

The Francilophone

Newsletter of Bruitparif, the noise
observatory in Ile-de-France

11
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Editorial

Since the beginning of the year, 30 organisations (local authorities, inter-communalities, associations) have joined the observatory. Bruitparif now has 76 members working together in the Forum of the Ile-de-France Entities for a better management of the sound environment.

In this new issue, you will learn about several projects related to air traffic: health-environment study SURVOL, documentation plan around the light aviation airfields, exploitation of the measurements around the Paris Issy-les-Moulineaux heliport. This busy programme shows the stakeholders' interest in strengthening air noise monitoring.

You will also find an interview with Patrick Duguet, head of the Health-Environment Impact Division, related to the drawing up of the action plan of the City of Paris, the initiative of the Stadium of France Consortium for a better sound management during musical events, the launch of the public consultation for the Health-Environment Regional Plan 2 in Ile-de-France.

I hope you will enjoy reading this.

Fanny Miettlicki

Director of Bruitparif



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Health-environment study **SURVOL** around the 3 main Ile-de-France airports

Health-environment study SURVOL

around the 3 Ile-de-France

Within the first Regional Health-Environment Plan and more particularly the monitoring system implemented around the Ile-de-France airports (SURVOL study) under the aegis of the Regional Prefecture, Bruitparif is deploying a reinforced noise monitoring system around the Paris-CDG, Paris-Le Bourget and Paris-Orly airports.

If the areas relatively close to these three airports have already been monitored permanently for several years by Aéroports de Paris, it was not yet the case of further urbanised areas that nevertheless have overflights below 2000 metres and where many residents declare they are annoyed by air noise nuisances.

A major objective: improve the residents' knowledge and information

The first objective is to provide the affected populations with the most reliable information possible on their noise exposure, in full transparency.

For this, Bruitparif works to:

- Strengthen permanent monitoring in the areas with overflights but not covered by the current measurement station network exploited by Aéroports de Paris.
- Meet the expectations of the residents by providing information on the characteristics of the noise events related to aircraft overflights with the publication of "event" indicators (focusing on the characteristics of noise events). These are better suited to the perception of nuisances than "energetic" indicators (focusing on the noise dose or the average energy produced during a certain period). The two goals are to provide precise information coming from the measurement stations and, in the long term, to generate daily noise maps within these study areas (for

event and energetic indicators) with a combination of modelling and measurement techniques.

- Take into account situations of exposure to other noise sources, especially land transportation noise (road noise and rail noise). A particular attention will be granted to situations of multi-exposure to several noise sources. It is important to quantify the contribution of aircraft overflights in the overall noise.
- Make the information (measurements and noise maps) available to everybody via the Internet platform.

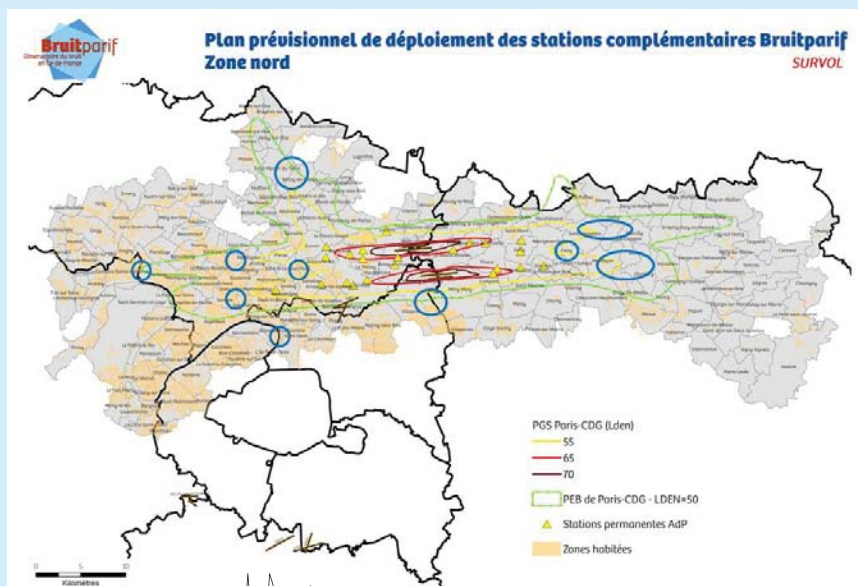
The second objective is to set up a long-term monitoring of the noise impacts of the changes that could be made by public authorities and airport entities: raising of altitudes, changes in the landing and taking-off procedures, modernisation of the fleets, differentiated traffic management according to the periods of the day...

