







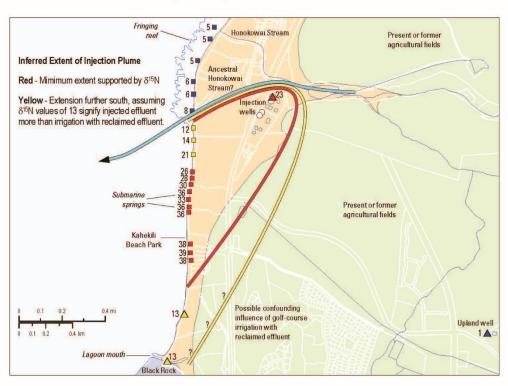




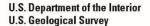


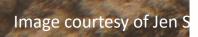
Prepared in Cooperation with the Hawaii State Department of Health, Clean Water Branch

A Multitracer Approach to Detecting Wastewater Plumes from Municipal Injection Wells in Nearshore Marine Waters at Kihei and Lahaina, Maui, Hawaii



Scientific Investigations Report 2009–5253

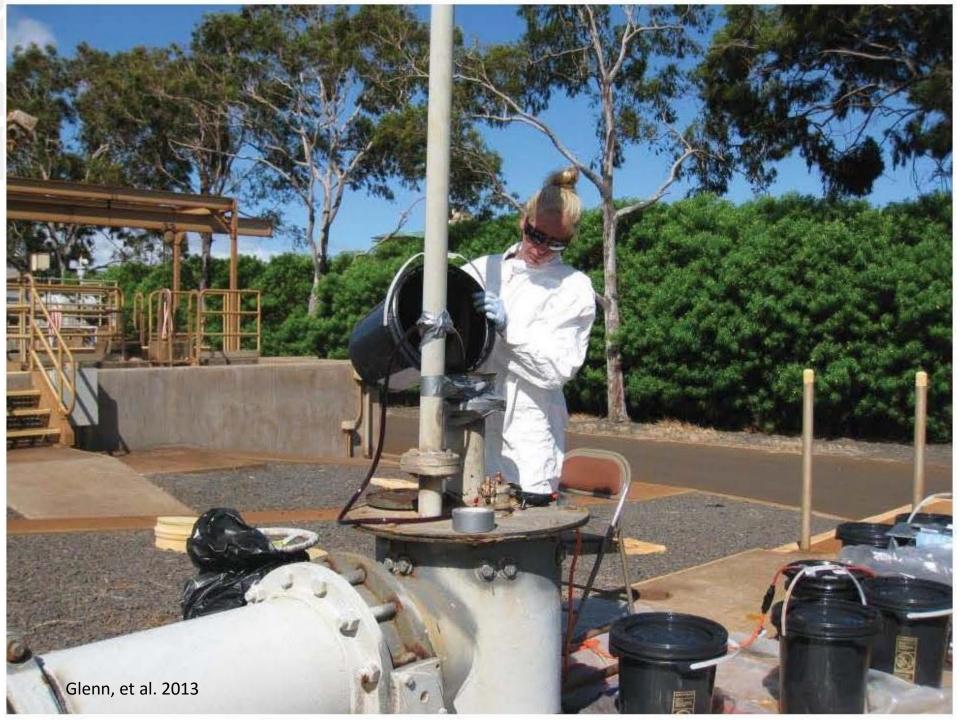








• Highest Algal δ^{15} N Values Ever Detected (Dailer, et al. 2012)

