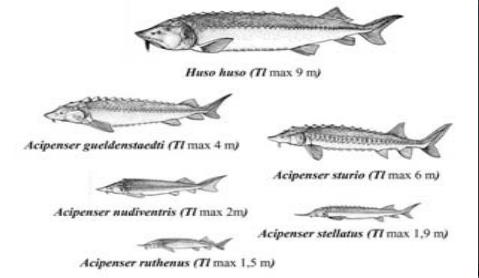
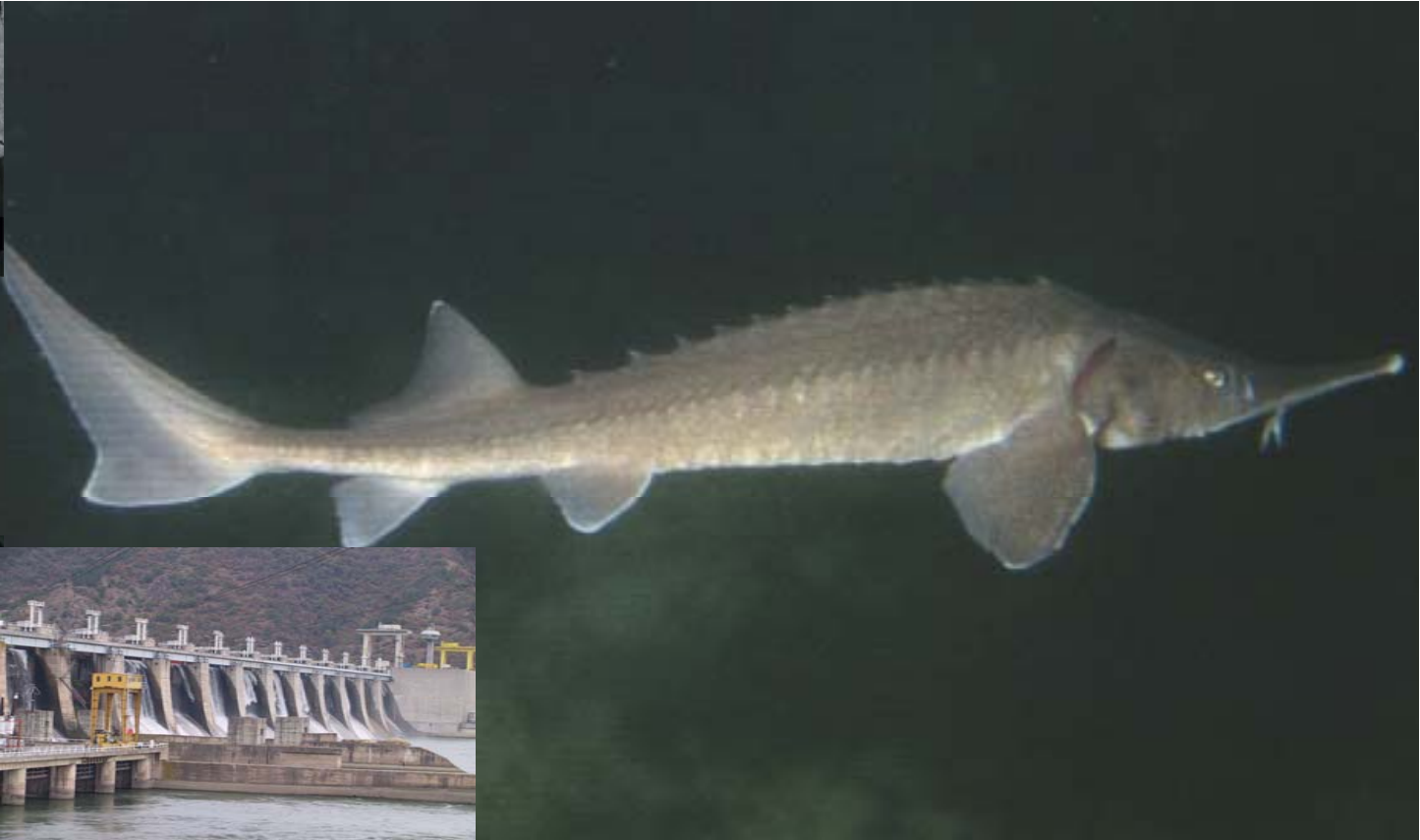
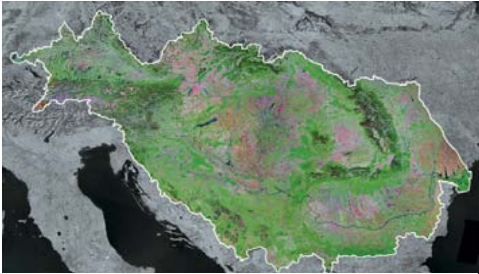


