

A Brief Tour of FishSounds



Welcome to the FishSounds website! This guide is meant to give you a brief overview and tour of what all our website has to offer.

Three Categories of Data Compiled



We have compiled three main types of data as part of the website work.

Three Categories of Data Compiled

Authors:	Amorim, M. C. P. Hawkins, A. D.	Detection:	<input checked="" type="checkbox"/> Species Identified <input checked="" type="checkbox"/> Sound Detected
Publication:	Journal of Fish Biology	Examination Types:	<input checked="" type="checkbox"/> Morphophysiological <input checked="" type="checkbox"/> Auditory <input checked="" type="checkbox"/> Visual
Year:	2000	Sound Types Detected:	<input checked="" type="checkbox"/> Active <input checked="" type="checkbox"/> Passive Feeding <input checked="" type="checkbox"/> Other Passive
Volume:	57		
Issue:	4		
Pages:	895-907		
DOI:	10.1111/j.1095-8649.2000.tb02200.x		
ISSN:	0022-1112		
Language:	English		

Basic sound production and reference information

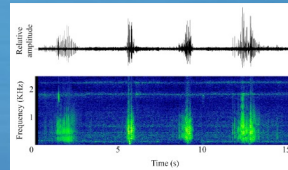


The first is based on a complete systematized review of published examinations of a fish species for sound production. We have the citation information for each reference and then for each fish species examined for sound production in each reference, we have basic information on the general type of examination conducted, whether the fish produced active or intentional sounds or some type of passive or incidental sound, and whether authors expressed doubt about their findings. This is the most complete type of data we have compiled, and it will be updated with new website versions to continue to add any literature published the previous year or to account for any references that are currently missing from our database.

Three Categories of Data Compiled

Authors:	Amorim, M. C. P. Hawkins, A. D.
Publication:	Journal of Fish Biology
Year:	2000
Volume:	57
Issue:	4
Pages:	895-907
DOI:	10.1111/j.1095-8649.2000.tb02200.x
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Detection:	<input checked="" type="checkbox"/> Species Identified <input checked="" type="checkbox"/> Sound Detected
Examination Types:	<input checked="" type="checkbox"/> Morphophysiological <input checked="" type="checkbox"/> Auditory <input checked="" type="checkbox"/> Visual
Sound Types Detected:	<input checked="" type="checkbox"/> Active <input checked="" type="checkbox"/> Passive Feeding <input checked="" type="checkbox"/> Other Passive



Basic sound production and
reference information

Sound recordings



The second category is made up of individual sound recordings generously donated to us by researchers or through connections to other sound libraries. We will be continuously working to augment our library of sound recordings as we receive donations.

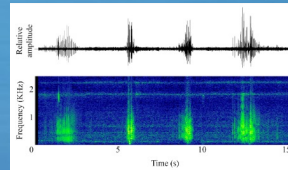
Three Main Categories of Data Compiled

Authors: Amorim, M. C. P.
 Hawkins, A. D.
Publication: Journal of Fish Biology
Year: 2000
Volume: 57
Issue: 4
Pages: 895-907
DOI: 10.1111/j.1095-8649.2000.tb02200.x
ISSN: 0022-1112
Language: English

Detection:
 Species Identified
 Sound Detected

Examination Types:
 Morphophysiological
 Auditory
 Visual

Sound Types Detected:
 Active
 Passive Feeding
 Other Passive



Observation Environments:
 Captivity

Behaviour Descriptions:
 Aggression/Antagonistic (tentative)
 Competitive Feeding

Sound Names:
 Pulse
 Drum
 Growl

Measurements						
Measurement	Min.	Mean	Max.	Error	Error Type	n
Group period (ms)	6.8	23.2	64.9	10.2	SD	358
Number of groups of pulses	3	36.5	94	25.2	SD	39
Number of pulses per group	1	2	13	1.3	SD	372
Peak frequency (Hz)	304	555.1	1018	125.4	SD	372
Pulse duration (ms)	2.9	4.7	7	0.6	SD	372
Pulse period (ms)	2.3	3.8	6.3	0.6	SD	251

Basic sound production and reference information

Sound recordings

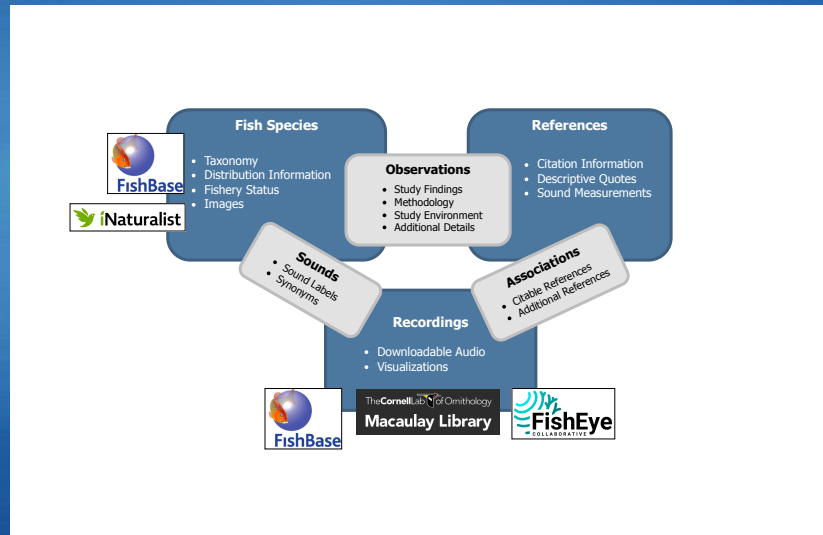
Acoustic characteristics and additional information



Finally, we are also going back through all of the references we have compiled when we have the time or resources to do so to collect acoustic characteristics of fish sounds or additional information about the sound production, such as the behavior associated with sound production or whether diagrams of the sound like a spectrogram were included in the reference.

In addition to these three types of data that we have gathered, we also have access to general information on the fish species, such as their taxonomic information or the region they are found in, courtesy of FishBase and other resources.


The Data is All Connected



All of our data are connected through various relationships in the website infrastructure and database we have compiled.

