

Barnstable County Department of Health and Environment

Database Management Program for
Innovative/Alternative
On-site
Sewage Treatment Systems

What's our issue with I/As?

- ◆ Barnstable County, comprised of the 15 towns on Cape Cod, currently has approximately **1000** individual on-site I/A systems permitted
 - Majority at single family homes
 - Some at condos, motels, congregate living, restaurants, commercial facilities
 - All have design flows <10,000 gpd (design flows >10,000 gpd are permitted and regulated by DEP, not by towns)

What are IAs

Provide a level of wastewater treatment beyond a T5 system

Permitted by DEP, under General, Provisional, Remedial, and Pilot

Most on Cape Cod are installed with an expectation of nitrogen removal

Why so many?

- ◆ State-defined Nitrogen Sensitive Areas (Zone II's to public supply wells and lots with wells and septic systems)
- ◆ Upgrade situations where owner cannot meet setbacks to wells or wetlands
- ◆ Concerns over nitrogen loading to coastal waters

Massachusetts Estuaries Program

- ◆ Has been studying most of Cape Cod's estuaries
- ◆ Will be issuing TMDLs for nitrogen for these estuaries, and sub-embayments, over the next few years
- ◆ Has spurred towns to begin Comprehensive Wastewater Management Planning process
- ◆ What role will individual on-site I/As play in the future?

I/A systems have O&M and sampling requirements

- ◆ Each system must have an operator
- ◆ Systems must be monitored, usually quarterly, to ensure all components are operating properly
- ◆ System water quality must be monitored, often quarterly, to ensure it meets required standards
- ◆ System operators must report results to Boards of Health and DEP

Local Boards of Health often impose additional requirements

- ◆ More frequent monitoring
- ◆ Monitoring for a longer period of time than required by DEP
- ◆ Additional nitrogen monitoring

What does this add up to?

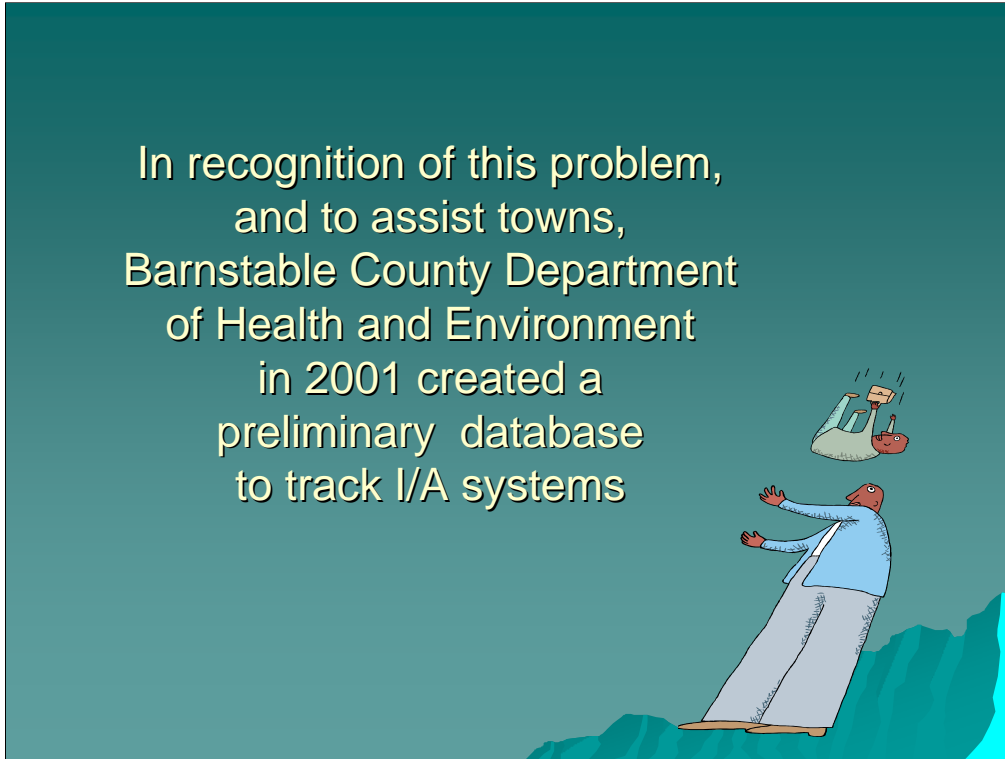
- ◆ Many systems
- ◆ Randomly geographically installed
 - I/As often installed at time of system upgrade
 - Lack of coordinated wastewater planning in most cases
- ◆ Variability in O&M and sampling requirements due to
 - Permitting under different DEP approval levels
 - Local requirements imposed by BOH

Labor intensive for local health departments to manage

Local Health Departments often do not have adequate staff to oversee IA systems to ensure:

- Systems are being inspected and sampled as required
- To provide follow up when systems are not inspected or do not meet effluent standards

In recognition of this problem,
and to assist towns,
Barnstable County Department
of Health and Environment
in 2001 created a
preliminary database
to track I/A systems




Uniqueness of Barnstable County Department of Health and Environment, ability to play this role

Original database

- ◆ System operators reported results of O&M and sampling to BOH
- ◆ BCDHE periodically collected results from each town
- ◆ Results got manually entered into BCDHE database
- ◆ BCDHE prepared summary performance reports for each town
- ◆ Still labor intensive
- ◆ No time left over for compliance efforts or data analysis

RECOGNIZED THAT WE NEEDED TO DO SOMETHING MORE EFFICIENT



2004 Web-Based database

- ◆ BCDHE created a new management program to assist towns
 - Web-based database
 - Operators report directly to database via web
 - Paperless
 - Contract with Carmody Data Systems Inc. web-based database

Recognized need to go to more efficient method

Started program just about 1 yr ago

Has taken us the past year to get the database customized

Why did we choose Carmody?

- ◆ Database is customized to Barnstable County and local needs
- ◆ Flexible
 - Capabilities can be expanded or altered as necessary in the future as needs and program changes
- ◆ User friendly
 - Training provided for operators and health staff
- ◆ Inexpensive, *no cost to towns*

What does the database do?

- ◆ Tracks maintenance and inspection events for individual systems
- ◆ Provides alerts that inspections or sampling are needed or when these events are missed
- ◆ Tracks effluent testing results and provides alerts when effluent does not meet limits
- ◆ Tracks compliance actions (enforcement letters, phone calls, etc.)

Database features

- ◆ Automatically creates a system service history for each system
 - System history includes information on:
 - maintenance events
 - sampling results
 - compliance actions
- ◆ Provides real time information on individual systems
- ◆ Data transfer capabilities to Excel and GIS

Home Page Service Schedules Summary

- ◆ Database is designed to alert us when a system is not in compliance
 - Maintenance visit not performed
 - Maintenance contract not in effect
 - Sampling not performed

- Summary page also provides advance alerts that a service visit needs to occur or an O&M contract is about to expire

TO BEGIN, YOU CAN SEE BARNSTABLE COUNTY'S HOME PAGE AND THE ALERTS IT PROVIDES

Regulator Homepage
BARNSTABLE County, Massachusetts ~ Susan Rask ~ 3/6/2006

Message Center

Sample Reports	Maintenance Verification	Message	Non-Compliance
66	98	67	74

Service Schedules Summary
(System Components, Flags, Reports, Sampling and Renewals)

[Click here for help on how to read the Service Schedule Summary below.](#)
Service events are updated once every day at 2:00 AM EST

Description	Total	Notice (30 days)	Due	30	60	90+
Advantex	10	2				2
Aerobic (Norweco Singular Bio-Kinetic)	72	29	1		3	10
Amphidrome	11	1				
Anoxic Filter	2				1	
Bioclere	153	66		2	7	22
Bioren Living Filter	1				1	
CERES III	1			1		
Clivus	7		1			3
FAST	589	190		1	79	85
FAST - Modular	9	5				1
JET	2				1	
Orenco Trickling Filter	7					8
Post Equalization Tanks	1				1	
Pre-Equalization	3			1	2	
Pressure Dose	22	1			1	1
Puraflo Peat Biofilter	4					4
RSF	85	35			6	7
RUCK System	60	2			17	12
Sample Report (Effluent)	744	117	1	1	41	185
Sample Report (Influent & Effluent)	90	10	1	4	10	12
Sample Report (Influent)	8		1			
Septitech	27	8			4	
UV Disinfection	41	5			1	5
Waterloo Biofilter	8	2				1
Maintenance Contract	183	9	3		1	35
Operational Permit	33			2	4	15
TOTALS	2172	480	8	12	177	405

DATABASE LISTS ALL SYTEMS OF EVERY TECHNOLOGY TYPE. IF YOU CLICK ON ANY OF THE NUMBERS, IT WILL GENERATE A LSIT OF ALL THE ASSOCIATED SYTEMS.

NOTE ALSO THAT THIS INCLUDES SAMPLE REPORTS AND MAINTENANCE CONTRACTS.

