

www.timesonline.co.uk
TIMES ONLINE
 The best of The Times and The Sunday Times, in real time



Spirit of '66
 Play Fantasy World Cup
 and win a Mini Cooper



Love hurts?
 Aunt Sally will make
 things better

SEARCH

SITE

WEB

GO

UK & US Company Search

GO

May 30 2006

Health news

MAKE TIMES ONLINE
 YOUR HOMEPAGE / BOOKMARK

HEALTH

Health news

Health features
 Health briefings
 Health alternatives
 Health diet
 Health fitness
 Good Fertility Guide

TIMES ONLINE

Home - UK
 Home - Global
 Britain
 World
 Business
 Money
 Sport
 Comment
 Travel
 Entertainment
 Books
 Driving
 Property & Gardens
 Women
 Health
 Jobs
 Food & Drink
 Education
 Student
 Tech & Net
 Games
 Crossword
 Law
 Weather
 Sunday Times
 Funday Times
 TLS
 Weblogs
 Site Map

SPECIAL REPORTS

Wireless Working
 Work Revolution
 Adrenalin Rush
 Quality Time
 Disability Act
 La Vie Française

The Times

August 05, 2005

Where rivers run high on cocaine

By NIGEL HAWKES

Analysis of waste water in Italy shows a startlingly high level of drug abuse

THE rivers of Italy are flowing with cocaine, say scientists who have adopted a new approach to measuring the extent of drug misuse. The biggest river, the Po, carries the equivalent of about 4kg (8lb 13oz) of the drug a day, with a street value of about £20,000.

Cocaine users among the five million people who live in the Po River basin in northern Italy consume the drug and excrete its metabolic by-product, benzoylecgonine (BE). This goes from sewers into the river. So a team led by Dr Ettore Zuccato, of the Mario Negri Institute for Pharmacological Research in Milan, estimated the use of cocaine by testing the waters of the Po for BE, and for any cocaine that had passed through the body unaltered or reached the sewers in other ways.

What they found surprised them. They calculated that for every 1,000 young adults in the catchment area, about 30 must be taking a daily dose of 100 milligrams of cocaine, which greatly exceeds official national figures for cocaine use.

According to official Italian statistics, 1.1 per cent of people between the ages of 15 and 34 admit to having used cocaine "at least once in the preceding month". Almost all cocaine use occurs in this age group.

Assuming that there are 1.4 million young adults in the Po River basin, the official statistics suggest that there would be 15,000 cocaine-use events per month. But the evidence from the water suggests that the real usage is about 40,000 doses a day, a vastly greater figure.

"The economic impact of trafficking such a large amount of cocaine would be staggering," Dr Zuccato said. "The large amount of cocaine — at least 1,500kg — that our findings suggest is consumed per year in the River Po basin would amount, in fact, to about \$150 million in street value, based on an average US street value of \$100 per gram."

To confirm their findings, the team also sampled urban waste water from Cagliari in Sardinia, Latina

RELATED STORIES

June 11 2005

'Everyone does Charlie. I could buy some in this pub right now'

April 01 2005

£5 cocaine becoming new drug of choice

February 04 2005

White nights: can the Met end the high life?

August 05 2004

The cocaine battle lines

BUY BOOKS



Click here to browse our range of Health and self help books, at Books First

CLASSIFIEDS

TRAVEL

CARS

JOBS

ENCOUNTERS

PROPERTY



GO

Choice of the week

GO

There is nothing like time away to rejuvenate the body, relaxation, activity or exploration.
Order a FREE brochure



GAMES

FANTASY FOOTBALL

Entry to the game has now closed. Follow the link above to check your teams score and make transfers in the race for cash prizes

CROSSWORD CLUB

The world-famous Times crosswords online, plus unique access to our archive and special offers to members - **JOIN NOW**

LATEST

Events listings

Search for films, theatre and comedy events near

ADVERTISEMENT


Business bulletin

Sign-up to the free daily e-mail bulletin from TIMESONLINE

Poker
Healthy Living
Management Issues
Men's Style
Business Travel

SEARCH TIMES ONLINE

 TRAVEL

 CARS

 JOBS

Holidays

Marketplace

Insurance

Promotions

Travel bulletin

New brochures

Holiday partners

SERVICES

My Times
Shopping
Promotions
Classified
Mobile
Site Search
Archive

RSS

NEWS FEEDS FROM
TIMES ONLINE

NEWSPAPER EDITION

THE TIMES
THE SUNDAY TIMES

e-paper

THE TIMES AND
THE SUNDAY TIMES
ELECTRONIC PAPER

Audio

THE TIMES DIGEST
LISTEN TO A FREE SAMPLE

TIMES ONLINE

SMART SEARCH BY



in central Italy, and from Cuneo and Varese in the north — all medium-sized cities. The values they obtained from the undiluted waste water were far higher than those in the Po, as would be expected. But when translated into likely local use of the drug, they produced very similar figures — which suggests that the Po region is not exceptional in its cocaine consumption. The results cannot be explained by assuming that some drug trafficker was panicked into dumping his stash down the lavatory. If so, much more pure cocaine would have been found, and much less of its human metabolite, BE. In fact, the ratio of cocaine to BE was consistent throughout all the samples.

If anything, Dr Zuccato said, the method would be expected to underestimate rather than to overestimate cocaine use, because some would be lost or absorbed in sediments. So the real consumption may be even higher.

This method has previously been used by the same team to measure the by-products of widely-used prescription drugs, and has produced results consistent with known prescribing patterns. So it seems to work.

The technique has been developed by the Italian team and is complex, as it needs to be to detect such tiny residues — of the order of billionths of a gram per litre of water.

The scientists say that the method needs to be tested further before being brought into general use, but suggest that it would be a more reliable and much cheaper way of tracking trends in drug use than by using population surveys.

“The approach tested here, which is in principle adaptable to other illicit drugs, could be refined and validated to become a general, rapid method to help estimate drug abuse at the local level,” they report in the journal *Environmental Health*.

“With its unique ability to monitor changing habits in real time, it could be helpful to social scientists and authorities for continuously updating the appraisal of drug abuse.”

The levels of the drug and the metabolite found in river water are so low that any effect on natural life is very unlikely. But this is not true of all chemicals. Research indicates that chemicals that mimic natural hormones are having an effect on fish in many rivers, including “feminising” many male fish. The sources of these chemicals include hormones excreted by the human body and industrial chemicals that reach the waterways.



and coming events near you

Screen
For free seats at exclusive film previews

Departure board
Your one-stop travel shop

Car route planner
Find the quickest way from A to B

Research your new car
Browse our new and used car reviews

Jobs
Search hundreds of jobs and get our weekly alert

Business analysis
Check the latest share prices and forecasts for every listed company

Encounters
Search for like-minded people on our dating site

Property search
Cottage or castle? We have thousands of homes for sale

Ads by Google

Family Friendly Business

My Family Loves My New Business I Have More Time To Spend With Them
www.goliveyourlife.com

Self Help programs

Buy powerful self help hypnosis & subliminal programs. Free samples.
www.innertalk.com

Stop Being a Schmuck

Work smarter not harder Huge Profits - serious only!
www.bestbusinesstoday.com

Contact our advertising team for advertising and sponsorship in Times Online, The Times and The Sunday Times.

Copyright 2006 Times Newspapers Ltd.

This service is provided on Times Newspapers' **standard Terms and Conditions**. Please read our **Privacy**

Policy .

To inquire about a licence to reproduce material from The Times, visit the **Syndication website**.