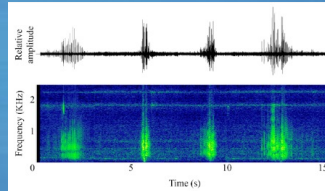
Three Searches on the Website

Superclass: Osteichthyes	Climate: Boreal
Class: Teleostei	Subtropical
Order: Perciformes	Temperate
Suborder: Scorpaenoidae	Tropical
Family: Triglidae	Waters: Marine
Subfamily: Triglinae	Known Fisheries: Commercial
Genus: Cheilodichthys	
Species: lastoviza	
Common Name: Streaked gurnard	



zslamaj, license: CC BY-NC-SA 4.0, source: iNaturalist

By fish species



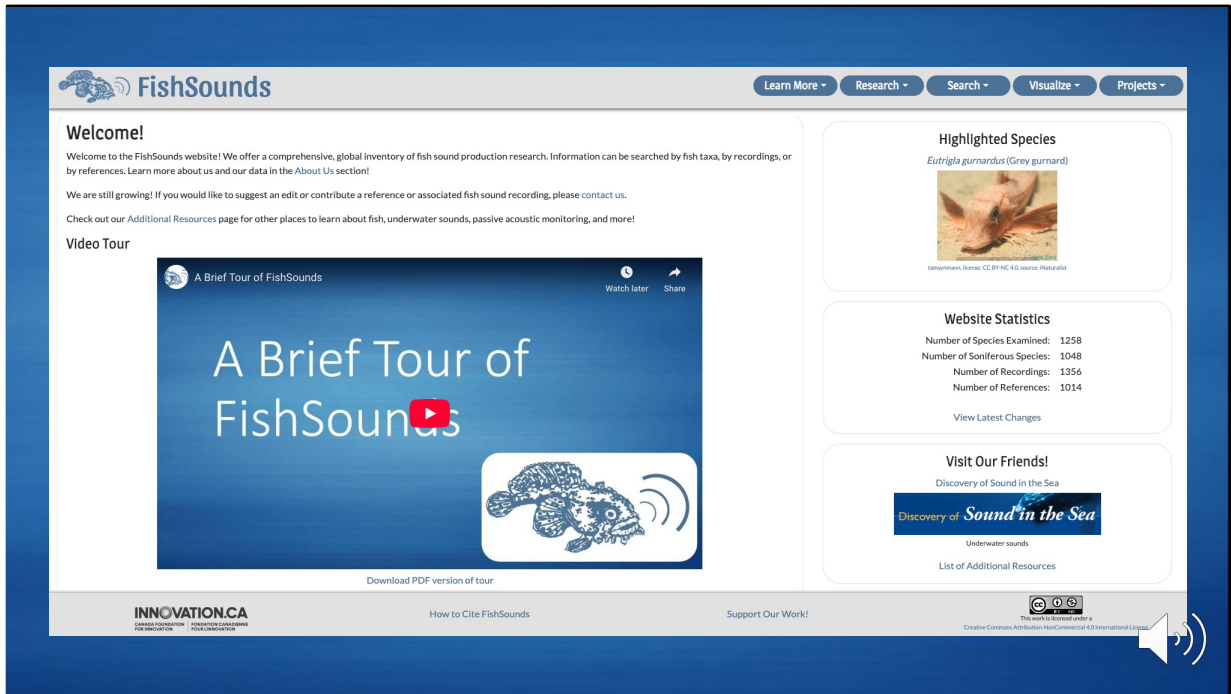
By sound recordings

Authors: Amorim, M. C. P.
Hawkins, A. D.
Publication: Journal of Fish Biology
Year: 2000
Volume: 57
Issue: 4
Pages: 895-907
DOI: 10.1111/j.1095-8649.2000.tb02200.x
ISSN: 0022-1112
Language: English

By reference



The data are then used to create searches for users of the website based on fish species, sound recordings, and reference.



With that, on to the website itself! On our Home page, you'll find...

FishSounds Learn More Research Search Visualize Projects

Welcome!
 Welcome to the FishSounds website! We offer a comprehensive, global inventory of fish sound production research. Information can be searched by fish taxa, by recordings, or by references. Learn more about us and our data in the About Us section!
 We are still growing! If you would like to suggest an edit or contribute a reference or associated fish sound recording, please contact us.
 Check out our Additional Resources page for other places to learn about fish, underwater sounds, passive acoustic monitoring, and more!

Video Tour

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Highlighted Species
Eutrigla gurnardus (Grey gurnard)

Website Statistics

Number of Species Examined:	1258
Number of Soniferous Species:	1048
Number of Recordings:	1356
Number of References:	1014

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...some helpful links to information pages and websites...

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...a randomly-generated, highlighted species...

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Highlighted Species
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Number of Soniferous Species:	1048
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Number of References:	1014

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 Underwater sounds

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...some fun numbers about the website...

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Video Tour

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Highlighted Species
Eutrigla gurnardus (Grey gurnard)

Website Statistics
 Number of Species Examined: 1258
 Number of Soniferous Species: 1048
 Number of Recordings: 1356
 Number of References: 1014
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...and links to other websites that might be of interest.

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Watch later | Share

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Download PDF version of tour

Highlighted Species
Etrigla gurnardus (Grey gurnard)

Website Statistics

Number of Species Examined:	1258
Number of Soniferous Species:	1048
Number of Recordings:	1356
Number of References:	1014