SO YOU CAN SEE THE HOME PAGE SHOWS US THAT THERE ARE SEVERAL SYSTEMS DUE FOR INSPECTION IN THE NEXT 30 DAYS.

It also shows us the systems that are 30, 60, and 90 days over due for inspection.

It ALSO SHOWS US HOW MANY SYSTEMS ARE OVERDUE FOR SAMPLING, AND SYSTEMS WHOSE O&M CONTRACT HAS LAPSED.

THIS SSSYTEM WORKS BECAUSE WE CAN CUSTOM SET FLAGS FOR EACH SYSTEM when we set up its permit

Setting up Service Schedules in the system permit

Select Component(s), Service(s) or Report(s)			
#	Type	Calendar Start Date OR Last Service Date <small>(Only if Tracking)</small>	Due Date
1	Aerobic (Norweco Singulair)	10/1/2005	1/1/2006
Manufacturer <input type="text"/> Serial# <input type="text"/> Other <input type="text"/>			
<input type="radio"/> Consecutive Term <input type="text" value="0"/> <input type="radio"/> Calendar Term <input type="text" value="Quarterly"/> <input checked="" type="radio"/> No			
Override			
2	Sample Report (Effluent)	10/20/2004	1/1/2005
Manufacturer <input type="text"/> Serial# <input type="text"/> Other <input type="text"/>			
<input type="radio"/> Consecutive Term <input type="text" value="0"/> <input checked="" type="radio"/> Calendar Term <input type="text" value="Semi-Annually"/> <input type="radio"/> No			
Override			

Each component is set up individually and gets its own custom schedule

Every time a report is filed, the Last Service Date field is updated, and the Due Date-which triggers the FLAGGING system-is similarly updated based on the calendar term selected

Useful features of Barnstable County's database

- Message Boards
- Compliance Tracking
- Correspondence tracking
- Ability to easily access water quality data

SOME OF THE MOST USEFUL FEATURES OF THE DATABASE

Barnstable County Home Page

Main Menu ▲

- Home
- Contact Us
- New Features
- Tutorials
- User Applications
- Terms of Use
- Disclaimer
- Log Out

Records ▲

- Submit Reports
- Submit Reports Demo
- Property Info

Reports ▲

- Status Reports
- Search Reports
- View Excel Reports
- Service Schedules
- Custom Reports
- Site Sketch

Setup ▲

- Service Schedules
- Build Reports

Tracking ▲

- Letter / Postcards

Message Center

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Service Schedules Summary

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Anoxic Filter	2			1	
Bioclere	153	66	2	7	23
Bioren Living Filter	1			1	
CERES III	1		1		
Clivus	7		1		3
FAST	588	192	1	80	86
FAST - Modular	9	5		1	
JET	2			1	
Orenco Trickling Filter	7				6
Post Equalization Tank	1			1	

General message board

Operators send messages about cancelled contracts, change of owner, changes in testing etc. Very useful to help us keep database updated

Operators can send messages to Message Board

Wastewater Treatment Services, Inc.	PRCom910FAS-4	Bayberry Bend Condo 910-928 Commercial Street, Unit 4 PROVINCETOWN, MA 02657	23	2/7/2006 1:55:33 PM	Annual test was August, 2005. To Carmody 9/12/05.	Clear Edit Save
Wastewater Treatment Services, Inc.	HASaqFAS-B	Town of Harwich Saquatucket Harbor HARWICH, MA 02645	23	2/7/2006 1:54:42 PM	Testing done by Town. Service only. <i>02/17/06 - In touch with town employees to resolve issue -CB</i>	Clear Edit Save
Wastewater Treatment Services, Inc.	HASaqFAS-A	Town of Harwich Saquatucket Harbor HARWICH, MA 02645	23	2/7/2006 1:54:11 PM	Testing done by Town. Service only. <i>02/17/06 - In touch with town employees to resolve issue -CB</i>	Clear Edit Save
Wastewater Treatment Services, Inc.	HAR28601FAS	Melrose Condominium 601 Route 28 Melrose House HARWICH, MA 02645	23	2/7/2006 1:48:55 PM	Testing done by others. Service only. <i>02/17/06 - In touch with Town of Harwich about matter -CB</i>	Clear Edit Save
Wastewater Treatment Services, Inc.	FAPut003FAS	Pitrocchelli, Joanna 3 Putters Drive FALMOUTH, MA 02536	23	2/7/2006 1:48:11 PM	No testing requirements for this property. - check with town - we have requirements as annual from DEP <i>02/21/06 - Emailed David Cangnan about system requirements -CB</i>	Clear Edit Save

We can edit notes as needed. Notes can stay on the message board as long as we need to keep them there while we follow up. When done, they can be saved to system history

Home Page

Main Menu

- Home
- Contact Us
- New Features
- Tutorials
- User Applications
- Terms of Use
- Disclaimer
- Log Out

Records

- Submit Reports
- Submit Reports Demo
- Property Info

Reports

- Status Reports
- Search Reports
- View Excel Reports
- Service Schedules
- Custom Reports
- Site Sketch

Setup

- Service Schedules
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Anoxic Filter	2				1	
BioClere	153	66	2		7	23
Bioren Living Filter	1				1	
CERES III	1		1			
Clivus	7		1			3
FAST	588	192	1		80	86
FAST - Modular	9	5			1	
JET	2				1	
Oreco Tricking Filter	7					6
Post Equalization Tank	1				1	
Pre-Equalization	3		1		2	
Pressure Dose	16	1			1	1
Puraflo Peat Biofilter	4					4
RSF	85	35			5	7

MAINTENANCE VERIFICATION BOARD LETS US KNOW IF THE OPERATOR ENCOUNTERED PROBLEMS DURING INSPECTION

MESSAGES ARE AUTOMATICALLY GNERATED WHEN OPERATOR FILES A REPORT, IF HE CANNOT COMPLETE THE INSPECTION, OR A COMPONENT NEEDS FOLLOW UP OR REPAIR

Maintenance Verification Message Board

Maintenance Verification

Assigned Service Provider	Tracking #	Name	Age	Date Created	Subject	Action
F.R. Mahony & Associates, Inc.	MAGre050Amp	Noonan, Nancy 50 Greensward Road MASHPEE, MA 02649	0	3/2/2006 12:14:03 PM	The System Needs Follow Up Service (Component Replacement or Service, Components Made Accessible for Inspection or Sampling, System Pumping, etc.)	<input type="button" value="Clear"/> <input type="button" value="Edit"/> <input type="button" value="Save"/>
F.R. Mahony & Associates, Inc.	MAGre050Amp	Noonan, Nancy 50 Greensward Road MASHPEE, MA 02649	0	3/2/2006 12:14:03 PM	All Required Inspection Activities Were Performed for This System	<input type="button" value="Clear"/> <input type="button" value="Edit"/> <input type="button" value="Save"/>
Wastewater Treatment Services, Inc.	MANeh014FAS	Nocella, Salvatore 14 Nehoiden Rd MASHPEE, MA 02649	0	3/2/2006 9:23:24 AM	All Required Inspection Activities Were Performed for This System	<input type="button" value="Clear"/> <input type="button" value="Edit"/> <input type="button" value="Save"/>
Wastewater Treatment Services, Inc.	MAWat105FAS	Costa, John 105 Waterline Drive MASHPEE, MA 02649	0	3/2/2006 9:00:02 AM	All Required Inspection Activities Were Performed for This System	<input type="button" value="Clear"/> <input type="button" value="Edit"/> <input type="button" value="Save"/>

THIS MESSAGE BOARD SERVES AS A PLACE WHERE WE CAN PARK SYSTEMS THAT ARE IN NEED OF FOLLOW-UP, UNTIL WE ARE SATISFIED. HOW ARE THESE MESSAGES GENERATED?

