuit ruled in favor of Treasure Salvors, Inc., Fisher's company, after the federal government unsuccessfully attempted to claim ownership of the *Atocha*. The case has had a lasting impact on the fate of historic shipwrecks by giving strong support to the argument that absent an applicable preservation law, the law of finds or salvage will apply. The case has had a lasting or salvage will apply.

^{26.} Treasure Salvors, Inc. v. Unidentified Wrecked & Abandoned Sailing Vessel, 569 F.2d 330, 333 (5th Cir. 1978). *See also* GARY KINDER, SHIP OF GOLD: IN THE DEEP BLUE SEA 102-03 (Atlantic Monthly, 1st ed. 1998).

^{27.} See Treasure Salvors, Inc., 569 F.2d at 333 (over six million in gold, silver, artifacts, and armament was recovered).

^{28.} Id. at 343.

^{29.} If a shipwrecks is within three miles of a state's coastline there are applicable state laws; a similar suit filed today in Florida state court would apply the Abandoned Shipwrecks Act. See infra note 37.

^{30.} Caroline M. Zander & Ole Varmer, Closing the Gaps in Domestic and International Law: Achieving Comprehensive Protection of Submerged Cultural Resources, COMMON GROUND, Winter 1996.

A. Jurisdiction and Federal Courts

Federal courts have the power to adjudicate shipwreck claims because 28 U.S.C. §1333 gives them broad jurisdiction over all maritime and admiralty issues.³¹ Even claims for shipwrecks located in international waters, beyond the territorial limits of the United States,³² are within the admiralty jurisdiction of the federal courts.³³ For example, the first salvor of the famed sunken liner *Titanic*, located in international waters, was granted salvage rights by a federal district court in Virginia.³⁴ Federal jurisdiction over shipwreck claims stems from federal jurisdiction over marine salvage in which, traditionally, a salvage company seeks to recover cargo from a recently sunken vessel.³⁵ The advent of technologies like SCUBA has created a growth in claims over long lost shipwrecks, which are not typical salvage claims; in particular historic shipwrecks laden with valuable artifacts like the *Atocha* have become lightning rods for litigation.³⁶

1. The Limited Role of State Courts

A variety of factors converge to make the federal courts the most likely forum for deep-water historic shipwreck claims. Treasure salvors are unlikely to choose state courts because the Abandoned Shipwrecks Act ("ASA") passed by Congress in 1987 effectively

^{31. 28} U.S.C. § 1333 (2011) ("The district courts shall have original jurisdiction, exclusive of the courts of the States, of: (1) Any civil case of admiralty or maritime jurisdiction, saving to suitors in all cases all other remedies to which they are otherwise entitled....").

^{32.} The territorial sea of the United States extends to twelve nautical miles from shore. See Proc. No. 5928 (Dec. 27, 1988), reprinted in 43 U.S.C. § 1331 (2011).

^{33.} See R.M.S. Titanic, Inc. v. Haver, 171 F.3d 943, 961 (4th Cir. 1999) ("[M]aritime causes arising from matters on the high seas anywhere in the world have traditionally been brought to courts of admiralty....").

^{34.} A district court gave the plaintiff salvage rights after they brought artifacts recovered from the shipwreck into court. R.M.S. Titanic, Inc. v. Wrecked & Abandoned Vessel, 920 F. Supp. 96, 97 (E.D. Va. 1996).

^{35.} See Martha's Vineyard Scuba Headquarters, Inc. v. Unidentified, Wrecked & Abandoned Steam Vessel, 833 F.2d 1059, 1064 (1st Cir. 1987).

^{36.} Craig Forrest, Historic Wreck Salvage: An International Perspective, 33 Tul. Mar. L.J. 347, 359-60 (2009).

gives states possession of any abandoned shipwreck within the state's submerged lands, which is generally three geographic miles seaward from a state's coastline.³⁷ This has the effect of costing a treasure salvor their claim to a shipwreck and the recovered artifacts located less than three miles from a state's coastline if a suit is brought in a state court. All artifacts recovered within three miles of a state's coastline would belong to the state. In contrast, a federal court would not apply the ASA to historic shipwreck claims located within three miles of a state's shore.³⁸ And finally, if the shipwreck lies beyond the three-mile limit, federal maritime law applies exclusively, and the salvor will have to present their claim in federal court.³⁹

2. Foreign Courts and Historic Shipwrecks

Treasure salvors are unlikely to use foreign courts.⁴⁰ Concerned with the need to preserve archaeological data and prevent the sale of artifacts, foreign courts are unlikely to apply the law of salvage or finds to shipwrecks. Many foreign nations find salvage law inapplicable to historic shipwrecks.⁴¹ For example, a court in Ireland refused to apply salvage law to the shipwrecks of Spanish galleons, holding that commercial maritime law did not govern these shipwrecks.⁴² Nations such as France and Australia have specific domestic laws, which exclude the application of the law of salvage or

^{37. 43} U.S.C. §§ 2101-2106 (2011); 43 U.S.C. § 1301(a)(2). See Timothy T. Stevens, *The Abandoned Shipwreck Act of 1987: Finding the Proper Ballast for the States*, 37 VILL. L. REV. 573, 598 (1992) for a discussion on the difficulty of interpreting the terms of the ASA.

^{38.} See California v. Deep Sea Research, Inc., 523 U.S. 491 (2010). Interestingly, the Supreme Court recently held that despite the ASA, a federal court can still have jurisdiction over a shipwreck that is within three miles of a state's coastline. Id. at 497, 507 ("Based on longstanding precedent respecting the federal courts' assumption of in rem admiralty jurisdiction over vessels that are not in the possession of a sovereign, we conclude that the Eleventh Amendment does not bar federal jurisdiction. . . .").

^{39.} Cory T. Stuart, The Wake of Discovery-A Primer on Legal, Historical, and Practical Shipwreck Salvage Dynamics, 9 LOY. MAR. L.J. 45, 51 (2011).

^{40.} See generally Forrest, supra note 36, at 365-66.

^{41.} Id.

^{42.} Id. at 364-65.

finds to historic shipwrecks.⁴³ Many more nations adhere to a convention adopted in 2001 by the United Nations Educational, Scientific, and Cultural Organisation (UNESCO), which "[e]xplicitly excludes the commercialization of historic shipwreck recovery."⁴⁴ Eighty-one nations voted to adopt the convention; however the U.S. abstained from voting.⁴⁵ Given the overwhelming support for the convention, there is a widespread international trend towards banning the commercialization of historic shipwrecks.

3. The Federal Courts and Historic Shipwrecks

Despite international trends, federal courts continue to apply the law of salvage and finds to historic shipwrecks. The approach of the federal courts is at odds with the international nature of admiralty and maritime law, which seeks to resolve conflicts among nations. Tommentators dispute whether the federal courts application of the law of salvage and the law of finds to historic shipwrecks is grounded in tradition, or whether it is instead a unique interpretation. Regardless, federal courts decisions have a direct impact on the fates of historic shipwrecks. The manner in which federal district courts choose to implement an ADC is important because salvage companies are most likely to use these courts. Salvage companies prefer to litigate their claims in federal courts because this forum is more favorable to their interests. The same claim brought in state court or

^{43.} Id. at 365. See also, Guido Carducci, New Developments in the Law of the Sea: The Unesco Convention on the Protection of Underwater Cultural Heritage, 96 Am. J. INT'L L. 419, 425 (2002).

^{44.} Forrest, supra note 36, at 373.

^{45.} See id. at 372 n.163.