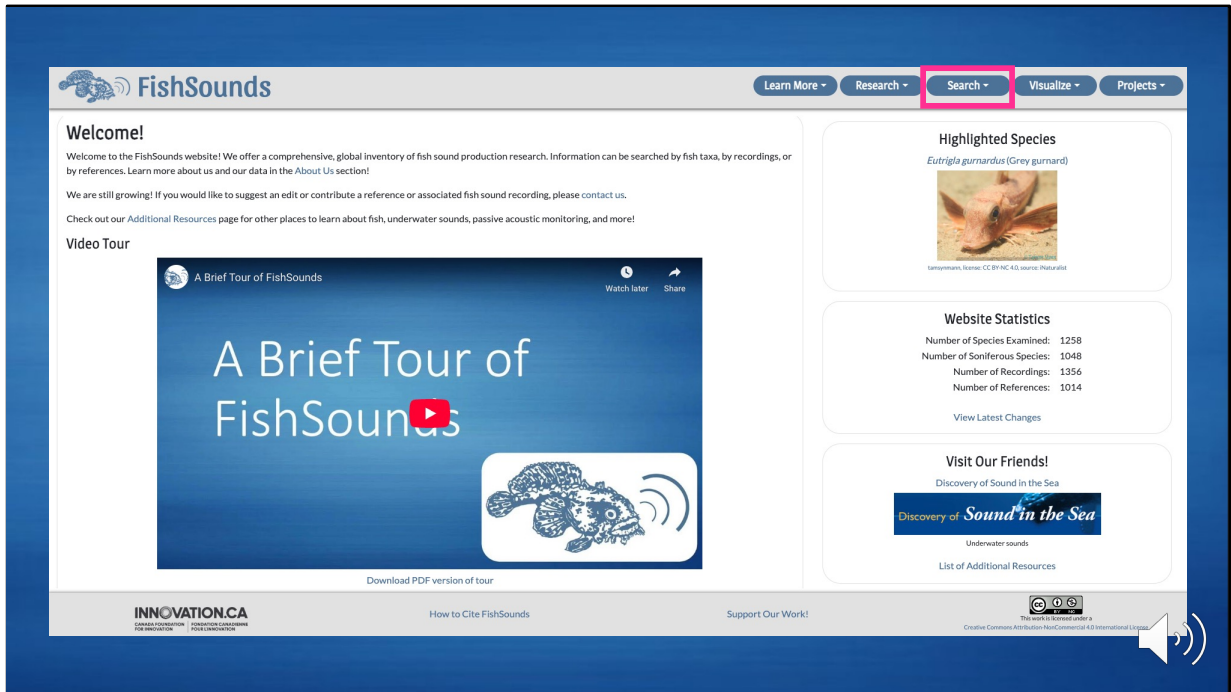
View Latest Changes

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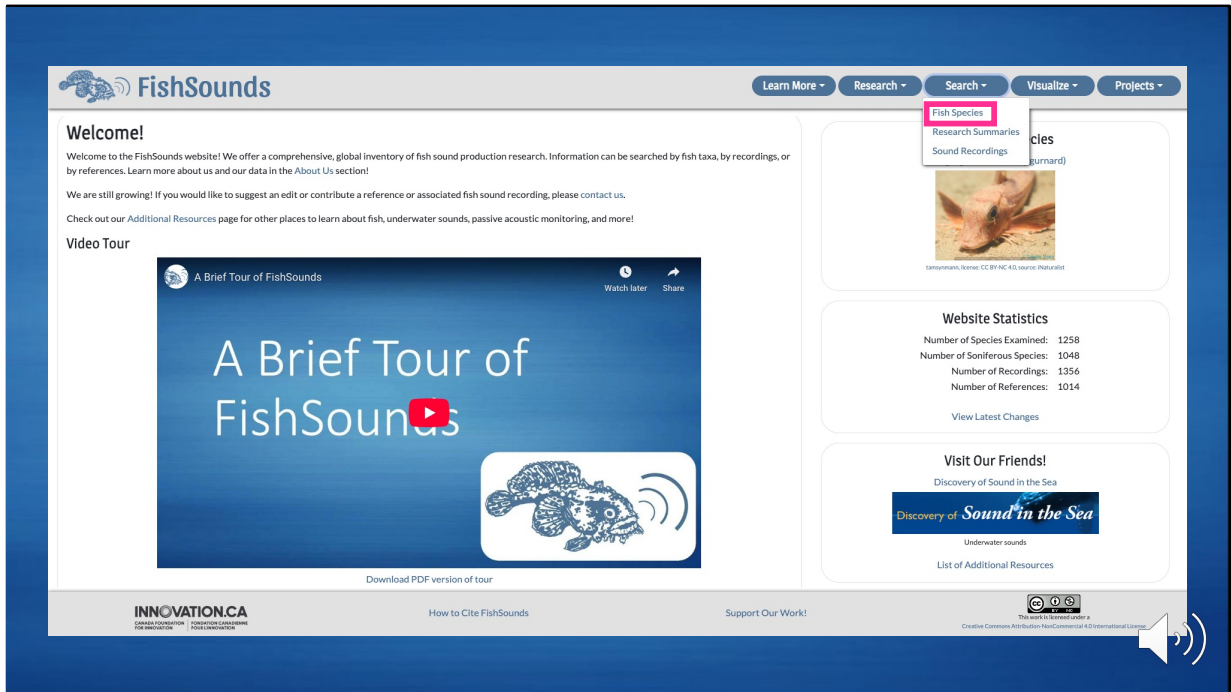
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Finally, you can also find our video tour of the website. A PDF of the video, including all the slides and a transcript of the voiceover, is also provided for download.



To begin searching the website, you will find three options if you click on the search button found at the top of every page.



If you click on “Fish Species”, you will be taken to our Fish Species Search page.

The screenshot displays the FishSounds website interface. On the left, a 'Filter Results' sidebar is highlighted with a pink border. It contains several search criteria: Common Name, Scientific Name, Fish Family, Fish Order, Fish Class, Sound Types Made, Require Recordings (with 'No' selected), Fishery Species Only (with 'No' selected), Regions Found, Climates Found, and Water Types. Below these filters are 'View All' and 'Search' buttons. The main content area shows '1276 Results Found (43 Pages)' and a list of search results. Each result includes the species name, taxonomic classification (Class, Order, Family), the number of references and recordings, and associated metadata like climate, water types, and known fisheries. The results listed are:

- Abramis brama (Freshwater bream)**: 1 Reference, 0 Recordings. Climates: Boreal; Subtropical; Temperate; Tropical. Waters: Brackish water; Freshwater. Known Fisheries: Commercial; Recreational.
- Abudefduf abdominalis (Green damselfish)**: 4 References, 0 Recordings. Climates: Boreal; Subtropical; Temperate; Tropical. Waters: Marine.
- Abudefduf saxatilis (Sergeant-major)**: 2 References, 4 Recordings (1 Sound). Climates: Boreal; Subtropical; Temperate; Tropical. Waters: Marine. Known Fisheries: Commercial.
- Abudefduf sordidus (Blackspot sergeant)**: 2 References, 0 Recordings. Climates: Boreal; Subtropical; Temperate; Tropical. Waters: Brackish water; Marine. Known Fisheries: Commercial.
- Abudefduf vaigiensis (Indo-Pacific sergeant)**: 1 Reference, 0 Recordings. Climates: Boreal; Subtropical; Temperate; Tropical. Waters: Marine. Known Fisheries: Subsistence.

At the bottom of the page, there is a footer with logos for INNOVATION.CA, a 'How to Cite FishSounds' link, 'Support Our Work!' text, and Creative Commons Attribution-NonCommercial 4.0 International License information.

Here, you'll be able to search by fish species to see if they have records in our dataset and pull records based on taxonomic or other information.

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Filter Results

Common Name: (e.g. Atlantic salmon)

Scientific Name: (e.g. Salmo salar)

Fish Family: (e.g. Salmonidae)

Fish Order: (e.g. Salmoniformes)

Fish Class: (e.g. Teleostei)

Sound Types Made: (Select Some Options)

Require Recordings: No Yes

Fishery Species Only: No Yes

Regions Found: (Select Some Options)

Climates Found: (Select Some Options)

Water Types: (Select Some Options)

1276 Results Found (43 Pages) |

<i>Abramis brama</i> (Freshwater bream)	Class undefined: 1 Reference Order Cypriniformes: 0 Recordings Family Leuciscidae	Climates: Boreal; Subtropical; Temperate; Tropical Waters: Brackish water; Freshwater Known Fisheries: Commercial; Recreational
<i>Abudedefduf abdominalis</i> (Green damselfish)	Class undefined: 4 References Order Ovalentaria: 0 Recordings Family Pomacentridae	Climates: Boreal; Subtropical; Temperate; Tropical Waters: Marine
<i>Abudedefduf saxatilis</i> (Sergeant-major)	Class undefined: 2 References Order Ovalentaria: 4 Recordings Family Pomacentridae: (1 Sound)	Climates: Boreal; Subtropical; Temperate; Tropical Waters: Marine Known Fisheries: Commercial
<i>Abudedefduf sordidus</i> (Blackspot sergeant)	Class undefined: 2 References Order Ovalentaria: 0 Recordings Family Pomacentridae	Climates: Boreal; Subtropical; Temperate; Tropical Waters: Brackish water; Marine Known Fisheries: Commercial
<i>Abudedefduf vaigiensis</i> (Indo-Pacific sergeant)	Class undefined: 1 Reference Order Ovalentaria: 0 Recordings Family Pomacentridae	Climates: Boreal; Subtropical; Temperate; Tropical Waters: Marine Known Fisheries: Subsistence

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The results can also be sorted differently based on your needs.