Among the first expected impacts are the ones of the raising of altitudes as it has just been the subject of a wide public enquiry.



After a wide noise measurement campaign conducted over a year for the documentation of more than a hundred situations of noise exposure within these areas and taking account the planned or predictable evolutions of the flight paths in Ile-de-France, Bruitparif has selected 15 sites that will be monitored permanently from now on with expert noise measurement stations.

Prouvisional deployment plan in the North area



Relevant technical choices

To reach the goals set in terms of permanent noise monitoring, Bruitparif made a number of technical choices:

- Choice of metrologically suitable measurement stations that are relevant to the specific constraints of aircraft noise monitoring. These are NA37 stations from RION, which not only measure the noise level in the environment, second after second, with an excellent precision and reliability (class 1 metrology) but also identify the noise source in real time through a method of acoustic localisation. This type of monitoring stations can distinguish aircraft noises (they come from above!) from the other environmental noises related

to land transportation (roads, railways) and daily activities. The possibility of aircraft localisation through acoustic detection has been known for a long time as it was used in military conflicts before the arrival of the first radars. However, this is the first time they are being used in France and in Europe for an operational noise monitoring network around airports.

- Creation of a specific equipment, **the Sonopode®**, to easily install a measurement station.
- Communication of the measurement data in real time through the mobile phone network.
- In-house development by Bruitparif of a data storing and processing system, ensuring easier possibilities of evolu

tion, data safekeeping at the smallest time step (LAeq,1s) in order to be able to generate new indicators a posteriori if need be.

To know more, go to www.bruitparif.fr > Resources section > Bruitparif study reports to download the progress report of the SURVOL Study (French only)



Focus

The selected study areas

The first stage of the monitoring project consisted in defining the areas where the study should take place.

Two study areas have been chosen: one around Paris-Orly and the other around the Paris-CDG and Paris-Le Bourget airports.

The study areas have been determined according to one of these two criteria:

1. areas that are part of the regulatory plans currently in effect like the Noise Annoyance Plan or the Noise Exposure Plan or where the average air noise level is superior or equal to 50 dB(A) according to the European indicator Lden;

2. areas with at least 7 overflights a day at an altitude lower than 1000 m in at least one of the two configurations (east and/or west) or at an altitude lower than 2000 m in both configurations.

The limits of the two study areas thus theoretically defined have then been extended to the administrative limits of the affected towns.

The Sonopode®



The Sonopode® is a specific equipment that has been developed by Bruitparif to make the installation of a noise measurement station easier, particularly in the case of air noise nuisances where the expert stations used require a solidly anchored mast. It requires no connection thanks to:

- a 3G data link,
- an ecological fuel cell producing the energy needed from methanol.

The Sonopode® is made up of a 6-metre mast and an anti-vandalism double casing at its foot.

At the top of the mast is the microphone that measures the sound level as well as the microphone system that localises the origin of the nuisances and an anemometer to take into account the influence of the wind.

The foot of the mast is the heart of the system. It houses the measurement, data transmission, energy supply (fuel cell) equipments as well as significant ballast to ensure its stability and the impossibility to topple it over.

The whole has been studied to be protected against bad weather and vandalism acts while ensuring complete safety for the environment as well as good aesthetic and landscape integration.

Bruitparif gathers 10 partners for 280 high school students

Awareness actions

For National Hearing Day, last March 10th, 10 Ile-de-France high schools accepted Bruitparif's invitation to take part in an awareness afternoon around the quality of the sound environment and the hearing risks related to amplified music.

Aimed at high school students and their teachers, this event, organised at the Paris CIDJ (Youth Information and Documentation Centre), helped them better understand the sound environment, learn how to protect themselves from noise at work and during their hobbies and adopt civic behaviours.