Submit Inspection Report

Service Report - Inspection

BARNSTABLE County, Massachusetts ~ Susan Rask ~ 2/20/2006

Permit:	DEOld149FAS (tracking #)
Name:	Banas, Michael
Address:	149 Old Wharf Road, Cottage 7 DENNISPORT, MA
Management Level:	General with Nitrogen Requirements
Service Provider ID:	8564
Service Provider:	Wastewater Treatment Services, Inc.
	<input type="button" value="Assign a different service provider"/>
	<input checked="" type="radio"/> Most Recent: Wastewater Treatment Services, Inc.
	<input type="radio"/> Used in the past: - Select One -
	<input type="radio"/> In County: - Select One -
	<input type="button" value="Change Provider"/>
Report Filed By:	Susan Rask
	Select System component(s) that were inspected:
FAST:	<input checked="" type="checkbox"/>
Date & Time Serviced:	<input type="text"/> / <input type="text"/> / 2006 @ <input type="text"/> : <input type="text"/> - <input type="text"/> <input type="button" value="?"/>
Notes/Comments/Message or Other Observations:	<div style="border: 1px solid black; height: 40px;"></div>

THEY ARE AUTOMATICALLY GENERATED WHEN AN OPERATOR SUBMITS THE INSPECTION REPORT

NOTE THAT THE REPORT KNOWS WHAT TECHNOLOGY IS BEING REPORTED ON, AND BRINGS UP ALL THE QUESTIONS THAT ARE SPECIFIC TO THAT TECHNOLOGY

Field Testing:	
Color	<input type="checkbox"/> Gray <input type="checkbox"/> Brown <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Other <input type="text"/>
Odor	<input type="checkbox"/> Musty <input type="checkbox"/> Earthy <input type="checkbox"/> Moldy <input type="checkbox"/> Offensive <input type="checkbox"/> Turbid
Effluent Solids	<input type="checkbox"/> No <input type="checkbox"/> Some
Values	pH <input type="text"/> SU DO <input type="text"/> mg/L Turbidity <input type="text"/> NTU <small>(6 to 9) (2 or greater) (40 or less)</small>
<small>Should a Remedial or General Use system fail the Field Testing, effluent samples shall be collected per Standard Methods and analyzed for BOD and TSS</small>	
FAST	
Certified Operator's Name	<input type="text"/>
Operator's Certification Number	<input type="text"/>
What is the run-time meter reading?	<input type="text"/>
What is the water meter reading?	<input type="text"/>
INSTALLATION INFORMATION	
Blower Brand & Size	Blower Brand <input type="text"/> Size <input type="text"/>

REPORT INCLUDES DEP'S NEW FIELD TESTING QUESTIONS

AS OF JAN 2006, DEP ALLOWS SYSTEMS WITH GENERAL AND REMEDIAL USE TO BE INSPECTED AND FIELD TESTED ONLY ONCE PER YEAR. IF THE SYSTEM PASSES FIELD TEST, NO FURTHER SAMPLING IS REQUIRED.

DEP Effluent Description

(225 character limit for printing)

Date of last pump-out

Description of any maintenance performed since previous inspection & during this inspection:

(225 character limit for printing)

Notes and Comments:

(225 character limit for printing)

Seasonal Residence Yes No

Sludge Depth (to be checked yearly)

OPERATOR FIULLS OUT REPORT. ALL QUESTIONS SPECIFIC TO HIS TECHNOLOGY ARE ON THE REPORT. SHOULD ALSO NOTE THAT WHEN THIS REPORT IS PRINTED, IT WILL LOKK EXACTLY LIKE THE DEP REQUIRED REPORT FORM

EQUIPMENT OPERATION

Electrical Panel(s)

Were the Electric Panels checked? Yes No

Visual Alarm Operating Yes No

Audio Alarm Operating (if present) Yes No

Detailed Comments of Site Conditions -
Maintenance performed or Required for the
above items

(225 character limit for printing)

Blower(s):

Were the Blowers checked? Yes No

Air Inlet Filter Clean? Yes No

Blower hood vents clear? Yes No

Excessive Noise Yes No

Excessive Vibration Yes No

Detailed Comments of Site Conditions -
Maintenance Performed or Required for the
above items

EFFLUENT:

Estimated Daily Flow: Design Flow
 Result

pH (Standard Units)(LIMIT: 6-9 S.U.)Result:

Color (LIMIT: Clear)Result:

Temperature (Result)

Dissolved Oxygen(LIMIT: 2 mg/L)Result:
 (effluent)

Odor(LIMIT: Slightly musty odor(not septic))
 Result:

Detailed Comments of Site Conditions -
 Maintenance performed or Required for the
 above items

(225 character limit for printing)

**All Required Inspection Activities Were
 Performed for This System** Yes No

**The System Needs Follow Up Service
 (Component Replacement or Service,
 Components Made Accessible for
 Inspection or Sampling, System
 Pumping, etc.)** Yes No

MANDATORY QUESTIONS, IF ANSWER TO FIRST QUESTION IS NO, OR ANSWER TO 2ND QUESTION IS YES, AUTOMATICALLY GENERATES MESSAGE TO MESSAGE BOARD

Home Page
Regulator Homepage

BARNSTABLE County, Massachusetts ~ Susan Rask ~ 3/3/2006

 Message Center

Sample Reports	Maintenance Verification	Message	Non-Compliance
65	92	66	74

Service Schedules Summary

(System Components, Flags, Reports, Sampling and Renewals)

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Aerobic (Norweco Singular Bio-Kinetic)	72	29	1		3	10
Amphidrome	11	1				
Anoxic Filter	2				1	
Bioclere	153	66		2	7	23

**THIS MESSAGE BOARD AUTOMATICALLY ALERTS US WHEN A WATER SAMPLE EXCEEDS LIMITS
IIF WE CLICK ON IT, WE GET THE LIST**

Customer Status

BARNSTABLE County, Massachusetts ~ Susan Rask ~ 3/2/2006

Sample Reports

Assigned Service Provider	Tracking #	Name	Age	Date Created	Subject	Action
Gift Barn, Inc.	EACam780FAS	Civita, George 780 Campground Road NORTH EASTHAM, MA 02851	0	Service Date: 2/8/2006 8:00:00 AM	63 mg/L exceeded the limit of 30 mg/L for BOD5 Amount : 62 mg/L exceeded the limit of 19 mg/L for TKN Amount : 62.1 mg/L exceeded the limit of 19 mg/L for Total Nitrogen : 32 mg/L exceeded the limit of 30 mg/L for TSS Amount	Clear Edit Save
Coastal Engineering Co., Inc.	HALon525Bio	Cape Cod Hospital 525 Long Pond Road HARWICH, MA 02845	2	Service Date: 1/26/2006 12:00:00 PM	23 mg/L exceeded the limit of 19 mg/L for Nitrate Amount : 27.1 mg/L exceeded the limit of 19 mg/L for Total Nitrogen	Clear Edit Save
Wastewater Treatment Services, Inc.	YASta451FAS-B	R&B Realty Trust 451 Station Avenue, Unit B YARMOUTH, MA 02884	16	Service Date: 1/9/2006 11:45:00 AM	66.0 mg/L exceeded the limit of 19 mg/L for Nitrate Amount : 74.3 mg/L exceeded the limit of 19 mg/L for Total Nitrogen	Clear Edit Save

THESE MESSAGES ARE AUTOMATICALLY GENERATED WHEN THE OPERATOR FILES HIS SAMPLE REPORT

Submit Sampling Report

Service Report - Sampling Report

BARNSTABLE County, Massachusetts ~ Susan Rask ~ 2/20/2006

Permit:	DEOId149FAS (tracking #)
Name:	Banas, Michael
Address:	149 Old Wharf Road, Cottage 7 DENNISPORT, MA
Management Level:	General with Nitrogen Requirements
Assign Reporting Agent	
<input checked="" type="radio"/>	Most Recent: Wastewater Treatment Services, Inc.
<input type="radio"/>	Used in the past: <input type="text" value="- Select One -"/>
<input type="radio"/>	In County: <input type="text" value="- Select One -"/>
<input type="radio"/>	Regulators: <input type="text" value="- Select One -"/>
Report Filed By:	Susan Rask
Select System component(s) that were sampled:	
FAST	<input checked="" type="checkbox"/>
Sample Report (Effluent):	<input checked="" type="checkbox"/>
Date & Time Serviced:	<input type="text" value=""/> / <input type="text" value=""/> / 2006 @ <input type="text" value=""/> : <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/>
Notes/Comments/Message or Other Observations:	<input type="text"/>

Laboratory

Sampling Report

Sampler Name

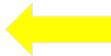
Data Quality

Sample Type

Effluent (Leave item blank if not tested)

Ammonia Amount (mg/L)	<input type="text"/>
BOD5 Amount (mg/L)	<input type="text"/>
Conductance Amount (umhos/cm)	<input type="text"/>
Nitrate Amount (mg/L)	<input type="text" value="14.3"/>
Nitrite Amount (mg/L)	<input type="text" value="0.5"/>
pH Amount (mg/L)	<input type="text"/>
Temperature (degrees F)	<input type="text"/>
TKN Amount (mg/L)	<input type="text" value="3.5"/>
Total Nitrogen (mg/L)	<input type="text" value="18.3"/>
TSS Amount (mg/L)	<input type="text"/>

Active Record? Active Inactive (hidden)



Because different systems have very different sampling requirements, we needed to be able to CUSTOMIZE THE REPORT FORM TO SPECIFY WHAT PARAMETERS HAVE TO BE SAMPLED TOTAL NITROGEN AUTO SUMS, AND IF IT OR ANY OTHER PARAMETER EXCEEDS LIMIT IT GENERATES A MESSAGE TO MESSAGE BOARD WE SET LIMITS IN SYSTEM PERMIT

Set up water quality parameters and limits in system permit

Sampling Data Types For This Property
To learn how to set up sampling data ([click here](#)).