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Filter Results

Common Name:

Scientific Name:

Fish Family:

Fish Order:

Fish Class:

Sound Types Made:

Require Recordings: No Yes

Fishery Species Only: No Yes

Regions Found:

Climates Found:

Water Types:

1276 Results Found (43 Pages) | Sort: Scientific, A-Z

<i>Abramis brama</i> (Freshwater bream)	Class undefined: 1 Reference Order Cypriniformes: 0 Recordings Family Leuciscidae	Climates: Boreal; Subtropical; Temperate; Tropical Waters: Brackish water; Freshwater Known Fisheries: Commercial; Recreational
<i>Abudefduf abdominalis</i> (Green damselfish)	Class undefined: 4 References Order Ovalentaria: 0 Recordings Family Pomacentridae	Climates: Boreal; Subtropical; Temperate; Tropical Waters: Marine
<i>Abudefduf saxatilis</i> (Sergeant-major)	Class undefined: 2 References Order Ovalentaria: 4 Recordings Family Pomacentridae (1 Sound)	Climates: Boreal; Subtropical; Temperate; Tropical Waters: Marine Known Fisheries: Commercial
<i>Abudefduf sordidus</i> (Blackspot sergeant)	Class undefined: 2 References Order Ovalentaria: 0 Recordings Family Pomacentridae	Climates: Boreal; Subtropical; Temperate; Tropical Waters: Brackish water; Marine Known Fisheries: Commercial
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Once you have found a species you are interested in, you can click on it for more information.

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Chelidonichthys lastoviza (Streaked gurnard)

Species Description ^

Sound Recordings (1 Entry) ^

References (1 Entry) ^

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This will take you to an overview of the information we have on the species, broken up into three drop-down tabs. Let's look at what we have for the streaked gurnard.

FishSounds Learn More Research Search Visualize Projects


Chelidonichthys lastoviza (Streaked gurnard)



Species Description

[View Entry on FishBase Website](#)
[View Editor Notes](#)



sheltonj, license: CC BY-NC-SA 4.0, source: iNaturalist

Superclass	Osteichthyes	Climates:	Boreal	Map of Known Habitats ■ native species ■ introduced species  Hover on map to view region name <small>(If "No" means the species is not present)</small>
Class	Teleostei		Subtropical	
Order	Perciformes		Temperate	
Suborder	Scorpaenoidae		Tropical	
Family	Triglidae	Waters:	Marine	Known Fisheries: Commercial
Subfamily	Triglinae			
Genus	<i>Chelidonichthys</i>			
Species	<i>lastoviza</i>			
Common Name	Streaked gurnard			


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In the species description tab—which will be automatically open when you get to the species page—you will find various information on the species’ taxonomy and distribution, as listed on FishBase, with a link to its species page on FishBase.

The screenshot displays the FishSounds website interface for the species *Chelidonichthys lastoviza* (Streaked gurnard). The page is organized into several sections:

- Species Description:** A section at the top with an upward arrow icon.
- Sound Recordings (1 Entry):** A section with a downward arrow icon containing:
 - Sound Name: Growl
 - 1 Recording
 - A **View Details** button.
 - A **Download File** button with a play icon.
 - A spectrogram image showing Frequency (kHz) on the y-axis (0 to 2) and Time (s) on the x-axis (0 to 15). The spectrogram displays several vertical green bands of energy.
 - Citable Reference: Amorim and Hawkins (2000)
- References (1 Entry):** A section at the bottom with an upward arrow icon.

The footer of the page includes the INNOVATION.CA logo, a link to "How to Cite FishSounds", a "Support Our Work!" link, and a Creative Commons Attribution-NonCommercial 4.0 International License logo. A speaker icon is visible in the bottom right corner.

In the sound recordings tab, you will find any recordings we have for the species along with associated references, a generated spectrogram image of the recording, and a link to additional details about the recording.

FishSounds Learn More Research Search Visualize Projects

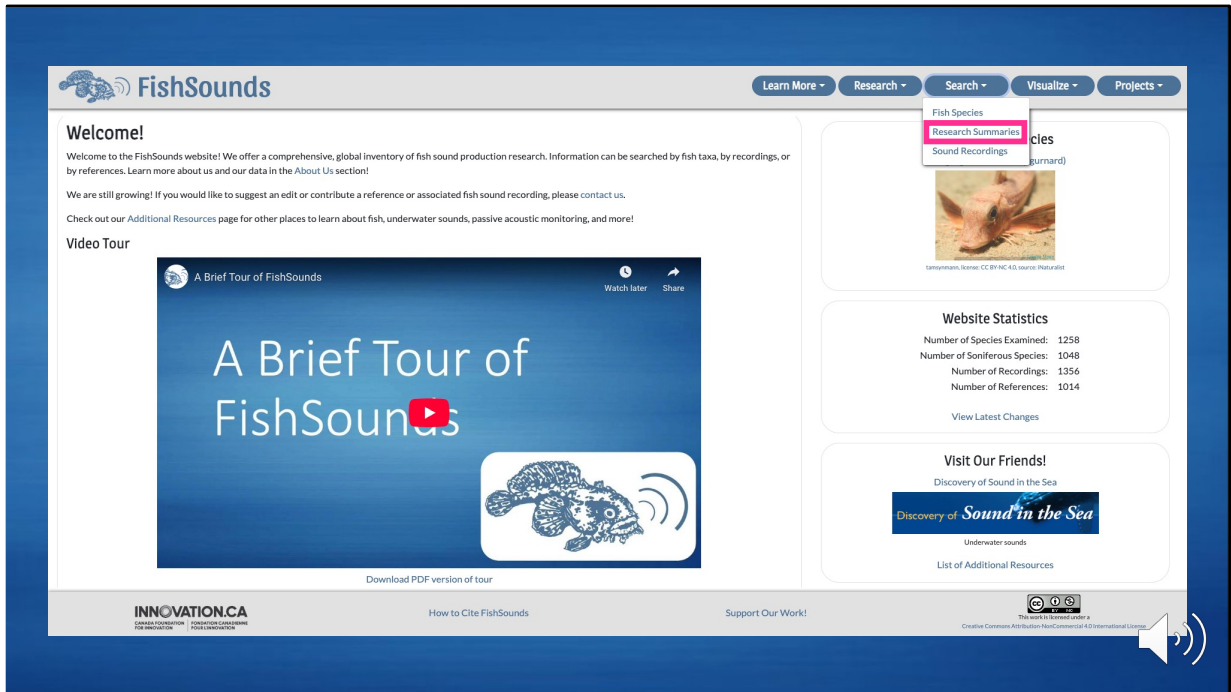
Chelidonichthys lastoviza (Streaked gurnard)

Species Description
 Sound Recordings (1 Entry)
 References (1 Entry)

Citation (Newest to Oldest)	Detection	Sound Types Detected	Examination Types
Amorim, M. C. P., Hawkins, A. D. 2000. Growing for Food: Acoustic Emissions during Competitive Feeding of the Streaked Gurnard. <i>Journal of Fish Biology</i> , 57(4): 895-907.	<input type="checkbox"/> Species Identified <input checked="" type="checkbox"/> Sound Detected	<input checked="" type="checkbox"/> Active <input checked="" type="checkbox"/> Passive Feeding <input checked="" type="checkbox"/> Other Passive	<input checked="" type="checkbox"/> Morphophysiological <input checked="" type="checkbox"/> Auditory <input checked="" type="checkbox"/> Visual

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In the references tab, you can see any records in the literature where the species was studied and some basic information that was reported in the reference. A question mark in one of these means that there was doubt or uncertainty reported by the authors about that data category. For example, if the authors only tentatively ID-ed the species that made the sound, then there would be a question mark next to "Species Identified" instead of a check mark.