Several workshops:

- Understand how your ear works. A virtual tour of the ear to better understand the journey of the sound and the consequences of noise on the body.
- Perform experiments related to the physics of sound. A pedagogical workshop to witness the main physical phenomena that come into play in the creation, transmission and perception of the sound.



- Discover the sound environment. What are the different noise sources in the environment? What sound level are you exposed to in daily life? How to measure noise?
- Protect yourself against noise. What are the risky situations? How to preserve your hearing capital at work and during your hobbies?
- Control your decibel dose. A workshop to find out the real sound volume of your MP3 player and get personalised advice to keep enjoying music without any risk.

- Screen your hearing.
 - Adopt civic behaviours. Motorbikes, café terraces... how to contribute to a more peaceful sound environment?
- And also a contest and an exhibition on all the states of sound.

For the occasion, Bruitparif got advice and expertise from 10 partners: National Hearing Day, the Ile-de-France Region, the City of Paris, Inserm, the association of Paris ENT doctors, France Acouphènes, Audissimo, JLH / lesoreilles.com, Envuea and the CIDJ.

Keep in mind that Bruitparif is present for an awareness workshop on the hearing risks related to amplified music every first Thursday of the month at the CIDJ within a partnership convention.



Focus

The association National Hearing Day publishes a study

National Hearing Day published a survey conducted with a representative sample of the French population consisting of 992 people aged 20 and more, in partnership with Ipsos and Réunica. Here are the main results.

What are the most annoying nuisances?

26% of the respondents are annoyed at home by the noises of the city, 22% by neighbourhood noises and 18% by the noise of public works.

25% think that their accommodation is badly insulated from their neighbours and 17% that it is badly insulated from the street.

Note that 86% of the respondents have noticed that the sound level of commercials was higher than the one of the programmes before and after.

Outside their home, more than 1 in 3 people mentions road traffic (37%) before works (29%) and public transportation (9%).

What are the consequences in terms of annoyance and health?

32% of the respondents declare that they sometimes or often have difficulty hearing. Among them, a quarter of people aged 20-44 are affected, 36% of people aged 45-59 and 41% of people aged 60 and more.

58% have already felt tiredness related to noise, 51% irritability, 39% tinnitus and 37% headaches. Finally, a large majority, 60% of the respondents, think that noise affects their mood.

39% of the working population deems very or rather important noise annoyance at their workplace and 37% in a general manner outside their home.

While noise annoyance at home only concerns 22% of the respondents, it grows with the rate of urban development: 9% of the people living in villages are annoyed by noise, 20% of the people living in towns of 2000 to 100,000 inhabitants, 30% of the people living in towns of more than 100,000 inhabitants and 39% of the people living in the Paris agglomeration.

Interview with Patrick Duguet, head of the Health-Environment Impact Division at the Urban Ecology Agency of the City of Paris

You have started drawing up the action plan of the City of Paris, how do you proceed in terms of organisation?

Quality of life is a strong and legitimate aspiration for Parisians. Therefore, the fight against excessive noise is naturally one of the priorities of the city. As of 2006, a local noise plan had been drawn up with the help of the Noise Observatory in Paris, which gathers the entities fighting against noise in the capital. To draw up the action plan, we wanted to keep this participative approach by organising with our contractor some working groups open to all our partners (institutions, professionals and associations). This collective work will ensure the consistency between the actions of the different authorities. The fifteen meetings deal with all the aspects of the action plan (roads, railways, aircrafts, quiet areas, industries). They will help finalise the assessment of the situation and draw up a draft action plan.

The second essential stage will consist in including local authorities and Parisians in the reflection within a wide consultation process. The objective is to benefit from the knowledge of the expectations and the annoyances in the various neighbourhoods in order to improve and enrich the project. Public meetings and workshops will be organised by the district councils to raise awareness, listen to the inhabitants and gather their recommendations, especially on the identification of quiet areas. At the same time, Parisians will be able to express themselves through a dedicated space on the website of the City of Paris: www.paris.fr

What are the difficulties and how are you going to overcome them?

There are many difficulties, all related to the Parisian context. First, the high number of entities and authorities in charge of noise on this territory requires, in and out of the working groups, continuous discussions to reach shared proposals.