^{46.} James A.R. Nafziger, The Evolving Role of Admiralty Courts in Litigation Related to Historic Wreck, 44 HARV. INT'L L.J. 251, 261 (2003).

^{47.} See generally Lauritzen v. Larsen, 345 U.S. 571, 582 (1953) (discussing how international and maritime law seeks to resolve conflicts among competing nations by considering reciprocity and the long range interests shared among nations).

^{48.} Forrest, *supra* note 36, at 359 ("Respectfully, I submit that developments in other states, in international fora and conventions, and indeed, in U.S. legislation and treasure salvage litigation, suggest that the specific rules applicable to historic wreck...do not reflect any 'common law developed from the consent of all nations.").

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foreign court would likely leave a treasure salvor with no claim to any artifacts. The fates of historic shipwrecks, and the public's access to the knowledge these shipwrecks contain, hinges on the decisions of federal courts.⁴⁹ The potential additional burden of a video broadcast is unlikely to drive treasure salvors away from federal courts for the simple reason that no alternative court offers such favorable terms for treasure salvors.

Federal court's well-known amenability for applying salvage law to historic shipwrecks has recently lead to a novel compromise between a treasure salvor and a foreign government. Odyssey Marine Explorations ("Odyssey"), a treasure salvor, discovered a 17th century shipwreck of a British warship in international waters. The British government likely realized that if Odyssey brought suit in a U.S. federal court, the law of salvage would apply and allow Odyssey to keep most of the artifacts. Instead, the British government entered into a controversial salvage agreement with Odyssey, which allowed the company to recover the wreck and give the British government a percentage of the proceeds and some control over culturally significant artifacts. The archaeological community was outraged by this capitulation; however, this agreement likely gave

^{49.} Id. at 379.

^{50.} Id. at 351.

^{51.} Sean Kingsley, Into the Abyss: Deep Sea Shipwrecks, Science & Scandal, CURRENT WORLD ARCHAEOLOGY 33-34 (Feb./Mar. 2009). See also, Odyssey Marine Exploration, HMS Sussex—Project Overview, http://www.shipwreck.net/hmssussex.php (last visited Dec. 19, 2012).

^{52.} In a comparable situation a district court awarded a treasure salvor ninety percent of the value of the recovered artifacts and the decision was upheld on appeal. Columbus-Am. Discovery Group v. Atl. Mut. Ins. Co., 56 F.3d 556, 562 (4th Cir. 1995).

^{53.} Under the agreement Odyssey gets between fifty and eighty percent of the value of the artifacts, and the British government retains control over the artifacts. Jeremy Neil, Comment, Sifting Through the Wreckage: An Analysis and Proposed Resolution Concerning the Disposition of Historic Shipwrecks Located in International Waters, 55 N.Y.L. SCH. L. REV. 895, 918 (2011). The agreement also preempts the need for costly litigation and potential uncertainties about salvage rights. Id.

^{54.} Archaeologists called the project "gold fever" and derided the commercial exploitation of the underwater cultural heritage. Sean Kingsley, *supra* note 51, at 33-34.

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the British more control over the artifacts than if Odyssey sought recourse in U.S. the federal courts.⁵⁵

B. Law of Salvage or Law of Finds

When treasure salvors bring a claim in federal court concerning a historic shipwreck, the federal courts generally apply the law of salvage rather than the law of finds.⁵⁶ These principles are part of international maritime law and U.S. courts have long heard salvage claims concerning foreign vessels.⁵⁷ The law of salvage gives the salvor a percentage of what is recovered from the shipwreck.⁵⁸ The law of finds gives the treasure salvor title and full ownership of all recovered artifacts.⁵⁹

The law of finds is unlikely to be applied to historic shipwrecks because courts assume that "when property is lost at sea, title remains with the true owner, regardless of how much time has passed." However, salvors ideally want the law of finds to apply because it allows them to become the sole possessor. In the context of a sunken vessel this can occur in two ways. First, the owner of a sunken vessel can affirmatively disclaim his property in a public forum. Second,

^{55.} See generally Neil, supra note 53. But see Odyssey Marine Exploration, Inc. v. Unidentified Shipwrecked Vessel, 657 F.3d 1159, 1183 (11th Cir. 2011) which throws the future of these agreements in doubt if the historic shipwreck was a military vessel because the foreign government might be able to retain ownership of all recovered artifacts. Odyssey was forced to return to the Spanish Government millions of dollars worth of artifacts, which had been recovered from the shipwreck of the Mercedes, a Spanish military vessel that sank in 1804. Id. at 1173, 1183.

^{56.} Columbus-Am. Discovery Group v. Atl. Mut. Ins. Co., 974 F.2d 450, 464 (4th Cir. 1992) ("[W]hen sunken ships or their cargo are rescued from the bottom of the ocean by those other than the owners, courts favor applying the law of salvage over the law of finds.")

^{57.} Treasure Salvors, Inc. v. Unidentified Wrecked & Abandoned Sailing Vessel, 640 F.2d 560, 567 (5th Cir. 1981) ("United States courts have long adjudicated salvage claims involving foreign vessels.").

^{58.} Adams v. Unione Mediterranea Di Sicurta, 220 F.3d 659, 671 (5th Cir. 2000).

^{59.} *Id*

^{60.} R.M.S. Titanic, Inc. v. The Wrecked & Abandoned Vessel, 435 F.3d 521, 532 (4th Cir. 2006).

^{61.} Columbus-Am. Discovery Group, 974 F.2d at 461.

after a discovery is made, abandonment is inferred because no party comes forward to claim ownership in court.⁶² This can apply to very old historic shipwrecks because the owners have long ago perished.⁶³ Despite treasure salvors' best efforts the law of salvage is typically applied to historic shipwrecks.⁶⁴

The law of salvage has been applied by courts to historic shipwrecks, even though the traditional purpose of the law of salvage is to encourage the contemporaneous recovery of wrecked, sunken or disabled vessels and their cargo. One commentator explains that courts have applied salvage law to the recovery of culturally significant historic shipwrecks because, "[t]he advent of major treasure salvage is so recent that there simply is no applicable custom... that addresses the unique phenomenon of underwater cultural heritage in any coherent way."

Under the law of salvage the salvor does not acquire an ownership interest. Instead, the salvor is entitled to an award by the owner.⁶⁷ In the context of a typical salvage claim this would mean an award for the recovery of cargo or the ship itself.⁶⁸ As applied to the salvage of

^{62.} Id.

^{63.} Even very old shipwrecks can still have people who claim an ownership interest. The descendants of the South American owners of treasure lost on the Mercedes, which sunk in 1804, recently made a claim of ownership after the treasure was recovered by an American treasure salvor. Adam Linhardt, Lawyer Loses Treasure Lawsuit, The CITIZEN, Sept. 25, 2011, http://keysnews.com/node/34758. See Neil, supra note 53.

^{64.} Columbus-Am. Discovery Group, 974 F.2d at 467-68 (applying the law of salvage to a historic shipwreck because the court was hesitant to infer that the insurer abandoned its interest in the onboard gold).

^{65.} R.M.S. Titanic, Inc., 435 F.3d at 535 ("[W]e are mindful that the salvage law traditionally does not have as its object the recovery of historical wrecks for historical, archeological, and cultural purposes. The ancient salvage law that has continued to this day was applied to protect the property and lives relating to ships in distress.")

^{66.} Nafziger, supra note 46, at 261.

^{67.} R.M.S. Titanic, Inc. v. Haver, 171 F.3d 943, 963 (4th Cir. 1999).