In addition to searching by species, you can search through the literature by clicking on the “Research Summaries” search button at the top of every page.

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Filter Results

Title Keyword: e.g. sound production

Author Surname: e.g. Mowbray

Publication Year: 1874 - 2025

Reference Languages: Select Some Options

Gray Literature: Exclude Include

Fish Common Name: e.g. Atlantic salmon

Fish Scientific Name: e.g. Salmo salar

Fish Family: e.g. Salmonidae

Fish Order: e.g. Salmoniformes

Fish Class: e.g. Teleostei

[View All](#) [Search](#)

1014 Results Found (34 Pages) | Sort: Last Added

Reference	Details
Morgan L. 2014. A Passive Acoustic and Experimental Study of Juvenile Blue Catfish, <i>Ictalurus furcatus</i> , Sound Production and Agnostic Behavior in the Tidal Freshwater James River. Master's Thesis, Virginia Commonwealth University.	2 Species Examined <i>Acipenser oxyrinchus</i> (Atlantic sturgeon) <i>Ictalurus furcatus</i> (Blue catfish)
Bowie BNC. 2020. Context-Specific Sound Production Responses to Environmental Manipulation in the Vocal Reef Fish <i>Rhinecanthus rectangulus</i> . Master's Thesis, University of Hawai'i at Mānoa.	1 Species Examined <i>Rhinecanthus rectangulus</i> (Wedge-tail triggerfish)
Jorgewich-Cohen G, Townsend SW, Padovese LR, Klein N, Prashag P, Ferrara CR, Ettmar S, Menezes S, Varani AP, Serano J, et al. 2022. Common Evolutionary Origin of Acoustic Communication in Choanate Vertebrates. <i>Nature Communications</i> . 13(6089). 10.1038/s41467-022-33741-8.	1 Species Examined <i>Lepidosiren paradoxa</i> (South American lungfish)
Satou M, Shiralshi A, Matsushima T, Okumoto N. 1991. Vibrational Communication During Spawning Behavior in the Himé Salmon (Landlocked Red Salmon, <i>Oncorhynchus nerka</i>). <i>Journal of Comparative Physiology A</i> . 168(4): 417-428. 10.1007/BF00199602.	1 Species Examined <i>Oncorhynchus nerka</i> (Sockeye salmon)
Tavolga WN. 1958. Underwater Sounds Produced by Two Species of Toadfish, <i>Opsanus tau</i> and <i>Opsanus beta</i> . <i>Bulletin of Marine Science of the Gulf and Caribbean</i> . 8(3): 278-284.	2 Species Examined <i>Opsanus beta</i> (Gulf toadfish) <i>Opsanus tau</i> (Oyster toadfish)
Rigley L, Muir J. 1979. The Role of Sound Production by the Brown Bullhead <i>Ictalurus nebulosus</i> . <i>Proceedings of the Pennsylvania Academy of Science</i> . 53(2): 132-134.	1 Species Examined <i>Ameiurus nebulosus</i> (Brown bullhead)
Ballantyne PK, Colgan PW. 1978. Sound Production during Agonistic and Reproductive Behaviour in the Pumpkinseed [<i>Lepomis gibbosus</i> , the Bluegill] [<i>L. macrochirus</i> , and Their Hybrid Sunfish. II. Recipients. <i>Biology of Behaviour</i> . 3: 207-220.	2 Species Examined <i>Lepomis gibbosus</i> (Pumpkinseed) <i>Lepomis macrochirus</i> (Bluegill)

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Here, you'll be able to search and sort all the references that we have available on our website.

The screenshot shows the FishSounds website interface. At the top, there is a navigation bar with 'Learn More', 'Research', 'Search', 'Visualize', and 'Projects' buttons. Below this is a 'Filter Results' sidebar on the left with various search criteria like Title Keyword, Author Surname, Publication Year, Reference Languages, Gray Literature, Fish Common Name, Fish Scientific Name, Fish Family, Fish Order, and Fish Class. The main content area displays '1014 Results Found (34 Pages)' and a list of references. One reference is highlighted with a pink box: 'Bowie BNC. 2020. Context-Specific Sound Production Responses to Environmental Manipulation in the Vocal Reef Fish *Rhinecanthus rectangulus*. Master's Thesis, University of Hawai'i at Mānoa.' To the right of the reference list is a 'Details' column showing the number of species examined and their names. At the bottom of the page, there are logos for 'INNOVATION.CA' and 'Creative Commons Attribution-NonCommercial-4.0 International License', along with a speaker icon.

If you click on one, then that will take you to more details about the reference and the examinations that were published in it.

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Growing for Food: Acoustic Emissions during Competitive Feeding of the Streaked Gurnard

Copy Reference

Authors: Amorim, M. C. P.
Hawkins, A. D.

Publication: Journal of Fish Biology

Year: 2000

Volume: 57

Issue: 4

Pages: 895-907

DOI: 10.1111/j.1095-8649.2000.tb02200.x

ISSN: 0022-1112

Language: English

Associated Sounds

Sound recordings for which this reference is listed as a citation or additional source

Chelidonichthys lastoviza (Streaked gurnard) - Growl

[View](#)

Chelidonichthys lastoviza (Streaked gurnard)

The species name used by the author(s) was *Trigloporus lastoviza*.

Description

Detection:

- Species Identified
- Sound Detected

Examination Types:

- Morphophysiological
- Auditory
- Visual

Sound Types Detected:

- Active
- Passive Feeding
- Other Passive

Additional Details

[View Descriptive Quotes](#)

[View Measurements](#)

Observation Environments:

- Captivity

Behaviour Descriptions:

- Aggression/Antagonistic (tentative)
- Competitive Feeding

Sound Names:

- Pulse
- Drum
- Growl

Included Diagrams:

- Spectrogram
- Oscillogram
- Table

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CONNECTIONS BETWEEN SCIENCE AND SOCIETY

[How to Cite FishSounds](#)

[Support Our Work!](#)

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Here are the reference details for this wonderfully titled journal article on the streaked gurnard.

The screenshot displays the FishSounds website interface. At the top, there is a navigation bar with the FishSounds logo and menu items: Learn More, Research, Search, Visualize, and Projects. The main title of the page is "Growing for Food: Acoustic Emissions during Competitive Feeding of the Streaked Gurnard".

On the left side, there is a citation information box with a pink border. It includes a "Copy Reference" button and the following details:

- Authors: Amorim, M. C. P., Hawkins, A. D.
- Publication: Journal of Fish Biology
- Year: 2000
- Volume: 57
- Issue: 4
- Pages: 895-907
- DOI: 10.1111/j.1095-8649.2000.tb02200.x
- ISSN: 0022-1112
- Language: English

 Below this box is an "Associated Sounds" section with a dropdown menu showing "Chelidonichthys lastoviza (Streaked gurnard) - Growl" and a "View" button.