# Sturgeon Issues in the DRB



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# Sturgeons

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.....are endangered to be extinct in the DRB

**There is an urgent need for action to conserve and protect remaining populations.**

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# ICPDR Resolution

## 9<sup>th</sup> Ordinary Meeting

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### The ICPDR

- welcomes the ***Sturgeon Action Plan*** and considers it essential to contribute to it in order to avoid the extinction of the Danube sturgeon and other migratory species given its basin wide importance;
- will ***address sturgeon species on the Danube Basin wide scale*** according to the proposed step-by-step approach in order to
  - contribute to the development, conservation and restoration of sturgeon and other migratory species, and to
  - help reach the environmental objective of the WFD;
- requests the RBM EG to ***develop a vision*** for the sturgeon and other migratory species and to ***incorporate the appropriate actions in the Danube River Basin Management Plan.***

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**icpdr iksd**

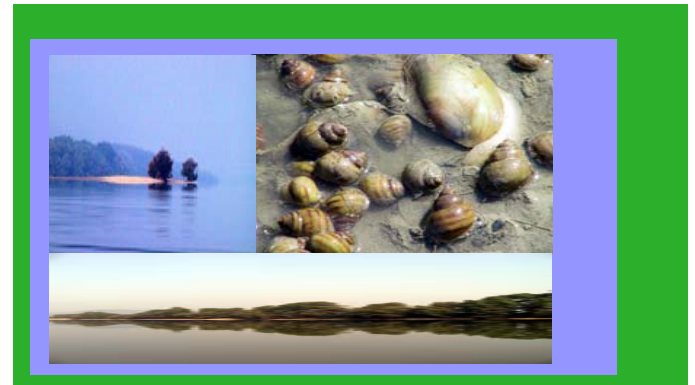
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# Vision and Management Objectives

for sturgeon and other migratory species



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# Four Significant Water Management Issues



Organic  
Pollution



Nutrient  
Pollution



Hazardous  
Substances Pollution



Hydromorphological  
Alterations

**Interruption of river and habitat continuity**  
Disconnection of adjacent floodplains/wetlands  
Hydrological alterations  
Future infrastructure projects

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# Vision

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## Hydromorphological Alterations in the DRB

The ICPDR's basin wide vision for hydromorphological alterations is the balanced management of past and future structural changes of the riverine environment, that the aquatic ecosystem in the entire DRB functions in a holistic way and is represented with all native species

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# Vision

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## Interruption of River & Habitat Continuity in the DRB

Anthropogenic barriers and habitat deficits do not hinder fish migration and spawning anymore - sturgeon species and specified other migratory species are able to access the Danube River and relevant tributaries. Sturgeon species and specified other migratory species are represented with self-sustaining populations in the DRB according to their natural historical distribution.



# Management Objectives



EU MS, Accession countries, NON EU MS

- ⇒ Construction fish migration aids and other measures to achieve/improve river continuity in the Danube River and in respective tributaries to ensure reproducing and self-sustaining of sturgeon species and specified other migratory species.
  - ⇒ Specification of number and location of fish migration aids and other measures to achieve /improve river continuity, which are intended to be implemented by 2015 by each country.
- ⇒ Restoration, conservation and improvements of habitats and their continuity for sturgeon species and specified other migratory species in the Danube River and the respective tributaries
  - ⇒ Specification of location, extent and measure type, which are intended to be implemented by 2015 by each country.





## Management Objectives

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EU MS, Accession countries, NON EU MS

⇒ **Performance of a feasibility study** regarding the possibility for sturgeon and other important species to migrate upstream and downstream through the Iron Gate I & II dams including habitat surveys. If the results of this feasibility study will be positive the respective measures should be integrated into the DRBM Plan and Joint Programme of Measures for implementation.