Sample Component: FAST

INFLUENT

<input type="checkbox"/> Alkalinity	<input type="checkbox"/> Ammonia	<input type="checkbox"/> BOD5	<input type="checkbox"/> CBOD
<input type="checkbox"/> Conductance	<input type="checkbox"/> Fecal Coliform	<input type="checkbox"/> Nitrate	<input type="checkbox"/> Nitrite
<input type="checkbox"/> Oil and Grease	<input type="checkbox"/> Organic Nitrogen	<input type="checkbox"/> Organic P	<input type="checkbox"/> pH
<input type="checkbox"/> TDS	<input type="checkbox"/> Temperature	<input type="checkbox"/> TKN	<input type="checkbox"/> Total Nitrogen
<input type="checkbox"/> Total P	<input type="checkbox"/> TSS	<input type="checkbox"/> Water Usage	

EFFLUENT

<input type="checkbox"/> Alkalinity	<input type="checkbox"/> Ammonia	<input checked="" type="checkbox"/> BOD5	<input type="checkbox"/> CBOD
<input type="checkbox"/> Conductance	<input type="checkbox"/> Fecal Coliform	<input checked="" type="checkbox"/> Nitrate	<input checked="" type="checkbox"/> Nitrite
<input type="checkbox"/> Oil and Grease	<input type="checkbox"/> Organic Nitrogen	<input type="checkbox"/> Organic P	<input checked="" type="checkbox"/> pH
<input type="checkbox"/> TDS	<input type="checkbox"/> Temperature	<input checked="" type="checkbox"/> TKN	<input checked="" type="checkbox"/> Total Nitrogen
<input type="checkbox"/> Total P	<input checked="" type="checkbox"/> TSS	<input type="checkbox"/> Water Usage	

Maintenance Flags

Effluent - Total Nitrogen

Minimum Level: 0 mg/L

Maximum Level: 19 mg/L

[Save Changes](#)

IN THE PROPERTY INFORMATION/PERMIT PAGE, WE CAN CUSTOM SET UPPER AND LOWER LIMITS FOR EACH WATER QUALITY PARAMETER.

If the report filed exceeds these LIMITS, A MESSAGE IS AUTOMATICALLY SENT TO MESSAGE BOARD

System History

- ◆ All of the above messages are stored in each individual system's history,
- ◆ We can quickly see
 - how a system has performed over time
 - if it has had recurring maintenance problems
 - If it has had recurring water quality violations

Property Info Search Results

BARNSTABLE County, Massachusetts ~ Susan Rask ~ 3/6/2006

Tracking Number	Permit Holder	System Address	Links	Action
YANew006FAS	Donaruma, Ruth Other: Red Rose Inn	6 New Hampshire YARMOUTH, MA	Map	View Property View History Add Tenant/ Cluster Owner
	<input type="checkbox"/> Include Inactive Tenants/Cluster Owners			View Tenants/ Cluster Owners
	DEMai206Bio	Realty Resources Inc. Other: Dennis Commons	206 Main Street DENNISPORT, MA	Map
<input type="checkbox"/> Include Inactive Tenants/Cluster Owners			View Tenants/ Cluster Owners	
MAUnc205FAS	Redmon, Charles	205 Uncle Percys Road MASHPEE, MA	Map	View Property View History Add Tenant/ Cluster Owner
	<input type="checkbox"/> Include Inactive Tenants/Cluster Owners			View Tenants/ Cluster Owners
	DECap020Sep	Reef Realty Ltd Other: Bella, John	20 Captain Prestons Road DENNIS, MA	Map
<input type="checkbox"/> Include Inactive Tenants/Cluster Owners			View Tenants/ Cluster Owners	
WEOld605FAS	Reeves, Brian	605 Old Kings Highway WELLFLEET, MA	Map	View Property View History Add Tenant/ Cluster Owner
	<input type="checkbox"/> Include Inactive Tenants/Cluster Owners			View Tenants/ Cluster Owners

ON HOME PAGE, CHOOSE PROPERTY INFO AND SEARCH BY OWNER, THEN VIEW HISTORY

Property History						
BARNSTABLE County, Massachusetts ~ Susan Rask ~ 10/31/2005						
Property Information						
Property ID	DEMa2006Bio (tracking #)					
Links	Map					
Name	Realty Resources Inc.,					
Site Address	208 Main Street Dennis Port, MA					
Service Statistics						
Total Service Events (To Date)	7					
View History: 1 2 3 All Years		Property History - 1 Year			Postcards Email View Changes	
Date Entered Date Serviced	Gallons Pumped	Recorded By	Report Type or Disposal Site	Comments		
10/29/2005 9:15 AM 9/26/2005 12:15 PM		Coastal Engineering Co., Inc. ----- Using: The Web Site	Sampling Report	Test results show that the system is not nitrifying.	EdK	
9/29/2005 1:51 PM 9/26/2005 11:30 AM		Coastal Engineering Co., Inc. ----- Using: The Web Site	**Inspection**	All pumps, timers, alarms are operating properly. Liquid backs up at UV light.	EdK	
9/19/2005 12:44 PM 9/7/2005 12:00 PM		Coastal Engineering Co., Inc. ----- Using: The Web Site	**Inspection**	System operating properly.	EdK	
8/22/2005 1:31 PM 3/24/2005 2:00 PM		Coastal Engineering Co., Inc.	**Saved Sample Message**	51.5 mg/L exceeded the limit of 19 mg/L for Ammonia Amount : 53.8 mg/L exceeded the limit of 19 mg/L for TKN Amount : 55.7 mg/L exceeded the limit of 19 mg/L for Total Nitrogen	EdK In-Activate	
8/22/2005 1:18 PM 12/29/2004 4:00 PM		Coastal Engineering Co., Inc.	**Saved Sample Message**	50.1 mg/L exceeded the limit of 19 mg/L for Ammonia Amount : 53.9 mg/L exceeded the limit of 19 mg/L for TKN Amount : 54.1 mg/L exceeded the limit of 19 mg/L for Total Nitrogen	EdK In-Activate	
8/19/2005 2:58 PM 6/22/2005 2:15 PM		Coastal Engineering Co., Inc.	**Saved Sample Message**	33.1 mg/L exceeded the limit of 19 mg/L for Total Nitrogen	EdK In-Activate	
8/19/2005 2:58 PM 6/22/2005 2:15 PM		Coastal Engineering Co., Inc. ----- Using: The Web Site	Sampling Report	Test results show incomplete nitrification and denitrification. Will add sodium bicarbonate and examine recycle times.	EdK	


THIS SHOWS ALL INSPECTION AND SAMPLING EVENTS,

PLUS COMMENTS FILED BY OPERATORS WHEN THEY SUBMIT THEIR REPORTS

YOU CAN ALSO SEE MESSAGES WE'VE SAVED FROM THE MESSAGE BOARD

Permit:	DEMa120681a (tracking #)
Name:	Realty Resources Inc.
Address:	206 Main Street DENNISPORT, MA
Management Level:	General
Service Provider ID:	N/A (see application)
Service Provider:	Coastal Engineering Co., Inc.
	Assign Reporting Agent
	<input checked="" type="radio"/> Most Recent: Coastal Engineering Co., Inc.
	<input type="radio"/> Used in the past: <input type="text" value="Select One"/>
	<input type="radio"/> In County: <input type="text" value="Select One"/>
	<input type="radio"/> Regulators: <input type="text" value="Select One"/>
Report Filed By:	Todd J. Palmatier
Select System component(s) that were sampled:	<input type="checkbox"/>
Biocline:	<input type="checkbox"/>
Sample Report (Effluent):	<input checked="" type="checkbox"/>
Date & Time Serviced:	9 / 26 / 2005 @ 12 : 15 PM
Notes/Comments/Message or Other Observations:	Test results show that the system is not nitrifying.
Laboratory:	Envirotech Laboratories, Inc.
Default Sampling Reports	
Sampler Name	Chad Simmons
Data Quality	Good
Sample Type	grab
Influent (Leave item blank if not tested)	
Alkalinity Amount (mg/L)	186
Ammonia Amount (mg/L)	42.3
BOD5 Amount (mg/L)	168
Nitrate Amount (mg/L)	0.025
Nitrite Amount (mg/L)	0.01
pH Amount (mg/L)	6.75
Temperature (degrees F)	
TKN Amount (mg/L)	50.7
Total Nitrogen (mg/L)	50.7
TSS Amount (mg/L)	220
Effluent (Leave item blank if not tested)	
Alkalinity Amount (mg/L)	190
Ammonia Amount (mg/L)	33.3
BOD5 Amount (mg/L)	14.2
Nitrate Amount (mg/L)	0.025
Nitrite Amount (mg/L)	0.01
pH Amount (mg/L)	7.25
Temperature (degrees F)	
TKN Amount (mg/L)	35.8
Total Nitrogen (mg/L)	35.8
TSS Amount (mg/L)	15.0
Active Record?	<input checked="" type="radio"/> Active <input type="radio"/> Inactive (hidden)
<input type="button" value="Register Report"/>	

END OF MESSAGE BOARDS
NEXT: COMPLIANCE



Compliance

- ◆ BCDHE does follow-up and enforcement for towns:
 - expired O&M contract
 - failure to inspect or sample
 - water quality does not meet limits