The right side of the page features a detailed description of the species, *Chelidonichthys lastoviza* (Streaked gurnard). It includes:

- Description:**
 - Detection:
 - Species Identified
 - Sound Detected
 - Examination Types:
 - Morphophysiological
 - Auditory
 - Visual
 - Sound Types Detected:
 - Active
 - Passive Feeding
 - Other Passive
- Additional Details:**
 - Buttons: "View Descriptive Quotes" and "View Measurements"
 - Observation Environments: Captivity
 - Behaviour Descriptions: Aggression/Antagonistic (tentative), Competitive Feeding
 - Sound Names: Pulse, Drum, Growl
 - Included Diagrams: Spectrogram, Oscillogram, Table

At the bottom of the page, there is a footer with the INNOVATION.CA logo, links for "How to Cite FishSounds" and "Support Our Work!", and Creative Commons Attribution-NonCommercial-4.0 International License icons.

On the left, there is all the citation information that was available as well as a button to copy the information.

FishSounds | Learn More | Research | Search | Visualize | Projects

Growing for Food: Acoustic Emissions during Competitive Feeding of the Streaked Gurnard

Chelidonichthys lastoviza (Streaked gurnard)
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 ISSN: 0022-1112
 Language: English

Associated Sounds
 Sound recordings for which this reference is listed as a citation or additional source

Chelidonichthys lastoviza (Streaked gurnard) - Growl

[View](#)

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- Growl

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- Oscillogram
- Table

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Here is all the basic information that was available on the streaked gurnard species page.

FishSounds | Learn More | Research | Search | Visualize | Projects

Growing for Food: Acoustic Emissions during Competitive Feeding of the Streaked Gurnard

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[View](#)

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- Oscillogram
- Table

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Then, when available, there will also be additional information on the sound production reported in the reference.

FishSounds | Learn More | Research | Search | Visualize | Projects

Growing for Food: Acoustic Emissions during Competitive Feeding of the Streaked Gurnard

Copy Reference

Authors: Amorim, M. C. P.
Hawkins, A. D.

Publication: Journal of Fish Biology

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Sound Names:

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- Drum
- Growl

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- Table

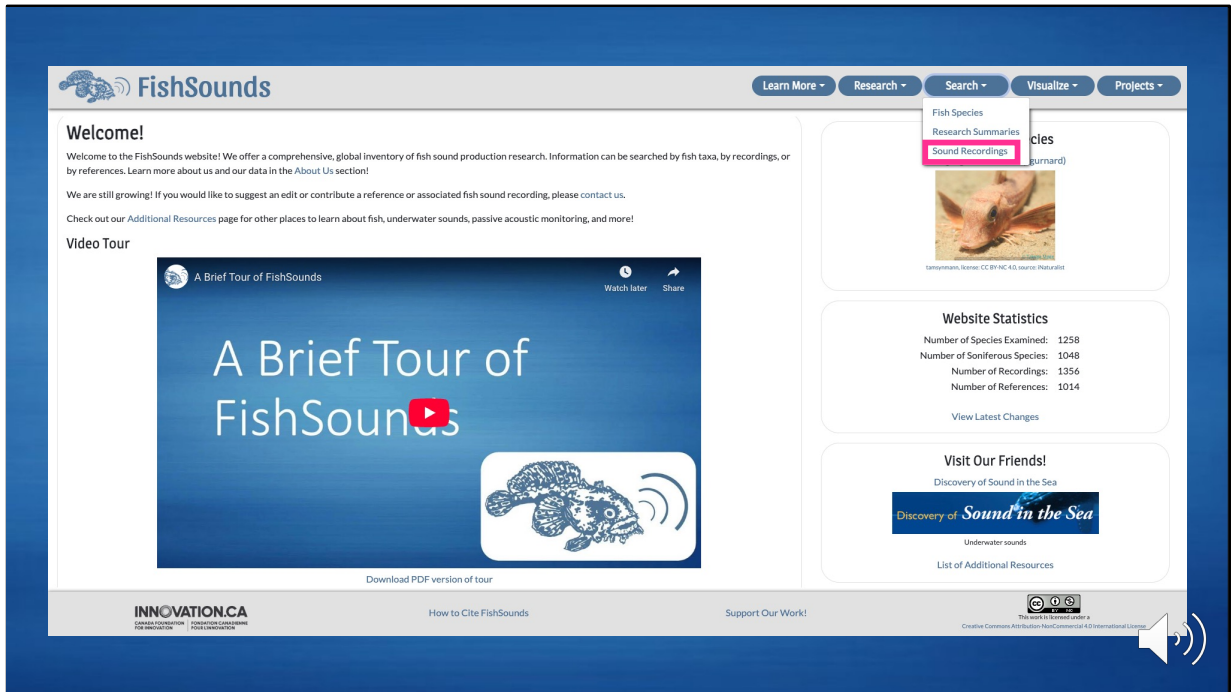
Associated Sounds

Sound recordings for which this reference is listed as a citation or additional source

Chelidonichthys lastoviza (Streaked gurnard) - Growl

[View](#)

You can also view what recordings are associated with the reference when applicable.



Finally, in addition to searching by species and research summary, you can search through the recordings by clicking on the “Sound Recordings” search button at the top of every page.

The screenshot displays the FishSounds website interface. At the top left is the logo and name 'FishSounds'. To the right are navigation buttons: 'Learn More', 'Research', 'Search', 'Visualize', and 'Projects'. On the left side, there is a 'Filter Results' panel with several dropdown menus for 'Collection', 'Sound Names', 'Related Author', 'Fish Common Name', 'Fish Scientific Name', 'Fish Family', 'Fish Order', 'Fish Class', and 'Fish Regions'. Below these are 'View All' and 'Search' buttons. The main content area is divided into two sections. The top section is for a sound named 'Growl' by *Chelidonichthys lastoviza* (Streaked gurnard), showing '1 Recording' and a spectrogram with 'Frequency (kHz)' on the y-axis (0 to 2) and 'Time (s)' on the x-axis (0 to 15). A 'Download File' button is present. The bottom section is for an 'Unnamed' sound by *Chilomycterus reticulatus* (Spotfin burrfish), showing '2 Recordings' and a video player for 'Recording 1 of 2'. The video player shows a spectrogram with 'Time' on the x-axis (0:00 to 0:04) and 'kHz' on the y-axis (0 to 12). Below the video player, it identifies the species as 'Spotfin Burrfish' and lists 'Marie P. Fish', 'Unkown', and 'Puerto Rico' as contributors. The 'CornellLab' logo and 'Macaulay Library ML112930' are also visible. At the bottom of the page, there is a footer with 'INNOVATION.CA' logo, 'How to Cite FishSounds', 'Support Our Work!', and Creative Commons Attribution-NonCommercial-4.0 International License information.

Here, you'll be able to search and sort recordings that we have available on our website.

