

**FRV “Walther Herwig III”
Cruise 287
Report**

April 28 - May 9, 2006

Personnel

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Objectives

1. To investigate the qualitative and quantitative compositions of bottom fish and benthic invertebrate epifauna on the Dogger Bank in order to characterize their communities in dependence of the bank's topography
2. To take hydrographic depth profiles on the same stations to describe the physical conditions of bank habitats
3. To take sediments samples on the same stations for grains size analyses and identification of benthic infauna
4. To investigate feeding habits of the grey gurnard (*Eutrigla gurnardus*) through stomach content analyses
5. To compare catch rates of two different 2-m beam trawls used for sampling of benthic invertebrates

Narrative

(Fig. 1, Table 1)

FRV “Walther Herwig III” left Bremerhaven on the 28th of April 2006 at 13:30 h. During the transit to Dogger Bank, sediment samples (Van Veen grab) were taken at 3 stations that are part of a permanent monitoring program of the Senckenberg Research Institute. The main scientific program started on the morning of the 29th in the north-eastern region of the bank (Tail End) with the typical station program consisting of 1 haul each with the 2-m beam trawl and the bottom trawl GOV, one vertical profile of hydrographic data (Seabird CTD) and three samples with the sediment grab. This station program was repeated at a total of 24 “historical” stations (sampled in the 1950’s by a Danish survey) and at 11 stations of two transects across the bank (Fig. 1, Table 1). At 10 additional stations, a comparison of the standard 2-m beam trawl with another model was performed, applying the two gears with one haul each. The scientific program ended on the 8th of May at noontime and the Walther Herwig returned to the pier at Bremerhaven on the 9th of May at 11:30 h.

Results

(Figs. 2-4)

A total of 35 hauls of 30-min towing duration were made using the GOV trawl equipped with the standard ground gear (see IBTS manual) to analyse the assemblages of bottom fish. The maximum of fish biomass caught within 30 min. was around 450 kg, while the typical hauls contained less than 200 kg of fish (Fig. 2). The distribution of grey gurnard (Fig. 3) and individual condition factors will be linked to the data obtained on their stomach contents and on the benthic communities as possible prey fields.

In general, fish assemblages were dominated by grey gurnard and dab (*Limanda limanda*), which were present in all hauls. At one station, the otherwise quite rare species *Echiichthys vipera* occurred in unusually high numbers of 2138 individuals per 30-min haul (Fig. 4).

Benthic epifauna was characterized using a 2-m beam trawl hauls on the same 35 stations, which were also sampled for hydrography with CTD profiles. Benthic infauna and grains size were recorded at a total of 39 stations. The comparison of catch rates for two models of 2-m beam trawls at 10 stations is currently being analysed with regard to the effects of mesh size and towing duration.

Dr. Anne Sell
(Cruise leader)