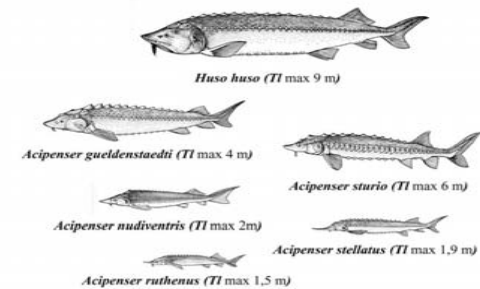
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# What happened so far in the DRB?

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- ⇒ Sturgeon Action Plan (SAP) under Bern Convention
- ⇒ Sturgeon & the ICPDR
  - ⇒ Sturgeon Task Group (since 2006)
- ⇒ Several documents
  - ⇒ Sturgeon Background Document incl. step-by-step approach
  - ⇒ Vision for sturgeon and other migratory species in the DRB
- ⇒ Integration of vision in SWMI document
- ⇒ Investigation on financing sources for sturgeon measures (feasibility study)
- ⇒ Which steps need to be taken before 2009



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# The SAP

## (endorsed 2005 – Bern Convention)

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To raise public awareness for the implementation of

- ⇒ **Basin-wide coordination** sturgeon policy and best-practice management
- ⇒ Improvement and **harmonization of international legislation** and regulations on sturgeon fisheries and trade to stop over-exploitation
- ⇒ Protection and restoration of sturgeon **habitats and migration** routes (by making dams and weirs passable) to **ensure natural reproduction**
- ⇒ **Conservation of sturgeon biodiversity & genetic integrity**
- ⇒ **Reduction of pollution** of the Danube River and its tributaries
- ⇒ Establishment of an **international network**

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# SAP - Threats

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## 4 key threats have been identified

1. Vulnerability to anthropogenic impact
2. Over exploitation
3. Alteration of genetic status
4. Habitat loss and degradation incl. disruption of spawning migration

**Sturgeon populations are close to extinction**  
(especially Lower Danube – migration hindrance to  
Middle/Upper Danube)

# Overlaps SAP/DRBM Plan

ICPDR activities  
towards DRBM plan

Sturgeon Action Plan (SAP)

SYNTHESIS

threats  
identified by SAP

1. vulnerability to anthropogenic impacts

2. over-exploitation

3. alteration of genetic status

4. habitat loss & disruption of spawning migration

categories of  
objectives in the SAP

1. basin wide policy coordination & best practice management

2. Legislation & enforcement controls for sturgeon fisheries and trade

3. Conservation of species & populations, incl. genetic integrity

4. protection & restoration of habitats; reopening of migration routes

objectives in SAP & relevance for ICPDR

1

2

3

4

5

6

7

8

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11

12

 Threats, categories & objectives of SAP relevant for the basin wide ICPDR level

 Threats, categories & objectives of SAP relevant on basin wide scale but no ICPDR lead

 Threats, categories & objectives of SAP relevant for national level

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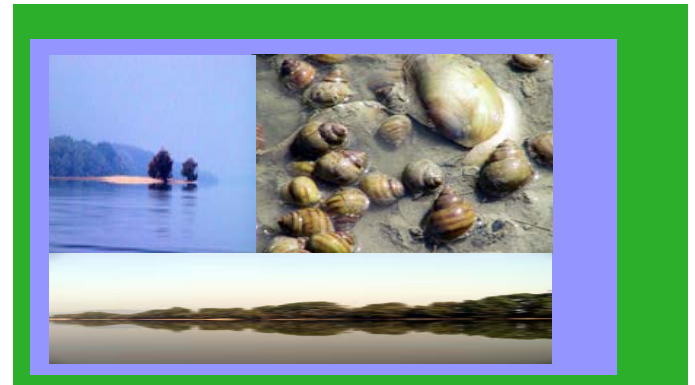
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# Step-by-Step Approach

for sturgeon and other migratory species

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- Phase 1** Feasibility study Iron Gate I & II and habitat restoration lower Danube section/relevant tributaries. Duration: 3 years.  
**Other migratory species:** Investigation presence/absence connectivity of and continuity in relevant tributaries. Based on national knowledge.
- Phase 2** **Sturgeon Species:** Implement feasibility study: plan, design and implement fish passage of Iron Gate I & II  
**Other migratory species:** Plan, design and implement fish passage where sturgeons did not occur
- Phase 3** **Sturgeon Species & other migratory species:**  
As soon as feasibility study is implemented: habitat restoration in middle Danube section/relevant tributaries up to Gabčíkovo Dam. Feasibility study Gabčíkovo Dam.
- Phase 4** **Sturgeon Species & other migratory species:**  
Implement feasibility study: plan, design and implement fish passage of Gabčíkovo Dam
- Phase 5** As soon as feasibility study is implemented: habitat restoration in upper Danube section. Precondition: sturgeon species need to occur. Feasibility study on sturgeon fish passage.

