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PREDICTING NATURAL RESOURCE DAMAGES FROM OIL SPILLS IN THE UNITED STATES

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ABSTRACT 299943:

Most major oil spills in the United States result in some natural resource damages (NRD), which arise from injuries to natural resources and losses of their services. Other things being equal, larger spills lead to larger NRD. However, factors other than the number of gallons spilled can affect the subsequent amount of natural resource damages. These factors may include the type of oil spilled, the geographic location of the spill, the season in which the spill occurred, whether threatened and endangered species were injured, whether recreation closures occurred, whether the spill occurred in saltwater or freshwater, and other characteristics of the spill.

This paper presents a statistical model using multiple-regression analysis that explains variations in 86 NRD settlements for oil spills in the United States based on a variety of factors. The results of the statistical analysis identify which of the factors influence NRD settlements and the magnitude of the effect. Then, the results of the statistical model are used to predict a point estimate and 90% confidence interval for the NRD settlement for three hypothetical oil spills. Such predictions could give both Trustees (i.e., government agencies that pursue NRD claims on behalf of the public) and responsible parties a useful damage range, for planning purposes, within days of future oil spills.

BACKGROUND:

The Oil Pollution Act of 1990 allows federal and state government agencies, acting as Trustees for natural resources on behalf of the public, to collect monetary damages from parties responsible for oil spills in the United States for the concomitant natural resource injuries. The monetary damages are usually based on the cost of projects to restore the lost or impaired services resulting from injuries to natural resources.[1] Oversight and monitoring costs for the restoration projects are often included in settlement amounts.

[1] In some instances the responsible party implements one or more of the restoration projects rather than give the cost of the project(s) to the Trustees for them to implement. In many of these instances, the cost of these restoration projects is not included in the NRD settlement, which means that the settlement amount underestimates the total cost of the settlement. As explained later, we take this into account in our statistical model.

In this paper we develop a statistical model that explains most of the variations in NRD settlement amounts for past oil spills. The next section of our paper describes the sources of the NRD settlement data, explains the challenges in determining the NRD amount for oil spill settlements, and presents the NRD settlement data. Then, the following section provides our statistical model and its results. Finally, the last section of our paper illustrates the use of our statistical model to predict NRD settlement amounts for future oil spills.

NRD SETTLEMENT DATA:

We obtained information for our analysis of NRD settlements from a variety of sources. The consent decrees accompanying settlements were our preferred source for settlement amounts. When consent decrees were not available, we used NRD documents such as Damage Assessment and Restoration Plans for settlement amounts. We also used Federal *Register* notices, press releases, and newspaper articles for settlement amounts, when necessary.

We encountered several difficulties in developing our NRD settlements database. The main difficulty was in isolating the NRD amount in "global" settlements, which often included reimbursement for response costs, penalties and fines, litigation costs, and other non-NRD elements. In several settlements, assessment costs were combined with a portion of response costs or other non-NRD costs. Even when assessment costs were not combined with non-NRD costs, the settlement documents often excluded earlier payments of assessment costs. (For example, sometimes the responsible party had paid for some of the government's assessment costs in an earlier stage of the assessment, so those costs were not part of the settlement amount.) Furthermore, the assessment costs in NRD settlements only reflect the government's assessment costs. The assessment costs incurred by the responsible party are not included in the settlement amount. Therefore, we excluded assessment costs from our measure of NRD amounts, focusing exclusively on primary restoration costs, compensatory restoration costs, compensable values, and oversight/monitoring costs for restoration projects. Furthermore, we excluded payments for unspecified support of governmental and non-governmental programs (e.g., oil spill prevention programs) whenever possible under the assumption that these payments were made in lieu of fines or penalties.

We also found that some of the NRD settlements included projects that the responsible party was going to implement for which there was no cost estimate in the settlement. For example, the responsible parties on the 1994 Tampa Bay oil spill purchased some coastal property and developed a mangrove marsh on that property as part of the NRD settlement, but the settlement documents do not include a dollar value for that compensatory restoration project. Therefore, the Tampa Bay settlement amount in our database understates the full cost of that NRD settlement.

Finally, different sources of information on NRD settlements sometimes did not agree on the amount of the settlement or other characteristics of the spill (e.g., the amount of oil spilled). In such instances we assumed that the consent decree or the NRD document from the trustees (if we did not have the consent decree) was the most reliable source of the information in dispute. We also used the lower end of the range provided for the amount of oil spilled.