^{68.} A recent claim under salvage law seeks a reward for the safe return of an America's Cup racing sailboat which drifted free and unmanned into the San Francisco Bay after the sailboat snapped its mooring lines. C.W. Nevius, French boat's rescuer seeks \$200K award, S.F. CHRON., Oct. 10, 2012, http://www.sfgate.com/bayarea/nevius/article/French-boat-s-rescuer-seeks-200K-award-3934214.php.

a historic shipwreck this means the treasure salvor will get a percentage of the proceeds from the items recovered and sold, or in the case of the *Titanic*, proceeds from the exhibitions of the artifacts and documentaries.⁶⁹

To earn a salvage award, "a salvor must [initially] prove three elements: (1) a marine peril; (2) voluntary service rendered when not required as an existing duty or from a special contract; and (3) success in whole or in part, or contribution to, the success of the operation." If the treasure salvor meets these elements, the law of salvage still allows courts to retain a degree of control over the salvor because the amount of the salvage award (i.e., the percentage received) is determined by the salvor's conduct during the ensuing recovery. From the perspective of preserving archaeological data, this provides an incentive for the salvor to comply with any ADC imposed by the court.

Traditionally, the court conducts an analysis involving only six factors to determine the size of the salvage award:

(1) The labor expended by the salvors in rendering the salvage service. (2) The promptitude, skill, and energy displayed in rendering the service and saving the property. (3) The value of the property employed by the salvors in rendering the service, and the danger to which such property was exposed. (4) The risk incurred by the salvors in securing the property from the impending peril. (5) The value of the property saved. (6) The degree of danger from which the property was rescued.⁷²

The imposition of the ADC creates a seventh factor.⁷³ By comparison to the other six traditional factors, there is far less case law clarifying

^{69.} See Brendan I. Koerner, The Race for Riches, U.S. NEWS & WORLD REPORT, Sept. 26, 1999, http://www.usnews.com/usnews/culture/articles/991004/archive_002013.htm.

^{70.} Smith v. The Abandoned Vessel, 610 F. Supp. 2d 739, 756 (S.D. Tex. 2009).

^{71.} Columbus-Am. Discovery Group v. Atl. Mut. Ins. Co., 974 F.2d 450, 468 (4th Cir. 1992).

^{72.} Id. (citing The Blackwall, 77 U.S. (10 Wall) 1, 13-14, (1869).

^{73.} *Id.* ("We thoroughly agree with all six and, in cases such as this, would add another: the degree to which the salvors have worked to protect the historical and archeological value of the wreck and items salved.").

the ADC factor, although one commenter has stated that the ADC factors represent "a reasonable solution to the conflict over salvaging historic shipwrecks."⁷⁴

III. THE ARCHAEOLOGICAL DUTY OF CARE: AN IDEAL SOLUTION?

The federal district courts, despite applying the law of salvage, have shown sensitivity to the need to record archaeological data and properly excavate historic shipwrecks.⁷⁵ Only one court has explicitly used the term ADC, but other courts have made similar requirements for preserving archaeological data.⁷⁶ Incorporating an ADC into salvage law is a positive development for historic shipwrecks because it gives treasure salvors a strong financial incentive to use some archaeological standards. The treasure salvor would be incentivized to adopt an online video broadcast because this could directly aid them in receiving a larger salvage award. This factor is also amenable to new requirements like video broadcasting⁷⁷ and fits within the federal courts power to develop admiralty law.⁷⁸

Although the ADC is a step forward, it has many shortcomings. Courts lack an independent means of determining whether treasure salvors properly upheld an ADC.⁷⁹ Additionally, it does not appease

^{74.} Christopher R. Bryant, The Archaeological Duty of Care: The Legal, Professional, and Cultural Struggle over Salvaging Historic Shipwrecks, 65 ALB. L. REV. 97, 145 (2001).

^{75.} Cobb Coin Co., Inc. v. Unidentified, Wrecked & Abandoned Sailing Vessel, 525 F. Supp. 186, 208 (S.D. Fla. 1981) ("[T]here can be no suggestion that federal admiralty procedures sanction salvaging methods which fail to safeguard items and the invaluable archeological information associated with the artifacts salved.").

^{76.} Marex Int'l, Inc. v. Unidentified, Wrecked & Abandoned Vessel, 952 F. Supp. 825, 829 (S.D. Ga. 1997) ("Because the vessel is an historic shipwreck, the archaeological duty of care requires that the finder or salvor document to the court's satisfaction the shipwreck's archaeological 'provenance data."").

^{77.} Columbus-Am. Discovery Group v. Atl. Mut. Ins. Co., 56 F.3d 556, 573 (4th Cir. 1995) (recorded video was introduced as evidence by a treasure salvor to demonstrate the careful handling and preservation of artifacts).

^{78.} See R.M.S. Titanic, Inc. v. Haver, 171 F.3d 943, 960 (4th Cir.), cert. denied, 528 U.S. 825 (1999) (holding the Constitution authorizes federal courts to continue the development of admiralty law).

^{79.} See Bryant, supra note 23.

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the archaeological community, nor does it provide a compromise that will encourage nautical archaeologists to participate in a recovery.

A. The Controversy

A historic shipwreck is generally one that is over 100 years old.⁸⁰ According to nautical archaeologists, the remains of a historic shipwreck, like the *Atocha*, are a site of "underwater cultural heritage" or a "submerged cultural resource." The terms encompass historic shipwrecks and their artifacts⁸³ submerged underwater that are in the public's interest to be properly excavated.⁸⁴ In contrast, from the practical and economic viewpoint of a treasure salvor (even one sensitive to the need to collect archaeological data) a historic shipwreck is a repository of artifacts that will be sold for a profit.⁸⁵

1. Academic Opposition to Treasure Salvage

Nautical archaeologists oppose the work of treasure salvors like Mel Fisher or Odyssey, for two reasons. First, the sale of artifacts splits up the collection of recovered artifacts. Treasure salvors sell recovered artifacts to the public as a way to pay for the excavation and provide a profit to the venture's investors. Nautical archaeologists want the artifacts to remain together to allow for study and public viewing. Secondly, nautical archaeologists are interested in the data

^{80.} Nafziger, supra note 52, at 252.

^{1.} *Id*

^{82.} See Zander & Varmer, supra note 30.

^{83.} The term "artifact" can be used to label a variety of objects ranging from a gold coin to a cannonball. Cobb Coin Co., Inc. v. Unidentified, Wrecked & Abandoned Sailing Vessel, 549 F. Supp. 540, 546 n.2 (S.D. Fla. 1982).

^{84.} See Zander & Varmer supra note 30.

^{85.} Odyssey's "Corporate Overview" for investors on its webpage establishes the financial viability of the company by giving a detailed explanation of the amount of valuable coins recovered from past historic shipwrecks. *Corporate Overview*, OCEAN ODYSSEY MARINE, http://www.shipwreck.net/corporateoverview.php (last visited Dec. 19, 2012).

^{86.} For an analysis on the finances of treasures salvors see *infra* notes 136-137.