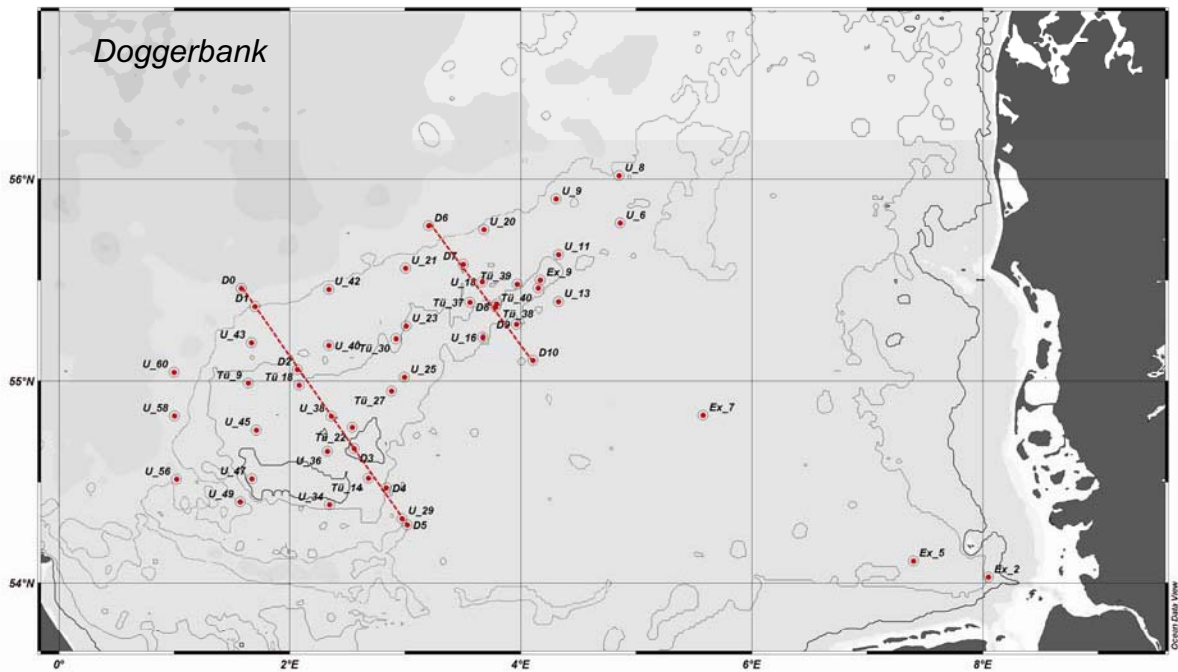


Fig. 1 Stations sampled during cruise WH 287.

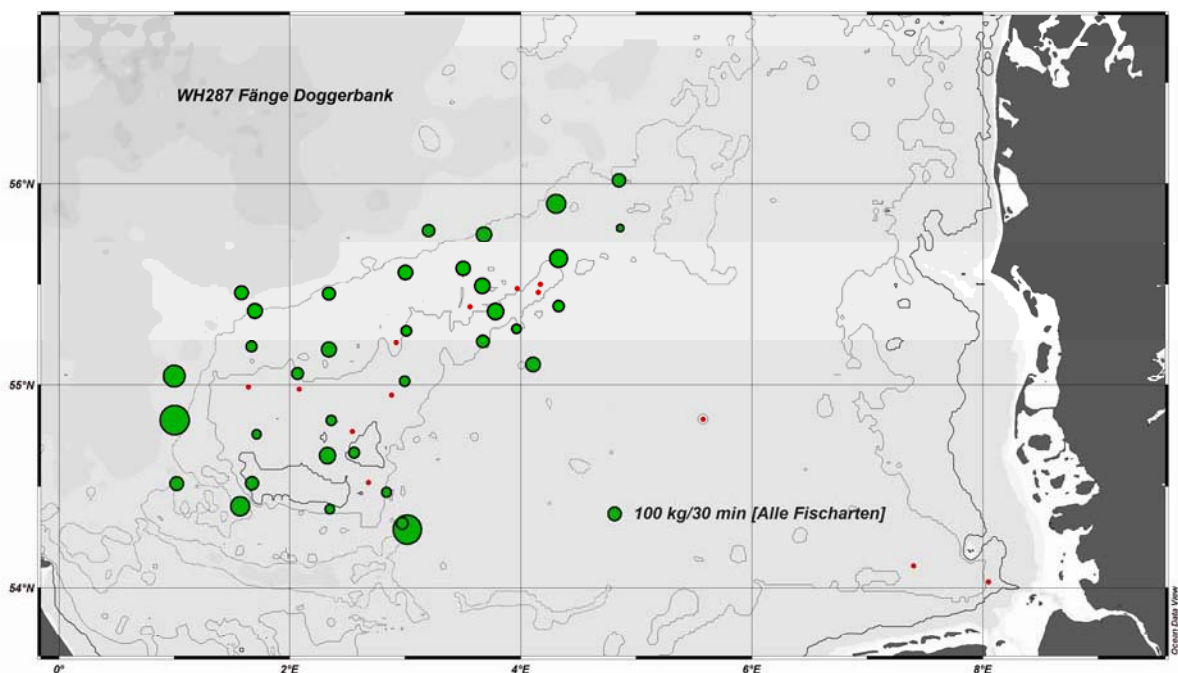


Fig. 2 Total catch, all fish species [green dots; kg/ 30 min haul]. Red dots: remaining stations, only sampled by beam trawl for epibenthos and/or by sediment grab.

Table 1 Stations sampled during WH 287. Notes: „Ex_“ = Extra station, sediment grab only; „U_“ = historical station as sampled by Ursin in the 1950's (station type: „Ursin“); „Tü_“ = station for gear comparison of beam trawls Türkay & Kröncke, „D_“ = Dogger Bank transect (station type: „Trans“).