Our analysis includes every oil spill having an NRD settlement, except for some "anomalous" NRD settlements. For example, we excluded the *Exxon Valdez* NRD settlement ($900 million paid over a 10-year period) because it is more than an order of magnitude bigger than the next largest NRD settlement. We also excluded the $0 NRD settlement for the *Mega Borg* oil spill, which involved almost five million gallons of oil but caused no measurable environmental damages. We excluded the NRD settlements for small oil spills in Washington based on that state's NRD formula and three spills outside Washington for which we had no information on the amount of oil spilled. Finally, we excluded NRD settlements for "chronic" oil spills occurring over decades (e.g., the diluent leaks in the Guadalupe, California, oil field). In conclusion, our database includes NRD settlements for 86 oil spills ranging from 422 to 3,800,000 gallons.

Table 1 provides summary information on the oil spills and NRD settlements in our database. For the purposes of this paper we have listed the oil spills alphabetically by the name of the spill. The NRD settlements (excluding assessment costs) average $3.6 million in 2012 dollars after adjusting for inflation, and range from $0 to $41.94 million.[2] The total for all of the NRD settlements in Table 1 is about $319 million after adjusting for inflation to 2012.

STATISTICAL MODEL:

Our statistical model uses a multiple-regression approach to explain variations in inflation-adjusted NRD settlement amounts (less assessment costs) for oil spills in the United States. The goal of a multiple regression approach is to explain changes in the "dependent" variable as a function of the magnitude of the "explanatory" variables. The dependent variable in our statistical model is the inflation-adjusted NRD settlement amount (minus assessment costs) in millions of dollars.[3] Table 2 describes the explanatory variables (i.e., the variables that may explain variations in NRD settlement amounts) included in our statistical model. In general, the explanatory variables are the basic characteristics of an oil spill that might affect the magnitude of natural resource damages, including:

- amount of oil spilled,
- type of oil spilled,
- year of the settlement,
- number of years between the spill and the settlement,
- season in which the spill occurred,
- geographic region in which the spill occurred,
- whether the spill occurred in saltwater or freshwater,

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[2] Eleven oil spills in our database have $0 NRD settlements after excluding assessment costs. In all eleven of these oil spills the responsible party implemented the restoration projects required by the settlement, so the Trustees did not receive any payment for natural resource damages other than assessment costs.

[3] We used a Box-Cox flexible functional form in transforming the inflation-adjusted NRD settlement amounts. This allows the data to determine which functional form provides the best statistical fit. The Box-Cox coefficient in our model is 0.11263and is statistically significant at the 5% level. Since the Box-Cox flexible function form does not allow $0 settlements, we used $1 as the settlement amount for the eleven spills with $0 settlement amounts.

- whether threatened or endangered species were injured by the spill,
- whether the spill closed a recreation area,
- whether unvalued compensatory restoration costs are part of the settlement,
- the number of trustees, and
- whether one or more of the trustees were tribes.

Other factors might affect the magnitude of NRD settlements, such as:

- the duration of the cleanup,
- the geographical extent of the spill,
- the number and type of injured threatened or endangered species,
- the duration of recreation area closures, and
- the availability of similar substitute recreation areas for the closed recreation areas.

Unfortunately, we could not find information on these factors for most of the oil spills in our database. Consequently, we could not include these factors in our statistical analysis.

We included all of the variables in Table 2 in our initial statistical model. However, most of the variables did not have statistically significant coefficients. We then excluded most of the variables with insignificant coefficients in our next statistical model.[4] Table 3 shows the results for that statistical model. As indicated by the R^2, our statistical model explains 78 percent of the variation in NRD settlements. Most of the explanatory variables in our model have statistically significant coefficients at the 1% level. Only one explanatory variable (Saltwater) does not have a statistically significant coefficient at the 10% level. Furthermore, all of the coefficients have the expected sign (i.e., positive or negative). Thus, the results from our statistical model are very good.

As shown in Table 3, the factors with positive coefficients in our model are: GALLONS, T&E SPECIES, CALIFORNIA, SALTWATER, and RECREATION CLOSURE. This means that NRD settlements tend to increase when these factors increase or when these factors are present, holding other factors in the model constant. For example, the results indicate that NRD settlements tend to be higher for larger oil spills than smaller oil spills, other things being equal. Similarly, NRD settlements tend be higher for spills that injure threatened or endangered species, holding other factors constant. NRD settlements also are higher for spills that occur in California, in saltwater, and when recreation areas are closed.