^{87.} Abbass, *supra* note 10, at 262.

collected during an excavation,⁸⁸ and not merely artifacts to display in museums. Nautical archaeologists strongly object to the removal of artifacts from "[t]heir context, thereby making them relatively useless for scientific study."⁸⁹ Nautical archaeologists meticulously excavate historic shipwrecks because they record data concerning the artifacts and the remains of the ship itself. This "provenance" data is collected "by mapping or recording the location, depth and proximity of each artifact recovered in relation to other artifacts."⁹⁰ The provenance data is useful because it allows archaeologists to reconstruct the ship itself or even determine the cause of sinking.⁹¹

A proper excavation of a shipwreck by nautical archaeologists can take years of diving. Further, the time spent actually diving and excavating is small compared to the time spent studying and preserving the recovered artifacts and ship remains. The process of excavation and study is inherently time consuming and expensive, even on wrecks in shallow waters that are accessible by conventional SCUBA equipment. Although the technology to work thousands of feet below the surface is attainable by treasure salvors, nautical archaeologists will not likely have the funding to recover a deep-water shipwreck. 94

^{88.} Terence P. McQuown, An Archaeological Argument for the Inapplicability of Admiralty Law in the Disposition of Historic Shipwrecks, 26 WM. MITCHELL L. REV. 289, 325 (2000).

^{89.} Id.

^{90.} Marex Int'l, Inc. v. Unidentified, Wrecked & Abandoned Vessel, 952 F. Supp. 825, 829 (S.D. Ga. 1997).

^{91.} For example, the provenance data collected from a 16th century shipwreck of a European whaling vessel allowed nautical archaeologists to determine the ship dimensions and cargo capacity which shed light on early transatlantic commerce. BASS, *supra* note 7, at 76.

^{92.} The conservation management plan for CSS Hunley, a sunken civil war era submarine, outlines the typical multi-year process. RICHARD BAK, THE CSS HUNLEY: THE GREATEST UNDERSEA ADVENTURE OF THE CIVIL WAR 185 (Taylor Publ'g Co., 1999.) Eighteen months were allotted for an initial archaeological assessment by divers. *Id.* This plan also foresaw a three to ten year period of conservation in a laboratory to preserve the forty-foot vessel after it was recovered. *Id.*

^{93.} BASS, supra note 7, at 259.

^{94.} See Bederman, supra note 22, at 102; BASS, supra note 7, at 258.

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2. Historic Shipwrecks: A Dwindling Resource

Historic shipwrecks are a finite resource, and the ones close to shore in shallow water, like the gold laden Atocha, have already been found.⁹⁵ This has pushed the hunt for historic shipwrecks into deep water beyond the reaches of any nation's territorial boundaries. 96 This Comment's proposal, to have treasure salvors adopt something already used by the oil industry, is not unprecedented. The treasure salvage business is already taking a page from the oil industry playbook.⁹⁷ Like oil companies that now extract oil from tar sands in the Canadian wilderness instead of the once gushing wells in Texas. treasure salvors now work thousands of feet below the surface instead of plucking gold coins by hand in warm tropical waters.⁹⁸ The same statistical model used by petroleum engineers to determine how much oil remains in the ground has been applied to historic shipwrecks.⁹⁹ A study examining the known shipwrecks off the coasts of Florida and England, and along Eurasian trade routes determined that more than half of all these shipwrecks had already been found. 100

The debate over how historic shipwrecks are recovered is especially poignant given that they are a dwindling resource and an excavation for "treasure" only could ruin the chance to collect provenance data. Only a finite number of historic shipwrecks remain on the ocean's bottom and the information recovered from historic shipwrecks is intrinsically valuable to our collective understanding of human history. Nautical archaeologists will extract more data and

^{95.} Heather Pringle, *Insider: Profiteers on the High Seas*, ARCHAEOLOGY, (July/Aug. 2007), http://www.archaeology.org/0707/etc/insider.html (explaining that treasure salvors are now looking for deep water shipwrecks since the ones in shallow water close to shore have already been found).

^{96.} Id. A nation's boundaries extend only minimally into oceans bordering their coastline. See 43 U.S.C. § 1331 (2011).

^{97.} Pringle, *supra* note 95 ("It's a situation . . . that parallels the excesses of the oil industry. Just as in oil prospecting, once you have found all the easy-to-reach fields, you have to spend a lot more money to find the difficult, hard-to-work ones.").

^{98.} Id.

^{99.} Id.

^{100.} *Id*.

knowledge from a historic shipwreck than treasure salvors. 101 Nautical archaeologists can spend years recovering a single shipwreck, writing numerous books and scholarly papers on the data. 102 By comparison, treasure salvors will spend far less time recovering a shipwreck and contribute little to academic discourse. 103 Worse than the lack of contribution to human knowledge is the destruction of the shipwrecks caused by treasure salvors. Destructive practices, like blasting a shipwreck with the wash of a propeller 104 or indiscriminate digging, can ruin the provenance data, which is so valuable to the pursuit of knowledge. 105 However, treasure salvors are more likely to recover deep-water historic shipwrecks, because they can better afford the immense cost involved in finding and excavating shipwrecks in deep water far from shore. 106 An ADC imposed on a treasure salvor is not a perfect solution, but using video broadcasts to enforce an ADC will hopefully encourage a more detailed and larger collection of provenance data from the ever-shrinking pool of historic shipwrecks.

^{101.} Id.

^{102.} For example, since 1991 nautical archaeologists have been excavating a 17th century shipwreck off the coast of the Dominican Republic which contains thousands of clay tobacco pipes bound for trade with the New World. Jerome Lynn Hall, A Tobacconist's Dream; The Pipe Wreck, Monte Cristi, Dominican Republic in, BENEATH THE SEVEN SEAS: ADVENTURES WITH THE INSTITUTE OF NAUTICAL ARCHAEOLOGY 152-55 (George Bass ed., 2006). Multiple books and graduate theses have been written about the shipwreck and what the shipwreck reveals about 17th century merchant vessels. Id. at 248.

^{103.} Although Odyssey has twenty-four "Archaeological Papers" on its website, they are unpublished, not peer reviewed, and generally only provide summaries of the excavations of numerous shipwrecks. Archaeological Papers, OCEAN ODYSSEY MARINE, http://shipwreck.net/featuresarchpapers.php (last visited Dec. 19, 2012). Cf. Donny L. Hamilton, BENEATH THE SEVEN SEAS: ADVENTURES WITH THE INSTITUTE OF NAUTICAL ARCHAEOLOGY 248 (George Bass ed., 2006) (listing at least seven books and scholarly articles written by nautical archaeologists about just one location, the excavation of Port Royal, Jamaica, a submerged town).

^{104.} An example of a destructive device used in shallow water is a "mailbox," which deflects a boats prop wash downward to dig into the ocean bottom indiscriminately scattering artifacts and making the collection of provenancedata extremely difficult. Marex Int'l, Inc. v. Unidentified, Wrecked & Abandoned Vessel, 952 F. Supp. 825, 827 (11th Cir. 1997).

^{105.} See Varmer, supra note 9; Abbass, supra note 10.

^{106.} See infra Section III.A.1

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3. The Capabilities of Sophisticated Treasure Salvors

Treasure salvors' move to remote offshore deep waters worries nautical archaeologists. Treasure salvors will now work far from prying eyes, decreasing accountability. They also must seek to make a profit, and this might encourage corner cutting. However, there is also a silver lining. Treasure salvors sophisticated enough to work hundreds of miles from shore and thousands of feet underwater, are more accountable and better able to properly excavate a shipwreck than a coastal treasure hunter like Mel Fisher. Furthermore, these treasure salvors are accountable to shareholders and information about them is publicly available. Also, these companies have the resources, funding and technological ability to implement a video broadcast system via the Internet.