We wanted to be able to design a way to track these actions in the database

Compliance Tracking

- ◆ Database has been customized to create comprehensive compliance history for each system
 - Log of all compliance actions: correspondence and phone calls with owners, operators and Boards of Health
 - Correspondence can be written and stored in database
 - Printed correspondence can be scanned into database

Compliance Tracking

- ◆ Database can be queried to find systems based on type of non-compliance
 - Contract cancelled
 - Sampling not performed
 - Sampling exceeds limits
 - System not inspected
- ◆ Shows number of times an individual system has been out of compliance, so we can rapidly identify “chronic offenders”

Regulator Homepage

BARNSTABLE County, Massachusetts ~ Susan Rask ~ 3/1/2006

Message Center

Sample Reports	Maintenance Verification	Message	Non-Compliance
64	87	65	71

Service Schedules Summary
(System Components, Flags, Reports, Sampling and Renewals)

[Click here](#) for help on how to read the Service Schedule Summary below.
Service Schedules are updated once every day at 2:00 AM EST

Description	Total	Notice (30 days)	Due	30	60	90+
Advantex	10	2				2
Aerobic (Norweco Singulair Bio-Kinetic)	72	29	1	3		10
Amphidrome	11			2		
Anoxic Filter	2			1		
Bioclere	153	66	2	7		23
Bioren Living Filter	1			1		
CERES III	1		1			

Compliance message board is how we track systems as we work to bring them into compliance

WE PLACE SYSTEMS ON THIS MESSAGE BOARD OURSELVES, FOR OUR OWN USE.


IF WE CLICK ON THIS, WE GET A LIST OF ALL NON-COMPLIANT SYSTEMS

List of Non-Compliant systems

Customer Status

BARNSTABLE County, Massachusetts ~ Susan Rask ~ 3/1/2006

Non-Compliance

Property	Assigned Service Provider	No. Of Events
Andre, Peg WECOM005Ore 5 Commercial Street WELLFLEET, MA 02667	J.C. Ellis Design Co, Inc.	2
Rizzo, Joseph FABai005RSF 5 Bailey Drive FALMOUTH, MA 02536	OMNI Environmental Systems, Inc.	2
Cash, Lynnette FACas017RSF 17 Cashes Trail FALMOUTH, MA 02536	OMNI Environmental Systems, Inc. 	2
Rinella, Anthony BOPau004RSF 4 Paulinda Road BOURNE, MA 02532	OMNI Environmental Systems, Inc.	2
Mcintosh, Sandra Ann FANor026RSF 26 Norris Path FALMOUTH, MA 02540	OMNI Environmental Systems, Inc.	2
Mullaney, Thomas and Marsha CHMea128EAS	Wastewater Treatment Services, Inc.	2


THIS TELLS US THE NUMBER OF TIMES A SYSTEM HAS BEEN NON-COMPLIANT

HOW DOES THE SYSTEM KNOW?

Choosing Compliant/Non-compliant Status in System Property Info Page

Property Information

BARNSTABLE County, Massachusetts ~ Susan Rask ~ 3/6/2006



Main Menu

- Home
- Contact Us
- New Features
- Tutorials
- User Applications
- Terms of Use
- Disclaimer
- Log Out

Records

- Submit Reports
- Submit Reports Demo
- Property Info

Reports

- Status Reports
- Search Reports
- View Excel Reports
- Service Schedules
- Custom Reports
- Site Sketch
- Split Parcels

Setup

- Service Schedules
- Build Reports

County/Township/ or Agency	Barnstable, MA
Principal Party	BARNSTABLE County, Massachusetts
State Permit Number	RSF104
System Tracking Number	FACas017RSF
Town Permit Number	
Compliance Status	<input type="radio"/> Compliant <input checked="" type="radio"/> Non-Compliant

I. APPLICATION INFORMATION

Property Owner	Name	First Lynette
		Last Cash
	Mailing Address	17 Cashs Trail

GO INTO SYSTEM PERMIT, CHOOSE COMPLIANT OR NON-COMPLIANT. CHOOSING NON-COMPLIANT SENDS THE SYSTEM TO THE MESSAGE BOARD, WHERE WE CAN PARK IT FOR FOLLOW UP. Database is able to count the number of times a system has moved in and out of compliance and display this for us in several places.

Submit Reports - Search Results

BARNSTABLE County, Massachusetts ~ Susan Rask ~ 3/6/2006

Tracking # County # State # Serial #'s Capacity	Home Owner	System Address	Links	Action												
FACas017RSF RSF104	Cash, Lynnette	17 Cashes Trail Falmouth, MA	Map	<table border="1"> <tr> <td>Pump</td> <td>Inspection</td> </tr> <tr> <td>Sample Report</td> <td>View History</td> </tr> <tr> <td>Add Note</td> <td>View Message</td> </tr> <tr> <td>Send Message</td> <td>Scan Document</td> </tr> <tr> <td>Correspondence</td> <td>Postcard</td> </tr> <tr> <td colspan="2" style="text-align: center;"> 1 Message 1 Non-Compliance </td> </tr> </table>	Pump	Inspection	Sample Report	View History	Add Note	View Message	Send Message	Scan Document	Correspondence	Postcard	1 Message 1 Non-Compliance	
Pump	Inspection															
Sample Report	View History															
Add Note	View Message															
Send Message	Scan Document															
Correspondence	Postcard															
1 Message 1 Non-Compliance																

DATABASE WILL SHOW TALLIED NUMBER OF NON-COMPLIANCE EVENTS FOR EACH SYSTEM WHEN YOU GO TO SUBMIT A REPORT FOR THAT SYSTEM

COMPLIANCE

Tracking correspondence

- ◆ Database has been customized to be able to track all correspondence we send and receive for a system
 - Letters
 - Phone calls
- ◆ Correspondence shows as part of system history, so that it can be easily tracked and viewed

Main Menu Home Contact Us Features Tutorials User Application Terms of Use Disclaimer Log Out Records Submit Reports Submit Reports Demo Property/Site Info Reports Status Reports Search Reports View Excel Reports Service Schedules Custom Reports Site Sketch Split Parcels Setup Service Schedules Build Reports Tracking Letters / Postcards	Property Information					
	Property ID		FACas017RSF (tracking #)			
	Links		Map			
	Name		Cash, Lynnette			
	Site Address		17 Cashes Trail Falmouth, MA			
	Service Statistics					
	Total Service Events (To Date)		10			
	Applications & Documents Sample Reports Correspondence View Changes Postcards Email Compliance View Onsite Service History: 1 2 3 All Years					
	Service History - 1 Year					
	Date Entered Date Serviced	Gallons Pumped	Recorded By	Report Type or Disposal Site	Comments	
2/22/2006 10:01 PM		Joseph R. Omni Environmental Systems Inc.	**MESSAGE**	test	<input type="button" value="Edit"/>	
2/22/2006 10:01 PM						
12/28/2005 11:02 AM		Chris Barnstable County	**MESSAGE**	Sent letter to owner about OMNI contract	<input type="button" value="Edit"/>	
12/28/2005 11:02 AM						
9/22/2005 8:38 AM		Holly Barnstable County	**MESSAGE**	7/19/05 - Letter from OMNI for non-payment of contract	<input type="button" value="Edit"/>	

Click on correspondence

Property Information	
Property ID	FACas017RSF (tracking #)
Links	Map
Name	Cash, Lynnette
Site Address	17 Cashes Trail Falmouth, MA

Service Statistics	
Total Service Events (To Date)	10

[Applications & Documents](#)
[Sample Reports](#)
[Correspondence](#)
[View Changes](#)
[Postcards](#)
[Email](#)
[Compliance](#)
 View Onsite Service History: [1](#) [2](#) [3](#) All Years

Correspondence History					
Create Date Action Date	Sender	Recipient	Subject	Correspondence	
2/23/2006 2:21:08 PM 1/20/2006	USPS	Chris @ BCDHE	Delivery	Certified Mail	<input type="button" value="View"/>
2/23/2006 2:24:29 PM 12/29/2005	USPS	Chris @ BCDHE	Confirmation	Certified Mail	<input type="button" value="View"/>
2/23/2006 2:18:34 PM 12/28/2005 11:25:00 AM	Chris @ BCDHE	Earl Cash - Owner	Contract cancelled by owner	Certified Mail	<input type="button" value="View"/>
2/24/2006 1:48:08 PM 12/19/2005 2:45:00 PM	Chris @ BCDHE	Answering machine	Contract cancelled by owner	Phone	<input type="button" value="View"/>
2/24/2006 1:45:18 PM 12/19/2005 2:40:00 PM	Chris @ BCDHE	Wrong number	Contract cancelled by owner	Phone	<input type="button" value="View"/>