The negative coefficients in our model are: ZERO AND LA/TX, UNVALUED COMPENSATORY RESTORATION, and INTERIOR. The ZERO AND LA/TX variable accounts for seven spills in Louisiana or Texas that had a $0 NRD settlement after subtracting assessment costs. The responsible parties implemented all of the restoration projects in these oil spills, resulting in no payment to the Trustees for the cost of those projects. The UNVALUED COMPENSATORY RESTORATION variable reflects settlements that included some compensatory restoration that was not reflected in the settlement amount. The dollar amount of the settlements for these spills was lower, other things being equal. Finally, spills occurring in a

[4] Specifically, we excluded variables from our initial model with coefficients having statistical significance worse than 30 percent.

non-coastal state had lower settlement amounts than spills occurring in coastal states, other things being equal.

Interestingly, several factors that we thought would explain some of the variation in NRD settlements did not have statistically significant coefficients. For example, the year of the settlement did not have a statistically significant coefficient in our best model, which indicates no change in NRD settlement amounts over time after taking into account other important factors. Other factors that did not explain the variation in NRD settlement amounts include: the season in which the spill occurred, the type of oil spilled, whether the spilled oil came from a vessel, a pipeline, or a storage tank; the number of years between the spill and the settlement, the number of trustees, and the presence of tribal trustees.

PREDICTIONS OF FUTURE NRD SETTLEMENTS:

While our statistical model explains variations in NRD settlement amounts in the past, it can also be used to predict NRD settlement amounts for future oil spills. Specifically, we can predict the NRD settlement for a future oil spill by applying the coefficients from our model to the characteristics of the future spill. Since the coefficients are estimated with some statistical error, we use a technique called bootstrapping to estimate a range for the possible NRD settlement for a spill having certain characteristics. The 90-percent confidence interval comes from taking 1,000 random draws from the original dataset then running our model 1,000 times (once for each random draw). The regression results give us a range of settlement predictions that creates the confidence interval. Our point estimate for the predicted NRD settlement amount is the median of the NRD settlement amounts from the 1,000 repetitions of the model.[5]

To illustrate the use of our model for predicting future NRD settlement amounts, Table 4 provides the characteristics of three hypothetical oil spills. Spill 1 is a relatively small spill in a coastal area of California, with some injury to threatened or endangered species. Spill 2 is a much larger spill in a freshwater area of a non-coastal state, which injures some threatened or endangered species and closes some recreation areas. Finally, Spill 3 is a very large oil spill in a coastal state outside California, which injures threatened or endangered species and closes some recreation areas.

Table 4 shows the median and 90% confidence interval for the predicted NRD settlement amounts for the three hypothetical oil spills. The predicted settlement amount for Spill 2 is only slightly higher than the predicted settlement amount for Spill 1, because the spill occurs in a non-coastal state, even though Spill 2 involves a much larger amount of oil.

Barring any major changes in the process of quantifying NRDs, our statistical model should provide reasonably accurate predictions of NRD settlement amounts for oil spills in the next few years. Hopefully, such predictions will reduce the time required for negotiating NRD settlements, which will lead to faster primary and compensatory restoration actions. At a minimum, such predictions will inform potentially responsible parties of the potential cost of NRD settlements in advance of actually paying the costs.

[5] We used the median as our point estimate, because the spill amounts are distributed log-normally, which results in an upward bias in the mean.

BIOGRAPHY:

Richard W. Dunford, Ph.D., is the owner of Environmental Economics Services (EES), a consulting firm located in Raleigh, North Carolina. He has led or worked on more than 70 natural resource damage assessments (NRDAs) on behalf of responsible parties. He has numerous publications on NRDA-related topics and also has made presentations at many NRDA conferences and workshops. Ms. Melissa K. Lynes, M.A., is a Ph.D. candidate in the Department of Agricultural Economics at Kansas State University. She previously was a Research Assistant for EES. The authors want to thank Michael A. Dunford, B.A., (currently an EES Research Assistant) for helping compile and validate the NRD settlement amounts.