Some of our recordings are hosted by FishSounds thanks to the generous donations of our contributors.

Others are merely linked to on other websites, like the Macaulay Library.

The screenshot displays the FishSounds website interface. On the left is a 'Filter Results' sidebar with dropdown menus for Collection, Sound Names, Related Author, Fish Common Name, Fish Scientific Name, Fish Family, Fish Order, Fish Class, and Fish Regions. The main content area is divided into two sections. The top section, titled 'Sound Name: Growl', features the scientific name *Chelidonichthys lastoviza* (Streaked gurnard) and a '1 Recording' button. It includes a 'Download File' icon and a spectrogram visualization of the sound, which is highlighted with a pink border. Below the spectrogram is a 'Citable Reference: Amorim and Hawkins (2000)'. The bottom section, titled 'Sound Name: Unnamed', features the scientific name *Chilomycterus reticulatus* (Spotfin burrfish) and a '2 Recordings' button. It includes a 'View Details' button and a video player showing a spectrogram of the recording. The video player interface includes a play button, a progress bar at 0:00 / 0:37, and a search icon. The footer contains logos for INNOVATION.CA, CornellLab, and Creative Commons Attribution-NonCommercial-4.0 International License, along with a speaker icon.

Where possible, we will provide a visualization of the recording, though we do not have permission to do so for every recording.

The screenshot displays the FishSounds website interface. At the top left is the FishSounds logo. The top navigation bar includes links for 'Learn More', 'Research', 'Search', 'Visualize', and 'Projects'. On the left side, there is a 'Filter Results' section with various dropdown menus for 'Collection', 'Sound Names', 'Related Author', 'Fish Common Name', 'Fish Scientific Name', 'Fish Family', 'Fish Order', 'Fish Class', and 'Fish Regions'. Below these filters are 'View All' and 'Search' buttons. The main content area is divided into two sections. The top section is for a sound named 'Growl' by *Chelidonichthys lastoviza* (Streaked gurnard), showing '1 Recording' and a 'Download File' button. It includes a spectrogram with 'Frequency (kHz)' on the y-axis (0 to 2) and 'Time (s)' on the x-axis (0 to 15). A citation below the spectrogram reads 'Citable Reference: Amorim and Hawkins (2000)'. The bottom section is for a sound named 'Unnamed' by *Chilomycterus reticulatus* (Spotfin burrfish), showing '2 Recordings' and a 'View Details' button. It features a video player for 'Recording 1 of 2' with a spectrogram and a play button. The video player shows a progress bar at 0:00 / 0:37. Below the video player, the species name 'Spotfin Burrfish' and 'Chilomycterus reticulatus' are listed, along with the researcher 'Marie P. Fish' and location 'Puerto Rico'. The CornellLab logo and 'Macaulay Library ML112930' are also visible. At the bottom of the page, there is a footer with 'INNOVATION.CA' logo, 'How to Cite FishSounds', 'Support Our Work!', and Creative Commons Attribution-NonCommercial-4.0 International License information.

You can listen to the FishSounds recordings provided by clicking on the play button....

The screenshot displays the FishSounds website interface. At the top, there is a navigation bar with links for 'Learn More', 'Research', 'Search', 'Visualize', and 'Projects'. Below this is a 'Filter Results' sidebar on the left, containing various search criteria such as 'Collection', 'Sound Names', 'Related Author', 'Fish Common Name', 'Fish Scientific Name', 'Fish Family', 'Fish Order', 'Fish Class', and 'Fish Regions'. The main content area is divided into two sections. The top section is for a sound named 'Growl' by *Chelidonichthys lastoviza* (Streaked gurnard), showing a spectrogram and a 'Download File' button. The bottom section is for an 'Unnamed' sound by *Chilomycterus reticulatus* (Spotfin burrfish), showing a spectrogram and a 'View Details' button. A red square icon with a white arrow pointing to the right is overlaid on the bottom section. At the bottom of the page, there is a footer with 'INNOVATION.CA' logo, 'How to Cite FishSounds', 'Support Our Work!', and Creative Commons Attribution-NonCommercial-4.0 International License information.

...or click the link for the external recordings to learn more.

The screenshot displays the FishSounds website interface. On the left is a 'Filter Results' sidebar with dropdown menus for Collection, Sound Names, Related Author, Fish Common Name, Fish Scientific Name, Fish Family, Fish Order, Fish Class, and Fish Regions, along with 'View All' and 'Search' buttons. The main content area is divided into two sections. The top section, titled 'Sound Name: Growl', features a spectrogram of a recording for *Chelidonichthys lastoviza* (Streaked gurnard) with a 'Download File' button and a 'View Details' button. The bottom section, titled 'Sound Name: Unnamed', shows a spectrogram for *Chilomycterus reticulatus* (Spotfin burrfish) with 'Recording 1 of 2' and a 'View Details' button. A play button icon is visible between the two sections. A large speaker icon is located in the bottom right corner of the interface.

Recordings are grouped by species and sound name, so when we have multiple recordings for the same sound name and species, you can look through the different recordings with the arrow buttons.

Clicking on the view details button will take you to a page with additional details on the sound produced by the species.

The screenshot shows the FishSounds website interface. At the top, there is a navigation bar with the FishSounds logo and menu items: Learn More, Research, Search, Visualize, and Projects. The main content area is titled "Growl" for the species *Chelidonichthys lastoviza* (Streaked gurnard). It features a "Download File" button with a play icon, a waveform and spectrogram visualization of the sound, and a "References" section with a "Copy All Citations" button and a citation: "Amorim and Hawkins (2000)". The bottom of the page includes logos for INNOVATION.CA, "How to Cite FishSounds", "Support Our Work!", and Creative Commons Attribution-NonCommercial 4.0 International License, along with a speaker icon.

Here's the Recording page for the growl of the streaked gurnard. Our recordings can be considered a representative example of the sound produced.

FishSounds

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Welcome!
 Welcome to the FishSounds website! We offer a comprehensive, global inventory of fish sound production research. Information can be searched by fish taxa, by recording locations, or by references. Learn more about us and our data in the About Us section!

We are still growing! If you would like to suggest an edit or contribute a reference or associated fish sound recording, please contact us.
 Check out our Additional Resources page for other places to learn about fish, underwater sounds, passive acoustic monitoring, and more!

Video Tour

A Brief Tour of FishSounds
 Watch later | Share

A Brief Tour of FishSounds

Download PDF version of tour

Highlighted Species
Eutrigla gurnardus (Grey gurnard)

Website Statistics

Number of Species Examined:	1258
Number of Soniferous Species:	1048
Number of Recordings:	1356
Number of References:	1014

View Latest Changes

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 Discovery of Sound in the Sea
 Underwater sounds
 List of Additional Resources

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Please also be sure to check out our About FishSounds page, found under the “Learn More” button at the top of every page.

FishSounds | Learn More | Research | Search | Visualize | Projects

Data Definitions

Definitions of the terms used on the website can be found in the table below. Use the search bars above each column to filter the table.