STATION	NOTE	AREA	STATION TYPE
389/ 1	Ex_2	W of AUSSENELBE-Roads	
390/ 2	Ex_5	W of AUSSENELBE-Roads	
391/ 3	Ex_7	SW of WEISSE BANK	
392/ 4	U_6	DOGGER BANK	URSIN
393/ 5	U_8	DOGGER BANK	URSIN
394/ 6	U_9	DOGGER BANK	URSIN
395/ 7	U_60	DOGGER BANK	URSIN
396/ 8	U_58	DOGGER BANK	URSIN
397/ 9	U_56	DOGGER BANK	URSIN
398/ 10	U_49	DOGGER BANK	URSIN
399/ 11	U_47	DOGGER BANK	URSIN
400/ 12	U_45	DOGGER BANK	URSIN
401/ 13	Tü_9	DOGGER BANK	
402/ 14	U_43	DOGGER BANK	URSIN
403/ 15	D_0	DOGGER BANK	TRANS
404/ 16	D_1	DOGGER BANK	TRANS
405/ 17	D_2	DOGGER BANK	TRANS
406/ 18	U_38	DOGGER BANK	URSIN
407/ 19	Tü_22	DOGGER BANK	
408/ 20	D_3	DOGGER BANK	TRANS
409/ 21	D_5	DOGGER BANK	TRANS
410/ 22	U_29	DOGGER BANK	URSIN
411/ 23	D_4	DOGGER BANK	TRANS
412/ 24	Tü_14	DOGGER BANK	
413/ 25	U_34	DOGGER BANK	URSIN
414/ 26	U_36	DOGGER BANK	URSIN
415/ 27	Tü_18	DOGGER BANK	
416/ 28	U_40	DOGGER BANK	URSIN
417/ 29	U_42	DOGGER BANK	URSIN
418/ 30	Tü_27	DOGGER BANK	
419/ 31	U_25	DOGGER BANK	URSIN
420/ 32	Tü_30	DOGGER BANK	
421/ 33	U_23	DOGGER BANK	URSIN
422/ 34	U_21	DOGGER BANK	URSIN
423/ 35	D_6	DOGGER BANK	TRANS
424/ 36	D_10	DOGGER BANK	TRANS
425/ 37	D_9	DOGGER BANK	TRANS
426/ 38	U_16	DOGGER BANK	URSIN
427/ 39	Tü_38	DOGGER BANK	
428/ 40	D_8	DOGGER BANK	TRANS
429/ 41	Tü_37	DOGGER BANK	
430/ 42	U_18	DOGGER BANK	URSIN
431/ 43	D_7	DOGGER BANK	TRANS
432/ 44	U_20	DOGGER BANK	URSIN
433/ 45	Tü_39	DOGGER BANK	
434/ 46	Tü_40	DOGGER BANK	
435/ 47	Ex_9	DOGGER BANK	
436/ 48	U_11	DOGGER BANK	URSIN
437/ 49	U_13	DOGGER BANK	URSIN