Table 1: Oil Spill Natural Resource Damage Settlements (Excluding Assessment Costs)[6]

Spill Name	Spill Year	Spill Location	Spill Amount (1,000 gallons)	Product Spilled	Inflation-Adjusted Settlement[7] ($1,000)	Settlement Year
Amazon Venture	1986	Savannah River, SC	500	No. 6 fuel oil	$2,387	1987
American Trader	1990	Huntington Beach, CA	400	Crude oil	$27,710	1999, 1996, 1995
Anacortes	1991	Fidalgo Bay, WA	210	Crude oil	$776	1998
Anitra	1996	Delaware Bay, NJ	40	Light crude oil	$1,518	2004
Apex Houston	1986	San Francisco Bay to Long Beach Harbor, CA	25	Crude oil	$8,261	1994
Arthur Kill	1990	Arthur Kill, NJ	567	Home heating oil	$15,856	1991
Athos I	2004	Delaware River & Delaware Bay, NJ	263	Crude oil	$41,940	2010
Avila Beach Tank	1992	Avila Beach, CA	25	Crude oil	$2,023	1996
B.T. Nautilus	1990	Kill Van Kull, NJ	280	No. 6 fuel oil	$5,164	1993
Beaver Creek	1999	Warm Springs Indian Reservation, OR	5	Unleaded gasoline	$357	2006
Bill Williams River National Wildlife Refuge	2000	Bill Williams River National Wildlife Refuge, AZ	6	No. 2 diesel fuel	$149	2003

[6] Citations for the supporting documents for each oil spill settlement are available from the authors.

[7] Settlement amounts are inflation-adjusted to 2012.

Spill Name	Spill Year	Spill Location	Spill Amount (1,000 gallons)	Product Spilled	Inflation-Adjusted Settlement[7] ($1,000)	Settlement Year
Blackwater Creek	2002	Blackwater Creek watershed, MN	6	Crude oil	$0	2009
Bow Mariner	2004	U.S. Exclusive Economic Zone, VA	190	Heavy fuel oil & diesel fuel	$599	2008
Buzzards Bay Bouchard Barge 120	2003	Buzzards Bay, MA	22	No. 6 oil	$6,387	2010
Cape Mohican	1996	San Francisco Bay, CA	96	Fuel oil	$5,628	1998
Cedar Creek	2001	Cedar Creek, OK	2	Oil	$0	2005
Chalk Point/Swanson Creek	2000	Aquasco, MD	140	Oil	$3,430	2002
Chiltipin Creek	1992	Chiltipin Creek, TX	124	Light crude oil	$198	1994
Christina River	2006	Wilmington, DE	2	Recycled waste oil	$207	2009
Cibro Savannah	1990	Arthur Kill, NY & NJ	100	Home heating oil	$460	1998
Command	1998	San Francisco Bay, CA	3	Crude oil	$5,456	1999
Cosco Busan	2007	San Fransico Bay, CA	53	IFO 380, heavy fuel oil	$32,978	2011
Danby Creek	2000	John Heinz National Wildlife Refuge, PA	192	Crude oil discharge	$1,006	2005
Dixon Bay	1995	Dixon Bay, LA	11	Mixture of crude oil & natural gas	$17	1996
Dubai Star	2009	San Francisco Bay, CA	0	Intermediate fuel oil	$750	2012
East Walk River	2000	East Walker River, CA	4	#6 fuel oil	$435	2003
El Segundo	1991	Santa Monica Bay, CA	21	Diesel fuel & naphthalene	$235	1993

Spill Name	Spill Year	Spill Location	Spill Amount (1,000 gallons)	Product Spilled	Inflation-Adjusted Settlement[7] ($1,000)	Settlement Year
Elm Creek	2008	Elm Creek, IL	158	Crude oil	$0	2012
Equinox	1998	Lake Grande Ecille, LA	47	Oil	$1,051	2005
Ever Reach	2002	Cooper River, SC	13	#6 fuel oil	$121	2012
Fish Creek	1993	Fish Creek, IN	30	No. 2 diesel fuel	$3,624	1996
Foss Barge	2003	Puget Sound, WA	5	#6 Bunker fuel	$282	2008
Genesis Pipeline	1999	Leaf River, MI	336	Crude Oil	$2,427	2004
Greenhill Marsh	1992	Timbalier Bay, LA	96	Light crude oil	$0	1994
High Island	1991	High Island, TX	10	Light crude oil	$0	1992
Irene	1997	Santa Barbara County, CA	7	Petroleum product	$3,034	2002
Jahre Spray	1995	Delaware River, PA	59	Crude oil	$169	1996
Jin Shiang Fa	1993	Rose Atoll National Wildlife Refuge, AS	101	Diesel fuel & lube oil	$1,805	2003
Julie N.	1996	Fore River & Casco Bay, ME	180	No. 2 fuel oil & No. 6 bunker oil	$1,317	2000
Kentucky	1994	Delaware River, PA	11	Light crude oil	$52	1995
Koch Pipeline	1994	San Patricio County, TX	90	Light crude oil	$0	2008
Kure	1997	Humboldt Bay, CA	5	Intermediate fuel oil	$2,993	2008
Kuroshima	1997	Summer Bay, AK	39	Bunker C	$815	2002
Lake Barre	1997	Lake Barre, LA	275	Crude oil	$0	1999
Lake Salvador	1991	Lake Salvador, LA	2	Light crude oil	$0	1991