B. Archaeological Duty of Care

In response to the conflict over historic shipwrecks, courts have imposed an ADC on treasure salvors as a condition of determining the size of the salvage award. In Cobb Coin Co., Inc. v. Unidentified, Wrecked & Abandoned Sailing Vessel, a federal district court in Florida did not use the term ADC but similarly held, "[i]n order to state a claim for salvage award on an ancient vessel of historical and archeological significance, it is an essential element that the salvors document to the Admiralty Court's satisfaction that it has preserved the archeological provenance of a shipwreck." The court noted that

^{107.} Pringle, supra note 95.

^{108.} Compare Archaeological Excavation and Recovery, ODYSSEY MARINE EXPLORATION, http://www.shipwreck.net/recovery.php (last visited Dec. 19, 2012) (a leading deep water treasure salvor takes thousands of digital photographs before excavating a shipwreck), with KINDER supra note 26 (the search for Atocha by Mel Fisher was often running on a financial shoe string).

^{109.} For example, Odyssey is a publicly traded company and is required to make information available to the public, including financial reports to the Securities and Exchange Commission. Pringle, *supra* note 95. For commentary on Odyssey's financial reports *see infra* note 137-138.

^{110.} See Marex Int'l, Inc. v. Unidentified, Wrecked & Abandoned Vessel, 952 F. Supp. 825, 829 (S.D. Ga. 1997).

^{111.} Cobb Coin Co., Inc. v. Unidentified, Wrecked & Abandoned Sailing Vessel, 549 F. Supp. 540, 559 (S.D. Fla. 1982).

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protecting provenance data is in the salvage company's interest¹¹² because it could enhance the value of the artifacts recovered in the eyes of the buying public.¹¹³ However, the court acknowledged that this profit motive might not be enough for the company to hire a qualified nautical archaeologist.¹¹⁴ By making archaeological provenance data a part of the salvage award calculation, the court found a way to force companies to record this information.

Treasure salvors that conduct excavations of deep-water wrecks are sophisticated business ventures. The desire to maintain some archaeological standards is reflected in a code of ethics adopted by the Professional Shipwreck Explorers Association ("ProSEA"), a professional organization of treasure salvors. The ProSEA requires its members to:

(1) conduct themselves in a manner that respects all constituencies with an interest in shipwrecks, including archaeologists, divers, museums, and historians, among others; (2) establish and maintain professional standards while researching, excavating, or salvaging shipwrecks; (3) conduct operations in a way that recovers as much provenance data from the site as possible, and to provide public access to the data; (4) use the most current and accurate technology in salvaging shipwrecks; (5) employ a professional archaeologist on every historical site who will have reasonable control over excavation, documentation, and conservation of artifacts; (6) plan for the conservation and disposition of artifacts before they are recovered; (7) leave artifacts on site unless funds exist for their conservation, cataloging, and storage; (8) sell only those artifacts that have been made available to the scientific community for study; and (9) keep together in one collection all artifacts that are of irreplaceable archaeological value if they cannot be documented or replicated in a manner that allows for reasonable future study, or, in

^{112.} Id. at 558-59.

^{113.} Purchasers of coins recovered from the SS Republic are informed "[t]he success of the archaeological excavation has set a precedent for achieving the highest archaeological standards essential to the emerging field of deep-water shipwreck exploration and recovery." SS Republic Project Overview, ODYSSEY MARINE EXPLORATION, http://shipwreck.net/ssrepublic.php (last visited Dec. 19, 2012).

^{114.} Cobb Coin Co., Inc., 549 F. Supp. at 559.

^{115.} Bederman, supra note 22, at 102.

the alternative, disburse them only in a manner that allows them to be reconstituted for future study. 116

These companies likely recognize and accept the need to embrace an ADC as a way to increase the value of artifacts recovered and minimize the criticisms from the archaeological community. However, this code of ethics is voluntary. There are no apparent penalties for failure to follow the rules. 118

C. Archaeological Duty of Care and Nautical Archaeologists

The ADC is a realistic solution encouraging treasure salvors to embrace some archaeological standards and preserve data about historic shipwrecks. However, even if stringently employed by treasure salvors, the ADC is unlikely to appease archaeologists. One reason is the ADC still permits the splitting up and sale of artifacts. If the items are sold to the public, the provenance data collected by the treasure companies cannot be applied in the future study of the assembled artifact collection. Additionally, treasure salvors have little incentive to preserve unmarketable portions of a shipwreck, such as the surviving fragments of a wooden hull, which are of immense historical value but of little, if any, financial value. 120

^{116.} Code of Ethics, THE PROFESSIONAL SHIPWRECK EXPLORERS ASSOCIATION, http://www.prosea.org/about/codeethics.html (last visited Dec. 19, 2012).

^{117.} One member of the Professional Shipwreck Explorers Association, Odyssey, does apparently take provenance data seriously. The company took 14,000 digital still images of a 19th century shipwreck, which was used to create a photomosaic of the site, before removing valuable artifacts. "Black Swan" Project Overview, ODYSSEY MARINE EXPLORATION, http://www.shipwreck.net/blackswan.php (last visited Feb. 18, 2013).

^{118.} See Code of Ethics, supra note 115 (there is nothing on the ProSea website that indicates any penalties for not complying with the code of ethics).

^{119.} See Abbass, supra note 10. See also Bederman, supra note 22, at 106 (explaining the courts which have required archaeological data collection have not held [treasure] salvors to the same exacting technical standards used by nautical archaeologists).

^{120.} See BASS, supra note 7, at 76 (stating the wooden remains of a 19th century whaling ship shed light on Basque ship design and building techniques); see also Hall, supra note 102, at 154 (stating charred hull fragments and fused glass beads recovered from the "Pipe Wreck" indicate the ship might have sunk after an

Since the ADC does not meet the archaeological community's standards, archaeologists are unlikely to collaborate with treasure salvors. D.K. Abbass, a noted nautical archaeologist, said, "[t] o my knowledge, the most damaging mistake an archaeologist can make is to be involved with dreaded treasure hunters who savage sites for profit. This admittedly incendiary language represents the reality of the archaeological attitude."121 This attitude creates a general reluctance for archaeologists to cooperate with treasure salvors and oversee their implementation of an ADC. Without trained nautical archaeologists conducting or reviewing an ADC, it is more difficult for courts to judge the effectiveness of its implementation. proposal in Section IV. to broadcast recoveries online will ideally have many effects. First, the transparency will encourage treasure salvors to properly employ an ADC and preserve provenance data. Second, it will provide a neutral forum for nautical archaeologists to observe the excavations and report any egregious violations to the court determining the salvage award. Lastly, video broadcasts will allow the public to watch shipwreck recoveries, possibly decreasing demand for artifact sales and increasing demand for documentaries. exhibitions, and other revenue streams not involved with selling artifacts.

IV. PROPOSAL TO HELP ENFORCE AN ADC

Although an ADC is a step in the right direction and gives salvors an incentive to gather archaeological data, there are many shortcomings. Courts rely on the information provided by the salvors themselves to determine if the salvors appropriately enacted an ADC. The courts do not usually have the benefit of receiving independent observations of nautical archaeologists because of their reluctance to work with treasure salvors. A solution to this problem is for federal courts to require salvage companies to broadcast video footage of their shipwreck recoveries online as a component of an ADC. This requirement will empower the public and interested academics to embrace a global "neighborhood watch" role in enforcing an ADC.

explosion).

^{121.} Abbass, supra note 10, at 265.

^{122.} *Id*.

CALIFORNIA WESTERN LAW REVIEW

A. Video Broadcasting Is Technologically and Financially Possible

Broadcasting shipwreck recovery is technologically feasible and does not pose a significant financial burden for a sophisticated treasure salvor. ¹²³ ROVs can transmit information, including real time video, to a support ship on the surface. ¹²⁴ The surface ship can then transmit this video to the internet through a satellite connection. ¹²⁵ The BP oil spill video broadcast demonstrates the viability of this technology.