Moreover, many noise abatement actions have already been implemented by the City of Paris for several years, regarding for instance public space development and mobility. So we need to innovate and suggest new, ambitious actions that are relevant to the Parisian constraints and expectations.



Finally, the last difficulty comes from the European directive itself and the content of the action plans, i.e. nuisances related to transportation infrastructures. In a dense city like Paris, the inhabitants usually react more easily about neighbourhood nuisances as they can determine their origin. The complaints are often about noise sources like restaurant terraces or works, which are not in the framework of the action plan but are present in other initiatives of the city. During the local consultation stage, this will demand good listening but also pedagogical explanations.

What are the deadlines?

The drawing up stage by the working groups is currently in process and should end before the summer. Then the consultation will take place for several months during the autumn. The year 2012 will be dedicated to the validation of the document, its publication and the vote of the Council of Paris.

What do you expect from Bruitparif?

Bruitparif is an essential and invaluable partner in this project, both through its technical competences and its role as a regional observatory federating the Ile-de-France entities.

The Bruitparif teams take part in all our meetings where they give us feedback on the action plans of other local authorities and on the studies they have conducted, like for example the measurement campaign around the Paris ring road.

For the identification of quiet areas, we are continuing the reflection initiated during the conference organised in February 2010 at the Paris City Hall, with Bruitparif as well as the CIDB (Noise Information and Documentation Centre), by comparing and sharing our methods and the data of our geographic information systems.

Health-Environment Regional Plan 2 in Ile-de-France: launch of the public consultation

Daniel CANEPA, Prefect of the Ile-de-France Region, Prefect of Paris, gathered last Friday, April 29th, the Health-Environment Regional Group (GRSE) in charge of drawing up and implementing the second Health-Environment Regional Plan (PRSE2) in Ile-de-France. The GRSE validated the draft PRSE2.

The Health-Environment Regional Plan adapts, for Ile-de-France, the second Health-Environment National Plan, adopted in the aftermath of the Grenelle of the Environment. It was drawn up, during the whole year 2010, by five groups: the elected representatives, the environmental associations, the health professionals, the representatives of employers and employees and the State.

Resulting from a common reflection in working groups, the draft PRSE2 identified 16 priority actions for the region.

Two "transversal pilot actions" deal with health democracy and the issue of the link between social and environmental inequalities.

The other 14 actions are grouped according to two major topics identified during the preparatory work:

Topic 1 : Reduce environmental inequalities

Topic 2 : Prepare the future by increasing vigilance towards emerging risks

Considered as an environmental attack that raises important public health problems in Ile-de-France, noise is the focus of several actions.

The draft PRSE2 is now submitted to public consultation until June 15th. After this consultation, it will be amended then adopted by the Regional Prefect.



Sound management: the Stadium of France innovates

Support to public policies

For its 13 year anniversary, the stadium acquired a sound system more adaptable, more modern and above all more comfortable, both for the audience and for the local residents.

This new installation improves the sound diffusion thanks to the line-array system. This solution makes easier the monitoring and the optimisation of sound levels in the stands (volume of the music) as well as intelligibility (clarity of speech).

Minimise the impacts on the environment

In order to be better integrated in the neighbourhood and to respect the inhabitants and the audience, the sound system of the stadium offers a new service: permanent measurement of sound emergencies in the neighbourhood and acoustic pressure in the stands.

The system is made up of 6 permanent stations and 2 mobile ones that can be activated for prevention campaigns aimed at the audience or the employees. By opting for this system, the Stadium of France intended to minimise the impacts on its direct and indirect environment.



Keep in mind that Bruitparif had set up a sound management system for the second edition of the Unighted event of July 4th, 2009. Two stations, installed at the north and the east of the stadium and connected to the Bruitparif servers via a 3G router, had sent the collected measurement data in real time to display them on a screen in order to monitor and control the sound emissions of the event. The local residents had praised the initiative.

The 2 stations have since then been integrated to the RUMEUR network within our collaboration with the Plaine Comune agglomeration community.