Spill Name	**Spill Year**	**Spill Location**	**Spill Amount (1,000 gallons)**	**Product Spilled**	**Inflation-Adjusted Settlement[7] ($1,000)**	**Settlement Year**
Martinez	1988	Suisuan & San Pablo Bay, CA	400	Crude oil	$18,750	1990
McGrath Lake	1993	McGrath Lake, CA	87	Crude oil	$1,868	1997
Milos Reefer	1989	St. Matthew Island, AK	250	Diesel & fuel oil	$626	1993
Monongahela River	1988	Monongahela River, PA	3800	Diesel fuel	$3,191	1989
Morris J. Berman	1994	San Juan, PR	1045	#6 fuel oil	$13,020	2000
Neches River	1993	Neches River, TX	88	Light crude oil	$284	1997
Nestucca	1988	Gray's Harbor, WA	231	No. 6 fuel oil	$830	1991
New Carissa	1999	Coos Bay, OR	107	Bunker fuel oil & diesel fuel	$4,862	2004
North Cape	1996	Block Island Sound, RI	828	Home heating oil	$23,306	2000
North Pass	2002	Plaquemines Parish, LA	13	Crude oil	$48	2006
Northridge	1994	Santa Clara River, CA	190	Crude oil	$10,086	1997
Oil and Crooked Creeks	1990-1992	Oil & Crooked Creeks, IN	4	Jet fuel/kerosene	$394	1996
Perth Amboy	2006	Arthur Kill, NJ	14	Dabo crude oil	$50	2006
Polar Tanker	2004	Dalco Passage, WA	1	Crude oil	$512	2010
Posavina	2000	East Boston, MA	60	IFO 380, heavy fuel oil	$132	2000
Presidente Rivera	1989	Delaware River, PA	200-250	No. 6 fuel oil	$3,351	1993
Quinnipiac River	1995	Quinnipiac River, CT	5	No. 4 fuel oil	$39	1996
Reedy River	1996	Reedy River, SC	960	Diesel fuel	$9,298	1998

Spill Name	Spill Year	Spill Location	Spill Amount (1,000 gallons)	Product Spilled	Inflation-Adjusted Settlement[7] ($1,000)	Settlement Year
RTC-380	1992	Long Island Sound, CT & NY	22	No. 2 fuel oil	$305	1994
San Jacinto River	1994	Channelview, TX	406	Gasoline, crude oil, & fuel oil	$1,261	2002
Sanborn Pond	2001	Sanborn Pond, ME	6	No. 6 fuel oil	$138	2007
Santa Clara River	1991	Los Angeles &Ventura Counties, CA	56	Crude oil	$3,354	2002
Shinoussa	1990	Galveston Bay, TX	694	Catalytic feedstock oil	$2,003	1994
Silver Creek	2006	Mount Baker-Snoqualmie National Forest, WA	18	Diesel Fuel	$545	2008
Skaubay/Berge	1995	Gulf of Mexico, TX	38	#6 fuel oil	$2,135	1999
Star Evviva	1999	Atlantic Ocean, SC	24	#6 oil	$2,330	2003
Stuyvesant	1999	Humboldt Bay, CA	2	Intermediate fuel oil	$2,241	2006
Sugarland Run	1993	Potomac River, VA	408	No. 2 diesel fuel	$3,849	1998
Suisan Marsh	2004	Solano County, CA	124	Diesel fuel	$1,270	2007
Tampa Bay	1993	Boca Ciega Bay, FL	362	Jet fuel, diesel, gasoline & No. 6 fuel oil	$4,765	1999
Tenyo Maru	1991	Cape Flattery, WA	475	Intermediate fuel oil, diesel fuel, & fish oil	$7,871	1994
Tesoro Refinery	1998	Oahu, HI	5	Bunker fuel	$661	2001
Texmo	2006	Bill Williams River National Wildlife Refuge, AZ	8	Diesel	$1,343	2007
Turkey Creek	2007	Walker County, TX	276	Jet A fuel	$0	2009
Umpqua River	2006	Umpqua River, OR	542	Oil	$51	2008