Oceanographers have already used the transmission of real time video from the seafloor to the Internet. In 2009, the University of Rhode Island opened the Ocean Science and Exploration Center. Located in this new facility is the Inner Science Center, which allows scientists and students on land to interact with oceanographic research vessels conducting scientific research at sea. Satellite transmissions and the Internet "make it possible for scientists all around the world to participate in live undersea exploration." The Inner Space Center also sends live streaming video to classrooms around the world.

The Inner Space Center demonstrates that it is possible to send live streaming video from the seafloor to the Internet. Treasure salvors would not need an elaborate facility because, unlike the scientists at the Inner Space Center, nautical archaeologists would not be actively participating in the seafloor activities. Thus, the broadcast

^{123.} A video broadcast of a shipwreck recovery would require a minimum of 1.5 million dollars in equipment, a support vessel, and two to thirty personnel. Interview with Sean Newsome, Global Business Development Manager, Seabotix (Nov. 1, 2012).

^{124.} Oceanographers that use this technology provide a video on their website with a graphic explanation of the process. *What is Telepresence?*, INNER SPACE CENTER, http://innerspacecenter.org/about-telepresence.php (last visited Feb. 18, 2013).

^{125.} *Id*.

^{126.} ISC Opening Day, INNER SPACE CENTER, http://web.archive.org/web/20091204034419/http://isc.gso.uri.edu/press/official-release-ribbon-cutting (last visited Mar. 6, 2013).

^{127.} Id.

^{128.} Id.

^{129.} Id.

^{130.} *Id*.

envisioned by this Comment does not encompass an interactive experience for online viewers of the salvage of a historic shipwreck.

However, the video broadcast will need to be accompanied by additional information. The video broadcast would be more informative and useful for assessing an ADC if the video record includes the location of where the ROV is filming on the shipwreck site. The ROV is filming only a small portion of the wreck that is within the field of view of the camera and within range of the lighting system. A map or overhead image of a shipwreck site would allow viewers to understand where the ROV is filming on the site. A map of sorts is often created using a photomosaic of stills of a shipwreck site to create a comprehensive overhead view. This additional data of maps and ROV location could be incorporated into the video broadcast online forum. For example, Odyssey has already put photomosaics and site maps of recovered shipwrecks online, and a video broadcast could use this data to explain the ROV's location. 132

ROV costs have plummeted in the last ten years as ROVs have transitioned from one-of-a-kind creations to "off the shelf" robots. 133 A treasure salvage company could use a ROV dedicated full time to filming the salvage, or it could use video transmitted from ROVs actively engaged in recovering artifacts. An in-depth look at the annual financial reporting of Odyssey reveals that the additional cost of an extra reusable ROV dedicated to filming is small compared to the great financial outlay required by a deep-water salvage. 134 The

^{131.} See Fred Hocker, Sampling a Byzantine Vintage: Bozburn, Turkey, in BENEATH THE SEVEN SEAS: ADVENTURES WITH THE INSTITUTE OF NAUTICAL ARCHAEOLOGY 103 (George Bass ed., 2006).

^{132.} See Ellen Gerth, Neil Cunningham Dobson & Sean A. Kingsley, The Jacksonville 'Blue China' Shipwreck (Site BA02): A Mid-19th Century American Coastal Schooner off Florida, Odyssey Papers 19 (2011) available at http://shipwreck.net/pdf/OMEPapers19-FinalX_000.pdf.

^{133.} Although many ROV's are now commercially available, in the 1980s a treasure salvor had to invent new submersible technology to recover delicate coins from a deep-water wreck. *See* KINDER, *supra* note 26, at 150.

^{134.} It cost the treasure salvor 2.6 million to recover the artifacts from the *Nuestra Senora de las Mercedes* that sunk in deep water in the Atlantic. Rossella Lorenzi, *Black Swan Shipwreck Ordeal Comes to End*, DISCOVERY NEWS (Feb. 24, 2012), http://news.discovery.com/history/black-swan-treasure-122402.html.

additional cost would be negligible considering Odyssey can spend in excess of two millions dollars on an individual shipwreck recovery. 135

On the other hand, federal courts must be sensitive to a treasure salvor's bottom line. Despite the potential for large recoveries of treasure, the profit margins for treasure salvors are notoriously thin. 136 Even Odyssey, arguably the leader in the field of deep-water historic shipwreck salvage, rarely posts a profit. However, Odyssey's one profitable year highlights the tantalizing profit treasure salvors are capable of earning. In 2004, Odyssey made a gross profit of over seventeen million dollars by selling thousands of valuable coins and artifacts from the wreck of SS *Republic*, a ship from the U.S. Civil War era. 138 Despite some successes, the losses of treasure salvors are often born by investors, who are lured to these highly speculative ventures by the promise of fantastic returns. Even though deepwater salvage of historic shipwrecks remains speculative from an investing standpoint, the added cost of video broadcast is marginal given the millions of dollars spent on each recovery. 140

The financial impact of a video broadcast requirement can be justified or mitigated in several ways. The widespread imposition of a video broadcast requirement will make the added cost a known factor in deciding a historic shipwreck recovery budget. This will also make it a cost born by all salvors and not place a burden on some and not

^{135.} Odyssey charged 2.3 million dollars and a share of profits for a shipwreck recovery contracted by a third party in 2011. Odyssey Marine Exploration, Inc., Annual Report (Form 10-K) p.18 (Mar. 12, 2012). [hereinafter 10-K Form]. A consulted expert agreed that this is financially possible for a company like Odyssey but cautioned that it might be financially prohibitive for a new salvor. Interview with Sean Newsome, Global Business Development Manager, Seabotix (Nov. 1, 2012).

^{136.} See generally KINDER, supra note 26, at 112.

^{137. 10-}K Form, supra note 134, at 12.

^{138.} In 2004, after expenses and taxes, Odyssey posted a net income of 5,229,238 dollars, mostly from the sale of artifacts. Odyssey Marine Exploration, Inc., Annual Report (Form 10-KSB) p. F-4 (July 22, 2005).

^{139.} Mel Fisher's estimates of the financial value of *Atocha* given to investors was overvalued and the payouts to investors were in artifacts which often received far less value when sold on the open market. *See* Pringle, *supra* note 95.

^{140.} See 10-K Form, supra note 134, at 18 (Odyssey spent over two million dollars on a shipwreck recovery); see also KINDER, supra note 26, at 501-02 (a treasure salvor spent over six million on equipment alone to recover a shipwreck).

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others. Also, the equipment will not need to be repurchased for every recovery. The ROVs will be reusable for future recoveries or could be incorporated into other business activities, like deep sea mining, when not being used to film historic shipwrecks.¹⁴¹

B. Video Broadcasting is in the Interests of the Treasure Salvor

Treasure salvors working under the law of salvage already have an incentive to collect evidence of the recovery. The treasure salvor wants the salvage award to be as large as possible, which is achieved by demonstrating to the court the fulfillment of the factors for determining a salvage award. A treasure salvor has already presented recorded video clips of a shipwreck recovery to a court to demonstrate protection of artifacts. The video broadcast will also be recorded and posted permanently online. The video record could be incorporated into the treasure salvors' existing website detailing each recovered shipwreck. The video record will be more reliable than video clips, which are susceptible to selective editing. An ADC would be well demonstrated by a comprehensive video record of the recovery, because every second of the recovery will be available to determine whether a treasure salvor met the requirements of an ADC.