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# Towards the Feasibility Study



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# Feasibility Study

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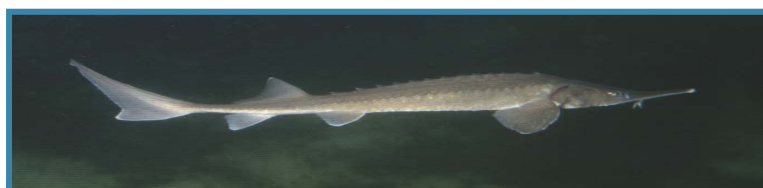


- ⇒ Intention to submit project proposal within the EU Transnational Cooperation Programme = former EU Interreg III B Cades Programme
- ⇒ South Eastern European Space
- ⇒ Call for proposals May 2008

**Re-opening of migration routes for sturgeon and other migratory species to enable upstream and downstream passage at the Iron Gate Dams I & II including habitat surveys**

# Feasibility Study

## Components of feasibility study:



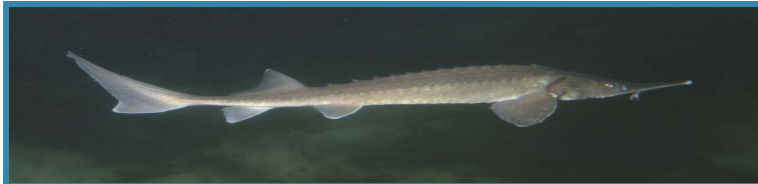
**Ecological aspects** to design optimised technical solutions to re-open migration routes for Danube sturgeon and other migratory species



**Technical aspects** to find most effective and efficient solutions to support migration routes of sturgeon and other migratory species

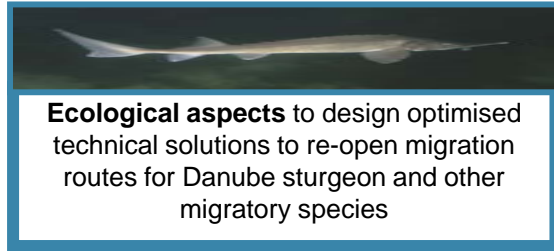
**Project management, coordination and communication**  
integral part of feasibility study

# Feasibility Study



**Ecological aspects** to design optimised technical solutions to re-open migration routes for Danube sturgeon and other migratory species

- ⇒ Status on sturgeon populations and other migratory species
- ⇒ Impact of Iron Gate on sturgeon population and other migratory fish species
- ⇒ Actual numbers of sturgeons and other migratory fish species approaching Iron Gate
- ⇒ Quality, quantity and continuity of habitats
- ⇒ Acceptance of fish migration aids by sturgeons



## Expected Output



- ⇒ Qual./quant. description of current status on sturgeon populations and other migratory species in lower and middle Danube
- ⇒ Qual./quant. description of current habitats for sturgeon populations and other migratory species in lower and middle Danube
- ⇒ Eco-hydraulic modelling
- ⇒ Behaviour of sturgeons and other migratory species when approaching large dams and upstream reservoir (based on literature and existing data)
- ⇒ Behaviour of sturgeons and other migratory species during downstream migration (based on literature and existing data )
- ⇒ Use/acceptance of various technical migration aids

# Feasibility Study



**Technical aspects** to find most effective and efficient solutions to support migration routes of sturgeon and other migratory species

- ⇒ Design of feasible migration solutions for sturgeons
- ⇒ Availability of technical and modelling data
- ⇒ Economic background and costs for technical solutions



**Technical aspects** to find most effective and efficient solutions to support migration routes of sturgeon and other migratory species

## Expected Output



- ⇒ Overview on potential technical solutions
- ⇒ Hydraulic and morphological characterisation of area around Iron Gate
- ⇒ Modelling of technical solutions
- ⇒ Assessment and cost-benefit analysis of alternatives
- ⇒ Recommendations on technical and financial feasibility of different technical alternatives
- ⇒ Implementation plan of most efficient and effective solutions (ecological and financial)