CORRESPONDENCE HISTORY SHOWS 2 DATES: DATE THE LETTER OR PHONE CALL WAS PLACED, AND DATE ENTERED IN DATABASE


ALSO SHOWS SENDER, RECIPIENT, SUBJECT AND TYPE OF CORRESPONDENCE

VERY CONCISE HISTORY OF ALL COMMUNICATION AND ENFORCEMENT ACTIONS THAT HAVE BEEN TAKEN

EACH RECORD CAN BE INDIVIDUALLY VIEWED BY CLICKING ON VIEW BUTTON

Correspondence

BARNSTABLE County, Massachusetts ~ Susan Rask ~ 3/1/2006

Permit:	FACas017RSF (tracking #)
Name:	Cash, Lynnette
Address:	17 Cashes Trail FALMOUTH, MA
Management Level:	General with Nitrogen Requirements
Report Filed By:	Chris Burt
Report Updated:	2/23/2006 2:18:34 PM
Action Date:	<input type="text" value="12"/> / <input type="text" value="28"/> / 2005 @ <input type="text" value="11"/> : <input type="text" value="25"/> AM Format: MM/DD/YYYY@HH:MM AM/PM
Sender	Chris @ BCDHE
Receiver	Earl Cash - Owner
Subject:	<input type="text" value="Contract cancelled by owner"/> If "other", describe: <input type="text"/>
Correspondence Type:	Certified Mail
Action:	-- Select --
Is this a correspondence issue that you would like to monitor?	<input type="checkbox"/> Yes
<p>Click Here to attach document**. You can attach more than one item, but you can only attach one at a time.</p> <p>**Acceptable file formats: MS Excel (.xls), MS Word (.doc), Adobe (.pdf), Text (.txt), Images (.jpg, .jpeg, .gif, .dmg)</p>	
 <input type="checkbox"/> delete	
<input type="button" value="Delete Selected Items"/> <input type="button" value="View / Refresh Thumbnails"/> Click this button to view thumbnails of documents you have attached so far.	
Notes/Comments/Message or Other Observations:	
<input type="text" value="Sent letter to owner via certified mail about cancelled contract. Included listing of certified wastewater operators."/>	
Certified Mail Number: 7002-0860-0002-4331-4286	

AN EXAMPLE OF A RECORD FOR AN INDIVIDUAL PIECE OF CORRESPONDENCE.

NOTE THE COMMENT BOX

CERTIFIED LETTER HAS BEEN UPLOADED TO THE DATABASE AND CAN BE RETRIEVED BY CLICKING THE ICON

December 28, 2005

Earl Cash
17 Cash's Trail
East Falmouth, MA 02536-7800

RE: I/A septic system operation and maintenance contract for 17 Cash's Trail, Falmouth

Dear Mr. Cash,

On December 19, 2005, I attempted to reach you by telephone regarding your OMNI 2000 Innovative/Alternative septic system. I left a message asking you to call me and to date have received no response from you.

We have been informed by OMNI Environmental Systems, your last service provider of record, that your operation and maintenance contract with them for your OMNI 2000 system expired or was canceled July 19, 2005.

I am writing to remind you that the Massachusetts Department of Environmental Protection (MA DEP) requires you keep an operation and maintenance (O&M) contract in effect at all times for your system. These requirements may be found on MA DEP's website at <http://www.mass.gov/dep/water/wastewater/techsum.htm>.

My department oversees innovative/alternative septic system management and compliance efforts for the Board of Health in your town. We are authorized by your Board of Health to contact you to inform you of the above requirement and to request your compliance. Accordingly, please contact me within seven (7) days of receipt of this letter to inform me whether you have an active O&M contract in effect and who this contract is with. If you do not have an O&M contract in effect, please contact me within seven (7) days of receipt of this letter to inform me who you intend to contract with and the date this contract will become effective. For your convenience, I am enclosing a list of wastewater operators we are aware of that do business in Barnstable County. The firms listed operate multiple types of I/A technologies and are not associated with any particular technology or vendor.


Please be advised that if you do not respond within 7 days of your receipt of this letter, I will refer your property to the Board of Health for further enforcement action.

I can be reached at (508) 375-6888; my Fax number is (508) 362-2603. I can also be reached via email at bciatech@cape.com. Thank you for your prompt attention to this matter.

Sincerely,

Chris Burt
Information Specialist

CC: Falmouth Board of Health
CERTIFIED MAIL



Submit Reports - Search Results

BARNSTABLE County, Massachusetts ~ Susan Rask ~ 3/1/2006

	Tracking # County # State # Serial #'s Capacity	Home Owner	System Address	Links	Action										
	FACas017RSF	Cash, Lynnette	17 Cashes Trail Falmouth, MA		<table border="1" style="font-size: small;"> <tr><td>Pump</td><td>Inspection</td></tr> <tr><td>Sample Report</td><td>View History</td></tr> <tr><td>Add Note</td><td>View Message</td></tr> <tr><td>Send Message</td><td>Scan Document</td></tr> <tr><td>Correspondence</td><td>Postcard</td></tr> </table>	Pump	Inspection	Sample Report	View History	Add Note	View Message	Send Message	Scan Document	Correspondence	Postcard
Pump	Inspection														
Sample Report	View History														
Add Note	View Message														
Send Message	Scan Document														
Correspondence	Postcard														
	RSF104			Map	1 Message 1 Non-Compliance										

[Click here to add a NEW property to the database](#)

© 2000-2006, Camody Data Systems, Inc.

WE CREATE A RECORD OF EASH CORRESPONDENCE BY SUBMITTING IT AS THOUGH IT WERE A REPORT TO THE DATABASE

Correspondence
BARNSTABLE County, Massachusetts ~ Susan Rask ~ 3/1/2006

Permit:	FACas017RSF (tracking #)
Name:	Cash, Lynnette
Address:	17 Cashes Trail FALMOUTH, MA
Management Level:	General with Nitrogen Requirements
Report Filed By:	Chris Burt
Report Updated:	2/24/2006 1:46:06 PM
Action Date:	<input type="text" value="12"/> / <input type="text" value="19"/> / <input type="text" value="2005"/> @ <input type="text" value="2"/> : <input type="text" value="45"/> <input type="text" value="PM"/> <small>Format: MM/DD/YYYY@HH:MM AM/PM</small>
Sender	<input type="text" value="Chris @ BCDHE"/>
Receiver	<input type="text" value="Answering machine"/>
Subject:	<input type="text" value="Contract cancelled by owner"/> <small>If "other", describe:</small>
Correspondence Type:	<input type="text" value="Phone"/>
Action:	<input type="text" value="-- Select --"/>
Is this a correspondence issue that you would like to monitor?	<input type="checkbox"/> Yes
<p>Click Here to attach document^{**}. You can attach more than one item, but you can only attach one at a time.</p> <p>^{**}Acceptable file formats: MS Excel (.xls), MS Word (.doc), Adobe (.pdf), Text (.txt), Images (.jpg, .jpeg, .gif, .dwg)</p> <p style="text-align: center;"><input type="button" value="View / Refresh Thumbnails"/></p> <p>Click this button to view thumbnails of documents you have attached so far.</p>	
Notes/Comments/Message or Other Observations:	
<p>Subject: Call to owner about OMNI contract</p> <p>Summary: Called 508-457-0929 and got answer machine. Left message about issue.</p> <p>Comments: If no response from owner to message send letter.</p>	

WE CAN FILL OUT DATE ON WHICH THE ACTION WAS TAKEN, SENDER, RECIPIENT, SUBJECT, CORRESPONDENCE TYPE .

There is also a field to add any explanatory comments.

Correspondence section is searchable

Search Reports
BARNSTABLE County, Massachusetts ~ Susan Rask ~ 3/1/2006

Select Report Criteria

Report Type	Correspondence		
Detail Level	Town		
Town	Falmouth		
Subject	Select All		
	<input checked="" type="checkbox"/> Contract cancelled by owner	<input checked="" type="checkbox"/> Contract cancelled by provider	<input checked="" type="checkbox"/> Contract lapsed
	<input type="checkbox"/> Sampling not performed or incomplete	<input type="checkbox"/> Sampling refused by owner	<input type="checkbox"/> Sampling exceeds limits
	<input type="checkbox"/> Inspection not performed or incomplete	<input type="checkbox"/> Inspection refused by owner	<input type="checkbox"/> Inspection not passed
	<input type="checkbox"/> System component (s) inaccessible	<input type="checkbox"/> System needs service	<input type="checkbox"/> System deactivated by owner
<input type="checkbox"/> Other			
Action Date Range	1/1/2006	to 3/1/2006	
	View Report		

WE CAN ALSO SEARCH THE DATABASE FOR VARIOUS TYPES OF NON-COMPLIANCE ISSUES.