The broadcast would be in the salvors' financial interest in other ways as well. Treasure salvors seek to sell artifacts because the sale of artifacts can be more lucrative than merely melting down precious metals and selling them for bullion prices. For example, the financial value of an old coin is often greater in the eyes of a coin collector than the bullion value of the coin itself. The broadcast could help create

^{141.} In 2010 and 2011, Odyssey received the bulk of its income from contracting out their services for expedition charters, which were primarily involved in deep-sea mining activities. 10-K Form, *supra* note 134, at 15; *see also* William J. Broad, *A Gold Rush in the Abyss*, N.Y. TIMES, July 10, 2012, at D1 (discussing Odyssey's role in the global rush over deep water mining of the seafloor).

^{142.} Columbus-Am. Discovery Group v. Atl. Mut. Ins. Co., 974 F.2d 450, 468 (4th Cir. 1992).

^{143.} Columbus-Am. Discovery Group v. Atl. Mut. Ins. Co., 56 F.3d 556, 573 (4th Cir. 1995) (Video tapes of the operation of artifact recovery and the means used to care for such articles were shown and then introduced in evidence as exhibits.).

^{144.} Odyssey has a comprehensive website with a page discussing each shipwreck recovery. See generally *Shipwrecks*, ODYSSEY MARINE EXPLORATION, http://www.shipwreck.net/shipwrecks.php (last visited Dec. 19, 2012).

more public demand for recovered artifacts. A video broadcast could have an impact because the market for antiquities is influenced by outside events. For example, Odyssey cited an increase in public awareness due to the 150th anniversary of the U.S. Civil War as a factor in increased sales of coins recovered from the Civil War era shipwreck mentioned previously. A video broadcast would at a minimum draw maritime enthusiasts and coin collectors, but it could also captivate a wider audience.

Whatever impact video broadcasts will have on increasing the sale of artifacts, it will hopefully be offset by other advantages, which financially benefit treasure salvors and do not involve the sale of artifacts. The video broadcast could help create consumer demand for documentary films, artifact exhibitions or even tourist visits in a submarine. The public attention might help shift the focus from selling artifacts to exhibiting artifacts in a collection as a commercial venture. There is currently a for-profit travelling exhibition of artifacts recovered from the *Titanic* and Mel Fisher has long operated a museum showcasing the artifacts his company has recovered. ¹⁴⁷

Video broadcasts will dovetail with the existing public interest in shipwreck documentaries. James Cameron's documentary *Titanic*, *Ghosts of the Abyss* was a box office smash.¹⁴⁸ Cameron made a dozen visits in submersibles to take highly detailed footage of the famous wreck.¹⁴⁹ The *Titanic* is arguably a historic shipwreck given that it is a little over one hundred years old. Unlike a Spanish galleon,

^{145. 10-}K Form, supra note 134, at 15.

^{146.} Koerner, *supra* note 69, at 5 (A treasure salvor acknowledging the counter intuitive benefit of losing title to some recovered artifacts commented that "[e]verything we lose to a museum or give to a government is overshadowed by the publicity we get... so that our 5000 coins that are left are worth 20 times what they would have been.... It gives them a pedigree.").

^{147.} Rick Hampton, *Titanic's Memory Still Casts a Spell*, USA TODAY (Apr. 2, 2012), http://usatoday30.usatoday.com/news/nation/story/2012-03-27/titanic-100-year-anniversary/53792376/1; see KINDER, supra note 26, at 103.

^{148.} This film grossed 28,780,668 dollars in worldwide box office sales. Ghosts of the Abyss, THE NUMBERS: BOX OFFICE DATA, MOVIE STARS, IDLE SPECULATION, (Last visited Dec. 19, 2012), http://www.the-numbers.com/movies/2003/GABYS.php.

^{149.} The Titanic Explorer Interview with James Cameron Part 1, THE ASTROBIOLOGY MAGAZINE (Nov. 3, 2003), http://www.astrobio.net/interview/658/james-cameron-i-the-titanic-explorer.

a great deal of information about the *Titanic* is already available without the need to excavate the wreck. However, the popularity of the *Titanic* documentary gives some support to the idea that the public might be interested in high quality documentaries. Arguably the public might be less interested in seeing footage of very old highly degraded wooden shipwrecks than the hulking metal wreck of the *Titanic*. However, hauntingly well-preserved ancient wooden vessels have recently been discovered in the Black Sea. The chemical composition of the waters prevents the wood from decomposing, allowing even the wooden masts of ancient ships to loom eerily above the wrecks. Additionally, a documentary on a ship that is contemporaneous with the lifetime of Jesus may have wide appeal. 152

Tourist visits in submarines could become an additional revenue stream for treasure salvors. People have been willing to pay almost 60,000 dollars to personally visit the remains of the *Titanic* in a submarine. Deep Ocean Expeditions, a company specializing in these kinds of trips, has taken over a hundred people to visit the famed sunken liner. Submarine visits allow commodification of shipwreck discovery without selling artifacts. However, there has been criticism that tourist visits to the *Titanic* have caused damage and promoted looting of artifacts. Seater public awareness of the importance of shipwreck conservation would help prevent destructive practices and looting. Video broadcasts are an easy way to promote public awareness of the importance of shipwreck conservation and the

^{150.} See Phantoms of the Deep, supra note 11.

¹⁵¹ Id

^{152.} See William H. Charlton Jr., Modeling the Fishing Boat from the Sea of Galilee, Israel, in BENEATH THE SEVEN SEAS: ADVENTURES WITH THE INSTITUTE OF NAUTICAL ARCHAEOLOGY 89 (George Bass ed., 2006) (stating an ancient vessel recovered from the Sea of Galilee has attracted world-wide interest).

^{153.} Rob McCallum, The Shoes Are Still Left Outside the Cabins to Be Polished: An Eerie Trip With the Tourists Diving Two Miles to See the Titanic, MAIL ONLINE (Jan. 12, 2011), http://www.dailymail.co.uk/news/article-2085498/An-eerie-trip-tourists-diving-2-miles-Titanic.html#ixzz1qH0I7WYf.

^{154.} *Id*.

^{155.} Robert Ballard, the discoverer of the *Titanic*, reported that the ship had been damaged and looted. Daniel Warshawsky, *Titanic Damaged by Tourists*, Salvagers, Expedition Finds, NATIONAL GEOGRAPHIC NEWS (June 4, 2004), http://news.nationalgeographic.com/news/2004/06/0604_040604_titanic.html.

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need for proper archaeological standards. Ideally, video broadcasts will also create additional revenue streams for treasure salvors apart from the sale of artifacts.