FOCUS The point of view of the local residents

Interview with Victoria Chabran, President of the Paris Gate Committee and Administrator of the Union of the Stadium of France Resident Associations.

Could you remind us of the history of the dialogue with the Stadium of France? What did you expect from it?

VC : "We have been maintaining regular contact with the Stadium of France Consortium since the creation of our Union in 2000. In the night of July 5th to 6th, 2008, the Unighted event, which lasted until early morning, caused us a lot of annoyance, due to very high sound levels and powerful low frequencies especially.

We reacted immediately and presented a petition with the support of the Seine-Saint-Denis Prefecture. The dialogue succeeded after several meetings where we negotiated a number of commitments for the 2009 edition of the Unighted event (a reduction of 7 dB(A) in the sound levels including low frequencies, the setting up of a limiter for all frequencies on the output of the mixing console and a decrease of 1 metre in the height of the sound system). We were also invited with Bruitparif to the tests of the system and the trials the day before the event. As the commitments were respected, we were very satisfied.

Now that the new sound system is set up, with sound management in real time, we are waiting for the African Night and the 3 concerts of the Black Eyed Peas that will take place in June. Hopefully, the system will be effective."

What advice could you give to a resident association that would like to initiate a similar process?

VC : "First of all, it is important to mobilise as many residents as possible. The more you are, the better your message will be heard. But it is also essential to talk in an objective way, based on facts, to be able to negotiate on solid bases. Of course, courteous discussions with the organisers and the support of elected representatives and State representatives are the keys to success."

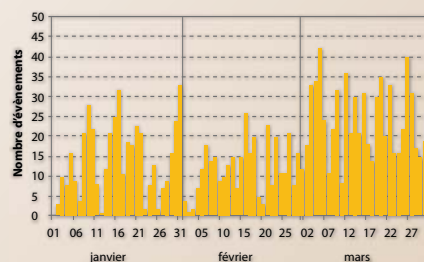


The Paris-Issy-les-Moulineaux heliport listened in

Involved in the working group of the environmental charter of the Paris-Issy-les-Moulineaux heliport, the Bruitparif teams have exploited the measurement results of the 4 stations deployed around the heliport, for more than two years for some of them.



The processing of these data has produced statistics regarding the number and the characteristics of the noise events related to helicopters, in order to identify in particular the noise impact of overflight altitudes. These data could for example confirm that the respect of the new flight instructions (raising of overflight altitudes between the Gentilly Gate and Meudon from 450 m to 600 m) would decrease the noise generated by helicopters by about 2 dB(A) and thus reduce the exposure of the populations.



The work continues with the development of new approaches for the map representation of the noise generated by helicopter traffic. It will be presented during the next Environmental Consultative Commission.

Light aviation: a reinforced noise documentation plan

In response to a growing citizen demand, Bruitparif, in partnership with DGAC-DSAC Nord, has just launched a strengthened noise documentation plan around the Ile-de-France Light aviation airfields. This wide campaign is starting this spring with the Toussus-le-Noble airfield.

The objective is to make a diagnosis of the nuisances generated by air traffic through a campaign carried out over 2 months. To do so, 9 sites have been selected based on the

flight paths and the stakes in terms of impacted population, in cooperation with the elected representatives of the affected towns and the associations within the charter committee.

In accordance with the objectives, it will then be possible to provide the affected inhabitants with independent and reliable information on their noise exposure, especially the noise dose and the acoustic characteristics of the events generated by aircraft overflights.

The results of this study will be available on the Bruitparif website in September.



Overflight flow (East wind)

- Stations:
1-Toussus
2-Villiers-le Bâcle
3-Voisins le Thuis
3'-Châteaufort (bottom)
4-Châteaufort (top)
5-Loges-en-Josas
6-Magny (Mairie)
7-Magny (Buisson)
8-St-Rémy (Courcelle)

RION NA37 Stations
Oper@-Ex Station



Bruitparif welcomes 30 new members

Aware of the importance of the fight against noise and the preservation of the sound environment, 28 Ile-de-France local authorities and intercommunalities have joined Bruitparif.