CAN SEARCH BY TOWN AND BY DATE RANGE

Correspondence Report

BARNSTABLE County, Massachusetts ~ Susan Rask ~ 3/1/2006

Falmouth, Massachusetts
1/1/2006 - 3/1/2006

13 Correspondences

[View In Excel](#)

Tracking Number	Property Owner	Mail Address	Subject	Correspondence	Sender	Receiver	Action	Action Date
FABer046FAS	Timothy Cotter	46 Berri Hill Circle Teaticket TAUNTON, MA 02536	Contract cancelled by owner	Phone	Chris @ BCDHE	Owner family member	NONE	2/7/2006 11:20:00 AM
FAKat005FAS	James McGill	P.O. Box 1327 WEST FALMOUTH, MA 02574-1327	Contract cancelled by owner	Phone	Chris @ BCDHE	Answering machine	NONE	1/24/2006 2:45:00 PM
FAKat005FAS	James McGill	P.O. Box 1327 WEST FALMOUTH, MA 02574-1327	Contract cancelled by owner	Phone	Chris @ BCDHE	Answering machine	NONE	2/7/2006 10:55:00 AM
FABer054FAS	Charles Mirrione	6 Miller Road NORTH EASTON, MA 02356-1306	Contract cancelled by owner	Phone	Chris @ BCDHE	Ms. Mirrione	NONE	1/6/2006 12:00:00 PM
FABer054FAS	Charles Mirrione	6 Miller Road NORTH EASTON, MA 02356-1306	Contract cancelled by owner	Phone	Chris @ BCDHE	Wrong number	NONE	1/19/2006 1:30:00 PM

**GENERATES REPORT BASED ON SEARCH CRITERIA SELECTED
CAN ALSO BE DOWNLOADED IN EXCEL**

Major focus is data analysis

- ◆ Database is very flexible and allows us to retrieve many types of data in many ways
- ◆ Data can be downloaded as Excel spreadsheets

We can search and download many types of information

- ◆ List of all systems of a particular technology type
- ◆ List of all systems of a particular DEP approval type
- ◆ Lists of all systems in a particular town

Permits By Town	
Town	Permits
Barnstable	47
Bourne	88
Brewster	17
Chatham	73
Dennis	121
Eastham	80
Falmouth	125
Harwich	23
Mashpee	215
Orleans	23
Provincetown	22
Sandwich	23
Truro	11
Wellfleet	64
Yarmouth	67

Permits By Quantity	
Town	Permits
Mashpee	215
Falmouth	125
Dennis	121
Bourne	88
Eastham	80
Chatham	73
Yarmouth	67
Wellfleet	64
Barnstable	47
Sandwich	23
Orleans	23
Harwich	23
Provincetown	22
Brewster	17
Truro	11

Sampling data can also be downloaded many ways

- ◆ By technology type
- ◆ By town or all systems in County
- ◆ By DEP approval level
- ◆ By date range

- ◆ Or any combination of the above



Search Reports

BARNSTABLE County, Massachusetts ~ Susan Rask ~ 10/31/2005

- Main Menu**
- Home
- Contact Us
- Features
- Tutorials
- Terms of Use
- Disclaimer
- Log Out
- Records**
- Submit Reports
- Submit Reports Demo
- Property/Site Info
- Reports**
- Status Reports
- Search Reports
- View Excel Reports
- Red Flags
- Custom Reports

Select Report Criteria	
Report Type	Sampling Reports
Detail Level	Town
Town	Eastham
Component Type	Bioclere
MA DEP Approval Type	Provisional
Date Range	1/1/2000 to 10/31/2005
<input type="button" value="View Report"/>	

Data: Excel file downloads

Eastham, Massachusetts

Bioclere

Approval Type : Provisional

1/1/2005 - 10/31/2005

12 Sampling Reports

Tracking Number	Owner Address	Date/Time Pumped	System Type	Sample Type	pH (effluent)	BOD5 (effluent)	CBOD (effluent)	TSS (effluent)	Nitrate (effluent)	Nitrite (effluent)	TKN (effluent)	Ammoni (effluent)	Total Nitrogen (effluent)
EAPI010Bio	10 Pilot Road EASTHAM,	1/19/2005 10:40	Bioclere	grab	7.41	16.2		0.75	7.45	0.375	8.68		16.5
EAPI010Bio	10 Pilot Road EASTHAM,	4/11/2005 13:00	Bioclere	grab	7.37	9.6		15	5.53	0.16	5.32		11
EAPI010Bio	10 Pilot Road EASTHAM,	8/8/2005 14:30	Bioclere	grab	7.24	6.2		16	6.3	0.43	3.36		10.1
EASer012Bio	8 Fonda Drive STONY	3/29/2005 8:00	Bioclere	grab	5.8		15	0.75	18.3	30.6	11.8		60.7
EASer012Bio	8 Fonda Drive STONY	6/29/2005 14:30	Bioclere	grab	5.73		0	14	11	29.8	9.8		50.6
EACab100Bio	78 Eldredge Parkway ORLEANS,	1/19/2005 15:30	Bioclere	composite	6.64		12	5	22		16	16	38
EACab100Bio	78 Eldredge Parkway ORLEANS,	2/19/2005 8:00	Bioclere	grab	7.15		9	11	24		22	22	46
EACab100Bio	78 Eldredge Parkway ORLEANS,	4/27/2005 10:00	Bioclere	grab	7.44		7	5	11		25	23	36
EACab100Bio	78 Eldredge Parkway ORLEANS,	3/29/2005 10:00	Bioclere	8-hr comp	6.8		5	5	20		15	16	35
EACab100Bio	78 Eldredge Parkway ORLEANS,	7/26/2005 8:00	Bioclere	8-hr comp	7.27		4	22	11	0.18	2.6	1.3	11.06
EACab100Bio	78 Eldredge Parkway ORLEANS,	8/29/2005 15:00	Bioclere	8-hr comp	6.61		1	5	17		1.7	1.8	18.74
EACab100Bio	78 Eldredge Parkway ORLEANS,	9/29/2005 12:00	Bioclere	8-hr comp	6.45		13	17	20		45	37	65

For example, This is an excel file of all sample data for 2005 for all Bioclere's installed under Provisional Approval in Eastham

Property History

BARNSTABLE County, Massachusetts ~ Susan Rask ~ 3/6/2006

Property Information	
Property ID	CHKat012FAS (tracking#)
Links	Map
Name	Quinn, Kevin
Site Address	12 Katie Ford Road Chatham, MA

Service Statistics	
Total Service Events (To Date)	2

[Applications & Documents](#)
[Sample Reports](#)
[Correspondence](#)
[View Changes](#)
[Postcards](#)
[Email](#)
[Compliance](#)

View Onsite Service History: [1](#) [2](#) [3](#) All Years

Service History - 1 Year

Date Entered Date Serviced	Gallons Pumped	Recorded By	Report Type or Disposal Site	Comments	
5/2/2005 1:24 PM 3/22/2005 8:00 AM		Wastewater Treatment Services, Inc. ----- Using: The Web Site	**Inspection**	service only	<input type="button" value="Edit"/>

SYSTEM HISTORY CHOOSE SAMPLE REPORTS

Property Information	
Property ID	CHKat012FAS (tracking #)
Links	Map
Name	Quinn, Kevin
Site Address	12 Katie Ford Road Chatham, MA

Service Statistics	
Total Service Events (To Date)	2

[Applications & Documents](#)
[Sample Reports](#)
[Correspondence](#)
[View Changes](#)
[Postcards](#)
[Email](#)
[Compliance](#)
 View Onsite Service History: [1](#) [2](#) [3](#) [All](#) Years

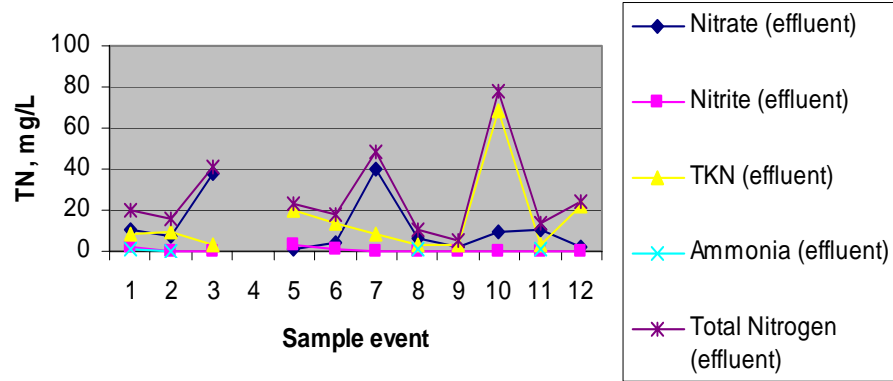
Sampling Report History					
Download Report In Excel					
Date Entered Date Serviced	Gallons Pumped	Recorded By	Report Type or Disposal Site	Comments	
2/25/2005 6:21 PM 6/29/2004 12:00 AM		Daniel Stolt MPRS ----- Using: Data Import	Sampling Report		<input type="button" value="Edit"/>
2/25/2005 6:21 PM 3/12/2004 12:00 AM		Daniel Stolt MPRS ----- Using: Data Import	Sampling Report		<input type="button" value="Edit"/>
2/25/2005 6:21 PM 9/26/2003 12:00 AM		Daniel Stolt MPRS ----- Using: Data Import	Sampling Report		<input type="button" value="Edit"/>

**A VERY NICE FEATURE IS THE ONE BUTTON DATA DUMP:
GO INTO AN INDIVIDUAL SYSTEM'S HISTORY AND CLICK THIS BUTTON TO
DOWNLOAD ALL SAMPLE DATA ASSOCIATED WITH THAT SYSTEM
HEALTH AGENTS REALLY LIKE THIS**

What can we use this data for?