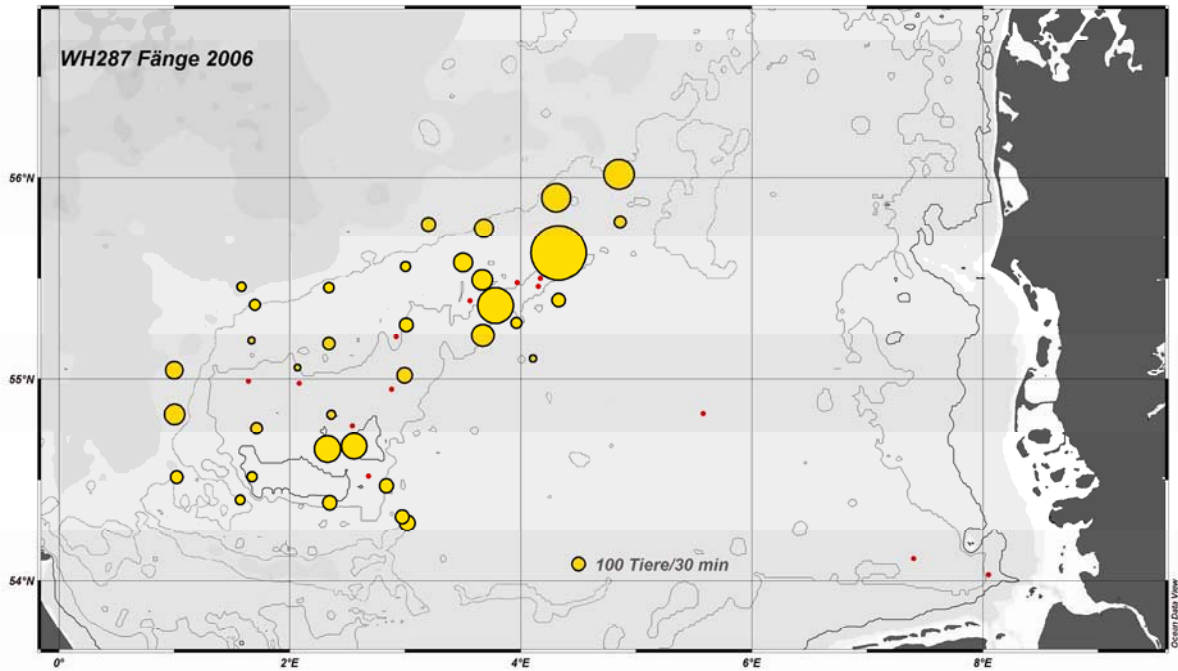


Fig. 3 Grey gurnard (*Eutrigla gurnardus*) [yellow dots; ind/ 30 min haul]. Red dots: remaining stations, only sampled by beam trawl for epibenthos and/or by sediment grab. All GOV hauls contained individuals of *E. gurnardus*.

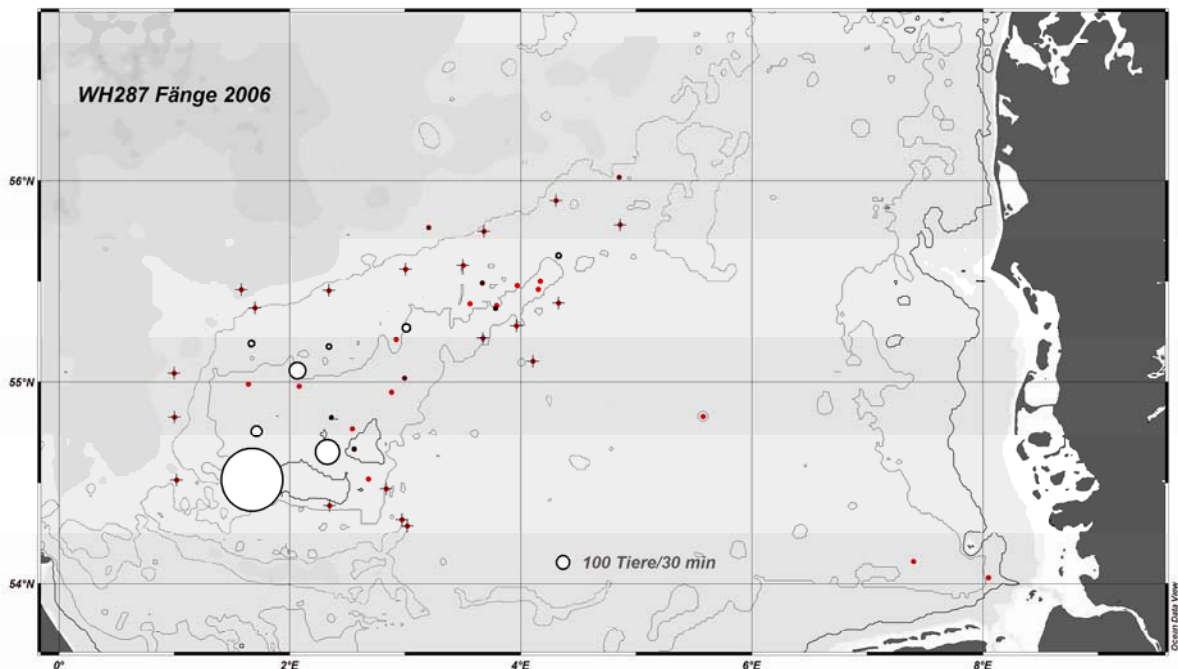


Abb. 4 Weever (*Echiichthys vipera*) [white dots; ind/ 30 min haul]. Crosses mark zero hauls. Red dots: remaining stations, only sampled by beam trawl for epibenthos and/or by sediment grab.