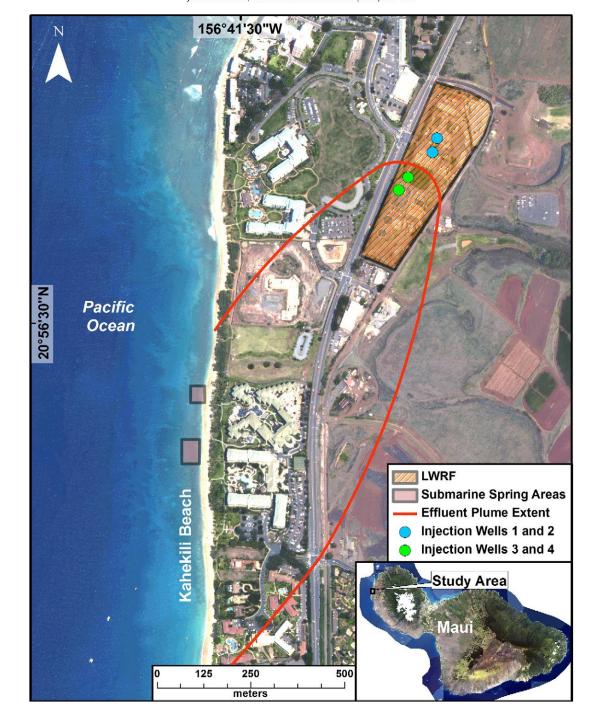




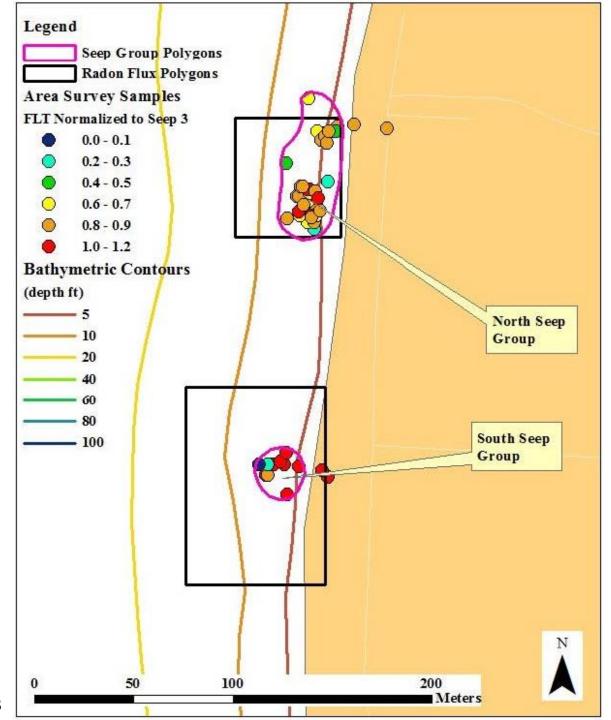


Video courtesy of Meghan Dailer







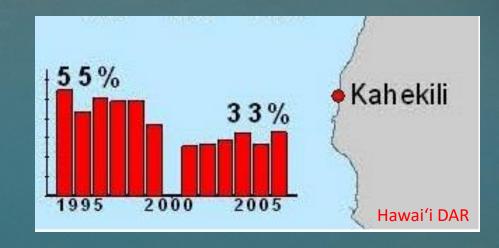




Location	Date (MM/DD/YY)	<>	NO ₃ - + NO ₂ N	<>	Total N (mg	<>	Total P (mg P/L)
Courth agentral mid donth	7/14/14	Н	(ma N/L) 0.010	+	N/L) 0.082	Н	0.012
South control mid-depth	8/25/14	Н	0.010	+	0.085	Н	0.012
North control surface	8/25/14	Н		╁		Н	
Control north mid-depth	4-949-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	Н	0.014	+	0.100	Н	0.014
North seep surface	8/25/14	Н	0.029	+	0.103	Н	0.016
North seep mid-depth	8/25/14	Н	0.035	\perp	0.135	Н	0.013
North seep A	8/25/14	Н	2.59		2.94	Ш	0.260
North seep B	8/25/14	Ш	2.61		3.47	Ц	0.310
North seep C	8/25/14	Ц	2.09		3,53	Ц	0.190
South seep A	8/25/14	Ш	2.61		3.80	Ц	0.320
South seep B	8/25/14	Ш	3.20		3.90	Ш	0.330
South seep C	8/25/14		1.63		3.71		0.295
South seep surface	8/25/14		0.042		0.068		0.012
South seep mid-depth	8/25/14		0.019		0.120		0.011
South control surface	8/25/14	П	0.010		0.085	П	0.011
South control mid-depth	8/25/14	П	0.010	Т	0.129	П	0.009
North control surface	9/29/14	П	0.021		0.103	П	0.014
Control north mid-depth	9/29/14	П	0.016	T	0.090	П	0.013
North seep surface	9/29/14	П	0.023	T	0.095	П	0.014
North seep mid-depth	9/29/14	П	0.024	T	0.102	П	0.015
North seep A	9/29/14	П	1.69		3.17	П	0.310
North seep B	9/29/14	П	1.78		2.83	П	0.310
North seep C	9/29/14	П	1.62		2.80	П	0.325
South seep A	9/29/14	П	1.72		2.81	П	0.345
South seep B	9/29/14	П	1.57		2.61	П	0.340
South seep C	9/29/14	Н	1.56		2.80	П	0.330
South seep surface	9/29/14	Н	0.026		0.111	П	0.016
South seep mid-depth	9/29/14	Н	0.023	†	0.106	H	0.019
South control surface	9/29/14	Н	0.010	T	0.087	Н	0.011