- ◆ Reports to towns on how individual system, or a technology type, is performing

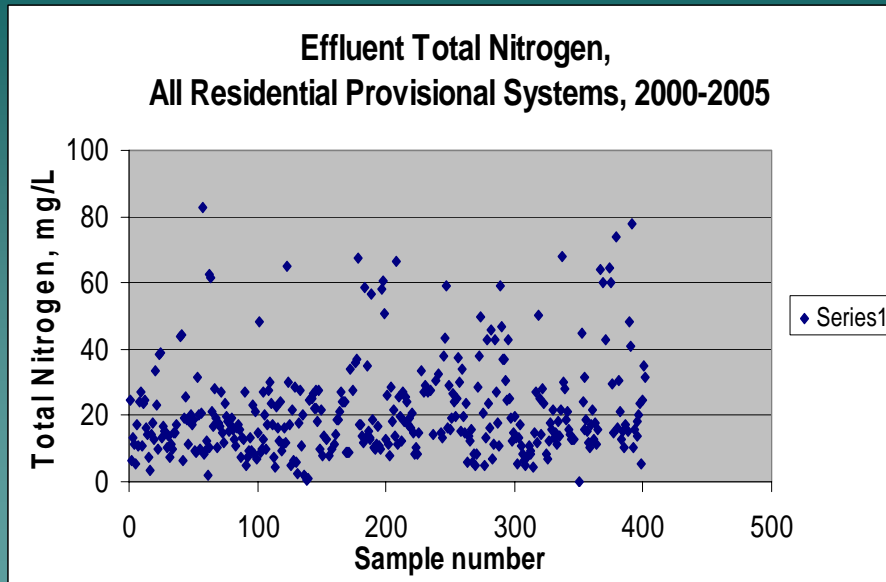
Total Nitrogen Results 172 Capt. Nickerson Rd., Yarmouth



Large data sets representing multiple years of sampling for individual systems

- ◆ Allow us to look at how an individual system is performing over the long term
- ◆ Allow us to look at aggregate data to see how a technology is performing under "real world" conditions

What is Total Average Nitrogen in Effluent?

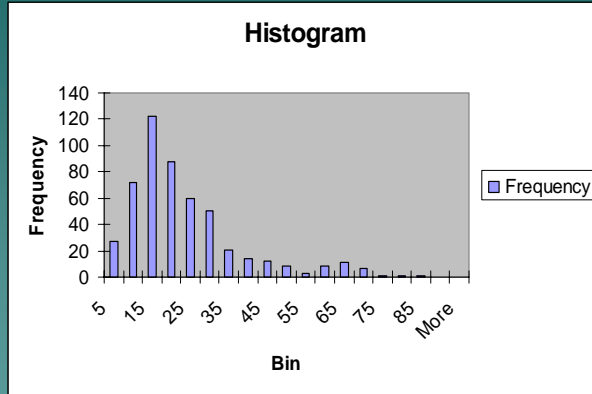


Mass Estuaries Project asked question: what is average total nitrogen in effluent from I/A systems?

Downloaded results for all systems with Provisional Approval-because these are the ones we know are trying hardest to prove nitrogen reduction capability and should be meeting a 19 mg/L TN standard

Over 400 individual samples from 2000 thru October 2005.

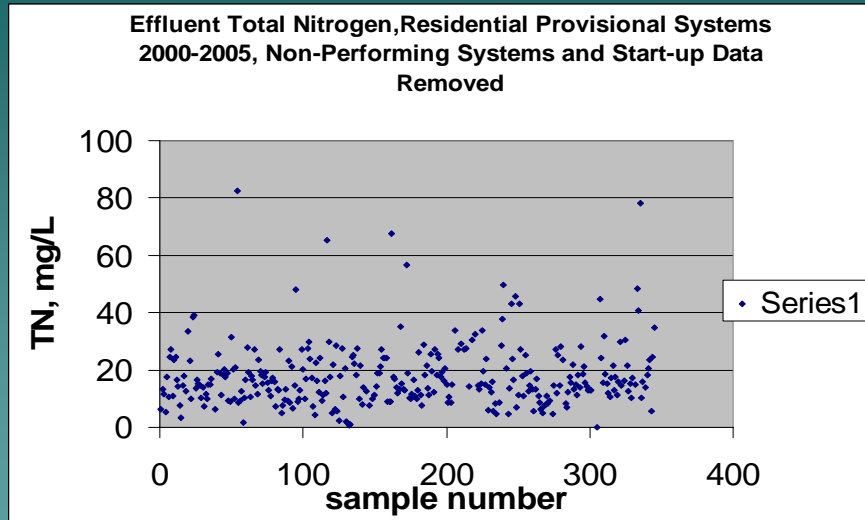
Total Nitrogen in Effluent Data frequency distribution



Average TN=20.8 Median TN = 17.0 mg/L

Bin	Frequency	calc % of total	
5	27	5.3	
10	72	14.2	
15	122	24.1	
20	88	17.4	61% ≤20 mg/L TN
25	60	11.8	
30	50	9.9	
35	21	4.1	
40	14	2.8	
45	12	2.4	
50	8	1.6	
55	3	0.6	
60	8	1.6	
65	11	2.2	
70	7	1.4	
75	1	0.2	
80	1	0.2	
85	1	0.2	
90	0	0.0	39% > 20 mg/L

Residential Systems with Provisional Approval 2000-2005



Average TN=17.7; median TN = 15.3 mg/L

What might we use the database for in the future?

- ◆ Track system pumping and waste disposal
- ◆ Track real estate transfer septic inspections
- ◆ Import data into GIS so it can be worked with graphically and geographically

Benefits for owners

- ◆ Better data and County management may result in DEP reducing monitoring requirements for systems, resulting in lower owner costs.
- ◆ System performance will be enhanced, due to better oversight of operations
- ◆ System longevity may be increased

Benefits for operators

- ◆ Entering report to database is:
 - Paperless
 - Nothing to mail
 - BCDHE will forward required reports to BOH and DEP
 - Operators can use PDAs at inspection site and upload data to database

Benefits for Boards of Health

- ◆ Real time data on all systems
- ◆ Health agents can log on to database to check system status and results
- ◆ BOHs can manage their own systems if they choose, using the database
- ◆ BCDHE will manage data and reporting and do enforcement for non-compliant systems if desired

WE ASK HEALTH AGENTS TO FILL OUT PERMIT SUMMARY INFO SHEETS
CHRIS HAS RECENTLY POSTED THIS ON THE COUNTY WEBSITE, SO IT CAN
BE FILLED OUT ON LINE AND AUTOMATICALLY EMAILED TO CHRIS



- Main Menu** ▾
- Home
- Contact Us
- New Features
- Tutorials
- User Applications
- Terms of Use
- Disclaimer
- Log Out
- Records** ▾
- Submit Reports
- Submit Reports Demo
- Property Info
- Reports** ▾
- Status Reports
- Search Reports
- View Excel Reports
- Service Schedules
- Custom Reports
- Site Sketch
- Split Parcels
- Tracking** ▾
- Letter / Postcards

Service Schedules Summary
(System Components, Flags, Reports, Sampling and Renewals)

Barnstable

[Click here](#) for help on how to read the Service Schedule Summary below.
Service events are updated once every day at 2:00 AM EST

Description	Total	Notice (30 days)	Due	30	60	90+
Advantex	1					1
Bioclere	1	1				
FAST	3	1				1
RSE	1	1				
Sample Report (Effluent)	4	2				1
Sample Report (Influent & Effluent)	1	1				
Operational Permit	2					2
TOTALS	13	6	0	0	0	5

Barnstable County Advantex

Properties with more than one entry are listed only once.

Name Parcel ID # Address	Site Address Subdivision Municipality	Maintenance Entity (of record)	Description	Red Flag Date	Age (days)	Reason	Last Event Date	Action
Montano, Robert TRR06481Adv P.O. BOX 718	481 Route 6 TRURO, MA 02666	UNKNOWN	Advantex	10/1/2005 12:00 AM	156	No service recorded		View History View Property

WHEN HEALTH AGENTS LOG ON, THEY SEE ALL THE SYSTEMS IN THEIR TOWN, AND CAN VIEW SYSTEM HISTORY AND PERMITS

Benefits of using web-based database

- ◆ Web-based reporting maximizes efficiency and allows BCDHE to focus efforts on
 - analyzing system performance
 - working with owners and operators for better system compliance
- ◆ Increased oversight and active, ongoing enforcement efforts will help us develop a working relationship with system operators, which will result in better system performance.

Benefits for Barnstable County

- ◆ Use information to assist towns with wastewater planning efforts
 - Which systems perform best
 - What is the proper maintenance and oversight for each technology?
 - Do systems produce effluent that will meet nitrogen loading goals needed to protect our embayments?
 - In what situations are individual or cluster IAs the correct solution to wastewater issues?