- Hauts-de-Seine:

Bourg-la-Reine, Rueil-Malmaison, Puteaux and the Grand Paris Seine-Ouest Agglomeration community

- Seine et Marne:

The Marne et Chantierine Agglomeration community and Lésigny

- Seine-Saint-Denis:

The Plaine Commune Agglomeration community, Saint-Ouen and Pantin

- Val-de-Marne:

The Val de Bièvre Agglomeration community, the Haut Val-de-Marne Agglomeration community, the Charenton-Le-Pont - Saint Maurice Town community, Chevilly-la-Rue, Rungis, Vincennes and Vitry-sur-Seine

- Val d'Oise:

The Le Parisis Town community, Enghien-les-Bains, Gonesse, Saint-Brice-sous-Forêt and Argenteuil-Bezons, the Agglomeration

- Yvelines:

Conflans-Sainte-Honorine, Poissy, Orgeval, Saint-Germain-en-Laye and the Mantes en Yvelines Agglomeration community

- Essonne:

Continuation of the partnership started with the Eury Centre Essonne Agglomeration community

2 associations: the regional consumer association Léo Lagrange and the association of Paris ENT doctors have also joined us.

We welcome them within the Forum of the Ile-de-France Entities for a better management of the sound environment.

Decoding

Changes in air traffic: public enquiry at Roissy

Since last March 2nd, the project of permanent changes in ILS (Instrument Landing System) procedures at Paris-Charles de Gaulle has been submitted to consultation.

Entailing a complete revision of the arrival flight paths, the project considers raising approach altitudes to 1200 m and 1500 m. This will change the overflight conditions of the towns located under the arrival flows.

If the suggested changes aim at an overall reduction of the population impacted by noise nuisances, 174 towns located in 5 departments (Aisne, Oise, Seine-et-Marne, Val-d'Oise and Yvelines) should now be exposed to overflights.

After the public enquiry procedure, the project will be submitted for opinion to the environmental consultative commissions and the ACNUSA. The implementation is planned for autumn 2011.

Recommendations

Paris ring road: Bruitparif publishes additional information

In order to provide additional information to the preparatory works for the action plans of Paris and the other towns, Bruitparif has quantified the population exposed to noise above the limit values and studied the potential impact of some of the possible solutions.

In total, 41,000 people are potentially exposed to noise levels above the limit value related to the weighted daily average indicator ($L_{den} > 68$ dB(A)). Among these people, 37,300 local residents are also exposed at night beyond the related limit value ($L_n > 62$ dB(A)).

To read the complete study, go to www.bruitparif.fr, section "Resources" > Bruitparif study reports (French only)



Burden of disease from environmental noise: the WHO publishes a report

Last March 30th, the World Health Organisation published the report "Burden of disease from environmental noise: quantification of healthy life years lost in Europe."

The study establishes the burden of disease for each recognised health effect of noise (sleep disturbance, ischaemic heart disease, cognitive impairment of children, tinnitus and annoyance) with the quantitative indicator "disability-adjusted life-years" (DALYs).

To read the complete study, go to www.bruitparif.fr, section "Resources" > Studies > Noise and health



Bruitparif progress report

Deployment of the permanent measurement network RUMEUR, reinforcement of the air traffic noise monitoring within the SURVOL project, measurement campaign inside nightclubs, strengthened support to local authorities, launch of the new website and development of the awareness actions... the year 2010 has been rich.

Discover all our 2010 activities in this new annual report available for download on www.bruitparif.fr, section "Resources" > Bruitparif publications > Progress reports (French only)



Agenda

> June 9th, 2011

Bruitparif will be present at the CIDJ (Youth Information and Documentation Centre), 101 quai Branly in the 15th district of Paris. From 2 pm to 5 pm, everybody will have the possibility to test the sound level of their MP3 players and receive personalised advice to keep enjoying music without taking any risk.

> June 25th, 2011

For the 2nd year in a row, Bruitparif is working with the Inter-LGBT association to prevent hearing risks during the Gay Pride. 4 noise measurement stations in real time will be installed along the way and will show relevant prevention messages. Come join us!

> June 24th-26th, 2011

For the first time, Bruitparif will be at the Solidays festival for the prevention of hearing risks related to amplified music. 50,000 ear plug pairs will be available to the participants for free.



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