C. Video Broadcasting Will Protect Historic Shipwrecks

Broadcasting video of the entire recovery of a shipwreck would provide much needed accountability. This Comment does not envision that the court would oversee the entire broadcast of a recovery. Rather, the oversight process could take a number of different forms. The watchdog role could be outsourced to interested third parties. This will help prevent the most destructive practices of treasure salvors, because a treasure salvor would be less likely to indiscriminately tear away at a shipwreck to gain access to valuable artifacts and more likely to record provenance data if they knew that knowledgeable eyes were watching. 156

The nature of the legal process for salvage rights is conducive to third parties reporting on treasure salvors' conduct. Treasure salvors need to present their salvage conduct to the court so the size of the salvage award can be determined. Before the court determines the size of the salvage award, interested third parties like the Institute of Nautical Archaeology (INA) could submit amicus briefs. Archaeologists watching on their home monitors could follow the work and submit reports to INA or submit their own amicus brief directly to the court if the conduct of the treasure salvors did not follow an ADC. However, the court would need to take the archaeologists opinion with a drop of salt water. Archaeologists are

^{156.} New technologies can influence behavior; dashboard video cameras in police cruisers have encouraged police officers to follow protocol. David A. Harris, Picture This: Body-Worn Video Devices (Head Cams) As Tools for Ensuring Fourth Amendment Compliance by Police (2010) 43 TEX. TECH L. REV. 357, 360. ("[O]fficers reported that recording their actions increased professionalism and performance in the sense that it forced officers to give more attention to following agency protocols in their dealings with citizens and suspects; citizens supported the use of the cameras as a way to change police behavior and to hold officers accountable."); see also Caleb Mason, Jay-Z's 99 Problems, Verse 2: A Close Reading with Fourth Amendment Guidance for Cops and Perps (2012) 56 St. LOUIS U. L.J. 567, 584 (discussing how new technologies encourage police officers not to commit constitutional violations).

^{157.} See supra Section II.B.

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unlikely to be objective judges of the treasure salvor conduct, considering that even a rigorous application of an ADC will fall below the standards of a thorough archaeological excavation. Nevertheless, their insight might shed light on whether the conduct met the lower threshold of an ADC.

The court could also appoint an independent third party to view the footage and provide an official report. This is advantageous because it would require someone to watch the entire recovery, as the "crowd source" solution does not guarantee that every second of the recovery would be watched. The court will face a difficult choice in deciding whether to appoint an archaeologist or a non-scientist. An archaeologist would be the best source as far as provenance data is concerned, but would likely be biased against a treasure salvor. An equitable solution might be to require both an archaeologist and an unaffiliated deep-water salvager to provide a report, using the video broadcast, on how well the treasure salvor met the requirements of an ADC. This would give the court a well-rounded picture by providing a voice from each of the opposing viewpoints. Additionally, by incorporating a treasure salvor's professional peers in the analysis, the courts will create a culture of accountability within the treasure salvor community.

A variety of options are available to determine who should pay for the hiring of an independent third party. The treasure salvor could be required to pay for this, however the treasure salvor is already saddled with the expense of the video broadcast equipment. An equitable solution might be to have the other parties with an ownership interest in the artifacts (i.e., insurance companies who underwrote the lost gold)¹⁵⁸ pay for the third party verification. This will be in their financial interest because it will allow them to verify the amount of artifacts recovered, which is often disputed. For example, the amount of gold recovered by a treasure salvor in the late 1980s from the SS Central America is still in dispute.¹⁵⁹ Surely the parties other than the

^{158.} Insurance companies, which could trace underwriting of gold, lost in the 1857 shipwreck of SS *Central America* brought suit against the treasure salvor who recovered the shipwreck. *See* KINDER, supra note 26, at 499.

^{159.} See generally Mark Tatge & Miriam Gottfried, Ship of Fools, FORBES (June 19, 2006), http://www.forbes.com/forbes/2006/0619/158.html.

treasure salvor would gladly have paid for independent verification given the hundreds of millions of dollars at stake.

Video broadcasts will create other beneficial effects. Video broadcasts will help protect shipwrecks by educating the public. People will actually be able to see that recovered treasure comes at the expense of tearing apart a historic shipwreck. Nautical archaeologists have long discussed the irony in the public's perception of treasure hunters. For example, coins recovered from a Civil War era shipwreck are considered treasure, but the same type of coin dug up from a Civil War era grave would likely be considered looting or at least something done in extremely bad taste. Ideally, the video broadcasts will create a more nuanced public view of treasure salvage and take away some of the public's romance for treasure hunting.

Treasure salvors' conduct during the excavation will also impact the future sales of artifacts when shown in the video broadcasts. If too destructive, it will turn public opinion against treasure salvors. People will be less willing to purchase artifacts or invest in treasure salvage companies.

The video broadcasts will help protect historic shipwrecks by creating an independent record of all artifacts recovered. This will allow a fair distribution of the salvage award and prevent unreported artifacts from being sold on the black market. The broadcast will also reveal artifacts of immense cultural significance. This will give interested third parties a chance to lobby the treasure salvor to donate these artifacts to a museum rather than sell them to a private collection.

Video broadcasts can also provide a neutral forum to get archaeologists more involved in the process since archaeologists are generally unwilling to collaborate with treasure salvors. At a minimum, the video footage will give archaeologists a comprehensive look at shipwreck recoveries, which are beyond the budget of any academic institution. Archaeologists might be faulted for shipping out with a treasure salvor or accompanying them on a submersible, but

^{160.} See BASS, supra note 7, at 258-59 (discussing problems with the public's perception of treasure hunting).

^{161.} The monthly budget for Odyssey is greater than the yearly budget of the Institute of Nautical Archaeology, one of the world's foremost nautical archaeology programs. Pringle, *supra* note 95.

it seems less likely that they would be condemned for providing a critique of the recovery from the comfort of their home offices.

Nautical archaeologists are important to protecting historic shipwrecks. They are most equipped to interpret the information yielded from a shipwreck recovery and provide proper care for the artifacts and shipwreck itself. Their participation is critical for disseminating knowledge and protecting artifacts. Video broadcasts will not be a panacea that solves the controversy but the broadcasts will protect shipwrecks by providing archaeologists a neutral forum for participation.

V. CONCLUSION

Advancing technology and U.S. law intersect to create the controversy over historic shipwrecks. Advancing technology made underwater work possible, and the federal courts' application of salvage law allows historic shipwrecks to be recovered for a profit by groups other than nautical archaeologists. Video broadcasts are a way to use advancing technology to help protect historic shipwrecks and will be the most transformative when the broadcasts dovetail with the public's interest in history.

Although nautical archaeologists and treasure salvors have very different approaches to the recovery of historic shipwrecks, both professions draw strong interest from the public and media. The search for and discovery of a long lost shipwreck makes for an interesting adventure story and often becomes a newsworthy event. Currently, the public and media are unable to easily distinguish the work of nautical archaeologists from treasure salvors or understand that historic shipwrecks are more than just repositories of treasure. In contrast, U.S. courts have demonstrated some sensitivity to the importance of preserving archaeological information. Video

^{162.} Odyssey Marine Exploration discovered 500 million dollars in treasure from the *Black Swan* shipwreck and it was reported by major news organizations when a chartered jet carrying the treasure landed in the US. *Deep-sea booty! \$500 million in coins found*, ASSOCIATED PRESS (June 18, 2007), http://www.msnbc.msn.com/id/18736741/ns/technology_and_science-science/t/deep-sea-booty-million-coins-found/#.T3D8eZglblI.

^{163.} See BASS, supra note 7, at 258-59.

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broadcasts will help educate the public by shining light on the work of treasure salvors, which currently occurs out of public view.

Admittedly, video broadcasts do run the risk of glamorizing treasure salvage. However, this risk is small compared to the positive changes possible with video broadcasts. For the first time, the public and nautical archaeologists will be able to observe shipwreck recoveries by treasure salvors. The video record of the recovery will hold treasure salvors accountable and give courts more information about the implementation of an ADC. Video broadcasts also have the potential to shift demand from artifact sales to documentaries, exhibitions and submarine tourism. Video broadcasting is not a complete solution, but it is an effective and reasonable way to use available technology to help protect and preserve historic shipwrecks The video broadcasts will add recovered by treasure salvors. accountability and put public pressure on treasure salvors to properly preserve archaeological data, while creating records of historic shipwreck recoveries available for the world to witness. *

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