Spill Name	Spill Year	Spill Location	Spill Amount (1,000 gallons)	Product Spilled	Inflation-Adjusted Settlement[7] ($1,000)	Settlement Year
Wabash River	2003	Griffin, IN	2		$0	2009
Waiau Marsh	1996	Pearl Harbor, HI	39	No. 6 fuel oil	$3,200	1999
Westchester	2000	Plaquemines Parish, LA	550	Crude oil	$0	2003
Whatcom Creek	1999	Bellingham, WA	236	Oil	$4,261	2004
World Prodigy	1989	Narragansett Bay, RI	290	Home heating oil	$941	1991
Yoncalla Creek	1993	Yoncalla Creek, OR	6	Diesel fuel	$320	1995

Table 2: Explanatory Variables in Statistical Model

Variable Name	Description	Mean[8]
Significant Variables Included in Final Regression		
GALLONS	Natural logarithm of amount of oil spilled in millions of gallons	3.928 (2.136)
T&E SPECIES	1 if a threatened or endangered species was injured in the spill, and 0 otherwise	0.303
ZERO AND LA/TX	1 if the spill occurred in Louisiana or Texas and had a settlement amount of $0, and 0 otherwise	0.079
CALIFORNIA	1 if the spill occurred in California, and 0 otherwise	0.191
SALTWATER	1 if the spill occurred in saltwater, and 0 otherwise	0.596
RECREATION CLOSURE	1 if the spill closed a recreation area, and 0 otherwise	0.472
COMPENSATORY RESTORATION	1 if compensatory restoration performed by the responsible party is part of the settlement, and 0 otherwise	0.225
INTERIOR	1 if the oil spill occurred in a non-coastal state, and 0 otherwise	0.135

[8] Standard deviation is provided in parentheses, when applicable.

Insignificant Variables Excluded in the Final Regression		
WINTER	1 if the spill occurred in the winter, and 0 otherwise	0.303
LIGHT CRUDE	1 if the oil spilled was light crude, and 0 otherwise	0.091
COMBINED COSTS	1 if the Natural Resource Damage costs also included assessment costs	0.146
YEAR	The year the oil spill occurred normalized to 1989	13.932 (6.419)
VESSEL	1 if the oil spill occurred from a vessel, and 0 otherwise	0.404
ELAPSED TIME	The number of years between the spill and the natural resource damage settlement	4.045 (2.688)
TRUSTEES	The number of federal, state, and tribal trustees	3.369 (1.472)
TRIBAL TRUSTEES	1 if any of the trustees were a Native American Tribe, and 0 otherwise	0.115

Table 3: Results of Statistical Model

Explanatory Variable	Coefficient
GALLONS	0.106***
T&E SPECIES	0.178*
ZERO AND LA/TX	-1.386***
CALIFORNIA	0.236**
SALTWATER	0.146
RECREATION CLOSURE	0.198**
UNVALUED COMPENSATORY RESTORATION	-0.380***
INTERIOR	-0.377***
CONSTANT	1.589***
R^2	0.776
$\bar{R}^2$	0.753
Number of Observations	86

* Indicates significance at 10-percent level

** Indicates significance at 5-percent level

*** Indicates significance at 1-percent level

Table 4: Predicted NRD Settlement for Three Hypothetical Spills

Characteristics	Spill 1	Spill 2	Spill 3
GALLONS	20,000	180,000	460,000
T&E SPECIES	Yes	Yes	Yes
ZERO AND LA/TX	No	No	No
CALIFORNIA	Yes	No	No
SALTWATER	Yes	No	Yes
RECREATION CLOSURE	No	Yes	Yes
INTERIOR	No	Yes	No
NRD Settlement (nearest $1,000)			
Median	$1,235,000	$1,488,000	$3,133,000
Lower bound	$664,000	$899,000	$2,216,000
Upper bound	$2,191,000	$2,415,000	$4,239,000