South control mid-depth	9/29/14	Н	0.008	\top	0.083	Н	0.011
North control surface	10/27/14	Н	0.004	+	0.063	Н	0.011
Control north mid-depth	10/27/14	Н	0.004	+	0.066	Н	0.020
North seep surface	10/27/14	Н	0.027	+	0.091	Н	0.020
North seep mid-depth	10/27/14	\vdash	0.019	+	0.085	H	0.022
North seep A	10/27/14	Н	1.29		1.64	Н	0.320
North seep B	10/27/14	Н	1.68		1.86	Н	0.280
North seep C	10/27/14	Н	1.58		1.83	Н	0.295
THE RESERVE OF THE PARTY OF THE	10/27/14	Н	A. (C. 100.00)			Н	1/20/20/20/20/20
South seep A	10/27/14	Н	1.66		1.79	Н	0.330
South seep B	10/27/14	Н	1.60		1.83	Н	0.225
South seep C	2020-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7	\vdash	2.24		2.45	Н	0.340
South seep surface	10/27/14	\sqcup	0.002		0.078		0.011



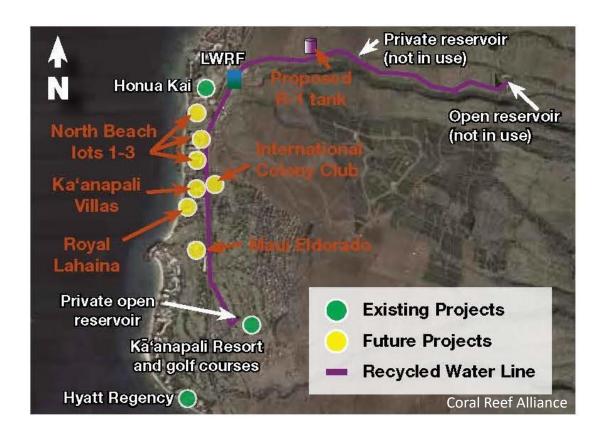




 Due to Lahaina injection wells - Rates of bioerosion orders of magnitude higher (Prouty, et al. 2017)

The Path Forward

Investment to increase R-1 Reuse



The Path Forward

Investment to increase R-1 Reuse





The Path Forward

- Good faith efforts to get/comply with permit
- No future litigation
 - Over Lahaina injection wells
 - Over other County injection wells
 - Over reuse of R-1 water
- No admission of harm

Draft Resolution

BE IT RESOLVED by the Council of the County of Maui:

- 1. That it hereby approves settlement of this case under the terms set forth in an executive meeting before the Governance, Ethics, and Transparency Committee; and
- 2. That it hereby authorizes the Mayor to execute a Release and Settlement Agreement on behalf of the County in this case, under such terms and conditions as may be imposed, and agreed to, by the Corporation Counsel; ...