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# Feasibility Study

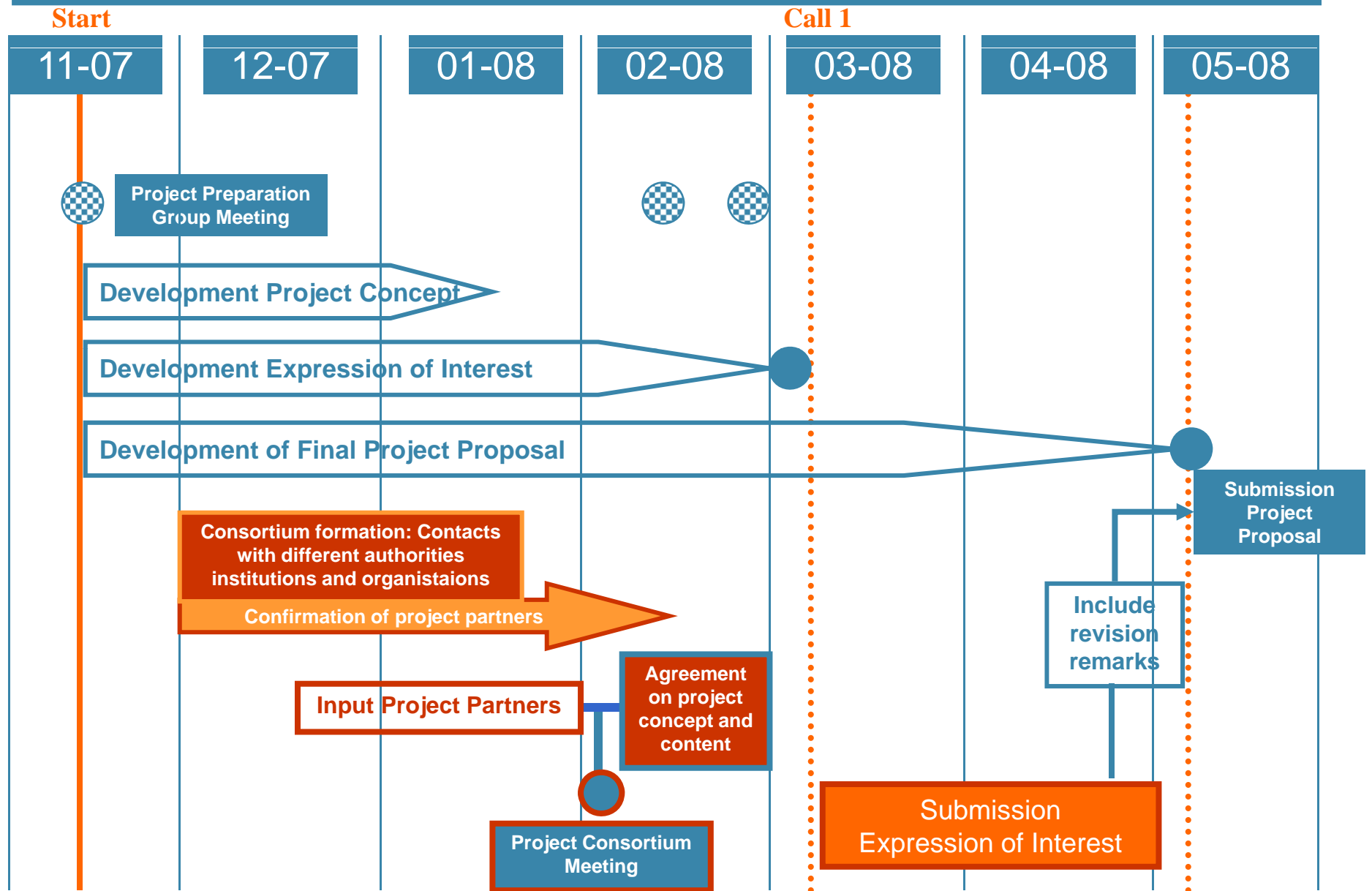
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## Project management, coordination and communication

- ⇒ Preparation of project proposal
- ⇒ Coordination of project consortium
- ⇒ Overall management of feasibility study
- ⇒ Scientific and technical project management
- ⇒ Communication of scope, development and results
- ⇒ ICPDR Secretariat intends to coordinate (fully covered by funding)

# Draft Workplan for Project Proposal





THANK YOU FOR YOUR ATTENTION!

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