Type	Term	Definition
Acoustic Measurement	*** frequency	frequency that divides the spectral content above and below the percentage or quartile reported in the measurement name in the position designated with ***; e.g., 5% frequency is the frequency that divides the spectral content into two frequency intervals containing 5% and 95% of the energy in the signal: Q1 = 25%; Q2 = 50%; Q3 = 75%
Acoustic Measurement	Duration	time elapsed between the beginning and end of a signal (e.g., sound, unit, pulse, group)
Acoustic Measurement	Frequency	number of cycles per second of a sound wave; sometimes referred to as pitch
Acoustic Measurement	Number of Individuals	number of individuals of a fish species that produced the sounds measured; the number of individuals is not always possible to determine in a study or included in a reference, so this number is only included where available; this number does not indicate the number of individuals used in the study overall. It only refers to the number of

All the fish sounds data that is published on the website can be accessed in the form of Excel spreadsheets and individual sound files in Borealis. Picture files can be located at their original source based on the attribution information and URL links provided near each image or in the Excel spreadsheet in Borealis.

Information on the fish species is provided by and can be found at the FishBase website or through their R package, rfishbase. Minor edits have been made to this data set to correct typos and standardize labels. The regional information is based on species occurrence, so species listed as present may therefore be native or introduced.

Data and Website Version History

Version	Description
0000.0.0	Initial release of the website and data.

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Here you can find out more about our data, including definitions and our version history.

FishSounds

Learn More | Research | Search | Visualize | Projects

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Data and Website Version History

Version | Description

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We also provide a link to our Borealis permanent data repository where all the versions of our dataset and more detailed data collection methodology can be found.

FishSounds

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Highlighted Species
Eutrigla gurnardus (Grey gurnard)

Website Statistics
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 Number of References: 1014
 View Latest Changes

Visit Our Friends!
 Discovery of Sound in the Sea
 Underwater sounds
 List of Additional Resources

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Proper citing of any of the information included on the website is very important to us, so at the bottom of any page or under the "Learn More" button, you will find a link to a How to Cite page.

FishSounds | Learn More | Research | Search | Visualize | Projects

Citing FishSounds Data


Last updated: 2024-08-31

This website combines information from several sources, in addition to providing its own metadata. Be sure to cite both the website itself, and the appropriate original source of the information as outlined below.

Disclaimer: FishSounds presents information as accurately as possible, but errors and omissions may still exist, and we cannot be held responsible for any that may arise. Please contact us if you notice any potential issues so that they may be corrected.

Copyright

The website itself and all audio recordings it hosts are subject to following the copyright:



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See the Images section below for copyright information specific to images.

General Website

FishSounds itself should be cited for any information taken from the website with the citation below.

Looby A, Vela S, Cox K, Riera A, Davies HL, Spriel B, Murchy K, Bravo S, Rountree R, Juanes F, Reynolds LK, Martin CW. 2025. FishSounds. <http://www.fishsounds.net>, version 2025-Jul.

Species Description Information

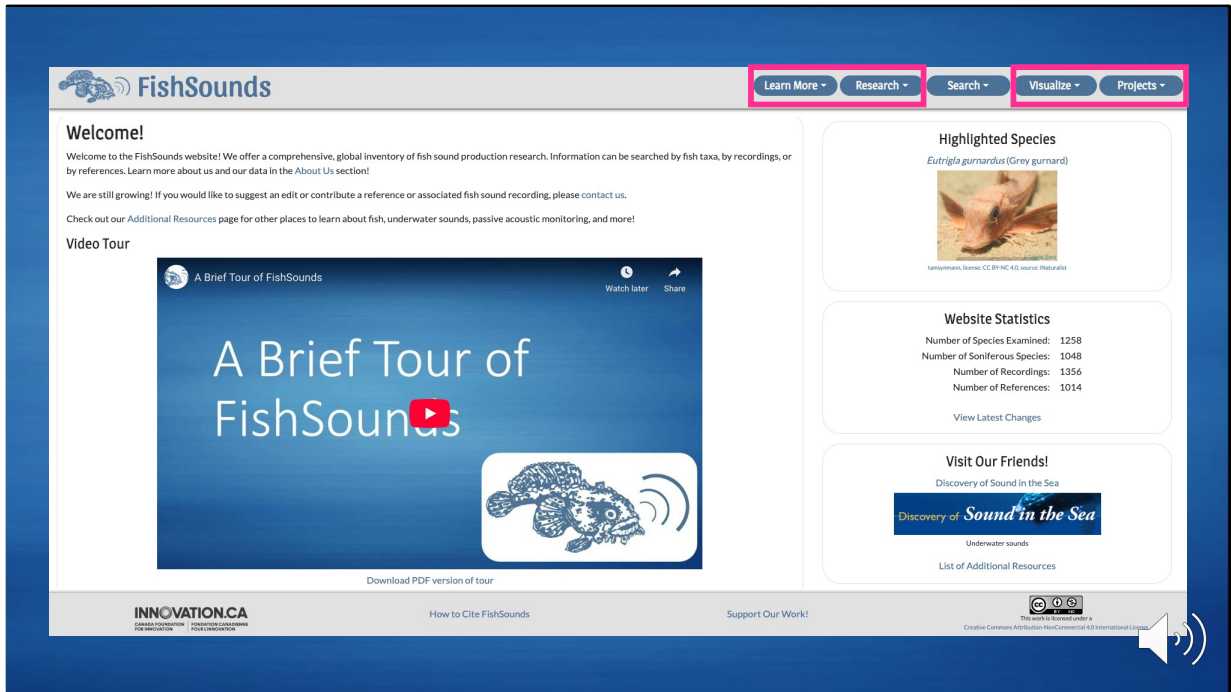
Cite FishBase for any information about the fish species (e.g., taxa, distribution) following the directions on their homepage as well as the R package rfishbase that we used to access all of FishBase's data. A link to the applicable FishBase webpage for each fish can be found in the Species Description tabs.

Research References

Cite the original authors of any fish sound data with the citation information provided for each respective reference. For your convenience, a "Copy Reference" button has been provided on each reference page that will copy the needed information to your device's clipboard for use. These citations are based on the Scientific citation style, but errors or deviations may exist. The copied text should be reviewed for issues or needed additions (e.g. "Accessed on " + date/time).

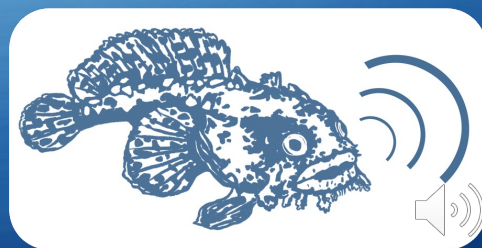
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Here you will find instructions on how to cite the different types of information available on the website.



There's a lot of other information, data visualizations, research summaries, and even a FishSounds coloring book that you can find on our other website pages, so please feel free to explore all our drop-down menus.

Please contact us at:
FishSoundsContact@gmail.com



And that concludes our brief tour of the FishSounds website. We will be continually working to improve and update the website and our data offerings, so if you have any questions, suggestions, concerns, or compliments, please feel free to contact us at fishsoundscontact@gmail.com. We truly hope you will find our website helpful for all your fish-sound-related endeavors!